
For Agency Submission

Phase IA/IB Archaeological Assessment

CEQR, Board of Standards and Appeals / LA-CEQR-M
IFC Center, 323-327 Avenue of the Americas

(BBL 1005890019, 1005890030, and 1005890031)

New York (Manhattan), New York

PREPARED FOR

New York City Landmarks Preservation
Commission
Attn.: Ms. Amanda Sutphin, Director of
Archaeology
Municipal Building, 9th Floor North
New York, New York 10007
(212) 669-7823

PREPARED BY



**VHB Engineering, Surveying and Landscape
Architecture, P.C.**

50 Main Street, Suite 360
White Plains, New York 10606
212.857.7327

March 8, 2016



PROJECT SUMMARY

LPC Project Review Number: CEQR, Board of Standards and Appeals / LA-CEQR-M

Involved Local, State and Federal Agencies: NYC Board of Standards and Appeals

Phase of Survey: Phase IA/IB archaeological assessment

Location Information

Location: 323-327 Avenue of the Americas (BBL 1005890019, 1005890030, and 1005890031)

Minor Civil Division: New York **County:** Manhattan

Survey Area (Metric & English)

Length:

Width:

Depth (when appropriate): not applicable

Number of Acres Surveyed: <1 acre (< 0.4 hectares)

Number of Square Meters and Feet Excavated: not applicable

Percentage of Site Excavated: not applicable

USGS 7.5 Minute Quadrangle Maps: Jersey City, NJ/NY

Archaeological Survey Overview

Number & Interval of Shovel Tests: not applicable

Number & Size of Units: not applicable

Width of Plowed Strips: not applicable

Survey Transect Interval: not applicable

Results of Archaeological Survey

Number & Name of Archaeological Sites identified: None confirmed. Three GPR anomalies will be tested in Phase II.

Number & Name of Historic Sites identified: none

Number & Name of Sites Recommended for Phase II/Avoidance: none

Report Author(s):

(VHB) Carol S. Weed, M.A. (RPA) Senior Author and Editor, Abigail Rudow, Matthew Katz; **(Gray & Pape, Inc.)** Donald Handshoe

Date of Report: March 8, 2016



TABLE OF CONTENTS

Project Summary	i
Table of Contents	ii
List of Figures	iv
List of Tables.....	v
List of Photographs.....	vi
1 Introduction	1
1.1 Administration	1
1.2 Summary of Results.....	2
1.3 Report Organization.....	3
2 Phase IA Research Methods and Research Design	4
2.1 Project Methods.....	4
2.2 Research Design.....	5
2.2.1 Extramural Feature Types on Lots 19/20, 30, 31	5
2.2.1.1 Lot 19/20.....	5
2.2.1.2 Lots 30 and 31	6
2.2.2 Lots 30 and 31 Functions.....	7
3 Phase IA Research Results	9
3.1 Extramural Feature Types.....	9
3.2 Lot 30 and 31 Functions	11
4 Phase IB Ground-Penetrating Radar Methods and Results	15
4.1 Geophysical Background.....	15
4.2 Survey Results.....	16
4.2.1 Grid 1a.....	16
4.2.2 Grid 1b	16
4.2.3 Grid 2.....	17
5 Phase IA/IB Summary Conclusions and Phase II Recommendations	18
5.1 Phase IA Documentary Conclusions	18
5.2 Phase IB GPR Conclusions.....	18



5.3	Phase II Recommendations	19
6	Bibliography	20
6.1	Article, Document, and Report Citations	20
6.2	Map and Visual Media Citations	22
7	Full-Page Tables	
8	Figures	
9	Photographs	



LIST OF FIGURES

Figure No.	Description	See Section 8
1	Project Location (USGS 7.5-minute <i>Jersey City</i> and <i>Brooklyn</i> 7.5-minute quadrangles).	
2	Project Location with Block 589 Lot Numbers.	
3	14-16 Cornelia Street, 1932 Gelatin Silver Print by Charles Von Urban.	
4	Lot Plot Diagram and 1940 Photograph of 327 6 th Avenue.	
5	Lot Plot Diagram and 1940 Photograph of 323-325 6 th Avenue.	
6	1811 Bridges & Maverick Showing Project Block and Adjacent Areas .	
7	1819 Jones Showing Project Block and Adjacent Areas.	
8	1831 Chapin Showing Project Block and Adjacent Areas.	
9	1846 Mitchell Showing Project Block and Public Building “140”.	
10	1852 Dripps Showing Project Lots and “St. Judes Church” Reference.	
11	1854 Perris (Plate 59) Showing Project Lots and “Dutch Reformed Church” Reference.	
12	1857 Perris Showing Project Lots and “Dutch Reformed Church” Reference.	
13	1867 Dripps Showing Project Lots and “Reformed Dutch Church” Reference.	
14	1879 Bromley and Robinson Showing Project Lots and “Union Reformed Church” Reference.	
15	1891 Bromley Showing Project Lots and “Union Reformed Church” Reference.	
16	1893 Robinson Showing Project Lots and “Union Reformed Dutch Church” Reference.	
17	1895 Sanborn Showing Project Lots and “Stained Glass Works” and “Synagogue” References.	
18	1916 Bromley (Plate 33) Showing Project Lots and “Ecclesiastical Art Works” Reference.	
19	1996 NYCityMap Aerial Showing Trees on Lot 19/20.	
20	1893 Rendering, Church Building 23 & 25 6 th Avenue N.Y.	
21	1903 Property Survey Plan, Lots 19 and 20 (Block 589) with Extramural Features.	
22	1900 Property Survey Plan, Lots 30 and 31 (Block 589) with Extramural Features.	
23	Locations of GPR Grids within Survey Area.	
24	Grid 1a Showing Results of GPR Survey.	
25	Grid 1b Showing Results of GPR Survey.	
26	Grid 2 Showing Possible Well or Privy Anomaly.	
27	Grid 2 Showing Possible Building Anomaly.	
28	Plan View of GPR Survey Grids and Anomalies.	



LIST OF TABLES

Table No.	Description	Page
2-1	Data Repositories and Information Obtained	4
3-1	Congregation Darech Amuno Addresses 1869-Present	13
7-1	History of Conveyance, 1820 to 1916	See Section 7
7-2	Annual Record of Assessed Value of Real Estate, Block 589, Lot 19/20, 1850-1940	See Section 7



LIST OF PHOTOGRAPHS

Photograph No.	Description	See Section 9
1	Looking NW at Block 589, Lots 30 and 31 on Avenue of the Americas	
2	Looking NW, detail of front facades of Lots 30 and 31 and adjacent buildings.	
3	Looking SW along Cornelia Street.	
4	Looking SE at the west façade of the existing building on Block 589, Lot 29 adjacent to Lot 19/20.	
5	Looking NE at the west façade of the existing building on Lot 29 adjacent to Lot 19/20.	
6	Looking SW at the east façade of the existing building on Block 589, Lot 17 adjacent to Lot 19/20.	
7	Looking S at the rear facades of the existing theatre buildings on Lots 30 and 31 from Lot 19/20.	
8	Looking E/SE at the staircase that descends from the rear of the building section on Lot 30.	
9	Looking down at the subgrade foundation wall of the building on Lot 29 immediately adjacent to graveled Lot 19/20 and under the descending staircase shown in Photograph 8.	



1 INTRODUCTION

1.1 Administration

VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB), New York, New York, has prepared this Phase IA/IB report in accordance with the City Environmental Quality Review (CEQR) process for applications that are being made by AMC Networks, Inc., (the Applicant) for their property at 323-327 Avenue of the Americans (BBL 1005890030 “Lot 30” and 1005890031 “Lot 31”) and 14-16 Cornelia Street (BBL 1005890019, “Lot 19/20”), Manhattan, New York (project site; Figures 1 and 2). The applications are being made to the Board of Standards and Appeals/LA-CEQR-M IFC Center.

The project site is located within an Archaeological Sensitivity Area as defined by the New York State Office of Parks, Recreation, and Historic Preservation (NY OPRHP). Based on current photographs, it appears that only Lot 19 and the extreme northeast corner of Lot 31 might retain any archaeological sensitivity. In the historic period, Lot 19 contained two residential tenements (Figure 3). These buildings were sited on Lots 19 and 20; eventually Lot 20 became part of Lot 19 and herein these two lots are referenced as Lot 19/20. The residential buildings on them were removed sometime after about 1932 and before July 1st 1940.^{1,2} Lot 19/20 now is a gravel-covered parking lot and the abutting rear-yards of Lots 30 and 31 also are gravel-covered with adjacent concrete walking paths (Photographs 1-2).

The IFC Center theatre occupies Lots 30 and 31 and the Center engulfs the two historic buildings that occupy the two lots (Figures 4 and 5). The historic buildings are designated buildings in the New York City Landmarks Preservation Commission (LPC) Greenwich Village Historic District Extension II (LPC #LP-02366).^{3,4} This district overlaps with the State and National Register-listed South Village Historic District (NYOPRHP #13NR06489) but the buildings are non-contributing to that district.

Lot 30’s building was initially used for residential and commercial purposes beginning in the 1830s. In the 1860s, the Christian congregation using the building on Lot 31 also used at least one floor of the building on Lot 30. A Jewish congregation briefly used one or more floors of the Lot 30 building between 1894 and 1897. Following the use of the Lot 30 building by Congregation Darech Amuno in 1897, one or more floors of the Lot 30 building were subsumed within the J & R Lamb Studio complex.

A public building, used sequentially by four separate Christian congregations, was present on/about Lot 31 from the 1830s until the 1890s when J & R Lamb Studios, which specialized in ecclesiastical stained glass, leased part of the building from a church which continued to use part of it also (Figures 6-20). In 1937, the buildings on Lots 30 and 31 were leased by Luxor-Amusement Corporation. The buildings were modified both on the interior and exterior to accommodate the Waverly Theatre.^{5,6} The Waverly Theatre continued in operation until 2001 when the Applicant repurposed it to host a multiplex theatre and restaurant.⁷



¹The City of New York. 1940. Annual Record of Assessed Valuation of Real Estate for the Fiscal Year July 1st 1940 to June 30th 1941, Section 2, Vol. 9, Block 589, pg. 86.

² Anonymous. 1932. Demolition Notice, Notice No. 110 1932, 14-16 Cornelia Street Block 589 Lot 19-20. NYC Department of Buildings.

³ Mary Beth Betts (editor). 2010. Greenwich Village Historic District Extension II Designation Report, page 157. NYC Landmarks Preservation Commission.

⁴ Gina Santucci. 2016. Personal communication: Santucci to Matthew Katz (VHB) regarding designation status the buildings at 323-325 and 327 Avenue of the Americas.

⁵ Anonymous. 1937a. P & D Application No. 718 1937, 323-327 Sixth Ave. 14-16 Cornelia St. Block 589 Lot 19-20-30-31 NYC Department of Buildings

⁶ Anonymous. 1937b. P & D Application No. 758 1937, 323-7 6th Ave. 14-16 Cornelia St. Block 589 Lot 19-20-30-31. NYC Department of Buildings.

⁷ Mary Beth Betts (editor). 2010. Greenwich Village Historic District Extension II Designation Report, pages 296-297. NYC Landmarks Preservation Commission.



In October, 2015, LPC noted that properties in LPC historic districts require permits from the LPC Preservation department.⁸ LPC also commented that based on a review of archaeological sensitivity models and historic maps, there “is the potential for the recovery of remains from 19th century residential occupation as well as possibly human burials from a Dutch Reformed church previously on the project site.”⁹ By email dated October 9, 2015, Amanda Sutphin, LPC Director of Archaeology, noted, however, that LPC had no documentary evidence of a cemetery present on any of the lots. She noted that LPC believed that the presence of an early-to-mid 19th century church suggested a cemetery presence was possible.

For these reasons, LPC recommended that an archaeological documentary study be completed. A Phase IA Work Plan was prepared in accordance with the *CEQR Technical Manual* (2014) and the LPC Guidelines for Archaeological Work in New York City. VHB assumed that 100 percent of Lot 19/20 and the rear of Lot 31 would be subject to ground disturbance. The archaeological Work Plan was submitted to LPC on November 10, 2015, and accepted the same day by LPC. VHB’s Work Plan detailed the Phase IA documentary study but only broadly sketched subsequent phases of work as these would be predicated on the results of the Phase IA or predecessor phases.

The draft Phase IA report was submitted to LPC on December 23, 2015. On December 23, 2015, LPC returned comment indicating that LPC had accepted the conclusions offered in the Phase IA report. However, because an 1895 Sanborn map presented as Figure 15 in the report showed the presence of an unnamed synagogue on Lot 30, LPC also requested that additional Phase IA research be conducted “to consider whether remnants of a mikvah...may be present either within lot 30 or adjacent to it.”¹⁰

VHB prepared a work plan amendment which was submitted to LPC on December 30, 2015.¹¹ Ms. Sutphin and Ms. Weed discussed the work plan the same day, and Ms. Sutphin approved the approach. She did ask that VHB consider use of ground-penetrating radar in the basement of the building on Lot 30 (327 Avenue of the Americas) if application of that technique appeared warranted. Ms. Weed accepted the recommendation.

1.2 Summary of Results

Property appraisal records, building permit records, conveyance documents, historic maps, church and synagogue records, and demolition records were reviewed covering the period 1819 through 2003, with particular emphasis on the period 1819 and 1940. No reference to a cemetery located on lots 19/20, 30, or 31 was found in the sources consulted. The synagogue noted on an 1895 Sanborn map was found to have used the building on Lot 30 only for four years (1894-1897) and it is considered unlikely that the synagogue congregation would have installed a mikvah in a rental space. Demolition and building plans indicate that the basement of the building on Lot 30 was extensively re-done and that archaeological remains of a mikvah, if indeed once present, would have been obliterated during the renovations.

Historic maps and plans did show the presence of extramural features in the backyards of the two tenement buildings located on Lot 19/20 (14-16 Cornelia Street) and in the rear of lots 30 and 31 (323-325 and 327 6th Avenue). Geotechnical borings conducted in Lot 19/20 in 2001 found fill as the upper stratum in the bore holes



⁸ Gina Santucci. 2015 (October 8, 9). LPC Environmental Review forms, Board of Standards and Appeals / LA-CEQR-M, IFC Center, original (10/8/2015) and amended (10/9/15). On file under file name LPC 30826_FSO_DNP_10072015 (10/8/15) and (10/9/15).

⁹ Gina Santucci. 2015 (October 9). LPC Environmental Review form Board of Standards and Appeals / LA-CEQR-M, IFC Center, amended (10/9/15). On file under file name LPC 30826_FSO_DNP_10072015 (10/9/15).

¹⁰ Amanda Sutphin. 2015 (December 23). NYC Landmarks Preservation Commission, Archaeology, Board of Standards and Appeals /LA-CEQR-M, IFC Center, archaeological review findings, file name 30826_FSO_ALS_12232015.doc. Findings submitted via email to Carol S. Weed, VHB, December 23, 2015.

¹¹ Carol S. Weed. 2015 (December 30). Personal communication, Weed to Amanda Sutphin, email “VHB 29536, IFC Center 323-327 Avenue of the Americas, CEQR, Board of Standards and Appeals/LA-CEQR-M, Phase IA Archaeological Documentary Study, amendment to work plan to respond to mikvah question.”



which were located near to the original tenement buildings.¹² Phase IB archaeological investigation using ground-penetrating radar (GPR) was recommended for the rear of Lots 19/20 and 31 because of the possible presence of these extramural, but non-burial features in these areas. The GPR field investigations were conducted on January 19, 2016, and the results reported to VHB by Gray & Pape, Inc., on January 29 following GPR post-processing. The GPR identified three possible cultural features, one in Lot 19/20 and two in Lot 31.

The GPR results were reviewed with Amanda Sutphin, LPC Director of Archaeology, on February 1, 2016, who concurred with a recommendation that Phase II-level field investigations be conducted. These investigations will be conducted prior to construction. If significant archaeological features are identified and avoidance of these features is not feasible, data recovery will be implemented. There will be no adverse effect to significant archaeological features.

1.3 Report Organization

The Phase IA report is divided into seven sections: Introduction, Phase IA Documentary Methods and Research Design, Research Results, Phase IB Ground-Penetrating Radar Methods and Results, Conclusions and Recommendations, Bibliography, Full-Page Tables, Figures, and Photographs. The bibliography holds the complete link information for all citations obtained on-line.

The report was edited by Carol S. Weed and she served as the lead author as well. Ms. Abigail (Abi) Rudow (VHB Planner, White Plains) contributed to the Phase IA research discussions and compiled Tables 7-1 and 7-2 based on research she conducted at New York City (NYC) Municipal Archives Department of Buildings, Department of Environmental Protection, Department of General Services, Department of Health, and the Manhattan Borough President's Office Topographic Bureau Manhattan Sewer Permit Office. Mr. Matthew Katz (VHB Planner, New York City) conducted map research both on-line and in the New York Public Library, Linus Pincus and Princess Firyal Map Division collection.

Gray & Pape, Inc., Cincinnati, Ohio, (Gray & Pape, G&P) conducted the ground-penetrating radar investigations of Lot 19/20 and the extreme rear of Lots 30 and 31. The GPR specialist, Donald Handshoe, authored Section 4.0 and his results contributed to Section 5.0.



¹² Jong W. Choi and Joel Moskowitz. 2003. Letter Report: Subsurface Investigation The Waverly Theater New York New York MRCE File No. 10029, July 9, 2003. Letter submitted by Mueser Rutledge Consulting Engineers, New York, NY to Cablevision, Jericho, NY and Gardiner & Theobald, Inc., New York, NY.



2 PHASE IA RESEARCH METHODS AND RESEARCH DESIGN

2.1 Project Methods

The Phase IA documentary research was completed by VHB personnel and was directed by a research design that was developed based on the results of initial conveyance document and historic map research concerning the ownership and uses of the project lots. In support of the initial Phase IA research design development and subsequent resolution of the research design questions, VHB conducted research at the repositories noted on Table 2-1.

Table 2-1 Data Repositories and Information Obtained

Source Repository	Information Obtained
New York City Department of Buildings, Building Information System and Records Department	Jobs and Actions, Lots 19/20, 30, and 31, 1905-Present, microfilm records and approved drawings
New York City Department of Environmental Protection, Manhattan Water and Sewer Office	Water Tap Cards for years 1932, 1934, and 2004 Sewer connection records not available for the project parcels
New York City Department of Finance, City Register	Property Conveyance Books Property Deed, 1820-1916
New York City Department of Housing Preservation and Development, Manhattan Borough Office	I-Cards (no I-Cards were on file for the period of interest)
New York City Department of Records, Municipal Archives	Property Cards, Lots 19/20, 30, and 31 Annual Record of Assessed Valuation of Real Estate, 1850, 1860, 1870, 1890, 1900, 1930, and 1940 Ward Maps 1835, 1845, and 1854
New York City Landmarks Preservation Commission	Archaeological reports
New York City, Department of Records, Municipal Archives	Annual Records of Assessed Valuation of Real Estate, The City of New York: Property tax appraisal records, Lots 19, 20, decades 1830 through 1900, 1930, and 1940
New York County Office of the Register, Deeds and Conveyances	Conveyance records, Lots 19, 20, 30, 31, 1820-1916
New York State Office of Parks, Recreation and Historic Preservation, Cultural Resource Information System	Archaeological report and archaeological form records
New York Public Library, Pincus and Princess Fayal Map Division	Historic maps, 1800 and 1896
New York Public Library, Microforms Section	City Directories, 1893-1898 Reverse Phone Directories, 1929, 1935, and 1940
David Ramsey Collection	Historic maps, 1800 and 1896
Museum of the City of New York	Historic maps, 1800 and 1896
NYCityMap	1926 and 1951 aerial photographs
U.S. Library of Congress	Historic maps, 1800 and 1896

Source: VHB



In addition to the period specific research, selected documents concerning early churches and synagogues in New York City, church cemeteries, the North Presbyterian Church, the Union Reformed Dutch Church, and St. Judes Church also were reviewed.

2.2 Research Design

Based on the data gathered during the Work Plan and subsequent Phase IA reviews, two research domains were defined and then revised after additional research was done on the late 18th century uses of the building on Lot 30. The revised research domains are Extramural Feature Types on Lots 19/20, 30, and 31 and Lots 30 and 31 Functions.

Although the Bridges and Maverick 1811¹³ (Figure 6) map shows the project site in proximity to a named stream, no evidence of Native American use was hypothesized because of direct impacts resulting from lot development after that date. In order to address the research questions posed below, the source locations referenced on Table 2-1 were accessioned or visited for the following document types: church records for St. Judes, property deed records, property assessment records, historic maps, tenement and church lot archaeological excavation reports, synagogue sources, and mikvah documentary and excavation reports.

2.2.1 Extramural Feature Types on Lots 19/20, 30, 31

Today, the project site consists of three lots (see Figure 2). In the historic period, however, the lots were originally configured as two street-to-street lots (Figure 7). The initial block subdivision occurred about 1819 and the four-lot division of the project site occurred no later than 1852 (Figure 10). By 1852, the tenements were in place on Lots 19 and 20. Later, the Cornelia Street lots were re-appointed as a single lot which is referred to herein as Lot 19/20. In the historic period, the three lots were used for commercial, light-industrial, public, and residential purposes.

2.2.1.1 Lot 19/20

Although Lot 19/20 eventually was controlled by the Applicant, for much of the historic period it was occupied by two, 3-story tenement buildings located adjacent to one another (see Figure 3). The tenements occupied the northern half of the lot. In the 19th century, the tenements in this location were illustrated on the 1852 Dripps,¹⁴ 1854 Perris,¹⁵ 1857 Perris,¹⁶ 1867 Dripps,¹⁷ 1891 Bromley,¹⁸ 1893 Robinson,¹⁹ and 1895 Sanborn²⁰ maps (see Figures 10-13, 15-17). In the 20th century, the two buildings are present until sometime between 1932²¹ and 1941.²² In 1951, an aerial photograph covering Block 589 shows no buildings on the lot²³ and by 1996, trees are shown on the southwest side of Lot 31 (Figure 19).

¹³ Bridges and Maverick 1811. <http://www.loc.gov/resource/g3804n.ct000812/>

¹⁴ Dripps 1852. http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~3018~90020002:City-of-New-York-Extending-Northwar?sort=Pub_List_No_InitialSort%2CPub_Date%2CPub_List_No%2CSeries_No&qvq=w4s:/who%2FDripps%25252C%2BMatthew;q:dripps;sort:Pub_List_No_InitialSort%2CPub_Date%2CPub_List_No%2CSeries_No;lc:RUMSEY~8~1&mi=1&trs=18 –

¹⁵ Perris 1854. <http://digitalcollections.nypl.org/items/510d47e3-ff5f-a3d9-e040-e00a18064a99>

¹⁶ Perris 1857. <http://digitalcollections.nypl.org/items/510d47e0-bf68-a3d9-e040-e00a18064a99>

¹⁷ Dripps 1867. <http://digitalcollections.nypl.org/items/510d47e2-49f0-a3d9-e040-e00a18064a99>

¹⁸ Bromley 1891. [http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~26428~1110281:Pl--9--wards-8-9-&-15-?sort=date&qvq=w4s:/where%2FNew%2BYork%2B%252528N.Y.%252529;q:New%2BYork%2B\(N.Y.\);sort:date;lc:RUMSEY~8~1&mi=279&trs=381](http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~26428~1110281:Pl--9--wards-8-9-&-15-?sort=date&qvq=w4s:/where%2FNew%2BYork%2B%252528N.Y.%252529;q:New%2BYork%2B(N.Y.);sort:date;lc:RUMSEY~8~1&mi=279&trs=381)

¹⁹ Robinson 1893. <http://digitalcollections.nypl.org/items/a1ed0d43-d53e-e912-e040-e00a180645ad>

²⁰ Sanborn 1895. <http://digitalcollections.nypl.org/items/98041e7e-a68e-76a2-e040-e00a180605a3>

²¹ Charles Von Urban. 1932. 14-16 Cornelia Street near West 4th Street. Collection Accession Number 33.173.93. <http://collections.mcny.org/Collection/14-16-Cornelia-Street-2F3XC5CDD110>. File download 10/29/15.

²² The City of New York. 1940. Annual Record of Assessed Valuation of Real Estate for the Fiscal Year July 1st 1940 to June 30th 1941, Section 2, Vol. 9, Block 589, pg. 86.

²³ NYCMap. 1951 aerial photograph, Block 589 area. Downloaded 10/27/15.



Tenement buildings in the 19th century commonly have rear lot support buildings or structures. These extramural features often include so-called summer kitchens, privies (both brick-lined pits and school sinks), cisterns, icehouses, well houses, or root cellars. All of the features have a significant subsurface signature and feature depths can easily range from 2-3 feet to 8 feet or more below the original ground surface. Because of their depth, these features are often retained in areas that have been stripped of surface soils or recontoured.

According to the 1895 Sanborn (Figure 17), three of the four extramural buildings illustrated on that map edition were 1-story frame structures. These features are designated herein as EF-2, EF-3, and EF-4. The fourth was a 3-story brick addition (designated EF-1 herein) which appears immediately adjacent or attached to the westernmost tenement located at 16 Cornelia Street. The function of these extramural buildings is unknown though it seems likely that the brick building was either kitchen or lavatory space. At least one of the frame structures at 14 Cornelia Street also could be a lavatory shed. A 1903 property survey plan (Figure 21) illustrated the locations of EF-1 through EF-4. It also shows two additional extramural features (designated herein as EF-5 and EF-6). EF-5 was a shed and EF-6 is labelled "W.C." which is interpreted as water-closet.

Another feature type also has been reported as present on Lot 19/20. A neighborhood resident has claimed that grave markers were observed on Lot 19/20 by persons who are now in their 80s and who saw the markers when they were youngsters.²⁴ In the period between 1846 and 1851, a cemetery or burial plot theoretically could have been sited anywhere on Lots 19/20, 30, or 31 though prohibitions against new cemeteries and burials were in place as early as 1813 in south Manhattan.^{25,26} After the passing of the New York State Rural Cemetery Act in 1847 and the 1851 moratorium, however, the prohibitions against new cemeteries and burials were more strictly enforced particularly in Manhattan south of 118th Street. Further, after 1854, it is unlikely that such features would have been retained on Lot 19/20 as these lands were then held by others and in use for residential purposes. A cemetery or grave feature left in place after 1854 would have been restricted to Lots 30 or 31 (see discussion below).

2.2.1.2 Lots 30 and 31

Based on a single source, the initial public building on Lot 31 was the Third Universalist Society Church though this is not confirmed on any map.²⁷ The 1879 Bromley map, however, does show a Third Universalist Church on the corner of Hancock and Bleeker streets (Figure 14). The 1846 Mitchell map indicates that the public building on Lot 31 is the North Presbyterian Church noted on that map as building number 140 (see Figure 9). The 1852 Dripps map assigns the public building to the Episcopal St. Judes Church (Figure 10). The St. Judes congregation left the building in 1854 and the congregation merged with St. John's in the Village.²⁸ In 1854, the Perris map indicates the building was in use by the Dutch Reformed Church and Bromley, in 1879, assigned the public building to the Union Reformed Church. In 1895, the public building on Lot 31 is attributed to "Stained Glass Works &c" and the adjacent Lot 30 building is noted as "Synagogue." The synagogue was used by Congregation Darech Amuno and that body utilized space in the existing building between 1894 and 1897.²⁹

No conveyance document reviewed for this study called out the presence of set-aside plots typical of individual grave plot or a cemetery plot on Lots 19/20, 30 and 31. As noted above, the latter two lots hosted churches and a synagogue at various times in the 1800s, and light industrial commercial/retail, light industrial, and residential

²⁴ Anonymous. 2015. October 25, 2015 post on "Neighborhood Square" by a resident of Cornelia Street.

²⁵ Allan Pollock. 1880. "History of Trinity Church and Its Grave Yard," page 9. New York: Allan Pollock. Available in GoogleBooks.

²⁶ Joan H. Geismar. 2005. Washington Square Park Phase IA Archaeological Assessment. Prepared by Joan H. Geismar, Ph.D., LLC, for Thomas Balsley Associates for submission to New York City Department of Parks and Recreation.

²⁷ David W. Dunlap. 2005 (January 25). "Past will flicker in Village theatre after renovation," New York Times, New York Region section. <http://www.nytimes.com/2005/01/25/nyregion/past-will-flicker-in-village-theater-after-renaissance> renovation. File downloaded 10/27/2105.

²⁸ Anonymous. n.d. "St. John's in the Village, an Episcopal church, where in the name of Christ you are always welcome. A brief history of St. John's Church in the Village 224 Waverly Place New York, NY 10014. <http://www.stjvny.org/a-brief-history-of-st-johns-in-the-village>. File downloaded 10/27/2015.

²⁹ Anonymous. 1893, 1894 City Directories.



functions in the 1800s and 1900s. The conveyance documents seem to suggest that no church actually owned lots 30 or 31 but that at least the Union Reformed (Dutch) Church was leasing and that they, in turn, sub-leased to others.³⁰

No extramural features were noted in the rear of lots 30 and 31 (see Figures 10-18). However, as illustrated on Figure 22, a 1900 property survey plan does show the presence of extramural features on both lots. These are labelled EF-7, EF-8, and EF-9 on Figure 22 and are, respectively, a W.C., a shed, and another W.C. The presence of these extramural features argues against the presence of either individual burial plots or a graveyard in the rear of lots 30 and 31.

The use of the Lot 30 building (327 6th Avenue) by Congregation Darech Amuno in the mid-1890s raised the possibility that a mikvah might be present either within the building or on the building's exterior. The typical location for a mikvah in a building is in the basement because of the amount of water that is needed for the feature and the resultant weight of the feature. Researchers have noted that more rarely, mikvahs also are sited on the exterior of the building but within short walking distances. In such cases, the feature is located within an outbuilding in order to ensure privacy.^{31,32}

Lot Extramural Feature Types Research Questions: The research questions for this research domain are tightly focused on the confirmation of the feature presence and function. To these ends, the following questions will be addressed

- (1) Based on historic maps and building tax records, what historic features were present (by time period)?
- (2) The historic maps with feature areas mapped on them suggest that feature areas were retained over long periods of time. For example, a feature area is illustrated in the southwest corner of Lot 19/20 and this feature is delineated on several maps between 1854 and 1895. Did the function of such long-lived features change through time?
- (3) The tenements appear to have been removed no later than 1941. What events occurred between 1932 and 1941 that would have impacted all or part of the features and the rear lots?
- (4) Similarly, what events occurred on Lots 30 and 31 that would have affected retention of extramural features?

2.2.2 Lots 30 and 31 Functions

This second research domain focuses most specifically on the building functions on Lots 30 and 31 and what archaeological signatures might be expected of them. Betts, in her 2010 district report for the Greenwich Village Extension, laid out a description of the building functions present on lots 30 and 31 in the 1900s. These functions were exclusively public or commercial. However, VHB's review of conveyance documents reaching back into the 1800s suggests that the buildings on the lots may have served multiple functions often at the same time. For example, in 1893 the Union Reformed Church appears to have sublet the second floor and part of the first floor of their building to J & R Lamb, a maker of stained glass. Also, there was residential use of the building on Lot 30 in the early 1800s.

While the only extramural features in the project area documented on the maps examined during the development of the Phase IA work plan are those associated with the residential tenement buildings on Lot 19/20



³⁰ Anonymous. 1900. Lease Union Reformed (Dutch) Church and J&R Lamb, Inc. New York County, Office of the Register, Deeds and Conveyances liber 76, page 311.

³¹ Celia J. Bergoffen. 1997 (March 31). The Proprietary Baths and Possible Mikvah at 5 Allen Street Borough of Manhattan, New York, Phase IA Archeological Assessment Report. Report prepared for The Eldridge Street Project, Inc. LPC Report 285, downloaded December 23, 2015.

³² City/Scape. 2003 (December). Congregation Moshcisker Chevrah Gur Arye Mikvah 208 East Third Street (Block 372, Lot 27) Borough of Manhattan New York County, New York. Report prepared by City/Scape, Brooklyn, New York for UJA Federation of New York, New York, NY.



(see Bibliography for full list of maps reviewed), subsequent research indicates that water-closets were present on Lot 19/20 (14 Cornelia Street side), 30, and 31. It also seems safe to assume that privies and cisterns might have been used by residents and tenants of the buildings on lots 30 and 31 in the 1800s prior to City water and sewer connections. Further, firms such as J & R Lamb may have used outdoor furnaces or disposal pits. Collectively, the range of feature types that might have been present on Lots 30 and 31 could include storage sheds, cisterns, a mikvah, water-closets, and/or light industrial features. For these reasons, this research theme is focused on feature types resulting from household functions as listed above (privy, kitchen, cistern, etc.).

Lots 30 and 31 Functions Research Questions: The focus of the second research domain is on developing a site typology for the project site and its immediate area. On a gross level, the answers to the questions will provide bases for determining the possible importance of a particular site type in the use history of the project site. To this end, the following questions will be addressed:

- (1) What are the lot functions as documented?
- (2) What are the defining characteristics archaeologically for these functions and is it likely that these characteristics have subsurface expression?
- (3) Which congregation used the synagogue located on Lot 30 in 1895 and what was the duration of that use
- (4) Do any City records for the 1890 period hold reference to a mikvah, cistern, or increase in water usage between 1893 and 1896;
- (5) Based on building plans for Lot 30 were tile-lined features present in the basement that could represent a mikvah.



3 PHASE IA RESEARCH RESULTS

The project research domains were identified Section 2 and subsequent fieldwork conducted in support of both research domains was summarized in Section 3. The research questions are addressed below.

3.1 Extramural Feature Types

Four research questions were posed concerning extramural features and the likelihood of their retention on parts of Lots 19/20, 30, and 31. Question 4 concerned Lots 30 and 31 and it is now addressed in Section 3.2. The results of the research into the three other questions, which focused on Lot 19/20 extramural features, are presented below.

Based on historic maps and building tax records, what historic features were present (by time period)?

As noted in Section 2, four extramural buildings are noted as present on Lots 19/20 on historic maps that were reviewed during the research design development. Based on the Sanborn 1895 map legend, three of the four extramural buildings illustrated were 1-story frame structures and the fourth was a 3-story brick addition which appeared immediately adjacent or attached to the westernmost tenement located at 16 Cornelia Street. The presence of these four features was subsequently confirmed by a 1903 property survey which also showed the two additional buildings on Lot 19 (14 Cornelia Street) for a total of six extramural buildings (Figure 21). Also illustrated on the 1903 property survey plan is the presence of a wood fence at the rear of Lot 19/20 and an indication that there was a shed in the rear of 323-325 6th Avenue (Lot 31).

The presence of the shed on Lot 31 was subsequently documented by a 1900 property survey plan which was subsequently updated in 1925, 1927, and 1930 (Figure 22). Of particular interest on the 1900 plan as initially drawn are the presence of a "W.C." on both lots 30 and 31 and the aforementioned shed. At some point, these three features were removed as was the rear lot fence.

The historic maps with feature areas mapped on them suggest that feature areas were retained over long periods of time. For example, a feature area is illustrated in the southwest corner of Lot 19/20 and this feature is delineated on several maps between 1854 and 1895. Did the function of such long-lived features change through time?

Extramural features often change function through time. Such changes commonly result from the abandonment of the original use (a privy for example) and re-use of the feature for an unrelated purpose (trash pit for example). Often, this change in function is heralded by a change in plan or profile; more often than not, however, abandoned features with subsequent re-uses do not change form. This said, the function of the extramural features shown on historic maps for Lot 19/20 is only presumed because no references to their functions were found during the documentary searches.

There are two structural types represented by the extramural features: brick attached or adjacent to frame building and stand-alone frame. The 3-story brick addition (EF-1) to the tenement building at 16 Cornelia Street would have required a brick or stone foundation to support the weight of the structure. The frame structures also may have been supported by brick or stone foundations or, in the case of a stone-lined privy simply covered the privy itself. In these examples, foundation depths could range from 2- to 6-feet in height or, in the case of the



privy pit, 6- to 8-feet in depth.³³ Based on height characteristics identified for similar features on Manhattan archaeological sites, feature footprints might be present even if the lot was surface modified after the buildings were removed.³⁴

Subsurface features including foundation walls and pit features are often masked by subsequent development actions. The features can be both buried and filled either during use or after abandonment. At present, there is only limited information on the subsurface soil profile for Lot 19/20 or for the small open-space extension of original Lot 31 (see Section 3.2 below for discussion of this area). Two subsurface bores, B-1 and B-2, were excavated on Lot 19/20 in 2001 and on Lot 31 in 2003.³⁵ The Lot 19/20 profile consisted of an upper fill followed by glacial sand. Bedrock was present at Elev. -7 and Elev. -14 below Manhattan Datum. The historic elevations of these properties are unknown but the existing elevation in 2003 was Elev. +19 above the Manhattan Datum. Based on historic maps, the footprints of the features in the rear of Lot 19/20 do not change through time. These features were either completely removed sometime between 1930 and 1940 or they were buried/filled during that period.

The tenements appear to have been removed no later than 1941. What events occurred between 1932 and 1941 that would have impacted all or part of the features and the rear lots?

In 1932, a photograph of the tenements was taken. It is illustrated herein as Figure 3. The NYC Bureau (Department) of Buildings received an application for building demolition in October 1932 for the two buildings at 14-16 Cornelia Street. It is not clear that the buildings were demolished under this application (Demolition Notice No. 110 1932) however. But, the NYC Property Card for M 589-19 (14-16 Cornelia Street) indicates that the property valuation drops from \$12,500 to \$9,500 between 1933 and 1935 with no improvements listed after 1934. This suggests that the two tenements had been removed by the time of assessment in 1934.

In 1937, an application was made to NYC Department of Buildings for a miscellaneous permit (Miscellaneous Permit 709-37) to “install a fuel oil fill box within 3’-0” off the curb” at 14-16 Cornelia Street. The miscellaneous permit application supported P & D Application No. 718-37 for the installation of a fuel line extending between the fuel oil fill box and a 550-gallon fuel oil tank that was emplaced beneath 2-feet of fill in the rear yard of lots 30 and 31 near the juncture of the two buildings. Feeder fuel lines fed from the fuel tank to the boilers in basements of the Lot 30 and 31 buildings. An extremely poor quality plan of the locations of the fuel oil fill box 3-feet off of Cornelia Street, the fuel line, and the fuel oil tank, shows no buildings present on Lot 19/20 in 1937.

At present, Lot 19/20 is gravel covered. According to the Sanborn Insurance Map for 1950, Lot 19/20 was used for “auto parking.”³⁶ In 1953, a New York City Building Notice permit (Building Notice Application No. 283-53) was made to modify the drop curb entrance created in 1940 under “curb permit #557-1940.” The wording in application 283-53 repeats the wording presented on curb permit #557-1940 but the words “and to remove frame building” have been crossed out reinforcing the conclusion that the frame building was no longer present in 1953. Later Sanborn maps state the function as “Parking” but none of these maps indicate the ground cover.³⁷ If, as today, the lot was gravel covered, preparation of the ground surface for that cover might have been less than 1-foot in depth though certainly the fuel oil tank was positioned so that 2-feet of cover was over the tank. As all of



³³ Joan H. Geismar. 2003. The Lower East Side Tenement Museum Archaeology at 97 Orchard Street. Report prepared for The Lower East Side Tenement Museum. Landmarks Preservation Commission Report Number LPC-1381.

³⁴ Patrick J. Heaton. 2005. Phase IB Archaeological Investigation: Block 457, Lot 28 (Former Methodist Episcopal Cemetery) New York, New York. Report prepared by John Milner Associates, Inc., Croton-on-Hudson, for Avalon Bay Communities, Inc., New York, NY.

³⁵ Jong W. Choi and Joel Moskowitz. 2003. Letter Report: Subsurface Investigation The Waverly Theater New York New York MRCE File No. 10029, July 9, 2003. Letter submitted by Mueser Rutledge Consulting Engineers, New York, NY to Cablevision, Jericho, NY and Gardiner & Theobald, Inc., New York, NY.

³⁶ EDR. 2015 (August 19). Certified Sanborn Map Report, IFC Center 323 6th Avenue New York, NY 10014, Inquiry Number 4327608.3. Report prepared by EDR, Shelton, CT, for VHB, New York City, NY.

³⁷ Ibid.



the possible historic cultural features exceed 1- to 2-feet in vertical height, remnants of them might be retained on the lots even if the lots were recontoured after building demolition.

3.2 Lot 30 and 31 Functions

Five research questions were raised concerning Lots 30 and 31 and the archaeological signatures of the functions conducted on these lots. The project research provided some insight into possible archaeological features and their likely location, but the research also suggested that post-1936 events likely eradicated such signatures. The results of the research into the two questions are presented below.

What are the lot functions as documented?

As early as 1836, a public building is shown in a location on Block 589 that appears to coincide with Lot 31. As noted earlier, various maps assign this public building to a church and then to various commercial purposes. No document or map indicates that a cemetery was present adjacent to the public building though maps as early as 1836³⁸ and 1838³⁹ clearly illustrate the presence of cemeteries in nearby blocks in the Greenwich Village area in those years.

The earliest detailed footprints of the buildings on Lots 30 and 31 are depicted on the 1852 Dripps map (see Figure 10) which shows a long, narrow building encompassing the entirety of Lot 30 and a rectangular building with east and west facades bump-outs. The Lot 31 building covers much of the central and east sections of the lot. The subsequent 1854 Perris map, however, illustrates the Lot 30 building as terminating before the west boundary of that lot, leaving a small triangular wedge bounded on the south by the “Dutch Reformed Church” building on Lot 31 (see Figure 11). That building is in approximately the same location as the building on the 1852 Dripps map but the Perris map indicates that the building abuts adjacent buildings to both the north and south.

In 1857, the Perris map illustrated a bump-out on the west façade of the Lot 31 building but no extramural features in the lot rear (see Figure 12). The 1867 Dripps map illustrated the Lot 31 building the same way it was depicted on the 1852 Dripps map, with bump-outs on both the east and west facades. The 1879 Bromley map attributed Lots 30 and 31 to the “Union Reformed Church” and showed the rear of Lot 31 as empty (see Figure 14). While the building function changed to commercial uses in the late 1800s and early 1900s, the footprints of the two buildings on Lots 30 and 31 do not change. It is possible that privies or cisterns were present to service the congregants or workers on both lots and this conclusion seems to be confirmed by the 1900 property survey plan (see Figure 22).

However, in 1937, Betts⁴⁰ states that the building at 323-325 Sixth Avenue (Lot 31) was extended 19 feet 2 inches in the rear, effectively eliminating much of the open space on that lot. Based on existing conditions maps developed for this current project, the extension appears to have included basement utility space reaching a depth of at least 8 feet 8 inches below present ground surface. During the same year, both plumbing lines and a fuel oil box were installed between the three lots (19/20, 30, and 31).^{41,42} According to the plumbing permit paperwork, the line work was completed for the buildings on Lots 30 and 31 which were under lease to the Luxor Bleeker Amusement Corporation. The new plumbing included single soil, vent, and waste lines supporting 5 water closets, 3 urinals, and 2 wash-basins in the basement, 1 drinking fountain on the first floor, and a water closet and a wash-

³⁸ Colton 1836 map.

³⁹ Bradford 1838 map

⁴⁰ Betts (editor). Mary Beth Betts (editor). 2010 (June 22). Greenwich Village Historic District Extension II Designation Report, page 296. Cited researchers and authors: Olivia Klose, Marianne Percival, Virginia Kurshan, Christopher D. Brazee, and Jennifer L. Most. Landmarks Preservation Commission. File downloaded 8/27/15.

⁴¹ Anonymous 1937a Ibid.

⁴² Anonymous 1937b Ibid.



basin on the second floor.⁴³ Even with the extension, however, the reported location of the 1900 W.C. in the rear of Lot 31 would have remained in open space.

Betts⁴⁴ also provides a discussion of lot function on Lot 30 beginning with an 1845 tax assessment which cites James Watson, a cabinet maker, as owner of a shop and the lot. In 1846, the assessment indicates that the lot is occupied by a house. During this period, however, the property is listed in the ownership of Samuel Burham (aka Samuel Burhans).⁴⁵ According to Betts, the building on Lot 30 was used by various congregations between 1854 and about 1896 when J & R Lamb Studio settled into the location. The studio purchased the Lot 30 building and one on Lot 31 in 1903.⁴⁶

In the years following J & R Lamb's purchase, the building and lot were used, under lease, by Mathew's Express & Van Company, two markets, a butcher, an ecclesiastical decorator, Whitey's Restaurant, and unspecified others according to Betts.⁴⁷ Following renovations in the period 2001-2005, the building is now part of the current IFC theatre complex. Based on existing conditions and 1900s Sanborn Insurance map coverage, the lot appears to be built-out today (see Photographs 8 and 9 for intersection of Lots 30, 31, and 19/20).⁴⁸ The location of the W.C. as shown on Figure 22 is now within the stair well that leads to the basement of 327 6th Avenue (Lot 30).

What are the defining characteristics archaeologically for these functions and is it likely that these characteristics have subsurface expression?

The archaeological signatures for any of the functions noted above are limited. The users of Lots 30 and 31 would have required a stone-lined privy or cistern in the period before City potable water and sewer connections were required in the late 1860s. After the 1860s, so-called school sink privies might have been used when water and sewer connections became available. By the late 1880s, indoor facilities may have been in use, though Geimar noted that some City residents remember using outdoor privies as late as the 1920s.⁴⁹ If the 1900 property survey plan is correct, then water closets are still present in the rear of Lots 30 and 31 in that year. Some garbage disposal may have occurred in the lot rear and some foundation wall modification may have occurred in order to accommodate utility lines, wall reinforcement, or minor expansion.

Similarly, what events occurred on Lots 30 and 31 that would have affected retention of extramural features?

Based on the Sanborn maps covering Lots 30 and 31 for the years 1904, 1921, 1950, 1969, 1975, 1979, 1980, 1983, 1985, 1987, 1988, 1991, 1993, 1994, 1995, 1996, 2001, 2001, 2003, 2004, and 2005⁵⁰, Lot 30 appears to be effectively built-out by 1950. The rear of Lot 31 was affected by the 1937 building extension. However, an area of the rear lot remains open through subsequent years. This open area is approximately 24 feet – 6 inches by 12 feet and is now paved and/or gravel covered. Privies and school sink privies were standardly located at the rear of lots but no closer than two feet from the property boundary. Further, the 1900 property plan (Figure 22) shows the presence of a W.C. in about this location. Thus, the open space on Lot 31 could retain privy features of some type as these features typically have depth greater than one or two feet below existing ground surface.



⁴³ Anonymous. 1937b. Plumbing Objects, revised Table of Fixtures, April 5, 1937. NYC Department of Buildings.

⁴⁴ Betts (editor). Ibid, page 297

⁴⁵ NYC Conveyance, Liber 195, page 457.

⁴⁶ NYC Conveyance, Liber 103, page 455

⁴⁷ Betts (editor). Ibid, page 297.

⁴⁸ EDR. 2015 (August 19). Certified Sanborn Map Report, IFC Center 323 6th Avenue New York, NY 10014, Inquiry Number 4327608.3. Report prepared by EDR, Shelton, CT, for VHB, New York City, NY.

⁴⁹ Joan H. Geimar. 2003. 2003. The Lower East Side Tenement Museum Archaeology at 97 Orchard Street, footnote 2, page 47. Report prepared by author for the Lower East Side Tenement Museum. Landmarks Preservation Commission Report LPC-1381. File downloaded 11/25/15.

⁵⁰ EDR. 2015 (August 19). Certified Sanborn Map Report, IFC Center 323 6th Avenue New York, NY 10014, Inquiry Number 4327608.3. Report prepared by EDR, Shelton, CT, for VHB, New York City, NY.



Which congregation used the synagogue located on Lot 30 in 1895 and what was the duration of that use

Congregation Decech Amuno occupied at least one floor of the building on Lot 30 between 1894 and 1898. From the 1860s to the first decade of the 1900s, the congregation utilized a variety of building spaces (Table 3-1). In 1912, they bought a building on Charles Street and had the building completely renovated to serve their needs.

Table 3-1. Congregation Darech Amuno Addresses 1869-Present

<u>Congregation Name</u>	<u>Address</u>	<u>Dates of Address Use</u>	<u>Data Source</u>
Darech Amuno	164 Greene	1869-70	Museum of Family History
Darech Amuno	164 Greene	1871-72	Museum of Family History
Darech Amuno	95 Sixth Avenue	1878-79	Museum of Family History
Darech Amuno	99 Sixth Avenue	1879-80	Museum of Family History
Darech Amuno	99 Sixth Avenue	1880-82	Museum of Family History
Darech Amuno	7 Seventh Avenue	1890-91	Museum of Family History
Darech Amuno	7 Seventh Avenue	1893	1893 City Directory
Darech Amuno	27 Sixth Avenue	1894	1894 City Directory
Darech Amuno	27 Sixth Avenue	1895-96	Museum of Family History (w/ date and name); 1895 Sanborn (w/ "synagogue")
Darech Amuno (aka Derech Amuna)	278 Bleeker Street	1898	1898 City Directory (w/ date); Museum of Family History, Miller 2011 (w/o date)
Darech Amuno	99 Sixth Avenue	1905-05	Museum of Family History
(Congregation) Derech Amuna/Amuno (aka)	220 West 4th Avenue	1910-11	Museum of Family History
(Congregation) Derech Amuna/Amuno (aka)	220 West 4th Avenue	1915-16	Museum of Family History
Darech Amuno	53 Charles Street (Van Nest Place side)	1917-Present	Museum of Family History

Do any City records for the 1890 period hold reference to a mikvah, cistern, or increase in water usage between 1893 and 1896

No documents or plans reference increased water usage in the mikvah period (1894-1896) or the presence of a roof cistern on the Lot 30 or 31 buildings that could have fed a mikvah. Bergoffen’s report is a documentary review of mikvahs and bath houses that hosted both ritual and public baths in Manhattan, particularly the Lower East Side. The City/Scape report summarizes the results of the excavation of a mikvah found outside a synagogue on Allen Street. The reports indicate that most mikvahs documented in Manhattan in the 1800s and early 1900s were found in the basement or on the first floor of a synagogue, that not all synagogues had a mikvah, and that the water source for a mikvah is traditionally “natural” water (rainwater, stream, spring) but that “natural” water could be augmented with water from other sources.



While most mikvahs are located within the congregation's building, some are not and thus, both interior and exterior settings have to be considered when evaluating the presence/absence of a mikvah. Further, while many synagogues had mikvahs, many did not. Based on informant interviews and documentary sources, Bergoffen found that congregants would use ritual baths that were present in bath houses and that many of the bath houses were gender specific. Third, the need for the water source to be natural is not a given as long as the rabbi agrees that the source meets certain specifications. Therefore, the water source could be natural water provided by cistern/wells which have collected the rainwater, for example, but it also could have been augmented by public sources.

Based on building plans for Lot 30 were tile-lined features present in the basement that could represent a mikvah?

No sources were found that discussed the cellar or basement characteristics of the building on Lot 30. The plumbing documents associated with 1937 Department of Buildings P. & D. Application 758-37 indicate that the water-closet should have "tile floor and base." 2003 AMA Plan A-001 for the interior demolition of the Lot 30 cellar of the building on Lot 30 call for the removal of the existing slab and all partitions, leaving in place only vertical structural supports. The Plan A-000 General Notes and A-001 Cellar Demolition Plan also call for the removal of all plumbing fixtures and all water, gas, sanitary, and vent lines.



4 PHASE IB GROUND-PENETRATING RADAR METHODS AND RESULTS

On January 19, 2016 Gray & Pape, Inc. (G&P) conducted an archaeo-geophysical survey of Lots 19/20 and the rear of lots 30 and 31. The survey focused on two distinct areas: the mostly gravel lot directly behind the theater and adjacent to Cornelia Street, and a smaller section between the theater and a neighboring structure. The purpose of this survey was to attempt to identify any extant subsurface cultural features that may exist within the boundaries of the identified lots. Historical maps indicate that the property was once home to two tenement buildings as well as several smaller buildings. The property was also once home to a church, and thus the potential for burials also existed. Although the likelihood of such burials existing in this space was very small, the data was thoroughly analyzed to examine whether any grave-like responses existed within the radar reflections.

Several difficulties were encountered which affected depth of penetration and quality of data. High-frequency interference from unknown sources created large amounts of background noise, and high conductivity within the subsurface, which allows for absorption and attenuation of GPR energy, resulted in shallow penetration. After intensive processing to reduce the weight of these issues on the data, three anomalies were identified as having potential to be cultural features.

4.1 Geophysical Background

Geophysical methods of investigation were initially developed for the study of subsurface geological features. However, in recent years they have become more and more important for the detection of archaeological features.⁵¹ During the 1980s, geophysical surveys in archaeology intensified as commercial equipment and software became more readily available, a trend that continues today. The increasing availability of commercial equipment amplified the quality and quantity of data collected and the more intensive usage by archaeologists resulted in theoretical and methodological advancements.^{52,53,54} One of the techniques that is beginning to be widely used in North America is GPR. GPR is a near surface geophysical method that utilizes radar waves to measure the differential reflection properties of subsurface soil strata.⁵⁵ Radar waves (a type of electromagnetic radiation) are transmitted into the ground and reflect off buried discontinuities (e.g., rocks, architecture, graves, and pits). Measuring the rate of reflection allows a GPR user to search for anomalies within the area of interest.⁵⁶

When active, electromagnetic pulses are transmitted from a control unit. The pulses then propagate waves that penetrate the ground and reflect off buried discontinuities. The rate of time it takes for the wave to travel into the ground and reflect off the buried anomaly is measured and recorded by the GPR instrument.⁵⁷ A portion of the wave will continue further into the ground and continue to reflect off of discontinuities until finally the wave attenuates (the amplitude and/or intensity is too small to reflect back to the antenna). The electromagnetic properties of the soil, described as relative dielectric permittivity (or the dielectric constant), can dramatically influence the depth and attenuation rate of the radar waves. High clay or salt content in soil, as well as water saturation (poorly-drained soil or subsurface water-pooling), will almost certainly result in poor GPR survey results.

⁵¹ Tatyana N. Smekalova, Olfert Voss, and Sergey L. Smekalov. 2005. *Magnetic Survey in Archaeology*. House of Polytechnic University, St. Petersburg, Russia.

⁵² Larry B. Conyers. 2004. *Ground-Penetrating Radar for Archaeology*. Alta Mira Press, New York.

⁵³ Gafney and Gater 2003

⁵⁴ Anthony Clark. 1996. *Seeing Beneath the Soil*. Routledge Publishing, New York, New York.

⁵⁵ Larry B. Conyers and Dean Goodman. 1997. *Ground-Penetrating Radar: An Introduction for Archaeologists*. Alta Mira Press, New York.

⁵⁶ Conyers. Ibid.

⁵⁷ Conyers and Goodman. Ibid.



The instrument used to conduct the GPR survey was a MALA RAMAC GPR CU II Geo-System equipped with a 500 MHz shielded antenna. This instrument is capable of discriminating softball-sized objects (~0.04 meter) and has an optimal depth penetration of approximately 1- to 5-meters (ca. 3- to 16-feet) below the ground surface and a maximum penetration depth of approximately 3- to 10-meters (ca. 10- to 33-feet) below surface. The CU II unit has a pulse repetition frequency of 100 kHz and the 500 MHz antenna emits broadband pulses for at least 500 MHz (250 MHz – 750 MHz). GPR technology is well suited for the detection of historical deposits and the archaeologist employed for this phase of the survey has nearly a decade of practical technical experience and great familiarity with the methods and techniques of geophysical archaeological survey.

4.2 Survey Results

During the course of this investigation, a total of three grids were established to cover as much of the property as possible (Figure 23). Originally, only two grids were planned to be placed. However, severe high-frequency interference forced the division of the first grid so that parameters could be adjusted to try to compensate for the background noise. Because the GPR machine can accommodate a variety of spatial layouts, grids were placed in order to provide the best coverage for the survey area. In total, 155.5 meters² (ca. 1674 feet²) were surveyed. In addition to the background interference, the dielectric properties of the survey area, i.e. ability to conduct electromagnetic energy, were such that much of the energy from the GPR was absorbed and unable to reflect back to the receiving antenna. This resulted in a shallow depth of penetration, rarely extending beyond 50-centimeters (20-inches) with any certainty.

GPR data was collected along transects spaced at 50-centimeters (ca. 20-inches) intervals on the Y axis using a 500 MHz antenna. Once the data collection was complete, all survey data was downloaded into GPR-Slice software where it was standardized, refined, amplified, filtered, and manipulated (sliced) to produce a series of multiple-depth maps of each surveyed area. The depth, size, shape, and spatial distribution of the higher-amplitude reflections were analyzed and anomalies were selected for possible investigation.

4.2.1 Grid 1a

Grid 1a measured 4 by 13 meters (ca. 13 by 42 feet). Although originally intended to be much larger, the survey was stopped after four transects to make adjustments to the GPR to compensate for high-frequency background interference. As with the other grids, the average depth of penetration was approximately 50-centimeters (ca. 20-inches). The data was analyzed both in reflection profile form (in which each transect is examined individually so that radargrams can be examined for individual reflections) as well as in amplitude time-slice form. Within this small section, there were no recorded reflections that were indicative of historic cultural materials or burials (Figure 24).

4.2.2 Grid 1b

Grid 1b measured 7 by 13 meters (ca. 23 by 42 feet) and encompassed the remaining section of the gravel lot. As discussed earlier, there was a significant amount of high-frequency interference encountered during this grid. As there are a number of sources which can cause such interference, ranging from Doppler radar to high-energy transmission lines becoming active nearby, the source of the interference could not be pinpointed. The data was heavily processed to attempt to remove background noise and filter out frequencies which were higher or lower than the energy emitted from the GPR antenna. Within this grid, a series of planar reflections (those which reflect off larger, flatter, or more elongated discontinuities) appears to indicate the presence of structural remains (Figure 25). Because the depth of data was so shallow, it is not possible to determine whether this may be a foundation, partial foot-print, or subterranean void such as a cellar or basement.

The placement of the potential structural remains is, however, inconsistent with historical mapping. It appears to exist mostly in the middle of the grid, which would encompass the space of both of the tenement buildings. If it is indeed a structural remnant, it is likely a modern addition given its relative shallowness and placement.



4.2.3 Grid 2

Grid 2 was much smaller and measured 2.5 by 5 meters (ca. 8 by 16 feet). This grid was collected in an attempt to capture any possible privies or other small structures that might have been associated with the historical buildings on this property. As with Grid 1b, the high-frequency interference continued during collection. After much processing to remove this interference, two anomalous reflections were observed. One, a round reflection as displayed in the amplitude time-slice map, is the typical response received when the radar energy enters a small, circular void and is reflected back at high rates, and is often indicative of the presence of a well or privy (Figure 26). This is usually easily determined by looking at the radargram data which will show the signal response as it moves down through the subsurface. Due to the shallow penetration of the radar energy, however, this process could not be observed. The circular response may very well be a reflection from a small void beneath the surface.

The second potential target in this grid was a small planar reflection, indicating the possible presence of a small structural foundation (Figure 27). This anomaly appears at a slightly greater depth than the structure-like anomaly in Grid 1b (approximately 40 centimeters [ca. 16 inches]) and it is interpreted as possible cultural feature.



5 PHASE IA/IB SUMMARY CONCLUSIONS AND PHASE II RECOMMENDATIONS

5.1 Phase IA Documentary Conclusions

The Phase IA documentary review reached the following conclusions about each of the project lots.

Lot 19/20 (14-16 Cornelia Street, BBL 1005890019)

- Lot 19/20 contained two, 3-story tenement buildings used during the period between 1854 and 1941.
- The tenements were supported by six extramural features (EF-1 through EF-6) of unknown function.
- None of the buildings appear on Sanborn Insurance maps after 1950.
- Buried utility lines are present on Lot 19/20 and these were emplaced ca. 1937.
- Lot 19/20 was used for auto parking beginning about 1950 and that function continues to present-day.
- Lot 19/20 is now gravel covered though its eastern edge adjacent to the theatre complex buildings is partially paved.

Lot 30 and Lot 31 (323-327 Avenue of the Americas, BBL 1005890030 and 1005890031)

- In 1811, Block 589 appears as unplatted wetland. By 1819, Block 589 has been defined and subdivided. No buildings appear on the 1819 map.
- The 1846 Mitchell map illustrates a public building on Lot 31 and other sources indicate the building is in use by North Presbyterian Church. The land is not owned by the church.
- Except for a period between 1854 and 1895, the building on Lot 30 was used initially as a residence and shop, a residence, and then commercially. From 1854-1893, the building was used by the congregations using the building on adjacent Lot 31. Between 1894 and 1897, at least one floor of the Lot 30 building was used by Congregation Darech Amuno. Following 1897, the building was used for commercial functions.
- Lot 30 retains a small wedge of open space on its rear lot but is otherwise completely built-out.
- However, the mapped location of extramural feature EF-9 (water-closet) is within the basement stairwell.
- Between 1852 and 1895, the Lot 31 building is leased by the Episcopal St. Judes Church, the Dutch Reformed Church, and the Union Reformed Church.
- Renderings completed in 1893 indicate that the Lot 31 building was being proposed for renovation.
- Lot 31 was never fully built-out and a single map dated 1900 (Figure 22) shows a water-closet in the rear lot.
- The depth of disturbance from building construction in both buildings is approximately 8 ft – 8 inches.

5.2 Phase IB GPR Conclusions

During the course of the GPR survey, severe high-frequency interference was encountered, which necessitated changing the collection parameters of the GPR in an attempt to mitigate the effects on the data. Additionally, high soil conductivity absorbed and attenuated the radar energy, thus allowing only shallow penetration to a depth of approximately 20 inches (50 centimeters). GPR surveys are difficult in densely populated urban areas due to potential electronic interference and uncertainty of subsurface structure and content.⁵⁸



⁵⁸ Larry B. Conyers. 2004. *Ground-Penetrating Radar for Archaeology*. Alta Mira Press, New York.



Despite the limitations, three potential features were identified (see Figure 28). These possible cultural features may correspond to parts of extramural features EF-1 (south wall), EF-2 (east wall) and EF-4 (east wall) on Lot 19/20 and EF-7 on Lot 31. The southernmost anomaly in Grid 2 has no documented equivalent.

5.3 Phase II Recommendations

Lot 19/20 contained two tenement buildings and six extramural features in the period between 1854 and 1941. No surface manifestation of these buildings remains however the lot appears to have been subject to minimal subsurface disturbance in the period since the buildings were removed. The GPR results suggest the presence of a building outline in the lot's backyard. This building outline may actually represent wall remnants associated with extramural features EF-1, EF-2 and EF-4. It is recommended that the parking lot gravel be stripped and then one or two backhoe trenches be placed across the width of the Grid 1b feature. One trench would be located at the south end and one would be placed in the middle.

Based on the results of the Phase IA documentary research and the Phase IB GPR investigations, no further archaeological investigation of the rear of Lot 30 is recommended.

Lot 31, except for an open space measuring approximately 24 feet, 6 inches by 12 feet on the lot rear, is built-out. The documentary research identified one possible feature, a water closet (EF-7) in this area. The GPR survey identified a possible privy/well in Grid 2 as well. The GPR survey also identified another possible cultural feature. It has no documented equivalent. The Grid 2 space is too small to accommodate mechanical stripping and it is covered by a concrete walkway. Therefore, it is recommended that the walkway be stripped and the area of the possible features subjected to hand excavation.

If no cultural building remnants or other cultural features are identified, no further work is recommended. If, however, one or more of the features are determined to be historic and cultural, a Phase II testing plan will be developed and submitted for review to LPC prior to any hand or mechanical excavation.



6 BIBLIOGRAPHY

6.1 Article, Document, and Report Citations

A. Aspinall, Chris Gaffney and Armin Schmidt. 2008. *Magnetometry for Archaeologists*. AltaMira Press, Lanham, Maryland.

Christopher D. Brazee, Cynthia Danza, Gale Harris, Virginia Kurshan, Jennifer L. Most, Theresa C. Noonan, Matthew A. Postal, Donald G. Presa, Jay Shockley, and Marianne S. Percival. 2013 (December 17). *South Village Historic District Designation Report*. Landmarks Preservation Commission. File downloaded 8/27/15.

Mary Beth Betts (editor). 2010 (June 22). *Greenwich Village Historic District Extension II Designation Report*. Cited researchers and authors: Olivia Klose, Marianne Percival, Virginia Kurshan, Christopher D. Brazee, and Jennifer L. Most. Landmarks Preservation Commission. File downloaded 8/27/15.

Jong W. Choi and Joel Moskowitz. 2003. *Letter Report: Subsurface Investigation The Waverly Theater New York*. New York MRCE File No. 10029, July 9, 2003. Letter submitted by Mueser Rutledge Consulting Engineers, New York, NY to Cablevision, Jericho, NY and Gardiner & Theobald, Inc., New York, NY.

Anthony Clark. 1996. *Seeing Beneath the Soil*. Routledge Publishing, New York, New York.

Larry B. Conyers. 2004. *Ground-Penetrating Radar for Archaeology*. Alta Mira Press, New York.

Larry B. Conyers and Dean Goodman. 1997. *Ground-Penetrating Radar: An Introduction for Archaeologists*. Alta Mira Press, New York.

Anne B. Covell. 1981. *USDOI National Register of Historic Places Inventory-Nomination Form, "Houses at 26, 28, 30 Jones Street."* NY SHPO, CRIS, file 26-30 Jones Street 90NR00748, file downloaded 8/27/15.

Nancy Dickinson. 2004. *Cemetery and Domestic Site Documentary Study Manhattanville Rezoning in West Harlem, New York, New York*. Report prepared by Historical Perspectives, Inc., Westport, CT, for AKRF, Inc., New York, New York. Landmarks Preservation Commission Report LPC-834.

Andrew S. Dolkart. 2006. *The South Village: A Proposal for Historic District Designation*. Report commissioned by the Greenwich Village Society for Historic Preservation. On file, NY SHPO CRIS in support of 12SD00545. File downloaded 7/31/15.

EDR. 2015 (August 19). *Certified Sanborn Map Report, IFC Center 323 6th Avenue New York, NY 10014, Inquiry Number 4327608.3*. Report prepared by EDR, Shelton, CT, for VHB, New York City, NY.

Joan H. Geismar

2003. *The Lower East Side Tenement Museum Archaeology at 97 Orchard Street*. Report prepared by author for the Lower East Side Tenement Museum. Landmarks Preservation Commission Report LPC-1381. File downloaded 11/25/15.

2005. *Washington Square Park Phase IA Archaeological Assessment*. Prepared by Joan H. Geismar, Ph.D., LLC, for Thomas Balsley Associates for submission to New York City Department of Parks and Recreation.



Patrick J. Heaton. 2005. Phase IB Archaeological Investigation block 457, Lot 28 (former Methodist Episcopal Church), New York, New York. Report prepared by John Milner Associates, Inc., Croton-on-Hudson, NY, for Avalon Bay Communities, Inc., New York, NY. Landmarks Preservation Commission Report LPC-883.

Alyssa Loorya and Chirstopher Riccardi. 2012. Phase IA Historical Documentary Report and Archaeological Assessment of 156 Rivington Street (Block 349, Lot 33, Manhattan (New York County, New York. Report prepared by Chrysalis Archaeological Consultants, Inc., for ABC No Rio, New York, New York, NYOPRHP, and NYC LPC. Landmarks Preservation Commission Report LPC-1414.

New York City, Department of Buildings (Documents, Drawings, and Renderings)

Documents

Anonymous. 1932. Demolition Notice, Notice No. 110 1932, 14-16 Cornelia Street Block 589 Lot 19-20. NYC Department of Buildings.

Anonymous. 1937a. P & D Application No. 718 1937, 323-327 Sixth Ave. 14-16 Cornelia St. Block 589 Lot 19-20-30-31. Documents: Aug. 17 1937 Fuel Oil Applicatoin 718 + 2 drawings, Aug 26, Application for the installation of fuel oil fill box within 3'-0" of curb, Aug. 27 1937 Misc. 709 Completion Report.

Anonymous. 1937b. P & D Application No. 758 1937, 323-7 6th Ave. 14-16 Cornelia St. Block 589 Lot 19-20-30-31. Documents: Oct. 7 1937 Inspectors Report (final), Oct. 6 1937 Plumbing Amendment, Oct. 6 1937 Inspectors Report, Oct. 4 1937 Plumber's Affidavit, Oct. 2 1937 Inspectors Report, Sept. 24 1937 Plumbing Amendment, Aug. 31 Plumbing Amendment, Jul. 2 1937 Plumber's Affidavit, Apr. 5 1937 Plumbing Objections and Table of Fixtures, Mar. 31 1937 Affidavit, n.d. P&D Application 758 1937. NYC Department of Buildings.

Anonymous. 1953. Building Notice Application 283 1953 Block 589 Lot 19-20 14-16 Cornelia Street [drop curb]. NYC Department of Buildings, BN 283 53.

Drawings and Renderings

Anonymous. 1893. Renderings, Church Building No. 23 & 25 6th Ave. NY (J&R Lamb). Renderings: Present Front Elevation, New Front Elevation, Present Longitudinal Section, New Longitudinal Section, New Rear Elevation, Present Transverse Section. NYC Department of Buildings B 589 L31, AL0574-93.

John J. McNamara A.I.A and Associates. 1980 (rev. 1981). Waverly Theatre, 323 6th Avenue, NY. Drawings: Plan of Lobby, Foyer and Theatre No. 1 (DWG #101), Plan of Theatre No. 2 (DWG #102), Plan of Attic Area (DWG #103), and Longitudinal Section (DWG #104). NYC Department of Buildings 518/1980 (Alteration).

AMA. 2001a (rev. 2004). Film Center Avenue of the Americas, New York, New York. Block 589, Lot 31. Drawings: General Notes and Plot Plan (A-000), Cellar Demoiion Plan (A-001), First Floor Demolition Plan (A-003), Second Floor & Mezzanine Porject Room Demolition Plan (A-003). NYC Department of Buildings 103027485 (Demolition).

AMA. 2001b (rev). Film Center Avenue of the Americas, New York, New York. Block 589, Lots 30 and 31. Drawings: General Notes, Site Plan & Drawing List (BD 1), Cellar Floor Building Department Plan (BD 2), First Floor Building Department Plan (BD 3), Second Floor & Part Third Floor Building Department Plan (BD 4) [BD-5 Roof Building Department Plan not present with set]. NYC Department of Buildings 103554663 (Demolition).

AMA. 2003a. Film Center Avenue of the Americas, New York, New York. Block 589, Lots 30 and 31. Drawings: General Notes & Plot Plan (A 000), Cellar Demolition Plan (A-001), First Floor Demolition Plan (A-002), Second Floor Demolition Plan (A-003). NYC Department of Buildings 103025833 (Demolition).



AMA. 2003b. Film Center Avenue of the Americas, New York, New York. Block 589, Lots 30 and 31. Drawings: [2 sheets] Plumbing Underground Piping Plan and Plumbing Cellar Floor Plan. NYC Department of Buildings 103596137 (Permit, Interior Renovations).

Allan Pollock. 1880. "History of Trinity Church and Its Grave Yard," page 9. New York: Allan Pollock. Available in GoogleBooks

Tatyana N. Smekalova, Olfert Voss, and Sergey L. Smekalov. 2005. *Magnetic Survey in Archaeology*. Publishing House of Polytechnic University, St. Petersburg, Russia.

Rebecca Yamin, Joseph Schuldenrein, and Maria L. Schleidt-Penalva. 1995. Foley Square Federal Courthouse and Office Building New York, New York. Report prepared by John Milner Associates, Inc., West Chester, PA, for Edwards and Kelcey Engineers, Inc., Morristown, NJ, and the General Services Administration, Region 2, NY. Landmarks Preservation Commission Report LPC-449.

6.2 Map and Visual Media Citations

Anonymous (Jones). 1819. "Map of Lands Belonging to Samuel Jones Jr., William Hones, Egbert H. Jones, Thomas Jones, Davis S. Jones at Greenwich, New York, November 1, 1819." Museum of the City of New York, accession number 29.100.3013. Digital ID: <http://collections.mcny.org/Collection/Map> of Lands.... Citation file downloaded 10/2/15.

J. M. Atwood. 1849. "Map Of The City Of New York, With The Adjacent Cities of Brooklyn & Jersey City, And The Village Of Williamsburg..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~229026~5507984>. File downloaded 10/26/15.

Frederick W. Beers. 1872. Map of central portions of the cities of New York and Brooklyn. Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~26190~1100106>. File downloaded 10/26/15.

Thomas G. Bradford. 1838. New York. Engraved by G. W. Boynton. Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~2311~220001>. File downloaded 10/26/15.

Samuel Breese. 1845. "New York and vicinity. Entered..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~262452~5523657>. File downloaded 10/26/15.

William Bridges and Peter Maverick. 1811. Map of the city of New York and island of Manhattan, as laid out by the commissioners appointed by the legislature, April 3d, 1807. On file Library of Congress Geography and Map Division, Washington, DC. Digital ID <http://hdl.loc.gov/loc.gmd/g3804n.ct000812>. File downloaded 10/26/15.

Geo. W. Bromley & E. Robinson. 1879. "Part of ward 9, New York City..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~30630~1150151>. File downloaded 10/26/15.

Walter Scott Bromley. 1891. "Parts of ward 8, 9 & 15, New York City..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~26428~1110281>. File downloaded 10/26/15.



Bromley. 1916. Plate 33 “[Bounded by Barrow Street, Bleecker Street, Cornelia Street, Sixth Avenue, W. 3rd Street, Sullivan Street, Bedford Street, Macdougall Street, King Street, Varick Street, and Seventh Avenue Extension]. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/510d47e2-49f0-a3d9-e040-e00a18064a99>. File downloaded 10/2/15.

David H. Burr. 1832. “City of New York Published by David H. Burr...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~236829~5510914>. File downloaded 10/26/15.

David H. Burr. 1832. “Map of the City and County of New York with the adjacent country...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~20006~510002>. File downloaded 10/26/15.

G. W. Colton. 1856. “Map of New York and the Adjacent Cities. (with) Continuation Of The City & County of New York On A Reduced Scale...” Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~1667~130026>. File downloaded 10/26/15.

J. H. Colton. 1836. “Topographical Map of the City and County Of New-York, and the adjacent Country: With Views in the border of the principal Buildings and interesting Scenery of the Island...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~3017~90020003>. File downloaded 10/26/15.

Matthew Dripps. 1852. “Map of the City of New York Extending Northward to Fiftieth St...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~3018~90020002>. File downloaded 10/26/15.

Matthew Dripps. 1854. Map of the Cities of New York, Brooklyn, Williamsburgh & Jersey City. Published by M. Dripps No. 103 Fulton St. New York 1854. Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~228544~5507683>. File downloaded 10/26/15.

Matthew Dripps. 1863. “Map of New York and Vicinity...” Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~1783~200035>. File downloaded 10/26/15.

Matthew Dripps. 1867. “Plan of New York City, from the Battery to Spuyten Duyvil Creek. Showing every lot and building thereon; old farm lines, Street Numbers at the corner of blocks, Railroads, Steamboat Landings, Bulkhead and Pier Lines... Sheet 6” Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/510d47e2-49f0-a3d9-e040-e00a18064a99>. File downloaded 10/26/15.

William Hooker. 1829. “Hooker’s New Pocket Plan Of The City Of New York. Compiled & Surveyed by William Hooker, Engraver...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~1595~190085>. File downloaded 10/26/15.

William Hooker. 1833. “Hooker’s New Pocket Plan Of The City Of New York. Compiled & Surveyed by William Hooker, Engraver...” Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~1857~190092>. File downloaded 10/26/15.

A.J. Johnson. 1864. Johnson’s Map of New York (City) and the Adjacent Cities. By Johnson and Ward. (inset) Continuation of the City & County of New York on a Reduced Scale. Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~220220~5504949>. File downloaded 10/26/15.



Letts, Son & Co. 1883. "New York, South. Lett's popular atlas..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~31480~1150436>. File downloaded 10/26/15.

Joseph Meyer. 1844. "Grosser Hand-Atlas uber alle Theile der..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~21963~690061>. File downloaded 10/26/15.

Samuel Augustus Mitchell. 1846. "City of New-York..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~32805~1170191>. File downloaded 10/26/15.

Samuel Augustus Mitchell. 1860. "Plan of New York &c..." Online David Rumsey Historical Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~2049~120047>. File downloaded 10/26/15.

William Perris. 1854. Maps Of The City Of New York, Volume 5, Plate 59: Map bounded by Barrow Street, Commerce Street, Bleecker Street, Cornelia Street, Sixth Avenue, Hancock Street, Hamersley Street, Hudson Street. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/510d47e3-ff5f-a3d9-e040-e00a18064a99>. File downloaded 10/26/15

William Perris. 1859. Maps Of The City Of New York, Volume 4, Plate 51: Map bounded by Bleecker Street, Cornelia Street, Sixth Avenue, Carmine Street, Bleecker Street, Hancock Street, Hamersley Street, Hudson Street, Barrow Street, Commerce Street. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/510d47e0-bf68-a3d9-e040-e00a18064a99>. File downloaded 10/26/15

Elisha Robinson and Roger H. Pidgeon. 1893. Atlas of the City of New York: from official records, private plans & actual surveys, Volume Four: South of 14th Street. Plate 17. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/a1ed0d43-d53e-e912-e040-e00a180645ad>. File downloaded 10/26/15.

Sanborn Map Company. 1895. Insurance maps of the City of New York. Surveyed and published by Sanborn-Perris Map Co., Limited 115 Broadway, 1895. Manhattan, Volume 3, Plate No.51. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. Digital ID <http://digitalcollections.nypl.org/items/98041e7e-a68e-76a2-e040-e00a180605a3>. File downloaded 10/26/15.

Society for the Diffusion of Useful Knowledge (Great Britain). 1940. "New York. Published by the Society for the Diffusion of Useful Knowledge..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~21025~540002>. File downloaded 10/26/15.

Henry S. Tanner. 1834. "New York (to accompany) The American Traveller; Or Guide Through the United States..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~238534~5511583>. File downloaded 10/26/15.

Henry S. Tanner. 1845. "City of New York. Entered..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~36717~1201377>. File downloaded 10/26/15.

T.R. Tanner. 1840. "New Map of the City of New York, With Brooklyn & Parts of Williamsburgh..." Online David Rumsey Historical Map Collection. Digital ID <http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~214571~5501717>. File downloaded 10/26/15.

United States Geological Survey. 1947. USGS Jersey City and Brooklyn 7.5-minute quadrangle sheets. USGS Historical Topographic Map Explorer. Digital ID: <http://historicalmaps.arcgis.com/usgs/index.html>. Files downloaded 11/25/15.



United States Geological Survey. 1955-1956. USGS Jersey City (1955) and Brooklyn (1956) 7.5-minute quadrangle sheets. USGS Historical Topographic Map Explorer. Digital ID: <http://historicalmaps.arcgis.com/usgs/index.html>. Files downloaded 11/25/15.



7 FULL-PAGE TABLES

Table 7-2. Annual Record of Assessed Valuation of Real Estate, Block 589, Lot 19/20, 1850-1940

		<u>Owner or Occupant</u>	<u>Size of Lot (feet)</u>	<u>Size of Homes</u>	<u>Stories High</u>	<u>Houses on Lot</u>	<u>Street Number</u>	<u>Ward 9 Number</u>	<u>Valuation of Real Estate</u>	<u>Bldg Classification</u>
1850	Lot 19	John Westervelt		1/2 L + H (?)			16	2174	\$1,500	
	Lot 20	Peter Moore		1/2 L + H (?)			14	2173	\$1,500	
1860	Lot 19	John Westervelt	24 x 56	24 x 34	2		16	2174	\$2,000	
	Lot 20	Peter D. Moore	25-8 in x 52	24 x 34	3		14	2173	\$1,900	
1870	Lot 19	P. McManus	27 x 56	24 x 34	2		16	2174	\$3,000	
	Lot 20	L. W. Price	25-8 in x 52	24 x 34	3		14	2173	\$3,000	
1880	Lot 19	P. McManus	27 x 56	24 x 34	3	1	16	2174	\$3,500	
	Lot 20	L. W. Price	25-8 in x 52	25-8 in x 34	3	1	14	2173	\$3,000	
1890	Lot 19	P. McManus	27 x 54	27 x 34	3	1	16	2174	\$3,500	
	Lot 20	W B Housner	25-8 in x 50	25-8 in x 34	3	1	14	2173	\$3,000	
1900	Lot 19	McManus	27 x 54	24 x 34	3	1	16		\$4,000	
	Lot 20	E. Wilson	25-8 in x 50	25-8 in x 34	3	1	14		\$3,500	
1930	Lot 19	J & R Lamb	27 x 54	24 x 25	3	1	16		\$12,000 (unimproved) \$12,500 (w/ Improvements)	3
	Lot 20	J & R Lamb	25-8 in x 50	23 x 25	3	1	14		\$11,500 (unimproved) \$12,000 (w/ Improvements)	1
1940	Lot 19	323 Sixth Ave Corp	27 x 54	vacant					\$9,500	
	Lot 20	323 Sixth Ave Corp	25-8 in x 50	vacant					\$8,500	



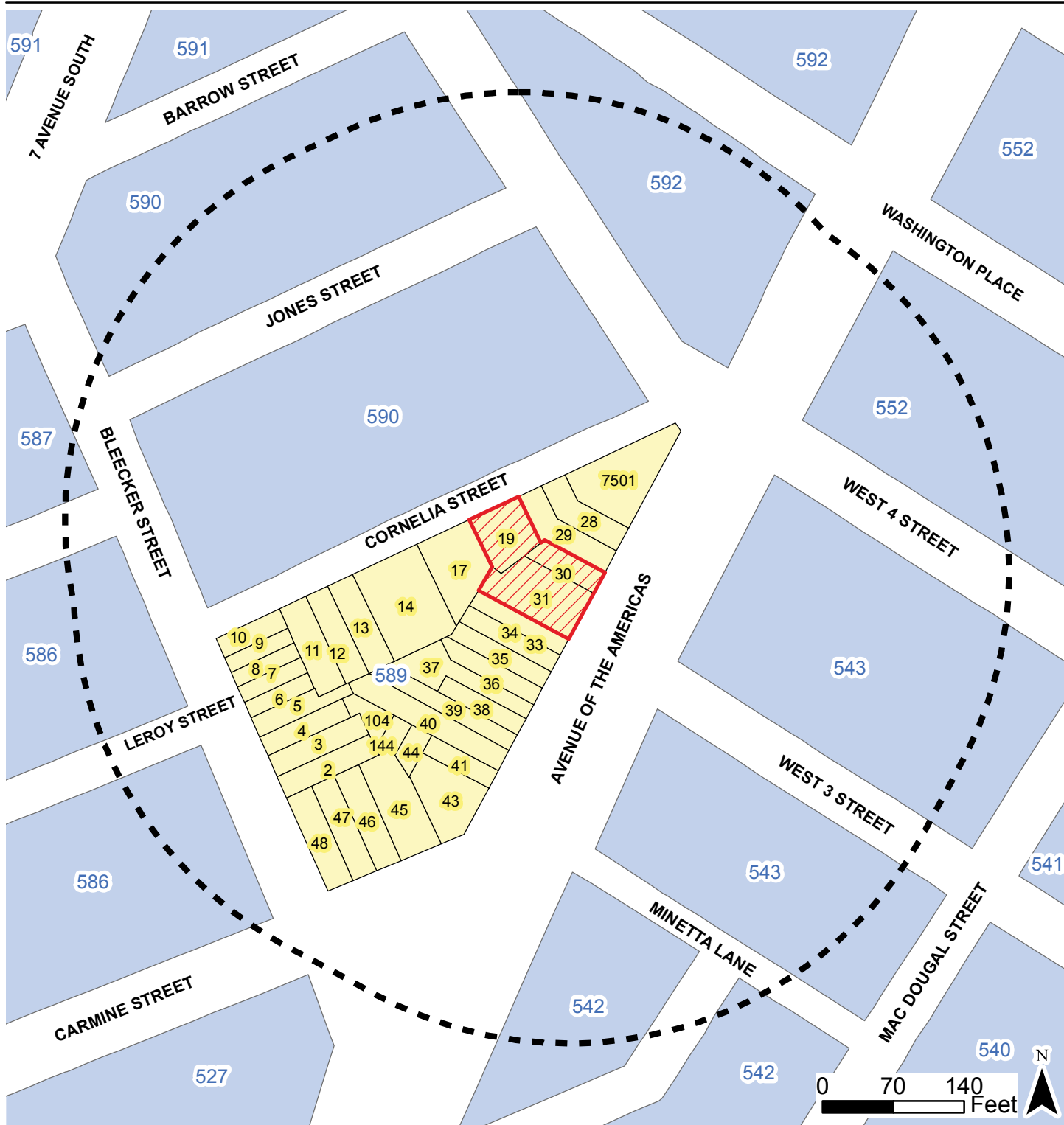
8 FIGURES



IFC Center
New York, New York

Project Location (USGS 7.5-minute *Jersey City and Brooklyn* quadrangles)

Figure
1



IFC Center
New York, New York

**Project Location with
Block 589 Lot Numbers**

**Figure
2**

- Proposed Project Site
 - 400-Foot Radius
 - Project Block Tax Parcels
 - Tax Block
- 78** Lot Number
872 Block Number

Sources: 1. New York (City). Dept. of City Planning 2015. Manhattan MapPLUTO (Edition 15v1). New York City: NYC Department of City Planning.
2. New York (City). Dept. of City Planning 2015. LION (Edition 15B). New York City: NYC Department of City Planning.

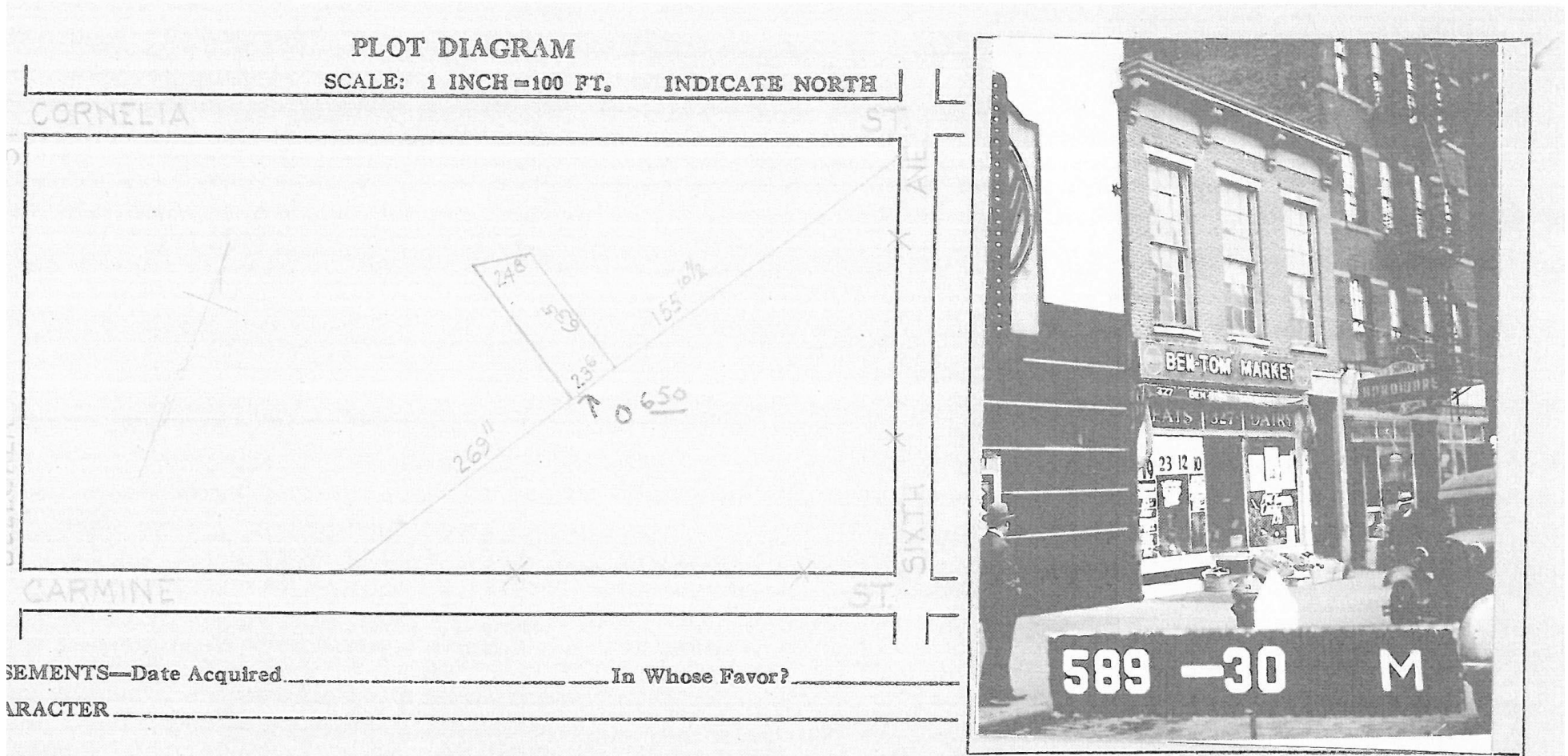


Source: Museum of the City of New York, Catalog #33.173.93

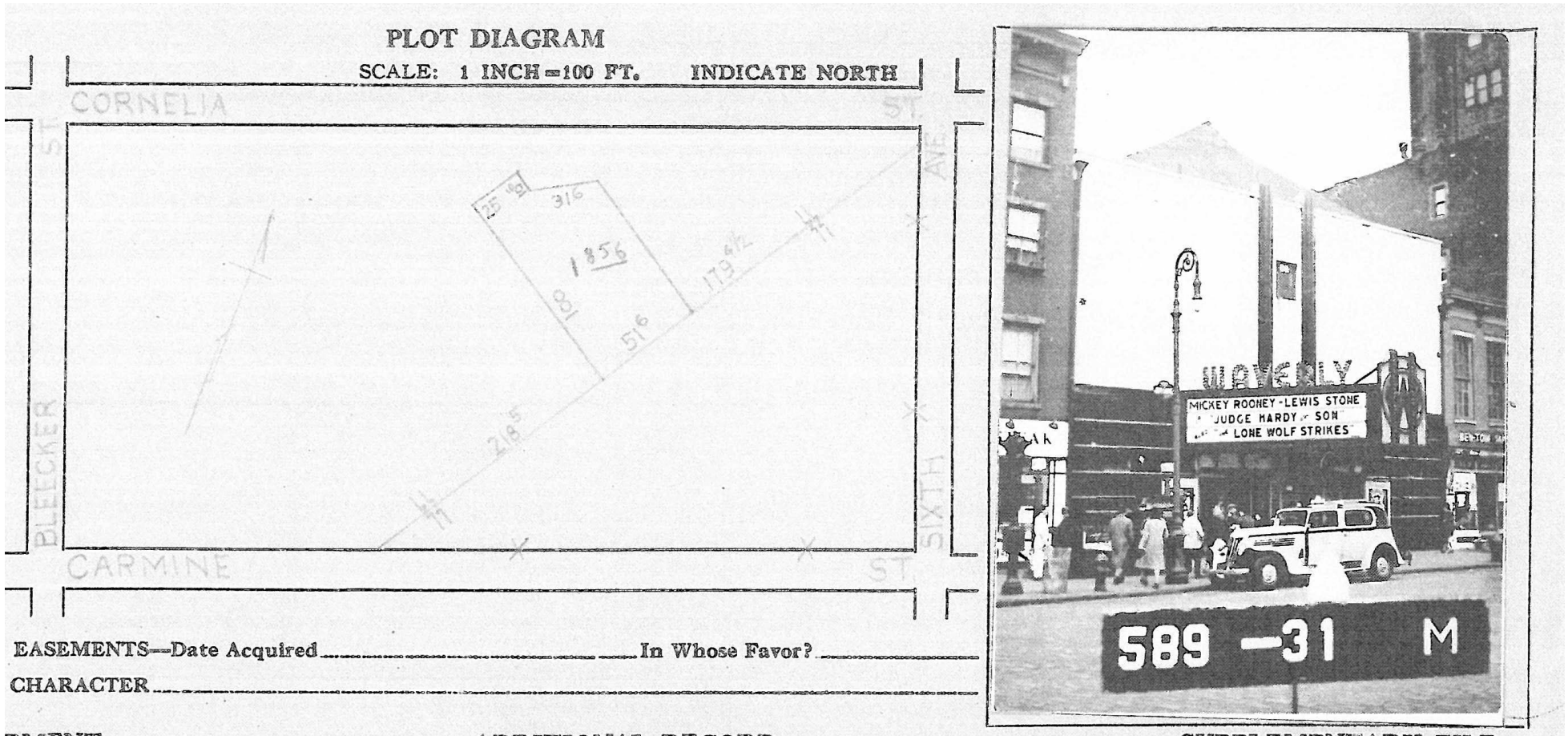
IFC Center
New York, New York

**14-16 Cornelia Street, 1932 Gelatin
Silver Print by Charles Von Urban**

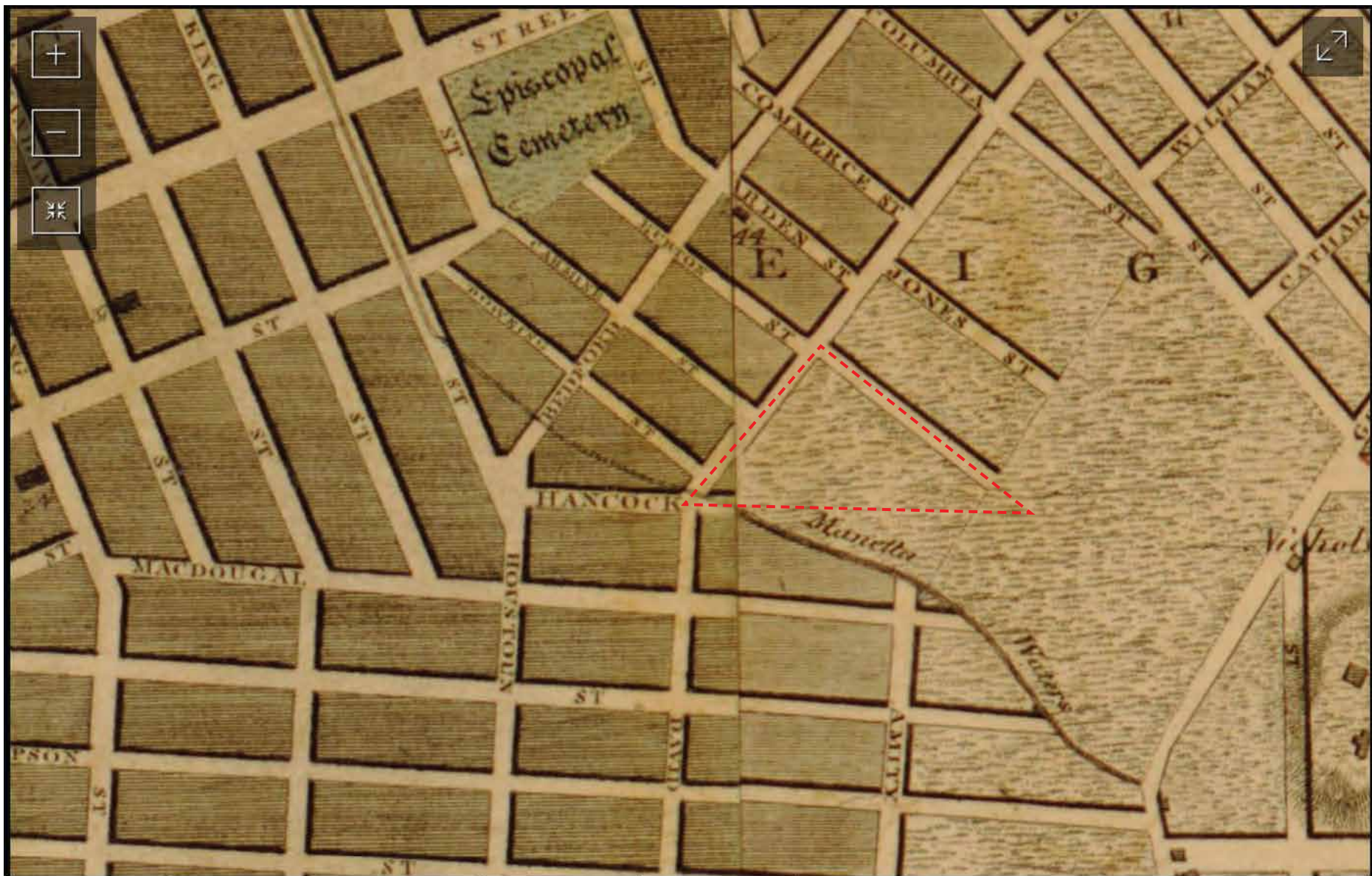
Figure
3



Source: New York City, Department of Building Property Card PC M 589-30



Source: New York City, Department of Building Property Card PC M 589-31



Source: U.S. Library of Congress

IFC Center
New York, New York

1811 Bridges and Maverick Showing
Project Block and Adjacent Areas

Figure
6



Source: Museum of the City of New York, Catalog #29.100.3013

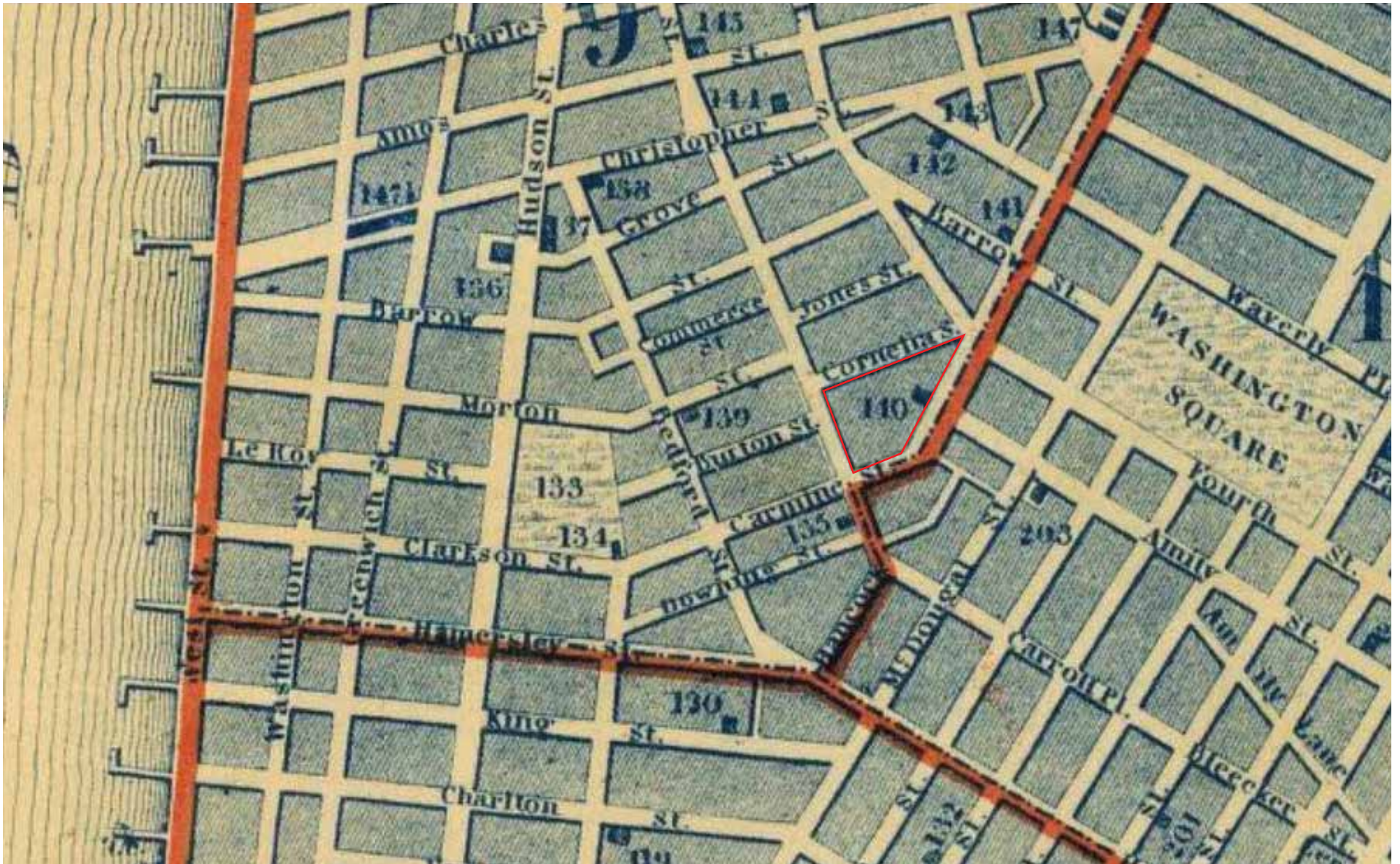
IFC Center
New York, New York

1819 Jones Showing Project
Block and Adjacent Areas

Figure
7



Source: David Rumsey Map Collection, "Plan of the City of New York"



Source: David Rumsey Map Collection, "City of New York"

IFC Center
New York, New York

1846 Mitchell Showing Project
Block and Public Building "140"

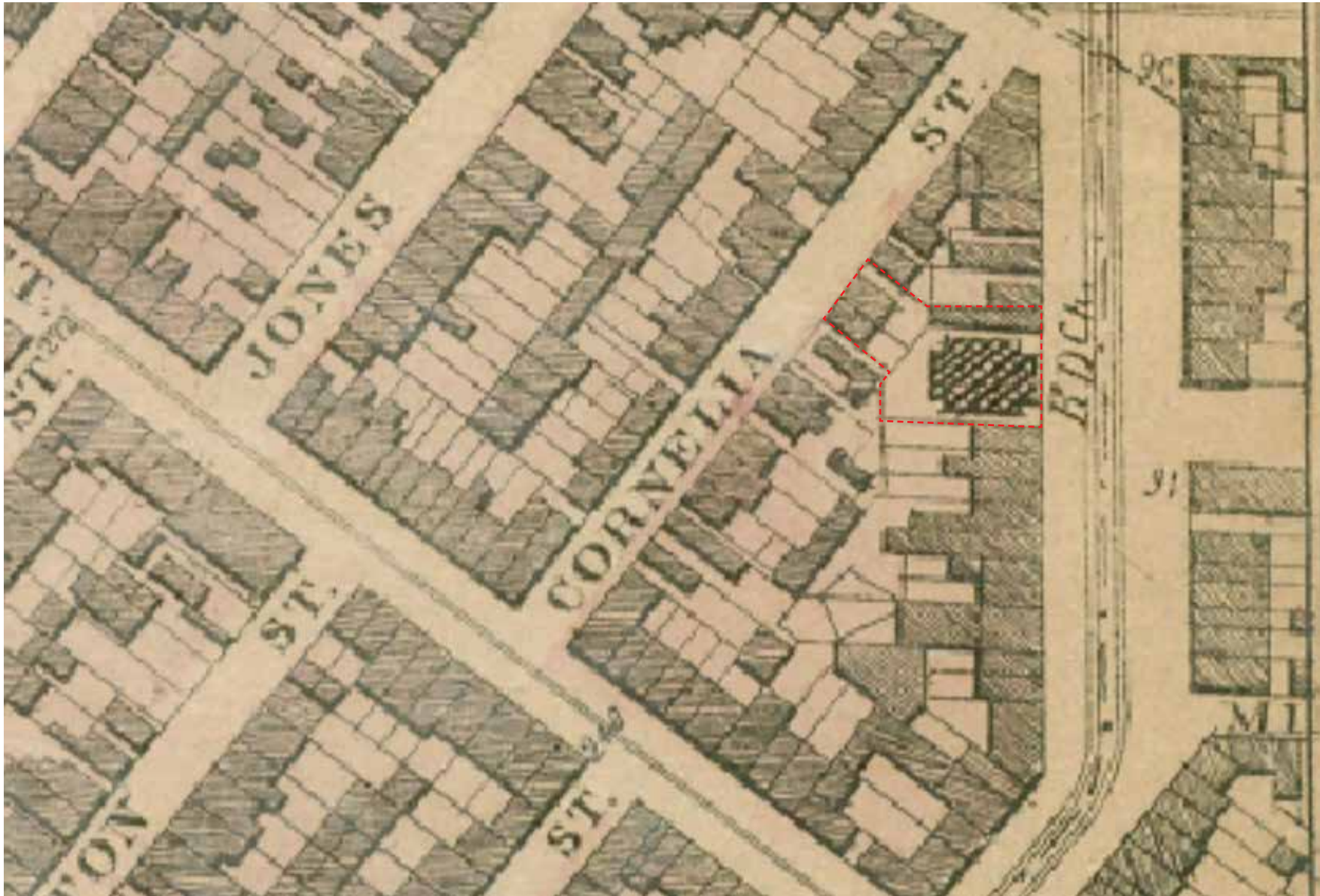
Figure
9



Source: The New York Public Library Digital Collections. 1852-1854.



Source: The New York Public Library Digital Collections. 1857-1862

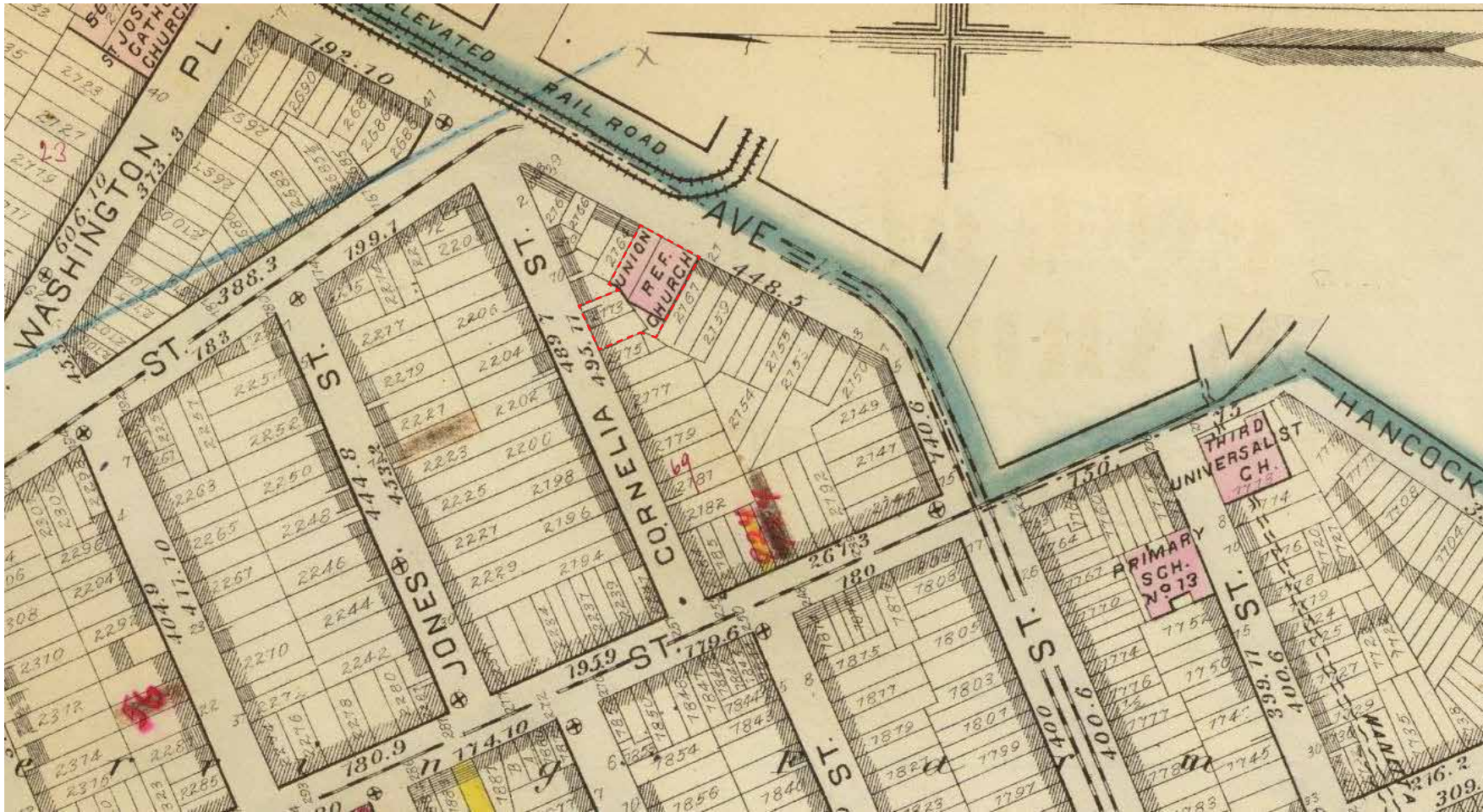


Source: The New York Public Library Digital Collections. 1867.

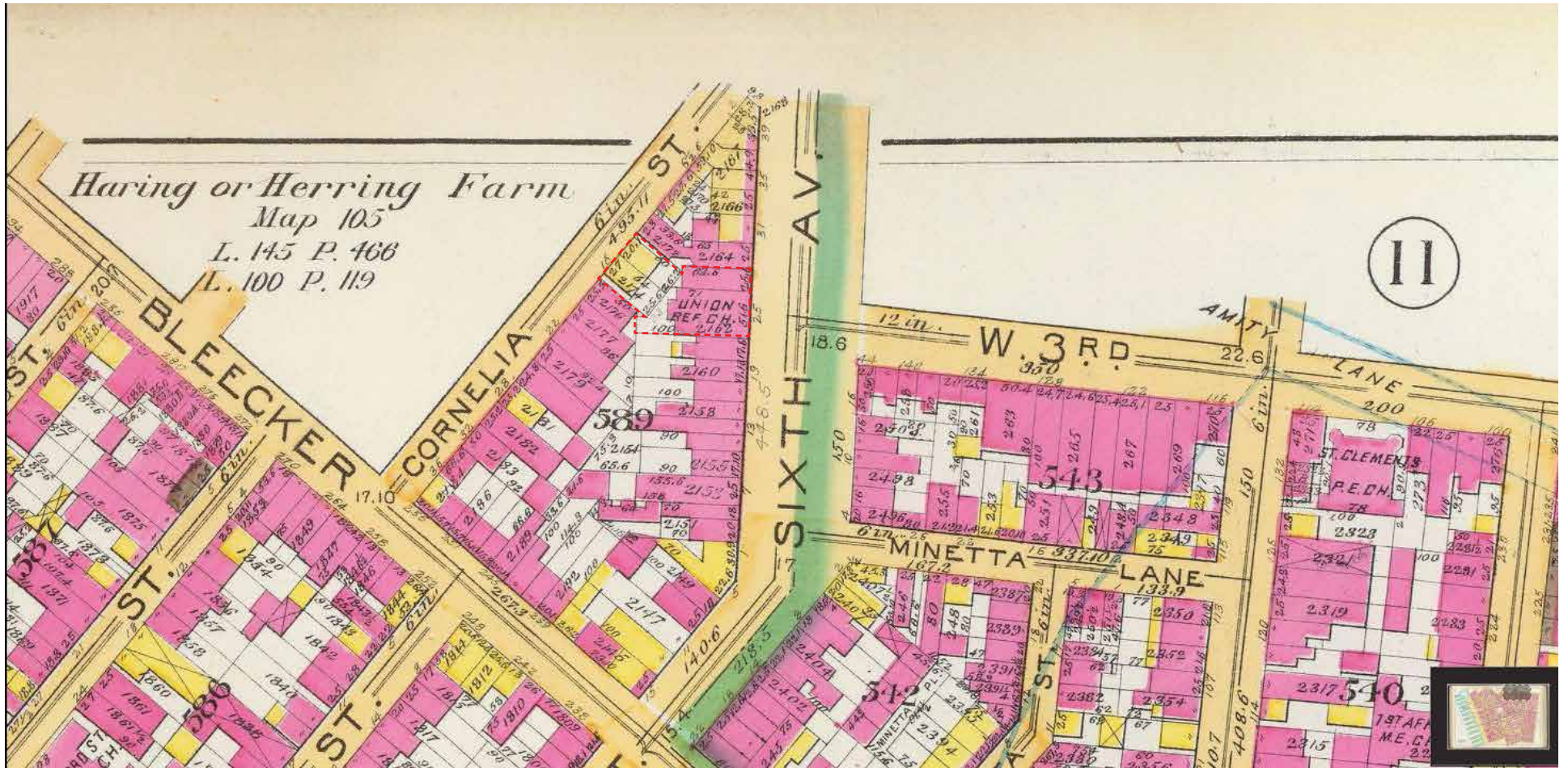
IFC Center
New York, New York

1867 Dripps Showing Project Lots and
"Reformed Dutch Church" Reference

Figure
13



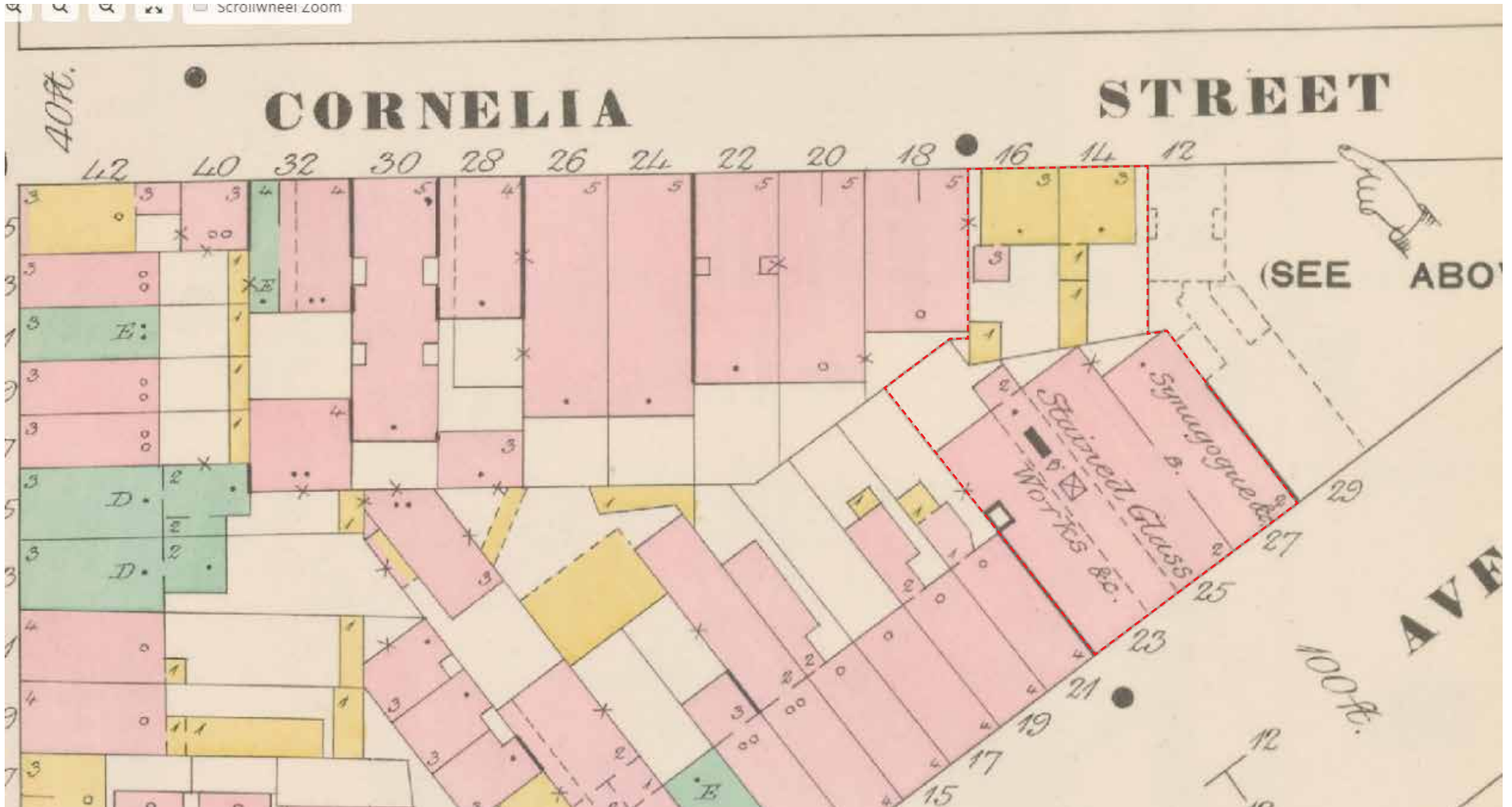
Source: David Rumsey Historical Collection, “Part of Ward 9 New York City”



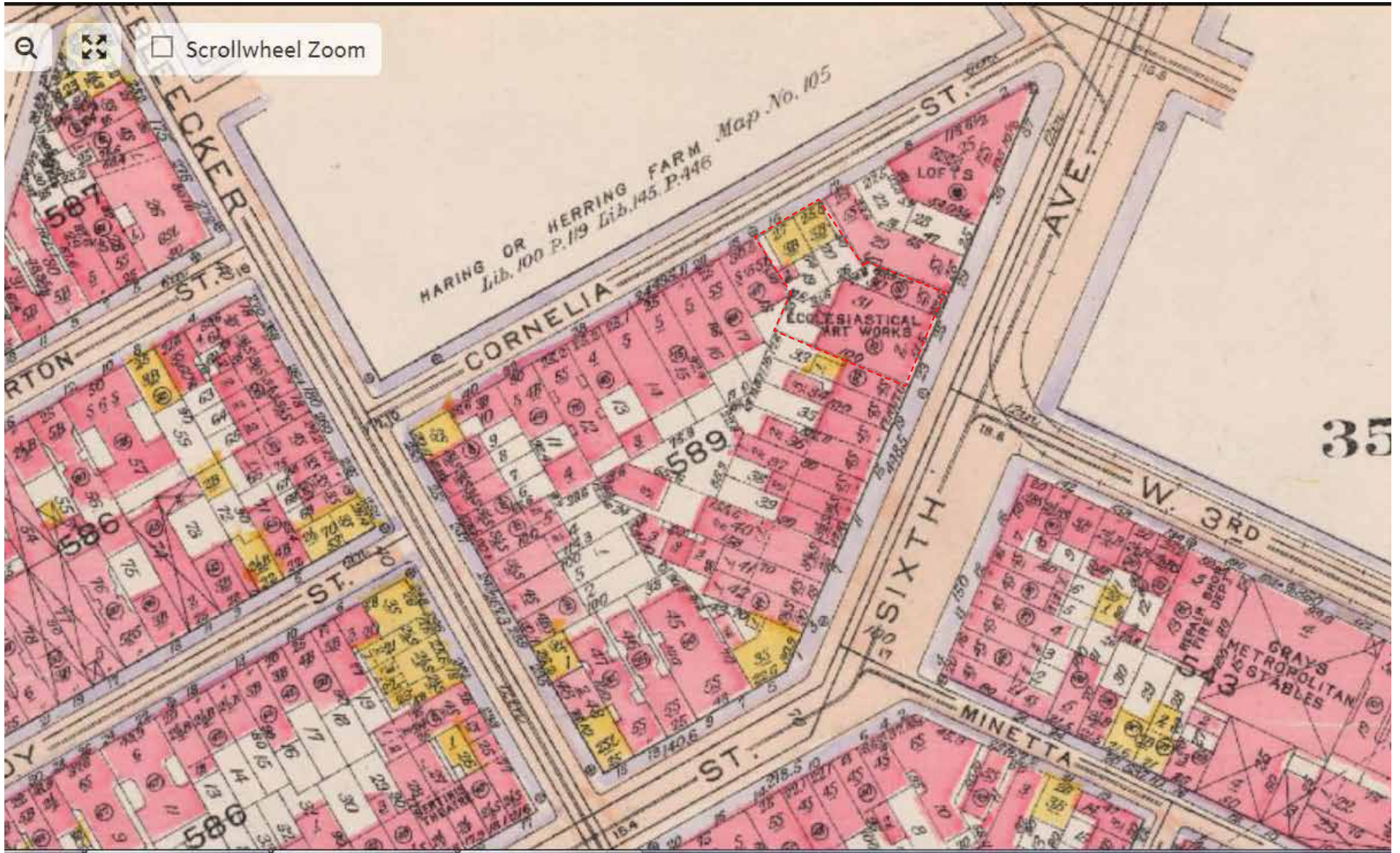
Source: David Rumsey Historical Collection, "Part of Wards 8,9&15 New York City"



Source: The New York Public Library Digital Collection. 1893.



Source: The New York Public Library Digital Collection. 1884-1895.



Source: The New York Public Library, Digital Collections.

IFC Center
New York, New York

1916 Bromley (Plate 33) Showing Project Lots
and “Ecclesiastical Art Works” References

Figure
18



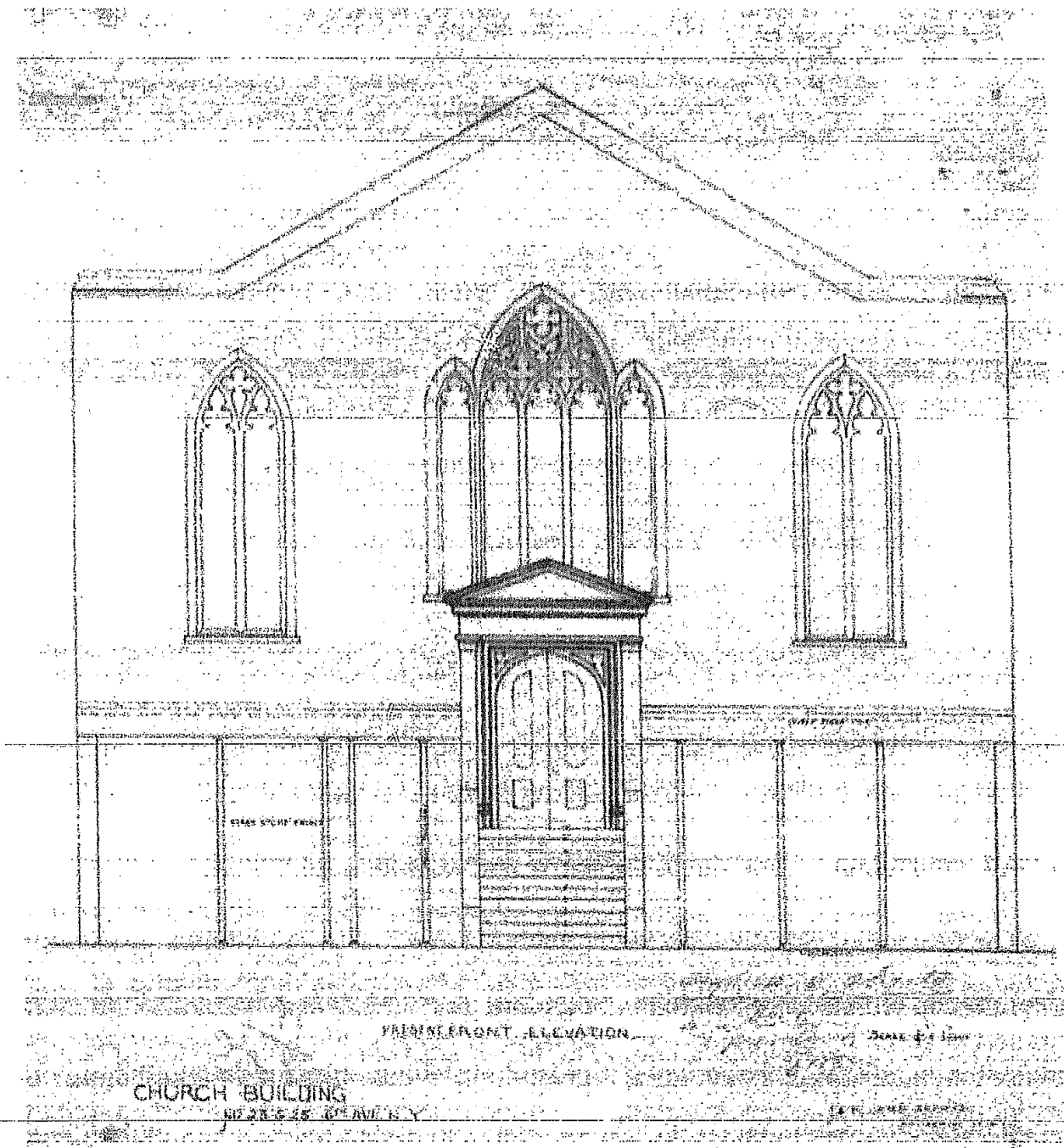
Copyright 2015 The City of New York

Source: NYCityMap.

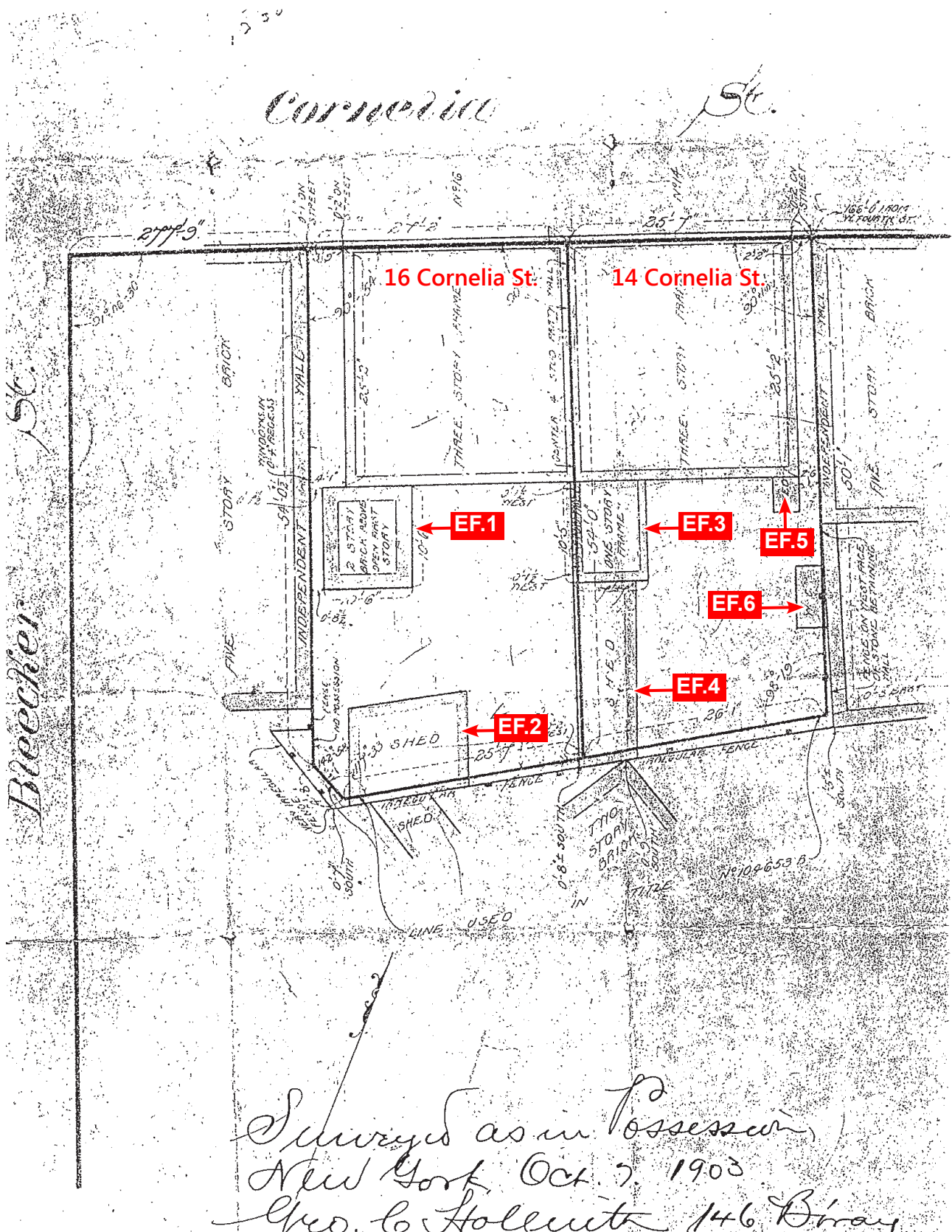
IFC Center
New York, New York

1996 NYCity Map Aerial
Showing Trees on Lot 19/20

Figure
19



Source: New York City, Department of Building B 589 L31 ALO574-93

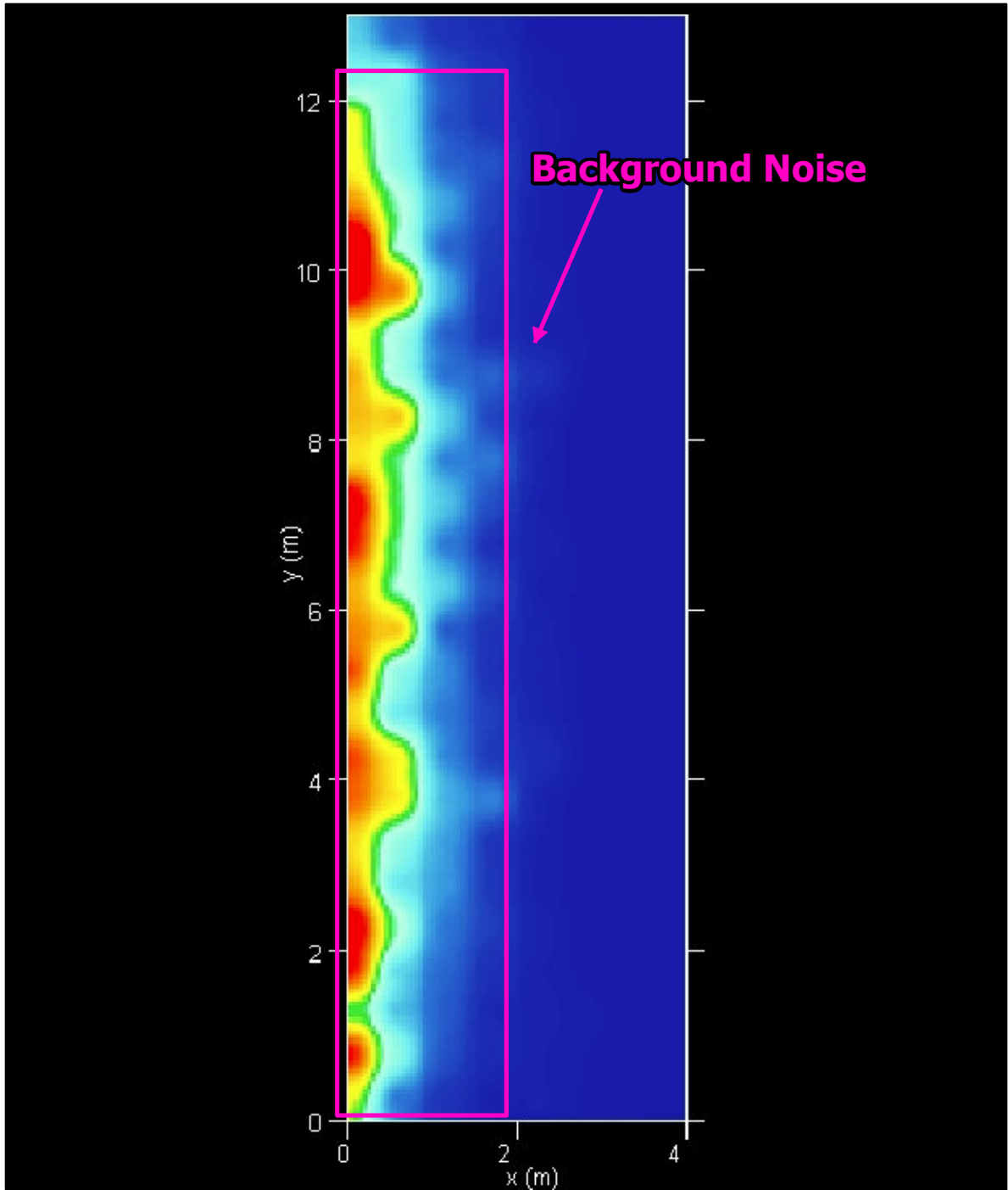


Source: IFC Center (John Vanco)



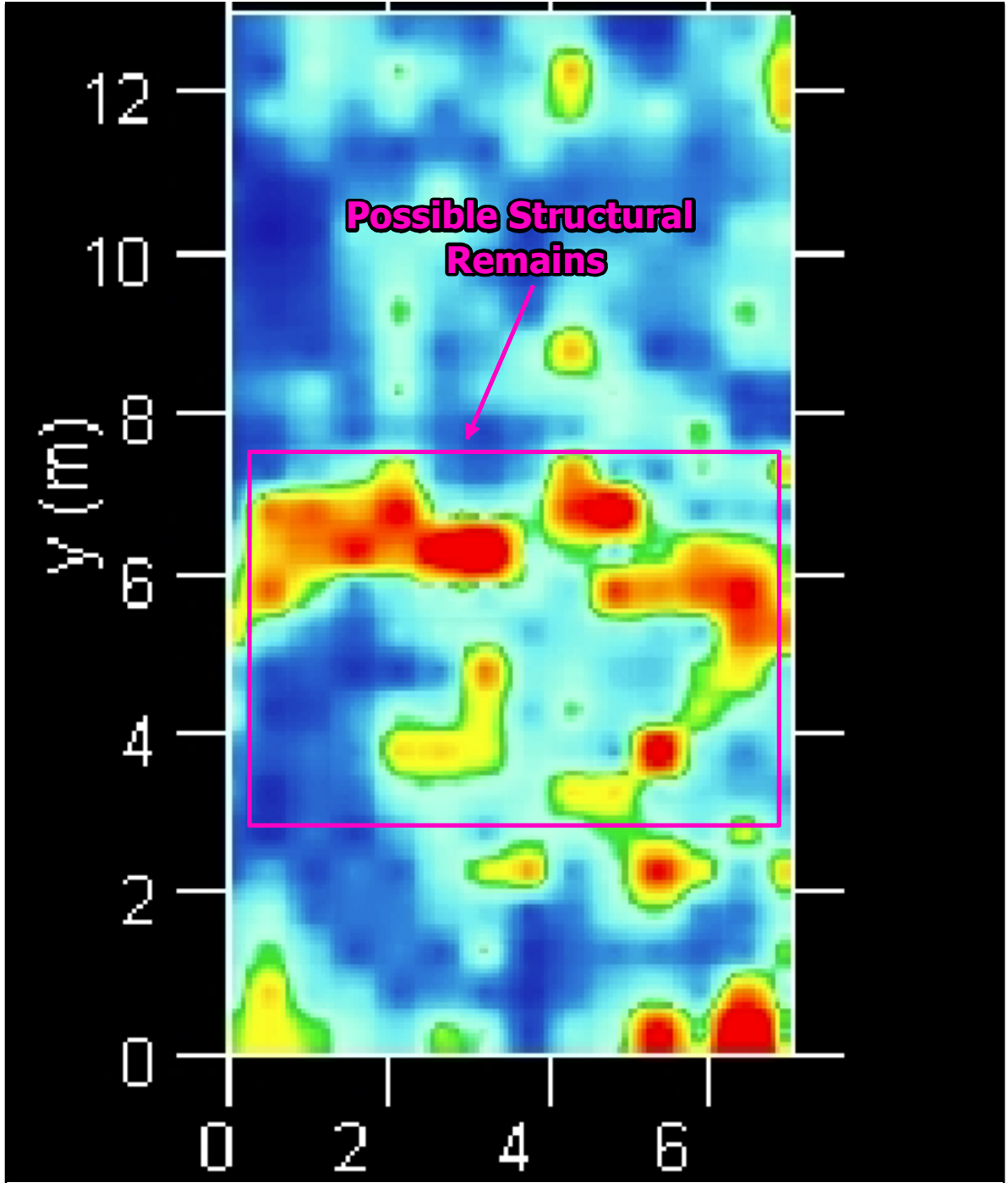
Source: Gray & Pape, INC

Locations of GPR Grids with Survey Area



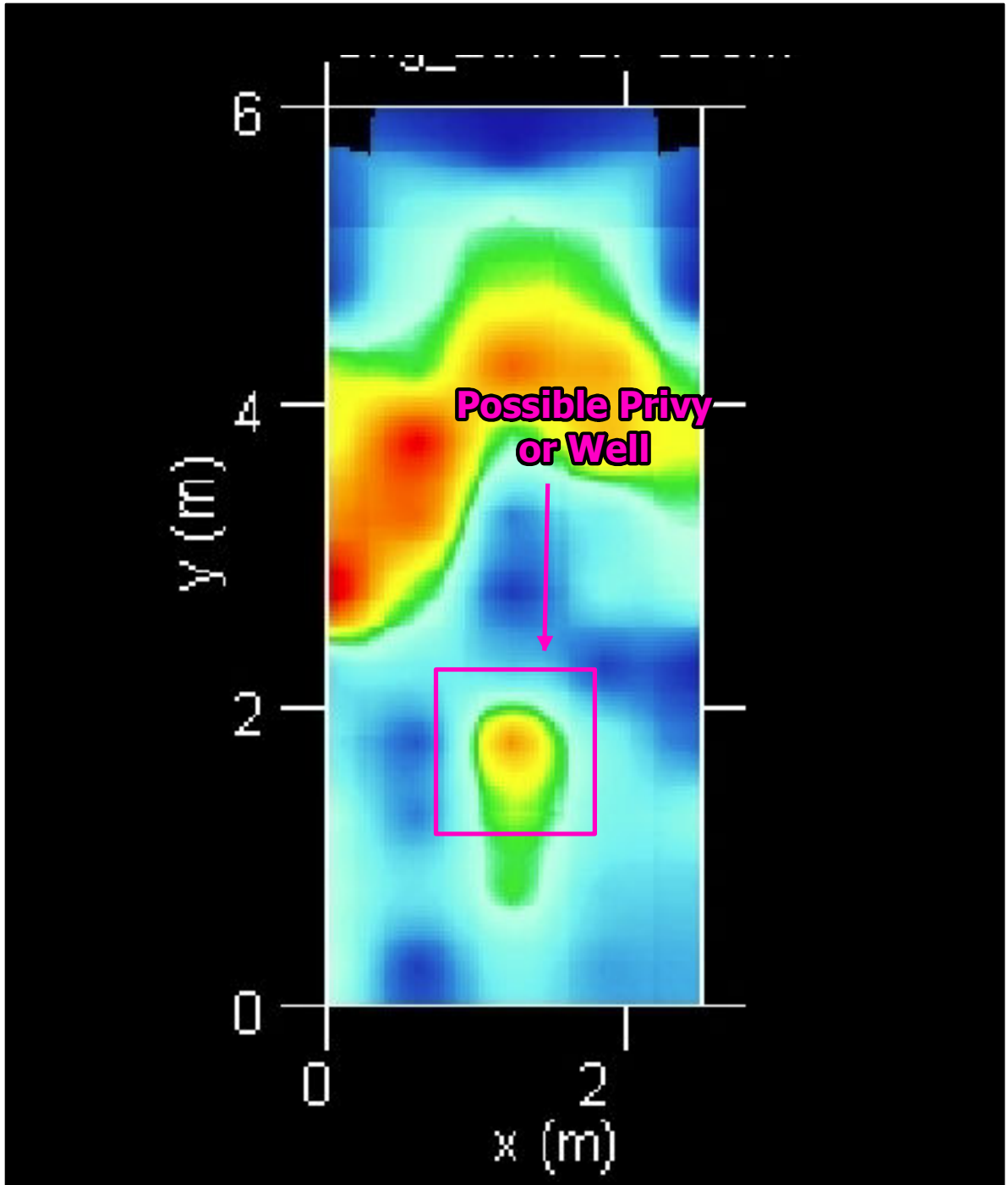
Source: Gray & Pape, INC

Grid 1a Showing Results of GPR Survey



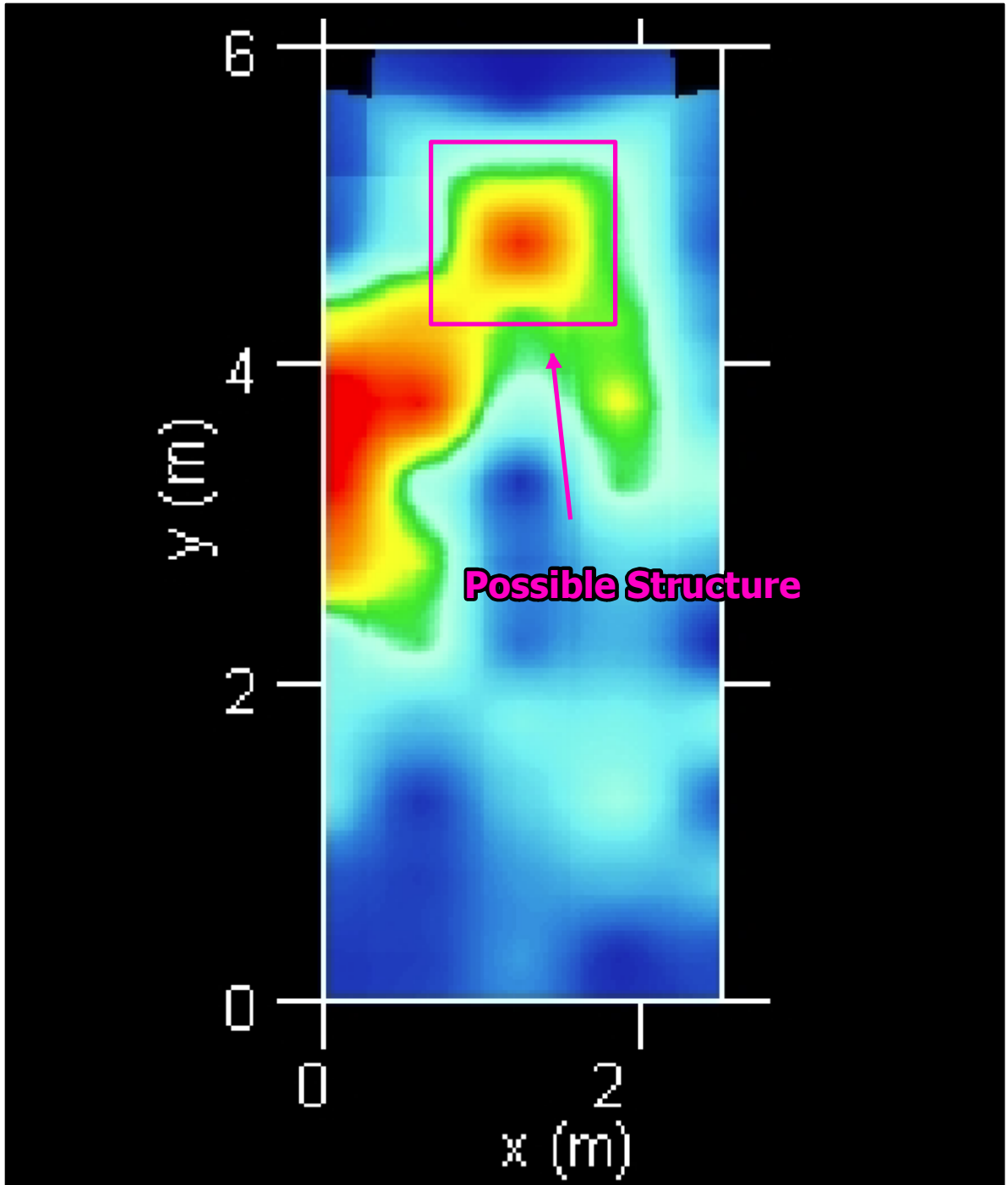
Source: Gray & Pape, INC

Grid 1b Showing Results of GPR Survey



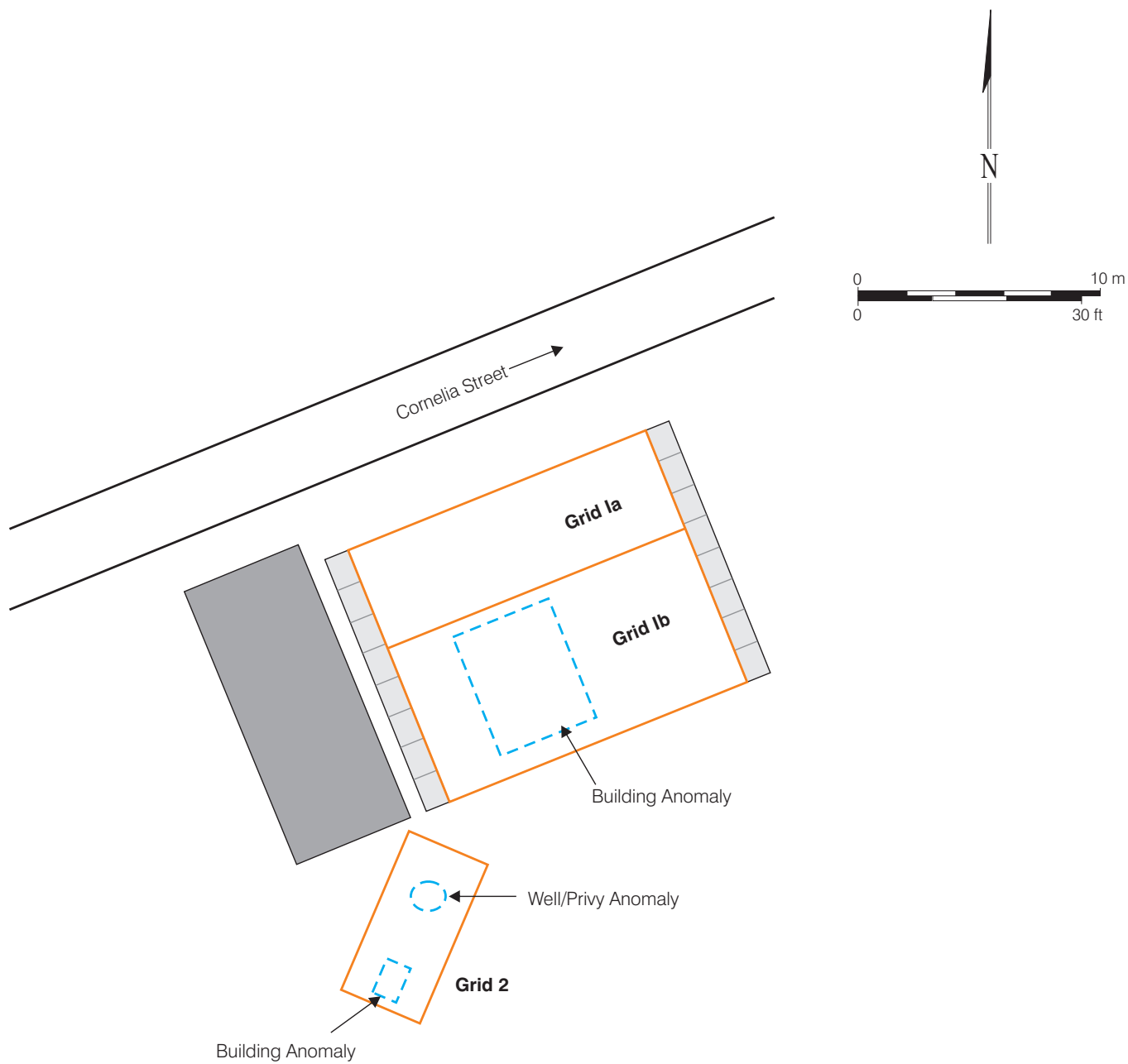
Source: Gray & Pape, INC

Grid 2 Showing Possible Well or Privy Anomaly



Source: Gray & Pape, INC

Grid 2 Showing Possible Building Anomaly



Source: Gray & Pape, INC

Plan View of GPR Survey Grids and Anomalies



9 PHOTOGRAPHS

Photograph 1

Looking NW at Block 589, Lots 30 and 31 on Avenue of the Americas.



Photograph 2

Looking NW, detail of front facades of Lots 30 and 31 and adjacent buildings.



Photograph 3

Looking SW along Cornelia Street. Arrow points to Block 589, Lot 19/20, now gated.



Photograph 4

Looking SE at the west facade of the existing building on Block 589, Lot 29 adjacent to Lot 19/20.



Photograph 5

Looking NE at the west facade of the existing building on Lot 29 adjacent to Lot 19/20. Lot 19/20 is now graveled across most of its expanse.



Photograph 6

Looking SW at the east facade of the existing building on Block 589, Lot 17 adjacent to Lot 19/20.



Photograph 7

Looking S at the rear facades of the existing theatre buildings on Lots 30 and 31 from Lot 19/20. Note the gravel cover continues to the facade bases or to the edge of a concrete walkway.



Photograph 8

Looking E/SE at the staircase that descends from the rear of the building section on Lot 30.



Photograph 9

Looking down at the sub-grade foundation wall of the building on Lot 29 immediately adjacent to graveled Lot 19/20 and under the descending staircase shown in Photograph 8.



