

Phase IB Archaeological Monitoring of the 470 Kent Avenue, Brooklyn, Kings County, New York Project (Block 2134, Lots 1 and 15)



Prepared for
City of New York - Landmarks Preservation Commission
470 Kent Ave Associates, LLC
470 Kent Ave Associates II, LLC
Tenen Environmental

Prepared by
Alyssa Loorya, Ph.D., R.P.A., President and Principal Investigator and
Emily Sharp, M.A., R.P.A., Field Director
Chrysalis Archaeological Consultants

Edited by
Christopher Ricciardi, PhD, R.P.A.
Chrysalis Archaeological Consultants

May 2024

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I. INTRODUCTION

Tenen Environmental (Tenen), has retained Chrysalis Archaeological Consultants (“Chrysalis”) on behalf of 470 Kent Ave Associates, LLC and 470 Kent Ave Associates II, LLC, collectively being the owners of 470 Kent Avenue, Brooklyn, New York (Block 2134, Lots 1 and 150) (Maps 1 and 2) (the “Property” or the “Site”), to undertake Phase IB Archaeological Monitoring at the Site. The Site is bound by the Wallabout Channel/East River to the west, Division Avenue to the south, Kent Avenue to the east and existing commercial properties along South 10th Street to the north. The plan for this project is to construct, in phases, up to five mixed-use structures (residential and commercial) (Map 3).

The project area is a “brownfield” site and is part of the New York State Department of Environmental Conservation Brownfield Cleanup Program, Site Number: C224053 (NYS DEC 2014). The project is also subject to a Restrictive Declaration from the City of New York to ensure that Cultural Resource Management (CRM)/Archaeological concerns and requirements are addressed as directed by the New York City – Landmarks Preservation Commission (NYC LPC) (NYC LPC 2009).

A Phase IA Documentary Historic and Archaeological Assessment found that, although the project area has an extensive history, it has a low potential for encountering pre-contact remains and medium potential to expose nineteenth century landfilling features. The level of potential was determined based on environmental factors, including intensive development and site usage in the late nineteenth through twentieth centuries (AKRF 2007).

An Archaeological Work Plan (AWP) was developed that detailed the proposed actions described in this report (Chrysalis Archaeology 2022).

Alyssa Loorya, PhD, R.P.A. served as Principal Investigator and Emily Sharp, M.A., R.P.A., served as Field Director and authored this report Christopher Ricciardi, PhD, R.P.A. edited this report for Chrysalis.

PROJECT DESCRIPTION

470 Kent Ave Associates, LLC and 470 Kent Ave Associates II, LLC have retained Tenen Environmental, LLC to document the remedial excavation activities for the Brownfield project. All requirements as set forth by City, State and Federal environmental regulations associated with the excavation of a brownfield site have been and will continue to be strictly adhered to. In general, excavation includes the removal of site soils in preparation for the eventual construction of up to five multi-storied, mixed-use buildings. In total, the Phase 1 complex for buildings A1, A2 and A3 will include approximately 561 dwelling units, of which approximately 142 will be affordable housing units. Additionally, the project will provide public open space, including a waterfront esplanade, in accordance with waterfront zoning requirements.

Project construction is occurring in a phased approach based on the construction sequencing of the buildings. The first two phases of the project are currently underway and is focused on the A1/A2 designated area, located in the “southern” portion bounded by Kent Avenue and Division Street, and the A3 designated area, located in the “northern” portion along Kent Avenue. This will be followed by at least one later phase identified as areas B4/B5 (Map 4).

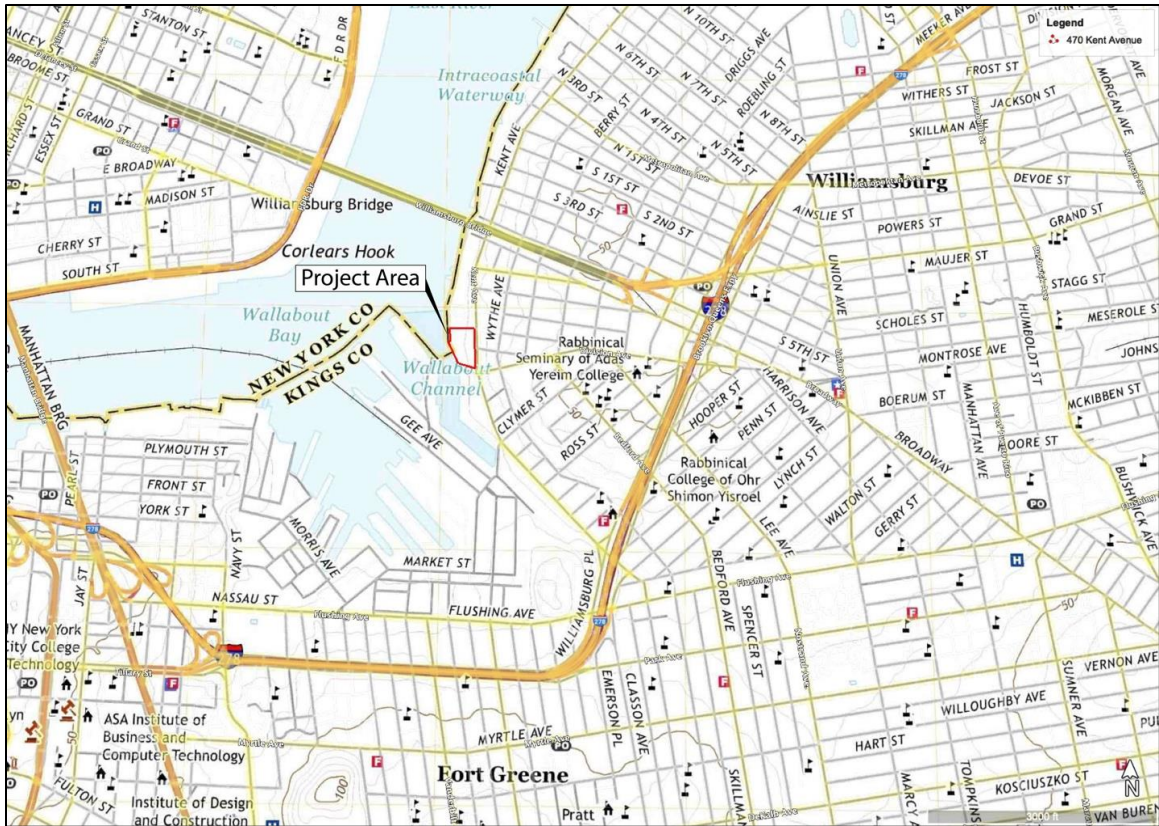
The Area of Potential Effect (APE) as determined in the Phase IA (AKRF 2007) is the area starting three feet beneath the former structure along Kent Avenue and starting five feet below grade in the open area between the former building and Division Avenue, at the southern end of the property. We note that the assessment map in the 2007 Phase IA report (Map 5) does not appear to clearly highlight this area. The Recommended APE on Map 6 follows the area of the former 3-4 story warehouse building and the area between that building and Division Avenue (as these are the areas identified for monitoring in the text of the Phase 1A).

The project has received all necessary environmental permits and approvals for the excavation and remediation of this brownfield site from the New York City Department of Buildings.

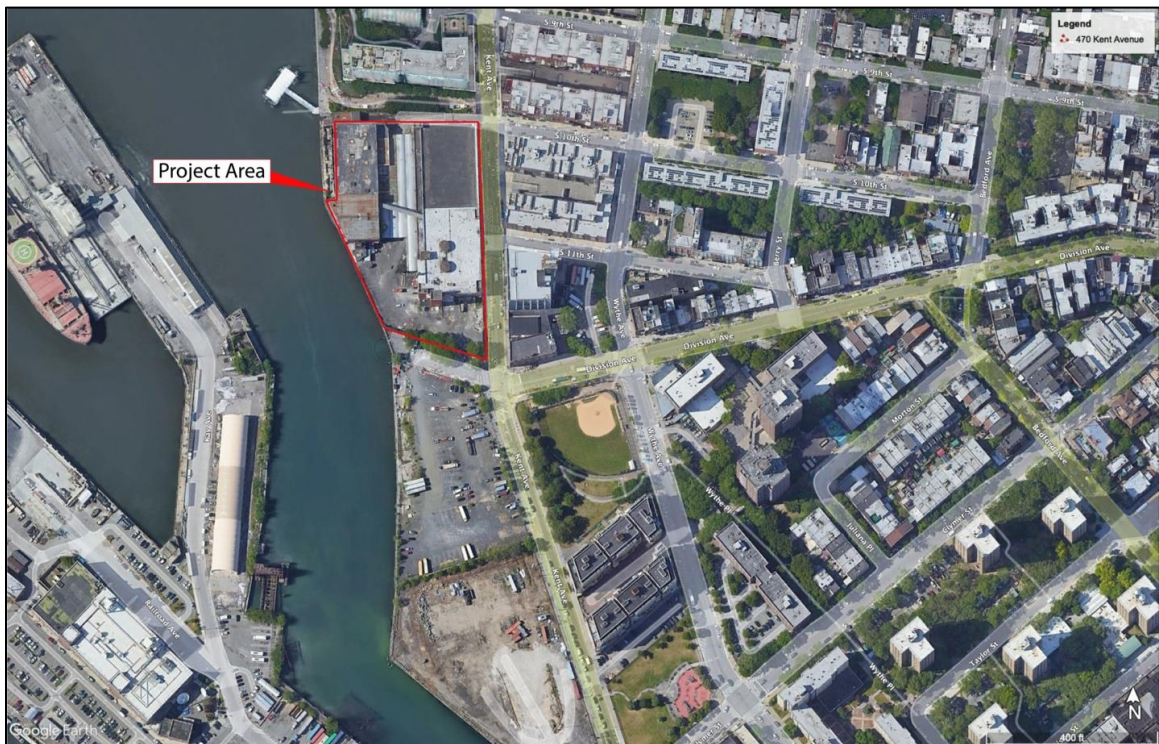
PROJECT INFORMATION

For the purposes of this project, the Project Delivery Team (PDT) is comprised of Naftali, Tenen and Chrysalis.

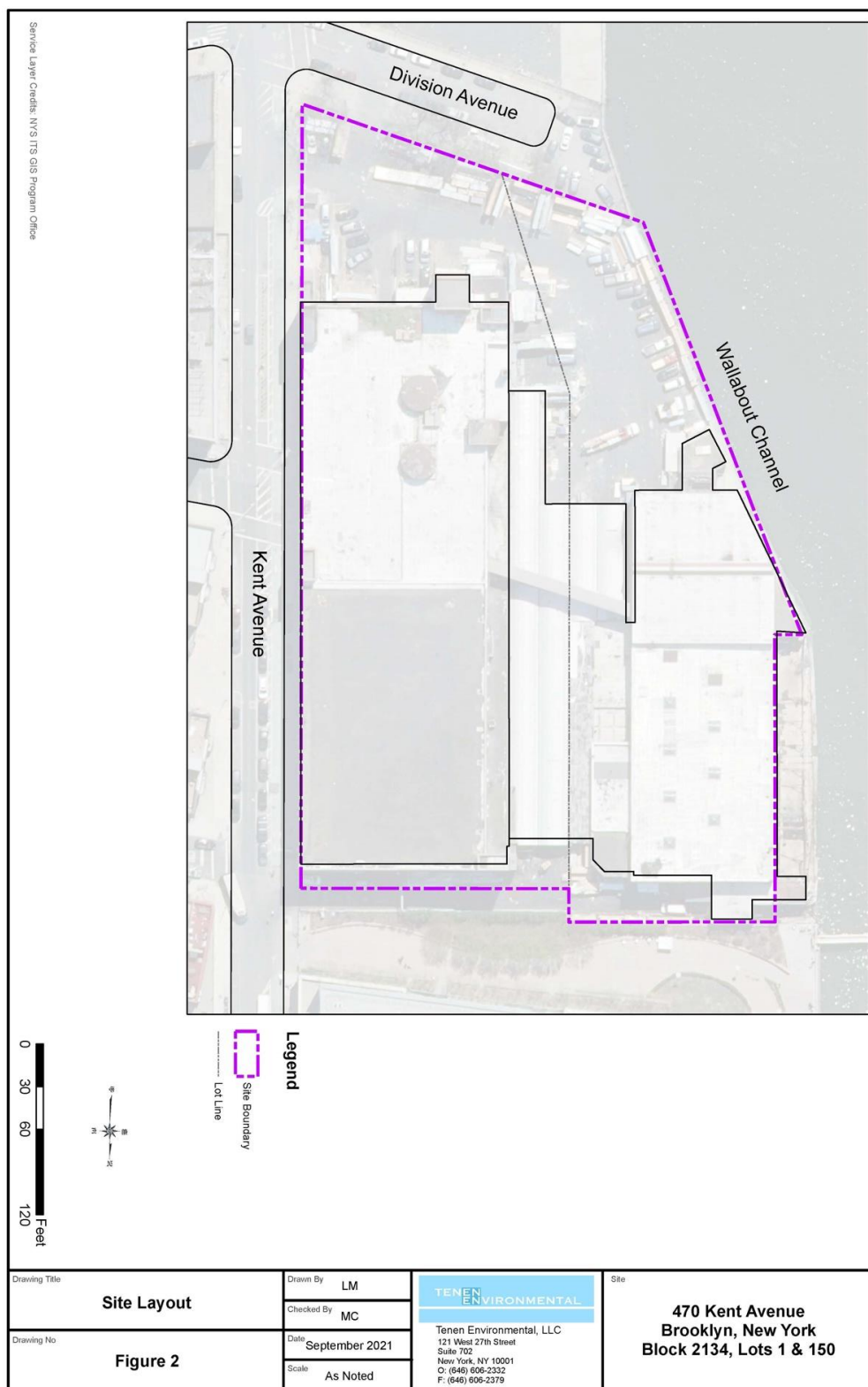
Project Name	470 Kent Avenue, Brooklyn, Kings County, New York
Street Address	470 Kent Avenue, Brooklyn, New York 11249
Borough/Block/Lot	Block 2134, Lot 1 and 150
Applicant Name	470 Kent Ave Associates, LLC, and 470 Kent Ave Associates II, LLC,
Environmental Firm	Tenen Environmental
Principal Investigator	Alyssa Loorya, Ph.D. R.P.A., Chrysalis Archaeology



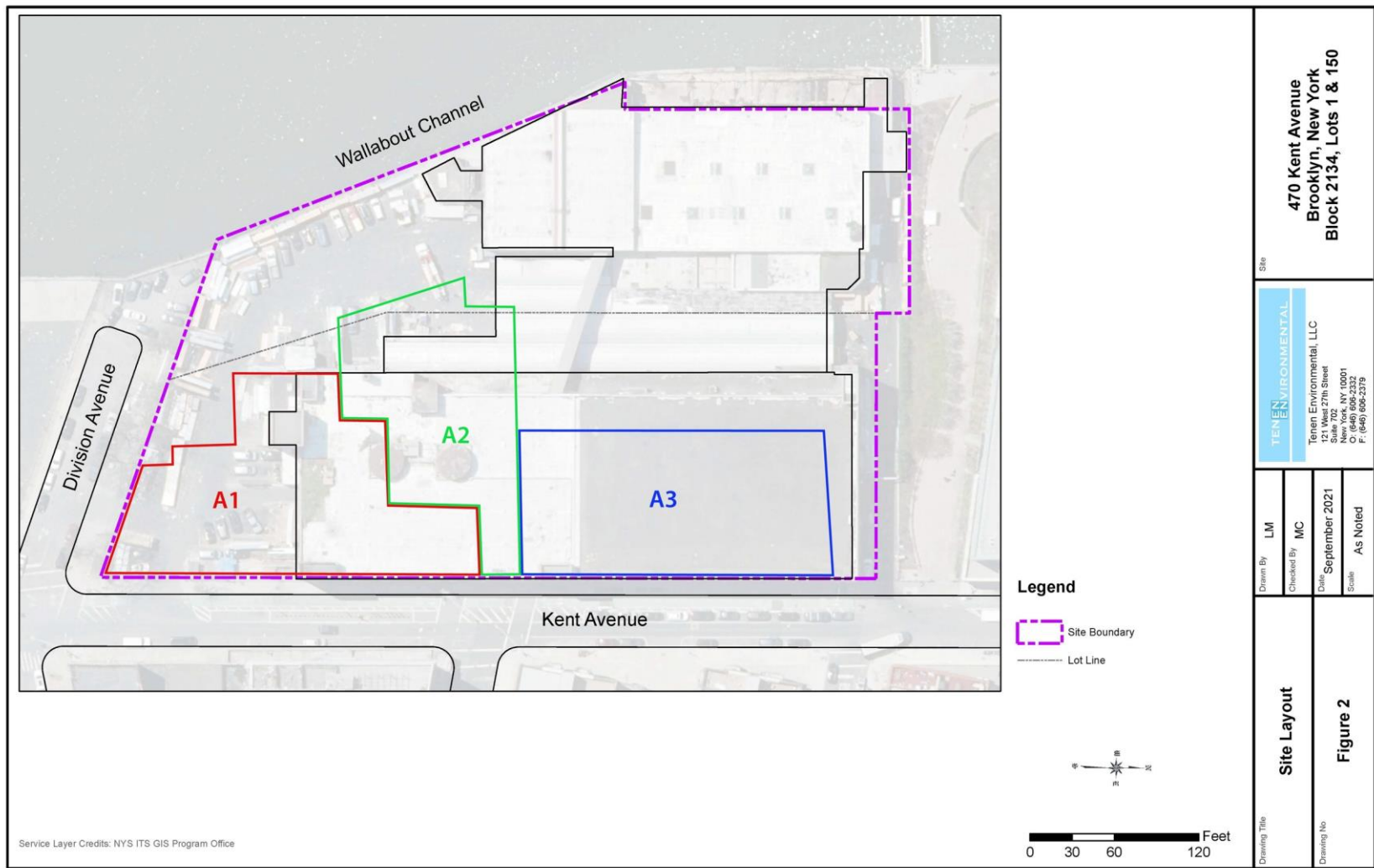
Map 1: USGS Map – (United States United States Geological Survey 2019).



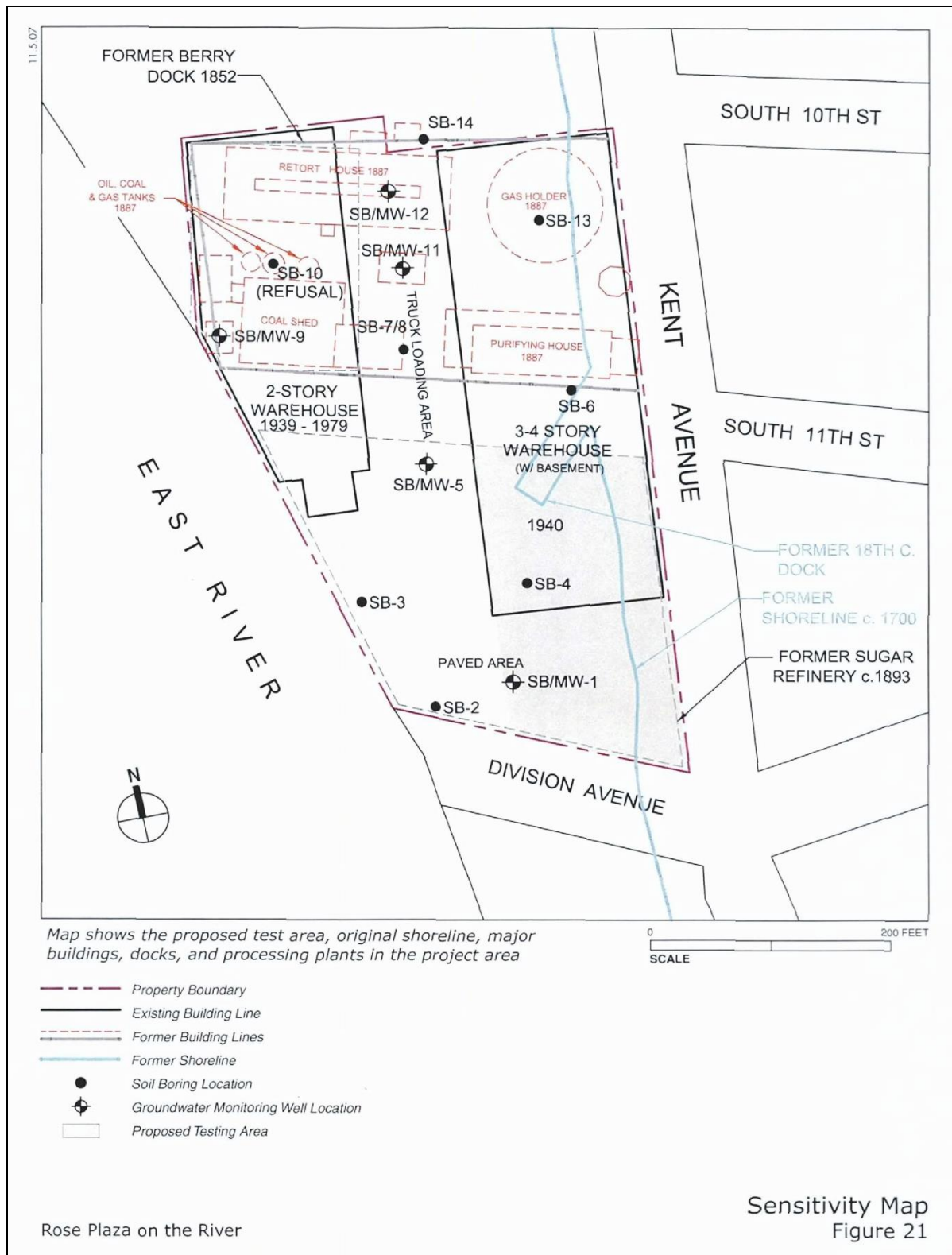
Map 2: Project Area Satellite image (Google Earth 2022).



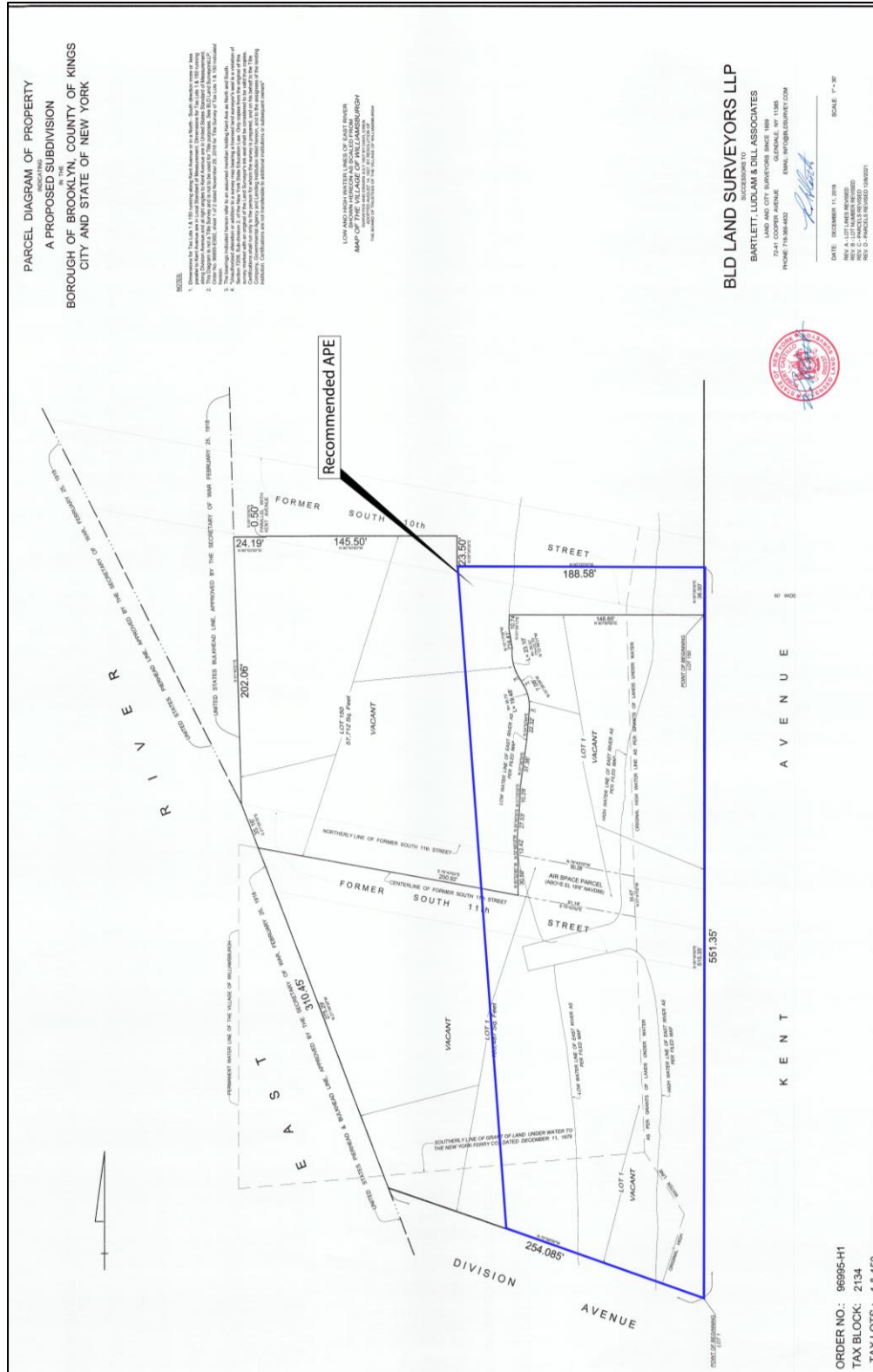
Map 3: Project Area (Tenen Environmental 2022).



Map 4: Construction phases overlaid on Tenen Environmental site plan.



Map 5: Archaeological Sensitivity map from AKRF 2007.



Map 6: Area of Potential Effect.

II. SYNTHESIS OF PREVIOUS WORK

The project area consists primarily of landfill constructed into the East River. A narrow section along Kent Avenue formed the original shoreline. AKRF determined that there was a medium potential for the presence of the landfilling features associated with the mid-nineteenth century industrial transformation of the property. Landfilling occurred between 1833 and 1852. From the 1850s onward, the project area was the site of industrial facilities and warehouses (AKRF 2007). Landfilling of the area was completed by 1880 when the project area achieved its present-day form. The Phase IA further notes that “more recent intensive development would have thoroughly destroyed the archaeological integrity of earlier industrial resources” (AKRF 2007:VI-1). The report concluded with the recommendation of archaeological monitoring during the construction phase of the project. (AKRF 2007).

For detailed project site history please refer to the Phase IA Documentary History and Archaeological Assessment Report (AKRF 2007).

PREHISTORIC SENSITIVITY

The area was determined to have a low sensitivity for the recovery of in situ, stratified, Native American cultural remains. Until landfilling in the nineteenth century, the majority of the project area was located within the East River.

HISTORIC SENSITIVITY

The area was determined to have a medium sensitivity for the recovery of landfilling devices, landfilled soils and early twentieth century industrial/commercial related foundation and material remains.

III. CONTEXT AND RESEARCH DESIGN

Phase IB fieldwork is designed to ascertain the presence/absence of archaeological resources within a site. Its goal is to determine whether significant (i.e. National Register [NR] eligible) resources that could be adversely affected by project construction are extant within the APE.

Based on the Phase IA, the AWP and in coordination with the NYC LPC Guidelines for Archaeology within New York City, archaeological monitoring was determined to be the best methodological approach to meeting the requirements of the project, due, in part, to the brownfield designation of the project area and in consideration of the site’s medium potential for the recovery of significant, *in situ*, cultural resources.

IV. PROJECT METHODS

Based on the approved AWP, Phase IB Archaeological Monitoring was utilized for all project activities that involved subsurface impacts.

Chrysalis maintained field maps and profile drawings, photographs, and descriptions of the soils encountered and field conditions. Staff kept an up-to date log of all monitoring activities, including the date and duration of work episodes and an accompanying description of the activity being monitored and color, texture, and location and depth information for all soils exposed.

V. FIELD RESULTS

Archaeological monitoring of the southern half of the APE, in Areas A1 and A2, occurred from December 2022 through July 2023. Archaeological monitoring of the northern half of the APE, Area A3, occurred from January 2024 through April 2024 (Map 4 and Images 1 – 18).

At the start of monitoring the site had already been excavated 16' – 18.6' below the existing sidewalk (existing sidewalk elevation is 19.78' NAVD88), which was approximately three feet below the basement of the former structure. An average of an additional 2' – 5' remained to be excavated across the sensitive area.

As part of this work pre-existing concrete pilings with metal caps were exposed and removed. These were 18' (1.78' NAVD88) below the Kent Avenue sidewalk and the foundation/footings of the demolished building. The observed bottom elevation of the foundation, i.e., a concrete slab, was at approximately 15' (4.78' NAVD88) below the existing sidewalk.

Excavation in areas A1 and A2 focused on newly installed piles extending 25' (-5.22 NAVD88) below the Kent Avenue sidewalk. Extensive dewatering systems were put in place and several excavation areas were regularly flooded. Soils observed during excavation were consistent throughout the area comprising of 10YR 4/3 – 10YR 4/4 loamy and silty sand with concrete and brick inclusions noted in the vicinity of the concrete piles. No significant stratigraphic levels were observed. No cultural materials or evidence of pre-existing shoreline infrastructure were encountered within the archaeological APE of Area A1 or Area A2.

Work in Area A3, the northern half of the project area, began several months after completion of Areas A1 and A2. Overall, site work and construction methodology were similar. Excavation was accompanied by simultaneous shoring installation, drilling for concrete pilings, pouring concrete, and building foundation support. Trenches were excavated and leveled mechanically, accompanied by manual excavation in some areas. A3 was leveled to approximately 13' – 15' (6' – 4' NAVD88) bgs, with the deeper elevations being toward the southern end.

Soils observed during excavation consisted of intermixed sandy silt soil, ranging from 10 YR 3/2 (very dark grayish-brown) to 10 YR 4/3 (brown) and 10 YR 3/3 (dark brown.) Additionally, in A3's southern half, patches of 7.5 YR 4/6 (strong brown) and 10 YR 4/2 (dark grayish brown) loamy soil appeared.

Truncated foundations of previous buildings appeared to be visible in the eastern limit baulk during shoring removals. Visibility was significantly limited, however. One small area exhibited stratigraphy consisting of a substantial fill layer, followed by an approximate 12" thick black layer and a dark brown loamy layer that extended to the final site elevations (Image 17 and 18).

Throughout the site, no significant stratigraphic levels were observed. Some construction refuse was present throughout, but no cultural materials or evidence of pre-existing shoreline infrastructure were encountered.



Image 1: 470 Kent Avenue site looking northwest from Kent Avenue and Division Avenue.



Image 2: Areas A1 and A2, facing southwest.



Image 3: Areas A1 and A2, facing southeast.



Image 4: View of Areas A1 and A2 from Kent Avenue and S. 11th Street, looking northwest.



Image 5: Concrete footing slab and cement piles in northeast portion of excavation area, looking west from Kent Avenue and S. 11th Street.



Image 6: Spoil relocation looking northwest from Kent Avenue and Division Avenue.

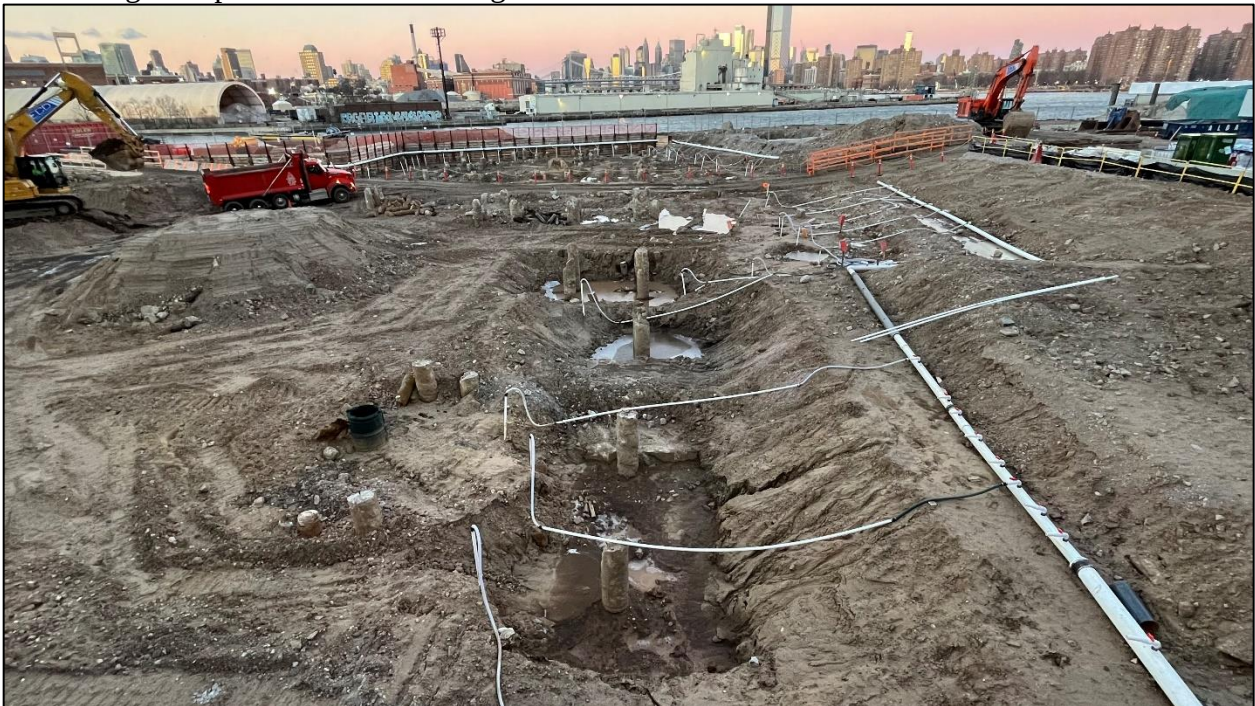


Image 7: Excavation and dewatering around cement piles.



Image 8: A3 (northern) excavation area, facing south.



Image 9: Southern portion of Area A3, facing east.



Image 10: Excavation surrounding central piles in A3, view from Kent Avenue, facing west.



Image 11: A3 excavation area including temporary entrance, facing northwest from Kent Avenue.



Image 12: A3 flooding mitigation, facing east.



Image 13: A3 excavation area, including spoil heaps and pile driving, facing northeast, standing on ground surface level.



Image 14: View of previous concrete utility structure and trench in A3's eastern limit, facing east, standing on ground surface level.



Image 15: View of excavation trench into A3's eastern limit, and existing concrete utility structure along Kent Avenue, facing north.

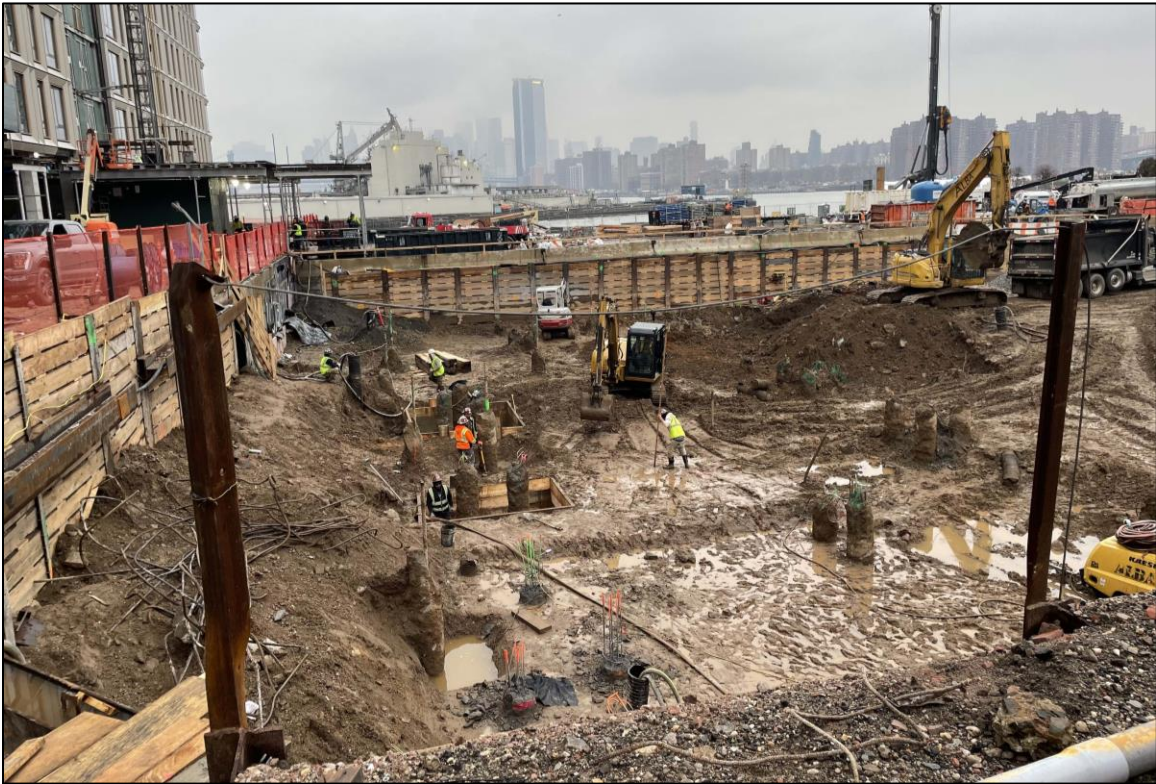


Image 16: A3's southern half, facing west, standing on Kent Avenue ground surface.

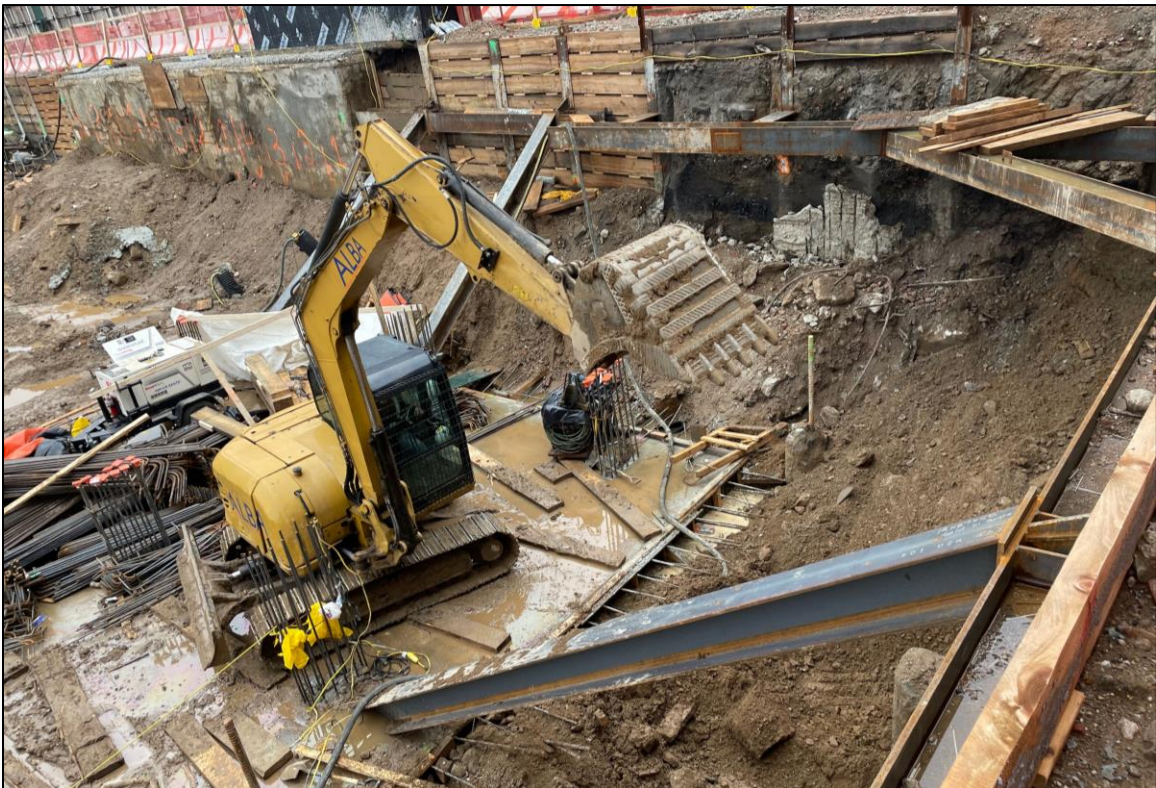


Image 17: Excavation of shoring support, southeast corner of A3, facing east.



Image 18: Excavation of shoring support, exposing stratigraphy, Area A3, facing north.

VI. LABORATORY RESULTS

No *in situ*, stratified, significant, material remains were observed or recovered.

VII. CONCLUSIONS AND RECOMMENDATIONS

Monitored excavation did not encounter any *in situ*, or significant cultural materials or stratigraphic levels. Typical modern construction debris was generally observed in the areas surrounding existing and new concrete piles. No *in situ*, or disturbed landfilling devices were observed. Therefore, it is the recommendation of this report that the project has satisfied all regulations and guidelines related to the CRM (Archaeological) process and no further work is warranted for this site.

VIII. BIBLIOGRAPHY

AKRF

- 2007 Phase IA Archaeological Documentary Study for the Rose Plaza on the River Site, 470-490 Kent Avenue, Block 2134, Lots 1 and 150, Brooklyn, Kings County, New York. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

Chrysalis Archaeological Consultants, Inc.

- 2022 Archaeological Work Plan for the 470 Kent Avenue, Brooklyn, New York Site. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

City of New York

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City of New York – Landmarks Preservation Commission.

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City of New York – OASIS Geographic Information System

- 2022 Current Brooklyn, Kings County, Street Map.

New York Archaeological Council.

- 1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2000 Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York Standards for Cultural Resource Investigations. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2002 Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York

State of New York – Department of Environmental Conservation.

- 2014 Brownfield Program Agreement – Project Number: C224053, Site: 470 Kent Avenue, Brooklyn, New York.

United States Geological Survey.

- 2019 Brooklyn Quadrangle. New Jersey - New York 7.5 Minute Series.

Appendix A:
Archaeological Work Plan



To: New York City Landmarks Preservation Commission
470 Kent Ave Associates, LLC
470 Kent Ave Associates II, LLC
Tenen Environmental

From: Alyssa Loorya, Ph.D., R.P.A., and Christopher Ricciardi, Ph.D., R.P.A.,

Re: 470 Kent Avenue, Brooklyn, New York – Phase IB Archaeological Work Plan

Date: November 7, 2022

I. INTRODUCTION

Tenen Environmental (Tenen), has retained Chrysalis Archaeological Consultants (“Chrysalis”) on behalf of 470 Kent Ave Associates, LLC and 470 Kent Ave Associates II, LLC, collectively being the owners of 470 Kent Avenue, Brooklyn, New York (Block 2134, Lots 1 and 150) (Maps 1 and 2) (the “Property” or the “Site”), to undertake Phase IB Archaeological Monitoring at the Site. The Site is bound by the Wallabout Channel/East River to the west, Division Avenue to the south, Kent Avenue to the east and existing commercial properties along South 10th Street to the north. The plan for this project is to construct, in phases, up to five mixed-use structures (residential and commercial) (Map 3).

The project area is a “brownfield” site and is part of the New York State Department of Environmental Conservation Brownfield Cleanup Program, Site Number: C224053 (NYS DEC 2014). The project is also subject to a Restrictive Declaration from the City of New York to ensure that Cultural Resource Management (CRM)/Archaeological concerns and requirements are addressed as directed by the New York City – Landmarks Preservation Commission (NYC LPC) (NYC LPC 2009).

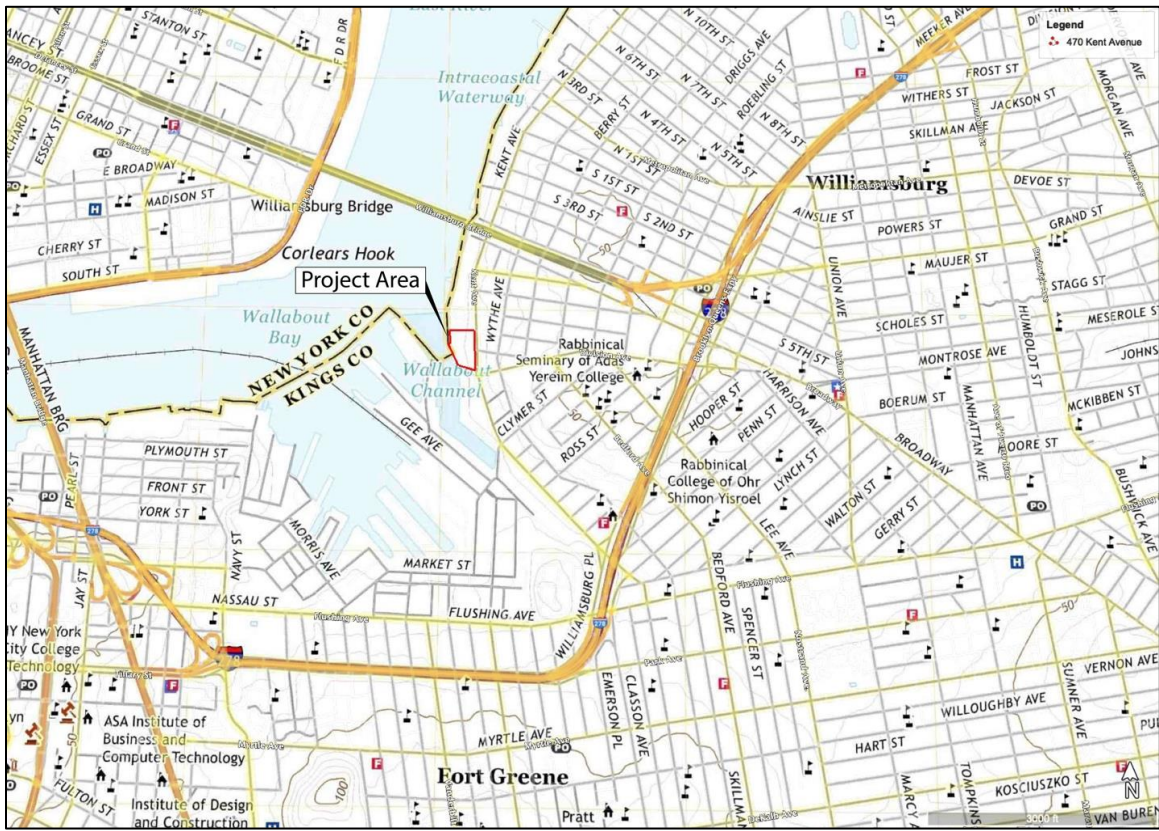
A Phase IA Documentary Historic and Archaeological Assessment found that, although the project area has an extensive history, it has a low potential for encountering pre-contact remains and medium potential to expose nineteenth century landfilling features. The level of potential was determined based on environmental factors, including intensive development and site usage in the late nineteenth through twentieth centuries (AKRF 2007).

Office

4110 Quentin Rd
Brooklyn, NY 11234
Phone: 718.645.3962

Laboratory

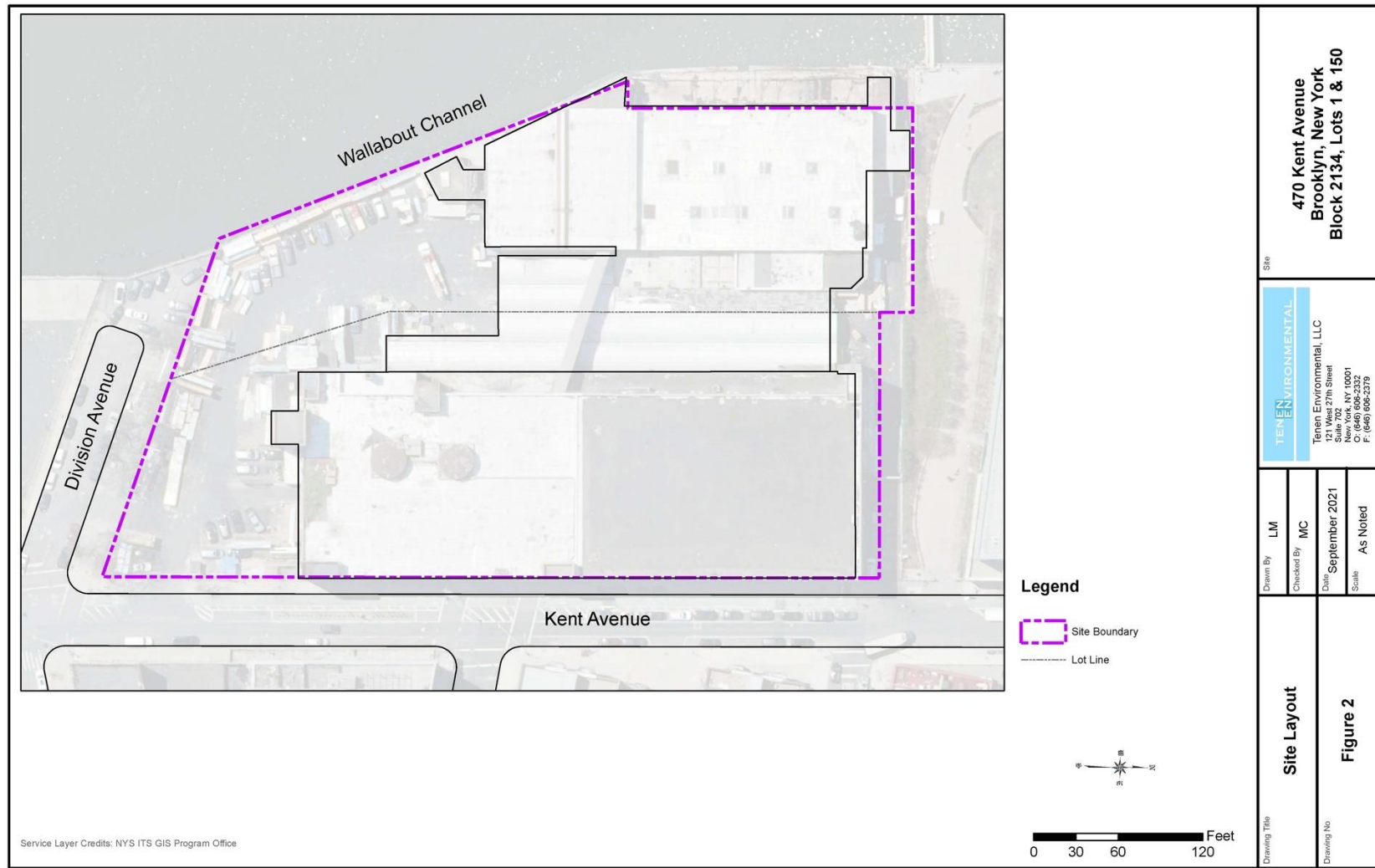
2119 East 34th Street
Brooklyn, NY 11234



Map 1: USGS Map - (United States United States Geological Survey 2019).



Map 2: Project Area Satellite image (Google Earth 2022).



Map 3: Current Project Area (Tenen Environmental 2022)

The project area consists primarily of landfill constructed into the East River. A narrow section along Kent Avenue formed the original shoreline. AKRF determined that there was a medium potential for the presence of the landfilling features associated with the mid-nineteenth century industrial transformation of the property. Landfilling occurred between 1833 and 1852. From the 1850s onward, the project area was the site of industrial facilities and warehouses (AKRF 2007). Landfilling of the area was completed by 1880 when the project area achieved its present-day form. The Phase IA further notes that “more recent intensive development would have thoroughly destroyed the archaeological integrity of earlier industrial resources” (AKRF 2007:VI-1). The report concluded with the recommendation of archaeological monitoring (AKRF 2007).

The purpose of the overall cultural resources project is to determine whether the project area contains significant (i.e. National Register eligible) cultural resources, and to document and determine the extent of any potential significant archaeological resources, should they be encountered. As part of the overall CRM process, NYC LPC requires an Archaeological Work Plan (AWP) that outlines proposed archaeological methodology; the lines of communication that will be employed throughout the project regarding the cultural resources; details steps to be taken if significant archaeological remains are encountered; and outlines the laboratory and report process. This AWP is provided to the NYC LPC for review and approval.

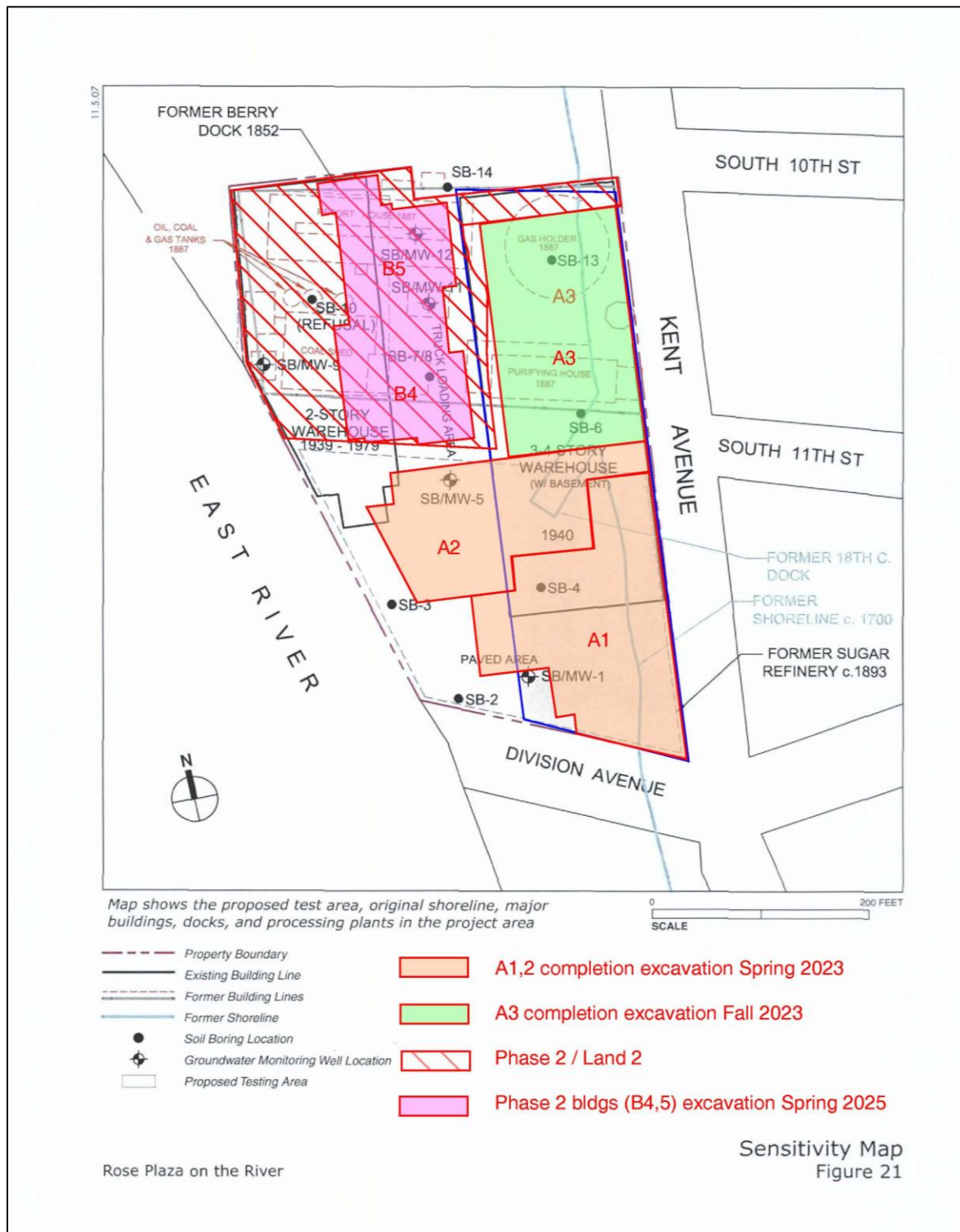
PROJECT DESCRIPTION

470 Kent Ave Associates, LLC and 470 Kent Ave Associates II, LLC have retained Tenen Environmental, LLC to undertake the remedial excavation for the project. All requirements as set forth by City, State and Federal environmental regulations associated with the excavation of a brownfield site have been and will continue to be strictly adhered to. In general, excavation includes the removal of site soils in preparation for the eventual construction of up to five multi-storied, mixed-use buildings. In total, the Phase 1 complex for buildings A1, A2 and A3 will include approximately 561 dwelling units, of which approximately 142 will be affordable housing units. Additionally, the project will provide public open space, including a waterfront esplanade, in accordance with waterfront zoning requirements.

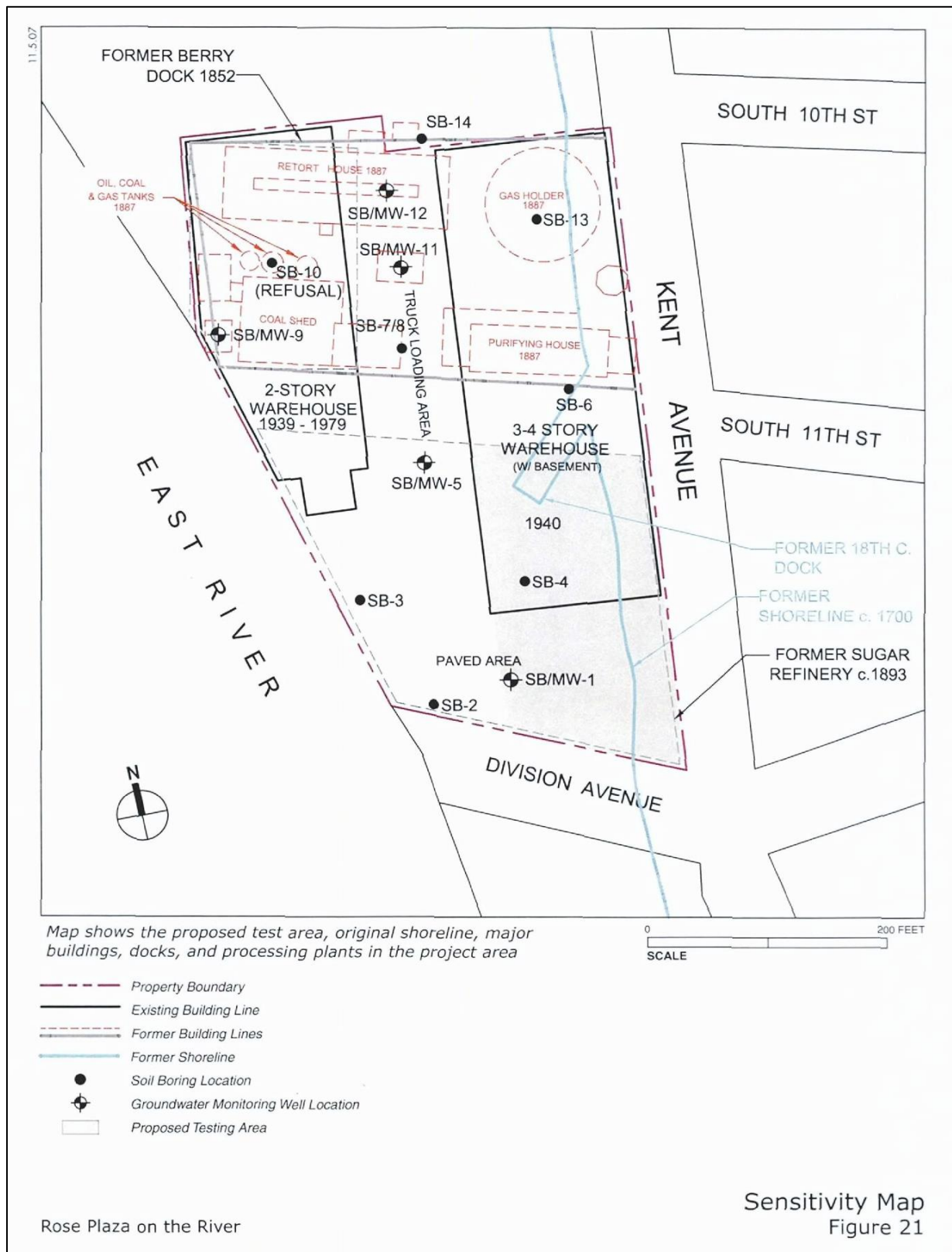
Project construction is anticipated to occur in a phased approach based on the construction sequencing of the buildings. The first phase of the project, which is currently underway, is focused on the A1/A2 designated area, located in the “southern” portion bounded by Kent Avenue and Division Street. This will be followed by at least two later phases, identified as areas A3 and B4/B5 (Map 4).

The Area of Potential Effect (APE) as determined in the Phase IA (AFRF 2007) is the area starting three feet beneath the former structure along Kent Avenue and starting five feet below grade in the open area between the former building and Division Avenue, at the southern end of the property. We note that the assessment map in the 2007 Phase IA report (Map 5) does not appear to clearly highlight this area. The Recommended APE on Map 6 follows the area of the former 3-4 story warehouse building and the area between that building and Division Avenue (as these are the areas identified for monitoring in the text of the Phase 1A).

The project has received all necessary environmental permits and approvals for the excavation and remediation of this brownfield site from the New York City Department of Buildings.



Map 4: Anticipated construction phases/sequencing overlaid on the archaeological sensitivity map from AKRF 2007.



Map 5: Archaeological Sensitivity map from AKRF 2007.

[illegible]

DATE: DECEMBER 11, 2019
REV A- LOT LINES REVISED
REV B- LOT NUMBER REVISED
REV C- PARCELS REVISED
REV D- PARCELS REVISED 12/8/2021

BLD LAND SURVEYORS LLP
SUCCESSIONS TO
BARTLETT, LUDLAM & DILL ASSOCIATES
LAND AND CITY SURVEYORS SINCE 1899
72-41 COOPER AVENUE GLENDALE, NY 11385
PHONE 718-365-4032 EMAIL INFO@BLOSURVEY.COM

DATE: DECEMBER 11, 2019
REV A- LOT LINES REVISED
REV B- LOT NUMBER REVISED
REV C- PARCELS REVISED
REV D- PARCELS REVISED 12/8/2021

KENNETH AVENUE

ORDER NO.: 96995-H1
TAX BLOCK: 2134
TAX LOTS: 1 & 150

Map 6: Area of Potential Effect.

PROJECT INFORMATION

For the purposes of this project, the Project Delivery Team (PDT) is comprised of Naftali, Tenen and Chrysalis.

Project Name	470 Kent Avenue, Brooklyn, Kings County, New York
Street Address	470 Kent Avenue, Brooklyn, New York 11249
Borough/Block/Lot	Block 2134, Lot 1 and 150
Applicant Name	470 Kent Ave Associates, LLC, and 470 Kent Ave Associates II, LLC,
Environmental Firm	Tenen Environmental
Principal Investigator	Alyssa Loorya, Ph.D. R.P.A., Chrysalis Archaeology

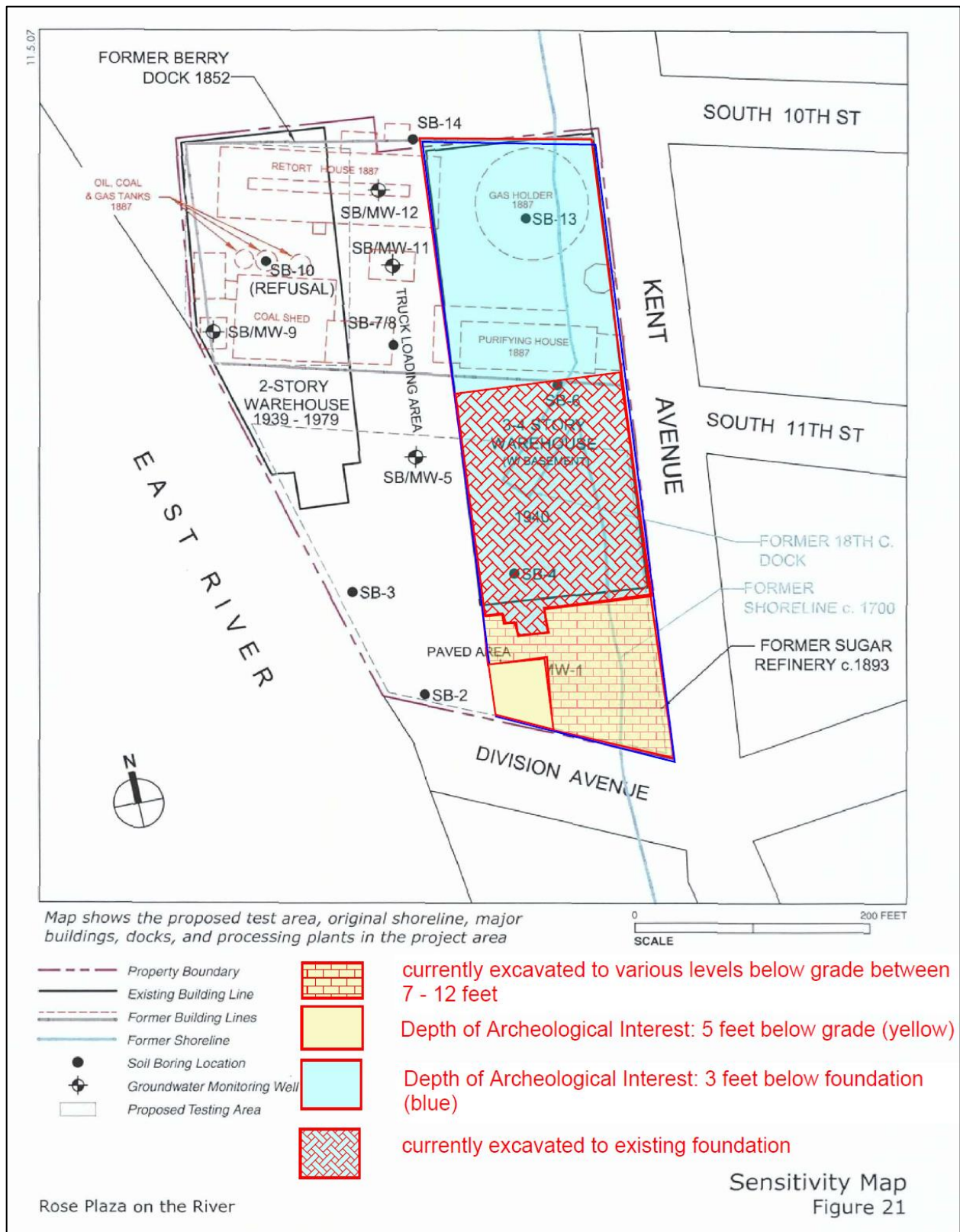
CURRENT SITE ACTION/CONDITION

Prior to the submission of this Work Plan, site demolition began in August 2021 pursuant to a permit for demolition issued on April 14, 2021. Demolition of existing buildings and other structures on site continued until May 2022, at which point initial excavation commenced on site pursuant to a foundation permit issued April 13, 2022 in connection with remediation work after the Property's acceptance into the Brownfield Cleanup Program. Environmental (not archaeological) monitoring and photographic documentation in accordance with the Brownfield Cleanup Program occurred throughout this initial excavation. Excavation stopped in late September 2022.

Excavation between May 2022 and September 2022 involved removal of environmental hazards, including the buried oil storage tanks, excavated associated with sheet piling, for site stability, and dewatering wells, to control influx of water into the site began (Images 2-5). The work accomplished to date took place under the Interim Remedial Measures (IRM) Work Plan. The IRM Work Plan has three appendices that detail the methods employed for on-site work: Appendix A (Community Air Monitoring Plan); Appendix B (Health and Safety Plan) and Appendix D (Soil/Materials Management Plan).

An overhead security camera image of current site conditions is included as Image 1. As part of the overall project requirements related to the Brownfield Cleanup Program, Tenen fully documented all site activities, including, but not limited to, monitoring, photo documentation (six to ten digital photos per day), mapping, and compiling information into "Daily Reports". The Daily Reports are submitted to NYSDEC to document the soil disturbance activities and include location where material was excavated and disposed. These documents have been provided to Chrysalis for review and eventual incorporation, as necessary, into the Phase IB Report.

It is also be noted that in a limited area at the south end of the site, indicated in the yellow and hatched shaded area on Map 7, excavation has occurred below the depth identified in the Phase 1A.



Map 7: Excavation in Area of Interest (initially taken from AKRF 2007 and further modified by the Project Delivery Team; excavation has been completed to 0'-6" above NAVD 88).



Image 1: Security camera image of the 470 Kent Avenue project area (October 2022).

Chrysalis is reviewing all daily field logs and images provided by Tenen related to the deconstruction of the buildings and the removal of the oil storage tanks and excavation performed to date. Prior excavation work did not include archaeological monitoring; Tenen documented initial site deconstruction, remediation, and stabilization efforts. All excavated materials have been removed from the site and are not available for Chrysalis to examine.

As of the date of the submission of this Work Plan, the documentation, daily site report and photographs, do not indicate that any significant, *in situ*, cultural or stratigraphic remains have been uncovered. As would be anticipated in this heavily urbanized site, typical construction type debris including fragmented bricks, concrete and wood have been observed, photographed and removed. All available data from the excavation to date will be assessed for evidence or indications of landfilling devices in the area excavated prior to the development of this Work Plan. Any such information will be included within the Phase IB Archaeological Monitoring Report.

As part of the Brownfield Program, Tenen developed a Health and Safety Plan (HASP) for the project site that is included as Appendix B in the Work Plan, which details all on-site contaminants. It can be found at:

https://www.dropbox.com/s/7qta32q87kffrqu/C224053_470%20Kent%20Avenue_HASP.pdf?dl=0.

Chrysalis will adhere to this plan.

CULTURAL RESOURCE REGULATIONS

The herein proposed cultural resources work will be conducted in accordance with the NYC LPC *Guidelines for Archaeological Work in New York City* (NYC LPC 2018). The cultural resources specialists who will perform this work meet or exceed the qualifications specified in those Guidelines. Alyssa Loorya, Ph.D., R.P.A. will serve as the Principal Investigator.

All relevant Cultural Resource Management/Archaeological regulations will be followed, as outlined in the National Historic Preservation Act (NHPA) and the Advisory Council on Historic Preservation (ACHP) as defined in the ‘Section 106 Regulations’, the State Historic Preservation Act (SHPA) and the (New York) City Environmental Quality Review Act (CEQRA). These regulations ensure that governmental agencies consider the effects of their actions on any properties listed, or determined eligible for listing, on the National, State and City Register for Historic Places.

The proposed work will be conducted in accordance with the NYC LPC Guidelines for Archaeological Work in New York City (NYC LPC 2018). Other guidelines include the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation’s “Protection of Historic and Cultural Properties” (36 CFR 800) and the New York Archaeological Council (NYAC) guidelines for such projects (NYAC 1994; 2000; 2002). The cultural resources specialists who will perform this work satisfy or exceed the qualifications specified in 36 CFR 61, Appendix A and NYC LPC Guidelines for Archaeological work in New York City.



Image 2: Excavation to expose oil storage tanks (Photo courtesy of Tenen, June 2022).



Image 3: Clean-out of existing oil storage tanks (Photo courtesy of Tenen, June 2022).



Image 4: Removal of soils from above oil storage tanks (Photo courtesy of Tenen, June 2022).

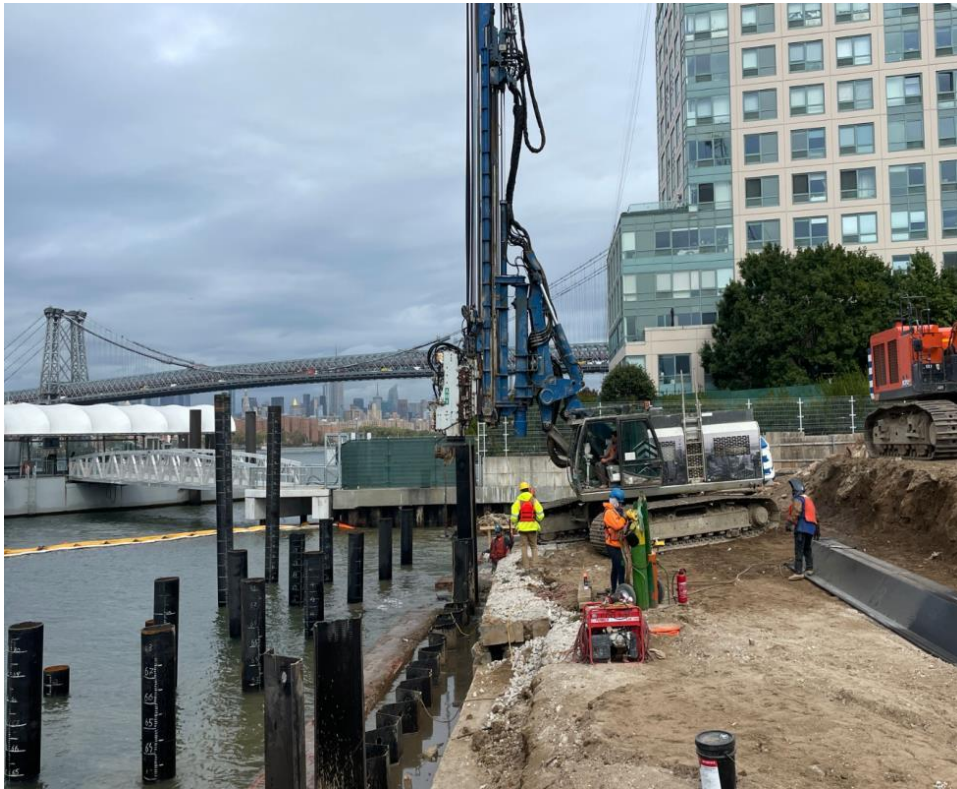


Image 5: Installation of sheet piling to shore up the shoreline (Photo courtesy of Tenen, October 2022).

II. ENVIRONMENTAL AND HISTORIC CONTEXT¹

The project area is in the Williamsburg neighborhood of Kings County, New York. The site is located immediately adjacent to Wallabout Channel within the East River, a tidal strait that connects New York Harbor with the Long Island Sound (AKRF 2007).

Situated in an industrial waterfront area, the project site lies between South 10th Street and Division Avenue, to the north and south respectively. The western boundary of the project area is adjacent to Wallabout Channel, north of the Brooklyn Navy Yard industrial park. The eastern project boundary is Kent Avenue.

The project area is situated on western Long Island, which was formed by glacial outwash during the Wisconsin ice age. This resulted in a series of creeks and marshland (Schuberth 1968). Lying within the Atlantic Coastal Lowland Physiographic province, Long Island is comprised of two spines of glacial moraine, with an extensive sandy outwash plain beyond. These moraines consist of gravel and loose rock left behind during the Wisconsin glaciation's two most recent pulses 21,000 years ago. The northern moraine, which directly abuts the North Shore of Long Island at points, is known as the Harbor Hill moraine. The more southerly moraine, known as the Ronkonkoma moraine, forms the “backbone” of Long Island running primarily through the center of the island. The land to the south of this moraine is the outwash plain of the last glacier (Schuberth 1968; Eisenberg 1978; Campanella 2019). The project area lies north of the Harbor Hill moraine.

The Wallabout Channel/East River shoreline within the project site is classified as estuarine subtidal unconsolidated bottom with a small area of excavated channel at the southwestern corner of the project area. Geotechnical borings undertaken in 2005 indicated groundwater was located approximately 7' – 11' below surface. Groundwater flow at the site is likely tidal (AKRF 2007).

HISTORIC BACKGROUND AND SUMMARY OF ARCHAEOLOGICAL SENSITIVITY

The Phase IA Assessment determined the project area has low potential for precontact archaeological resources and moderate potential for historic resources, specifically landfilling devices associated with the industrial development of the project area. It was recommended that archaeological monitoring be undertaken.

The assessment noted that resources could be encountered 3 feet below the basement of the former warehouse along Kent Avenue and 5 feet below grade in the area between the former warehouse and Division Avenue. The Phase IA recommendation for archaeological monitoring would document any archaeological resources if present (AKRF 2007). All future excavation will be monitored to the final excavation depth as determined by the Project Team.

¹ All historical information presented in the Environmental and Historic Context and the Historic Background, Summary of Archaeological Sensitivity and the Nineteenth Century Landfilling sections are excerpted from the AKRF Phase IA Report (AKRF 2007).

III. RESEARCH DESIGN

Phase IB fieldwork is designed to ascertain the presence/absence of archaeological resources within a site. Its ultimate goal is to determine whether significant (i.e. National Register [NR] eligible) resources that could be adversely affected by project construction are extant within the APE.

Archaeological Monitoring has been determined to be the best methodological approach to meeting the requirements of CRM due, in part, to the brownfield designation of the project area and in consideration of the site's low to medium potential for the recovery of significant, *in situ*, cultural resources.

NINETEENTH CENTURY LANDFILL AND LANDFILLING DEVICES

The East River waterfront of Brooklyn has a long history of use and industrial development, extending into the twentieth century. Numerous sites throughout the city have exposed examples of historic waterfront infrastructure. Early landfill-retaining devices, such as bulkheads, piers or wharves may survive several feet below surface. Additionally, later nineteenth century warehouse constructions may also be present. While landfill material, in of itself, may not be tied to a single individual or event, there is historic significance in the landfill infrastructure (AKRF 2007). Both the landfilling devices and remnants of former waterfront structures can provide insight to New York City's waterfront development and industrial past and may provide new information about landfilling methods utilized along the historic Brooklyn waterfront (AKRF 2007).

Within the project area historic maps indicate the presence of a dock in the eighteenth century and detail the development that occurred. The industrial waterfront of the project area was constructed to its current form between 1830 and 1880 (AKRF 2007).

Soil borings undertaken by AKRF indicate the former river elevation at approximately 7 to 11 feet below grade. Former piers, if still present would be above this level. Several of the soil borings showed evidence of wood, including along the southeastern boundary of the site. Wood deposits were indicated at multiple depths interspersed with layers of coal and slag. This is also the area of a former Solid Waste Facility. The 1887 Sanborn map shows a possible dock in the area as well (AKRF 2007).

Wood was also present in boring samples located in the northeastern portion of the project area and the southern portion of the project area (AKRF 2007).

IV. PROJECT METHODS

Archaeological monitoring is defined as “the observation of construction excavation activities by an archaeologist in order to identify, recover, protect and/or document archaeological information or materials” (NYAC 2002:2). All monitoring activities will follow NYC LPC’s Guidelines for Archaeological Work in New York City (NYC LPC 2018) and the New York Archaeological Council’s Guidelines for the Use of Archaeological Monitoring (NYAC 2002).

Archaeological Monitoring will occur promptly upon acceptance of this Work Plan in conjunction with the ongoing environmental remediation being recorded daily by Tenen, and continue until the final construction depths are reached, or when the archaeologist determines the excavation to have reached sterile soil regarding the potential for significant cultural resources.

An archaeological monitor is required for each active excavation area. If excavation occurs simultaneously in more than one area, additional archaeological monitors may be required to ensure that each excavation area is monitored in accordance with the protocols. The project will provide at least 24 hours’ notice prior to the beginning of excavation work in any areas that require archaeological monitoring so that the adequate resources can be provided.

Throughout the project, the construction contractor will assist the archaeological team, as needed. This may include, but is not limited to, pumping water from excavation areas, providing additional shoring to trenches, meeting OSHA regulations, and excavation of non-sensitive levels to further reveal resource(s).

Due to the brownfield site classification, it is anticipated that the archaeologist will only enter the site if it is not possible to identify or document encountered resources from outside the excavation area/surface. Should entry be necessary, the archaeologist will wear Tyvek and/or other PPE as directed by Tenen. As previously stated, the overall project HASP will be adhered to.

As a brownfield site all soils and materials require remediation. No artifact materials or samples will be collected, and soils will not be screened. Artifacts will be noted and discarded in the field. Should there be any significant artifact concentration depth, location and an in-field assessment will be undertaken.

The archaeologist(s) will maintain drawings, photographs, and descriptions of all encountered resources, as appropriate. Soils will be described using the Munsell color system and standard texture classifications. Soil profiles, cultural features, etc. will be described, photographed in digital format, and illustrated by measured drawings in standard and metric scale in plan and vertical perspective, as appropriate.

Additionally, an up-to date log of all monitoring activities, including the date, time, and duration of all monitoring episodes, accompanied with a description of the activity being monitored will be maintained.

Though unlikely, in the advent that skeletal remains, or a large-scale significant cultural resource, are encountered the contractor will assist the archaeologist with all necessary environmental (and other) safety protocols. The archaeologist will then employ professional standards for excavation, screening, recording of features and stratigraphy, labeling, mapping, photographing, and cataloging. Work will only occur following coordination with the PDT and the NYC LPC.

Chrysalis will use the existing site datum, provided by Tenen, as the overall “reference point” for work.

The project will provide a protected area within the project site or field office to temporarily store equipment and/or material remains recovered from the excavation trenches.

IF SIGNIFICANT RESOURCES ARE ENCOUNTERED

If archaeological resources are encountered that the on-site archaeologist determines to be potentially significant, e.g. appearing to meet eligibility criteria for listing on the National Register of Historic Places (NR-eligible), Chrysalis will notify the PDT and the NYC LPC. All work around the discovery will cease until the next steps are determined in consultation with NYC LPC. The specific time required for the documentation effort will be coordinated with the project team and is based on the nature of the archaeological discovery. A scope of work for potential Phase II and/or III work will be developed in consultation with NYC LPC, if necessary.

In summary, in the event of a significant discovery the following procedures will be followed:

1. Upon discovery, Chrysalis will halt excavation and notify the PDT and NYC LPC.
2. No activity will occur around the discovery until clearance is given by NYC LPC.
3. A meeting may be held to discuss how to best address the discovery. NYC LPC may wish to visit the site.
4. If NYC LPC determines that further excavation, documentation and/or recovery are required, Chrysalis will create a new AWP for the specific tasks required to include time and budget, within ten business days. The AWP will be provided to the PDT for approval. The archaeologists will transmit this new AWP to NYC LPC for approval.
5. Upon written approval of the new AWP from NYC LPC, the Client will direct the archaeological contractor to proceed with the new AWP.

HUMAN REMAINS

Though not anticipated, it is possible that excavation might encounter human remains within the project area. Special consideration and care are required if human remains are uncovered. Any action related to the discovery of human remains is subject to the statute law as defined in the *Rules of the City of New York*, Title 24 - Department of Mental Health and Hygiene, specifically Title 24, Title V, Article 205. In addition, the NYC LPC regulations regarding human remains and the New York Archaeological Council's (NYAC) policy on the discovery of human remains and items of cultural patrimony as defined by Section 3001 of the Native American Graves Protection and Repatriation Act (NAGPRA) will be taken into consideration – providing they do not conflict with the City of New York statute regulations.

If human remains are discovered, the project will immediately halt excavation. It will be necessary to consult with NYC LPC and begin the coordination process with all relevant entities. A specific Scope of Work to address such a discovery will be developed, in consultation with NYC LPC should the need arise. If intact human remains are found, they may not be disinterred until the consultation process has been completed. The discovery of intact, in situ human remains may require a redesign of portions of the project to ensure the remains are not disturbed.

ARTIFACT ANALYSIS AND CURATION

At present, any artifacts encountered will be noted and discarded in the field due to the active environmental remediation. Should a circumstance arise where artifacts are retained a separate scope, that includes decontamination procedures will be produced and shared with the PDT and LPC for review and concurrence.

REPORTING

A report documenting the results of the archaeological monitoring and any additional background documentary research that may be required, will be prepared according to NYC LPC standards. In addition, the report will include recommendations regarding the potential National Register eligibility of any materials and additional investigation or mitigation, if necessary. A digital, preliminary draft report will be submitted to the PDT for initial review. Upon approval, the final draft report will be submitted to NYC LPC. Upon approval from the NYC LPC, a printed copy will be provided to NYC LPC for their records. Digital copies will be provided to all other parties unless printed copies are requested.

V. ARCHAEOLOGICAL SCHEDULE AND PROJECT MANAGEMENT

Based on discussions with the PDT, it is anticipated that A1 & A2 site excavation work will require approximately eight weeks and the A3 excavation work will require approximately 12-16 weeks. Chrysalis will notify NYC LPC, via email, when work begins and will provide updates as necessary via email. Monitoring will be required every day there is excavation, as stated. The Project Team will provide notice if excavation is not occurring for any reason.

Anticipated Project Schedule

ACTIVITY	DURATION	NOTES
Fieldwork (A1 & A2)	8 weeks	Based on contractor communication; to start as soon as Notice to Proceed is obtained
Fieldwork (A3)	12-16 weeks	Start based on Project Team Communication
Report	TBD	Based on field work and any potential laboratory analysis
Internal Draft Review	10 days* (estimated)	
Response to comments	10 days*	Based on the level of comments this may require less or more time as appropriate

* *Business days*

VI. COMMUNICATION PLAN

Parties to be notified and consulted throughout the project are listed below. Chrysalis will comply with directions from the Project Team regarding release of information to the public. The Project Team will comply with applicable law on public communications.

Chrysalis Archaeological Consultants, Inc.

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Naftali Group

Michael Witek, EVP of Construction
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Phil Rutherford, Senior Project Manager
Email: prutherford@naftaligroup.com
Hugh MacKay, Counsel
Email: HMacKay@naftaligroup.com
Cell: (917) 581-4047

Naftali Group
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Phone: (212) 759-9777

Tenen Environmental

Matthew Carroll, PE
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New York, New York 10001
Phone: (646) 606-2332 ext. 103
Direct: (347) 391-2585
Email: mcarroll@tenen-env.com

City of New York – Landmarks Preservation Commission

Amanda Sutphin, Director of Archaeology
City of New York – Landmarks Preservation Commission
Municipal Building
One Center Street – 9th Floor
New York, NY 10007
(212) 669-7823
Email: asutphin@lpc.nyc.gov

City of New York – Department of Police

90 Precinct, Section A
211 Union Avenue
Brooklyn, New York 11211
Phone: (718) 963-5311

City of New York – Office of the Medical Examiner

Bradley Adams
City of New York – Office of the Medical Examiner
520 1st Avenue
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(212) 447-2760 or (646) 879-7873
Email: badams@ocme.nyc.gov

REFERENCES

AKRF

- 2007 Phase IA Archaeological Documentary Study for the Rose Plaza on the River Site, 470-490 Kent Avenue, Block 2134, Lots 1 and 150, Brooklyn, Kings County, New York. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

City of New York

- 2009 Restrictive Declaration (Archaeology).

City of New York – Landmarks Preservation Commission.

- 2018 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

City of New York – OASIS Geographic Information System

- 2022 Current Brooklyn, Kings County, Street Map.

New York Archaeological Council.

- 1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2000 Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York Standards for Cultural Resource Investigations. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2002 Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York

State of New York – Department of Environmental Conservation.

- 2014 Brownfield Program Agreement – Project Number: C224053, Site: 470 Kent Avenue, Brooklyn, New York.

United States Geological Survey.

- 2019 Brooklyn Quadrangle. New Jersey - New York 7.5 Minute Series.



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Chair

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November 15, 2022

Reda Shehata, R.A.
Borough Commissioner
Brooklyn Borough Office
Department of Buildings
210 Joralemon Street, 8th Floor
Brooklyn, NY 11201

Re: **Notice to Proceed with LPC Approved Archaeological Monitoring-** for **470 Kent Ave, Brooklyn, NY Block 2134 Lots 1 and 150**

Dear Borough Commissioner Shehata:

The Landmarks Preservation Commission, ("LPC"), is in receipt of the, "**470 Kent Avenue, Brooklyn, New York – Phase IB Archaeological Work Plan,**" prepared by Chrysalis Archaeological Consultants and dated November 7, 2022. The LPC concurs with the Work Plan and is therefore issuing this, "Notice to Proceed" with LPC-Approved Archaeological Work, as set forth in the Restrictive Declaration, executed by Waterfront Realty II LLC and Certified Lumber Corp, both C/O Isaac Rosenberg, 470 Kent Ave, Brooklyn, NY 11211 and recorded on October 28, 2009 with CFRN 2009000352565

THE LPC NOTES THAT IN THE EVENT THAT THE APPLICANT DOES NOT COMPLY WITH THE WORK PLAN NOTED ABOVE, THE LPC MAY REQUEST THE DOB TO ISSUE A STOP WORK ORDER.

If you have any questions, I may be reached at (212) 669-7823.

Sincerely,

A handwritten signature in black ink, appearing to read "Amanda Sutphin", followed by a vertical line.

Amanda Sutphin

Cc: Christopher Ricciardi, Chrysalis Archaeological Consultants
Mark Silberman, LPC

Appendix B:
Initial End of Field Memorandum for Area's A1/A2



To: New York City Landmarks Preservation Commission
470 Kent Ave Associates, LLC
470 Kent Ave Associates II, LLC
Tenen Environmental

From: Alyssa Loorya, Ph.D., R.P.A., and Christopher Ricciardi, Ph.D., R.P.A.,

Re: 470 Kent Avenue, Brooklyn, New York – Phase IB – End of Field Memo – Phase A1 and A2 (only)

Date: July 14, 2023

INTRODUCTION

Tenen Environmental (Tenen), has retained Chrysalis Archaeological Consultants (“Chrysalis”) on behalf of 470 Kent Ave Associates, LLC and 470 Kent Ave Associates II, LLC, collectively being the owners of 470 Kent Avenue, Brooklyn, New York (Block 2134, Lots 1 and 150) (Maps 1 and 2) (the “Property” or the “Site”), to undertake Phase IB Archaeological Monitoring at the Site. The Site is bound by the Wallabout Channel/East River to the west, Division Avenue to the south, Kent Avenue to the east and existing commercial properties along South 10th Street to the north. The plan for this project is to construct, in phases, up to five mixed-use structures (residential and commercial). Map 3 depicts the construction sequencing for the project.

The project area is a “brownfield” site and is part of the New York State Department of Environmental Conservation Brownfield Cleanup Program, Site Number: C224053 (NYS DEC 2014). The project is also subject to a Restrictive Declaration from the City of New York to ensure that Cultural Resource Management (CRM)/Archaeological concerns and requirements are addressed as directed by the New York City – Landmarks Preservation Commission (NYC LPC) (NYC LPC 2009).

A Phase IA Documentary Historic and Archaeological Assessment found that, although the project area has an extensive history, it has a low potential for encountering pre-contact remains and medium potential to expose nineteenth century landfilling features. The level of potential was determined based on environmental factors, including intensive development and site usage in the late nineteenth through twentieth centuries (AKRF 2007).

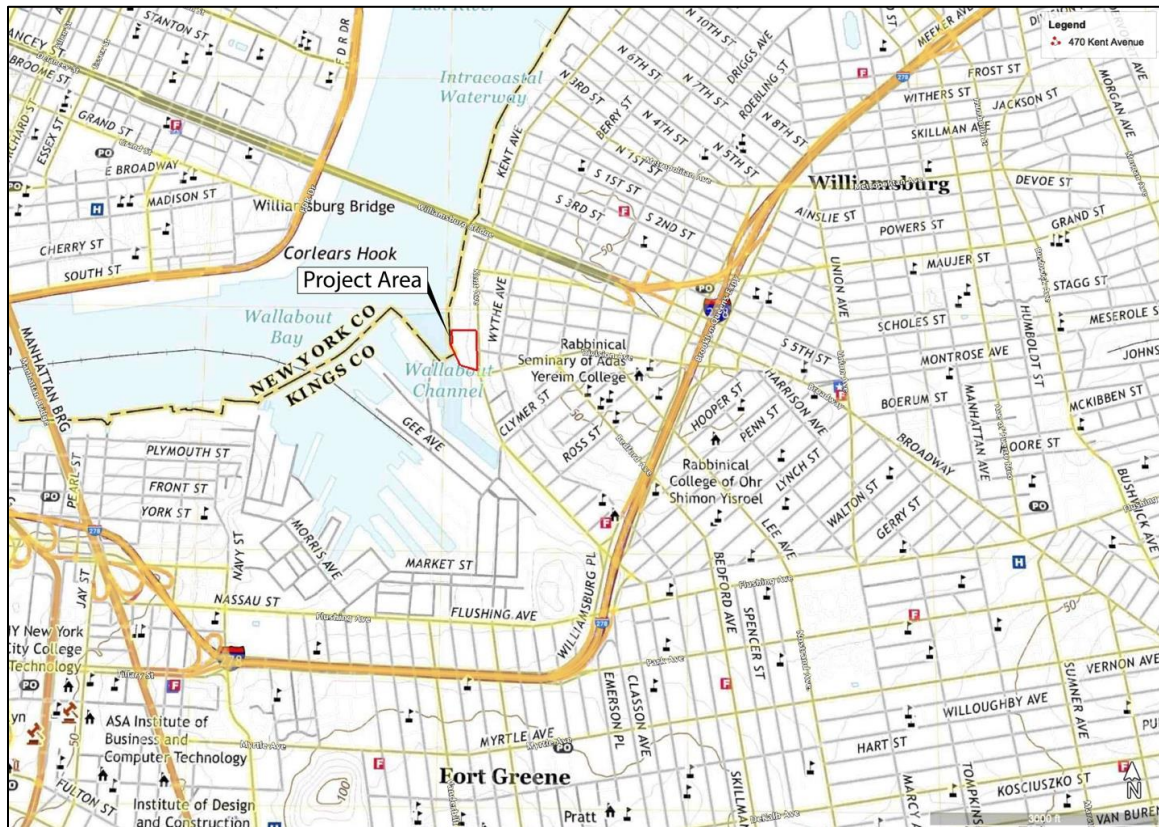
Office

4110 Quentin Rd
Brooklyn, NY 11234
Phone: 718.645.3962

Laboratory

2119 East 34th Street
Brooklyn, NY 11234

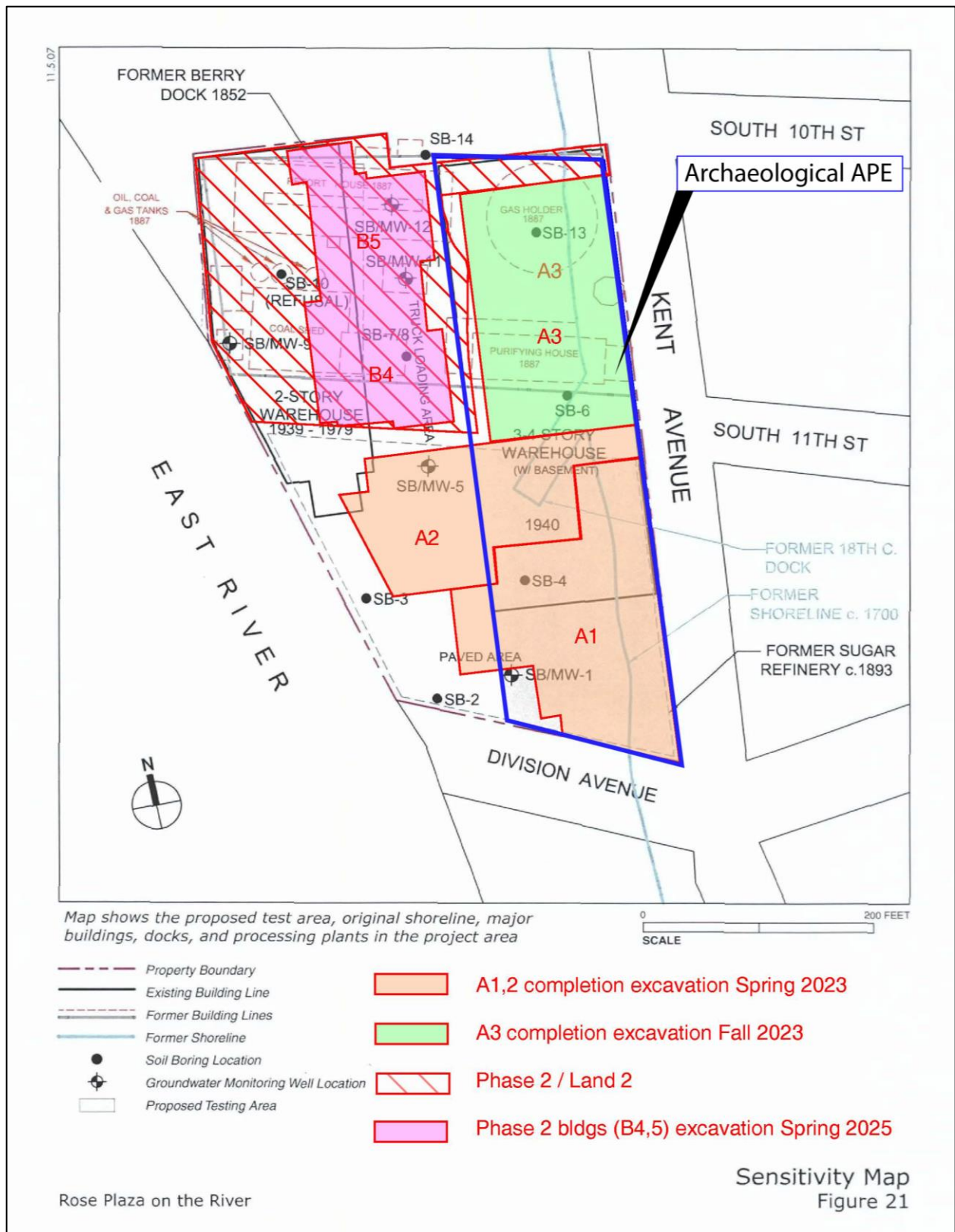
As of July 2023, excavation within archaeologically sensitive areas of Phase A1 and A2 (see Map 3) has been completed. This Technical Memo reports on the results of the associated archaeological monitoring.



Map 1: USGS Map - (United States United States Geological Survey 2019).



Map 2: Project Area Satellite image (Google Earth 2022).



Map 3: Construction phases/sequencing overlaid on the archaeological sensitivity map developed by AKRF 2007.

PROJECT BACKGROUND

The project area consists primarily of landfill constructed into the East River. A narrow section along Kent Avenue formed the original shoreline. AKRF determined that there was a medium potential for the presence of the landfilling features associated with the mid-nineteenth century industrial transformation of the property. Landfilling occurred between 1833 and 1852. From the 1850s onward, the project area was the site of industrial facilities and warehouses (AKRF 2007). Landfilling of the area was completed by 1880 when the project area achieved its present-day form. The Phase IA further notes that “more recent intensive development would have thoroughly destroyed the archaeological integrity of earlier industrial resources” (AKRF 2007:VI-1). The report concluded with the recommendation of archaeological monitoring (AKRF 2007).

The Area of Potential Effect (APE) as determined in the Phase IA (AFRF 2007) is the area starting three feet beneath the former structure along Kent Avenue and starting five feet below grade in the open area between the former building and Division Avenue, at the southern end of the property. Chrysalis’ Archaeological Work Plan (AWP)¹ noted that the assessment map in the 2007 Phase IA report did not appear to clearly highlight this area. The APE in approved AWP followed the area of the former 3-4 story warehouse building and the area between that building and Division Avenue as these were the areas identified for monitoring in the text of the Phase 1A.

The archaeologically sensitive area is bordered by Kent Avenue (project boundary) extending 150’ north toward the East River/Wallabout Bay. The area runs west to east from Division Street (project boundary) to S10th Street (project boundary).

FIELD RESULTS

Archaeological monitoring of the southern half of the APE occurred from December 2022 through July 2023 (Map 4 and Images 1 – 7).

At the start of monitoring the site had already been excavated 16’ – 18.6’ below the existing sidewalk (existing sidewalk elevation is 19.78’ NAVD88), which was approximately three feet below the basement of the former structure. An average of an additional 2’ – 5’ remained to be excavated across the sensitive area.

As part of this work pre-existing concrete pilings with metal caps were exposed and removed. These were 18’ (1.78’ NAVD88) below the Kent Avenue sidewalk and the foundation/footings of the demolished building. The observed bottom elevation of the foundation, i.e., a concrete slab, was at approximately 15’ (4.78’ NAVD88) below the existing sidewalk.

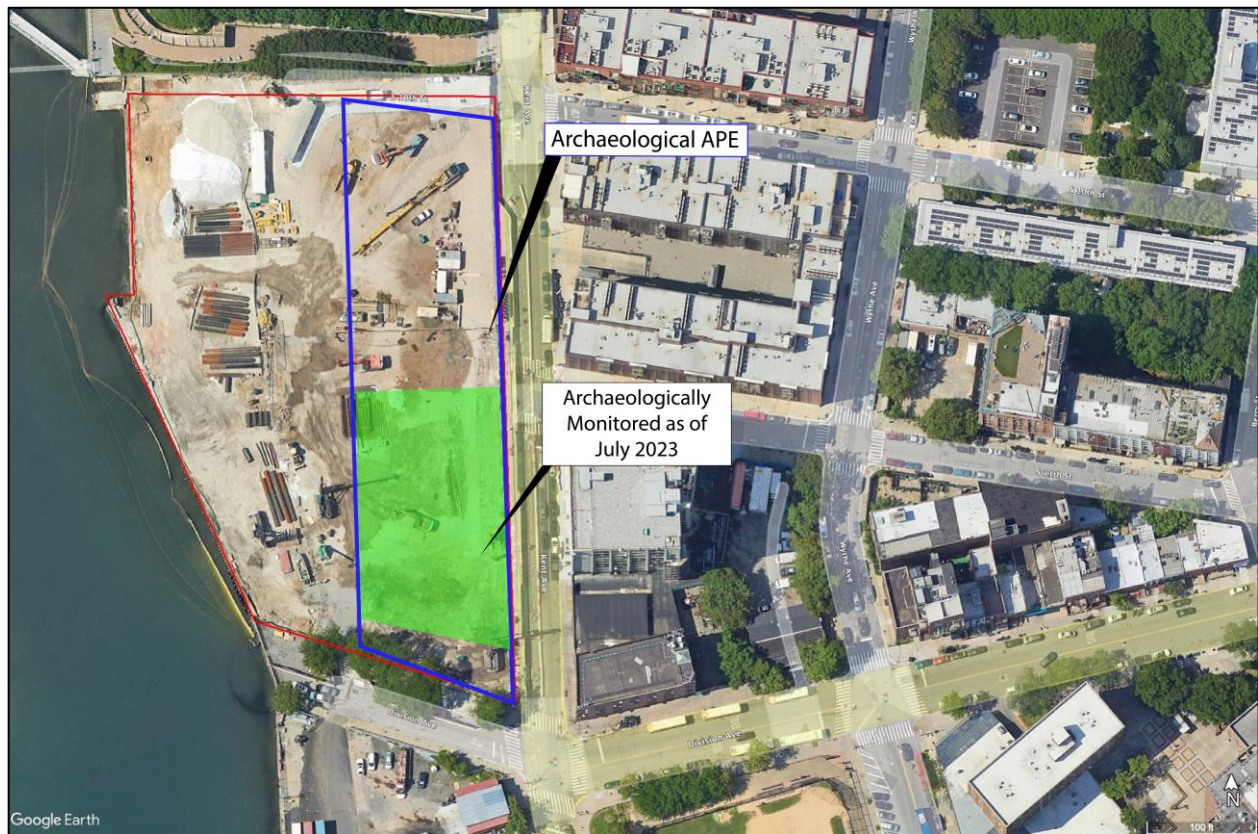
Excavation focused on newly installed piles extending 25’ (-5.22 NAVD88) below the Kent Avenue sidewalk. Extensive dewatering systems were put in place and several excavation areas were regularly flooded. Soils observed during excavation were consistent throughout the area comprising of 10YR 4/3 – 10YR 4/4 loamy and silty sand with concrete and brick inclusions noted in the vicinity of the concrete piles. No significant stratigraphic levels were observed. No cultural

¹ The AWP was approved by the NYC LPC in November 2022

materials of evidence of pre-existing shoreline infrastructure were encountered within the archaeological APE.

SUMMARY AND RECOMMENDATION

Monitored excavation did not encounter any *in situ*, or significant cultural materials or stratigraphic levels. Concrete and brick fragments were observed in areas surrounding existing and new concrete piles to the maximum depth. No further cultural resources work is recommended for the area monitored. Per the results of the Phase IA (AKRF 2007) there remains the potential to encounter cultural materials in the northern half of the APE.



Map 4: Area archaeologically monitored as of July 2023 (Google Earth 2023).



Image 1: 470 Kent Avenue looking northwest from Kent Avenue and Division Avenue.



Image 2: Project APE, facing southwest.



Image 3: Project APE, facing southeast.



Image 4: View from Kent Avenue and S. 11th Street, looking northwest.



Image 5: Concrete footing slab and cement piles in northeast portion of excavation area, looking west from Kent Avenue and S. 11th Street.



Image 6: Spoil relocation looking northwest from Kent Avenue and Division Avenue.

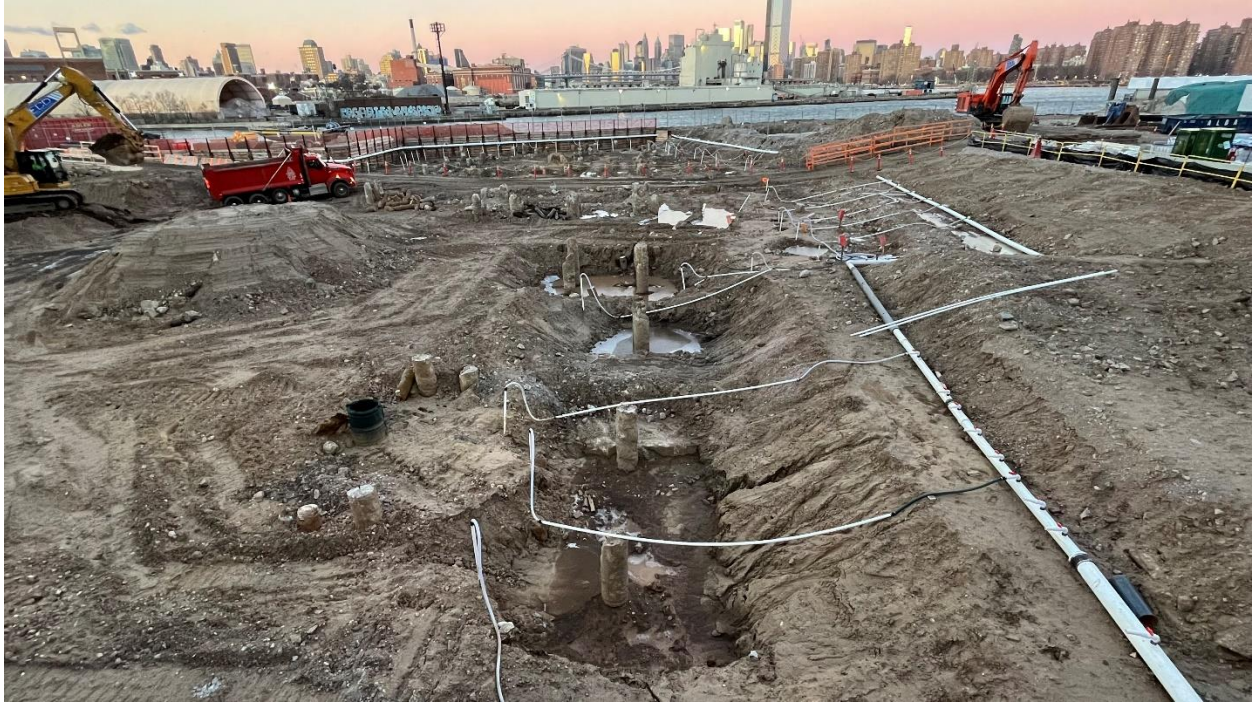


Image 7: Excavation and dewatering around cement piles.

REFERENCES

AKRF

- 2007 Phase IA Archaeological Documentary Study for the Rose Plaza on the River Site, 470-490 Kent Avenue, Block 2134, Lots 1 and 150, Brooklyn, Kings County, New York. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

Chrysalis Archaeological Consultants, Inc.

- 2022 470 Kent Avenue, Brooklyn, New York – Phase IB Archaeological Work Plan. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

City of New York

- 2009 Restrictive Declaration (Archaeology).

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- 2018 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

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- 2019 Brooklyn Quadrangle. New Jersey - New York 7.5 Minute Series.