

## **ENVIRONMENTAL REVIEW**

**Project number:** NYSHP / ER.Y

**Project:** ANBARIC HERA POWER LINK

**Date Received:** 2/24/2023

**Comments:** as indicated below. Properties that are individually LPC designated or in LPC historic districts require permits from the LPC Preservation department. Properties that are S/NR listed or S/NR eligible require consultation with SHPO if there are State or Federal permits or funding required as part of the action.

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**Project site properties with no Archaeological significance:**

- 1) 135 MARSHALL STREET, BBL: 3000050001
- 2) 26 STREET, BBL: 3006530003
- 3) 27 STREET, BBL: 3006530007
- 4) COLONIAL ROAD, BBL: 3058040002
- 5) 200 EDGEWATER STREET, BBL: 5028200140
- 6) 200 EDGEWATER STREET, BBL: 5028270059
- 7) 4100 1 AVENUE, BBL: 3007150001

**Project site properties with Architectural significance:**

- 1) 4100 1 AVENUE, BBL: 3007150001, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE DIST NR HISTORIC DISTRICT, COMMENTS: BUSH TERMINAL HD.
- 2) BAY STREET, BBL: 5031280001, STATE/NATIONAL REGISTER FINDINGS: NATIONAL REGISTER HISTORIC DISTRICT, ARCHEOLOGY FINDINGS: BOTH POTENTIAL, COMMENTS: FORT WADSWORTH HD.

**Comments:**

LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from Colonial, 19TH c and/or Indigenous Peoples occupation on BBL 5031280001 of the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this BBL to clarify these initial findings and provide the threshold for the next level of review if such review is necessary (see CEQR Technical Manual 2021).

There are no archeological concerns for the following BBLs:  
3000050001, 3006530003, 3006530007, 3007150001, 3058040002, 5028200140  
and 5028270059.

**ADDITIONAL DESIGNATED, LISTED OR ELIGIBLE PROPERTIES ALONG THE ROUTE:**

**BROOKLYN:**

LPC DESIGNATED

VINEGAR HILL HISTORIC DISTRICT

BOERUM HILL HISTORIC DISTRICT EXTENSION

UNITED STATES POST OFFICE AND COURT HOUSE, BROOKLYN CENTRAL OFFICE, 271-301

CADMAN PLAZA EAST

FRIENDS MEETING HOUSE, 110 SCHERMERHORN STREET

PUBLIC BATH 7, 227-231 4 AVENUE  
FORT HAMILTON CASEMENT FORT

SN/R LISTED

FEDERAL BUILDING AND POST OFFICE, 271 CADMAN PLAZA EAST  
PUBLIC BATH 7, 227 FOURTH AVENUE  
4<sup>TH</sup> AVENUE STATION (IND)  
U.S. ARMY MILITARY OCEAN TERMINAL

SN/R ELIGIBLE

ATLANTIC AVENUE HISTORIC DISTRICT  
PROOLYN PUBLIC LIBRARY PACIFIC BRANCH, 25 4 AVENUE  
P.S. 124,  
515 4 AVENUE  
BUSH TERMINAL HISTORIC DISTRICT  
5112 2 AVENUE

**STATEN ISLAND**

LPC DESIGNATED

ST. JOHN'S CHURCH, 1331 BAY STREET  
ST. JOHN'S P.E. CHURCH RECTORY, 1333 BAY STREET  
H. H. RICHARDSON HOUSE, 45 MCCLEAN AVENUE  
ERNEST FLAGG ESTATE COTTAGE; MCCALL'S DEMONSTRATION HOUSE, 1929 RICHMOND ROAD  
PIERRE BILLIOU HOUSE, 1476 RICHMOND ROAD  
GUSTAVE A. MEYER HOUSE, 2475 RICHMOND ROAD

S/NR LISTED

BILLOU-STILLWELL-PERINE HOUSES, 1476 RICHMOND ROAD  
ST. JOHN'S EPISCOPAL CHURCH COMPLEX, 1331 BAY STREET  
FORT WADSWORTH HISTORIC DISTRICT

S/NR ELIGIBLE

BERRY HOUSE, 26 DONGAN HILLS AVENUE  
P.S. 9, NAPLES STREET ELEMENTARY SCHOOL, 1055 TARGEE STREET  
RESIDENCE, 265 VANDERBILT AVENUE  
FORMER U.S. MARINE HOSPITAL CAMPUS  
ROSEBANK U.S. COAST GUARD STATION

*Gina Santucci*

3/6/2023

SIGNATURE

Gina Santucci, Environmental Review Coordinator

DATE

**File Name:** 36922\_FSO\_DNP\_03062023.docx

SHPO 23PR01154

11 February 2023

**Electronic Filing – NYSHPO Cultural  
Resource Information System (CRIS)**

**New York State Office of Parks, Recreation and Historic Preservation,  
Division of Historic Preservation  
Dr. Nancy Herter  
P.O. Box 189  
Waterford, NY 12188**

**RE: CULTURAL AND HISTORIC RESOURCES NOTICE OF PROJECT WITH WORK PLAN ANBARIC DEVELOPMENT  
PARTNERS, LLC PROPOSED HERA POWER LINK, RICHMOND COUNTY (STATEN ISLAND), KINGS COUNTY  
(BROOKLYN), AND FEDERAL AND NEW YORK STATE WATERS**

Dear Dr. Herter:

On behalf of Anbaric Development Partners, LLC (Applicant), Matrix New World Engineering, Land Surveying, and Landscape Architecture, PC (Matrix) is requesting initial consultation on the proposed Hera Power Link (Proposed Project). A detailed project description is supplied below. An application to New York State Public Service Commission (PSC) for a Certificate of Environmental Compatibility and Public Need is currently being prepared for the Proposed Project. This application requires assessment of potential environmental impacts on cultural resources.

**INTRODUCTION**

Hera Power Link (Facility) is a proposed transmission facility that will connect offshore wind areas in Federal Waters of the Atlantic Ocean (WEAs) to the New York Independent System Operator's (NYISO) Zone J in Brooklyn (**Attachment A, Figure 1 – USGS overview, Figure 2 – Staten Island Detail, and Figure 3 – Brooklyn Detail**). As discussed below, the Applicant has defined both Preferred and Alternative Options that are primarily distinguished between those with upland or submarine routings. In addition to the submarine cable transmission and land cable routes, eight preferred and alternative landing locations also were subjected to in-field and site file review. These include

1. Staten Island – Option 1, Gateway, Arden Avenue
2. Staten Island – Option 3, Great Kills, South Beach
3. Staten Island – 200 Edgewater Street, HVDC to HVAC Converter Station (a point of interconnection [POI])
4. Brooklyn – Option 2 Brooklyn In-Water, an alternative landing in the railyard near 65<sup>th</sup> Street and 1<sup>st</sup> Avenue
5. Brooklyn – Option 2 Brooklyn In-water, an alternative landing at the 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue
6. Brooklyn – Option 2 Brooklyn In-water, preferred landing at Brooklyn's ConEd Gowanus Generating Station land pier at 4100 1<sup>st</sup> Avenue

7. Brooklyn Consolidated Edison (ConEd) Clean Energy Hub (CEH) on Marshall Street off of John Street
8. Brooklyn – Option 4 Gravesend, Bay Parkway landing

The Preferred HVDC Route, Preferred HVAC Route, and Preferred Option A (to the ConEd CEH) were subjected to due diligence review. Unless directed otherwise, the Applicant will not advance Upland Options 1, 2, 3, and 4. However, these upland routings also were subjected to cultural resources due diligence reviews with associated drive-overs.

Dependent on agency responses, it is possible that any of the Preferred or Alternative Options might need a Phase IA Assessment, Documentary Study, Section 233 Permit, or a Phase I Maritime Archaeological Resource Assessment (MARA).

This notice of project and work plan is being submitted New York State Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (NYSHPO) and the New York City Landmarks Preservation Commission (LPC). These materials also will be submitted to PSC in support of the Article 7 Application. The New York State Museum (NYSM) and the New York State Office of General Services (OGS) also may be informed of the project depending on comments received from NYSHPO. PSC is the lead agency as it will review and approve the Article 7 Application. NYSHPO, under Section 106 of the National Historic Preservation Act, as amended, and Section 14.09 of the New York State Historic Preservation Act, will comment on a proposed project that could directly or indirectly impact buildings, structures, objects, districts, archaeological sites, or traditional cultural properties that have the potential to be or are listed on the State and National Registers of Historic Places (S/NRHP). Included in the suite of resources are National Historic Landmarks. The OGS will not require a 233 permit for the initial High Resolution Geophysical (HRG) survey offshore in state waters. The LPC will comment on any proposed project that directly impacts city roads and/or that would have direct or indirect effects on landmarks, interior landmarks, or districts.

The discussion that follows is divided into three primary parts: Project Description, Cultural Resources Due Diligence Review and Results, and the Proposed Cultural Resources Work Plan. Conclusions about specific properties are within the text. The proposed work plan contains the following sections: Proposed Area of Effect Definition, Research Methods, Field Methods, Reporting, and Personnel. Full-page numbered figures are presented in Attachment A; inset figures are included herein and they are lettered. Attachment B contains submarine cable tables, Attachment C contains land cable photographs and tables, and Attachment D are the shapefiles for the preferred and option routes.

This document was prepared jointly by Matrix (Carol S. Weed, Sarah Sklar) and SEARCH (Neil Puckett, Jordon Loucks) personnel. Their contact information is presented in the personnel section of the proposed work plan. Construction information presented in the Project Description was taken from descriptions of similar actions provided by the Applicant and refined to fit the conditions for the proposed Hera Facility. This document has been subject to review by the Matrix Project Managers (Robert Fiorile, Donna McCormack) and the Applicant.

## PROJECT DESCRIPTION

The Facility proposes POIs at either ConEd's existing Gowanus Substation or the proposed ConEd CEH. Both POIs are located in Brooklyn (see **Figures 1 and 3**). Both interconnection options have been determined to have capacity to accommodate the injection of power from the Facility.

The Facility will provide for submarine transmission of 1,200 megawatts (MW) of High Voltage Direct Current (HVDC) electric from the WEA to a proposed Converter Station on the western shore of Staten Island where it



will be converted to High Voltage Alternating Current (HVAC). The HVDC submarine cable system will land via Horizontal Directional Drilling (HDD) and be buried via a short length of cable to connect to the Converter Station.

Then, following conversion, the HVAC cable system will exit the Converter Station via HDD. The HVAC cable will be buried beneath the seabed of New York Bay, land on the western shore of Brooklyn (Kings County) and travel beneath public roadways and rights of way (ROW) to one of the POIs in Brooklyn.

The Facility's principal components will consist of the following elements:

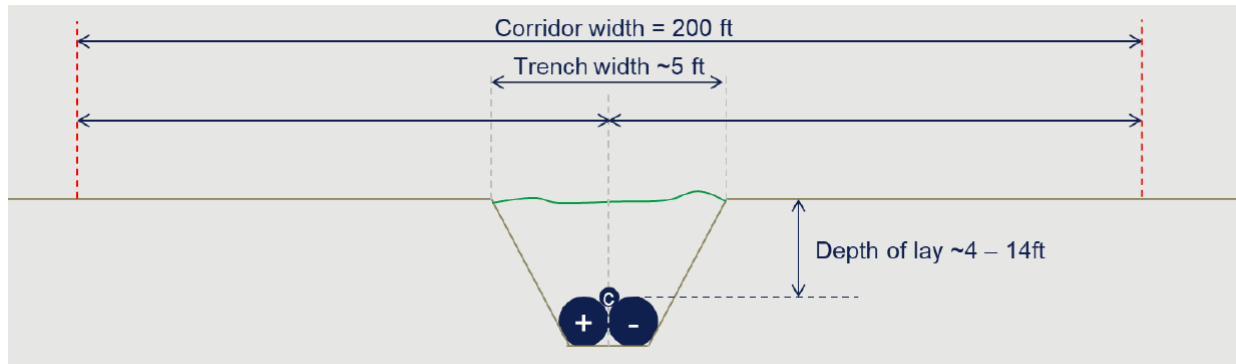
1. Approximately 12.9 miles (11.2 nautical miles) of HVDC bundled submarine cable buried beneath New York State waters in the seabed of the New York Bay with landfall to link to the proposed Converter Station on the eastern shore of Staten Island (see Figure A1).
2. Approximately 0.5 miles (1 kilometer) of underground cable with associated fiber optic cable (HVDC Land Cable) to link the Submarine Cable System to the Facility Converter Station.
3. An underground Transition Vault, where the Submarine Cable System and HVDC Land Cable are linked (the HVDC Cable System).
4. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVDC Cable System landfall.
5. Converter Station that will use Voltage Source Converter-High Voltage Direct Current (VSC-HVDC) technology to convert power from DC to AC. It will be located on the 4.7acre (1.9 hectares) waterfront property at 200 Edgewater Street in Staten Island.
6. Approximately 4.6 miles (4.0 nautical miles) of HVAC bundled fiber optic submarine cable (a total of 4 cables) buried beneath New York State waters in the seabed of the New York Bay.
7. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVAC landfall.
8. Approximately 1.2 miles (1.93 kilometers) of upland cable buried beneath public roadways and ROWs to transmit power from landing of the Submarine Cable System in Brooklyn to either the existing ConEd Gowanus Substation or approximately 5.8 miles (9.3 kilometers) to the proposed ConEd CEH (Option A).

The particulars about the submarine and land routes are presented below.

### **Submarine Cable Routes (HVDC and HVAC)**

#### Construction Methods

In typical submarine conditions, the cable will be buried approximately 6 ft (1.8 m) beneath the seabed. A burial depth of up to 14 ft (4.3 m) will be required in extraordinary seabed conditions and beneath Federal Channels and other navigation channels. The final burial depths at each area of the Subsea Cable Route will be determined in consultation with the United States Army Corp of Engineers (USACE). The width of the cable trench is 5 ft (1.5 m) and the width of the cable corridor for a single circuit cable bundle is 200 ft (61 m), with the actual cable trench placed in the middle, as shown in **Figure A** below.



**Figure A. Typical Submarine HVDC Single Circuit Corridor Trench**

Potential deviation from this configuration of the bundle will be expected at two locations of the route. The first one is at the proximity of the offshore converter station platforms, where the bundle will be separated to pull the individual cables inside the platform separately. The second one is at the landfall HDD, where the bundle will be split, and each cable will be pulled in separately.

The Submarine Cable System from WEA to the Converter Station consists of a single core HVDC cable and potentially a standalone fiber optic cable, bundled together and buried to a depth specified to protect against anchor drags, damage due to fishery gear, and against exposure due to movement of the seabed. The main advantage of installing the cables in a bundle is the reduction of the necessary burial activities and space for installation as well as the limitation of the resulting magnetic field on the surface along the route.

The HVAC Submarine Cable System will leave the Edgewater Converter Station and cross the Bay to land in Brooklyn. The HVAC Submarine Cable System consists of a four single core HVAC cables and potentially a standalone fiber optic cable.

#### *Submarine Cable System Landfalls*

The landfall of both submarine cable systems will be accomplished using HDD technology that minimizes overall disturbances in-water and on the shorelines. To facilitate HDD, submarine transition will require installation of temporary cofferdams with limited dredging inside the cofferdams. Upland of each cofferdam, transition vaults will be installed for the required splicing and connection of submarine cable to land cable. Plans herein depict the approximate location of cofferdams and transition vaults, but these locations will be finalized in the Environmental Management & Construction Plan (EM&CP).

In Staten Island, landfall occurs on the Edgewater Converter Station site that is land controlled by the Applicant. The site was selected as one of few available waterfront properties with enough space to accommodate infrastructure required for the Converter Station. Landfall in Brooklyn occurs at 102 41<sup>st</sup> Street; a NY Department of Small Business Services (SBS) owned land pier that extends into the Gowanus Bay. This site was selected because it is undeveloped and provides space for the infrastructure required to land and splice the cable, occurs on public lands that do not require private acquisitions, and the location avoids conflicts with other existing or approved cable landings.

We note that either a cofferdam or temporary gravity cells could be used at the upland landings. The cofferdam would surround all the cables in the HDD at each of the two landings while a temporary gravity cell structure would have one cell for each cable. **Figure 4 – 345 kV Transmission Line HDD Layout Area** provides a plan view of the possible configuration of the upland work space at the Brooklyn Gowanus pier landing.

It is possible that the work space at the Brooklyn Landing would be as small as 70 by 20 feet (21 x 6 meters) though it could be as large (200 x 150 feet [61 x 46 meters]) as that depicted on **Figure 4** referenced above. Under typical conditions, any temporary gravity cell structure will be no more than 2,000 feet (609 meters) from the landing location. The final configuration of each preferred landing location (Edgewater and Brooklyn Gowanus pier) will be submitted to NYSHPO and NYC LPC upon receipt for their final review.

### **Land Cable Routes (HVDC and HVAC)**

#### *HVDC Land Cable Route to Edgewater Converter Station and HVAC Land Cable Route*

The HVDC Land Cable Route is entirely located on the site selected for construction of the Converter Station located at 200 Edgewater Street on Staten Island. The Submarine Cable System lands on the Edgewater Street Converter Station site and connects to land cable through the transition vault with approximately 200 feet of Land Cable System to connect to the proposed Converter Station.

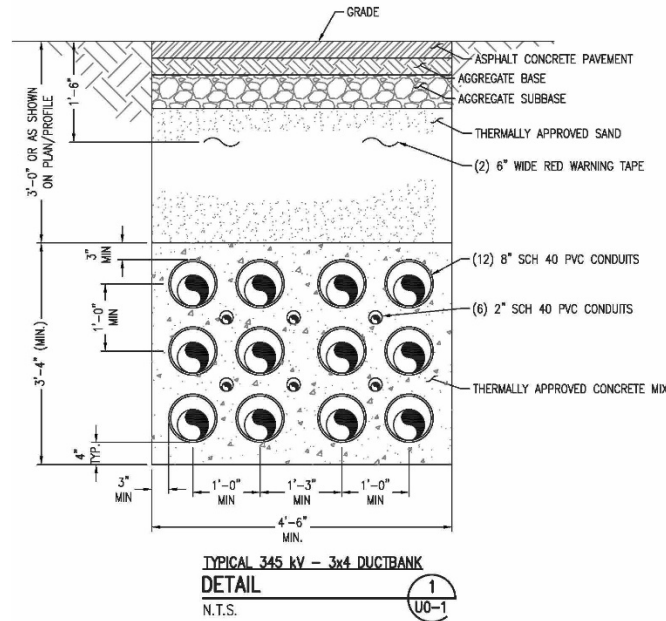
The Staten Island-based Edgewater HVDC to HVAC Converter Station is proposed on a 4.7-acre waterfront property that is controlled by the Applicant. The current tenants are Reynolds Shipyard. The existing development on the site will be demolished and removed and Converter Station will occupy the entire site which includes a waterfront parcel and an adjoining upland parcel (**Figure 5 – Proposed Converter Station Site (Edgewater Street) with Photograph Key; Photographs C1-C8**). The HVDC submerged cables will make landfall on the Converter Station property and the HVAC cables will exit the Converter Station in locations sufficient to provide separation of the AC and DC cables. The Applicant proposes to construct the Converter Station using typical site redevelopment techniques, which will include demolition, upland clearing, excavation, fill and infrastructure improvements. Within the Site, HVDC terrestrial cable will be installed underground.

#### *Submarine HVAC to Brooklyn Landings at Gowanus Station or Option A to CEH via Upland*

The Land Cable System will connect to either the existing ConEd Gowanus Station (Preferred Route) or the proposed ConEd CEH. The latter is referred to as Option A.

The Preferred Route interconnects with Gowanus Station via a transition from submarine to terrestrial at 4100 1<sup>st</sup> Avenue (**Figure 6 – Brooklyn Landing Route, Gowanus with Photograph Key; Photographs C9 through C13**). The route then follows 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to the station. The Applicant, in consultation with regulatory authorities and ConEd, will determine the final interconnection facility (and its associated terrestrial route) prior to its final design and approvals. Option A will extend the land routing following this sequence of streets: 29<sup>th</sup> Street, 4<sup>th</sup> Avenue, Atlantic Avenue, Boerum Place/Adams Street, Trinity to Gold Street.

The HVAC Land Cable Route will carry the Land Cable System from the shoreline landing to the point-of-intersection (POI) within public right-of-way (ROW) and primarily beneath paved roadways. The System will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, as shown in **Figure B – Typical Duct Bank and Land Trench Corridor Details** below. The width of the temporary trench during installation (area of disturbance) will be 9 feet (2.7 meters) wide when accounting for excavation of side slopes of up to 2:1. Once completed, the permanent trench will be 4 feet, 6 inches (1.37 meters) below grade. The temporary trench will be backfilled and topped with road pavement.



**Figure B. Typical Duct Bank and Land Trench Corridor Details**

### Applicant Dismissed Alternatives

To identify potential Land and Submarine Cable Routes between the WEAs and the CEH, the Applicant considered several factors concerning environmental impact, constructability, efficiency of the system, property control, and cost. The Applicant attempted to minimize overall route length, avoid geologic and navigational constraints, and avoid environmentally sensitive areas. The following criteria were used for selection of the Cable Routes:

- Minimize overall cable length, electrical losses, environmental impacts, and costs.
- Minimize longitudinal routing within limited access highway rights-of-way (ROWs).
- Minimize turns (related to acceptable bending radius of the cable) and significant elevation changes.
- Minimize disturbances to environmental resources such as wetlands and other environmentally sensitive lands, by utilizing previously disturbed lands for construction and cable installation.
- The availability of easement rights along the route, given the lack of eminent domain authority.
- Reduce potential for navigational conflicts.
- Minimize the crossing impacts associated with established vessel anchorages, mooring areas, and existing submarine infrastructure such as cables, pipelines, municipal water intakes, etc.
- Avoid or minimize environmental impacts to aquatic resources and known submerged historical resources.
- Locate subsurface geological conditions conducive to burial of the Submarine Cable by jet plow embedment to avoid potential damage to the Cable System and to minimize environmental impacts.
- Avoid/minimize impacts to sensitive habitat areas such as protected species, essential fish habitat, and protected habitats where possible.
- Availability of properties along the route to construct a HVDC to HVAC converter station.

### Construction Methods

The upland construction methods will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, supplemented with trenchless installations. The construction contractor indicates that the land trenches will be no wider than 9 feet (2.7 meters). While the exact locations of the street trenches are currently unknown, the trench will not extend greater than 18 inches (1.5 ft or 0.46 meters) inside the curb line. The construction equipment will occupy one street lane during the construction period. In sequence, the construction will involve installation of the manholes and then “trenching will ‘connect the dots.’” It is estimated that one manhole will be installed per week and that each manhole will be separated from the next by about 1500 ft (457 m). The estimate is that approximately 100 feet (30.5 meters) of trench will be completed per day.

### Staten Island Option 1 – Gateway Land Route to Edgewater Converter Station

Option 1 is the only one of the upland routes that would cross public beach and enter into public land (**Figure 7 - Option 1 Gateway with Photograph Key; Photographs C14 through C17**). The Option branches off the preferred submerged HVDC cable route 1.76 mi (2.84 km) southeast of Verrazzano-Narrows Bridge. It is distributed 1.44 mi (2.32 km) northwest of the branch point, directly to Staten Island where South Beach and Fort Wadsworth Beach meet. This option goes ashore on the Fort Wadsworth beach, trends northeast up a paved beach path to enter on to USS North Carolina Road to the intersection with USS Constitution Court. At that point, the routing takes the HVDC cable off Fort Wadsworth property via Lily Pond Avenue. The road sequence from Lily Pond Avenue is School Road, Bay Street, Clifton Avenue, Edgewater Street to the Converter Station.

### Staten Island Option 3 – Great Kills Land Route to Edgewater Converter Station

Option 3 branches off the preferred HVDC cable route 0.72 mi (1.16 km) north of the northernmost boundary point between New Jersey and New York within the Lower New York Bay. The option extends west 9.77 mi (15.73 km) toward Annadale Beach on Staten Island and making landfall at Arden Avenue. This is the longest of the terrestrial options spanning some 9.7 miles (15.6 km) through predominately residential and village commercial areas. The roads traversed range from four-to-two lanes wide and some of them are bracketed by one-way streets making detour routing difficult. Local truck traffic is heavy and most of the roads also carry bus and school bus traffic. The landing for the HVDC transmission cable would be Arden Avenue, in a residential area (**Figure 8 – Option 3 Great Kills with Photograph Key; Photographs C18 through C20**). The street sequence from there is Amboy Road, Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, Edgewater Street to the proposed Converter Station.

### Brooklyn Option 2 – Brooklyn In-Water to Gowanus Substation

Option 2 has the shortest terrestrial component. The converted HVAC cable will follow the east side of the Narrows Channel to Buttermilk Channel where it will follow the pier line from Buttermilk Channel to Bay Channel. At Bay Channel it will enter via the 4100 1<sup>st</sup> Street pier in the Gowanus Station (see **Figure 3**). Three landings were evaluated for this option. Each of the locations would have required space for a converter station, but none offered such space. These landing options are discussed in the next section in detail.

### Brooklyn Option 4 – Gravesend Belt Parkway to Gowanus Substation

Option 4's submarine route branches off the preferred HVDC cable route at the same location as option 2: 3.44 miles (5.53 kilometers) southeast of the Verrazzano-Narrows Bridge. It turns northeast 2.25 miles (3.62 kilometers) southeast of the bridge, extending 1.40 miles (2.26 kilometers) towards King's County. Based on observed conditions, the terrestrial route could result in major traffic disruptions particularly along the Belt Parkway and the dense industrial warehouse area along 2<sup>nd</sup> Avenue. This option's route takes it ashore at Bay Parkway between Bensonhurst Park and the shopping complex anchored by a Target Store (**Figure 9 –**

**Gravesend Landing with Photograph Key; Photographs C21 – C25).** The trench line then follows the western side of the Belt Parkway which, for much of the distance, is adjacent to the Bensonhurst Park walkway. The route would exit onto 2<sup>nd</sup> Avenue and follow that north to the Gowanus Station.

## **CULTURAL RESOURCES DUE DILIGENCE REVIEW WITH RESULTS**

The due diligence site file review prefaced the creation of the proposed work plan. The review was completed to determine 1) the overall archaeological sensitivity of the off-shore preferred and option routes; 2) the archaeological sensitivity of the upland options; and 3) the number of listed and eligible historic properties and districts that immediately bounded the proposed terrestrial street routes. The in-field reviews were limited to drive-overs of the land routes. These were completed by Carol S. Weed and Sarah Sklar on October 27 and 28, 2022.

### **Data Sources Reviewed**

For due diligence site file and project area review, the off-shore and upland routes were both considered. The common sources used by both sets of investigators included the NYSHPO NYCRIIS which subsumes the LPC) landmark properties and the NYSM site lists. Meade's (2020) New York City Cemetery inventory also was referenced for the terrestrial options.

Mathew Shepard (NYSHPO CRIS) was provided with Geographic Information System (GIS) merged polygon shapefiles and, in turn, he provided data sets for both submerged and upland cultural resources in addition to listings of previously completed surveys. The merged polygon shapefiles will be filed with this packet submission to NYSHPO and LPC.

The offshore shapefiles included the centerline and a 1-mile (1.6 kilometer) buffer. The upland merged polygon/shapefile included the centerline and a 320-foot (97.5 meter) buffer located to either side of the centerline. The latter width commonly included all buildings, structures, and objects facing inward toward the centerline on any given road. SEARCH further reviewed the NYSHPO historic project plot maps for any submerged historic resource surveys within a one-mile search buffer of the proposed routes. SEARCH also used the BOEM Archaeological Resource Information Database, the National Oceanic and Atmospheric Administration's (NOAA) Automated Wreck and Obstruction Information System (AWOIS), the NOAA Electronic Navigation Charts Database (ENC), and Global GIS Data Services, LLC's Global Maritime Wrecks Database (GMWD) to identify known or potential shipwrecks within the buffer areas for all off-shore routing and the landing locations for Options 1, 2, 3, and 4.

### **Submarine Cable Route Site File Review Results**

SEARCH's due diligence site file review of the preferred and alternate routes reports all known submerged sites, shipwrecks, and surveys within the one-mile APE for each corridor. Each route and their associated results are discussed below. A master table including all submerged cultural resources are presented by preferred and alternative options in **Attachment B, Table B1- Master Previous Offshore Surveys, Table B2 - Master Offshore Cultural Resources Sites**. The submarine cable route figures are presented in Attachment A and are **Figures 10 through 13**. The latter show the locations of previously surveyed areas and the reported locations of offshore shipwrecks.



### *Preferred HVDC and HVAC Routes*

The due diligence record search of the preferred HVDC and HVAC routed found that 12 surveys had been conducted of some part of the two preferred routes (**Table B1; see Figure 10 – Submerged Surveys within 1-mile of the Preferred Route**).

An additional survey report provides supplementary information to one survey on the list (NYSHPO Survey 08SR58377 supplements NYSHPO Survey 09SR59295) and it is not displayed on Figure B1. Five surveys cross the preferred route (see **Figure 10**). Survey 02SR52309 is a maritime shipwreck survey corridor that crosses the HVDC and HVAC routes at three locations across Upper and Lower New York Bay. Survey 02SR53363 is a maritime shipwreck survey that overlaps the northern portion of the HVDC route and the southern area of the HVAC route. Survey 09SR59295 is a large maritime survey located in Lower New York Bay and overlaps much of the HVDC route. Surveys 17SR0034 and 18SR56141 are maritime surveys associated with the same proposed construction project, with survey 18SR56141 supplementing survey 17SR0034. Both survey areas overlap a small portion of the HVDC route in Lower New York Bay. These surveys were the first identified in the record search review that include sub-bottom analysis for buried, pre-contact paleofeatures. Finally, survey 21SR00597 is a maritime survey located south of surveys 17SR00334 and 18SR56141 and overlaps the preferred HVDC route for a short stretch.

The NYCRIIS review yielded no information on submerged archaeological sites or historic properties within 1-mile (1.6 kilometer) of the preferred HVDC and HVAC routes. However, BOEM, NOAA AWOIS and ENC, and the GMWD databases contained 66 known shipwrecks within search area (**Table B2; see Figure 11 – Shipwrecks within 1-mile of the Preferred Route**). None of the shipwrecks are plotted within the 200 feet (61 meters) work corridor. Additionally, none of the wrecks identified are within 164 feet (50 meters) of the work corridor edge, ensuring that all of the plotted wreck locations have at least a 165-foot (50 meter) buffer between the work area and the plotted wreck locations. It is important to note that plotted wreck locations may include error based on reporting standards and potential for post-depositional movement.

In addition to shipwreck and recorded sites, NYSHPO Surveys 17SR00334, 18SR56141, and 21SR00597 included sub-bottom analysis of the Lower New York Bay buried sediments for potential intact subaerial landforms and pre-Colonial period features. These features are commonly referred to as Ancient Submerged Landform Features (ASLFs). None of the surveys identified any intact landforms within the work corridor of the preferred HVDC route. Surveys 17SR00334 and 18SR56141 identified one nearby ASLF, an intact peat deposits southwest of the Ambrose Channel (Schmidt et al. 2017, 2019). Survey 21SR00597 noted two areas with potential ASLFs, intact clinoform bedding northeast of Ambrose Channel and a preserved paleochannel feature to the southwest of the Ambrose Channel (Wilson and Gates 2021). These results suggest the presence of a preserved migrating paleochannel feature and potential margin deposits buried within Lower New York Bay.

### *Staten Island Option Route Landings*

**Option 1 – Gateway:** The NYCRIIS record search identified three (3) maritime surveys within 1 mile (mi) (1.6 kilometers [km]) of the option's submerged route (**Table B1**). Of these, NYSHPO Surveys 02SR52309 and 02SR53363 cross the option where it branches off the preferred HVDC route (see **Figure 12 – Submerged Surveys and Archaeological Sites within 1-mile of Optional Routes**). No submerged archaeological sites or historic resources identified in NYCRIIS are within 1-mile (1.6 kilometer) of Option 1. SEARCH identified 11 shipwrecks within 1 mile (1.6 kilometer) of the option, but none of these are within the 200 feet (61 meters) work corridor or within 50 m (164 ft) of the corridor's edge (**Table B2; Figure 13 – Shipwrecks within 1-mile of Optional Routes**).



Option 3 – Great Kills: The NYCRIIS database review identified six (6) maritime surveys within 1 mile (1.6 kilometer) of the option (**Table B1**). Three of the surveys overlap the option route: surveys 02SR52309, 02SR53363, and 09SR59295. Each of the surveys overlap the option across its eastern portion (**Figure 12**).

Option 3 is the only route within 1 mile (1.6 kilometer) of submerged sites within the NYCRIIS database. SEARCH identified 11 sites within the review area (**Table B1**; see **Figure 12**), but none of these were located within the 200 feet (61 meters) work corridor or the 50 m (164 ft) buffer beyond the work corridor. An additional 17 wrecks were identified within 1 mi (1.6 km) of the option (**Table B1**). As with the sites, none of the wrecks fall within the 200 feet (61 meters) work corridor or a 164-foot (50 meter) buffer beyond the corridor (see **Figure 13**).

#### *Brooklyn Option Route Landings*

Option 2 – Brooklyn: SEARCH identified 12 maritime surveys located within 1 mile (1.6 kilometer) of the option (**Table B1**). Survey 02SR53363 overlaps the option's route. Additionally, survey 08SR59099, a maritime survey located within Upper New York Bay, overlaps Option 2's 200 feet (61 meters) work corridor near its proposed landfall location (see **Figure 12**).

No submerged archaeological sites or historic resources within the NYCRIIS system are within 1 mi (1.6 km) of Option 2. SEARCH's review identified 31 shipwrecks within 1 mile (1.6 kilometers) of the option. One of these is located within the 200 foot work zone and is classified on the NOAA ENC (n.d.) database as an 'unknown dangerous wreck without a loss date' (**Table B1**). No additional wrecks are located within the 200 foot work zone or within 50 m (164 ft) of the work zone edge (see **Figure 13**).

Option 4 – Gravesend: Eight (8) maritime surveys from the NYCRIIS database and the NYSHPO historic resource plot maps are within 1 mile (1.6 kilometers) of this option (**Table B1**). Only one survey overlaps the option's route and the 200 foot work corridor: survey 09SR59295. This survey overlaps the southern end of the option (see **Figure 12**).

No submerged archaeological sites or historic resources identified within the NYCRIIS database are within 1 mile (1.6 kilometer) of Option 3; however, SEARCH identified 44 shipwrecks within this distance (**Table B1**). One of these is located just outside the 200 foot work corridor, 104 feet (31.6 meters) from the option center line (see **Figure 13**). This wreck is classified on the NOAA ENC (n.d.) as an "unknown dangerous wreck without a sink date."

#### **Land Route Site File Results**

The terrestrial options subject to site file review were HVAC Preferred Option A to CEH, Staten Island Options 1 and 3 including landings on Edgewater Street, Arden Avenue, and South Beach; Brooklyn Options 2 and 4 and the vicinities of the landings on Bay Parkway, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, and the proposed CEH near Marshall Street off of Johns Street. The centerline streets were driven. There was no access to the fenced location of the Reynolds Shipyard, which will be demolished for part of the Edgewater Converter Station, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, or the proposed location of the CEH.

**Table 1 – Land Route Due Diligence Summary Data** presents a summary by upland options. NYSHPO Individual buildings, structures, districts, and NYC Landmarks are accounted for in the table. Individual elements within

districts may not all be represented as some of these were outside of the buffer boundaries. On the table, archaeological sites are noted by their NYSHPO Unique Site Numbers (USNs) or those applied to such properties by the NYSM and LPC. Also summarized are those resources with an Undetermined status and those that have been determined Not Eligible for listing in the State or National Registers of Historic Places (S/NRHP).

**Table 1. Land Route Due Diligence Summary Data**

Option	Search Section	Eligible	Listed	NR Listed	LPC Landmark	Not Eligible	Undetermined
Option 1 - Gateway	Centerline	2	2			2	17
	Buffer	4				1	13
Option 2	Centerline						
	Buffer						
Option 3 – Great Kills	Centerline	11	1		4	20	37
	Buffer	3			5	8	19
Option 4 - Gravesend	Centerline	7	3			11	5
	Buffer	3	1		2	13	10
Option A - To CEH	Centerline	11	1	6		8	9
	Buffer	5	80	10		46	18
<b>TOTAL =</b>		<b>46</b>	<b>88</b>	<b>16</b>	<b>11</b>	<b>109</b>	<b>129</b>

Attachment C contains the detailed **Master Land Route Cultural Resources** table (**Table C1**) which is ordered by Option and eligibility status. The option routes are illustrated on Figures 2 and 3.

The following summaries focus on upland resources that by age, function, or location could be directly affected by proposed trenching. A caveat is warranted at this point. As noted earlier in the Upland Construction Methods section, the street trenches will be placed within the curbside lane. The working assumption in all cases is that the working side of a road will follow the direction of land cable from its landing to its station (Edgewater Converter, ConEd CEH) or substation (Gowanus Station). The second assumption is that the cable road trenches represent typical utility street installments. Such installments routinely do not result in direct impacts to inventoried historic properties. However, the resource types that might be directly affected are those such as cemeteries, archaeological sites, and underground transportation features such as tunnels and subways that could be physically intersected by a trench or destabilized by vibration.

#### Staten Island – Option 1 Gateway

Option 1 – Gateway is the terrestrial alternative that would link the HVDC offshore cable route to the Edgewater Converter Station via South Beach and city streets (**Table C1**). The Gateway Landing would occur on South Beach and the buried HVDC cable route would skirt USS North Carolina Road within Fort Wadsworth, following Lily Pond Avenue, School Road, Bay Street, Clifton Avenue, to end at the Converter Station on Edgewater Street.

In total, 41 resources are present, either facing the centerline roads or in the adjacent buffers. NYSHPO has determined that South Beach, in general, and the adjacent 10-to-30- foot terraces are archaeologically sensitive. The reason for the assignment is the presence of the archaeological remains of the Old Doup Town (aka Dutch *Oude Dorp*; Oude Dorp; Old Town) on the 20- and 30-foot terraces (USN 08501.000027; Boller 1972, Salwen 1967). Bolton (1934), Anderson and Sainz (1965), and John Milner Associates (JMA 1978) also reported Indigenous Nation uses of the same setting dating to the Archaic and Woodland archaeological eras (John Milner Associates 1978). Old Doup Town remnants are within the Fort Wadsworth Historic District (98NR01405, USN

8501.004168) and the buffer on the east side of Lily Pond Avenue and USS North Carolina includes various fort buildings at least one of which is demolished (USN 8501.003056).

Once the terrestrial Gateway option leaves Lily Pond Avenue, it trends east onto School Road toward Bay Street with its bounding residential and commercial properties. The side streets along Bay Street also exhibit the same functional characteristics though three building complexes of note are also present. These are St. Mary's R.C. Church with its rectory and school (USN 8501.003728; Anonymous 2022), St. John's Church Complex (94NR00547), and the Rosebank United States Coast Guard Station which was the former Quarantine Station (USN 8501.003366; Howe 2013). None of these resources have reported elements that could now be masked by existing Bay Street.

#### Staten Island – Option 3 Great Kill

Option 3 – Great Kill traverses the southeast quadrant of Staten Island via city streets. This route would link the HVDC offshore cable route to the Converter Station via a landing at Arden Avenue. The cable route trends west to Amboy Road, and then continues generally eastward to the Converter Station via Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, ending on Edgewater Street at the proposed Edgewater Street Converter Station complex.

In total, 111 resources are present either bounding the centerline roads or in the adjacent buffers. The landing location is within a NYSHPO defined archaeological sensitivity area. Arden Avenue, in the area, has received renovation since Hurricane Sandy according to the NYSHPO (NYSHPO #19PR01002). Two inventoried buildings are located on east of the landing's HDD on Mayberry Promenade. One of the residences was determined Not Eligible and the status of the other is Undetermined.

From Arden Avenue through Richmond Road, the HVDC centerline route is bounded by residential and named neighborhoods with commercial enterprises, schools, and public facilities. A suite of notable resources are adjacent to the centerline route in this segment: two cemeteries (Oceanview and Moravian), the Ernest Flagg's Todt Hill house (LP-01407) on Richmond Road, and two National Register properties (90NR01012 Billou-Stillwell-Penne House; St. Alban's Episcopal Church - 90NR01040). The two cemeteries are layered down ridge slopes and their current southern boundaries are marked by stone walls. It is presently unknown if these boundary walls have been in place since the cemetery platting or if boundary walls were erected later in the resources' use-span. The Ernest Flagg House is the only one in that complex that fronts a major thoroughfare. The other associated elements are upslope and on the top of the adjacent ridge line to the west. The St. Albans Church Complex and the Billou-Stillwell-Penne house are representative of the types and ages of the buildings along both roads.

As the HVDC cable route leaves Richmond Road and continues to its terminus at the Edgewater Converter Station, the neighborhoods give way to more commercial development and large institutional complexes also appear. Residences, schools, and churches also are present. The largest of the institutional complexes on the Great Kills Option is on Vanderbilt and it is the U.S. Marine Hospital Complex. The complex buildings and structures are set on an upslope from Vanderbilt Road and are well away from the street proper.

#### Brooklyn – Option 2 Brooklyn In-Water to Gowanus Substation

Option 2 is effectively an off-shore route (discussed above) that would end at the Gowanus Station. Three alternative landings were proposed for the option. The southernmost alternative was proposed to come ashore in the 65<sup>th</sup> Street railyard. The second alternative landing would align with the 54<sup>th</sup> Street pier. The first and second alternative routes would follow 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to reach the Gowanus Station. The third option takes Option 2 directly to the Gowanus Station.

As will be noted, there are no resources listed on **Table 1** (summary data above) for Option 2 but historic properties are present. Those resources include districts that have eastern boundaries on 2<sup>nd</sup> Avenue, are elements within those districts, or as a standalone resource. The standalone resource is USN 4701.018845 (Owls Head WWTP). It lies south of the 65<sup>th</sup> Street alternative landing site. The resource was determined Not Eligible. The two districts in question are the United States (U.S.) Army Military Ocean Terminal (90NR01314; Smith 1983) and the Bush Terminal Historic District (USN 4701.019392). The U.S. Army Military Ocean Terminal nomination form indicates that the Terminal stretches along 2<sup>nd</sup> Avenue from 58<sup>th</sup> Street to 65<sup>th</sup> Street along 2<sup>nd</sup> Avenue. Supporting figures in the nomination form show that rail lines present between 64<sup>th</sup> and 65<sup>th</sup> streets are part of the nominated resource but the form does not include the full extent of the lines between 65<sup>th</sup> Street and Shore Parkway. It appears that the 65<sup>th</sup> Street landing could occur outside of the Terminal's nomination boundaries. The Bush Terminal Historic District (USN 4701.000057, USN 4701.019392; Wood and Gable 1974) encompasses parts of 1<sup>st</sup> and 2<sup>nd</sup> Avenues between 28<sup>th</sup> and 50<sup>th</sup> streets. The 54<sup>th</sup> Street alternative landing location is outside the Bush Terminal district on the south but it would cut trench on both avenues. The terminal Gowanus Generating Station was studied by John Milner and Associates (McVarish et al. 2008) and NYSHPO accepted their recommendation that no significant historic resources were present.

#### Brooklyn – Option 4 Gravesend to Gowanus Substation

On Table C1, Option 4 is divided into two parts. Part 1 coincides with the landing on Bay Parkway and route as it follows the Belt Parkway to its exit on 2<sup>nd</sup> Avenue. Part 2 covers the route after it leaves the Belt Parkway and continues northward along 2<sup>nd</sup> Avenue to the Gowanus Station. In total, 55 resources are present facing the centerline route and within the adjacent buffers.

The proposed option's landing could occur on Bay Parkway. The parkway's end at this point is effectively a cul-de-sac with parking for users of both Bensonhurst Park facilities to the northwest and a Target/Kohl's complex to the southeast (see **Photograph C25**). Somewhat surprisingly, this section of the shoreline is not indicated as an archaeologically sensitive area though such locations are nearby in the Fort Hamilton vicinity (90NR01295 Casement Fort; LP-00958 Casement Fort, Fort Hamilton Officer's Club; USN 4701.020796 Fort Hamilton Army Base; USN 4701.024908 Fort Hamilton Interchange Area archaeological site). Once on the Belt Parkway, the option route within the roadway is unknown. All of the inventoried properties within the Belt Parkway segment are outside of the road ROW except for NYSM archaeological sites 3605 and 3611. These were identified by Parker (1920) and their precise locations are unknown (Merwin 2022). NYSHPO presents their boundaries as red blobs in NYCRIIS and that means that the area is sensitive for such resources.

The Part 2 resources, following along Shore Parkway and 2<sup>nd</sup> Avenue to Gowanus Station were discussed in the Option 2 discussion above.

#### Brooklyn - HVAC Option A to CEH

Option A originates on 29<sup>th</sup> Street at its intersection with 4<sup>th</sup> Avenue. From 4<sup>th</sup> Avenue, it follows Atlantic Avenue, Boerum Place, Adams Street, to Gold Street (**Figure 14 – CEH Photograph Key; Photographs C26 through C28**). Along this routing there are 194 resources either on the centerline route or in the adjacent buffers. Included in the total are 16 National Register properties and 97 that have been determined eligible to the S/NRHP or are now listed in the State Register.

Archaeological sensitivity is shown by NYSHPO along 4<sup>th</sup> Avenue, Atlantic Avenue, and Adams Street. Meade (2020) reported that the Rapalye Family Cemetery is documented as adjacent to or on Adams Street east of Walt Whitman Park. Similarly, six transportation resources are present, all of which are underground resources that follow parts of 4<sup>th</sup> Avenue, Adams Street at Joraleman Street, and Atlantic Avenue. The subway stations

include the 4<sup>th</sup> Avenue Subway Station (IND; 90NR05370), the Borough Hall Subway Station (IRT; 04NR05274), the Atlantic Avenue Subway Station IRT & BMT – Atlantic Avenue (USN 4701.013844), and the Atlantic Avenue Subway Station (IRT; 04NR05282).<sup>1</sup> Also included are the Atlantic Avenue Control House (90NR01275) and the Atlantic Avenue Tunnel (aka Cobble Hill Tunnel; 90NR03137). All but the Atlantic Avenue Subway Station IRT & BMT are National Register listed properties. Though the Atlantic Avenue Tunnel is non-operational it is still intact and its terminus is at Boerum Place. In all instances, these cemetery and transportation resources are susceptible to direct impacts from any subsurface construction direct impacts or indirect vibration impacts.

## PROPOSED CULTURAL RESOURCES WORK PLAN

The proposed work plan presented below is predicated on the results of the due diligence review just presented. The work plan would be implemented and, as needed, modified if any of the review agencies request additional investigations on routing that will be advanced by the Applicant.

The work plan is divided into six subsections (Supplemental Data Sources, Proposed Areas of Potential Effect (APEs), Field Methods, Reporting, Schedule, and Personnel). The plan is structured to conform to the work plan specifications outlined in the New York City Landmarks Preservation Commission's *Guidelines for Archaeological Work in New York City* (Sutphin et al. 2018).

### Supplemental Data Sources

The review of supplemental data sources may be requested by reviewing agencies. In the event that Phase IA or other reporting products are requested, these sources relevant to submerged resources would be referenced in addition to those used during the due diligence review: historic maps and maritime charts for the subject area.

The supplemental sources that will be used for upland resources will be borough-specific historical societies; the New York Public Library Map Division Sanborn and borough specific coverage for road routing and dimensional data; Parker (1920) for Indigenous Nation village and camp site locations not noted in the NYSM inventory; Meade (2020) for the reported presence of historic cemeteries adjacent or crossed by the option centerline roads; and the United State Department of Agriculture Natural Resources Conservation Service Web Soil Survey data for the extent of fill and made soils particularly at landings and within the pier complex south of Gowanus Substation.

### Proposed Areas of Potential Effect (APEs)/Submerged and Terrestrial Routes

Based on the results of the due diligence searches, we are proposing separate offshore and upland APEs. The proposed offshore APE will encompass a 200-foot (61-meter horizontal work area extending to a depth of 4 ft (1.2 m) below the seafloor surface except below federal channels, navigation channels, and extraordinary seabed conditions where a burial depth of up to 14 ft (4.3 m) below the seafloor surface is expected. The final burial depth in each submarine area will be determined in consultation with the USACE. The total length of the proposed HVDC corridor is 36.2 mi (58.3 km). The corridor begins in Federal waters and continues northwest across Lower New York Bay (**Figure 15 – Preferred Route with Recommended Survey Areas**). The HVDC corridor remains on the northeastern side of the Ambrose Channel and it turns northward just south of Coney Island. At Gravesend Bay, the HVDC corridor crosses the Ambrose Channel and it then continues northward, under the Verrazzano-Narrows Bridge. Past the north side of the bridge, the corridor turns towards Staten Island, making

<sup>1</sup> The parenthetical initials after each subway name are the historic era corporations or companies that developed various lines in NYC. In this case, they stand for Independent Subway System (IND), Brooklyn-Manhattan Transit Corporation (BMT), and Interborough Rapid Transit Company (IRT).



landfall at the proposed Edgewater Street Converter Station. The transition from submarine to terrestrial disturbance will occur at a coffer dam next to the station. The configuration of the terrestrial HDD receiving pit and the terrestrial work space are discussed below.

After the conversion is completed at the Edgewater Street Converter Station, the submerged HVAC cable corridor will resume the size specifications of the HVDC corridor after leaving the HVAC cofferdam. The corridor APE will be 200 ft (61 m) wide and 14 ft (4.3 m) deep. The corridor continues to the middle of the bay and then turns northward into Upper New York Bay. The HVAC corridor gradually turns to the northeast until it abruptly turns to the southeast and makes landfall at a pier located at 4100 1<sup>st</sup> Street. At the transition from submarine to terrestrial disturbance, the APE again consists of a cofferdam or a temporary gravity cell structure. The proposed upland APE considers the on-shore work area of each landing including the vertical distance from existing ground surface to 10 ft (3 m) below the bottom of the trench line. The vertical extent of the APE is based on the areas sandy soils which may necessitate extra space for shoring or other safety measures. Once the upland cable lines leave the HDD pit, the APE will revert to the horizontal extent of the proposed trench plus 10 ft (3 m) to either side of the trench wall. The expanded horizontal extent considers the presence of historic features such as cemeteries that are adjacent to the route roads and also changes in road alignments which may now mask historic features.

## Field Methods

### Offshore Field Methods

SEARCH predicates the following discussion of methods on the conclusion that subsequent work would include HRG survey. SEARCH may recommend secondary diver investigations and/or coring depending on findings from the HRG survey. The areas that should be subject to HRG survey are based on the site file review and provide details for potential Phase 1b investigations.

SEARCH's due diligence site file review noted that 18.6 mi (29.9 km) of the total 36.2 mi (58.3 km) preferred HVDC and HVAC corridor has already been subject to maritime cultural resources survey. This consists of 51% of the APE. Of the portion of the corridor that has already been surveyed, 15.9 mi (25.6 km) has been surveyed for only shipwrecks and 2.7 mi (4.3 km) has been surveyed for both shipwrecks and preserved pre-contact features and landscapes. SEARCH recommend no additional survey for the 2.7 mi (4.3 km) of the corridor that has been surveyed for shipwreck and pre-contact landscape features. SEARCH recommends a Phase 1b HRG remote sensing survey for the remaining 33.5 mi (53.9 km) of the preferred route. The 15.9 mi (25.6 km) of the preferred route that has been surveyed for shipwrecks is recommended for sub-bottom profiler survey. The 17.6 mi (28.3 km) of the preferred HVDC and HVAC corridor that has not been subject to maritime cultural resources survey is recommended for full remote sensing survey including sub-bottom, side-scan sonar, and magnetometer survey (see **Figure 15**).

*Submerged Remote Sensing Survey:* SEARCH recommends maritime HRG survey along the Preferred HVDC and HVAC APEs, generally following guidelines established by BOEM in *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585*. By doing so, the survey results from New York State waters can be seamlessly integrated with results of survey in Federal waters. Based on these standards, SEARCH recommends HRG survey along the APE corridor be conducted using 98-foot (30 meter) line spacing. The entire APE survey corridor can be covered with three survey transects. As with the BOEM (2020) recommendations, SEARCH recommends a tie-line survey perpendicular to the corridor every 1640 feet (500 meters).

The equipment used for HRG survey will depend on the data gaps that the survey is intended to fill. For locations where no maritime cultural resource survey has been conducted, a full suite of remote sensing equipment

should be used. These include a magnetometer, side-scan sonar system, and a sub-bottom profiler. Location data during the survey should be recorded using a state-of-the-art navigation system with sub-meter accuracy. Location data should be continuously recorded during the survey and logged digitally.

The magnetometer will provide data about the location, size, and distribution of ferrous objects and associated shipwreck material within the APE. SEARCH recommends deploying a magnetometer and recovering a minimum of three transects of data at 98-foot (30-meter) spacing to provide sufficient data to identify potential cultural materials and distinguish them from infrastructure such as pipes and cables. During survey, the magnetometer should not exceed 19.7 feet (6 meters) above the sea floor. The magnetometer data should be sampled at greater than 4.0 Hz and the sensor data stored digitally.

The side-scan sonar provides a visual representation of the sea floor based on acoustic reflections of the sediment surface. This image can be used to identify potential wreck debris, historic resource materials, changes in sedimentation, or glacial debris within the APE. The side-scan sonar system should operate at 500-kHz or greater and be capable of resolving targets as small as 1.6 feet (0.5 meters) at maximum range. The side-scan sonar data must provide 100 percent overlapping coverage of the work corridor. The sensor should be towed above the seafloor at a height between 10-20 percent of its maximum range. Data should be stored digitally and monitored during survey to ensure data quality and acquisition.

The sub-bottom profiler provides a visual representation of changes in sediment below the sea-floor surface, helping to identify both potential buried post-contact cultural materials, such as shipwrecks, as well as buried and preserved ASLFs. These features may be indicative of preserved past landscapes including buried river and stream channels, lakes, estuaries, and the adjacent landscapes where past populations lived and thrived during periods of lower sea level. Due to the shallow depth of potential disturbance (<10 m), a Compressed High Intensity Radar Pulse (CHIRP) system is adequate for the sub-bottom survey. The system employed should provide a vertical bed resolution of 1.0 feet (0.3 meters).

As discussed above, 15.9 miles (25.6 kilometers; 43%) of the preferred HVDC and HVAC corridor is recommended for full maritime survey using the magnetometer, side-scan sonar, and sub-bottom profilers. An additional 17.6 miles (28.3 kilometers; 48%) is recommended for only sub-bottom profiler survey rather than the entire suite of remote sensing tools.

Based on the findings of the HRG survey, additional work may be recommended. These may include diver identification or sub-surface coring of potential submerged cultural resources and/or ASLFs. Conversely, the proposed route may be adjusted to avoid any potential cultural resources or ASLFs identified during survey, negating the need for further investigations.

#### Upland Field Methods

If the agencies request a Phase Ia or Documentary Study, they may also request additional drive-over/walkover to confirm the existing conditions of properties currently classified as Undetermined. Each such location will be visited and its existing condition recorded. Of particular interest should be those resources that were originally recorded as schools, churches, and similar cultural institutions that no longer function as originally recorded.

Monitoring open trench work is an option if any upland option advances to construction. In this event, a monitoring plan will be formulated based on the construction plans for the route section in question.



## Reporting

Since 2014, NYSHPO has requested that separate Phase 1a level documents be submitted for archaeological assessments and those considering buildings/structures. The latter document is referred to as a Reconnaissance Level Historic Survey. We assume, then, that the offshore routes will be completed as required with a minor contribution from Matrix to cover the terrestrial segment of any landing.

Maritime reporting of the findings of the Phase 1a and subsequent 1b survey will adhere to NYSHPO guidelines for reporting. To ensure that reporting guidelines follow federal standards, a list of all magnetometer anomalies and side-scan sonar acoustic targets will be provided to NYSHPO, NYSM, and LPC. Side-scan sonar targets will be presented in a table with representative imagery. Finally, sub-bottom acoustic reflectors indicative of cultural resources or ASLFs will be presented with representative imagery and a plan view of the observed feature extents.

Each report will be supported by glossary/abbreviation lists, references cited, figures, photographs with photo logs/keys, and, if needed artifact catalogs.

## Project Schedule

The application is currently proposed to be submitted in the first half of 2023. Once approved, it is anticipated that site clearing to final site work will take a maximum of 54 weeks. Construction at the converter station location include site clearing, site grading, placement of foundations and underground facilities, building and equipment erection, and final site work.

## Personnel

The current cultural resources team for the project is comprised of the following archaeologists and a senior planner.

### Submerged Cultural Resources (SEARCH)

*Project Manager:* Jordon Loucks (Ph.D., RPA 39754531) Project Manager, SEARCH Florida – Jacksonville Office  
Email: [jordon.loucks@searchinc.com](mailto:jordon.loucks@searchinc.com), office: 904-379-8338, cell: 607-237-2517

*Principal Investigator, Field Lead, and Senior Author:* Neil N. Puckett (Ph.D., RPA 4836) Senior Maritime Archaeologist, SEARCH – Austin Station  
Email: [neil.puckett@searchinc.com](mailto:neil.puckett@searchinc.com), cell: 775-527-0016

### Terrestrial Cultural Resources

*Principal Investigator, Field Lead, and Senior Author/Editor:* Carol S. Weed (M.A., RPA 989090)  
Senior Cultural Resources Specialist (for) Matrix New World Engineering  
Email: [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [cs13108@gmail.com](mailto:cs13108@gmail.com)), cell: 646.276.2460

*Senior Planner:* Sarah F. Sklar (AICP, LEED GA), Matrix New World Engineering  
Email: [ssklar@mnwe.com](mailto:ssklar@mnwe.com), office: 646-273-5570

In conclusion, Matrix requests your comment on the Proposed Project and the work plan outlined herein. If you have any questions or require additional information, I can be reached at cell phone 646.276.2460 or [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [csw13108@gmail.com](mailto:csw13108@gmail.com))

Sincerely,

**MATRIX NEW WORLD ENGINEERING**

*Carol S. Weed*

Carol S. Weed, M.A. (RPA #989090)  
Senior Cultural Resource Specialist  
(for) Matrix New World Engineering

**Attachments:**

- A – Figures 1 through 15
- B – Submarine Cable Tables (SEARCH)
- C – Land Cable Photographs and Table
- D – Preferred and Options Shapefiles

**Electronic copy to:**

- Matrix: Donna McCormack, Sarah Sklar
- SEARCH Neil Puckett, Jordon Loucks

## REFERENCES CITED

Anderson, Albert J. and Donald R. Sainz

1965 Excavations at Oude Dorp. The New Bulletin, Staten Island Institute of Arts and Sciences 14 (9): 82-95.

Boller, Leo A.

1972 NYOPRHP Division for Historic Preservation Archaeological Site Inventory Form, USN 8501.000027, Old Town *Oude Dorp*, Richmond County. Inventory form downloaded 11/15/2022 from NYSHPO CRIS. (see Salwen 1967).

Bolton, Reginald Pelham

1934 *Indian Life Long Ago in the City of New York*. New York: Harmony Books.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs

2020 *Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585*. United States Department of the Interior, Office of Renewable Energy Programs.

Howe, Kathleen (Kathy) A. Howe

2004 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, Atlantic Avenue Subway Station (IRT and BMT), Intersection of Flatbush Avenue at Atlantic and 4<sup>th</sup> Avenues, Brooklyn, NY. NYOPRHP, Peebles Island, Waterford, NY.

2010 NYOPRHP Division for Historic Preservation Resource Evaluation, Atlantic Avenue Historic District, Atlantic Avenue roughly between Smith St. and Nevins St., Kings County, USN 04701.016698.

2013 NYOPRHP Division for Historic Preservation Resource Evaluation, former U.S. Quarantine Station, Rosebank (current USCG Station New York), Project 13PR01367 (see also 94PR02633). Evaluation form downloaded 11/15/2022 from NYSHPO CRIS.

John Milner Associates (JMA)

1978 National Heritage, Prehistoric Site Survey Record Sites Std-25-4 and Std-13 from "A Cultural Resources Inventory of the Gateway National Recreational Area, New York and New Jersey." Report originally prepared by JMA for National Park Service. Pages are appended to the Boller 1972 USN form for 08501.000027.

McVarish, Douglas C., Patrick J. Heaton, and Joel I. Klein. 2008 (May). South Pier Improvement Project, Phase IA Cultural Resources Survey, Brooklyn, New York (OPRHP Project Review #08PR01278). Report prepared by John Milner Associates, Inc., Croton-on-Hudson, New York for ESS Group, Inc., East Providence, Rhode Island and Astoria Generating Company, L.P., New York, New York

Meade, Elizabeth D.

2020 The Cemeteries of New York City. <https://www.cemeteriesofnyc.com/> (cited with permission from Elizabeth D. Meade, Ph.D.)

Merwin, Daria

2022 Personal communication, D. Merwin to C. S. Weed re: NYSM sites within or adjacent to Preferred and Alternative Options, Staten Island and Brooklyn.

New York Archaeological Council (NYAC)

- 1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.
- 2000 *Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations*. New York Archaeological Council Standards Committee, McGraw, NY.

New York State Historic Preservation Office (NYSHPO)

- 2005 *Phase I Archaeological Report Format Requirements*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.

Salwen, Bert

- 1967 Metropolitan Area Archaeological Survey Site Survey Sheet, Department of Anthropology, New York University, *Oude Dorp* South Beach, Site Number Std 13-4 Walton-Stillwell Site. Form attached to the Boller 1972 USN form.

Schmidt, James S., Christopher Dvorscak, Katherine Clevenger, Michael Twarog, R. Christopher Goodwin, Martha Williams, and Kevin May

- 2019 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters: Close-Order Relocation Survey: Target BL12-002*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 18SR56141.

Schmidt, James S., Kathryn A. Ryberg, R. Christopher Goodwin, Benjamin C. Wells, Nicholas J. DeLong, and Jeffrey Gardner

- 2017 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 17SR00334.

Smith, Raymond W.

- 1983 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, United States Army Military Ocean Terminal (aka Brooklyn Army Terminal, Brooklyn Army Base, N.Y. Port of Embarkation), 58<sup>th</sup> – 65<sup>th</sup> Street at 2<sup>nd</sup> Avenue, Brooklyn, N.Y. NYOPRHP Historic Preservation Field Services, Agency Bldg. 1, Albany, New York.

Wilson, William J. and Paul Willard Gates

- 2021 *Phase I Cultural Resources Assessment of the 2021 Lower New York Bay Lateral Survey Program: Raritan Bay and Lower New York Bay, New Jersey and New York*. Prepared for Transcontinental Gas Pipe Line Company, LLC. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 21SR00597.

Wood, Dennis R. and XXX Gable

1974 NYOPRHP Division for Historic Preservation Building-Structure Inventory Form, USN 04701.000057, Bush Terminal, Kings County, Brooklyn. National Park Service, Washington, DC, on file at NYOPRHP CRIS.

*Databases Cited*

Global GIS Data Services LLC, Global Maritime Wrecks Database (GMWD)

n.d. Electronic document, <http://www.globalgisdata.com/10995.html>

National Oceanic and Atmospheric Administration (NOAA) Electronic Navigational Charts (ENC)

n.d. Electronic document, <http://www.nauticalcharts.noaa.gov/mcd/enc/>

National Oceanic and Atmospheric Administration (NOAA) Automated Wreck and Obstruction Information System (AWOIS)

n.d. Electronic document, <https://nauticalcharts.noaa.gov/data/wrecks-and-obstructions.html>



**New York State  
Parks, Recreation and  
Historic Preservation**

**KATHY HOCHUL**  
Governor

**ERIK KULLESEID**  
Commissioner

March 7, 2023

Carol Weed  
Principal  
Independent Contractor  
41 Ridge Road  
Katonah, NY 10536

Re: DPS  
Anbaric Development Partners – Hera Power Link  
23PR01154

Dear Carol Weed:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

We have reviewed the initial project submission. The OPRHP recommends a Phase IA archaeological investigation for proposed terrestrial ground disturbances. The terrestrial archaeological investigation should be conducted in accordance with established NYS standards. The OPRHP recommends a marine archaeological survey for proposed underwater ground disturbances. The marine archaeological investigation should be conducted in accordance with the standards established by the Bureau of Ocean Energy Management.

The OPRHP is also requesting contact information for the pertinent individual(s) at the New York State Department of Public Service.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact me via email.

Sincerely,

Tim Lloyd, Ph.D.  
Scientist - Archaeology  
timothy.lloyd@parks.ny.gov

via e-mail only

Project 23PR01154: Anbaric Development Partners - Hera Power Link (GM3I4S4BXU81) NYSHPO Requests 3/14/23						
View Project						
Process	Status	Reviewer	Review Type	Request Type	Request Item	Request Description
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Attachment	Please provide the name, mailing address, and email address of the pertinent contact(s) at the NYS DPS
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Archaeology Survey	Please submit the results of the Phase IA terrestrial archaeological investigation
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Archaeology Survey	Please submit the results of the marine archaeological survey
	Information Requested	Linda Mackey	Survey and Evaluation	Request a New Attachment, Photo, or Survey for this Consultation Project	Building Survey	Please use the building survey module <b>to submit the architectural survey report</b> . Create a built resource for each Undetermined resource that appears potentially eligible. Complete the required fields and upload current photographs. Also, create a built resource for any newly identified resource that appears potentially eligible. If the number of built resources is greater than 25, you may coordinate with SHPO staff to use the Trekker mobile app <b>to document resources identified in the APE</b> . Contact linda.mackey@parks.ny.gov with questions.





Photograph 1. Looking east at the brick pavers on 29<sup>th</sup> Street (Field Photograph CSWeed, Photo P1010041, 10/28/22).



Photograph 2. Looking west at the brick pavers and overlay pavement on 29<sup>th</sup> Street from vicinity of 4<sup>th</sup> Avenue (Field Photograph CSWeed, Photo P1010042, 10/28/22).



Photograph 3. Looking north on Boerum Place from the center median. (Field Photograph CSWeed, Photo P4130009, 04/13/23).



Photograph 4. Looking N/NE at the east side of Boerum Place between State and Schermerhorn streets (Field Photograph CSWeed, Field Photograph P4120008, 04/13/2023).



*Anbaric Development Partners, LLC*

*Hera Power Link – Terrestrial Preferred Route (to  
Gowanus Substation) and Alternate Route (to  
BCEH)*

*Reconnaissance-Level Historic Resource Survey*

**42<sup>nd</sup> Street/1<sup>st</sup> Avenue to Gold/John  
Street via Multiple Roads, Brooklyn  
Borough (Kings County), New York**

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Prepared for: Matrix New World Engineering (Matrix)  
20 West 37<sup>th</sup> Street, 12<sup>th</sup> Floor  
New York, NY 10018  
908.675.0638  
Project Manager: Donna McCormack

Prepared by: Carol S. Weed (CSW13108), Principal Investigator  
For Matrix New World Engineering  
41 Ridge Road  
Katonah, NY  
646.276.2460

July 5, 2023 (revised)



# Project Summary

**SHPO Project Review Number:** 23PR01154

**Involved City, State and Federal Agencies:** New York Public Service Commission

**Phase of Survey:** Reconnaissance Level Historic Resources Survey

## **Location Information**

**Location:** Preferred Route, from south to north, would follow these streets, 1st Avenue, 39<sup>th</sup> Street, 2<sup>nd</sup> Avenue to Gowanus Substation;

**Alternate Route,** from south to north, would follow these streets, 1st Avenue, 39<sup>th</sup> Street, 2<sup>nd</sup> Avenue 29<sup>th</sup> Street, 4<sup>th</sup> Avenue, Atlantic Avenue, Boerum Place, Adams Street, Sands Street, Gold Street, and John Street.

**Minor Civil Division:** not applicable (n/a):

**County:** Kings (Brooklyn Borough)

## **Survey Area (Metric & English)**

**Length:** Alternate Route, 5.8 miles (9.3 kilometers)

**Width:** construction, trench width 9 feet (2.7 meters) by 6 ft. 4 inches (1.93 meters) deep. No work areas are defined outside of the Gowanus Substation, Brooklyn ConEd Hub (BCEH), or the centerline streets noted.

**Depth (when appropriate):** not applicable

**Number of Acres Surveyed (when appropriate):** n/a

**Number of Square Meters and Feet Excavated:** n/a

**Percentage of Site Excavated:** n/a

**USGS 7.5 Minute Quadrangle Map:** Jersey City PR1981, Brooklyn 1995

## **Results of Architectural Survey**

**Number & Name of Architectural Buildings and Structures Reviewed:** see Table 1 in the body of the report. Twenty-one (21) historic buildings/structures with Undetermined eligibility status were subjected to additional background research and in-field existing conditions review at the request of the NYOPRHP.

**Number & Name of Buildings and Structures That Have Been Demolished Since Initial Recordation:** USN 04701.015869, US Post Office-Times Plaza Station; USN 04701.013900, Site of Proposed Courthouse Annex.

**Report Author(s):** Carol S. Weed, M.A. (RPA #989090)

**Date of Report:** July 5, 2023 (revised)

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6	Bromley 1907, Plate 33: National Meter Company
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12	Sanborn 1888, Sheet 136: 355-413 Bergen Street, USN 04701.015909
13	NYC Tax 1939-1941 and 1983-1985 Views: 550-552 Atlantic Avenue, USN 04701.015869
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15a, b	CRIS Plot with Notation: Boerum Place/Adams Street – Atlantic Avenue to Johnson Place, Adams Street to Sands Street
16	Court Street Station (Fulton Street Line) Closing
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18	CRIS Plot with Notation: Sands Steet via Gold Street to John Street
19	Sanborn 1887 Sheet 36: 247 and 249 Front Street
20	JAS Bleecker & Sons Sale Blocks Between Gold and Jackson Streets
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4	Looking SW at the new building at 542 Atlantic Avenue.
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9	Looking SW at the front entrance to 96 Schermerhorn Street.
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13	Looking W/NW at the shrouded south and east facades of the Brooklyn Edison Company building at 15 Willoughby Street.
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23	Looking SE at the north and west facades of 160-168 John Street.
24	Looking SW at the north and east facades of 160-168 John Street.

# Executive Summary

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## Administration and Regulatory Approvals

Anbaric Development Partners, LLC (Anbaric; Applicant) is applying for a Certificate of Environmental Compatibility and Public Need (Application) to the New York Public Service Commission (Commission). The Application supports the Applicant's request for Commission authorization to construct and operate the Hera Power Link, a wind-powered energy source (the Project).

Hera Power Link (Facility) is a proposed transmission facility that will connect offshore wind areas in Federal Waters to the New York Independent System Operator's (NYISO) Zone J in Brooklyn (**Appendix A, Figure 1 – USGS overview, Figure 2 –Overview Sheet Route from 42st Street to BCEH**). The figures are numbered in the order of call-out.

In 2022, the Applicant defined Preferred HVDC Routes, Preferred HVAC Routes, and eight Alternative landing Options. In Fall 2022 and early 2023, all the off-shore and upland routes were subjected to due diligence review and reported to the New York State Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (NYOPRHP, SHPO) and the New York City Landmarks Preservation Commission (LPC) (**Appendix B – Agency Correspondence**). The cover letters were submitted to the two agencies on February 11, 2023 (LPC) and February 12, 2023 (NYSHPO). Each letter detailed the particulars of the submarine and land preferred and alternative routes, the results of the due diligence reviews, and proposed work plans for any subsequent investigations requested by the agencies.

By letters dated March 6, 2023 (LPC) and March 7, 2023 (NYSHPO) both agencies responded with comments (see **Appendix B**). NYSHPO requested a terrestrial Phase IA Archaeological Assessment report, a Reconnaissance Level Historic Resources Survey report, and a marine archaeological report. NYSHPO commented that the Reconnaissance Level Historic Resource Survey report should update the information for all buildings and structures facing the centerline that currently have Undetermined eligibility statuses. NYSHPO indicated a built resource, CRIS-based submission should be completed for each resource in addition to the survey report. The resource-specific site forms with accompanying photographs will be submitted upon acceptance of this report. **Appendix C (Photographs)** herein includes both resource and setting views.

The Phase IA Archaeological Assessment is being submitted concomitant with this Reconnaissance Level report. The marine archaeological report will be submitted separately later this year. The two terrestrial reports consider the same terrestrial routes in northwest Brooklyn. These two routes are now referred to as the Preferred Route (to Gowanus) and the Alternate Route (to BCEH). Gowanus is the existing Consolidated Edison (ConEd) Gowanus Substation and BCEH is the proposed Brooklyn Clean Energy Hub (BCEH).

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## Project and Route Descriptions

The preferred submarine routes will come ashore on the west shore of Brooklyn. The Preferred Route (to Gowanus) is effectively an off-shore route that would end at the Gowanus Station. Three alternative landings were initially considered for this option. The southernmost alternative was proposed to come ashore in the 65<sup>th</sup> Street railyard. The second alternative landing would align with the 54<sup>th</sup> Street pier. The first and second alternative routes would follow 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to reach the Gowanus Station. The third option took the Preferred Route from the Brooklyn Landfall to the Gowanus Station and it was advanced as a preferred option.

The Preferred Route enters the terrestrial route at Brooklyn Landing (42<sup>nd</sup> Street Pier) and then turns north on 1<sup>st</sup> Avenue, east on 39<sup>th</sup> Street, then north on 2<sup>nd</sup> Avenue to the Gowanus Substation. The Alternate Route (to BCEH) also begins at the 42<sup>nd</sup> Street Pier at 1<sup>st</sup> Avenue and it wends northward to John Street south of the East River (see Figure 2; also, **Appendix D Overview Sheets**). Its initial routing follows that of the Preferred but the Alternate turns east on 29<sup>th</sup> Street south of the Gowanus Substation. The Alternate Route would result in approximately 5.8 miles (9.3 kilometers) of street work following the sequence of roads listed on **Table 1**. Table 1 lists each centerline road, and each road crossed by the centerline road. The cable trench will be laid in the street. The trench line in each road is assumed to be along the right side of the road. However, this positioning is not definite yet so the centerline was placed in road center and a 200-foot-wide buffer was emplaced to each side of the centerline.

The Land Cable System 200-foot-wide will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, as shown in **Figure 3 – Typical Duct Bank and Land Trench**. The width of the temporary trench during installation (area of disturbance) will be 9 feet (2.7 meters) wide when accounting for excavation of side slopes of up to 2:1. Once completed, the permanent trench will be 4 feet, 6 inches (1.4 meters) below grade. The temporary trench will be backfilled and topped with road pavement.

The Applicant, in consultation with regulatory authorities and ConEd, will determine the final interconnection facility (and its associated terrestrial route) prior to its final design and approvals. This report considers all Undetermined properties facing the centerline road or in the 200-foot buffers to either side of the centerline of Preferred and Alternate Routes. **Table 2** lists the particulars about each of the Undetermined properties considered herein.

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## Report Organization

The report that contains this Executive Summary, two chapters, references cited, and four appendices. The principal sections are

- Executive Summary
- Chapter 2 – Methods and Results
- Chapter 3 – Assessment Conclusions and Recommendations
- References Cited

The appendices included are

- A - Figures
- B – Agency Correspondence
- C – Photographs
- D – Overview Sheets, with Address/BBL (bound separately)

All tables are either embedded in the narrative or at the end of the applicable chapter.

<b>Table 1. Route Street Order – South to North</b>			
<b>Segment – South to North</b>	<b>Centerline Road</b>	<b>Going North, Streets Crossed by Centerline</b>	<b>Undetermined Properties USN #</b>
42 <sup>nd</sup> Street Pier, 1 <sup>st</sup> Avenue to 39 <sup>th</sup> Street	42 <sup>nd</sup> Street Pier		
	1 <sup>st</sup> Avenue	N. from 42 <sup>nd</sup> to 39 <sup>th</sup> Streets	4223 1 <sup>st</sup> Avenue (USN 04701.021101)
			4201-4207 1 <sup>st</sup> Street (USN 04701.000065)
	39 <sup>th</sup> Street	E. To 2 <sup>nd</sup> Avenue	
39 <sup>th</sup> Street/ 2 <sup>nd</sup> Avenue to 29 <sup>th</sup> Street and 4 <sup>th</sup> Avenue	2 <sup>nd</sup> Avenue	N. from 39 <sup>th</sup> to 29 <sup>th</sup> Streets	3913 2 <sup>nd</sup> Avenue (USN 04701.021997)
	29 <sup>th</sup> Street	E. to 4 <sup>th</sup> Avenue	
4 <sup>th</sup> Avenue to Boerum Place	4 <sup>th</sup> Avenue	N. from 29 <sup>th</sup> to 28 <sup>th</sup> through 1 <sup>st</sup> Streets, then	
	4 <sup>th</sup> Avenue	[In S. to N. order] across Garfield Place; Carroll, President, Union, Sackett, Degraw, Douglas, Butler, Baltic, and Warren Streets; St. Marks Place; then	677 Union Street (USN 04701.0194264)
	4 <sup>th</sup> Avenue	N. across Bergen and Dean Streets	Bergen-Dean HD: 355 to 413 Bergen (USN 4701.015909), N. side of Bergen w/in HD boundary
	4 <sup>th</sup> Avenue	Continuing N. across Pacific Ave. to Atlantic Ave.	
	4 <sup>th</sup> Avenue	W. on Atlantic Avenue toward 3 <sup>rd</sup> Ave.	US Post Office – Time Plaza Station, 550-542 Atlantic Ave. (USN 04701.015869). <b>Demolished</b>
	4 <sup>th</sup> Avenue	Continue W. on Atlantic Ave., crossing Nevins, Bond, Hoyt, and Smith streets to Boerum Place	
	Atlantic Avenue	N/NW onto Boerum Place, a divided highway to SE corner of Boerum Place and State Street	Site of Proposed Courthouse Annex, 237 State St. (USN 04701.013900) <b>Demolished</b>
Boerum Place/Adams Street to Sands Street	Boerum Place	N/NW across State to Schermerhorn	96 Schermerhorn (Boerum Court; USN 04701.013979); NY Transit Museum, 99 Schermerhorn (USN 04701.013862)

<b>Table 1. Route Street Order – South to North</b>			
<b>Segment – South to North</b>	<b>Centerline Road</b>	<b>Going North, Streets Crossed by Centerline</b>	<b>Undetermined Properties USN #</b>
	Boerum Place	N/NW across Schermerhorn to Livingston St.	Board of Education Offices, 131 Livingston (USN 04701.016128)
	Boerum Place, merge to Adams Street (right)	N/NW across Livingston St., then Fulton St., to Willoughby St. MetroTech pass through	Brooklyn Edison Company, 15 Willoughby (USN 04701.016131)
	Adams Street	N/NW on Adams St.	Kings County Superior Court, 360 Adams St. (USN 04701.017177)
	Adams Street	Continue N (to right) on Adams St. crossing Johnson and Tillary Streets	
Sands Street to John Street	Sands Street	Divert from Adams St. W. to Red Cross Place	Cadman Shop, 40 Sands St. (USN 04701.013876)
	Sands Street	Return to Adams St. and turn E. onto Sands Street going across Jay and Prospect Streets to Gold Street	
	Gold Street	N. on Gold to Front Street, divert W. onto Front Street	247 and 249 Front St. (USNs 4701.014722 and 04701.014723)
	Gold Street	Return to Gold St., go N. toward Water St.	77 to 69 Gold St. (USNs 04701.014731 to 04701.014727)
	John Street	Continue N. on Gold St. across Plymouth to John St.	160-168 John St. (USN 04701.023884)
	John Street	Enter CEH	



<b>Table 2. Undetermined Property Administrative Detail – South to North</b>				
<b>Name</b>	<b>Agency Numbers</b>	<b>Brooklyn Block/Lot</b>	<b>Centerline Street</b>	<b>Street Address</b>
National Meter Co. Factory, No. 2	04701.021101	3007210001	1st Avenue at 43rd Street	4223 1st Ave. (east side)
National Meter Co.	04701.000065	3007210001	1st Avenue at 42 <sup>nd</sup> Street	4201-4207 1st Ave. (east side)
No name	04701.021997	3007070001	2 <sup>nd</sup> Steet	3913 2 <sup>nd</sup> Avenue
No name	04701.019264	3009520067	4 <sup>th</sup> Avenue	677 Union Street
Rowhouses in Bergen-Dean Street HD	04701.015909	3009300076 to 3009300067	4th Avenue at Bergen	355-413 Bergen Street (north side)
US Post Office - Times Plaza Station - 550-542 Atlantic Ave	04701.015869	3001860020	Atlantic Avenue	550-542 [546] Atlantic Avenue (west side) <b>Demolished</b>
Site of Proposed Courthouse Annex	04701.013900	3001690036, now 3001697501	Boerum Place	237 State Street (north side) <b>Demolished</b>
No name [now Boerum Court]	04701.013979	3002710047	Boerum Place	96 Schermerhorn St. (south side)
Station (NY Transit Museum)	04701.013862	3002697501	Boerum Place	99 Schermerhorn St. (north side)
Board of Education Offices (1900, CBJ Snyder)	04701.016128	3001540001	Adams Street	131 Livingston St.
Brooklyn Edison Company (1922-23 McKenzie, Voorhees & Gemlin Architects)	04701.016131	3001407503	Adams Street	15 Willoughby St.
Kings County Superior Court - 360 Adams St	04701.017177	3001390002	Adams Street	360 Adams St.
Cadman Shop	04701.013876	3000750109	Adams Street	40 Sands Street
LPC Vinegar Hill HD: Greek Revival Rowhouse	04701.014722 and 04701.014723	3000420036 and 3000430035	Front Street	247 and 249 Front Street
LPC Vinegar Hill HD: Greek Revival Rowhouse with Storefront	04701.014731	3000430006	Gold Street	77 Gold Street
LPC Vinegar Hill HD: Greek Revival Rowhouse	04701.014730, .014729, and .014728	3000430007	Gold Street	75, 73, and 71 Gold Street
LPC Vinegar Hill HD: Greek Revival Rowhouse with Storefront and Rear Addition	04701.014727	3000430010	Gold Street	69 Gold Street
160-168 John St 11201, Brooklyn Self-Storage Owner LPC	04701.023884	3000220016	John Street	160-168 John Street

## Methods and Results

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### Literature Review and Walkover Methods

Matrix New World Engineering (Matrix), under contract to the Applicant, is providing environmental support for the Project. Carol S. Weed is contracted with Matrix as a Senior Cultural Resources Specialist. The February agency packets were researched and developed by Ms. Weed and Sarah F. Sklar (for Matrix) and Neil N. Puckett and Jordon Loucks (SEARCH). Ms. Weed was the editor and signed each letter.

The terrestrial archaeological assessment for the Preferred and Alternate Routes in Brooklyn and the Reconnaissance-Level Historic Resource Survey (Weed 2023b) were researched and prepared by Ms. Weed. The Undetermined property locations were photographed by Ms. Weed on April 4, April 6, and April 13, 2023. Research focused on the 21 properties, prior cultural resource investigations near to and within the buffers and centerline, and road alignment changes was conducted between March 31 and May 15, 2023.

For the February due diligence site file and project area review, the off-shore and upland routes were both considered. The common sources used by both sets of investigators included the NYSHPO NYCRIIS which subsumes the LPC Landmark properties and the NYSM site lists. Meade's (2020) New York City Cemetery inventory also was referenced for the terrestrial options.

Mathew Shepard (NYSHPO CRIS) was provided with Geographic Information System (GIS) merged polygon shapefiles and, in turn, he provided data sets for both submerged and upland cultural resources in addition to listings of previously completed surveys. The merged polygon shapefiles were filed with the February submission to NYSHPO and LPC. The February upland merged polygon/shapefile included the centerline and a 320-foot (97.5 meters) buffer located to either side of the centerline. The buffer width was purposefully broad to facilitate context development particularly as regarded archaeological sensitivity.

For this Undetermined-status study, the buffer to either side of the road centerline was reduced to 200-feet (ca. 61 meters). This width encompassed all buildings and structures facing inward toward the centerline on any given road though it captured some buildings in the adjacent parallel blocks on either side of the centerline road. In five instances, Undetermined properties were plotted at the outside edge of the 200-foot buffer and they were field-checked to determine the accuracy of the CRIS-plotting. These buildings and structures are

- 3913 2<sup>nd</sup> Avenue (USN 04701.021997) - plotting correct, retained for field visit to confirm existing condition photographs taken in 2018;
- 677 Union Street (USN 04701.0194264) - plotting correct, part of a larger rowhouse line;
- K133 and K763 Schools (USN 04701.017074) - misplotted, school is on 8<sup>th</sup> Avenue;
- Board of Education Offices (USN 04701.016128) - plotting correct, retained for photographs and further research;
- Cadman Shop (USN 04701.013876) - plotting correct, retained for photographs and further research;

- Vinegar Hill HD 245 and 247 Front Street (USNs 04701.014722 and 04701.014723) - plotting correct, retained for photographs and further research.

## Historic Overview

This historic overview is divided into four segments labelled 1 through 4. The segments were defined based on common landscapes and land uses during the 19<sup>th</sup> and 20<sup>th</sup> centuries.

A review of Perris 1855, Dripps 1869, Bromley 1880, Hopkins 1880, Sanborn Company 1887, Sanborn Company 1888, Ullitz 1889, Bromley and Bromley 1907, and Hyde 1916 was undertaken to establish a functional overview of the land uses to either side of the centerline. Meade (2020) was reviewed for the particulars about cemeteries or vaults that either faced a centerline road or, in one instance, is plotted as 'on' the centerline road (Rapalye Family Cemetery). In addition, the New York Transit Museum On-line Collection subway construction and the NYC Department of Records and Information Services Brooklyn 1940s and 1980s Tax Photo collections were reviewed.

The Historic Overview focused on five land use variables as indicators of functional differences between the four route segments. These variables are parks, schools, churches, cemeteries, and lot configuration/size. The presence of parks, schools, churches, and cemeteries suggests residential uses while lot configuration and size are indicators of public, commercial, or industrial functions. The historic overview also considered transportation elements that lay perpendicular to the Preferred and Alternate Route land cable centerline or that are subterranean on the same centerline road.

### Segment 1: 1<sup>st</sup> Avenue/42<sup>nd</sup> Street to 29<sup>th</sup> Street/4<sup>th</sup> Avenue

Although enclaves of residential buildings were historically present between the 42<sup>nd</sup> Street Pier/1<sup>st</sup> Avenue and 29<sup>th</sup> Street/4<sup>th</sup> Avenue, the land cable route passes, for the most part, buildings that once functioned as warehouses, factories, other commercial/industrial enterprises, and government buildings (**Appendix D: Sheets D2 to D11**). A myriad of rail lines moving product from ships off-shore or docked at piers were present along 1<sup>st</sup> and 2<sup>nd</sup> avenues and the rail-lines or the commercial, footprint of some of these transfer lines are still present.

Industrial complexes, like those at Industry City on 2<sup>nd</sup> Avenue (Loft Building USNs 4701.016491, 4701.016538, 4701.021944, 4701.021982, and 4701.016429) or individual warehouses (the National Meter Co. buildings for example) dated to the mid-to-late 1800s have been converted to loft condominiums, apartments, and office space in the last 30 years based on tax records, NYSHPO CRIS forms and National Register form. Meade identified no cemeteries along this segment of Preferred and/or Alternate Routes nor do any of the atlas plates and sheets call out parks, schools, or churches.

### Segment 2: 4<sup>th</sup> Avenue to Boerum Place

Starting at 4<sup>th</sup> Avenue/29<sup>th</sup> Street and continuing along Atlantic Avenue to Boerum Place, the streetscapes undergo functional changes (**Appendix D: Sheets D11 to D30**). Relatively short buildings with street-level store fronts and upper story apartments appear along both major thoroughfares. Going north on 4<sup>th</sup> Avenue, the bounding streets like Bergen and Dean contain blocks of brick and brownstone rowhouses. The residential

stock dates from the late 1880s and the developers took advantage of large landholdings that were subdivided for such uses in the late 1800s.

Residual indicators of the earlier, farm-based land divisions are delimited by Meade (2020) who presented general plottings for five family cemeteries between 22<sup>nd</sup> Street and Degraw Street. These cemeteries, used by farm families for years, were mapped by Meade (2020) to the larger land parcels rather than to specific, smaller spaces because of a lack of precise location data. Thus, Meade's general vicinity cemetery maps, bounded by dashed lines, represent the landholding *in toto* for the referenced families.

**Table 3**, ordered south to north, presents the family farms laying perpendicular to 4<sup>th</sup> Avenue between 22<sup>nd</sup> Street and Degraw Street that had cemeteries.

<b>Streets Subsumed by General Vicinity Plotting</b>	<b>Cemetery Name</b>	<b>Cemetery Type</b>	<b>Meade Based Mapping On</b>
4 <sup>th</sup> Avenue between ca. 22 <sup>nd</sup> to 19 <sup>th</sup> Streets	Woodard Farm Cemetery	Homestead	1874 Fulton Farm Map showing Woodward land boundaries
4 <sup>th</sup> Avenue between ca. 19 <sup>th</sup> Street to mid-way between Prospect Avenue and 16 <sup>th</sup> Street	Wyckoff Family Cemetery	Homestead	1874 Fulton Farm Map showing Wyckoff land boundaries
4 <sup>th</sup> Avenue between ca. mid-way between Prospect Avenue and 16 <sup>th</sup> Street to 12 <sup>th</sup> Street	Berry Farm Cemetery	Homestead	1874 Fulton Farm Map showing Berry land boundaries
4 <sup>th</sup> Avenue between 12 <sup>th</sup> Street to ca. 9 <sup>th</sup> Street	Van Brunt Farm Enslaved Persons Cemetery, Gowanus	Homestead	Mapped to the southern part of the VanBrunt farm (1874 Fulton Farm Map)
Garfield Place to slightly north of Degraw Street	Polhemus Family Cemetery	Homestead	Mapped to the boundaries of the Polhemus farm on 1849 Colton map

The parks, churches and schools located along 4<sup>th</sup> Avenue and in the bounding buffers date after the farms were subdivided. These include properties such as Church of the Redeemer (USN 4701.01588) and the Cuyler Presbyterian Church (00NR01718); Public Schools 124 (USN 4701.015995), 133 (USN 47801.016031), and 172 (USN 4701.023870); Public Bath No. 7 (USN 4701.013737/90NR1306) and the Brooklyn YWCA (USN 4701.015989). These and other cultural and public service facilities supported the residential populations in residence along the cross streets and above the store fronts.

The population was moving through the area as pedestrians, on trolley cars, and using newly instituted subways or elevated trains. In this segment, three stations were serving either IND or IRT & BMT passengers on 4<sup>th</sup> Avenue and Atlantic Avenue (USN 4701.015594/04NR05370; 4701.013844; 04NR05282). The Atlantic Avenue Tunnel (aka Cobble Hill Tunnel; 90NR03137) was constructed specifically to facilitate movement between Brooklyn and Manhattan.

### Segment 3: Boerum Place/Adams Street to Sands Street

As the Alternate Route turns north onto Boerum Place, the streetscape remains like that seen on the connecting Atlantic Avenue (**Appendix D: Sheets D30 to D36**). Residential properties lie east of Boerum Place on State Street and other residential blocks are south, clustered around Pacific Avenue and to the west around Court Street. Boerum Place, however, enters the heart of Brooklyn’s administrative center and as Boerum Place changes to Adams Street, the Brooklyn Borough Hall, Supreme and Family Court Building, Emmanuel Celler Federal Building and US Courthouse, Kings County Superior Court, and the Board of Education Office building are present.

Adams Street, leading from the Borough center to Manhattan via the Brooklyn Bridge, was a major link. This is not to say that there was no residential population. Today, many of the original office and government buildings have been converted to residential functions or replaced by new condominiums and apartment buildings. What is missing within the study corridor are historic public schools. Public School 207, built in 1965, is the only lower-grade school inventoried in the study corridor though college buildings are present. With the notable exceptions of St. John’s Church near the Superior Court buildings and the Friends Meeting House on the corner of Schermerhorn and Boerum Place in the inventories, religious buildings are absent as well. Meade’s (2020) survey results for this area attest to a change in cemetery types as well (**Table 4**).

<b>Table 4. Cemetery General Vicinity Plottings – Boerum Place/Adams Street to Sands Street</b>			
<b>Streets Subsumed by General Vicinity Plotting</b>	<b>Cemetery Name</b>	<b>Cemetery Type</b>	<b>Meade Based Mapping On</b>
Livingston Street to Fulton Street	Brooklyn Village Cemetery	Public Potter’s Field	Mapped to general vicinity near Military Garden and courthouse as shown on 1880 Hopkins Plate 5F
Northwest of the Brooklyn Superior Court Building off Johnson Street	St. John’s Episcopal Church Cemetery	House of Worship	Matches the modern location. Meade says obliterated in 1869.
Adams Street between Tillary and Sands Streets	Possible Rapalye Family Cemetery	Homestead	Impacted by construction in 1885 and burials reinterred at Kings County Almshouse

Transportation was facilitated by the Brooklyn Bridge, the IRT Line Borough Hall Subway Station, and the Fulton Line HH Shuttle between Hoyt-Schermerhorn and Court streets (part of which is the NY Transit Museum). Trolley lines also were present, but were subsequently replaced with bus service.

### Segment 4: Sands Street to John Street

The segment from Sands Street to John Street changes quickly from commercial/residential to industrial/commercial (**Appendix D: Sheets D36 to D40**). The historic residential component is now marked by three discontinuous remnants that form the Vinegar Hill Historic District. The newer residential elements are either converted warehouses and commercial buildings or new apartments and condominiums that are

replacing aged stock. Historically, the industrial uses in the general area include specialty locations like the oil manufactory that was present at on the east side of Gold Street between John and Marshall streets (Figure 4 – John 1835 Oil Manufactory).

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## **Undetermined Properties Subjected to Reconnaissance-Level Review**

This section has two principal parts: Evaluation Considerations and discussions of the individual Undetermined Properties are presented in segment order south to north. The 21 Undetermined buildings or district parts considered herein range in age from 1850 to 1957. They are in industrial, commercial, and residential settings. Two of the Undetermined properties (237 State Street and 550-542 Atlantic Avenue) were demolished and replaced with new are in buildings in 2003 and 2022. One other structure, the HH Shuttle Line Court Street Subway Station, was decommissioned and part of it re-purposed for the New York Transit Museum.

### **Evaluation Considerations**

The State and/or National Registers of Historic Places (S/NR) evaluate resources under four criteria and in consideration of seven aspects of integrity (location, design, setting, materials, workmanship, feeling, and association) (NYOPRHP n.d., DOI NPS 1995). Typically, to be eligible for listings, the cultural resource in question must be 50 years of age. The four criteria are defined as

- Criterion A: that are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: that are associated with the lives of persons significant in our past; or
- Criterion C: that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or
- Criterion D: that have yielded, or may be likely to yield, information important in prehistory or history.

DOI NPS (1995:44-46) details the definitions for the aspects of integrity. These are briefly summarized below

- Location: the place where the historic property was constructed or the place where the historic event occurred
- Design: the combination of the elements that create the form, plan, space, structure, and style of a property
- Setting: the physical environment of a historic property
- Materials: the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property
- Workmanship: the physical evidence of the crafts of a particular culture or people during a given period in history or prehistory
- Feeling: a property's expression of the aesthetic or historic sense of a particular period
- Association: a direct link between an important historic event or person and a historic property.

As noted in the Executive Summary, the New York City Landmarks Preservation Commission was informed of the proposed project because land routes would break NYC streets. Further, some of the terrestrial cable route would pass through LPC Districts or fronted LPC Landmarks. Thus, consideration of the New York City

Mayor's Office of Environmental Coordination CEQR City Environmental Quality Review Technical Manual (CEQR Manual) guidelines for Historic and Cultural Resources (Chapter 9) were needed.

LPC adheres to the 36 CFR Part 60 National Register criteria of eligibility standards, its aspects of integrity, and its Special Considerations (see Technical Manual, Chapter 9, Section 161.1.3). The latter involve building age; the recognition of religious properties; relocation and reconstructed buildings; birthplaces or graves; and commemorative locations. The NYC Landmarks Law specifically defines four resource types: landmark, interior landmark, scenic landmark, and historic district. It also specifies that the age criterion is 30 years old rather than the 50 years specified in the New York State and Federal regulations.

The historic resource survey of the Undetermined properties focused on whether the individual property or district streetscape still exemplified its period of construction, its original function, and if it had played a significant role in the history of United States, New York, New York City as a whole, Brooklyn (Kings County), or instances, the neighborhood.

### **Segment 1: 1<sup>st</sup> Avenue/42<sup>nd</sup> Street to 29<sup>th</sup> Street/4<sup>th</sup> Avenue**

In total, this segment is ca. 1.2 miles long. The proposed Preferred and Alternate Route cable comes ashore on the 42<sup>nd</sup> Street Pier, within the Bush Terminal Historic District (HD; USN 04701.019393; **Figure 5 – CRIS Plot with Notation – 42<sup>nd</sup> Street to 29<sup>th</sup> Street**). The cable trench will be advanced to 1<sup>st</sup> Avenue, just outside the HD boundary, and turn northward to 39<sup>th</sup> Street. Two Undetermined properties are plotted east of the centerline, fronting on the 1<sup>st</sup> Avenue sidewalk. These two buildings, once National Meter Co. facilities, have been re-purposed and their exteriors and interior remediated and renovated (Spellen 2012). The buildings, now intact and functioning commercially, are emblematic of the industrial and commercial buildings that continue to bracket 1<sup>st</sup> and 2<sup>nd</sup> Avenues.

Once on 39<sup>th</sup> Street, the cable trench will be advanced to 2<sup>nd</sup> Avenue. At 2<sup>nd</sup> Avenue, USN 04701.021997, another warehouse/storage building, is located one block south between Route cable 39<sup>th</sup> and 40<sup>th</sup> streets at the outside edge of the 200-foot buffer.

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### **USN 04701.021101 4223 1<sup>st</sup> Street and USN 04701.000065 4201- 4207 1<sup>st</sup> Street (BBL 3007210001)**

The distinctive National Meter Company., Factory No. 2 is now owned by Sahadi Fine Foods. According to the NYSHPO CRIS Inventory page the building was constructed in 1907. Four stories tall, the building is described in CRIS as having "...American Round-Arch and Renaissance Revival details." The NYSHPO CRIS Inventory page Summary of Significance section states "The building is important for its association with the National Meter Company, a local business that was an innovator in the fabrication of water meters and contributed to the late nineteenth and early-twentieth century industrial development of Brooklyn's waterfront."

The 1974 Building-Structure Inventory Form for the 4201-4207 1<sup>st</sup> Avenue property names it the National Metal Company that functioned as a "metal manufactory" (Wood 1974). In 1974, it was functioning as loft space. Wood (1974) listed the initial construction date as ca. 1885 and the form's final note states "Of special interest is the fortress-like architectural design of this structure. Four stories high, the main building supports an ornamental brick tower with lancet windows in an octagonal top story."



The NYSHPO CRIS Inventory page states “located at 4201-4207 First Avenue [the building] was designed by William H. Beers in the American Round-Arch and Renaissance Revival styles. The building was constructed in 1892.” The description states that “all windows are replacement and some window openings have been enclosed... building has undergone changes that include the enclosure of first and second story windows; window replacements; and removal of the tower water tank. The new windows resemble the building’s historic windows as seen in historic photographs.” 2001 photographs attributed to Frank E. Peteroy by Spellen (2012) illustrated the deteriorated condition of both 4221 and 4201-4207 1<sup>st</sup> Avenue prior to their rehabilitation. It is apparent from those photographs that more than replacement windows were needed to stabilize and re-use the buildings and to renovate the grounds that front 43<sup>rd</sup> Street.

The buildout of the two National Metal Company buildings between 42<sup>nd</sup> and 43<sup>rd</sup> streets is clearly shown on Bromley’s 1907 Sheet 33 (**Figure 6 – National Meter Company - Bromley 1907, Plate 33**) as well as Hyde’s 1916 coverage of the area (**Figure 7 – National Meter Company - Hyde 1916 Plate 8**). National Metal Company continued in operation at these locations through the 1900s but eventually abandoned them. The buildings were subject to extensive renovation in 2001. As of April 2023, the standalone building at 4223 is vacant. The 4201-4207 complex is in use by Sahadi Fine Foods.

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### **USN 04701.021997, 3913 2<sup>nd</sup> Avenue (BBL)**

This building faces 2<sup>nd</sup> Avenue but it is in the cable route land buffer one block south of the centerline. The NYSHPO CRIS Inventory data page states the building construction date as 1927 and that the property was recorded using CRIS Trekker in 2018. The NYSHPO Inventory data includes five photographs of the building, taken in 2018, that illustrate the five-story building. Julian Boilen’s on-line “1940s NYC” presents a view of the building that virtually duplicates its present condition (**Figure 8 – 3913 2<sup>nd</sup> Avenue 1940s NYC Picture with 2022 View**). Bromley’s 1907 Plate 33 (see Figure A) confirms the lot vacant (**see Figure 6 – Bromley 1907, Plate 33**) in that year.

### **Segment 2: 4<sup>th</sup> Avenue to Boerum Place**

From 29th Street, the cable trench will be advance north on 4<sup>th</sup> Avenue 2.11-miles to Atlantic Avenue (**Figures 9a, 9b**) and then trend west to Boerum Place for another 0.68 miles (**Figures 9b, 9c**). Three Undetermined properties are present along 4<sup>th</sup> Avenue in the east side buffer of this long segment (**Figures 9a and 9b**). One of these, USN 04701.017072 [K133 and K763 School] is misplotted and not discussed further below. Neither of the other two properties face to 4<sup>th</sup> Avenue. The first, at 677 Union Street (USN 04701.019264), is on the cusp of the buffer and is one of a larger group of rowhouses. The second is a set of rowhouses (USN 04701.015909, 355-413 Bergen Street) that occupies the north side of Bergen Street within the Bergen-Dean Street Historic District.

On Atlantic Avenue, there is only one Undetermined property (USN 04701.015869, 550-542 Atlantic Avenue) in this part of the segment (**see Figure 9b**). The Undetermined property lies east of the Atlantic Avenue Historic District (USN 04701.016698) which is loosely bounded on its east and west ends by Nevins and Smith Streets (Howe 2010; **see Figure 9c**).

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**USN 04701.019264, 677 Union Street, east of 4<sup>th</sup> Avenue (BBL 3009520067)**

Bounded by 4<sup>th</sup> and 5<sup>th</sup> Avenues, 677 Union Street is the third rowhouse in from the west end of the row on the north side of the street. According to NYC records the building dates to 1920 and the record characterizes the building as an apartment with 7-10 units. The 1888 Sanborn Co. Atlas Sheet 137 indicates the east half of the row line was developed by 1888 (**Figure 10 – 677 Union Street, Sanborn 1888, Sheet 137**). Bromley, however, does not support the build date, showing the build-out of the block as complete by 1907 (**Figure 11 – 677 Union Street, Bromley 1907 V1 Plate 4**). On Union Street, LPC's Park Slope Historic District western boundary is about a block east on the west side of 6<sup>th</sup> Avenue.

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**USN 04701.015909, 355-413 Bergen Street, east of 4<sup>th</sup> Avenue (BBL 3000930076 to 3000930067)**

The north side of Bergen Street between 4<sup>th</sup> Avenue and 5<sup>th</sup> Avenue is part of the Bergen-Dean Street Historic District bounded by 4<sup>th</sup> and 5<sup>th</sup> Avenues and Dean and Bergen Streets. None of the residential elements on the north side of Bergen Street within the District face onto 4<sup>th</sup> Avenue. Overall, district elements, including the Undetermined properties on the north side of Bergen Street (#s 355-413), were characterized by Howe (2006:4) as Italianate-style brownstone and brick rowhouses (**Photographs 1 and 2**). Howe (2006:4) concluded that the district overall met "Criterion A for community development and C for architecture." However, the Bergen-Dean District in this area is presented in NYSHPO CRIS as Not Eligible.

**Sanborn's (1888) Sheet 136 (Figure 12)** differentiates between the brick (pink) and frame with brick veneers (yellow) buildings that lined both sides of Bergen between 4<sup>th</sup> and 5<sup>th</sup> Avenues. Today, the obvious difference between the two row sets is the degree of remodeling and additions to the rowhouses on the north side vs. those to the south and on Dean Street.

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**USN 04701.015869, 550-542 Atlantic Avenue (BBL 3001860020)**

The NYSHPO CRIS listing for 550-542 on the south side of Atlantic Avenue states that this USN was entered into the system in 2006 by a System User. The Inventory page entry provides no further information about the location though the property's CRIS name is "US Post Office-Times Plaza Station-550-542 Atlantic Avenue." Today, the US Post Office-Times Plaza Station is located on the north side of Atlantic Avenue at #539 in a storefront (**Photograph 3**).

A NYC Department of Records & Information Services entry for 542-50 Atlantic Avenue (BBL 3001860020) illustrated the buildings present between 1983-1988 (**Figure 13 – NYCDofR DOF\_3\_00186\_0020**). In 2020, Morris reported on renderings that had been developed by Isaac & Stern Architects for a new condominium development at 542 Atlantic Avenue. **Figure 14** shows the 2022 rendering presented in that article of the front façade that faces to Atlantic Avenue. The existing building now numbered #542 closely mirrors the 2020 renderings (**Photographs 4 and 5**).

Original buildings in the 1983-1988 photograph do still exist. These include the four-story building now occupied by Mubarez Travel (#554 Atlantic) and Atlantic Shipping Center (#552 Atlantic) in the street-level storefronts, and, in the upper stories, the Masjid Al-Farooq/Al-Aqsa Islamic School (also #552). The new building occupies the space in the 1983-1988 photograph that included 550 to 542 (east-to-west) addresses.

The multi-story building at the west end of this array is now numbered 540 and it is the reported location of a World Mixed Martial Arts facility.

In sum, 550-542 Atlantic Avenue as originally described in NYSHPO CRIS no longer exists. The USPS facility was moved to the north side of Atlantic Avenue and the building array depicted in the 1983-1988 tax photograph was demolished and replaced with a single structure now numbered #542.

### **Segment 3: Boerum Place/Adams Street to Sands Street**

From Atlantic Avenue, the cable trench trends north onto Boerum Place. Boerum Place is now a divided highway (**Photographs 6 and 7; Figures 15a and 15b – CRIS Plotting**) and the 1957-1962 widening process incorporated lots on both sides of the original street alignment (Roberts and Stone 1990; Downtown Brooklyn Development Association [DBDA 1979.021]). The eventual division widened Boerum Place and part of Adams Street between Atlantic Avenue and Fulton Street (DBDA March 15, 1957). The widening would eventually result in the takings of several historical buildings including the Society for the Prevention of Cruelty to Children Building, the Brooklyn Democratic Headquarters, and the Kings County Trust Co. Building among others.

By 1962, there was a marked split between a route to Brooklyn Bridge (to the west) and Adams Street (to the east). The named split occurs about Livingston Street. It is unknown if the cable trench will adhere to the Adams Street side of the split. The cable trench will continue north and it will eventually turn east onto Sands Street.

There are six Undetermined properties in this 0.77-mile stretch of Alternate Route. These include only one property facing the centerline (360 Adams Street, see Figure 15a). The other five are in the buffers to either side of Boerum Place or Adams Street.

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#### **USN 04701.013900, 237 State Street east of Boerum Place (BBL 3001690036, re-set 3001697501)**

The NYSHPO CRIS identifies this property as “Site of Proposed Courthouse Annex” located at 237 State Street. The NYC Department of Buildings assigns this address to BBL 3001690036. In 1990, Roberts and Stone completed the equivalent of a Phase IA archaeological assessment of Block 169, Lot 36 for the City of New York Department of General Services, Division of Real Property. Roberts and Stone (1990:12) concluded that the block/lot “...is not associated with any historically significant person, event or building which would deem the property eligible for the National Register of Historic Places.” According to the NYC tax data, the current building on the lot was built in 2003. It is shown in **Photographs 8 and 9**.

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#### **USN 04701.013979, 96 Schermerhorn Street, west of Boerum Place (BBL 3002710047)**

96 Schermerhorn Street is Boerum Court, a “...13-story, 105-unit cooperative building...” (Naini n.d.) that was built by St. John’s College in 1928 as an undergraduate facility. In 1955, the building was converted for use by St. John’s Law School but it remained in operation there only until the 1970s. The building was purchased in 1981 by others and the 13 floors were converted to residential apartments. A handsome structure, Boerum

Court holds a place of prominence on the southwest corner of Boerum Place and Schermerhorn Street (**Photographs 10 and 11**).

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**USN 04701.013862, 99 Schermerhorn Street,  
west of Boerum Place (BBL 3002697501)**

This Undetermined property is identified as the New York Transit Museum in CRIS. Historically it is the decommissioned (Independent Subway System) IND Fulton Street Court Street Station, one of the two stations on the HH Fulton Street Shuttle Line (Anonymous 2023). The other platform was located three blocks east at the corner of Hoyt and Schermerhorn streets. The so-called shuttle line opened in 1936 and closed in 1946.

The HH line re-opened for limited use as a Special Exhibit in 1976. It also was used again in the 1980s for the so-called Nostalgia Specials which ran during summer weekends between Court Street and the Rockaways. The Museum has been in the Court Street Station since 1979 though the museum closed for a half-year in 2000 for renovations. The HH Shuttle line is maintained between Court Street and Hoyt-Schermerhorn Street stations and the stretch is used for movie productions (Feinman 1999-2000; Ridgeway 1994).

Ridgeway (1994:8) characterized the Court Street Station as a “two-track, center platform subway station with full mezzanine.” A photograph of the line construction along Schermerhorn Street in October 1930 suggests that the line was built using the typical open cut method (**Figure 16 – NYTransitMuseum Image 14798**). The subway box as depicted is relatively shallow relative to street level. In cases where this method is used, street utility vaults are typically above the level of the subway box top. Ridgeway (1994) stated the “Station is well preserved and architecturally significant. It retains a great degree of its original architectural integrity despite having lost much of its original fabric to a period of disuse and subsequent adaptive reuse.”

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**USN 04701.016128, 131 Livingston Street east  
of Adams Street (BBL 3001540001)**

131 Livingston Street was built in 1900 as Brooklyn’s Board of Education building (**Photograph 12**). The designer of record was Charles B.J. (C.B.J.) Snyder. Snyder’s work included six Public Schools (PS) in Brooklyn, one high school (Erasmus Hall High School), and Department of Education building at 131 Livingston. The building, in the Beaux-Arts style, is one of the few non-school buildings Snyder created. According to Spellen (2010) the building has an L-plan rather than the H-plan that Snyder perfected in his school designs. The building’s exterior remains effectively unchanged since the 1940s (**Figure 17 – DOB Photos 1939-1941 and 1983-1988**).

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**USN 04701.016131, 15 Willoughby Street east  
of Adams Street (BBL 3001407503)**

According to NYSHPO USN information, 15 Willoughby Street was designed by McKenzie, Voorhees & Gemlin Architects in 1922-23. The architects were in partnership between 1910-1926 and among other buildings, designed the Livingston South Brooklyn Savings Bank (1924) and the Brooklyn Municipal Building (1924; now Justice Ruth Bader Ginsburg Municipal Building [Brooklyn Eagle, March 16, 2021]). The building is currently undergoing renovation but its exterior facades (**Photographs 13 and 14**), when clearly visible, are similar to those shown in the photographs that accompany the CRIS inventory form.

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**USN 04701.017177, 360 Adams Street (BBL 3001390002)**

360 Adams Street is now the Kings County Superior Court Building. It is an 11-story building designed by Shreve, Lamb, and Harmon. Dated to 1957 by Morrone (2002), the building has two, 3-story extensions on the north and south sides (**Photographs 15 through 19**). The building faces onto Adams and is the focal element of Cadman Plaza. Morrone characterized the building as "...the beached limestone whale...those strip windows, straight out of Le Corbusier, now seem almost hip."

**Segment 4: Sands Street to John Street**

The final segment Undetermined properties associated with the transportation, residential, and industrial themes (**Figure 18 – CRIS Plot with Notation**). As was the case in the southernmost segment, this near water area historically was an industrial area with residential enclaves.

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**USN 04701.013876, 40 Sands Street (BBL 3000750109)**

This building, originally built as a streetcar substation, is the so-called Cadman Shop. Now a Metropolitan Transit Authority maintenance facility, the building was "...one of four BRT/BMT substation buildings built around the turn of the century..." (Anonymous 1994:8). Item 32 on the form states that after its use as a substation, the building was converted to "...the New York City Transit Authority's hydraulics division workshop and administrative space" (Anonymous 1994:7). The facility was recorded in 1994 during Phase II of the MTA's Historical Property Survey (Anonymous 1994) and the form states the building interior was gutted in 1977 though it continues to provide MTA with shop space.

---

**USNs 04701.014722 and 04701.014723, 247 and 249 Front Street (BBL 3000420036 and 3000420035)**

The brownstones on Front Street are described by Presa (1997) as Area I of the discontinuous Vinegar Hill Historic District. Area I's includes 247 and 249 Front Street (**Photographs 20 and 21**) which fall within the buffer. Presa (ibid: 34-35) indicates the two rowhouses were deeded between 1846-47 by John Ross and that both are in the Greek Revival style. Both buildings appeared to have served as rooming houses according to the 1885 city directory, though initially they may have been under single ownership. The 1887 Sanborn (**Figure 19 – Sanborn 1887 Sheet 36**) shows the subdivided lots though the current tax records indicate that the buildings were built in 1899. Both buildings are now classified as multi-family residences.

The Sanborn also illustrates the presence of St. Ann's Church on the northwest corner of Front and Gold Streets. A 1934 picture of the church, now demolished, is presented in Presa (1997:17). No cemetery is associated with the building on the Sanborn sheet and Meade (2020) does not call out a cemetery in this area.

---

**USNs 04701.014727 to 04701.014731 - 69, 71, 73, 75, 77 Gold Street (BBL 3000430006 through 3000430010)**

Area II of the Vinegar Hill HD is located on Gold Street at Water Street. These lots were offered in a peremptory sale in 1838 by Jas. Bleecker & Sons and on that plan the undivided lot is attributed to Silas Butler (**Figure 20 – John 1838 Vinegar Hill**). Presa (1997:46) stated that the building at 69 Gold dates to the period between 1841-1852 based on maps and directories. He attributes 71-77 Gold Street to 1841-1850 based on directories alone. The building at 77 Gold Street, which now exhibits a significantly different entrance from the others, was apparently elevated at sometime between 1855 and 1860 when the storefront was added. The storefront was renovated in 1977 for residential use (**Photograph 22**). The current tax records indicate that numbers 69 to 75 Gold Street date to 1925 and #77 dates to 1899.

---

**USN 04701.123884, 160-168 John Street (BBL Brooklyn 3000220016)**

The large, 10-story building at 160-168 John Street has been in place since 1911 according to the current tax listing. The Sanborn Company shows the presence of several large buildings many of which appear to be paint factories (**Figure 21 – 160-168 John Sanborn 1887, Sheet 35**). By 1916, the subject building is present (**Figure 22 - Hyde 1916, Double Page Plate 1**). In the late 1930s – early 1940s, the building appears much as it does today (**Figure 23 – dob 1939-1941 Photo; Photographs 23 and 24**). According to the current tax record, the 10-story property is owned by Tuck-It-Away Associates. .

## Assessment Conclusions and Recommendations

The historic resource survey of the Undetermined properties focused on whether the individual property or district streetscape still exemplified its period of construction and its original function. Also, were there data suggesting the building or structure played a significant role in the history of United State, New York, New York City as a whole, Brooklyn (Kings County), or instances, the neighborhood.

The Undetermined-status properties discussed herein were and/or are representative of the 19<sup>th</sup> and 20<sup>th</sup> commercial, educational, industrial, residential, and transportation stock present in the northwestern quadrant of the borough. Except for the Fulton Line HH Shuttle line, which is a rare form in the MTA, all the original properties reflect the styles and forms common in their periods of construction. Admittedly, some no longer function in the same way (for example, Boerum Court), however their exteriors remain effectively unchanged.

The back stories of several of the buildings has been told by others who have made recommendations as to their significance. Table 5 below lists that buildings and structures that have previous recommendations.

Table 5. Undetermined Status Buildings and Structures with Prior Eligibility Recommendations				
Name	Agency Number(s)	Street Address	Prior Eligibility Recommendation	Current Status
National Meter Co.	04701.000065	4201-4207 1st Ave. (east side)	NYSHPO USN Inventory tab (2002): Important, association with specific company and product	Building complex subject to extensive renovation and remediation. Still is evocative of the original complex.
Rowhouses in Bergen-Dean Street HD	04701.015909	355-413 Bergen Street (north side)	Howe (2006:4): HD meets criteria A and C. Merwin (2020) said HD Not Eligible	Some of the rowhouses are being altered to include new top floors.
US Post Office - Times Plaza Station - 550-542 Atlantic Ave	04701.015869	550-542 [546] Atlantic Avenue (west side)		Demolished
Site of Proposed Courthouse Annex	04701.013900	237 State Street (north side)		Demolished



<b>Table 5. Undetermined Status Buildings and Structures with Prior Eligibility Recommendations</b>				
<b>Name</b>	<b>Agency Number(s)</b>	<b>Street Address</b>	<b>Prior Eligibility Recommendation</b>	<b>Current Status</b>
Station (NY Transit Museum)	04701.013862	99 Schermerhorn St. (north side)	Ridgeway (1994) noted station was architecturally significant but Museum had made interior modifications	The HH Shuttle Line should be recognized for its unique role in a period of MTA and Brooklyn history.
LPC Vinegar Hill HD: Greek Revival Rowhouse	04701.014722 and 04701.014723	247 and 249 Front Street	LPC Landmark District	Effectively unchanged.
LPC Vinegar Hill HD: Greek Revival Rowhouse with Storefront	04701.014731	77 Gold St.	LPC Landmark District	Effectively unchanged.
LPC Vinegar Hill HD: Greek Revival Rowhouse	04701.014730, .014729, and .014728	75, 73, and 71 Gold Street	LPC Landmark District	Effectively unchanged.
LPC Vinegar Hill HD: Greek Revival Rowhouse with Storefront and Rear Addition	04701.014727	69 Gold St.	LPC Landmark District	Effectively unchanged.

Uninventoried buildings and structures are present along the length of the Alternate Route. However, this proposed project Option is unlikely to affect the buildings and structures that face onto the cable trench unless blasting is proposed.

# References Cited

## Books, Reports, and Articles

Anderson, Albert J. and Donald R. Sainz

1965 Excavations at Oude Dorp. The New Bulletin, Staten Island Institute of Arts and Sciences 14 (9): 82-95.

Anonymous

n.d. Independent Subway System. [https://en.m.wikipedia.org/wiki/Independent\\_Subway\\_System](https://en.m.wikipedia.org/wiki/Independent_Subway_System).

Downloaded from Wikipedia 4/11/23.

n.d. County Courthouse – New York 360 Adams Street. <http://www.courthouses.co/us-states/n/new-york/kings-county/>. Accessed 4/18/2023.

1994 (9/12, 11/15) New York City Transit Authority Historical Properties Survey: Phase II Form, USN 04701.013876, Cadman Shop, 40 Sands Street. Downloaded from NYOPRHP, CRIS April, 2023.

Boilen, Julian

2023 1940s NYC – Street Views of 1940s NYC. <https://1940s.nyc/map#13.69/40.7093/-73.9939739132ndAvenue>. [https://1940s.nyc/map/photo/nynyma\\_rec0040\\_3\\_00707\\_0001#17.2/40.654584/-74.012282](https://1940s.nyc/map/photo/nynyma_rec0040_3_00707_0001#17.2/40.654584/-74.012282)

Bolton, Reginald Pelham

1934 *Indian Life Long Ago in the City of New York*. New York: Harmony Books.

Brennan, Joseph

2001-2002 Abandoned Stations, “Court St, and Hoyt-Schermerhorn Sts platforms.”

<https://www.columbia.edu/~brennan/abandoned/court.html>

Brooklyn Public Library, Center for Brooklyn History (BPL CBH)

1825 Map of farms owned by the Bergens at Gowanus in 1825

<https://mapcollections.brooklynhistory.org/map/map-of-farms-owned-by-the-bergens-at-gowanus-in-1825/>

1835 Peremptory chancery sale of valuable real estate [sic] in the city of Brooklyn with the improvements thereon known as the oil manufactory of Messrs. H & H Canfield, on Monday the 28<sup>th</sup> Septr., 1835.

<https://mapcollections.brooklynhistory.org/map/peremptory-chancery-sale-of-valuable-real-esate-in-the-city-of-brooklyn-with-the-improvements-thereon-known-as-the-oil-manufactory-of-messrs-h-h-canfield-on-monday-the-28th-septr-1835/>

1838 Peremptory sale of valuable property in the city of Brooklyn near the Navy Yard belonging to the estate of John Jackson, decd, by Jas Bleeker & Sons on Thursday, 25<sup>th</sup> Octr., 1838, at 12 o'clock at their sales room, 13 Broad St.

<https://mapcollections.brooklynhistory.org/map/peremptory-sale-of-valuable-property-in-the-city-of-brooklyn-near-the-navy-yard-belonging-to-the-estate-of-john-jackson-decd-by-jas-bleecker-sons-on-thursday-25th-octr-1838-at-12-oclock-at/>

1864 Plan of the village of Brooklyn and part of Long Island 1766

<https://mapcollections.brooklynhistory.org/map/plan-of-the-village-of-brooklyn-and-part-of-long-island-1766/>. Downloaded 4/15/23

1875 Plan exhibiting the system of sewerage in the city of Brooklyn, N.Y.: prepared by J.W. Adams [Plan exhibiting the system of sewerage in the city of Brooklyn, N.Y.: prepared by J.W. Adams ....; 1875, Map Collection, B A-1875.FI; Brooklyn Historical Society.]

<https://mapcollections.brooklynhistory.org/map/plan-exhibiting-the-system-of-sewerage-in-the-city-of-brooklyn-n-y-prepared-by-j-w-adams/>. Downloaded 4/15/23.

1895 Rand, McNally & Co.'s map of the main portion of Brooklyn.

<https://mapcollections.brooklynhistory.org/map/rand-mcnally-co-s-map-of-the-main-portion-of-brooklyn/>. Downloaded 4/15/23.

1935 Borough of Brooklyn 1<sup>st</sup> Assembly District, 1935: issued by the Board of Elections of City of New York

<https://mapcollections.brooklynhistory.org/map/borough-of-brooklyn-1st-assembly-district-1935-issued-by-the-board-of-elections-of-city-of-new-york/>.

1937 Business section, Brooklyn, N.Y.: Nirenstein's National Realty Map Co.

<https://mapcollections.brooklynhistory.org/map/business-section-brooklyn-n-y-nirensteins-national-realty-map-co/>. Downloaded 4/16/23.

1990 "Downtown Brooklyn" designed by Incentra International, Inc.

<https://mapcollections.brooklynhistory.org/map/downtown-brooklyn-designed-by-incentra-international-inc/>. Downloaded 4/16/23.

Feinman, Mark S.

1999-2000. History of the Independent Subway.

[https://www.nycsubway.org/wiki/History\\_of\\_the\\_Independent\\_Subway](https://www.nycsubway.org/wiki/History_of_the_Independent_Subway). Downloaded 4/11/2023.

Howe, Kathleen (Kathy) A.

2004 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, Atlantic Avenue Subway Station (IRT and BMT), Intersection of Flatbush Avenue at Atlantic and 4<sup>th</sup> Avenues, Brooklyn, NY. NYOPRHP, Peebles Island, Waterford, NY.

2006 (May 16). Resource Evaluations, various properties including USN 04701.015911, Bergen-Dean Street Historic District (Z), 370-426 Bergen Street (Z2), pg. 4. Downloaded from NYOPRHP, CRIS April, 2023.

2010 NYOPRHP Division for Historic Preservation Resource Evaluation, Atlantic Avenue Historic District, Atlantic Avenue roughly between Smith St. and Nevins St., Kings County, USN 04701.016698.

2011 (April 26). Resource Evaluation, Atlantic Avenue Historic District (USN 04701.016698). Downloaded from NYOPRHP, CRIS April, 2023.

Horn, Julie Abell and Faline Schneiderman

2015 (July) Phase IA Archaeological Documentary Study DUMBO/Vinegar Hill Area Reconstruction Project Borough of Brooklyn, Kings County, New York, DDC Project ID: HWKKP005/BED-794 FEMA Project ID:

SANDHWK05, LPC Project #: Dept. Environmental Protection/HWKKP005, NYSOPRHP Project #15PR01793. Report prepared by Historical Perspectives, Inc. for NYC Department of Design and Construction. Report downloaded from NYOPRHP, CRIS April, 2023.

Mackey, Linda. 2019 (March 20). Resource Evaluation, Bush Terminal Historic District. Downloaded from NYOPRHP, CRIS April, 2023.

McVarish, Douglas C., Patrick J. Heaton, and Joel I. Klein  
2008 (May) South Pier Improvement Project, Phase IA Cultural Resources Survey, Brooklyn, New York (OPRHP Project Review #08PR01278). Report prepared by John Milner Associates, Inc., Croton-on-Hudson, New York for ESS Group, Inc., East Providence, Rhode Island and Astoria Generating Company, L.P., New York, New York

Meade, Elizabeth D.  
2020 The Cemeteries of New York City. <https://www.cemeteriesofnyc.com/> (cited with permission from Elizabeth D. Meade, Ph.D.)

Merwin, Daria  
2022 Personal communication, D. Merwin to C. S. Weed re: NYSM sites within or adjacent to Preferred and Alternative Options, Staten Island and Brooklyn.

Morrone, Francis (Photography by James Iska)  
2002 *The Architectural Guidebook to New York City*. Chapter 22 Downtown Brooklyn and Brooklyn Heights, 2 Cadman Plaza, pgs. 368-369. Revised and Updated Edition. Layton, Utah: Gibbs Smith, Publisher.

New York Archaeological Council (NYAC)  
1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.  
2000 *Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations*. New York Archaeological Council Standards Committee, McGraw, NY.

New York City Department of Transportation and URS Corporation  
n.d. Downtown Brooklyn Surface Transit Circulation Study, Task 6: Draft Existing Conditions Report, pgs. 65-90.  
[https://www.nyc.gov/html/dot/downloads/pdf/dbstc\\_conditions\\_4\\_existingsurftransit.pdf](https://www.nyc.gov/html/dot/downloads/pdf/dbstc_conditions_4_existingsurftransit.pdf)

New York State Historic Preservation Office (NYSHPO)  
2005 *Phase I Archaeological Report Format Requirements*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.

Ridgway, Robert.  
1994 (8/22, 9/1) New York City Transit Authority Historical Properties Survey: Phase II Form, USN 04701.013862, New York Transit Museum, Court Street Subway Station. Downloaded from NYOPRHP, CRIS April, 2023

Spellen, Suzanne

2012 Building of the Day: 4201 First Avenue.

<https://www.brownstoner.com/architecture/building-of-the-day-4201-first-avenue/>. Downloaded 4/11/2023.

Weed, Carol S. 2023a. Anbaric Development Partners, LLC Hera Power Link – Preferred Route (to Gowanus) and Alternate Route (to BCEH) Phase 1A Archaeological Assessment 42<sup>nd</sup> Street/1<sup>st</sup> Avenue to Gold/John Street via Multiple Roads, Brooklyn Borough (Kings County), New York. Report prepared by Matrix New World Engineering for Anbaric Development Partners, LLC.

Weed, Carol S. 2023b. Anbaric Development Partners, LLC Hera Power Link – Preferred Route (to Gowanus) and Alternate Route (to BCEH) Reconnaissance-Level Historic Resource Survey 42<sup>nd</sup> Street/1<sup>st</sup> Avenue to Gold/John Street via Multiple Roads, Brooklyn Borough (Kings County), New York. Report prepared by Matrix New World Engineering for Anbaric Development Partners, LLC.

Wood, Dennis R. and XXX Gable

1974 NYOPRHP Division for Historic Preservation Building-Structure Inventory Form, USN 04701.000057, Bush Terminal, Kings County, Brooklyn. National Park Service, Washington, DC, on file at NYOPRHP CRIS.

Wood, Dennis R. and XXX Gable

1974 (January 20). NYOPRHP Division for Historic Preservation Building-Structure Inventory Form, USN 04701.000065, 4201-4207 First Avenue, Kings County, Brooklyn. National Park Service, Washington, DC, on file at NYOPRHP CRIS.

### **Maps and Aerial Photographs**

#### **New York Public Library, Lionel Pincus and Princess Firyal Map Division, Digital Collection**

Bromley, G.W. 1880. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Atlas of the entire city of Brooklyn, complete in one volume. From actual surveys and official records by G. W. Bromley & Co." New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/510d47e2-0ae1-a3d9-e040-e00a18064a99>

Bromley, G.W. and W.S. 1907. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Atlas of the Borough of Brooklyn, City of New York" New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/867171b0-8624-0137-4dea-4914e15dc730>. Volume Two.

Bromley, G.W. and W.S. 1908. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Atlas of the Borough of Brooklyn, City of New York" New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/72a12740-8613-0137-b416-7d7039fb612d>. Volume One.

Dripps, M. 1869. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Map of the city of Brooklyn: being the former cities of Brooklyn & Williamsburgh and the town of Bushwick, as consolidated January 1st, 1855 by an act of the legislature of the State of New York ... showing also a part of the City of New York" New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/510d47e2-49e1-a3d9-e040-e00a18064a99>

Hopkins, G.M. 1880. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Detailed Estate and Old Farm Line Atlas of The City of Brooklyn. Complete In Six Volumes. Vol. 4. Comprising Wards 8 & 22. From Official Records, Private Plans and Actual Surveys, Based upon the Plans deposited in the Assessors Office" New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/510d47e4-4181-a3d9-e040-e00a18064a99>

Hyde, E. B. 1916. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Atlas of the borough of Brooklyn City of New York. Complete in Three Volumes. " New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/6c05633e-3bd9-b9cf-e040-e00a18063bc7>

Perris, William. 1855. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Maps of the City of Brooklyn" New York Public Library Digital Collections. Accessed April 5, 2023. <https://digitalcollections.nypl.org/items/510d47e0-c027-a3d9-e040-e00a18064a99>. Sheets 3, 12, 14, 13/15.

Sanborn Map Company. 1887. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Insurance Maps of Brooklyn New York V. 2, Published by the Sanborn map co. 113Broadway, New York. 1887." New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/7ac9917a-035f-0aeb-e040-e00a18063919>

Sanborn Map Company. 1888. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Insurance Maps of the Brooklyn city of New York Volume Six. Published by the Sanborn map co. 117, Broadway, New York. 1888." New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/7b02d76d-cfb8-3f77-e040-e00a18065f64>

Ullitz, Hugo. 1898-1899. Lionel Pincus and Princess Firyal Map Division, The New York Public Library. "Atlas of the Brooklyn borough of the City of New York" New York Public Library Digital Collections. Accessed April 6, 2023. <https://digitalcollections.nypl.org/items/510d47e2-163d-a3d9-e040-e00a18064a99>

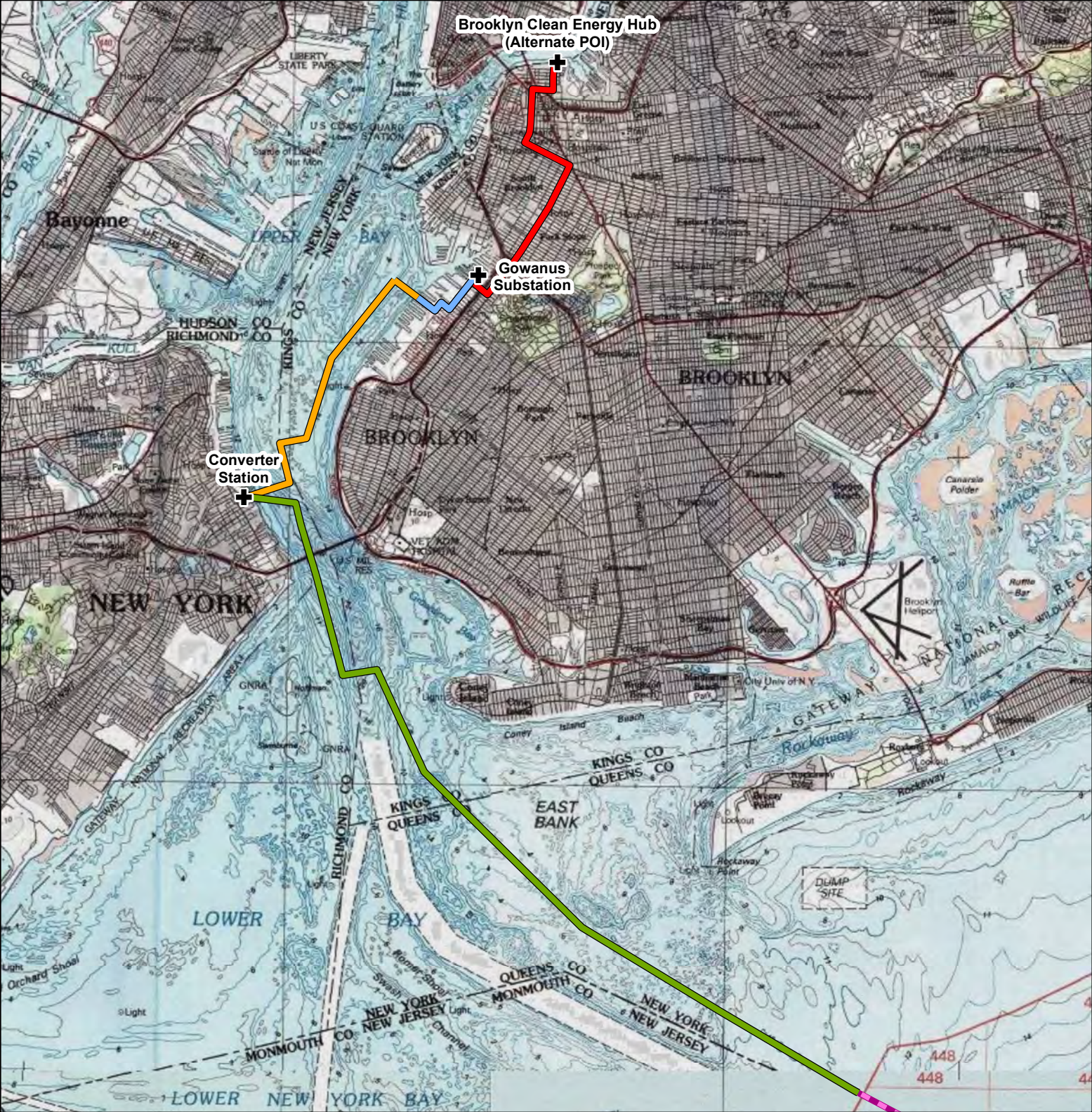
### **USGS/ESRI**

1981(PR). Jersey City quadrangle, 1:24000. Downloaded 4/6/2023 from USGS/ESRI Historic Topographic Maps.

1995. Brooklyn quadrangle, 1:24000. Downloaded 4/6/23 from USGS/ESRI Historic Topographic Maps.

# Appendix A - Figures

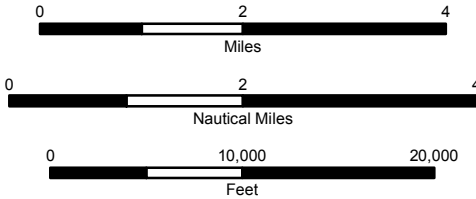




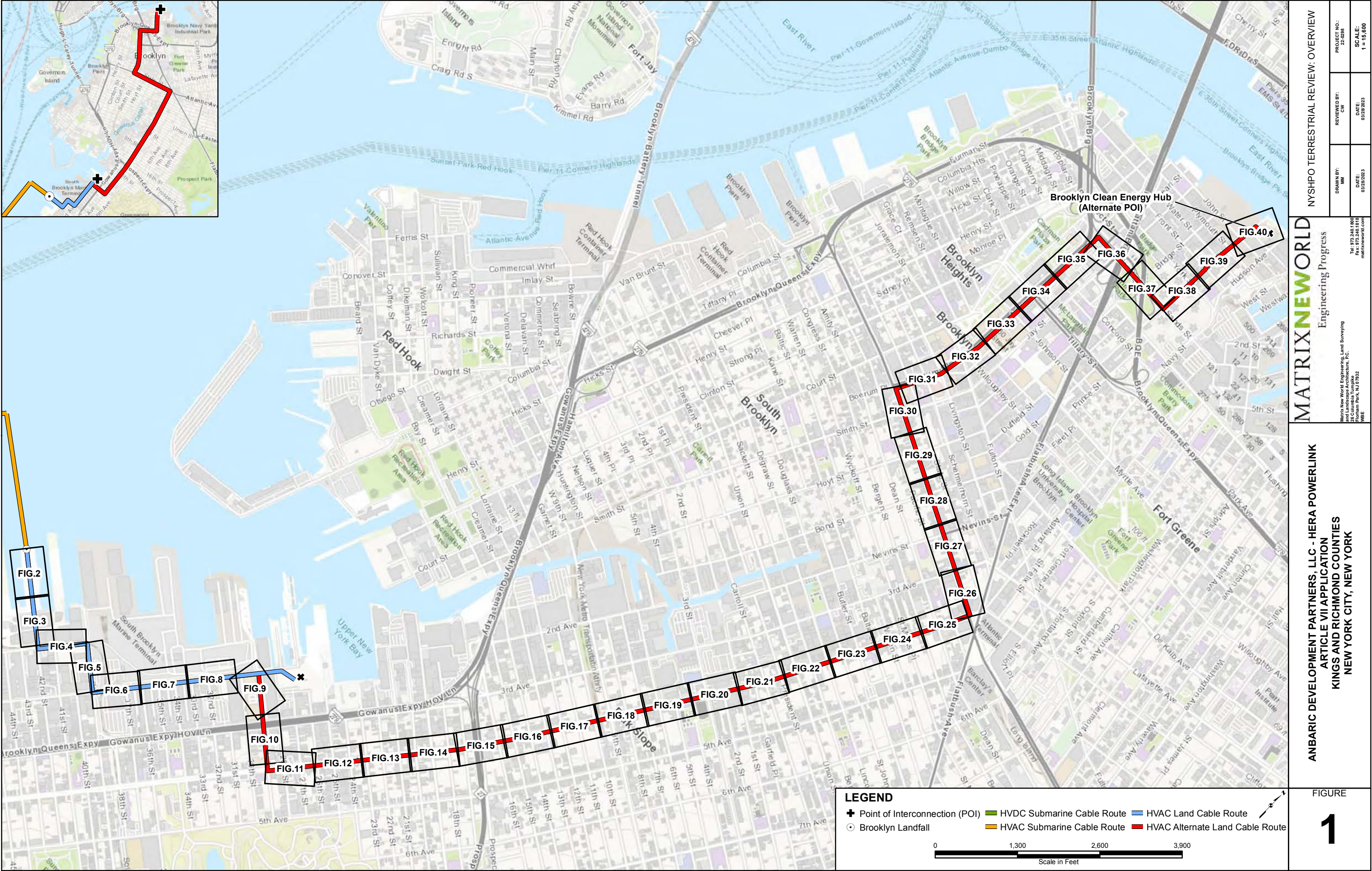
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- ⊕ Point of Interconnection (POI)
  - HVDC Submarine Cable Route (State Waters)
  - HVDC Submarine Cable Route (Federal Waters)
  - HVAC Submarine Cable Route
  - HVAC Land Cable Route
  - HVAC Alternate Land Cable Route

 **Figure 1: USGS Topographic Map**

Date: 6/27/2023







NYSHPO TERRESTRIAL REVIEW: OVERVIEW

PROJECT NO:	22-0298
REVIEWED BY:	CW
DRAWN BY:	MM
DATE:	03/20/2023
SCALE:	1" = 15,000'

MATRIXNEWORLD

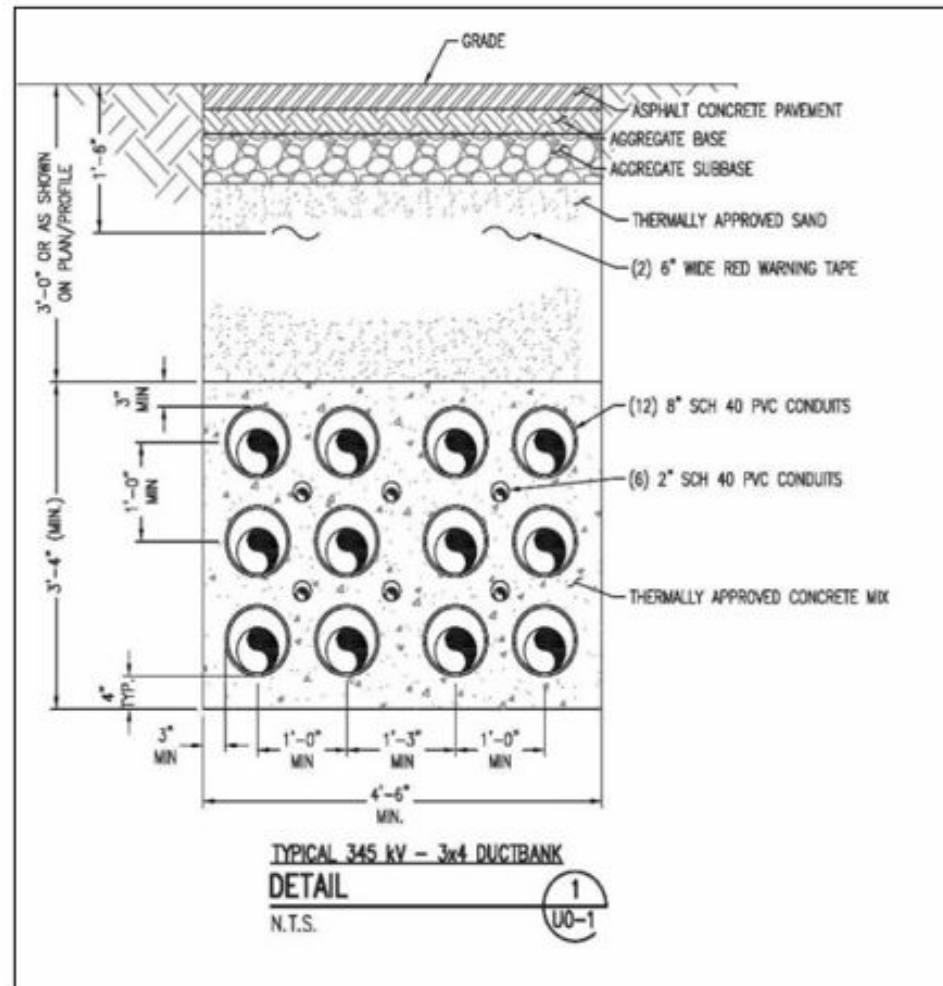
Engineering Progress

Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.  
Tel: 973.240.1800  
26 Columbia Turnpike  
Summit Park, NJ 07932  
matrixnewworld.com

ANBARIC DEVELOPMENT PARTNERS, LLC - HERA POWERLINK  
ARTICLE VII APPLICATION  
KINGS AND RICHMOND COUNTIES  
NEW YORK CITY, NEW YORK

FIGURE  
1





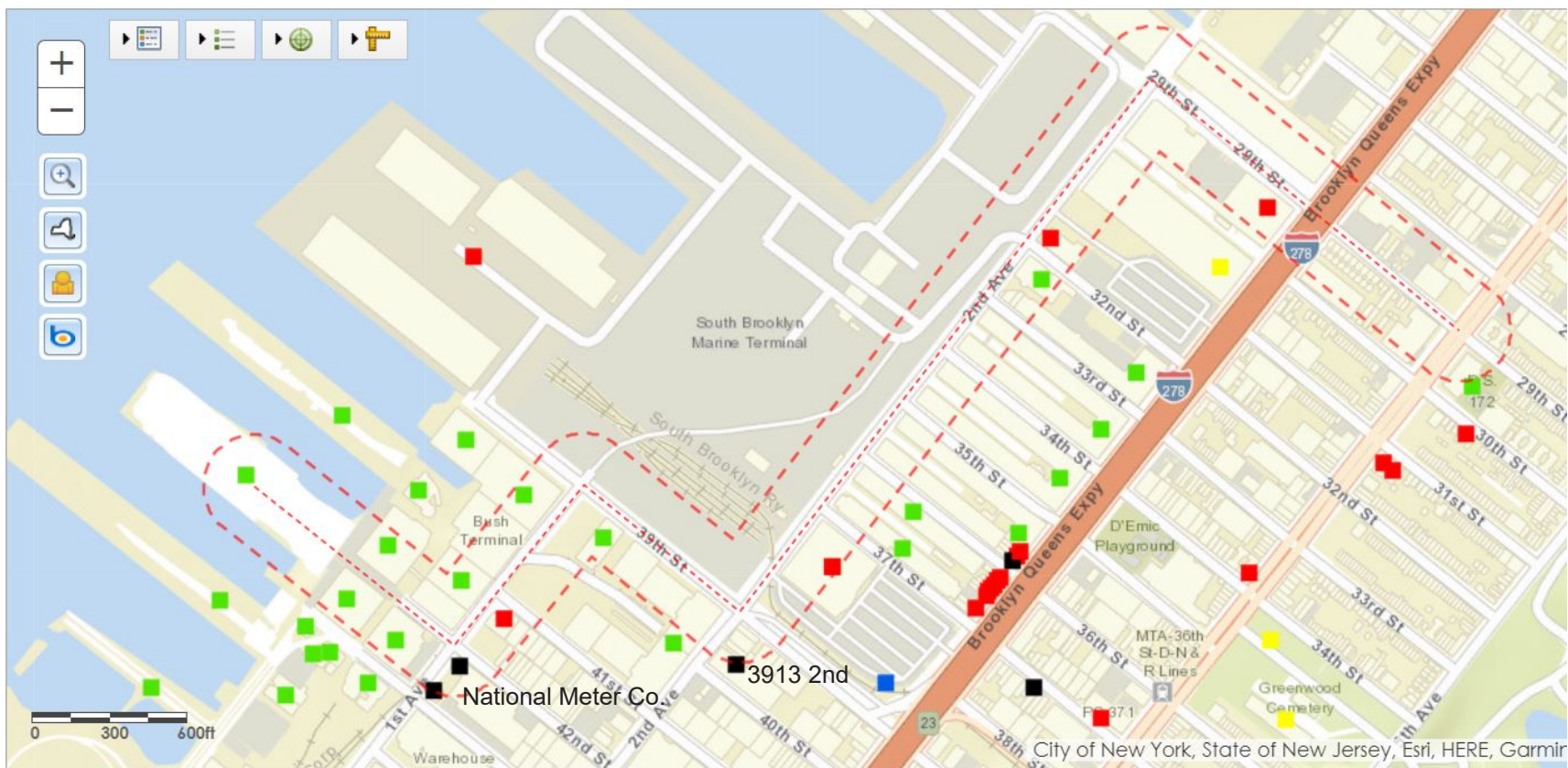
Source: Anbaric Development Partners, LLC

Anbaric Development Partners, LLC  
Hera Power Link

Typical Duct Bank and Land Trench

Figure  
3





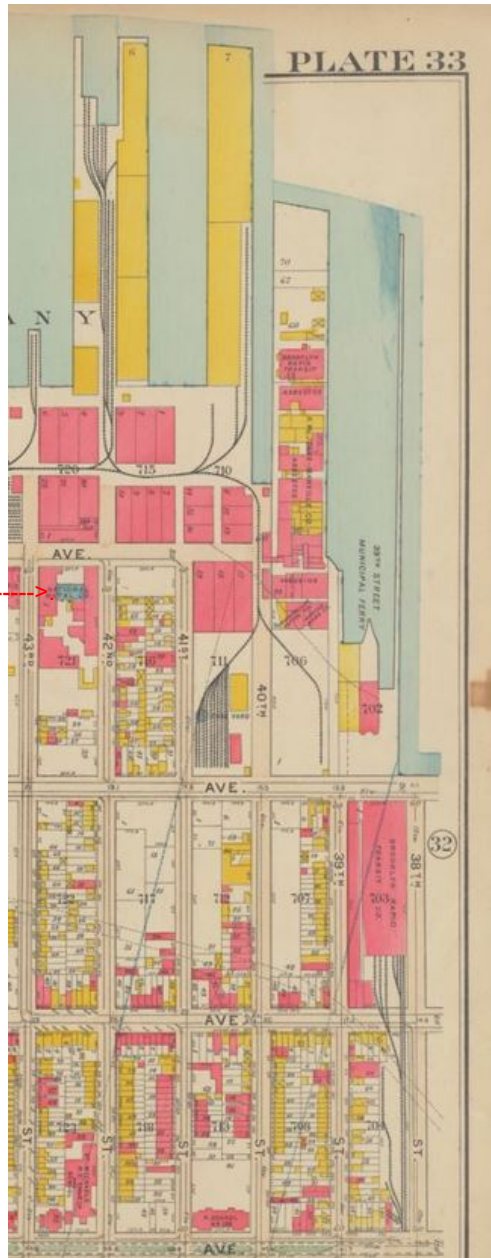
Source: NYSHPO CRIS

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Hera Power Link

Segment 1: 42nd Street/1st Avenue to  
29th Street/4th Avenue

Figure  
5

National Meter Co.----->



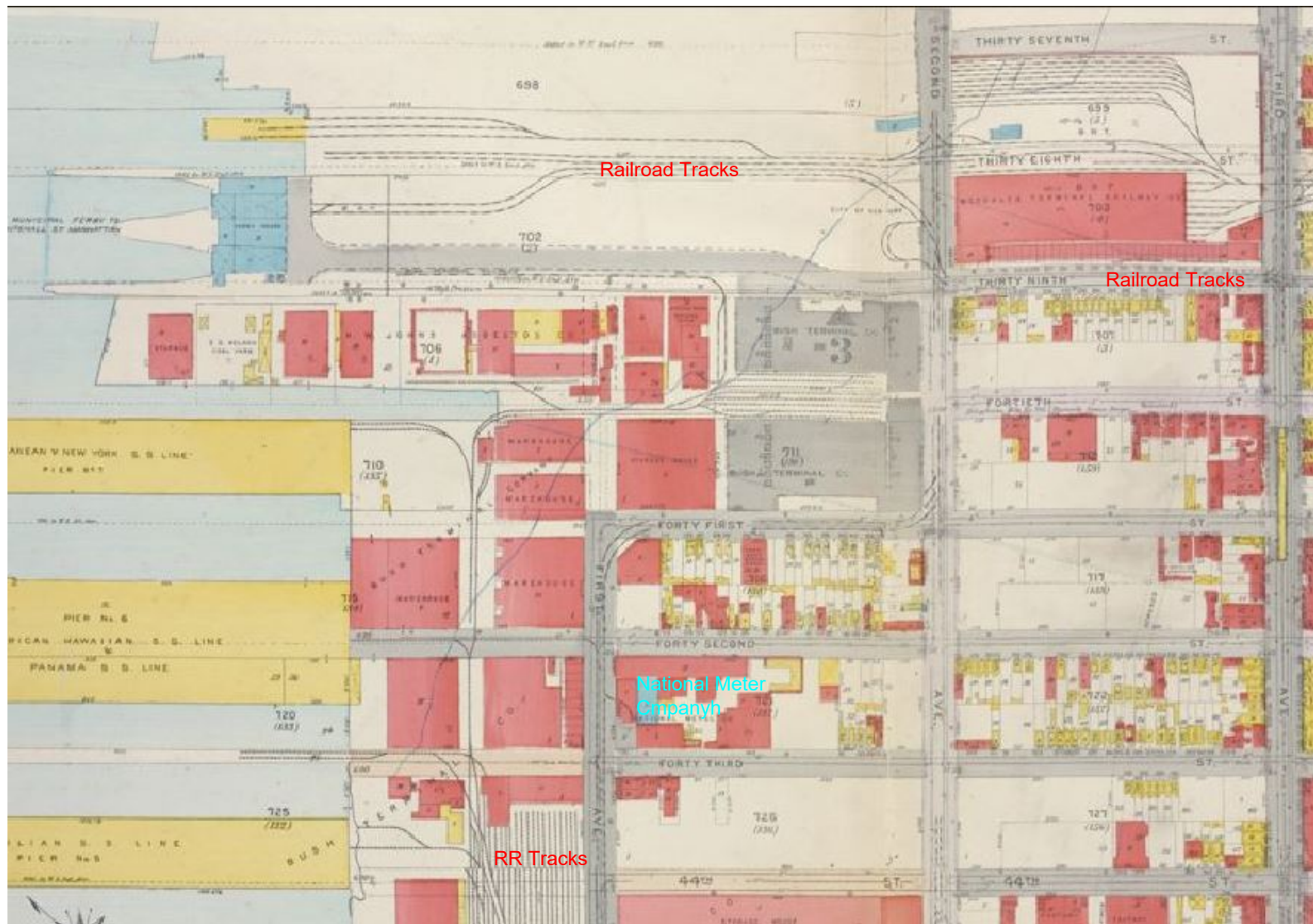
Source: NYPL, Digital Map Collection

Anbaric Development Partners,  
LLC, Hera Power Link

Bromley 1907, Plate 33: National Meter  
Company Buildings (pink and blue)

Figure  
6





Source: NYPL, Digital Collection Image

Anbaric Development  
Partners, LLC  
Hera Power Link

Hyde 1916, Plate 6: 39th Street  
and Railroad Tracks with  
National Meter Company noted

Figure  
7



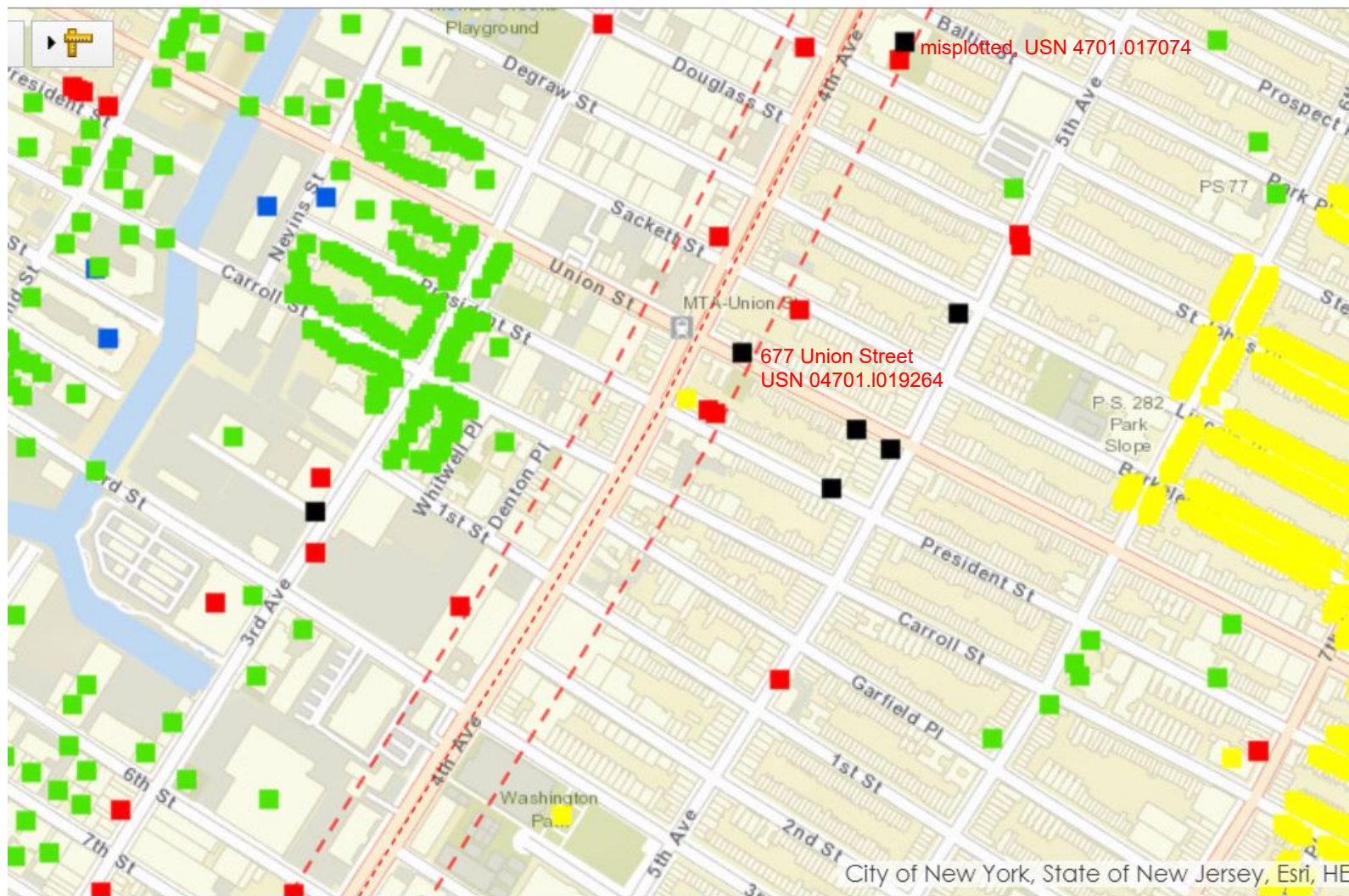
Source: MyNYC (left) and NYSHPO CRIS (right)

**Anbaric Development Partners, LLC**  
**Hera Power Link**

**3913 2nd Avenue, USN 04701.021997,**  
**1940s (left) and Current (right)**

Figure  
**8**





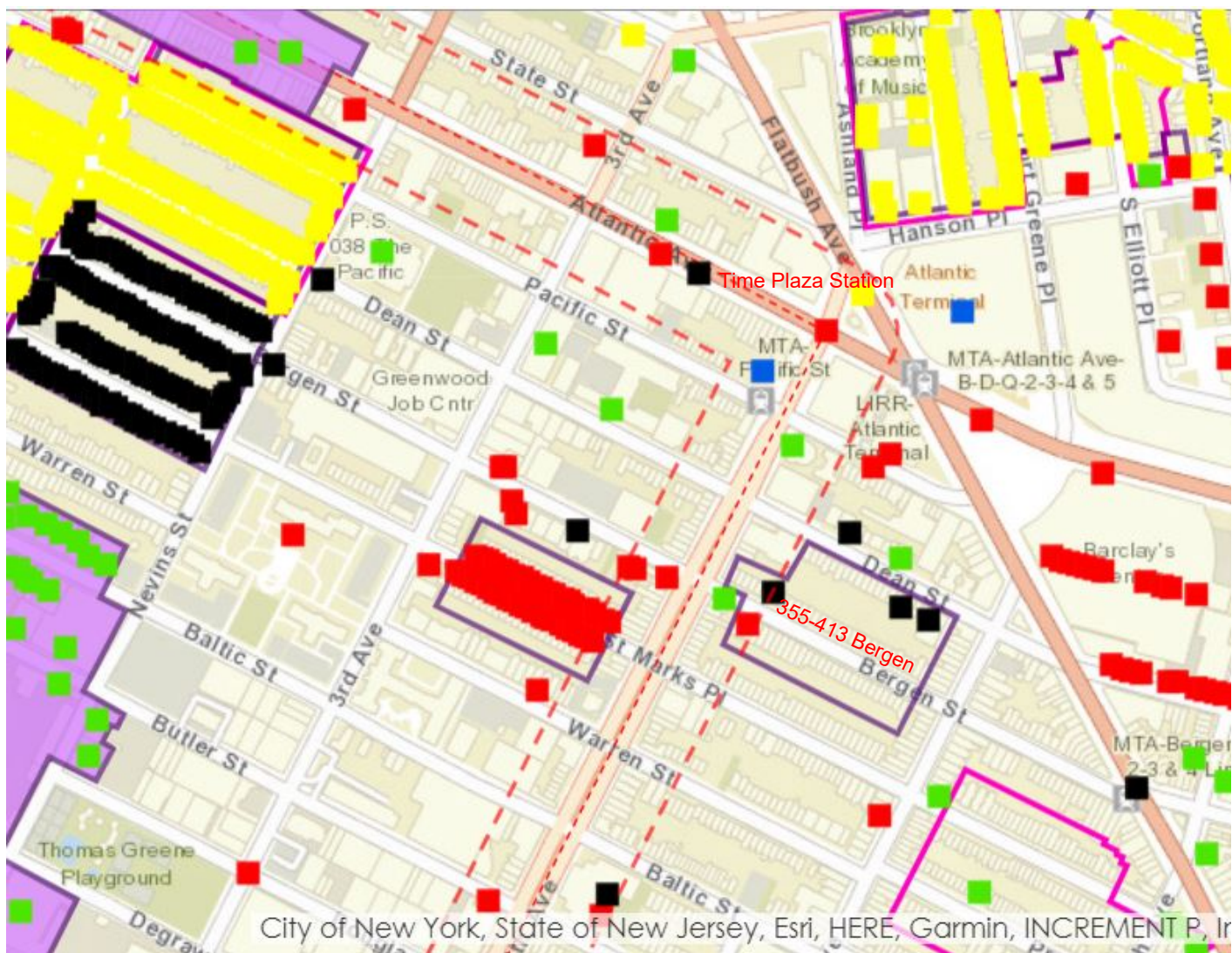
Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

CRIS Plot with Notation: 4th Avenue,  
Washington Park to Baltic Street

Figure  
9a



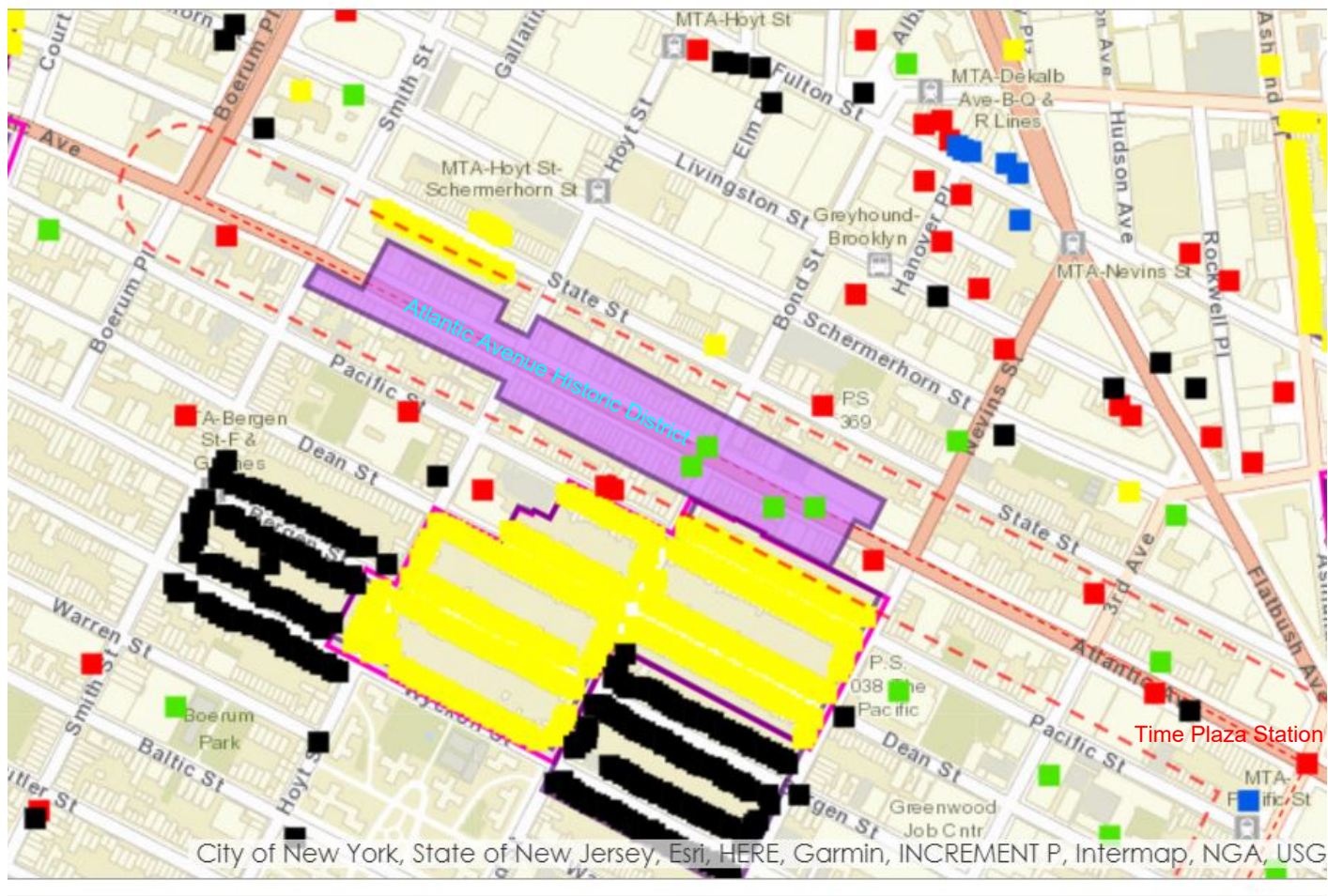


Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

CRIS Plot with Notation: 4th Avenue, Baltic  
St. to Atlantic Ave. at Nevins St.

Figure  
9b



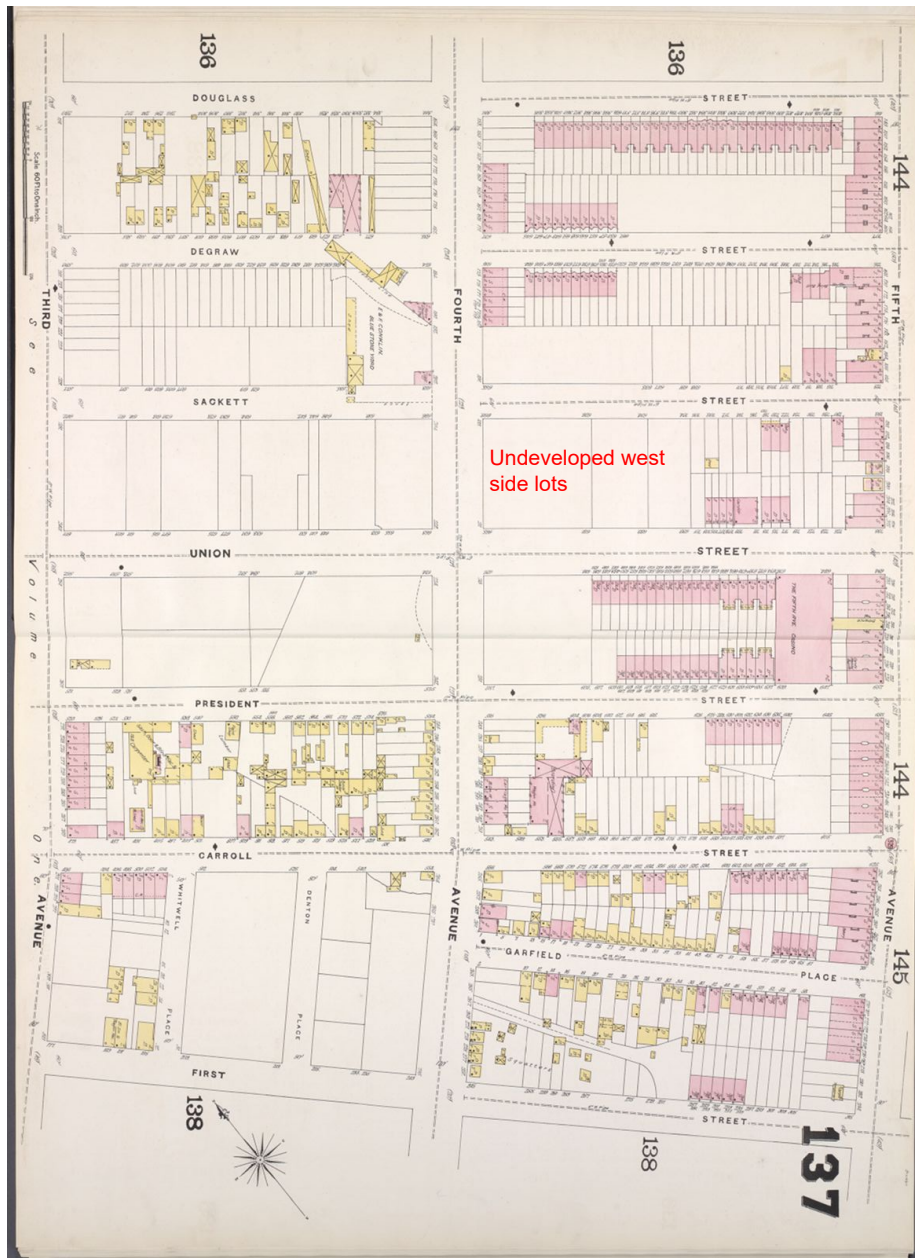
Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

CRIS Plot with Notation: Atlantic Ave.  
to Boerum Place

Figure  
9c



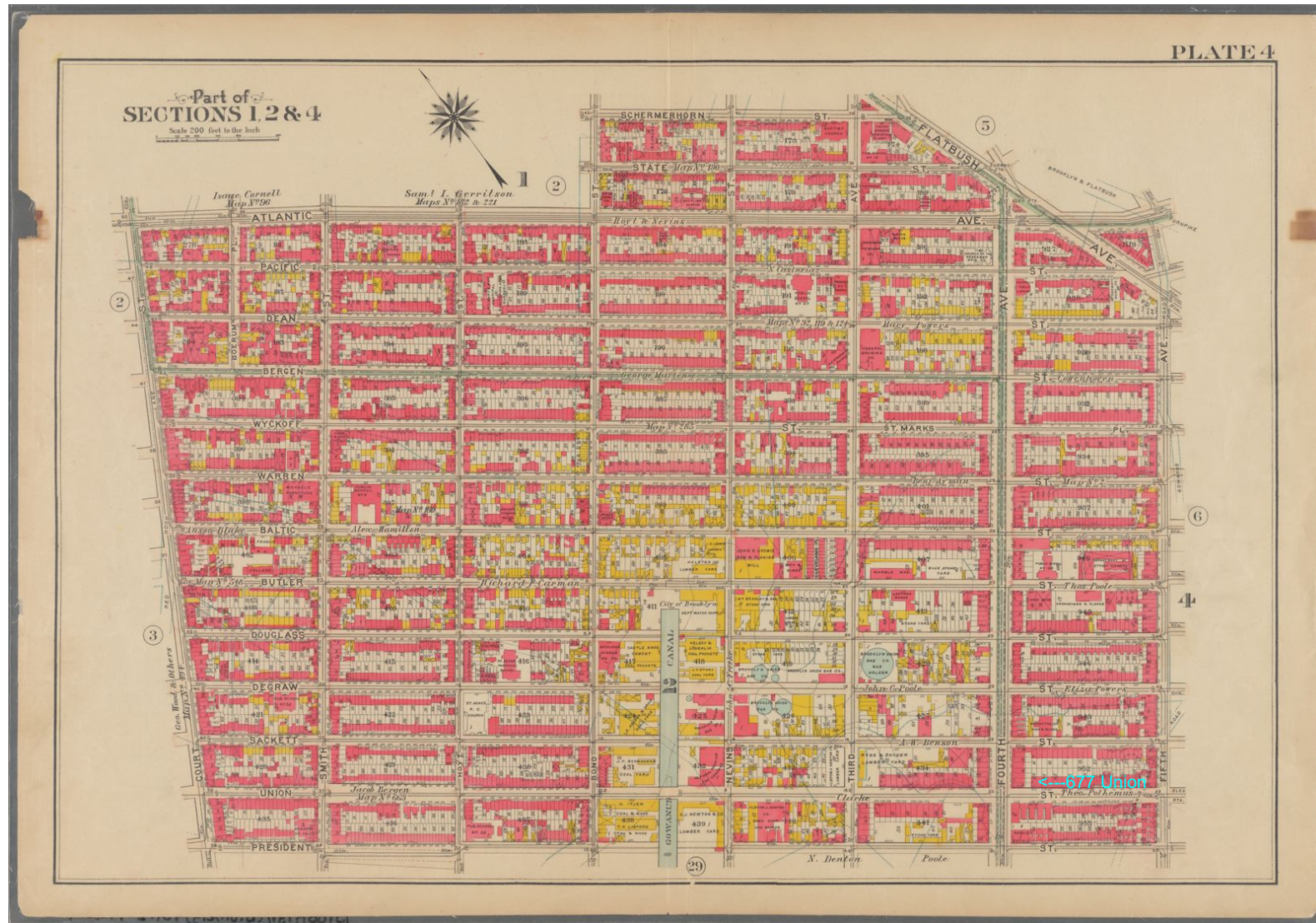


Source: NYPL, Digital Map Collection

Anbaric Development Partners,  
LLC, Hera Power Link

Sanborn 1888, Sheet 137: 677 Union Street, USN  
04701.016031, Undeveloped West Side Lots

Figure  
10



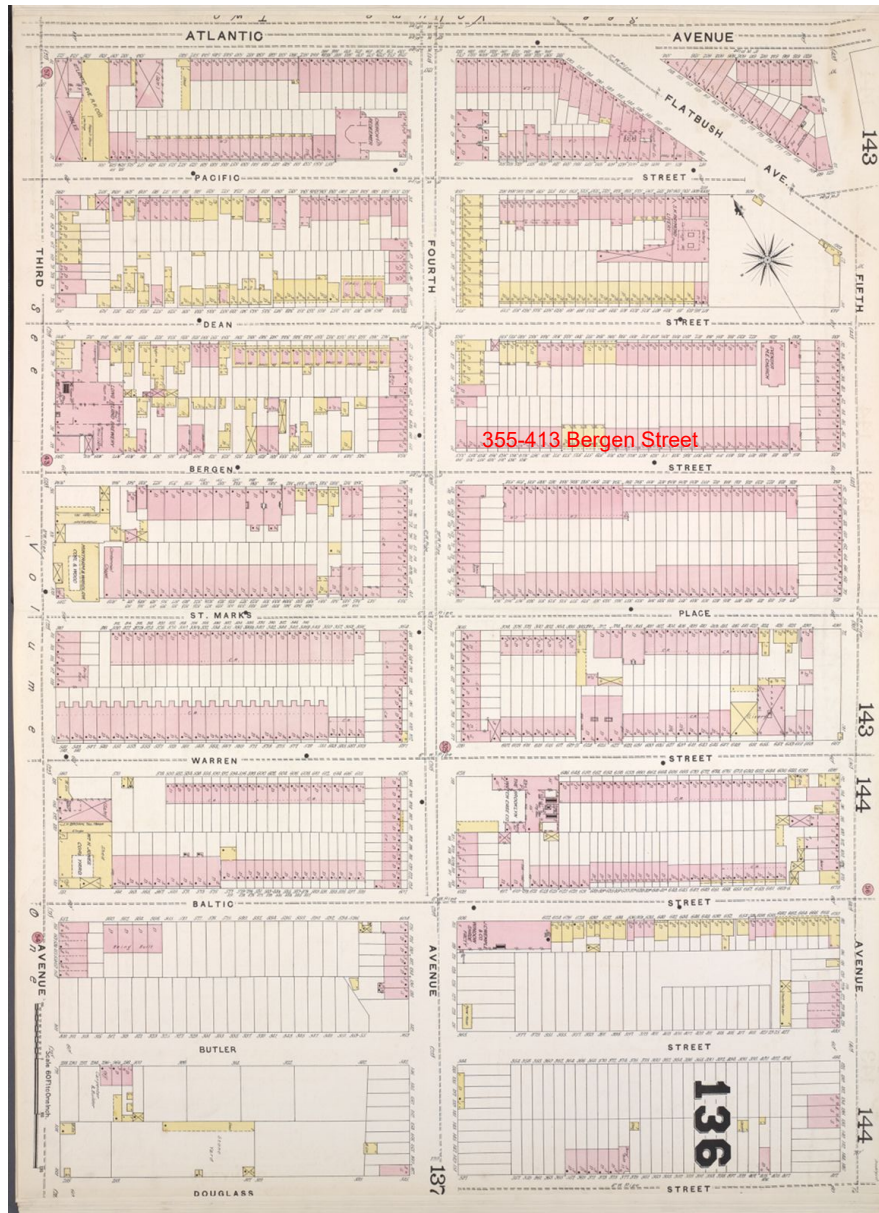
Source: NYPL, Digital Collection Image

Anbaric Development Partners, LLC  
Hera Power Link

Bromley 1907, Plate 4: 677 Union Street  
Lot Developed

Figure  
11





Source: NYPL, Digital Map Collection

Anbaric Development Partners, LLC  
Hera Power Link

Sanborn 1888, Sheet 136: 355-413  
Bergen Street, USN 04701.015909

Figure  
12



Source: NYC Department of Records & Information, dof\_3\_00186\_0020

**Anbaric Development Partners, LLC**  
**Hera Power Link**

**NYC Tax 1939-1941 (left) and**  
**1983-1988 (right) Views: 542-550**  
**Atlantic Avenue**

Figure  
**13**



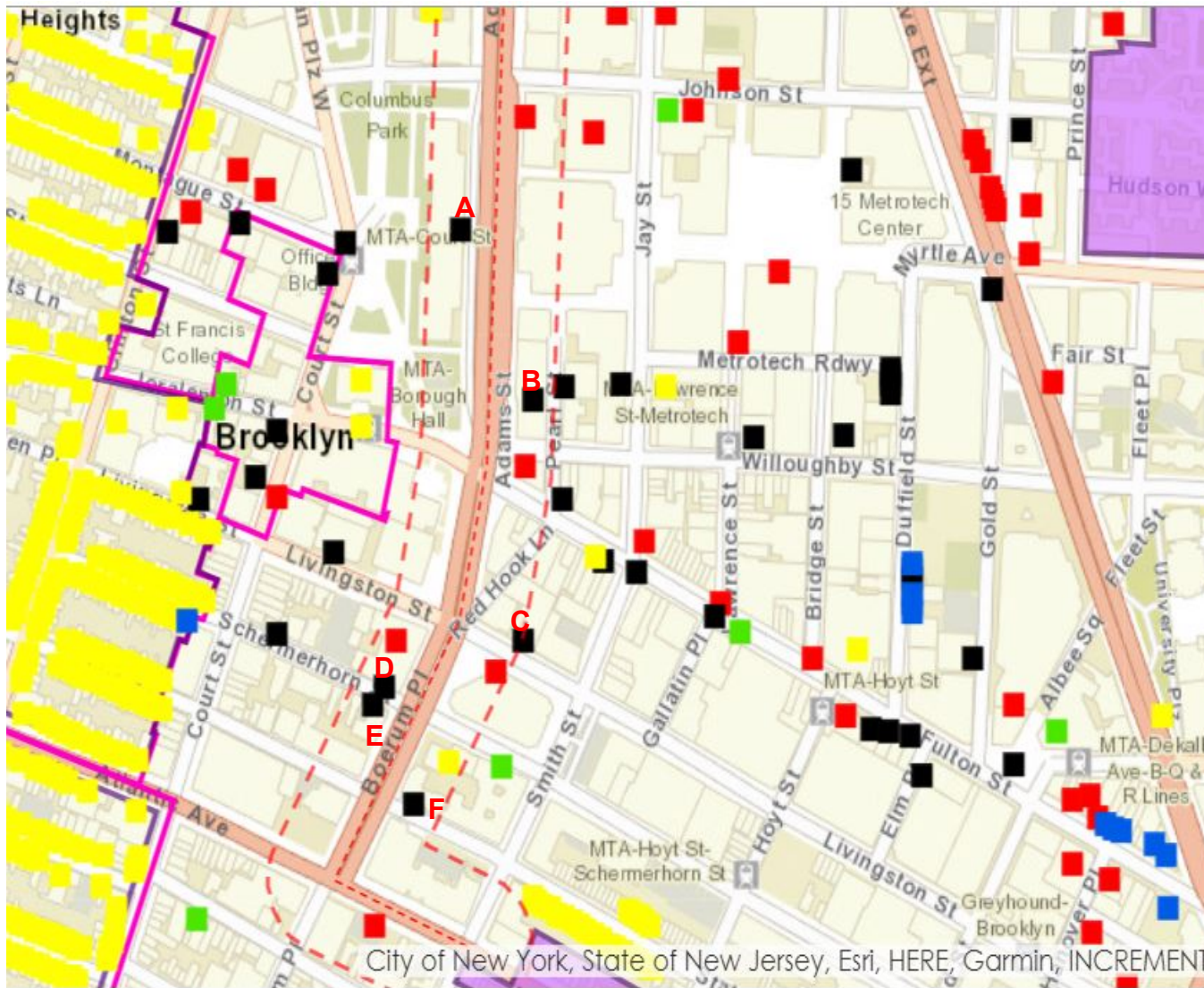
Source: <https://newyorkyimby.com/2020/12/renderings-revealed-for-542-atlantic-avenue-condominiums-in-boerum-hill-brooklyn.html>

**Anbaric Development Partners, LLC**  
**Hera Power Link**

**2020 Rendering of the Proposed  
Building at 542 Atlantic Avenue**

Figure  
**14**





**Legend:**

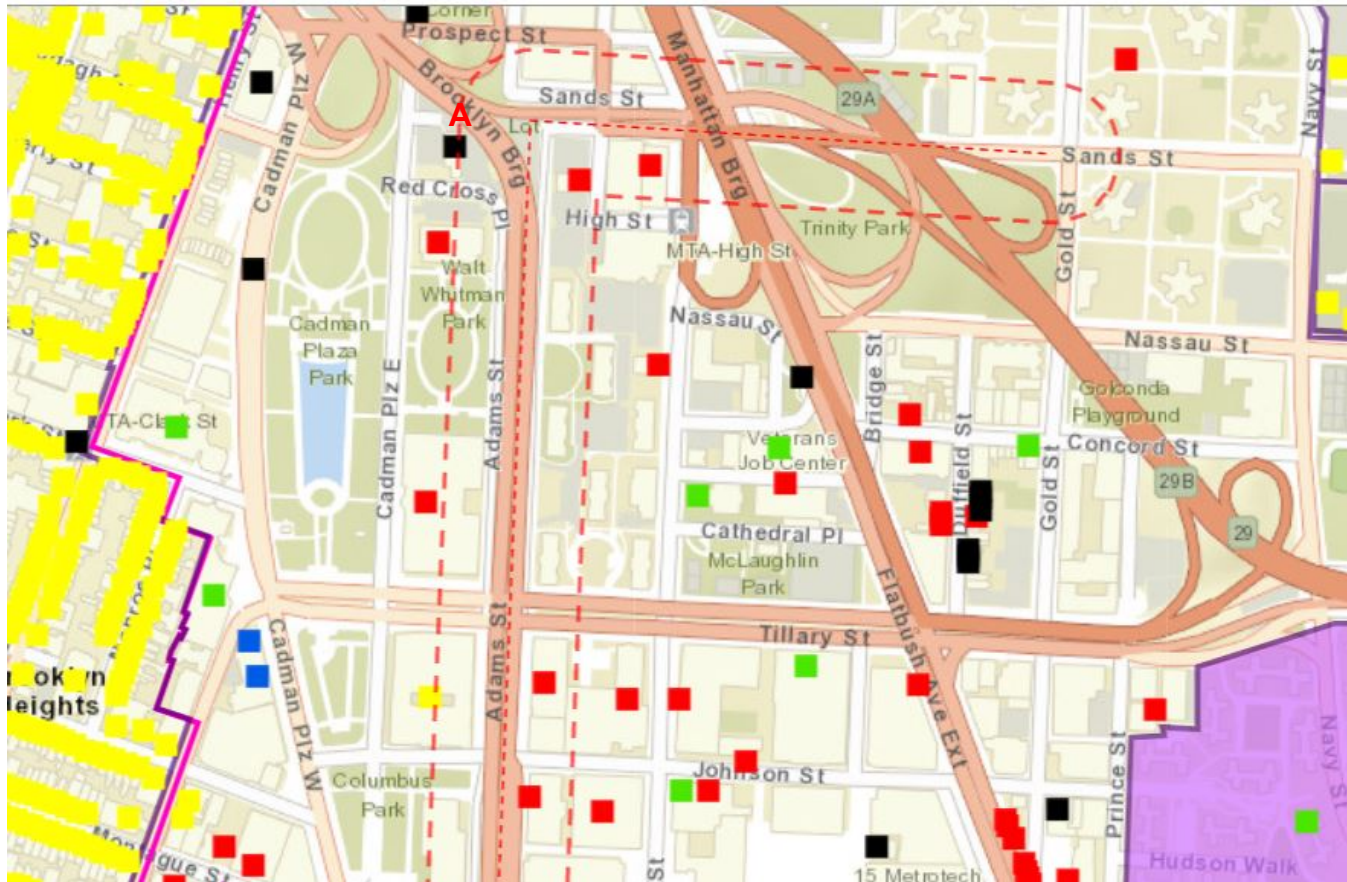
- A = 04701.017177 Kings County Superior Court, 360 Adams St.
- B = 04701.016131 Brooklyn Edison Company, 15 Willoughby
- C = 04701.016128, Board of Education Offices, 131 Livingston St.
- D = 04701.013862, Station (NY Transit Museum), 99 Schermerhorn St.
- E = 04701.013979, 96 Schermerhorn St.
- F = 04701.013900, 237 State St.

Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

**CRIS Plot with Notation: Boerum Place/  
Adams Street - Atlantic Avenue to Johnson  
Street**

Figure  
**15a**



Legend:  
A = 04701.013876 Cadman Shop

Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

CRIS Plot with Notation: Adams Street to  
Sands Street

Figure  
15b





New York Transit Museum

Source: New York Transit Museum

Anbaric Development Partners, LLC  
Hera Power Link

Court Street Station (Fulton  
Street Line) Closing Sign

Figure  
16

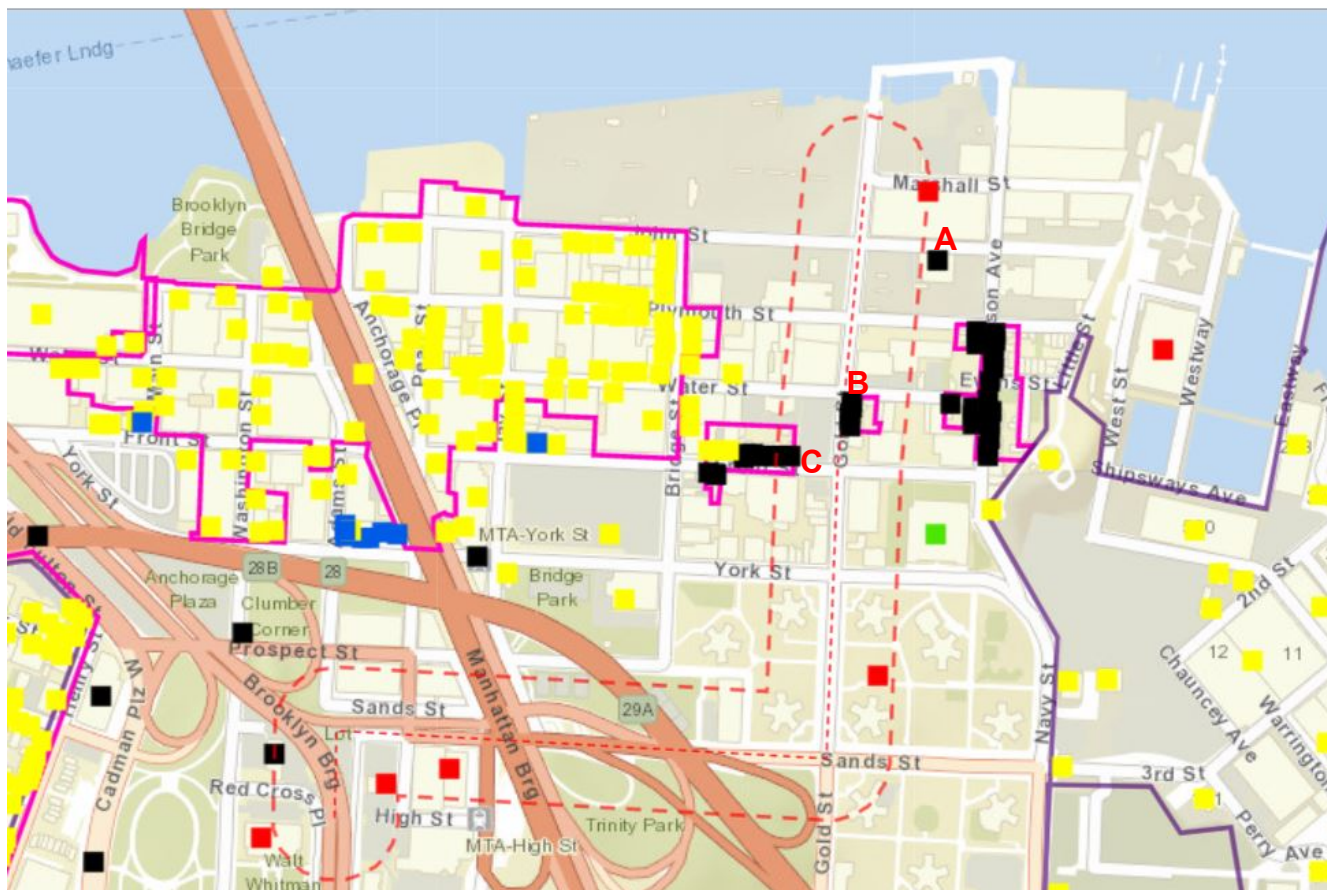


Source: NYC Department of Records & Information, dof\_3\_000154\_0001

Anbaric Development Partners, LLC  
Hera Power Link

NYC Tax 1939-1941 (left) and 1983-1988 (right) Views:  
131 Livingston Street

Figure  
17



**Legend:**

A = 04701.123884, 160-168  
John Street

B = 04701.014727 to .014731,  
69, 71, 73, 75, 77 Gold Street

C = 04701.014722 and .014723,  
247 and 249 Front Street

Source: NYSHPO CRIS

Anbaric Development Partners, LLC  
Hera Power Link

CRIS Plot with Notation: Sands Street  
via Gold Street to John Street

Figure  
**18**



Source: NYPL, Digital Map Collection

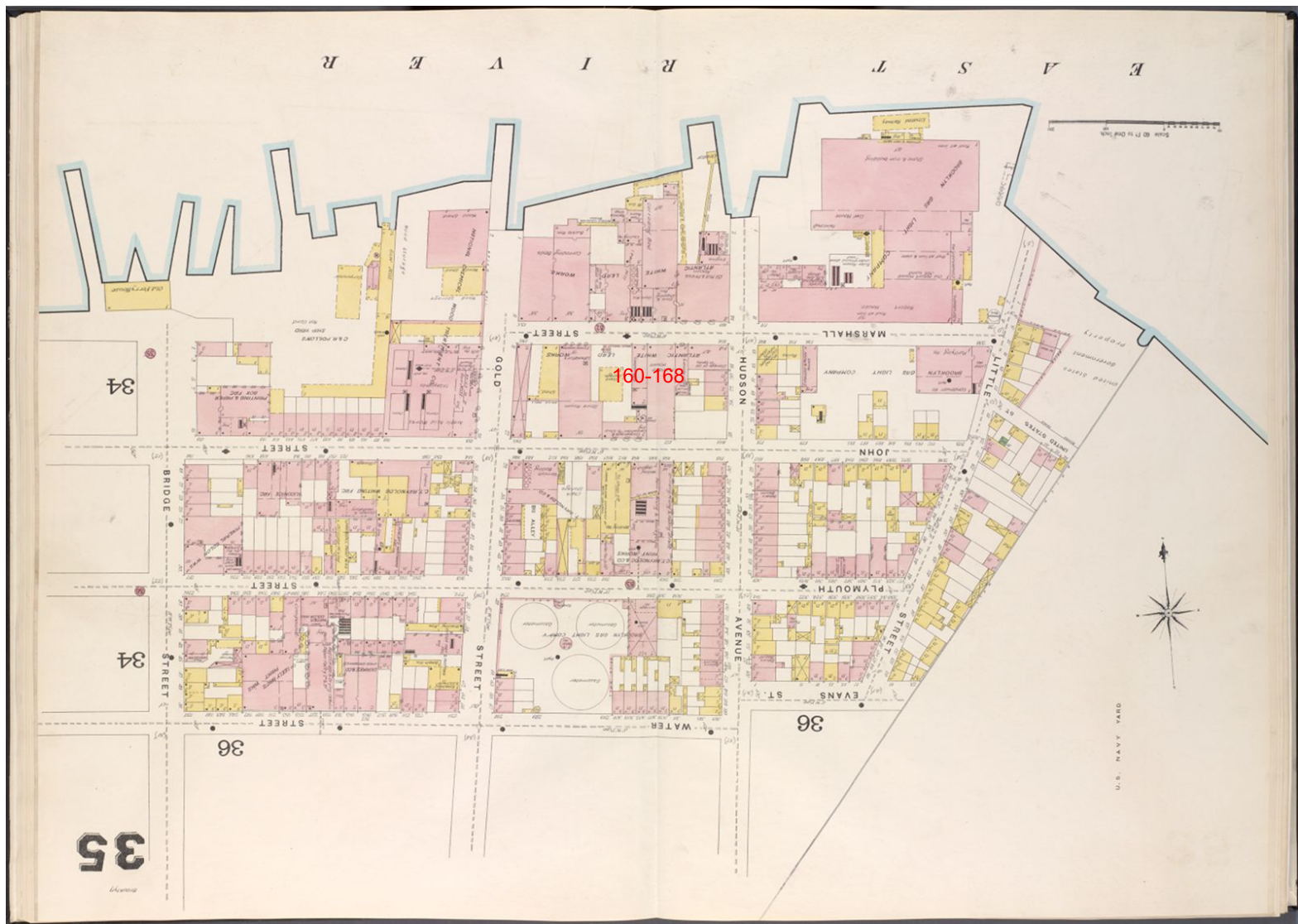
Anbaric Development Partners, LLC  
Hera Power Link

Sanborn 1887, Sheet 36: 247 and  
249 Front Street

Figure  
19







Source: NYPL, Digital Collection  
Image

Anbaric Development Partners, LLC  
Hera Power Link

Sanborn 1887, Sheet 35: 160-168  
John Street

Figure  
21







Source: NYC

Anbaric Development Partners, LLC  
Hera Power Link

NYC Tax 1939-1941: Looking at the  
north and east facades of 160-168  
John Street

Figure  
23

## **Appendix B – Agency Correspondence**

11 February 2023

**Electronic Filing**

**New York City Landmarks Preservation Commission  
Director of Environmental Review  
Ms. Gina Santucci  
Municipal Building  
1 Centre Street, 9<sup>th</sup> Floor North  
New York, NY 10007**

**RE: CULTURAL AND HISTORIC RESOURCES NOTICE OF PROJECT WITH WORK PLAN, ANBARIC DEVELOPMENT PARTNERS, LLC PROPOSED HERA POWER LINK, RICHMOND COUNTY (STATEN ISLAND), KINGS COUNTY (BROOKLYN), AND FEDERAL AND NEW YORK STATE WATERS**

Dear Ms. Santucci:

On behalf of Anbaric Development Partners, LLC (Applicant), Matrix New World Engineering, Land Surveying, and Landscape Architecture, PC (Matrix) is requesting initial consultation on the proposed Hera Power Link (Proposed Project). An application to New York State Public Service Commission (PSC) for a Certificate of Environmental Compatibility and Public Need is currently being prepared for the Proposed Project. This application requires assessment of potential environmental impacts on cultural resources. We are informing your office of the project and are seeking initial comment on the need to monitor street trenching if the Proposed Project is routed through LPC Districts or in the vicinity of cemeteries.

**INTRODUCTION**

Hera Power Link (Facility) is a proposed transmission facility that will connect offshore wind areas in Federal Waters of the Atlantic Ocean (WEAs) to the New York Independent System Operator's (NYISO) Zone J in Brooklyn (**Attachment A, Figure 1 – USGS overview, Figure 2 – Staten Island Detail, and Figure 3 – Brooklyn Detail**). As discussed below, the Applicant has defined both Preferred and Alternative Options that are primarily distinguished between those with upland or submarine routings. In addition to the submarine cable transmission and land cable routes, eight preferred and alternative landing locations also were subjected to in-field and site file review. These include

1. Staten Island – Option 1, Gateway, Arden Avenue
2. Staten Island – Option 3, Great Kills, South Beach
3. Staten Island – 200 Edgewater Street, HVDC to HVAC Converter Station (a point of interconnection [POI])
4. Brooklyn – Option 2 Brooklyn In-Water, an alternative landing in the railyard near 65<sup>th</sup> Street and 1<sup>st</sup> Avenue
5. Brooklyn – Option 2 Brooklyn In-water, an alternative landing at the 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue
6. Brooklyn – Option 2 Brooklyn In-water, preferred landing at Brooklyn's ConEd Gowanus Generating Station land pier at 4100 1<sup>st</sup> Avenue



7. Brooklyn Consolidated Edison (ConEd) Clean Energy Hub (CEH) on Marshall Street off of John Street
8. Brooklyn – Option 4 Gravesend, Bay Parkway landing

The Preferred HVDC Route, Preferred HVAC Route, and Preferred Option A (to the ConEd CEH) were subjected to cultural resources due diligence review. Unless directed otherwise, the Applicant will not advance Land Options 1, 2, 3, and 4. However, these land routings also were subjected to cultural resources due diligence reviews with associated drive-overs.

Dependent on agency responses, it is possible that any of the Preferred or Alternative Options might need a Phase IA Assessment, Documentary Study, Section 233 Permit, or a Phase I Maritime Archaeological Resource Assessment (MARA).

This notice of project and work plan is being submitted New York State Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (NYSHPO) and the New York City Landmarks Preservation Commission (LPC). These materials also will be submitted to PSC in support of the Article 7 Application. The New York State Museum (NYSM) and the New York State Office of General Services (OGS) also may be informed of the project depending on comments received from NYSHPO. PSC is the lead agency as it will review and approve the Article 7 Application.

NYSHPO, under Section 106 of the National Historic Preservation Act, as amended, and Section 14.09 of the New York State Historic Preservation Act, will comment on a proposed project that could directly or indirectly impact buildings, structures, objects, districts, archaeological sites, or traditional cultural properties that have the potential to be or are listed on the State and National Registers of Historic Places (S/NRHP). Included in the suite of resources are National Historic Landmarks. The LPC will comment on any proposed project that directly impacts city roads and/or that would have direct or indirect effects on landmarks, interior landmarks, or districts. The OGS will not require a 233 permit for the initial High Resolution Geophysical (HRG) survey offshore in state waters.

The discussion that follows is divided into three primary parts: Project Description, Cultural Resources Due Diligence Review and Results, and the Proposed Cultural Resources Work Plan. Conclusions about specific properties are within the text. The proposed work plan contains the following sections: Proposed Area of Effect Definition, Research Methods, Field Methods, Reporting, and Personnel. Full-page numbered figures are presented in Attachment A; inset figures are included herein and they are lettered. Attachment B contains submarine cable tables, Attachment C contains land cable photographs and tables, and Attachment D are the shapefiles for the preferred and option routes.

This document was prepared jointly by Matrix (Carol S. Weed, Sarah Sklar) and SEARCH (Neil Puckett, Jordon Loucks) personnel. Their contact information is presented in the personnel section of the proposed work plan. Construction information presented in the Project Description was taken from descriptions of similar actions provided by the Applicant and refined to fit the conditions for the proposed Hera Facility. This document has been subject to review by the Matrix Project Managers (Robert Fiorile, Donna McCormack) and the Applicant.

## PROJECT DESCRIPTION

The Facility proposes POIs at either ConEd's existing Gowanus Substation or the proposed ConEd CEH. Both POIs are located in Brooklyn (see **Figures 1 and 3**). Both interconnection options have been determined to have capacity to accommodate the injection of power from the Facility.

The Facility will provide for submarine transmission of 1,200 megawatts (MW) of High Voltage Direct Current (HVDC) electric from the WEA to a proposed Converter Station on the western shore of Staten Island where it will be converted to High Voltage Alternating Current (HVAC). The HVDC submarine cable system will land via Horizontal Directional Drilling (HDD) and be buried via a short length of cable to connect to the Converter Station.

Then, following conversion, the HVAC cable system will exit the Converter Station via HDD. The HVAC cable will be buried beneath the seabed of New York Bay, land on the western shore of Brooklyn (Kings County) and travel beneath public roadways and rights of way (ROW) to one of the POIs in Brooklyn.

The Facility's principal components will consist of the following elements:

1. Approximately 12.9 miles (11.2 nautical miles) of HVDC bundled submarine cable buried beneath New York State waters in the seabed of the New York Bay with landfall to link to the proposed Converter Station on the eastern shore of Staten Island (see Figure A1).
2. Approximately 0.5 miles (1 kilometer) of underground cable with associated fiber optic cable (HVDC Land Cable) to link the Submarine Cable System to the Facility Converter Station.
3. An underground Transition Vault, where the Submarine Cable System and HVDC Land Cable are linked (the HVDC Cable System).
4. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVDC Cable System landfall.
5. Converter Station that will use Voltage Source Converter-High Voltage Direct Current (VSC-HVDC) technology to convert power from DC to AC. It will be located on the 4.7acre (1.9 hectares) waterfront property at 200 Edgewater Street in Staten Island.
6. Approximately 4.6 miles (4.0 nautical miles) of HVAC bundled fiber optic submarine cable (a total of 4 cables) buried beneath New York State waters in the seabed of the New York Bay.
7. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVAC landfall.
8. Approximately 1.2 miles (1.93 kilometers) of upland cable buried beneath public roadways and ROWs to transmit power from landing of the Submarine Cable System in Brooklyn to either the existing ConEd Gowanus Substation or approximately 5.8 miles (9.3 kilometers) to the proposed ConEd CEH (Option A).

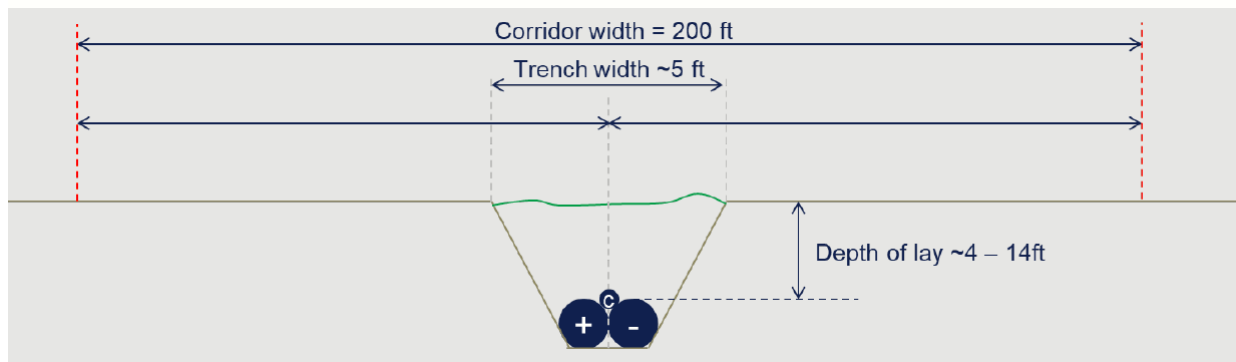
The particulars about the submarine and land routes are presented below.

### **Submarine Cable Routes (HVDC and HVAC)**

#### Construction Methods

In typical submarine conditions, the cable will be buried approximately 6 ft (1.8 m) beneath the seabed. A burial depth of up to 14 ft (4.3 m) will be required in extraordinary seabed conditions and beneath Federal Channels and other navigation channels. The final burial depths at each area of the Subsea Cable Route will be determined in consultation with the United States Army Corp of Engineers (USACE). The width of the cable

trench is 5 ft (1.5 m) and the width of the cable corridor for a single circuit cable bundle is 200 ft (61 m), with the actual cable trench placed in the middle, as shown in **Figure A** below.



**Figure A. Typical Submarine HVDC Single Circuit Corridor Trench**

Potential deviation from this configuration of the bundle will be expected at two locations of the route. The first one is at the proximity of the offshore converter station platforms, where the bundle will be separated to pull the individual cables inside the platform separately. The second one is at the landfall HDD, where the bundle will be split, and each cable will be pulled in separately.

The Submarine Cable System from WEA to the Converter Station consists of a single core HVDC cable and potentially a standalone fiber optic cable, bundled together and buried to a depth specified to protect against anchor drags, damage due to fishery gear, and against exposure due to movement of the seabed. The main advantage of installing the cables in a bundle is the reduction of the necessary burial activities and space for installation as well as the limitation of the resulting magnetic field on the surface along the route.

The HVAC Submarine Cable System will leave the Edgewater Converter Station and cross the Bay to land in Brooklyn. The HVAC Submarine Cable System consists of a four single core HVAC cables and potentially a standalone fiber optic cable.

#### *Submarine Cable System Landfalls*

The landfall of both submarine cable systems will be accomplished using HDD technology that minimizes overall disturbances in-water and on the shorelines. To facilitate HDD, submarine transition will require installation of temporary cofferdams with limited dredging inside the cofferdams. Upland of each cofferdam, transition vaults will be installed for the required splicing and connection of submarine cable to land cable. Plans herein depict the approximate location of cofferdams and transition vaults, but these locations will be finalized in the Environmental Management & Construction Plan (EM&CP).

In Staten Island, landfall occurs on the Edgewater Converter Station site that is land controlled by the Applicant. The site was selected as one of few available waterfront properties with enough space to accommodate infrastructure required for the Converter Station. Landfall in Brooklyn occurs at 102 41<sup>st</sup> Street; a NY Department of Small Business Services (SBS) owned land pier that extends into the Gowanus Bay. This site was selected because it is undeveloped and provides space for the infrastructure required to land and splice the cable, occurs on public lands that do not require private acquisitions, and the location avoids conflicts with other existing or approved cable landings.

We note that either a cofferdam or temporary gravity cells could be used at the upland landings. The cofferdam would surround all the cables in the HDD at each of the two landings while a temporary gravity cell structure would have one cell for each cable. **Figure 4 – 345 kV Transmission Line HDD Layout Area** provides a plan view of the possible configuration of the upland work space at the Brooklyn Gowanus pier landing.

It is possible that the work space at the Brooklyn Landing would be as small as 70 by 20 feet (21 x 6 meters) though it could be as large (200 x 150 feet [61 x 46 meters]) as that depicted on **Figure 4** referenced above. Under typical conditions, any temporary gravity cell structure will be no more than 2,000 feet (609 meters) from the landing location. The final configuration of each preferred landing location (Edgewater and Brooklyn Gowanus pier) will be submitted to NYSHPO and NYC LPC upon receipt for their final review.

### **Land Cable Routes (HVDC and HVAC)**

#### *HVDC Land Cable Route to Edgewater Converter Station and HVAC Land Cable Route*

The HVDC Land Cable Route is entirely located on the site selected for construction of the Converter Station located at 200 Edgewater Street on Staten Island. The Submarine Cable System lands on the Edgewater Street Converter Station site and connects to land cable through the transition vault with approximately 200 feet of Land Cable System to connect to the proposed Converter Station.

The Staten Island-based Edgewater HVDC to HVAC Converter Station is proposed on a 4.7-acre waterfront property that is controlled by the Applicant. The current tenants are Reynolds Shipyard. The existing development on the site will be demolished and removed and Converter Station will occupy the entire site which includes a waterfront parcel and an adjoining upland parcel (**Figure 5 – Proposed Converter Station Site (Edgewater Street) with Photograph Key; Photographs C1-C8**). The HVDC submerged cables will make landfall on the Converter Station property and the HVAC cables will exit the Converter Station in locations sufficient to provide separation of the AC and DC cables. The Applicant proposes to construct the Converter Station using typical site redevelopment techniques, which will include demolition, upland clearing, excavation, fill and infrastructure improvements. Within the Site, HVDC terrestrial cable will be installed underground.

#### *Submarine HVAC to Brooklyn Landings at Gowanus Station or Option A to CEH via Upland*

The Land Cable System will connect to either the existing ConEd Gowanus Station (Preferred Route) or the proposed ConEd CEH. The latter is referred to as Option A.

The Preferred Route interconnects with Gowanus Station via a transition from submarine to terrestrial at 4100 1<sup>st</sup> Avenue (**Figure 6 – Brooklyn Landing Route, Gowanus with Photograph Key; Photographs C9 through C13**). The route then follows 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to the station. The Applicant, in consultation with regulatory authorities and ConEd, will determine the final interconnection facility (and its associated terrestrial route) prior to its final design and approvals. Option A will extend the land routing following this sequence of streets: 29<sup>th</sup> Street, 4<sup>th</sup> Avenue, Atlantic Avenue, Boerum Place/Adams Street, Trinity to Gold Street.

The HVAC Land Cable Route will carry the Land Cable System from the shoreline landing to the point-of-intersection (POI) within public right-of-way (ROW) and primarily beneath paved roadways. The System will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, as shown in **Figure B – Typical Duct Bank and Land Trench Corridor Details** below. The width of the temporary trench during installation (area of disturbance) will be 9 feet (2.7 meters) wide when accounting for excavation of side slopes of up to 2:1. Once completed, the permanent trench will be 4 feet, 6 inches (1.37 meters) below grade. The temporary trench will be backfilled and topped with road pavement.



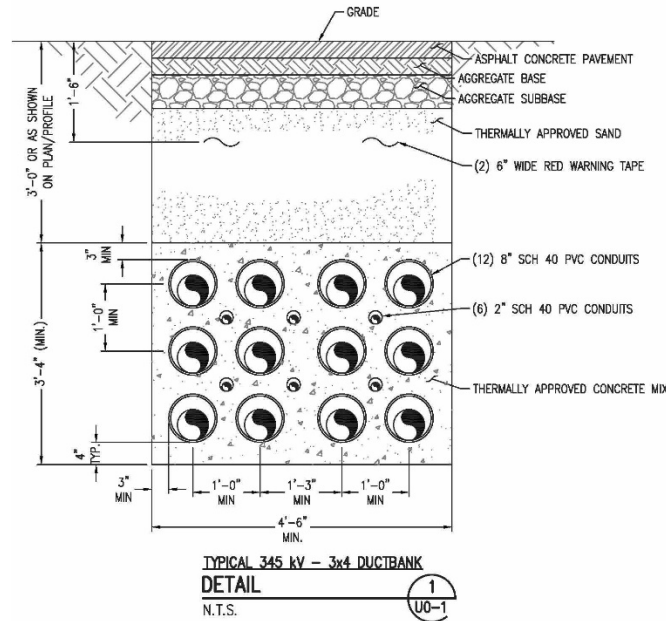


Figure B. Typical Duct Bank and Land Trench Corridor Details

### Applicant Dismissed Alternatives

To identify potential Land and Submarine Cable Routes between the WEAs and the CEH, the Applicant considered several factors concerning environmental impact, constructability, efficiency of the system, property control, and cost. The Applicant attempted to minimize overall route length, avoid geologic and navigational constraints, and avoid environmentally sensitive areas. The following criteria were used for selection of the Cable Routes:

- Minimize overall cable length, electrical losses, environmental impacts, and costs.
- Minimize longitudinal routing within limited access highway rights-of-way (ROWs).
- Minimize turns (related to acceptable bending radius of the cable) and significant elevation changes.
- Minimize disturbances to environmental resources such as wetlands and other environmentally sensitive lands, by utilizing previously disturbed lands for construction and cable installation.
- The availability of easement rights along the route, given the lack of eminent domain authority.
- Reduce potential for navigational conflicts.
- Minimize the crossing impacts associated with established vessel anchorages, mooring areas, and existing submarine infrastructure such as cables, pipelines, municipal water intakes, etc.
- Avoid or minimize environmental impacts to aquatic resources and known submerged historical resources.
- Locate subsurface geological conditions conducive to burial of the Submarine Cable by jet plow embedment to avoid potential damage to the Cable System and to minimize environmental impacts.
- Avoid/minimize impacts to sensitive habitat areas such as protected species, essential fish habitat, and protected habitats where possible.
- Availability of properties along the route to construct a HVDC to HVAC converter station.

### Construction Methods

The upland construction methods will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, supplemented with trenchless installations. The construction contractor indicates that the land trenches will be no wider than 9 feet (2.7 meters). While the exact locations of the street trenches are currently unknown, the trench will not extend greater than 18 inches (1.5 ft or 0.46 meters) inside the curb line. The construction equipment will occupy one street lane during the construction period. In sequence, the construction will involve installation of the manholes and then “trenching will ‘connect the dots.’” It is estimated that one manhole will be installed per week and that each manhole will be separated from the next by about 1500 ft (457 m). The estimate is that approximately 100 feet (30.5 meters) of trench will be completed per day.

### Staten Island Option 1 – Gateway Land Route to Edgewater Converter Station

Option 1 is the only one of the upland routes that would cross public beach and enter into public land (**Figure 7 - Option 1 Gateway with Photograph Key; Photographs C14 through C17**). The Option branches off the preferred submerged HVDC cable route 1.76 mi (2.84 km) southeast of Verrazzano-Narrows Bridge. It is distributed 1.44 mi (2.32 km) northwest of the branch point, directly to Staten Island where South Beach and Fort Wadsworth Beach meet. This option goes ashore on the Fort Wadsworth beach, trends northeast up a paved beach path to enter on to USS North Carolina Road to the intersection with USS Constitution Court. At that point, the routing takes the HVDC cable off Fort Wadsworth property via Lily Pond Avenue. The road sequence from Lily Pond Avenue is School Road, Bay Street, Clifton Avenue, Edgewater Street to the Converter Station.

### Staten Island Option 3 – Great Kills Land Route to Edgewater Converter Station

Option 3 branches off the preferred HVDC cable route 0.72 mi (1.16 km) north of the northernmost boundary point between New Jersey and New York within the Lower New York Bay. The option extends west 9.77 mi (15.73 km) toward Annadale Beach on Staten Island and making landfall at Arden Avenue. This is the longest of the terrestrial options spanning some 9.7 miles (15.6 km) through predominately residential and village commercial areas. The roads traversed range from four-to-two lanes wide and some of them are bracketed by one-way streets making detour routing difficult. Local truck traffic is heavy and most of the roads also carry bus and school bus traffic. The landing for the HVDC transmission cable would be Arden Avenue, in a residential area (**Figure 8 – Option 3 Great Kills with Photograph Key; Photographs C18 through C20**). The street sequence from there is Amboy Road, Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, Edgewater Street to the proposed Converter Station.

### Brooklyn Option 2 – Brooklyn In-Water to Gowanus Substation

Option 2 has the shortest terrestrial component. The converted HVAC cable will follow the east side of the Narrows Channel to Buttermilk Channel where it will follow the pier line from Buttermilk Channel to Bay Channel. At Bay Channel it will enter via the 4100 1<sup>st</sup> Street pier in the Gowanus Station (see **Figure 3**). Three landings were evaluated for this option. Each of the locations would have required space for a converter station, but none offered such space. These landing options are discussed in the next section in detail.

### Brooklyn Option 4 – Gravesend Belt Parkway to Gowanus Substation

Option 4's submarine route branches off the preferred HVDC cable route at the same location as option 2: 3.44 miles (5.53 kilometers) southeast of the Verrazzano-Narrows Bridge. It turns northeast 2.25 miles (3.62 kilometers) southeast of the bridge, extending 1.40 miles (2.26 kilometers) towards King's County. Based on observed conditions, the terrestrial route could result in major traffic disruptions particularly along the Belt Parkway and the dense industrial warehouse area along 2<sup>nd</sup> Avenue. This option's route takes it ashore at Bay Parkway between Bensonhurst Park and the shopping complex anchored by a Target Store (**Figure 9 –**

**Gravesend Landing with Photograph Key; Photographs C21 – C25).** The trench line then follows the western side of the Belt Parkway which, for much of the distance, is adjacent to the Bensonhurst Park walkway. The route would exit onto 2<sup>nd</sup> Avenue and follow that north to the Gowanus Station.

## **CULTURAL RESOURCES DUE DILIGENCE REVIEW WITH RESULTS**

The due diligence site file review prefaced the creation of the proposed work plan. The review was completed to determine 1) the overall archaeological sensitivity of the off-shore preferred and option routes; 2) the archaeological sensitivity of the upland options; and 3) the number of listed and eligible historic properties and districts that immediately bounded the proposed terrestrial street routes. The in-field reviews were limited to drive-overs of the land routes. These were completed by Carol S. Weed and Sarah Sklar on October 27 and 28, 2022.

### **Data Sources Reviewed**

For due diligence site file and project area review, the off-shore and upland routes were both considered. The common sources used by both sets of investigators included the NYSHPO NYCRIIS which subsumes the LPC) landmark properties and the NYSM site lists. Meade's (2020) New York City Cemetery inventory also was referenced for the terrestrial options.

Mathew Shepard (NYSHPO CRIS) was provided with Geographic Information System (GIS) merged polygon shapefiles and, in turn, he provided data sets for both submerged and upland cultural resources in addition to listings of previously completed surveys. The merged polygon shapefiles will be filed with this packet submission to NYSHPO and LPC.

The offshore shapefiles included the centerline and a 1-mile (1.6 kilometer) buffer. The upland merged polygon/shapefile included the centerline and a 320-foot (97.5 meter)] buffer located to either side of the centerline. The latter width commonly included all buildings, structures, and objects facing inward toward the centerline on any given road. SEARCH further reviewed the NYSHPO historic project plot maps for any submerged historic resource surveys within a one-mile search buffer of the proposed routes. SEARCH also used the BOEM Archaeological Resource Information Database, the National Oceanic and Atmospheric Administration's (NOAA) Automated Wreck and Obstruction Information System (AWOIS), the NOAA Electronic Navigation Charts Database (ENC), and Global GIS Data Services, LLC's Global Maritime Wrecks Database (GMWD) to identify known or potential shipwrecks within the buffer areas for all off-shore routing and the landing locations for Options 1, 2, 3, and 4.

### **Submarine Cable Route Site File Review Results**

SEARCH's due diligence site file review of the preferred and alternate routes reports all known submerged sites, shipwrecks, and surveys within the one-mile APE for each corridor. Each route and their associated results are discussed below. A master table including all submerged cultural resources are presented by preferred and alternative options in **Attachment B, Table B1- Master Previous Offshore Surveys, Table B2 - Master Offshore Cultural Resources Sites**. The submarine cable route figures are presented in Attachment A and are **Figures 10 through 13**. The latter show the locations of previously surveyed areas and the reported locations of offshore shipwrecks.

### *Preferred HVDC and HVAC Routes*

The due diligence record search of the preferred HVDC and HVAC routed found that 12 surveys had been conducted of some part of the two preferred routes (**Table B1; see Figure 10 – Submerged Surveys within 1-mile of the Preferred Route**).

An additional survey report provides supplementary information to one survey on the list (NYSHPO Survey 08SR58377 supplements NYSHPO Survey 09SR59295) and it is not displayed on Figure B1. Five surveys cross the preferred route (see **Figure 10**). Survey 02SR52309 is a maritime shipwreck survey corridor that crosses the HVDC and HVAC routes at three locations across Upper and Lower New York Bay. Survey 02SR53363 is a maritime shipwreck survey that overlaps the northern portion of the HVDC route and the southern area of the HVAC route. Survey 09SR59295 is a large maritime survey located in Lower New York Bay and overlaps much of the HVDC route. Surveys 17SR0034 and 18SR56141 are maritime surveys associated with the same proposed construction project, with survey 18SR56141 supplementing survey 17SR0034. Both survey areas overlap a small portion of the HVDC route in Lower New York Bay. These surveys were the first identified in the record search review that include sub-bottom analysis for buried, pre-contact paleofeatures. Finally, survey 21SR00597 is a maritime survey located south of surveys 17SR00334 and 18SR56141 and overlaps the preferred HVDC route for a short stretch.

The NYCRIIS review yielded no information on submerged archaeological sites or historic properties within 1-mile (1.6 kilometer) of the preferred HVDC and HVAC routes. However, BOEM, NOAA AWOIS and ENC, and the GMWD databases contained 66 known shipwrecks within search area (**Table B2; see Figure 11 – Shipwrecks within 1-mile of the Preferred Route**). None of the shipwrecks are plotted within the 200 feet (61 meters) work corridor. Additionally, none of the wrecks identified are within 164 feet (50 meters) of the work corridor edge, ensuring that all of the plotted wreck locations have at least a 165-foot (50 meter) buffer between the work area and the plotted wreck locations. It is important to note that plotted wreck locations may include error based on reporting standards and potential for post-depositional movement.

In addition to shipwreck and recorded sites, NYSHPO Surveys 17SR00334, 18SR56141, and 21SR00597 included sub-bottom analysis of the Lower New York Bay buried sediments for potential intact subaerial landforms and pre-Colonial period features. These features are commonly referred to as Ancient Submerged Landform Features (ASLFs). None of the surveys identified any intact landforms within the work corridor of the preferred HVDC route. Surveys 17SR00334 and 18SR56141 identified one nearby ASLF, an intact peat deposits southwest of the Ambrose Channel (Schmidt et al. 2017, 2019). Survey 21SR00597 noted two areas with potential ASLFs, intact clinoform bedding northeast of Ambrose Channel and a preserved paleochannel feature to the southwest of the Ambrose Channel (Wilson and Gates 2021). These results suggest the presence of a preserved migrating paleochannel feature and potential margin deposits buried within Lower New York Bay.

### *Staten Island Option Route Landings*

**Option 1 – Gateway:** The NYCRIIS record search identified three (3) maritime surveys within 1 mile (mi) (1.6 kilometers [km]) of the option's submerged route (**Table B1**). Of these, NYSHPO Surveys 02SR52309 and 02SR53363 cross the option where it branches off the preferred HVDC route (see **Figure 12 – Submerged Surveys and Archaeological Sites within 1-mile of Optional Routes**). No submerged archaeological sites or historic resources identified in NYCRIIS are within 1-mile (1.6 kilometer) of Option 1. SEARCH identified 11 shipwrecks within 1 mile (1.6 kilometer) of the option, but none of these are within the 200 feet (61 meters) work corridor or within 50 m (164 ft) of the corridor's edge (**Table B2; Figure 13 – Shipwrecks within 1-mile of Optional Routes**).

Option 3 – Great Kills: The NYCRIIS database review identified six (6) maritime surveys within 1 mile (1.6 kilometer) of the option (**Table B1**). Three of the surveys overlap the option route: surveys 02SR52309, 02SR53363, and 09SR59295. Each of the surveys overlap the option across its eastern portion (**Figure 12**).

Option 3 is the only route within 1 mile (1.6 kilometer) of submerged sites within the NYCRIIS database. SEARCH identified 11 sites within the review area (**Table B1**; see **Figure 12**), but none of these were located within the 200 feet (61 meters) work corridor or the 50 m (164 ft) buffer beyond the work corridor. An additional 17 wrecks were identified within 1 mi (1.6 km) of the option (**Table B1**). As with the sites, none of the wrecks fall within the 200 feet (61 meters) work corridor or a 164-foot (50 meter) buffer beyond the corridor (see **Figure 13**).

#### *Brooklyn Option Route Landings*

Option 2 – Brooklyn: SEARCH identified 12 maritime surveys located within 1 mile (1.6 kilometer) of the option (**Table B1**). Survey 02SR53363 overlaps the option's route. Additionally, survey 08SR59099, a maritime survey located within Upper New York Bay, overlaps Option 2's 200 feet (61 meters) work corridor near its proposed landfall location (see **Figure 12**).

No submerged archaeological sites or historic resources within the NYCRIIS system are within 1 mi (1.6 km) of Option 2. SEARCH's review identified 31 shipwrecks within 1 mile (1.6 kilometers) of the option. One of these is located within the 200 foot work zone and is classified on the NOAA ENC (n.d.) database as an 'unknown dangerous wreck without a loss date' (**Table B1**). No additional wrecks are located within the 200 foot work zone or within 50 m (164 ft) of the work zone edge (see **Figure 13**).

Option 4 – Gravesend: Eight (8) maritime surveys from the NYCRIIS database and the NYSHPO historic resource plot maps are within 1 mile (1.6 kilometers) of this option (**Table B1**). Only one survey overlaps the option's route and the 200 foot work corridor: survey 09SR59295. This survey overlaps the southern end of the option (see **Figure 12**).

No submerged archaeological sites or historic resources identified within the NYCRIIS database are within 1 mile (1.6 kilometer) of Option 3; however, SEARCH identified 44 shipwrecks within this distance (**Table B1**). One of these is located just outside the 200 foot work corridor, 104 feet (31.6 meters) from the option center line (see **Figure 13**). This wreck is classified on the NOAA ENC (n.d.) as an "unknown dangerous wreck without a sink date."

#### **Land Route Site File Results**

The terrestrial options subject to site file review were HVAC Preferred Option A to CEH, Staten Island Options 1 and 3 including landings on Edgewater Street, Arden Avenue, and South Beach; Brooklyn Options 2 and 4 and the vicinities of the landings on Bay Parkway, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, and the proposed CEH near Marshall Street off of Johns Street. The centerline streets were driven. There was no access to the fenced location of the Reynolds Shipyard, which will be demolished for part of the Edgewater Converter Station, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, or the proposed location of the CEH.

**Table 1 – Land Route Due Diligence Summary Data** presents a summary by upland options. NYSHPO Individual buildings, structures, districts, and NYC Landmarks are accounted for in the table. Individual elements within

districts may not all be represented as some of these were outside of the buffer boundaries. On the table, archaeological sites are noted by their NYSHPO Unique Site Numbers (USNs) or those applied to such properties by the NYSM and LPC. Also summarized are those resources with an Undetermined status and those that have been determined Not Eligible for listing in the State or National Registers of Historic Places (S/NRHP).

**Table 1. Land Route Due Diligence Summary Data**

Option	Search Section	Eligible	Listed	NR Listed	LPC Landmark	Not Eligible	Undetermined
Option 1 - Gateway	Centerline	2	2			2	17
	Buffer	4				1	13
Option 2	Centerline						
	Buffer						
Option 3 – Great Kills	Centerline	11	1		4	20	37
	Buffer	3			5	8	19
Option 4 - Gravesend	Centerline	7	3			11	5
	Buffer	3	1		2	13	10
Option A - To CEH	Centerline	11	1	6		8	9
	Buffer	5	80	10		46	18
<b>TOTAL =</b>		<b>46</b>	<b>88</b>	<b>16</b>	<b>11</b>	<b>109</b>	<b>129</b>

Attachment C contains the detailed **Master Land Route Cultural Resources** table (**Table C1**) which is ordered by Option and eligibility status. The option routes are illustrated on Figures 2 and 3.

The following summaries focus on upland resources that by age, function, or location could be directly affected by proposed trenching. A caveat is warranted at this point. As noted earlier in the Upland Construction Methods section, the street trenches will be placed within the curbside lane. The working assumption in all cases is that the working side of a road will follow the direction of land cable from its landing to its station (Edgewater Converter, ConEd CEH) or substation (Gowanus Station). The second assumption is that the cable road trenches represent typical utility street installments. Such installments routinely do not result in direct impacts to inventoried historic properties. However, the resource types that might be directly affected are those such as cemeteries, archaeological sites, and underground transportation features such as tunnels and subways that could be physically intersected by a trench or destabilized by vibration.

#### Staten Island – Option 1 Gateway

Option 1 – Gateway is the terrestrial alternative that would link the HVDC offshore cable route to the Edgewater Converter Station via South Beach and city streets (**Table C1**). The Gateway Landing would occur on South Beach and the buried HVDC cable route would skirt USS North Carolina Road within Fort Wadsworth, following Lily Pond Avenue, School Road, Bay Street, Clifton Avenue, to end at the Converter Station on Edgewater Street.

In total, 41 resources are present, either facing the centerline roads or in the adjacent buffers. NYSHPO has determined that South Beach, in general, and the adjacent 10-to-30- foot terraces are archaeologically sensitive. The reason for the assignment is the presence of the archaeological remains of the Old Doup Town (aka Dutch *Oude Dorp*; Oude Dorp; Old Town) on the 20- and 30-foot terraces (USN 08501.000027; Boller 1972, Salwen 1967). Bolton (1934), Anderson and Sainz (1965), and John Milner Associates (JMA 1978) also reported Indigenous Nation uses of the same setting dating to the Archaic and Woodland archaeological eras (John Milner Associates 1978). Old Doup Town remnants are within the Fort Wadsworth Historic District (98NR01405, USN



8501.004168) and the buffer on the east side of Lily Pond Avenue and USS North Carolina includes various fort buildings at least one of which is demolished (USN 8501.003056).

Once the terrestrial Gateway option leaves Lily Pond Avenue, it trends east onto School Road toward Bay Street with its bounding residential and commercial properties. The side streets along Bay Street also exhibit the same functional characteristics though three building complexes of note are also present. These are St. Mary's R.C. Church with its rectory and school (USN 8501.003728; Anonymous 2022), St. John's Church Complex (94NR00547), and the Rosebank United States Coast Guard Station which was the former Quarantine Station (USN 8501.003366; Howe 2013). None of these resources have reported elements that could now be masked by existing Bay Street.

#### Staten Island – Option 3 Great Kill

Option 3 – Great Kill traverses the southeast quadrant of Staten Island via city streets. This route would link the HVDC offshore cable route to the Converter Station via a landing at Arden Avenue. The cable route trends west to Amboy Road, and then continues generally eastward to the Converter Station via Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, ending on Edgewater Street at the proposed Edgewater Street Converter Station complex.

In total, 111 resources are present either bounding the centerline roads or in the adjacent buffers. The landing location is within a NYSHPO defined archaeological sensitivity area. Arden Avenue, in the area, has received renovation since Hurricane Sandy according to the NYSHPO (NYSHPO #19PR01002). Two inventoried buildings are located on east of the landing's HDD on Mayberry Promenade. One of the residences was determined Not Eligible and the status of the other is Undetermined.

From Arden Avenue through Richmond Road, the HVDC centerline route is bounded by residential and named neighborhoods with commercial enterprises, schools, and public facilities. A suite of notable resources are adjacent to the centerline route in this segment: two cemeteries (Oceanview and Moravian), the Ernest Flagg's Todt Hill house (LP-01407) on Richmond Road, and two National Register properties (90NR01012 Billou-Stillwell-Penne House; St. Alban's Episcopal Church - 90NR01040). The two cemeteries are layered down ridge slopes and their current southern boundaries are marked by stone walls. It is presently unknown if these boundary walls have been in place since the cemetery platting or if boundary walls were erected later in the resources' use-span. The Ernest Flagg House is the only one in that complex that fronts a major thoroughfare. The other associated elements are upslope and on the top of the adjacent ridge line to the west. The St. Albans Church Complex and the Billou-Stillwell-Penne house are representative of the types and ages of the buildings along both roads.

As the HVDC cable route leaves Richmond Road and continues to its terminus at the Edgewater Converter Station, the neighborhoods give way to more commercial development and large institutional complexes also appear. Residences, schools, and churches also are present. The largest of the institutional complexes on the Great Kills Option is on Vanderbilt and it is the U.S. Marine Hospital Complex. The complex buildings and structures are set on an upslope from Vanderbilt Road and are well away from the street proper.

#### Brooklyn – Option 2 Brooklyn In-Water to Gowanus Substation

Option 2 is effectively an off-shore route (discussed above) that would end at the Gowanus Station. Three alternative landings were proposed for the option. The southernmost alternative was proposed to come ashore in the 65<sup>th</sup> Street railyard. The second alternative landing would align with the 54<sup>th</sup> Street pier. The first and second alternative routes would follow 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to reach the Gowanus Station. The third option takes Option 2 directly to the Gowanus Station.



As will be noted, there are no resources listed on **Table 1** (summary data above) for Option 2 but historic properties are present. Those resources include districts that have eastern boundaries on 2<sup>nd</sup> Avenue, are elements within those districts, or as a standalone resource. The standalone resource is USN 4701.018845 (Owls Head WWTP). It lies south of the 65<sup>th</sup> Street alternative landing site. The resource was determined Not Eligible. The two districts in question are the United States (U.S.) Army Military Ocean Terminal (90NR01314; Smith 1983) and the Bush Terminal Historic District (USN 4701.019392). The U.S. Army Military Ocean Terminal nomination form indicates that the Terminal stretches along 2<sup>nd</sup> Avenue from 58<sup>th</sup> Street to 65<sup>th</sup> Street along 2<sup>nd</sup> Avenue. Supporting figures in the nomination form show that rail lines present between 64<sup>th</sup> and 65<sup>th</sup> streets are part of the nominated resource but the form does not include the full extent of the lines between 65<sup>th</sup> Street and Shore Parkway. It appears that the 65<sup>th</sup> Street landing could occur outside of the Terminal's nomination boundaries. The Bush Terminal Historic District (USN 4701.000057, USN 4701.019392; Wood and Gable 1974) encompasses parts of 1<sup>st</sup> and 2<sup>nd</sup> Avenues between 28<sup>th</sup> and 50<sup>th</sup> streets. The 54<sup>th</sup> Street alternative landing location is outside the Bush Terminal district on the south but it would cut trench on both avenues. The terminal Gowanus Generating Station was studied by John Milner and Associates (McVarish et al. 2008) and NYSHPO accepted their recommendation that no significant historic resources were present.

#### Brooklyn – Option 4 Gravesend to Gowanus Substation

On Table C1, Option 4 is divided into two parts. Part 1 coincides with the landing on Bay Parkway and route as it follows the Belt Parkway to its exit on 2<sup>nd</sup> Avenue. Part 2 covers the route after it leaves the Belt Parkway and continues northward along 2<sup>nd</sup> Avenue to the Gowanus Station. In total, 55 resources are present facing the centerline route and within the adjacent buffers.

The proposed option's landing could occur on Bay Parkway. The parkway's end at this point is effectively a cul-de-sac with parking for users of both Bensonhurst Park facilities to the northwest and a Target/Kohl's complex to the southeast (see **Photograph C25**). Somewhat surprisingly, this section of the shoreline is not indicated as an archaeologically sensitive area though such locations are nearby in the Fort Hamilton vicinity (90NR01295 Casement Fort; LP-00958 Casement Fort, Fort Hamilton Officer's Club; USN 4701.020796 Fort Hamilton Army Base; USN 4701.024908 Fort Hamilton Interchange Area archaeological site). Once on the Belt Parkway, the option route within the roadway is unknown. All of the inventoried properties within the Belt Parkway segment are outside of the road ROW except for NYSM archaeological sites 3605 and 3611. These were identified by Parker (1920) and their precise locations are unknown (Merwin 2022). NYSHPO presents their boundaries as red blobs in NYCRIIS and that means that the area is sensitive for such resources.

The Part 2 resources, following along Shore Parkway and 2<sup>nd</sup> Avenue to Gowanus Station were discussed in the Option 2 discussion above.

#### Brooklyn - HVAC Option A to CEH

Option A originates on 29<sup>th</sup> Street at its intersection with 4<sup>th</sup> Avenue. From 4<sup>th</sup> Avenue, it follows Atlantic Avenue, Boerum Place, Adams Street, to Gold Street (**Figure 14 – CEH Photograph Key; Photographs C26 through C28**). Along this routing there are 194 resources either on the centerline route or in the adjacent buffers. Included in the total are 16 National Register properties and 97 that have been determined eligible to the S/NRHP or are now listed in the State Register.

Archaeological sensitivity is shown by NYSHPO along 4<sup>th</sup> Avenue, Atlantic Avenue, and Adams Street. Meade (2020) reported that the Rapalye Family Cemetery is documented as adjacent to or on Adams Street east of Walt Whitman Park. Similarly, six transportation resources are present, all of which are underground resources that follow parts of 4<sup>th</sup> Avenue, Adams Street at Joraleman Street, and Atlantic Avenue. The subway stations

include the 4<sup>th</sup> Avenue Subway Station (IND; 90NR05370), the Borough Hall Subway Station (IRT; 04NR05274), the Atlantic Avenue Subway Station IRT & BMT – Atlantic Avenue (USN 4701.013844), and the Atlantic Avenue Subway Station (IRT; 04NR05282).<sup>1</sup> Also included are the Atlantic Avenue Control House (90NR01275) and the Atlantic Avenue Tunnel (aka Cobble Hill Tunnel; 90NR03137). All but the Atlantic Avenue Subway Station IRT & BMT are National Register listed properties. Though the Atlantic Avenue Tunnel is non-operational it is still intact and its terminus is at Boerum Place. In all instances, these cemetery and transportation resources are susceptible to direct impacts from any subsurface construction direct impacts or indirect vibration impacts.

### PROPOSED CULTURAL RESOURCES WORK PLAN

The proposed work plan presented below is predicated on the results of the due diligence review just presented. The work plan would be implemented and, as needed, modified if any of the review agencies request additional investigations on routing that will be advanced by the Applicant.

The work plan is divided into six subsections (Supplemental Data Sources, Proposed Areas of Potential Effect (APEs), Field Methods, Reporting, Schedule, and Personnel). The plan is structured to conform to the work plan specifications outlined in the New York City Landmarks Preservation Commission's *Guidelines for Archaeological Work in New York City* (Sutphin et al. 2018).

#### Supplemental Data Sources

The review of supplemental data sources may be requested by reviewing agencies. In the event that Phase IA or other reporting products are requested, these sources relevant to submerged resources would be referenced in addition to those used during the due diligence review: historic maps and maritime charts for the subject area.

The supplemental sources that will be used for upland resources will be borough-specific historical societies; the New York Public Library Map Division Sanborn and borough specific coverage for road routing and dimensional data; Parker (1920) for Indigenous Nation village and camp site locations not noted in the NYSM inventory; Meade (2020) for the reported presence of historic cemeteries adjacent or crossed by the option centerline roads; and the United State Department of Agriculture Natural Resources Conservation Service Web Soil Survey data for the extent of fill and made soils particularly at landings and within the pier complex south of Gowanus Substation.

#### Proposed Areas of Potential Effect (APEs)/Submerged and Terrestrial Routes

Based on the results of the due diligence searches, we are proposing separate offshore and upland APEs. The proposed offshore APE will encompass a 200-foot (61-meter horizontal work area extending to a depth of 4 ft (1.2 m) below the seafloor surface except below federal channels, navigation channels, and extraordinary seabed conditions where a burial depth of up to 14 ft (4.3 m) below the seafloor surface is expected. The final burial depth in each submarine area will be determined in consultation with the USACE. The total length of the proposed HVDC corridor is 36.2 mi (58.3 km). The corridor begins in Federal waters and continues northwest across Lower New York Bay (**Figure 15 – Preferred Route with Recommended Survey Areas**). The HVDC corridor remains on the northeastern side of the Ambrose Channel and it turns northward just south of Coney Island. At Gravesend Bay, the HVDC corridor crosses the Ambrose Channel and it then continues northward, under the Verrazzano-Narrows Bridge. Past the north side of the bridge, the corridor turns towards Staten Island, making

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<sup>1</sup> The parenthetical initials after each subway name are the historic era corporations or companies that developed various lines in NYC. In this case, they stand for Independent Subway System (IND), Brooklyn-Manhattan Transit Corporation (BMT), and Interborough Rapid Transit Company (IRT).

landfall at the proposed Edgewater Street Converter Station. The transition from submarine to terrestrial disturbance will occur at a coffer dam next to the station. The configuration of the terrestrial HDD receiving pit and the terrestrial work space are discussed below.

After the conversion is completed at the Edgewater Street Converter Station, the submerged HVAC cable corridor will resume the size specifications of the HVDC corridor after leaving the HVAC cofferdam. The corridor APE will be 200 ft (61 m) wide and 14 ft (4.3 m) deep. The corridor continues to the middle of the bay and then turns northward into Upper New York Bay. The HVAC corridor gradually turns to the northeast until it abruptly turns to the southeast and makes landfall at a pier located at 4100 1<sup>st</sup> Street. At the transition from submarine to terrestrial disturbance, the APE again consists of a cofferdam or a temporary gravity cell structure. The proposed upland APE considers the on-shore work area of each landing including the vertical distance from existing ground surface to 10 ft (3 m) below the bottom of the trench line. The vertical extent of the APE is based on the areas sandy soils which may necessitate extra space for shoring or other safety measures. Once the upland cable lines leave the HDD pit, the APE will revert to the horizontal extent of the proposed trench plus 10 ft (3 m) to either side of the trench wall. The expanded horizontal extent considers the presence of historic features such as cemeteries that are adjacent to the route roads and also changes in road alignments which may now mask historic features.

## Field Methods

### Offshore Field Methods

SEARCH predicates the following discussion of methods on the conclusion that subsequent work would include HRG survey. SEARCH may recommend secondary diver investigations and/or coring depending on findings from the HRG survey. The areas that should be subject to HRG survey are based on the site file review and provide details for potential Phase 1b investigations.

SEARCH's due diligence site file review noted that 18.6 mi (29.9 km) of the total 36.2 mi (58.3 km) preferred HVDC and HVAC corridor has already been subject to maritime cultural resources survey. This consists of 51% of the APE. Of the portion of the corridor that has already been surveyed, 15.9 mi (25.6 km) has been surveyed for only shipwrecks and 2.7 mi (4.3 km) has been surveyed for both shipwrecks and preserved pre-contact features and landscapes. SEARCH recommend no additional survey for the 2.7 mi (4.3 km) of the corridor that has been surveyed for shipwreck and pre-contact landscape features. SEARCH recommends a Phase 1b HRG remote sensing survey for the remaining 33.5 mi (53.9 km) of the preferred route. The 15.9 mi (25.6 km) of the preferred route that has been surveyed for shipwrecks is recommended for sub-bottom profiler survey. The 17.6 mi (28.3 km) of the preferred HVDC and HVAC corridor that has not been subject to maritime cultural resources survey is recommended for full remote sensing survey including sub-bottom, side-scan sonar, and magnetometer survey (see **Figure 15**).

*Submerged Remote Sensing Survey:* SEARCH recommends maritime HRG survey along the Preferred HVDC and HVAC APEs, generally following guidelines established by BOEM in *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585*. By doing so, the survey results from New York State waters can be seamlessly integrated with results of survey in Federal waters. Based on these standards, SEARCH recommends HRG survey along the APE corridor be conducted using 98-foot (30 meter) line spacing. The entire APE survey corridor can be covered with three survey transects. As with the BOEM (2020) recommendations, SEARCH recommends a tie-line survey perpendicular to the corridor every 1640 feet (500 meters).

The equipment used for HRG survey will depend on the data gaps that the survey is intended to fill. For locations where no maritime cultural resource survey has been conducted, a full suite of remote sensing equipment

should be used. These include a magnetometer, side-scan sonar system, and a sub-bottom profiler. Location data during the survey should be recorded using a state-of-the-art navigation system with sub-meter accuracy. Location data should be continuously recorded during the survey and logged digitally.

The magnetometer will provide data about the location, size, and distribution of ferrous objects and associated shipwreck material within the APE. SEARCH recommends deploying a magnetometer and recovering a minimum of three transects of data at 98-foot (30-meter) spacing to provide sufficient data to identify potential cultural materials and distinguish them from infrastructure such as pipes and cables. During survey, the magnetometer should not exceed 19.7 feet (6 meters) above the sea floor. The magnetometer data should be sampled at greater than 4.0 Hz and the sensor data stored digitally.

The side-scan sonar provides a visual representation of the sea floor based on acoustic reflections of the sediment surface. This image can be used to identify potential wreck debris, historic resource materials, changes in sedimentation, or glacial debris within the APE. The side-scan sonar system should operate at 500-kHz or greater and be capable of resolving targets as small as 1.6 feet (0.5 meters) at maximum range. The side-scan sonar data must provide 100 percent overlapping coverage of the work corridor. The sensor should be towed above the seafloor at a height between 10-20 percent of its maximum range. Data should be stored digitally and monitored during survey to ensure data quality and acquisition.

The sub-bottom profiler provides a visual representation of changes in sediment below the sea-floor surface, helping to identify both potential buried post-contact cultural materials, such as shipwrecks, as well as buried and preserved ASLFs. These features may be indicative of preserved past landscapes including buried river and stream channels, lakes, estuaries, and the adjacent landscapes where past populations lived and thrived during periods of lower sea level. Due to the shallow depth of potential disturbance (<10 m), a Compressed High Intensity Radar Pulse (CHIRP) system is adequate for the sub-bottom survey. The system employed should provide a vertical bed resolution of 1.0 feet (0.3 meters).

As discussed above, 15.9 miles (25.6 kilometers; 43%) of the preferred HVDC and HVAC corridor is recommended for full maritime survey using the magnetometer, side-scan sonar, and sub-bottom profilers. An additional 17.6 miles (28.3 kilometers; 48%) is recommended for only sub-bottom profiler survey rather than the entire suite of remote sensing tools.

Based on the findings of the HRG survey, additional work may be recommended. These may include diver identification or sub-surface coring of potential submerged cultural resources and/or ASLFs. Conversely, the proposed route may be adjusted to avoid any potential cultural resources or ASLFs identified during survey, negating the need for further investigations.

#### Upland Field Methods

If the agencies request a Phase Ia or Documentary Study, they may also request additional drive-over/walkover to confirm the existing conditions of properties currently classified as Undetermined. Each such location will be visited and its existing condition recorded. Of particular interest should be those resources that were originally recorded as schools, churches, and similar cultural institutions that no longer function as originally recorded.

Monitoring open trench work is an option if any upland option advances to construction. In this event, a monitoring plan will be formulated based on the construction plans for the route section in question.

## Reporting

Since 2014, NYSHPO has requested that separate Phase 1a level documents be submitted for archaeological assessments and those considering buildings/structures. The latter document is referred to as a Reconnaissance Level Historic Survey. We assume, then, that the offshore routes will be completed as required with a minor contribution from Matrix to cover the terrestrial segment of any landing.

Maritime reporting of the findings of the Phase 1a and subsequent 1b survey will adhere to NYSHPO guidelines for reporting. To ensure that reporting guidelines follow federal standards, a list of all magnetometer anomalies and side-scan sonar acoustic targets will be provided to NYSHPO, NYSM, and LPC. Side-scan sonar targets will be presented in a table with representative imagery. Finally, sub-bottom acoustic reflectors indicative of cultural resources or ASLFs will be presented with representative imagery and a plan view of the observed feature extents.

Each report will be supported by glossary/abbreviation lists, references cited, figures, photographs with photo logs/keys, and, if needed artifact catalogs.

## Project Schedule

The application is currently proposed to be submitted in the first half of 2023. Once approved, it is anticipated that site clearing to final site work will take a maximum of 54 weeks. Construction at the converter station location include site clearing, site grading, placement of foundations and underground facilities, building and equipment erection, and final site work.

## Personnel

The current cultural resources team for the project is comprised of the following archaeologists and a senior planner.

### Submerged Cultural Resources (SEARCH)

*Project Manager:* Jordon Loucks (Ph.D., RPA 39754531) Project Manager, SEARCH Florida – Jacksonville Office  
Email: [jordon.loucks@searchinc.com](mailto:jordon.loucks@searchinc.com), office: 904-379-8338, cell: 607-237-2517

*Principal Investigator, Field Lead, and Senior Author:* Neil N. Puckett (Ph.D., RPA 4836) Senior Maritime Archaeologist, SEARCH – Austin Station  
Email: [neil.puckett@searchinc.com](mailto:neil.puckett@searchinc.com), cell: 775-527-0016

### Terrestrial Cultural Resources

*Principal Investigator, Field Lead, and Senior Author/Editor:* Carol S. Weed (M.A., RPA 989090)  
Senior Cultural Resources Specialist (for) Matrix New World Engineering  
Email: [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [cs13108@gmail.com](mailto:cs13108@gmail.com)), cell: 646.276.2460

*Senior Planner:* Sarah F. Sklar (AICP, LEED GA), Matrix New World Engineering  
Email: [ssklar@mnwe.com](mailto:ssklar@mnwe.com), office: 646-273-5570

In conclusion, Matrix requests your comment on the Proposed Project and the work plan outlined herein. If you have any questions or require additional information, I can be reached at cell phone 646.276.2460 or [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [csw13108@gmail.com](mailto:csw13108@gmail.com))

Sincerely,

**MATRIX NEW WORLD ENGINEERING**

*Carol S. Weed*

Carol S. Weed, M.A. (RPA #989090)  
Senior Cultural Resource Specialist  
(for) Matrix New World Engineering

**Attachments:**

- A – Figures 1 through 15
- B – Submarine Cable Tables (SEARCH)
- C – Land Cable Photographs and Table
- D – Preferred and Options Shapefiles

**Electronic copy to:**

- Matrix: Donna McCormack, Sarah Sklar
- SEARCH: Neil Puckett, Jordon Loucks



## REFERENCES CITED

Anderson, Albert J. and Donald R. Sainz

1965 Excavations at Oude Dorp. The New Bulletin, Staten Island Institute of Arts and Sciences 14 (9): 82-95.

Boller, Leo A.

1972 NYOPRHP Division for Historic Preservation Archaeological Site Inventory Form, USN 8501.000027, Old Town *Oude Dorp*, Richmond County. Inventory form downloaded 11/15/2022 from NYSHPO CRIS. (see Salwen 1967).

Bolton, Reginald Pelham

1934 *Indian Life Long Ago in the City of New York*. New York: Harmony Books.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs

2020 *Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585*. United States Department of the Interior, Office of Renewable Energy Programs.

Howe, Kathleen (Kathy) A. Howe

2004 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, Atlantic Avenue Subway Station (IRT and BMT), Intersection of Flatbush Avenue at Atlantic and 4<sup>th</sup> Avenues, Brooklyn, NY. NYOPRHP, Peebles Island, Waterford, NY.

2010 NYOPRHP Division for Historic Preservation Resource Evaluation, Atlantic Avenue Historic District, Atlantic Avenue roughly between Smith St. and Nevins St., Kings County, USN 04701.016698.

2013 NYOPRHP Division for Historic Preservation Resource Evaluation, former U.S. Quarantine Station, Rosebank (current USCG Station New York), Project 13PR01367 (see also 94PR02633). Evaluation form downloaded 11/15/2022 from NYSHPO CRIS.

John Milner Associates (JMA)

1978 National Heritage, Prehistoric Site Survey Record Sites Std-25-4 and Std-13 from "A Cultural Resources Inventory of the Gateway National Recreational Area, New York and New Jersey." Report originally prepared by JMA for National Park Service. Pages are appended to the Boller 1972 USN form for 08501.000027.

McVarish, Douglas C., Patrick J. Heaton, and Joel I. Klein. 2008 (May). South Pier Improvement Project, Phase IA Cultural Resources Survey, Brooklyn, New York (OPRHP Project Review #08PR01278). Report prepared by John Milner Associates, Inc., Croton-on-Hudson, New York for ESS Group, Inc., East Providence, Rhode Island and Astoria Generating Company, L.P., New York, New York

Meade, Elizabeth D.

2020 The Cemeteries of New York City. <https://www.cemeteriesofnyc.com/> (cited with permission from Elizabeth D. Meade, Ph.D.)

Merwin, Daria

2022 Personal communication, D. Merwin to C. S. Weed re: NYSM sites within or adjacent to Preferred and Alternative Options, Staten Island and Brooklyn.

New York Archaeological Council (NYAC)

- 1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.
- 2000 *Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations*. New York Archaeological Council Standards Committee, McGraw, NY.

New York State Historic Preservation Office (NYSHPO)

- 2005 *Phase I Archaeological Report Format Requirements*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.

Salwen, Bert

- 1967 Metropolitan Area Archaeological Survey Site Survey Sheet, Department of Anthropology, New York University, *Oude Dorp* South Beach, Site Number Std 13-4 Walton-Stillwell Site. Form attached to the Boller 1972 USN form.

Schmidt, James S., Christopher Dvorscak, Katherine Clevenger, Michael Twarog, R. Christopher Goodwin, Martha Williams, and Kevin May

- 2019 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters: Close-Order Relocation Survey: Target BL12-002*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 18SR56141.

Schmidt, James S., Kathryn A. Ryberg, R. Christopher Goodwin, Benjamin C. Wells, Nicholas J. DeLong, and Jeffrey Gardner

- 2017 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 17SR00334.

Smith, Raymond W.

- 1983 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, United States Army Military Ocean Terminal (aka Brooklyn Army Terminal, Brooklyn Army Base, N.Y. Port of Embarkation), 58<sup>th</sup> – 65<sup>th</sup> Street at 2<sup>nd</sup> Avenue, Brooklyn, N.Y. NYOPRHP Historic Preservation Field Services, Agency Bldg. 1, Albany, New York.

Wilson, William J. and Paul Willard Gates

- 2021 *Phase I Cultural Resources Assessment of the 2021 Lower New York Bay Lateral Survey Program: Raritan Bay and Lower New York Bay, New Jersey and New York*. Prepared for Transcontinental Gas Pipe Line Company, LLC. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 21SR00597.

Wood, Dennis R. and XXX Gable

1974 NYOPRHP Division for Historic Preservation Building-Structure Inventory Form, USN 04701.000057, Bush Terminal, Kings County, Brooklyn. National Park Service, Washington, DC, on file at NYOPRHP CRIS.

*Databases Cited*

Global GIS Data Services LLC, Global Maritime Wrecks Database (GMWD)

n.d. Electronic document, <http://www.globalgisdata.com/10995.html>

National Oceanic and Atmospheric Administration (NOAA) Electronic Navigational Charts (ENC)

n.d. Electronic document, <http://www.nauticalcharts.noaa.gov/mcd/enc/>

National Oceanic and Atmospheric Administration (NOAA) Automated Wreck and Obstruction Information System (AWOIS)

n.d. Electronic document, <https://nauticalcharts.noaa.gov/data/wrecks-and-obstructions.html>

## **ENVIRONMENTAL REVIEW**

**Project number:** NYSHP / ER.Y

**Project:** ANBARIC HERA POWER LINK

**Date Received:** 2/24/2023

**Comments:** as indicated below. Properties that are individually LPC designated or in LPC historic districts require permits from the LPC Preservation department. Properties that are S/NR listed or S/NR eligible require consultation with SHPO if there are State or Federal permits or funding required as part of the action.

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**Project site properties with no Archaeological significance:**

- 1) 135 MARSHALL STREET, BBL: 3000050001
- 2) 26 STREET, BBL: 3006530003
- 3) 27 STREET, BBL: 3006530007
- 4) COLONIAL ROAD, BBL: 3058040002
- 5) 200 EDGEWATER STREET, BBL: 5028200140
- 6) 200 EDGEWATER STREET, BBL: 5028270059
- 7) 4100 1 AVENUE, BBL: 3007150001

**Project site properties with Architectural significance:**

- 1) 4100 1 AVENUE, BBL: 3007150001, STATE/NATIONAL REGISTER FINDINGS: ELIGIBLE DIST NR HISTORIC DISTRICT, COMMENTS: BUSH TERMINAL HD.
- 2) BAY STREET, BBL: 5031280001, STATE/NATIONAL REGISTER FINDINGS: NATIONAL REGISTER HISTORIC DISTRICT, ARCHEOLOGY FINDINGS: BOTH POTENTIAL, COMMENTS: FORT WADSWORTH HD.

**Comments:**

LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from Colonial, 19TH c and/or Indigenous Peoples occupation on BBL 5031280001 of the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this BBL to clarify these initial findings and provide the threshold for the next level of review if such review is necessary (see CEQR Technical Manual 2021).

There are no archeological concerns for the following BBLs:  
3000050001, 3006530003, 3006530007, 3007150001, 3058040002, 5028200140  
and 5028270059.

**ADDITIONAL DESIGNATED, LISTED OR ELIGIBLE PROPERTIES ALONG THE ROUTE:**

**BROOKLYN:**

LPC DESIGNATED

VINEGAR HILL HISTORIC DISTRICT

BOERUM HILL HISTORIC DISTRICT EXTENSION

UNITED STATES POST OFFICE AND COURT HOUSE, BROOKLYN CENTRAL OFFICE, 271-301

CADMAN PLAZA EAST

FRIENDS MEETING HOUSE, 110 SCHERMERHORN STREET

PUBLIC BATH 7, 227-231 4 AVENUE  
FORT HAMILTON CASEMENT FORT

SN/R LISTED

FEDERAL BUILDING AND POST OFFICE, 271 CADMAN PLAZA EAST  
PUBLIC BATH 7, 227 FOURTH AVENUE  
4<sup>TH</sup> AVENUE STATION (IND)  
U.S. ARMY MILITARY OCEAN TERMINAL

SN/R ELIGIBLE

ATLANTIC AVENUE HISTORIC DISTRICT  
PROOLYN PUBLIC LIBRARY PACIFIC BRANCH, 25 4 AVENUE  
P.S. 124,  
515 4 AVENUE  
BUSH TERMINAL HISTORIC DISTRICT  
5112 2 AVENUE

**STATEN ISLAND**

LPC DESIGNATED

ST. JOHN'S CHURCH, 1331 BAY STREET  
ST. JOHN'S P.E. CHURCH RECTORY, 1333 BAY STREET  
H. H. RICHARDSON HOUSE, 45 MCCLEAN AVENUE  
ERNEST FLAGG ESTATE COTTAGE; MCCALL'S DEMONSTRATION HOUSE, 1929 RICHMOND ROAD  
PIERRE BILLIOU HOUSE, 1476 RICHMOND ROAD  
GUSTAVE A. MEYER HOUSE, 2475 RICHMOND ROAD

S/NR LISTED

BILLOU-STILLWELL-PERINE HOUSES, 1476 RICHMOND ROAD  
ST. JOHN'S EPISCOPAL CHURCH COMPLEX, 1331 BAY STREET  
FORT WADSWORTH HISTORIC DISTRICT

S/NR ELIGIBLE

BERRY HOUSE, 26 DONGAN HILLS AVENUE  
P.S. 9, NAPLES STREET ELEMENTARY SCHOOL, 1055 TARGEE STREET  
RESIDENCE, 265 VANDERBILT AVENUE  
FORMER U.S. MARINE HOSPITAL CAMPUS  
ROSEBANK U.S. COAST GUARD STATION



3/6/2023

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SIGNATURE

Gina Santucci, Environmental Review Coordinator

DATE

**File Name:** 36922\_FSO\_DNP\_03062023.docx

SHPO 23PR01154



11 February 2023

**Electronic Filing – NYSHPO Cultural  
Resource Information System (CRIS)**

**New York State Office of Parks, Recreation and Historic Preservation,  
Division of Historic Preservation  
Dr. Nancy Herter  
P.O. Box 189  
Waterford, NY 12188**

**RE: CULTURAL AND HISTORIC RESOURCES NOTICE OF PROJECT WITH WORK PLAN ANBARIC DEVELOPMENT  
PARTNERS, LLC PROPOSED HERA POWER LINK, RICHMOND COUNTY (STATEN ISLAND), KINGS COUNTY  
(BROOKLYN), AND FEDERAL AND NEW YORK STATE WATERS**

Dear Dr. Herter:

On behalf of Anbaric Development Partners, LLC (Applicant), Matrix New World Engineering, Land Surveying, and Landscape Architecture, PC (Matrix) is requesting initial consultation on the proposed Hera Power Link (Proposed Project). A detailed project description is supplied below. An application to New York State Public Service Commission (PSC) for a Certificate of Environmental Compatibility and Public Need is currently being prepared for the Proposed Project. This application requires assessment of potential environmental impacts on cultural resources.

**INTRODUCTION**

Hera Power Link (Facility) is a proposed transmission facility that will connect offshore wind areas in Federal Waters of the Atlantic Ocean (WEAs) to the New York Independent System Operator's (NYISO) Zone J in Brooklyn (**Attachment A, Figure 1 – USGS overview, Figure 2 – Staten Island Detail, and Figure 3 – Brooklyn Detail**). As discussed below, the Applicant has defined both Preferred and Alternative Options that are primarily distinguished between those with upland or submarine routings. In addition to the submarine cable transmission and land cable routes, eight preferred and alternative landing locations also were subjected to in-field and site file review. These include

1. Staten Island – Option 1, Gateway, Arden Avenue
2. Staten Island – Option 3, Great Kills, South Beach
3. Staten Island – 200 Edgewater Street, HVDC to HVAC Converter Station (a point of interconnection [POI])
4. Brooklyn – Option 2 Brooklyn In-Water, an alternative landing in the railyard near 65<sup>th</sup> Street and 1<sup>st</sup> Avenue
5. Brooklyn – Option 2 Brooklyn In-water, an alternative landing at the 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue
6. Brooklyn – Option 2 Brooklyn In-water, preferred landing at Brooklyn's ConEd Gowanus Generating Station land pier at 4100 1<sup>st</sup> Avenue

7. Brooklyn Consolidated Edison (ConEd) Clean Energy Hub (CEH) on Marshall Street off of John Street
8. Brooklyn – Option 4 Gravesend, Bay Parkway landing

The Preferred HVDC Route, Preferred HVAC Route, and Preferred Option A (to the ConEd CEH) were subjected to due diligence review. Unless directed otherwise, the Applicant will not advance Upland Options 1, 2, 3, and 4. However, these upland routings also were subjected to cultural resources due diligence reviews with associated drive-overs.

Dependent on agency responses, it is possible that any of the Preferred or Alternative Options might need a Phase IA Assessment, Documentary Study, Section 233 Permit, or a Phase I Maritime Archaeological Resource Assessment (MARA).

This notice of project and work plan is being submitted New York State Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (NYSHPO) and the New York City Landmarks Preservation Commission (LPC). These materials also will be submitted to PSC in support of the Article 7 Application. The New York State Museum (NYSM) and the New York State Office of General Services (OGS) also may be informed of the project depending on comments received from NYSHPO. PSC is the lead agency as it will review and approve the Article 7 Application. NYSHPO, under Section 106 of the National Historic Preservation Act, as amended, and Section 14.09 of the New York State Historic Preservation Act, will comment on a proposed project that could directly or indirectly impact buildings, structures, objects, districts, archaeological sites, or traditional cultural properties that have the potential to be or are listed on the State and National Registers of Historic Places (S/NRHP). Included in the suite of resources are National Historic Landmarks. The OGS will not require a 233 permit for the initial High Resolution Geophysical (HRG) survey offshore in state waters. The LPC will comment on any proposed project that directly impacts city roads and/or that would have direct or indirect effects on landmarks, interior landmarks, or districts.

The discussion that follows is divided into three primary parts: Project Description, Cultural Resources Due Diligence Review and Results, and the Proposed Cultural Resources Work Plan. Conclusions about specific properties are within the text. The proposed work plan contains the following sections: Proposed Area of Effect Definition, Research Methods, Field Methods, Reporting, and Personnel. Full-page numbered figures are presented in Attachment A; inset figures are included herein and they are lettered. Attachment B contains submarine cable tables, Attachment C contains land cable photographs and tables, and Attachment D are the shapefiles for the preferred and option routes.

This document was prepared jointly by Matrix (Carol S. Weed, Sarah Sklar) and SEARCH (Neil Puckett, Jordon Loucks) personnel. Their contact information is presented in the personnel section of the proposed work plan. Construction information presented in the Project Description was taken from descriptions of similar actions provided by the Applicant and refined to fit the conditions for the proposed Hera Facility. This document has been subject to review by the Matrix Project Managers (Robert Fiorile, Donna McCormack) and the Applicant.

## PROJECT DESCRIPTION

The Facility proposes POIs at either ConEd's existing Gowanus Substation or the proposed ConEd CEH. Both POIs are located in Brooklyn (see **Figures 1 and 3**). Both interconnection options have been determined to have capacity to accommodate the injection of power from the Facility.

The Facility will provide for submarine transmission of 1,200 megawatts (MW) of High Voltage Direct Current (HVDC) electric from the WEA to a proposed Converter Station on the western shore of Staten Island where it

will be converted to High Voltage Alternating Current (HVAC). The HVDC submarine cable system will land via Horizontal Directional Drilling (HDD) and be buried via a short length of cable to connect to the Converter Station.

Then, following conversion, the HVAC cable system will exit the Converter Station via HDD. The HVAC cable will be buried beneath the seabed of New York Bay, land on the western shore of Brooklyn (Kings County) and travel beneath public roadways and rights of way (ROW) to one of the POIs in Brooklyn.

The Facility's principal components will consist of the following elements:

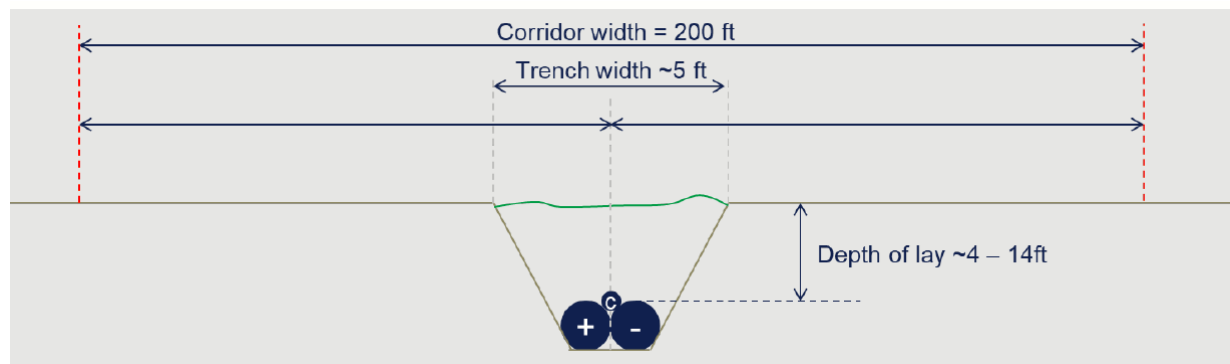
1. Approximately 12.9 miles (11.2 nautical miles) of HVDC bundled submarine cable buried beneath New York State waters in the seabed of the New York Bay with landfall to link to the proposed Converter Station on the eastern shore of Staten Island (see Figure A1).
2. Approximately 0.5 miles (1 kilometer) of underground cable with associated fiber optic cable (HVDC Land Cable) to link the Submarine Cable System to the Facility Converter Station.
3. An underground Transition Vault, where the Submarine Cable System and HVDC Land Cable are linked (the HVDC Cable System).
4. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVDC Cable System landfall.
5. Converter Station that will use Voltage Source Converter-High Voltage Direct Current (VSC-HVDC) technology to convert power from DC to AC. It will be located on the 4.7acre (1.9 hectares) waterfront property at 200 Edgewater Street in Staten Island.
6. Approximately 4.6 miles (4.0 nautical miles) of HVAC bundled fiber optic submarine cable (a total of 4 cables) buried beneath New York State waters in the seabed of the New York Bay.
7. Cofferdams or gravity cells with limited dredging to facilitate HDD installation for HVAC landfall.
8. Approximately 1.2 miles (1.93 kilometers) of upland cable buried beneath public roadways and ROWs to transmit power from landing of the Submarine Cable System in Brooklyn to either the existing ConEd Gowanus Substation or approximately 5.8 miles (9.3 kilometers) to the proposed ConEd CEH (Option A).

The particulars about the submarine and land routes are presented below.

### **Submarine Cable Routes (HVDC and HVAC)**

#### Construction Methods

In typical submarine conditions, the cable will be buried approximately 6 ft (1.8 m) beneath the seabed. A burial depth of up to 14 ft (4.3 m) will be required in extraordinary seabed conditions and beneath Federal Channels and other navigation channels. The final burial depths at each area of the Subsea Cable Route will be determined in consultation with the United States Army Corp of Engineers (USACE). The width of the cable trench is 5 ft (1.5 m) and the width of the cable corridor for a single circuit cable bundle is 200 ft (61 m), with the actual cable trench placed in the middle, as shown in **Figure A** below.



**Figure A. Typical Submarine HVDC Single Circuit Corridor Trench**

Potential deviation from this configuration of the bundle will be expected at two locations of the route. The first one is at the proximity of the offshore converter station platforms, where the bundle will be separated to pull the individual cables inside the platform separately. The second one is at the landfall HDD, where the bundle will be split, and each cable will be pulled in separately.

The Submarine Cable System from WEA to the Converter Station consists of a single core HVDC cable and potentially a standalone fiber optic cable, bundled together and buried to a depth specified to protect against anchor drags, damage due to fishery gear, and against exposure due to movement of the seabed. The main advantage of installing the cables in a bundle is the reduction of the necessary burial activities and space for installation as well as the limitation of the resulting magnetic field on the surface along the route.

The HVAC Submarine Cable System will leave the Edgewater Converter Station and cross the Bay to land in Brooklyn. The HVAC Submarine Cable System consists of a four single core HVAC cables and potentially a standalone fiber optic cable.

#### *Submarine Cable System Landfalls*

The landfall of both submarine cable systems will be accomplished using HDD technology that minimizes overall disturbances in-water and on the shorelines. To facilitate HDD, submarine transition will require installation of temporary cofferdams with limited dredging inside the cofferdams. Upland of each cofferdam, transition vaults will be installed for the required splicing and connection of submarine cable to land cable. Plans herein depict the approximate location of cofferdams and transition vaults, but these locations will be finalized in the Environmental Management & Construction Plan (EM&CP).

In Staten Island, landfall occurs on the Edgewater Converter Station site that is land controlled by the Applicant. The site was selected as one of few available waterfront properties with enough space to accommodate infrastructure required for the Converter Station. Landfall in Brooklyn occurs at 102 41<sup>st</sup> Street; a NY Department of Small Business Services (SBS) owned land pier that extends into the Gowanus Bay. This site was selected because it is undeveloped and provides space for the infrastructure required to land and splice the cable, occurs on public lands that do not require private acquisitions, and the location avoids conflicts with other existing or approved cable landings.

We note that either a cofferdam or temporary gravity cells could be used at the upland landings. The cofferdam would surround all the cables in the HDD at each of the two landings while a temporary gravity cell structure would have one cell for each cable. **Figure 4 – 345 kV Transmission Line HDD Layout Area** provides a plan view of the possible configuration of the upland work space at the Brooklyn Gowanus pier landing.

It is possible that the work space at the Brooklyn Landing would be as small as 70 by 20 feet (21 x 6 meters) though it could be as large (200 x 150 feet [61 x 46 meters]) as that depicted on **Figure 4** referenced above. Under typical conditions, any temporary gravity cell structure will be no more than 2,000 feet (609 meters) from the landing location. The final configuration of each preferred landing location (Edgewater and Brooklyn Gowanus pier) will be submitted to NYSHPO and NYC LPC upon receipt for their final review.

### **Land Cable Routes (HVDC and HVAC)**

#### *HVDC Land Cable Route to Edgewater Converter Station and HVAC Land Cable Route*

The HVDC Land Cable Route is entirely located on the site selected for construction of the Converter Station located at 200 Edgewater Street on Staten Island. The Submarine Cable System lands on the Edgewater Street Converter Station site and connects to land cable through the transition vault with approximately 200 feet of Land Cable System to connect to the proposed Converter Station.

The Staten Island-based Edgewater HVDC to HVAC Converter Station is proposed on a 4.7-acre waterfront property that is controlled by the Applicant. The current tenants are Reynolds Shipyard. The existing development on the site will be demolished and removed and Converter Station will occupy the entire site which includes a waterfront parcel and an adjoining upland parcel (**Figure 5 – Proposed Converter Station Site (Edgewater Street) with Photograph Key; Photographs C1-C8**). The HVDC submerged cables will make landfall on the Converter Station property and the HVAC cables will exit the Converter Station in locations sufficient to provide separation of the AC and DC cables. The Applicant proposes to construct the Converter Station using typical site redevelopment techniques, which will include demolition, upland clearing, excavation, fill and infrastructure improvements. Within the Site, HVDC terrestrial cable will be installed underground.

#### *Submarine HVAC to Brooklyn Landings at Gowanus Station or Option A to CEH via Upland*

The Land Cable System will connect to either the existing ConEd Gowanus Station (Preferred Route) or the proposed ConEd CEH. The latter is referred to as Option A.

The Preferred Route interconnects with Gowanus Station via a transition from submarine to terrestrial at 4100 1<sup>st</sup> Avenue (**Figure 6 – Brooklyn Landing Route, Gowanus with Photograph Key; Photographs C9 through C13**). The route then follows 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to the station. The Applicant, in consultation with regulatory authorities and ConEd, will determine the final interconnection facility (and its associated terrestrial route) prior to its final design and approvals. Option A will extend the land routing following this sequence of streets: 29<sup>th</sup> Street, 4<sup>th</sup> Avenue, Atlantic Avenue, Boerum Place/Adams Street, Trinity to Gold Street.

The HVAC Land Cable Route will carry the Land Cable System from the shoreline landing to the point-of-intersection (POI) within public right-of-way (ROW) and primarily beneath paved roadways. The System will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, as shown in **Figure B – Typical Duct Bank and Land Trench Corridor Details** below. The width of the temporary trench during installation (area of disturbance) will be 9 feet (2.7 meters) wide when accounting for excavation of side slopes of up to 2:1. Once completed, the permanent trench will be 4 feet, 6 inches (1.37 meters) below grade. The temporary trench will be backfilled and topped with road pavement.



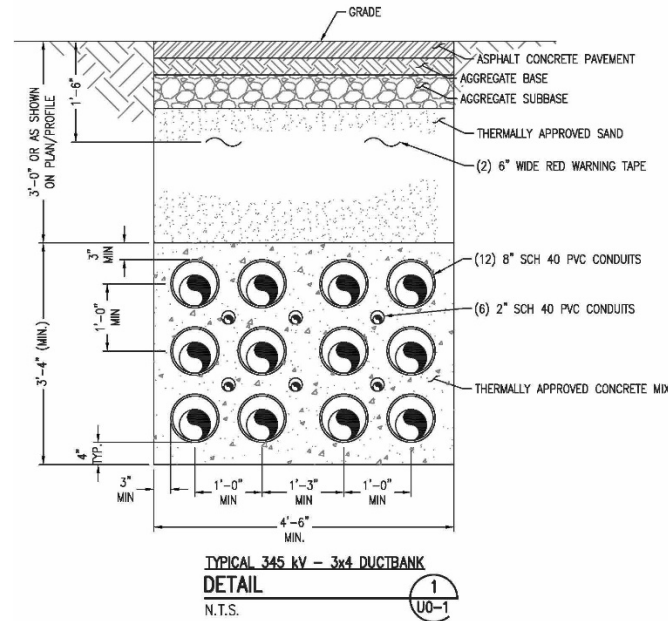


Figure B. Typical Duct Bank and Land Trench Corridor Details

### Applicant Dismissed Alternatives

To identify potential Land and Submarine Cable Routes between the WEAs and the CEH, the Applicant considered several factors concerning environmental impact, constructability, efficiency of the system, property control, and cost. The Applicant attempted to minimize overall route length, avoid geologic and navigational constraints, and avoid environmentally sensitive areas. The following criteria were used for selection of the Cable Routes:

- Minimize overall cable length, electrical losses, environmental impacts, and costs.
- Minimize longitudinal routing within limited access highway rights-of-way (ROWs).
- Minimize turns (related to acceptable bending radius of the cable) and significant elevation changes.
- Minimize disturbances to environmental resources such as wetlands and other environmentally sensitive lands, by utilizing previously disturbed lands for construction and cable installation.
- The availability of easement rights along the route, given the lack of eminent domain authority.
- Reduce potential for navigational conflicts.
- Minimize the crossing impacts associated with established vessel anchorages, mooring areas, and existing submarine infrastructure such as cables, pipelines, municipal water intakes, etc.
- Avoid or minimize environmental impacts to aquatic resources and known submerged historical resources.
- Locate subsurface geological conditions conducive to burial of the Submarine Cable by jet plow embedment to avoid potential damage to the Cable System and to minimize environmental impacts.
- Avoid/minimize impacts to sensitive habitat areas such as protected species, essential fish habitat, and protected habitats where possible.
- Availability of properties along the route to construct a HVDC to HVAC converter station.

### Construction Methods

The upland construction methods will consist of a manhole and concrete-encased conduit bank system, installed using cut and cover methodologies, supplemented with trenchless installations. The construction contractor indicates that the land trenches will be no wider than 9 feet (2.7 meters). While the exact locations of the street trenches are currently unknown, the trench will not extend greater than 18 inches (1.5 ft or 0.46 meters) inside the curb line. The construction equipment will occupy one street lane during the construction period. In sequence, the construction will involve installation of the manholes and then “trenching will ‘connect the dots.’” It is estimated that one manhole will be installed per week and that each manhole will be separated from the next by about 1500 ft (457 m). The estimate is that approximately 100 feet (30.5 meters) of trench will be completed per day.

### Staten Island Option 1 – Gateway Land Route to Edgewater Converter Station

Option 1 is the only one of the upland routes that would cross public beach and enter into public land (**Figure 7 - Option 1 Gateway with Photograph Key; Photographs C14 through C17**). The Option branches off the preferred submerged HVDC cable route 1.76 mi (2.84 km) southeast of Verrazzano-Narrows Bridge. It is distributed 1.44 mi (2.32 km) northwest of the branch point, directly to Staten Island where South Beach and Fort Wadsworth Beach meet. This option goes ashore on the Fort Wadsworth beach, trends northeast up a paved beach path to enter on to USS North Carolina Road to the intersection with USS Constitution Court. At that point, the routing takes the HVDC cable off Fort Wadsworth property via Lily Pond Avenue. The road sequence from Lily Pond Avenue is School Road, Bay Street, Clifton Avenue, Edgewater Street to the Converter Station.

### Staten Island Option 3 – Great Kills Land Route to Edgewater Converter Station

Option 3 branches off the preferred HVDC cable route 0.72 mi (1.16 km) north of the northernmost boundary point between New Jersey and New York within the Lower New York Bay. The option extends west 9.77 mi (15.73 km) toward Annadale Beach on Staten Island and making landfall at Arden Avenue. This is the longest of the terrestrial options spanning some 9.7 miles (15.6 km) through predominately residential and village commercial areas. The roads traversed range from four-to-two lanes wide and some of them are bracketed by one-way streets making detour routing difficult. Local truck traffic is heavy and most of the roads also carry bus and school bus traffic. The landing for the HVDC transmission cable would be Arden Avenue, in a residential area (**Figure 8 – Option 3 Great Kills with Photograph Key; Photographs C18 through C20**). The street sequence from there is Amboy Road, Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, Edgewater Street to the proposed Converter Station.

### Brooklyn Option 2 – Brooklyn In-Water to Gowanus Substation

Option 2 has the shortest terrestrial component. The converted HVAC cable will follow the east side of the Narrows Channel to Buttermilk Channel where it will follow the pier line from Buttermilk Channel to Bay Channel. At Bay Channel it will enter via the 4100 1<sup>st</sup> Street pier in the Gowanus Station (see **Figure 3**). Three landings were evaluated for this option. Each of the locations would have required space for a converter station, but none offered such space. These landing options are discussed in the next section in detail.

### Brooklyn Option 4 – Gravesend Belt Parkway to Gowanus Substation

Option 4's submarine route branches off the preferred HVDC cable route at the same location as option 2: 3.44 miles (5.53 kilometers) southeast of the Verrazzano-Narrows Bridge. It turns northeast 2.25 miles (3.62 kilometers) southeast of the bridge, extending 1.40 miles (2.26 kilometers) towards King's County. Based on observed conditions, the terrestrial route could result in major traffic disruptions particularly along the Belt Parkway and the dense industrial warehouse area along 2<sup>nd</sup> Avenue. This option's route takes it ashore at Bay Parkway between Bensonhurst Park and the shopping complex anchored by a Target Store (**Figure 9 –**

**Gravesend Landing with Photograph Key; Photographs C21 – C25).** The trench line then follows the western side of the Belt Parkway which, for much of the distance, is adjacent to the Bensonhurst Park walkway. The route would exit onto 2<sup>nd</sup> Avenue and follow that north to the Gowanus Station.

## **CULTURAL RESOURCES DUE DILIGENCE REVIEW WITH RESULTS**

The due diligence site file review prefaced the creation of the proposed work plan. The review was completed to determine 1) the overall archaeological sensitivity of the off-shore preferred and option routes; 2) the archaeological sensitivity of the upland options; and 3) the number of listed and eligible historic properties and districts that immediately bounded the proposed terrestrial street routes. The in-field reviews were limited to drive-overs of the land routes. These were completed by Carol S. Weed and Sarah Sklar on October 27 and 28, 2022.

### **Data Sources Reviewed**

For due diligence site file and project area review, the off-shore and upland routes were both considered. The common sources used by both sets of investigators included the NYSHPO NYCRIIS which subsumes the LPC) landmark properties and the NYSM site lists. Meade's (2020) New York City Cemetery inventory also was referenced for the terrestrial options.

Mathew Shepard (NYSHPO CRIS) was provided with Geographic Information System (GIS) merged polygon shapefiles and, in turn, he provided data sets for both submerged and upland cultural resources in addition to listings of previously completed surveys. The merged polygon shapefiles will be filed with this packet submission to NYSHPO and LPC.

The offshore shapefiles included the centerline and a 1-mile (1.6 kilometer) buffer. The upland merged polygon/shapefile included the centerline and a 320-foot (97.5 meter)] buffer located to either side of the centerline. The latter width commonly included all buildings, structures, and objects facing inward toward the centerline on any given road. SEARCH further reviewed the NYSHPO historic project plot maps for any submerged historic resource surveys within a one-mile search buffer of the proposed routes. SEARCH also used the BOEM Archaeological Resource Information Database, the National Oceanic and Atmospheric Administration's (NOAA) Automated Wreck and Obstruction Information System (AWOIS), the NOAA Electronic Navigation Charts Database (ENC), and Global GIS Data Services, LLC's Global Maritime Wrecks Database (GMWD) to identify known or potential shipwrecks within the buffer areas for all off-shore routing and the landing locations for Options 1, 2, 3, and 4.

### **Submarine Cable Route Site File Review Results**

SEARCH's due diligence site file review of the preferred and alternate routes reports all known submerged sites, shipwrecks, and surveys within the one-mile APE for each corridor. Each route and their associated results are discussed below. A master table including all submerged cultural resources are presented by preferred and alternative options in **Attachment B, Table B1- Master Previous Offshore Surveys, Table B2 - Master Offshore Cultural Resources Sites**. The submarine cable route figures are presented in Attachment A and are **Figures 10 through 13**. The latter show the locations of previously surveyed areas and the reported locations of offshore shipwrecks.

### *Preferred HVDC and HVAC Routes*

The due diligence record search of the preferred HVDC and HVAC routed found that 12 surveys had been conducted of some part of the two preferred routes (**Table B1; see Figure 10 – Submerged Surveys within 1-mile of the Preferred Route**).

An additional survey report provides supplementary information to one survey on the list (NYSHPO Survey 08SR58377 supplements NYSHPO Survey 09SR59295) and it is not displayed on Figure B1. Five surveys cross the preferred route (see **Figure 10**). Survey 02SR52309 is a maritime shipwreck survey corridor that crosses the HVDC and HVAC routes at three locations across Upper and Lower New York Bay. Survey 02SR53363 is a maritime shipwreck survey that overlaps the northern portion of the HVDC route and the southern area of the HVAC route. Survey 09SR59295 is a large maritime survey located in Lower New York Bay and overlaps much of the HVDC route. Surveys 17SR0034 and 18SR56141 are maritime surveys associated with the same proposed construction project, with survey 18SR56141 supplementing survey 17SR0034. Both survey areas overlap a small portion of the HVDC route in Lower New York Bay. These surveys were the first identified in the record search review that include sub-bottom analysis for buried, pre-contact paleofeatures. Finally, survey 21SR00597 is a maritime survey located south of surveys 17SR00334 and 18SR56141 and overlaps the preferred HVDC route for a short stretch.

The NYCRIIS review yielded no information on submerged archaeological sites or historic properties within 1-mile (1.6 kilometer) of the preferred HVDC and HVAC routes. However, BOEM, NOAA AWOIS and ENC, and the GMWD databases contained 66 known shipwrecks within search area (**Table B2; see Figure 11 – Shipwrecks within 1-mile of the Preferred Route**). None of the shipwrecks are plotted within the 200 feet (61 meters) work corridor. Additionally, none of the wrecks identified are within 164 feet (50 meters) of the work corridor edge, ensuring that all of the plotted wreck locations have at least a 165-foot (50 meter) buffer between the work area and the plotted wreck locations. It is important to note that plotted wreck locations may include error based on reporting standards and potential for post-depositional movement.

In addition to shipwreck and recorded sites, NYSHPO Surveys 17SR00334, 18SR56141, and 21SR00597 included sub-bottom analysis of the Lower New York Bay buried sediments for potential intact subaerial landforms and pre-Colonial period features. These features are commonly referred to as Ancient Submerged Landform Features (ASLFs). None of the surveys identified any intact landforms within the work corridor of the preferred HVDC route. Surveys 17SR00334 and 18SR56141 identified one nearby ASLF, an intact peat deposits southwest of the Ambrose Channel (Schmidt et al. 2017, 2019). Survey 21SR00597 noted two areas with potential ASLFs, intact clinoform bedding northeast of Ambrose Channel and a preserved paleochannel feature to the southwest of the Ambrose Channel (Wilson and Gates 2021). These results suggest the presence of a preserved migrating paleochannel feature and potential margin deposits buried within Lower New York Bay.

### *Staten Island Option Route Landings*

**Option 1 – Gateway:** The NYCRIIS record search identified three (3) maritime surveys within 1 mile (mi) (1.6 kilometers [km]) of the option's submerged route (**Table B1**). Of these, NYSHPO Surveys 02SR52309 and 02SR53363 cross the option where it branches off the preferred HVDC route (see **Figure 12 – Submerged Surveys and Archaeological Sites within 1-mile of Optional Routes**). No submerged archaeological sites or historic resources identified in NYCRIIS are within 1-mile (1.6 kilometer) of Option 1. SEARCH identified 11 shipwrecks within 1 mile (1.6 kilometer) of the option, but none of these are within the 200 feet (61 meters) work corridor or within 50 m (164 ft) of the corridor's edge (**Table B2; Figure 13 – Shipwrecks within 1-mile of Optional Routes**).

Option 3 – Great Kills: The NYCRIIS database review identified six (6) maritime surveys within 1 mile (1.6 kilometer) of the option (**Table B1**). Three of the surveys overlap the option route: surveys 02SR52309, 02SR53363, and 09SR59295. Each of the surveys overlap the option across its eastern portion (**Figure 12**).

Option 3 is the only route within 1 mile (1.6 kilometer) of submerged sites within the NYCRIIS database. SEARCH identified 11 sites within the review area (**Table B1**; see **Figure 12**), but none of these were located within the 200 feet (61 meters) work corridor or the 50 m (164 ft) buffer beyond the work corridor. An additional 17 wrecks were identified within 1 mi (1.6 km) of the option (**Table B1**). As with the sites, none of the wrecks fall within the 200 feet (61 meters) work corridor or a 164-foot (50 meter) buffer beyond the corridor (see **Figure 13**).

#### *Brooklyn Option Route Landings*

Option 2 – Brooklyn: SEARCH identified 12 maritime surveys located within 1 mile (1.6 kilometer) of the option (**Table B1**). Survey 02SR53363 overlaps the option's route. Additionally, survey 08SR59099, a maritime survey located within Upper New York Bay, overlaps Option 2's 200 feet (61 meters) work corridor near its proposed landfall location (see **Figure 12**).

No submerged archaeological sites or historic resources within the NYCRIIS system are within 1 mi (1.6 km) of Option 2. SEARCH's review identified 31 shipwrecks within 1 mile (1.6 kilometers) of the option. One of these is located within the 200 foot work zone and is classified on the NOAA ENC (n.d.) database as an 'unknown dangerous wreck without a loss date' (**Table B1**). No additional wrecks are located within the 200 foot work zone or within 50 m (164 ft) of the work zone edge (see **Figure 13**).

Option 4 – Gravesend: Eight (8) maritime surveys from the NYCRIIS database and the NYSHPO historic resource plot maps are within 1 mile (1.6 kilometers) of this option (**Table B1**). Only one survey overlaps the option's route and the 200 foot work corridor: survey 09SR59295. This survey overlaps the southern end of the option (see **Figure 12**).

No submerged archaeological sites or historic resources identified within the NYCRIIS database are within 1 mile (1.6 kilometer) of Option 3; however, SEARCH identified 44 shipwrecks within this distance (**Table B1**). One of these is located just outside the 200 foot work corridor, 104 feet (31.6 meters) from the option center line (see **Figure 13**). This wreck is classified on the NOAA ENC (n.d.) as an "unknown dangerous wreck without a sink date."

#### **Land Route Site File Results**

The terrestrial options subject to site file review were HVAC Preferred Option A to CEH, Staten Island Options 1 and 3 including landings on Edgewater Street, Arden Avenue, and South Beach; Brooklyn Options 2 and 4 and the vicinities of the landings on Bay Parkway, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, and the proposed CEH near Marshall Street off of Johns Street. The centerline streets were driven. There was no access to the fenced location of the Reynolds Shipyard, which will be demolished for part of the Edgewater Converter Station, the 65<sup>th</sup> Street Railyard north of 1<sup>st</sup> Avenue, the Bush Terminal 42<sup>nd</sup> Street Pier off 1<sup>st</sup> Avenue, the Gowanus Station Pier east of the intersection of 2<sup>nd</sup> Avenue and 29<sup>th</sup> Street, or the proposed location of the CEH.

**Table 1 – Land Route Due Diligence Summary Data** presents a summary by upland options. NYSHPO Individual buildings, structures, districts, and NYC Landmarks are accounted for in the table. Individual elements within



districts may not all be represented as some of these were outside of the buffer boundaries. On the table, archaeological sites are noted by their NYSHPO Unique Site Numbers (USNs) or those applied to such properties by the NYSM and LPC. Also summarized are those resources with an Undetermined status and those that have been determined Not Eligible for listing in the State or National Registers of Historic Places (S/NRHP).

**Table 1. Land Route Due Diligence Summary Data**

Option	Search Section	Eligible	Listed	NR Listed	LPC Landmark	Not Eligible	Undetermined
Option 1 - Gateway	Centerline	2	2			2	17
	Buffer	4				1	13
Option 2	Centerline						
	Buffer						
Option 3 – Great Kills	Centerline	11	1		4	20	37
	Buffer	3			5	8	19
Option 4 - Gravesend	Centerline	7	3			11	5
	Buffer	3	1		2	13	10
Option A - To CEH	Centerline	11	1	6		8	9
	Buffer	5	80	10		46	18
<b>TOTAL =</b>		<b>46</b>	<b>88</b>	<b>16</b>	<b>11</b>	<b>109</b>	<b>129</b>

Attachment C contains the detailed **Master Land Route Cultural Resources** table (**Table C1**) which is ordered by Option and eligibility status. The option routes are illustrated on Figures 2 and 3.

The following summaries focus on upland resources that by age, function, or location could be directly affected by proposed trenching. A caveat is warranted at this point. As noted earlier in the Upland Construction Methods section, the street trenches will be placed within the curbside lane. The working assumption in all cases is that the working side of a road will follow the direction of land cable from its landing to its station (Edgewater Converter, ConEd CEH) or substation (Gowanus Station). The second assumption is that the cable road trenches represent typical utility street installments. Such installments routinely do not result in direct impacts to inventoried historic properties. However, the resource types that might be directly affected are those such as cemeteries, archaeological sites, and underground transportation features such as tunnels and subways that could be physically intersected by a trench or destabilized by vibration.

#### Staten Island – Option 1 Gateway

Option 1 – Gateway is the terrestrial alternative that would link the HVDC offshore cable route to the Edgewater Converter Station via South Beach and city streets (**Table C1**). The Gateway Landing would occur on South Beach and the buried HVDC cable route would skirt USS North Carolina Road within Fort Wadsworth, following Lily Pond Avenue, School Road, Bay Street, Clifton Avenue, to end at the Converter Station on Edgewater Street.

In total, 41 resources are present, either facing the centerline roads or in the adjacent buffers. NYSHPO has determined that South Beach, in general, and the adjacent 10-to-30- foot terraces are archaeologically sensitive. The reason for the assignment is the presence of the archaeological remains of the Old Doup Town (aka Dutch *Oude Dorp*; Oude Dorp; Old Town) on the 20- and 30-foot terraces (USN 08501.000027; Boller 1972, Salwen 1967). Bolton (1934), Anderson and Sainz (1965), and John Milner Associates (JMA 1978) also reported Indigenous Nation uses of the same setting dating to the Archaic and Woodland archaeological eras (John Milner Associates 1978). Old Doup Town remnants are within the Fort Wadsworth Historic District (98NR01405, USN

8501.004168) and the buffer on the east side of Lily Pond Avenue and USS North Carolina includes various fort buildings at least one of which is demolished (USN 8501.003056).

Once the terrestrial Gateway option leaves Lily Pond Avenue, it trends east onto School Road toward Bay Street with its bounding residential and commercial properties. The side streets along Bay Street also exhibit the same functional characteristics though three building complexes of note are also present. These are St. Mary's R.C. Church with its rectory and school (USN 8501.003728; Anonymous 2022), St. John's Church Complex (94NR00547), and the Rosebank United States Coast Guard Station which was the former Quarantine Station (USN 8501.003366; Howe 2013). None of these resources have reported elements that could now be masked by existing Bay Street.

#### Staten Island – Option 3 Great Kill

Option 3 – Great Kill traverses the southeast quadrant of Staten Island via city streets. This route would link the HVDC offshore cable route to the Converter Station via a landing at Arden Avenue. The cable route trends west to Amboy Road, and then continues generally eastward to the Converter Station via Richmond Road, Targee Street, Vanderbilt Avenue, Bay Street, ending on Edgewater Street at the proposed Edgewater Street Converter Station complex.

In total, 111 resources are present either bounding the centerline roads or in the adjacent buffers. The landing location is within a NYSHPO defined archaeological sensitivity area. Arden Avenue, in the area, has received renovation since Hurricane Sandy according to the NYSHPO (NYSHPO #19PR01002). Two inventoried buildings are located on east of the landing's HDD on Mayberry Promenade. One of the residences was determined Not Eligible and the status of the other is Undetermined.

From Arden Avenue through Richmond Road, the HVDC centerline route is bounded by residential and named neighborhoods with commercial enterprises, schools, and public facilities. A suite of notable resources are adjacent to the centerline route in this segment: two cemeteries (Oceanview and Moravian), the Ernest Flagg's Todt Hill house (LP-01407) on Richmond Road, and two National Register properties (90NR01012 Billou-Stillwell-Penne House; St. Alban's Episcopal Church - 90NR01040). The two cemeteries are layered down ridge slopes and their current southern boundaries are marked by stone walls. It is presently unknown if these boundary walls have been in place since the cemetery platting or if boundary walls were erected later in the resources' use-span. The Ernest Flagg House is the only one in that complex that fronts a major thoroughfare. The other associated elements are upslope and on the top of the adjacent ridge line to the west. The St. Albans Church Complex and the Billou-Stillwell-Penne house are representative of the types and ages of the buildings along both roads.

As the HVDC cable route leaves Richmond Road and continues to its terminus at the Edgewater Converter Station, the neighborhoods give way to more commercial development and large institutional complexes also appear. Residences, schools, and churches also are present. The largest of the institutional complexes on the Great Kills Option is on Vanderbilt and it is the U.S. Marine Hospital Complex. The complex buildings and structures are set on an upslope from Vanderbilt Road and are well away from the street proper.

#### Brooklyn – Option 2 Brooklyn In-Water to Gowanus Substation

Option 2 is effectively an off-shore route (discussed above) that would end at the Gowanus Station. Three alternative landings were proposed for the option. The southernmost alternative was proposed to come ashore in the 65<sup>th</sup> Street railyard. The second alternative landing would align with the 54<sup>th</sup> Street pier. The first and second alternative routes would follow 1<sup>st</sup> Avenue, 39<sup>th</sup> Street and 2<sup>nd</sup> Avenue to reach the Gowanus Station. The third option takes Option 2 directly to the Gowanus Station.

As will be noted, there are no resources listed on **Table 1** (summary data above) for Option 2 but historic properties are present. Those resources include districts that have eastern boundaries on 2<sup>nd</sup> Avenue, are elements within those districts, or as a standalone resource. The standalone resource is USN 4701.018845 (Owls Head WWTP). It lies south of the 65<sup>th</sup> Street alternative landing site. The resource was determined Not Eligible. The two districts in question are the United States (U.S.) Army Military Ocean Terminal (90NR01314; Smith 1983) and the Bush Terminal Historic District (USN 4701.019392). The U.S. Army Military Ocean Terminal nomination form indicates that the Terminal stretches along 2<sup>nd</sup> Avenue from 58<sup>th</sup> Street to 65<sup>th</sup> Street along 2<sup>nd</sup> Avenue. Supporting figures in the nomination form show that rail lines present between 64<sup>th</sup> and 65<sup>th</sup> streets are part of the nominated resource but the form does not include the full extent of the lines between 65<sup>th</sup> Street and Shore Parkway. It appears that the 65<sup>th</sup> Street landing could occur outside of the Terminal's nomination boundaries. The Bush Terminal Historic District (USN 4701.000057, USN 4701.019392; Wood and Gable 1974) encompasses parts of 1<sup>st</sup> and 2<sup>nd</sup> Avenues between 28<sup>th</sup> and 50<sup>th</sup> streets. The 54<sup>th</sup> Street alternative landing location is outside the Bush Terminal district on the south but it would cut trench on both avenues. The terminal Gowanus Generating Station was studied by John Milner and Associates (McVarish et al. 2008) and NYSHPO accepted their recommendation that no significant historic resources were present.

#### Brooklyn – Option 4 Gravesend to Gowanus Substation

On Table C1, Option 4 is divided into two parts. Part 1 coincides with the landing on Bay Parkway and route as it follows the Belt Parkway to its exit on 2<sup>nd</sup> Avenue. Part 2 covers the route after it leaves the Belt Parkway and continues northward along 2<sup>nd</sup> Avenue to the Gowanus Station. In total, 55 resources are present facing the centerline route and within the adjacent buffers.

The proposed option's landing could occur on Bay Parkway. The parkway's end at this point is effectively a cul-de-sac with parking for users of both Bensonhurst Park facilities to the northwest and a Target/Kohl's complex to the southeast (see **Photograph C25**). Somewhat surprisingly, this section of the shoreline is not indicated as an archaeologically sensitive area though such locations are nearby in the Fort Hamilton vicinity (90NR01295 Casement Fort; LP-00958 Casement Fort, Fort Hamilton Officer's Club; USN 4701.020796 Fort Hamilton Army Base; USN 4701.024908 Fort Hamilton Interchange Area archaeological site). Once on the Belt Parkway, the option route within the roadway is unknown. All of the inventoried properties within the Belt Parkway segment are outside of the road ROW except for NYSM archaeological sites 3605 and 3611. These were identified by Parker (1920) and their precise locations are unknown (Merwin 2022). NYSHPO presents their boundaries as red blobs in NYCRIIS and that means that the area is sensitive for such resources.

The Part 2 resources, following along Shore Parkway and 2<sup>nd</sup> Avenue to Gowanus Station were discussed in the Option 2 discussion above.

#### Brooklyn - HVAC Option A to CEH

Option A originates on 29<sup>th</sup> Street at its intersection with 4<sup>th</sup> Avenue. From 4<sup>th</sup> Avenue, it follows Atlantic Avenue, Boerum Place, Adams Street, to Gold Street (**Figure 14 – CEH Photograph Key; Photographs C26 through C28**). Along this routing there are 194 resources either on the centerline route or in the adjacent buffers. Included in the total are 16 National Register properties and 97 that have been determined eligible to the S/NRHP or are now listed in the State Register.

Archaeological sensitivity is shown by NYSHPO along 4<sup>th</sup> Avenue, Atlantic Avenue, and Adams Street. Meade (2020) reported that the Rapalye Family Cemetery is documented as adjacent to or on Adams Street east of Walt Whitman Park. Similarly, six transportation resources are present, all of which are underground resources that follow parts of 4<sup>th</sup> Avenue, Adams Street at Joraleman Street, and Atlantic Avenue. The subway stations

include the 4<sup>th</sup> Avenue Subway Station (IND; 90NR05370), the Borough Hall Subway Station (IRT; 04NR05274), the Atlantic Avenue Subway Station IRT & BMT – Atlantic Avenue (USN 4701.013844), and the Atlantic Avenue Subway Station (IRT; 04NR05282).<sup>1</sup> Also included are the Atlantic Avenue Control House (90NR01275) and the Atlantic Avenue Tunnel (aka Cobble Hill Tunnel; 90NR03137). All but the Atlantic Avenue Subway Station IRT & BMT are National Register listed properties. Though the Atlantic Avenue Tunnel is non-operational it is still intact and its terminus is at Boerum Place. In all instances, these cemetery and transportation resources are susceptible to direct impacts from any subsurface construction direct impacts or indirect vibration impacts.

### PROPOSED CULTURAL RESOURCES WORK PLAN

The proposed work plan presented below is predicated on the results of the due diligence review just presented. The work plan would be implemented and, as needed, modified if any of the review agencies request additional investigations on routing that will be advanced by the Applicant.

The work plan is divided into six subsections (Supplemental Data Sources, Proposed Areas of Potential Effect (APEs), Field Methods, Reporting, Schedule, and Personnel). The plan is structured to conform to the work plan specifications outlined in the New York City Landmarks Preservation Commission's *Guidelines for Archaeological Work in New York City* (Sutphin et al. 2018).

#### Supplemental Data Sources

The review of supplemental data sources may be requested by reviewing agencies. In the event that Phase IA or other reporting products are requested, these sources relevant to submerged resources would be referenced in addition to those used during the due diligence review: historic maps and maritime charts for the subject area.

The supplemental sources that will be used for upland resources will be borough-specific historical societies; the New York Public Library Map Division Sanborn and borough specific coverage for road routing and dimensional data; Parker (1920) for Indigenous Nation village and camp site locations not noted in the NYSM inventory; Meade (2020) for the reported presence of historic cemeteries adjacent or crossed by the option centerline roads; and the United State Department of Agriculture Natural Resources Conservation Service Web Soil Survey data for the extent of fill and made soils particularly at landings and within the pier complex south of Gowanus Substation.

#### Proposed Areas of Potential Effect (APEs)/Submerged and Terrestrial Routes

Based on the results of the due diligence searches, we are proposing separate offshore and upland APEs. The proposed offshore APE will encompass a 200-foot (61-meter horizontal work area extending to a depth of 4 ft (1.2 m) below the seafloor surface except below federal channels, navigation channels, and extraordinary seabed conditions where a burial depth of up to 14 ft (4.3 m) below the seafloor surface is expected. The final burial depth in each submarine area will be determined in consultation with the USACE. The total length of the proposed HVDC corridor is 36.2 mi (58.3 km). The corridor begins in Federal waters and continues northwest across Lower New York Bay (**Figure 15 – Preferred Route with Recommended Survey Areas**). The HVDC corridor remains on the northeastern side of the Ambrose Channel and it turns northward just south of Coney Island. At Gravesend Bay, the HVDC corridor crosses the Ambrose Channel and it then continues northward, under the Verrazzano-Narrows Bridge. Past the north side of the bridge, the corridor turns towards Staten Island, making

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<sup>1</sup> The parenthetical initials after each subway name are the historic era corporations or companies that developed various lines in NYC. In this case, they stand for Independent Subway System (IND), Brooklyn-Manhattan Transit Corporation (BMT), and Interborough Rapid Transit Company (IRT).

landfall at the proposed Edgewater Street Converter Station. The transition from submarine to terrestrial disturbance will occur at a coffer dam next to the station. The configuration of the terrestrial HDD receiving pit and the terrestrial work space are discussed below.

After the conversion is completed at the Edgewater Street Converter Station, the submerged HVAC cable corridor will resume the size specifications of the HVDC corridor after leaving the HVAC cofferdam. The corridor APE will be 200 ft (61 m) wide and 14 ft (4.3 m) deep. The corridor continues to the middle of the bay and then turns northward into Upper New York Bay. The HVAC corridor gradually turns to the northeast until it abruptly turns to the southeast and makes landfall at a pier located at 4100 1<sup>st</sup> Street. At the transition from submarine to terrestrial disturbance, the APE again consists of a cofferdam or a temporary gravity cell structure. The proposed upland APE considers the on-shore work area of each landing including the vertical distance from existing ground surface to 10 ft (3 m) below the bottom of the trench line. The vertical extent of the APE is based on the areas sandy soils which may necessitate extra space for shoring or other safety measures. Once the upland cable lines leave the HDD pit, the APE will revert to the horizontal extent of the proposed trench plus 10 ft (3 m) to either side of the trench wall. The expanded horizontal extent considers the presence of historic features such as cemeteries that are adjacent to the route roads and also changes in road alignments which may now mask historic features.

## Field Methods

### Offshore Field Methods

SEARCH predicates the following discussion of methods on the conclusion that subsequent work would include HRG survey. SEARCH may recommend secondary diver investigations and/or coring depending on findings from the HRG survey. The areas that should be subject to HRG survey are based on the site file review and provide details for potential Phase 1b investigations.

SEARCH's due diligence site file review noted that 18.6 mi (29.9 km) of the total 36.2 mi (58.3 km) preferred HVDC and HVAC corridor has already been subject to maritime cultural resources survey. This consists of 51% of the APE. Of the portion of the corridor that has already been surveyed, 15.9 mi (25.6 km) has been surveyed for only shipwrecks and 2.7 mi (4.3 km) has been surveyed for both shipwrecks and preserved pre-contact features and landscapes. SEARCH recommend no additional survey for the 2.7 mi (4.3 km) of the corridor that has been surveyed for shipwreck and pre-contact landscape features. SEARCH recommends a Phase 1b HRG remote sensing survey for the remaining 33.5 mi (53.9 km) of the preferred route. The 15.9 mi (25.6 km) of the preferred route that has been surveyed for shipwrecks is recommended for sub-bottom profiler survey. The 17.6 mi (28.3 km) of the preferred HVDC and HVAC corridor that has not been subject to maritime cultural resources survey is recommended for full remote sensing survey including sub-bottom, side-scan sonar, and magnetometer survey (see **Figure 15**).

*Submerged Remote Sensing Survey:* SEARCH recommends maritime HRG survey along the Preferred HVDC and HVAC APEs, generally following guidelines established by BOEM in *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585*. By doing so, the survey results from New York State waters can be seamlessly integrated with results of survey in Federal waters. Based on these standards, SEARCH recommends HRG survey along the APE corridor be conducted using 98-foot (30 meter) line spacing. The entire APE survey corridor can be covered with three survey transects. As with the BOEM (2020) recommendations, SEARCH recommends a tie-line survey perpendicular to the corridor every 1640 feet (500 meters).

The equipment used for HRG survey will depend on the data gaps that the survey is intended to fill. For locations where no maritime cultural resource survey has been conducted, a full suite of remote sensing equipment



should be used. These include a magnetometer, side-scan sonar system, and a sub-bottom profiler. Location data during the survey should be recorded using a state-of-the-art navigation system with sub-meter accuracy. Location data should be continuously recorded during the survey and logged digitally.

The magnetometer will provide data about the location, size, and distribution of ferrous objects and associated shipwreck material within the APE. SEARCH recommends deploying a magnetometer and recovering a minimum of three transects of data at 98-foot (30-meter) spacing to provide sufficient data to identify potential cultural materials and distinguish them from infrastructure such as pipes and cables. During survey, the magnetometer should not exceed 19.7 feet (6 meters) above the sea floor. The magnetometer data should be sampled at greater than 4.0 Hz and the sensor data stored digitally.

The side-scan sonar provides a visual representation of the sea floor based on acoustic reflections of the sediment surface. This image can be used to identify potential wreck debris, historic resource materials, changes in sedimentation, or glacial debris within the APE. The side-scan sonar system should operate at 500-kHz or greater and be capable of resolving targets as small as 1.6 feet (0.5 meters) at maximum range. The side-scan sonar data must provide 100 percent overlapping coverage of the work corridor. The sensor should be towed above the seafloor at a height between 10-20 percent of its maximum range. Data should be stored digitally and monitored during survey to ensure data quality and acquisition.

The sub-bottom profiler provides a visual representation of changes in sediment below the sea-floor surface, helping to identify both potential buried post-contact cultural materials, such as shipwrecks, as well as buried and preserved ASLFs. These features may be indicative of preserved past landscapes including buried river and stream channels, lakes, estuaries, and the adjacent landscapes where past populations lived and thrived during periods of lower sea level. Due to the shallow depth of potential disturbance (<10 m), a Compressed High Intensity Radar Pulse (CHIRP) system is adequate for the sub-bottom survey. The system employed should provide a vertical bed resolution of 1.0 feet (0.3 meters).

As discussed above, 15.9 miles (25.6 kilometers; 43%) of the preferred HVDC and HVAC corridor is recommended for full maritime survey using the magnetometer, side-scan sonar, and sub-bottom profilers. An additional 17.6 miles (28.3 kilometers; 48%) is recommended for only sub-bottom profiler survey rather than the entire suite of remote sensing tools.

Based on the findings of the HRG survey, additional work may be recommended. These may include diver identification or sub-surface coring of potential submerged cultural resources and/or ASLFs. Conversely, the proposed route may be adjusted to avoid any potential cultural resources or ASLFs identified during survey, negating the need for further investigations.

#### Upland Field Methods

If the agencies request a Phase Ia or Documentary Study, they may also request additional drive-over/walkover to confirm the existing conditions of properties currently classified as Undetermined. Each such location will be visited and its existing condition recorded. Of particular interest should be those resources that were originally recorded as schools, churches, and similar cultural institutions that no longer function as originally recorded.

Monitoring open trench work is an option if any upland option advances to construction. In this event, a monitoring plan will be formulated based on the construction plans for the route section in question.

## Reporting

Since 2014, NYSHPO has requested that separate Phase 1a level documents be submitted for archaeological assessments and those considering buildings/structures. The latter document is referred to as a Reconnaissance Level Historic Survey. We assume, then, that the offshore routes will be completed as required with a minor contribution from Matrix to cover the terrestrial segment of any landing.

Maritime reporting of the findings of the Phase 1a and subsequent 1b survey will adhere to NYSHPO guidelines for reporting. To ensure that reporting guidelines follow federal standards, a list of all magnetometer anomalies and side-scan sonar acoustic targets will be provided to NYSHPO, NYSM, and LPC. Side-scan sonar targets will be presented in a table with representative imagery. Finally, sub-bottom acoustic reflectors indicative of cultural resources or ASLFs will be presented with representative imagery and a plan view of the observed feature extents.

Each report will be supported by glossary/abbreviation lists, references cited, figures, photographs with photo logs/keys, and, if needed artifact catalogs.

## Project Schedule

The application is currently proposed to be submitted in the first half of 2023. Once approved, it is anticipated that site clearing to final site work will take a maximum of 54 weeks. Construction at the converter station location include site clearing, site grading, placement of foundations and underground facilities, building and equipment erection, and final site work.

## Personnel

The current cultural resources team for the project is comprised of the following archaeologists and a senior planner.

### Submerged Cultural Resources (SEARCH)

*Project Manager:* Jordon Loucks (Ph.D., RPA 39754531) Project Manager, SEARCH Florida – Jacksonville Office  
Email: [jordon.loucks@searchinc.com](mailto:jordon.loucks@searchinc.com), office: 904-379-8338, cell: 607-237-2517

*Principal Investigator, Field Lead, and Senior Author:* Neil N. Puckett (Ph.D., RPA 4836) Senior Maritime Archaeologist, SEARCH – Austin Station  
Email: [neil.puckett@searchinc.com](mailto:neil.puckett@searchinc.com), cell: 775-527-0016

### Terrestrial Cultural Resources

*Principal Investigator, Field Lead, and Senior Author/Editor:* Carol S. Weed (M.A., RPA 989090)  
Senior Cultural Resources Specialist (for) Matrix New World Engineering  
Email: [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [cs13108@gmail.com](mailto:cs13108@gmail.com)), cell: 646.276.2460

*Senior Planner:* Sarah F. Sklar (AICP, LEED GA), Matrix New World Engineering  
Email: [ssklar@mnwe.com](mailto:ssklar@mnwe.com), office: 646-273-5570

In conclusion, Matrix requests your comment on the Proposed Project and the work plan outlined herein. If you have any questions or require additional information, I can be reached at cell phone 646.276.2460 or [cweed@mnwe.com](mailto:cweed@mnwe.com) (cc: [csw13108@gmail.com](mailto:csw13108@gmail.com))

Sincerely,

**MATRIX NEW WORLD ENGINEERING**

*Carol S. Weed*

Carol S. Weed, M.A. (RPA #989090)  
Senior Cultural Resource Specialist  
(for) Matrix New World Engineering

**Attachments:**

- A – Figures 1 through 15
- B – Submarine Cable Tables (SEARCH)
- C – Land Cable Photographs and Table
- D – Preferred and Options Shapefiles

**Electronic copy to:**

- Matrix: Donna McCormack, Sarah Sklar
- SEARCH Neil Puckett, Jordon Loucks

## REFERENCES CITED

Anderson, Albert J. and Donald R. Sainz

1965 Excavations at Oude Dorp. The New Bulletin, Staten Island Institute of Arts and Sciences 14 (9): 82-95.

Boller, Leo A.

1972 NYOPRHP Division for Historic Preservation Archaeological Site Inventory Form, USN 8501.000027, Old Town *Oude Dorp*, Richmond County. Inventory form downloaded 11/15/2022 from NYSHPO CRIS. (see Salwen 1967).

Bolton, Reginald Pelham

1934 *Indian Life Long Ago in the City of New York*. New York: Harmony Books.

Bureau of Ocean Energy Management (BOEM) Office of Renewable Energy Programs

2020 *Guidelines for Providing Archaeological and Historical Property Information Pursuant to 30 CFR Part 585*. United States Department of the Interior, Office of Renewable Energy Programs.

Howe, Kathleen (Kathy) A. Howe

2004 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, Atlantic Avenue Subway Station (IRT and BMT), Intersection of Flatbush Avenue at Atlantic and 4<sup>th</sup> Avenues, Brooklyn, NY. NYOPRHP, Peebles Island, Waterford, NY.

2010 NYOPRHP Division for Historic Preservation Resource Evaluation, Atlantic Avenue Historic District, Atlantic Avenue roughly between Smith St. and Nevins St., Kings County, USN 04701.016698.

2013 NYOPRHP Division for Historic Preservation Resource Evaluation, former U.S. Quarantine Station, Rosebank (current USCG Station New York), Project 13PR01367 (see also 94PR02633). Evaluation form downloaded 11/15/2022 from NYSHPO CRIS.

John Milner Associates (JMA)

1978 National Heritage, Prehistoric Site Survey Record Sites Std-25-4 and Std-13 from "A Cultural Resources Inventory of the Gateway National Recreational Area, New York and New Jersey." Report originally prepared by JMA for National Park Service. Pages are appended to the Boller 1972 USN form for 08501.000027.

McVarish, Douglas C., Patrick J. Heaton, and Joel I. Klein. 2008 (May). South Pier Improvement Project, Phase IA Cultural Resources Survey, Brooklyn, New York (OPRHP Project Review #08PR01278). Report prepared by John Milner Associates, Inc., Croton-on-Hudson, New York for ESS Group, Inc., East Providence, Rhode Island and Astoria Generating Company, L.P., New York, New York

Meade, Elizabeth D.

2020 The Cemeteries of New York City. <https://www.cemeteriesofnyc.com/> (cited with permission from Elizabeth D. Meade, Ph.D.)

Merwin, Daria

2022 Personal communication, D. Merwin to C. S. Weed re: NYSM sites within or adjacent to Preferred and Alternative Options, Staten Island and Brooklyn.

New York Archaeological Council (NYAC)

- 1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.
- 2000 *Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations*. New York Archaeological Council Standards Committee, McGraw, NY.

New York State Historic Preservation Office (NYSHPO)

- 2005 *Phase I Archaeological Report Format Requirements*. New York State Office of Parks, Recreation, and Historic Preservation, Troy, NY.

Salwen, Bert

- 1967 Metropolitan Area Archaeological Survey Site Survey Sheet, Department of Anthropology, New York University, *Oude Dorp* South Beach, Site Number Std 13-4 Walton-Stillwell Site. Form attached to the Boller 1972 USN form.

Schmidt, James S., Christopher Dvorscak, Katherine Clevenger, Michael Twarog, R. Christopher Goodwin, Martha Williams, and Kevin May

- 2019 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters: Close-Order Relocation Survey: Target BL12-002*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 18SR56141.

Schmidt, James S., Kathryn A. Ryberg, R. Christopher Goodwin, Benjamin C. Wells, Nicholas J. DeLong, and Jeffrey Gardner

- 2017 *Geophysical/Cultural Resource Survey to Support Transcontinental Gas Pipe Line Company's Offshore Raritan Bay Loop Natural Gas Pipeline Expansion, New Jersey and New York State Waters*. Prepared for Williams Partners LP. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 17SR00334.

Smith, Raymond W.

- 1983 U.S. Department of the Interior National Park Service National Register of Historic Places Inventory Form, United States Army Military Ocean Terminal (aka Brooklyn Army Terminal, Brooklyn Army Base, N.Y. Port of Embarkation), 58<sup>th</sup> – 65<sup>th</sup> Street at 2<sup>nd</sup> Avenue, Brooklyn, N.Y. NYOPRHP Historic Preservation Field Services, Agency Bldg. 1, Albany, New York.

Wilson, William J. and Paul Willard Gates

- 2021 *Phase I Cultural Resources Assessment of the 2021 Lower New York Bay Lateral Survey Program: Raritan Bay and Lower New York Bay, New Jersey and New York*. Prepared for Transcontinental Gas Pipe Line Company, LLC. On file at New York State Historic Preservation Office Cultural Resources Information System, Survey No. 21SR00597.



Wood, Dennis R. and XXX Gable

1974 NYOPRHP Division for Historic Preservation Building-Structure Inventory Form, USN 04701.000057, Bush Terminal, Kings County, Brooklyn. National Park Service, Washington, DC, on file at NYOPRHP CRIS.

*Databases Cited*

Global GIS Data Services LLC, Global Maritime Wrecks Database (GMWD)

n.d. Electronic document, <http://www.globalgisdata.com/10995.html>

National Oceanic and Atmospheric Administration (NOAA) Electronic Navigational Charts (ENC)

n.d. Electronic document, <http://www.nauticalcharts.noaa.gov/mcd/enc/>

National Oceanic and Atmospheric Administration (NOAA) Automated Wreck and Obstruction Information System (AWOIS)

n.d. Electronic document, <https://nauticalcharts.noaa.gov/data/wrecks-and-obstructions.html>



**New York State  
Parks, Recreation and  
Historic Preservation**

**KATHY HOCHUL**  
Governor

**ERIK KULLESEID**  
Commissioner

March 7, 2023

Carol Weed  
Principal  
Independent Contractor  
41 Ridge Road  
Katonah, NY 10536

Re: DPS  
Anbaric Development Partners – Hera Power Link  
23PR01154

Dear Carol Weed:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

We have reviewed the initial project submission. The OPRHP recommends a Phase IA archaeological investigation for proposed terrestrial ground disturbances. The terrestrial archaeological investigation should be conducted in accordance with established NYS standards. The OPRHP recommends a marine archaeological survey for proposed underwater ground disturbances. The marine archaeological investigation should be conducted in accordance with the standards established by the Bureau of Ocean Energy Management.

The OPRHP is also requesting contact information for the pertinent individual(s) at the New York State Department of Public Service.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact me via email.

Sincerely,

Tim Lloyd, Ph.D.  
Scientist - Archaeology  
timothy.lloyd@parks.ny.gov

via e-mail only

Project 23PR01154: Anbaric Development Partners - Hera Power Link (GM3I4S4BXU81) NYSHPO Requests 3/14/23						
View Project						
Process	Status	Reviewer	Review Type	Request Type	Request Item	Request Description
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Attachment	Please provide the name, mailing address, and email address of the pertinent contact(s) at the NYS DPS
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Archaeology Survey	Please submit the results of the Phase IA terrestrial archaeological investigation
	Information Requested	Tim Lloyd	Archaeology	Request a New Attachment, Photo, or Survey for this Consultation Project	Archaeology Survey	Please submit the results of the marine archaeological survey
	Information Requested	Linda Mackey	Survey and Evaluation	Request a New Attachment, Photo, or Survey for this Consultation Project	Building Survey	Please use the building survey module <b>to submit the architectural survey report</b> . Create a built resource for each Undetermined resource that appears potentially eligible. Complete the required fields and upload current photographs. Also, create a built resource for any newly identified resource that appears potentially eligible. If the number of built resources is greater than 25, you may coordinate with SHPO staff to use the Trekker mobile app <b>to document resources identified in the APE</b> . Contact linda.mackey@parks.ny.gov with questions.

## Appendix C - Photographs

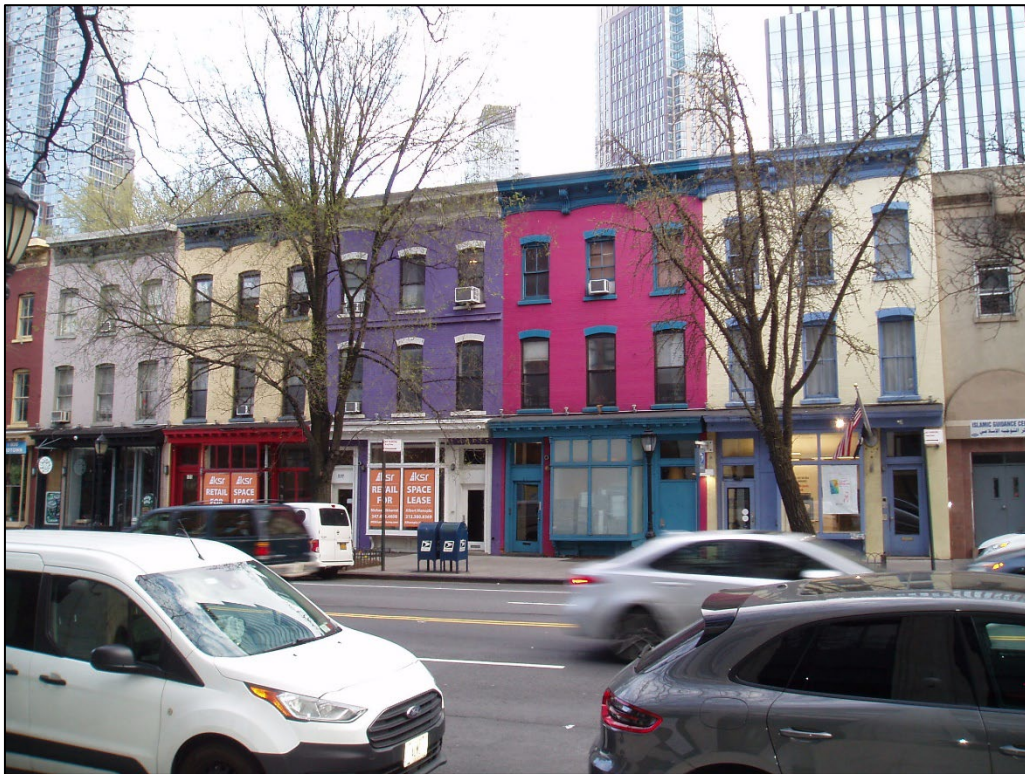


Photograph 1. Looking NE at the west end USN 04701.015909, 355-413 Bergen St. (Field Photograph CSW\_P4040018, 4/4/23).



Photograph 2. Looking NW from the east end of USN 04701.015909, 355-413 Bergen St. (Field Photograph CSW\_P4040026, 4/4/23).





Photograph 3. Looking N at the yellow rowhouse with the U.S. flag. This is the current location of the USPS Time Plaza Station (Field Photograph CSW\_P1010005, 4/7/23).



Photograph 4. Looking SW at the new building at 542 Atlantic Avenue (Field Photograph CSW\_P1010015, 4/7/23).



Photograph 5. Looking SE at the new building at 542 Atlantic Avenue (Field Photograph CSW\_P1010010, 4/7/23).



Photograph 6. Looking N on the Boerum Place median at State Street. The street was widened to five lanes on each side in the early 1960s (Field Photograph CSW\_P413009, 4/13/23).





Photograph 7. Looking NE from the Boerum Place/State Street intersection. The red façade building to picture right is the structure that replaced the inventoried auto repair shop at 237 State Street (Field Photograph CSW P4140008, 4/13/23).



Photograph 8. Looking NE at 237-239 State Street (CSW\_P4130006, 4/13/23).



Photograph 9. Looking SW at the front entrance to 96 Schermerhorn Street (Field Photograph CSW P4040048, 4/4/23).



Photograph 10. Looking SW from Schermerhorn Street near Hoyt Street to 96 Schermerhorn (Field Photograph CSW P1010019, 4/7/23).





Photograph 11. The entrance to the New York Transit Museum (aka Court Street Station) at 99 Schermerhorn Street (Field Photograph CSW\_4040047, 4/4/23).



Photograph 12. Looking NE at the 131 Livingston Street, the Board of Education Building (Field Photograph CSW\_P4040049, 4/4/23).





Photograph 13. Looking W/NW at the shrouded south and east facades of the Brooklyn Edison Company building at 15 Willoughby Street (Field Photograph CSW\_P1010029, 4/7/23).



Photograph 14. Looking NE at the east façade of the Brooklyn Edison Company building (Field Photograph CSW\_P1010030, 4/7/23)



Photograph 15. Looking NW at the east and south facades of the government building at 360 Adams (Field Photograph CSW\_P1010032, 4/7/23).



Photograph 16. Looking SW at the east and north facades of the government building at 360 Adams (Field Photograph CSW\_P1010039, 4/7/23).





Photograph 17. Looking NW at the east façade of 360 Adams with its window detail above the front entrance (Field Photograph CSW\_P1010035, 4/7/23).



Photograph 18. Looking SE at the north and west facades of 360 Adams (CSW\_P1010043, 4/7/23).





Photograph 19. Looking S at the park west of the government building at 360 Adams (Field Photograph CSW\_P1010044, 4/7/23).



Photograph 20. Looking NW at 247 and 249 Front Street (Field Photograph CSW\_P4130023, 4/13/23).



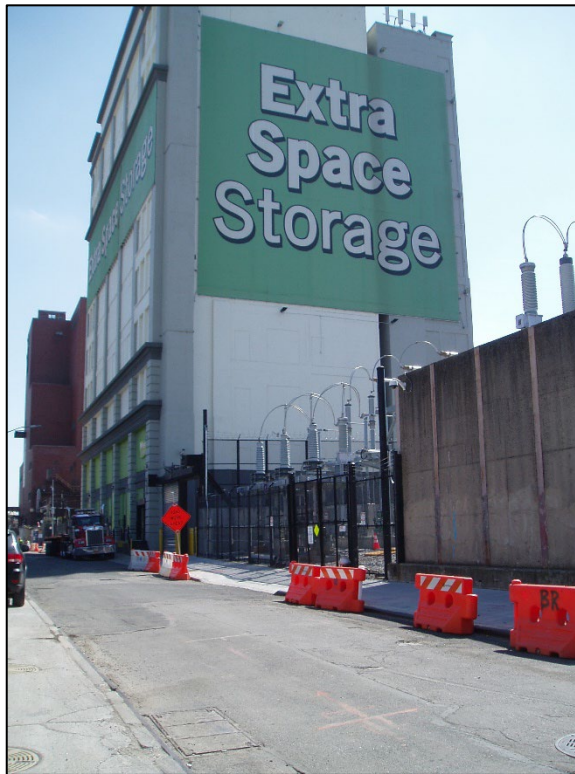


Photograph 21. Looking NE at the new condominium building on Front Street that replaced St. Ann's Church (Field Photograph CSWeed, Photo P4130021, 4/13/23).



Photograph 22. Looking SW at the rehabilitated entrance to 77 Gold Street (Field Photograph CSWeed, Photo P1010058, 4/7/23).





Photograph 23. Looking SE at the north and west facades of 160-168 John Street (Field Photograph CSWeed, Photo P4040043, 4/4/23).



Photograph 24. Looking SW at the north and east facades of 160-168 John Street (Field Photograph CSWeed, Field Photograph P4040042, 4/4/23).

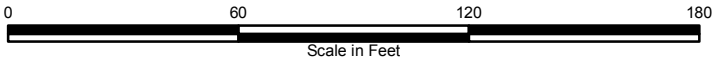
## **Appendix D – Overview Route Sheets with Addresses and BBLs (not bound with report)**





LEGEND

- Brooklyn Landfall
- Parcels
- HVAC Alternate Land Cable Route



FIGURE

2

ANBARIC DEVELOPMENT PARTNERS, LLC - HERA POWERLINK  
ARTICLE VII APPLICATION  
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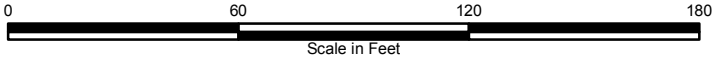
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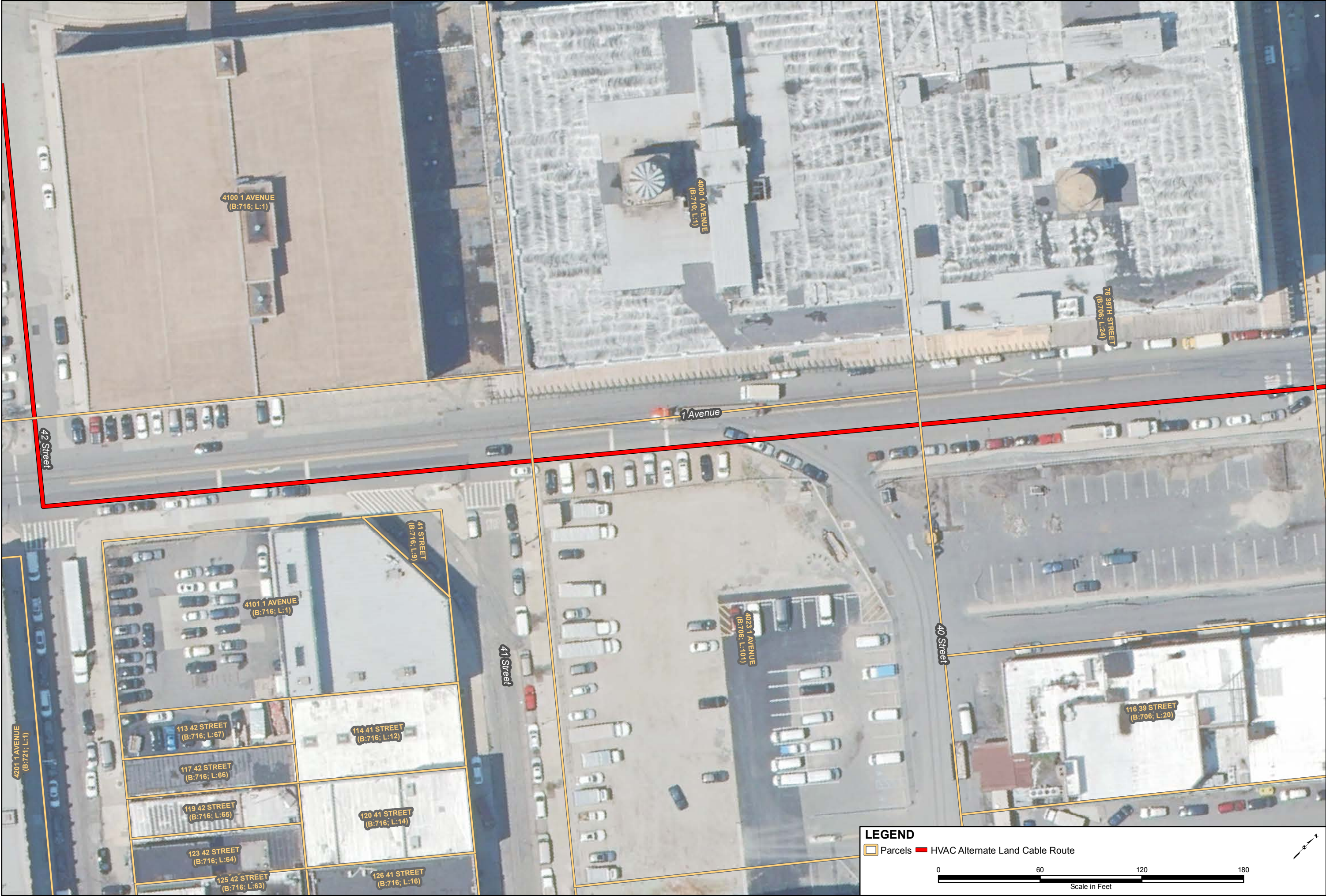
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FIGURE

3





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FIGURE  
4





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FIGURE  
**5**

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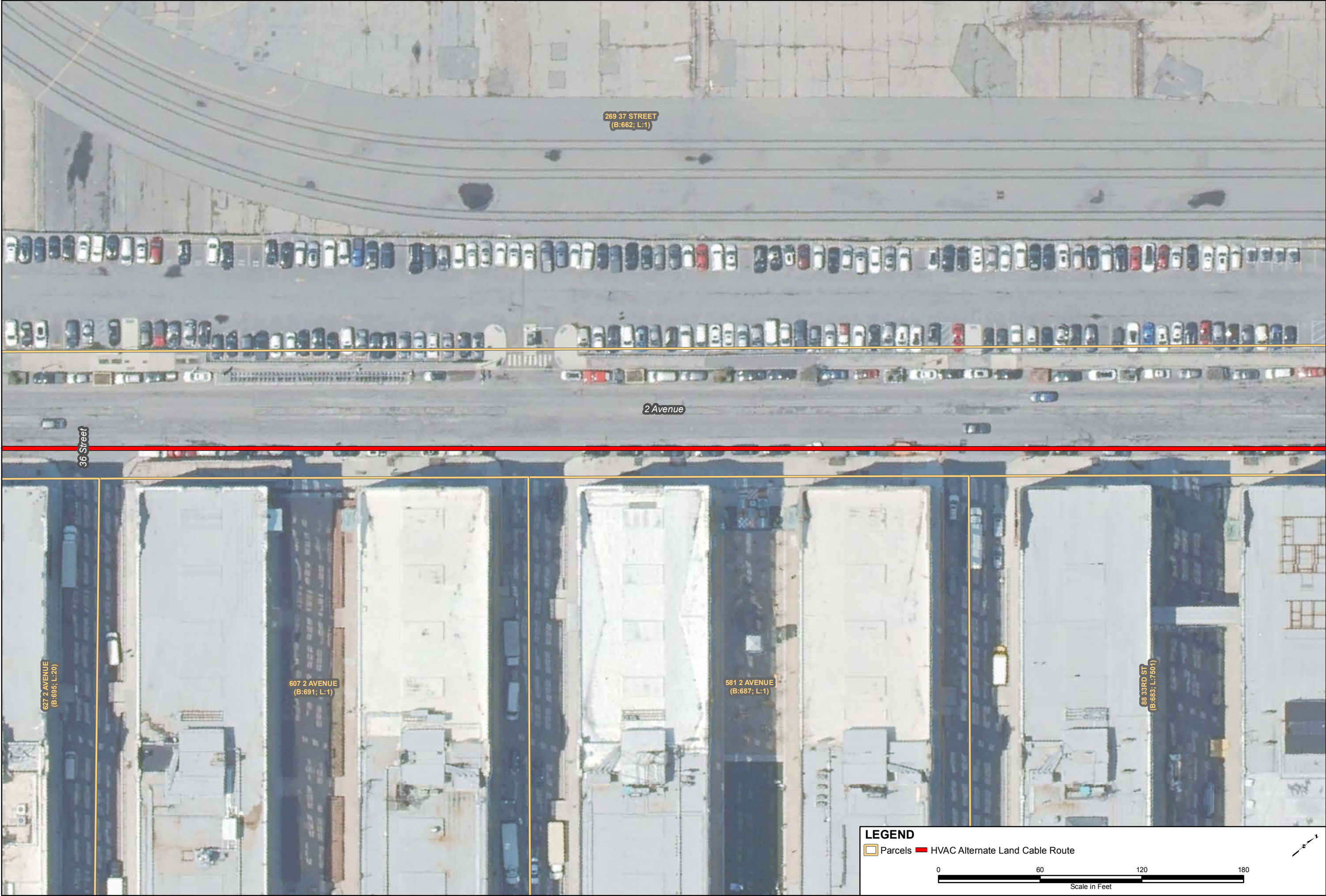
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<p>ANBARIC DEVELOPMENT PARTNERS, LLC - HERA POWERLINK ARTICLE VII APPLICATION KINGS AND RICHMOND COUNTIES NEW YORK CITY, NEW YORK</p>		<p>FIGURE</p>	
<p>6</p>			

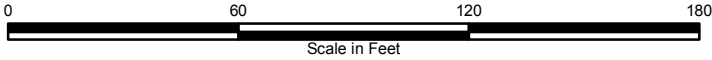




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LEGEND

- Parcels
- HVAC Alternate Land Cable Route



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FIGURE  
7

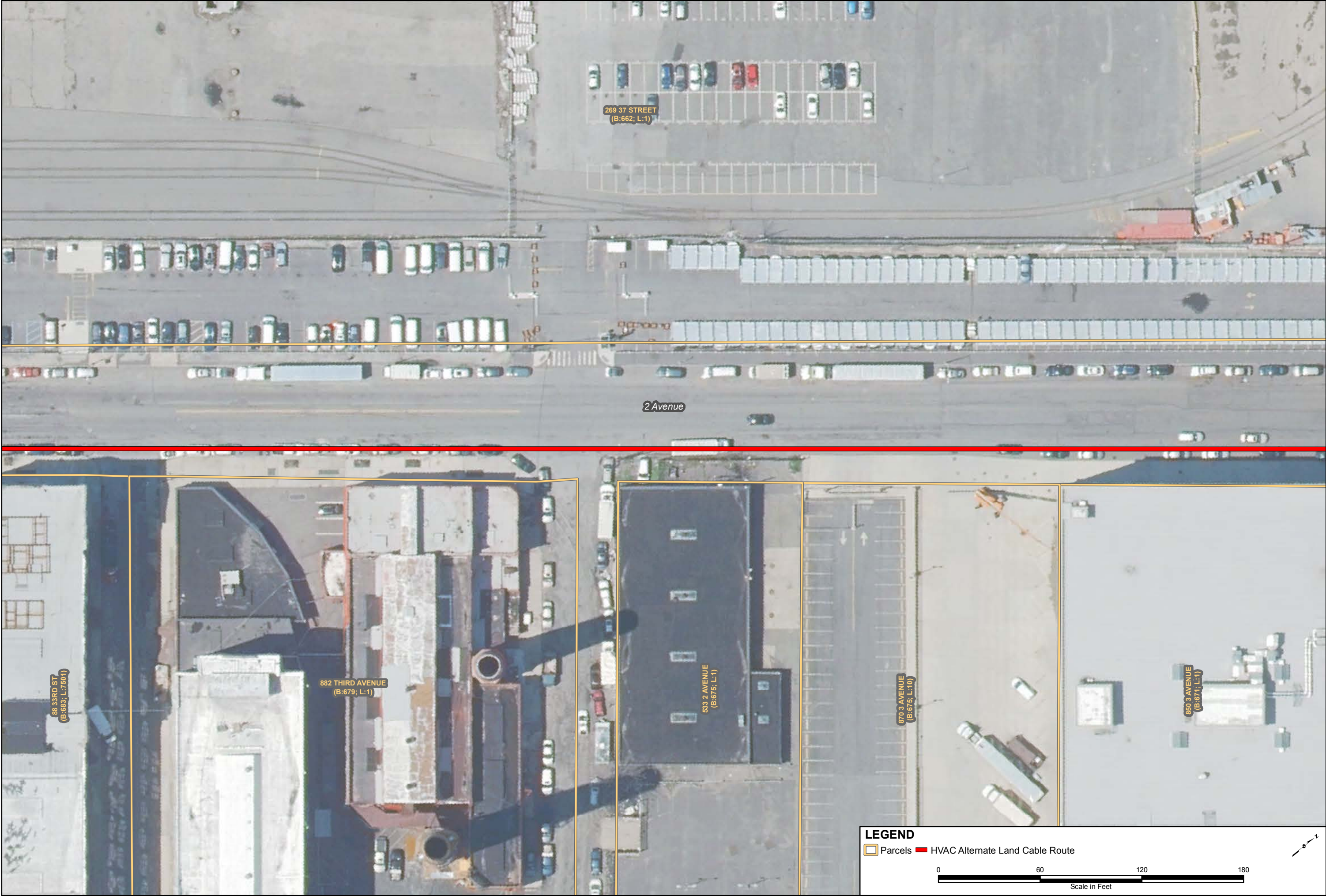
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FIGURE  
8





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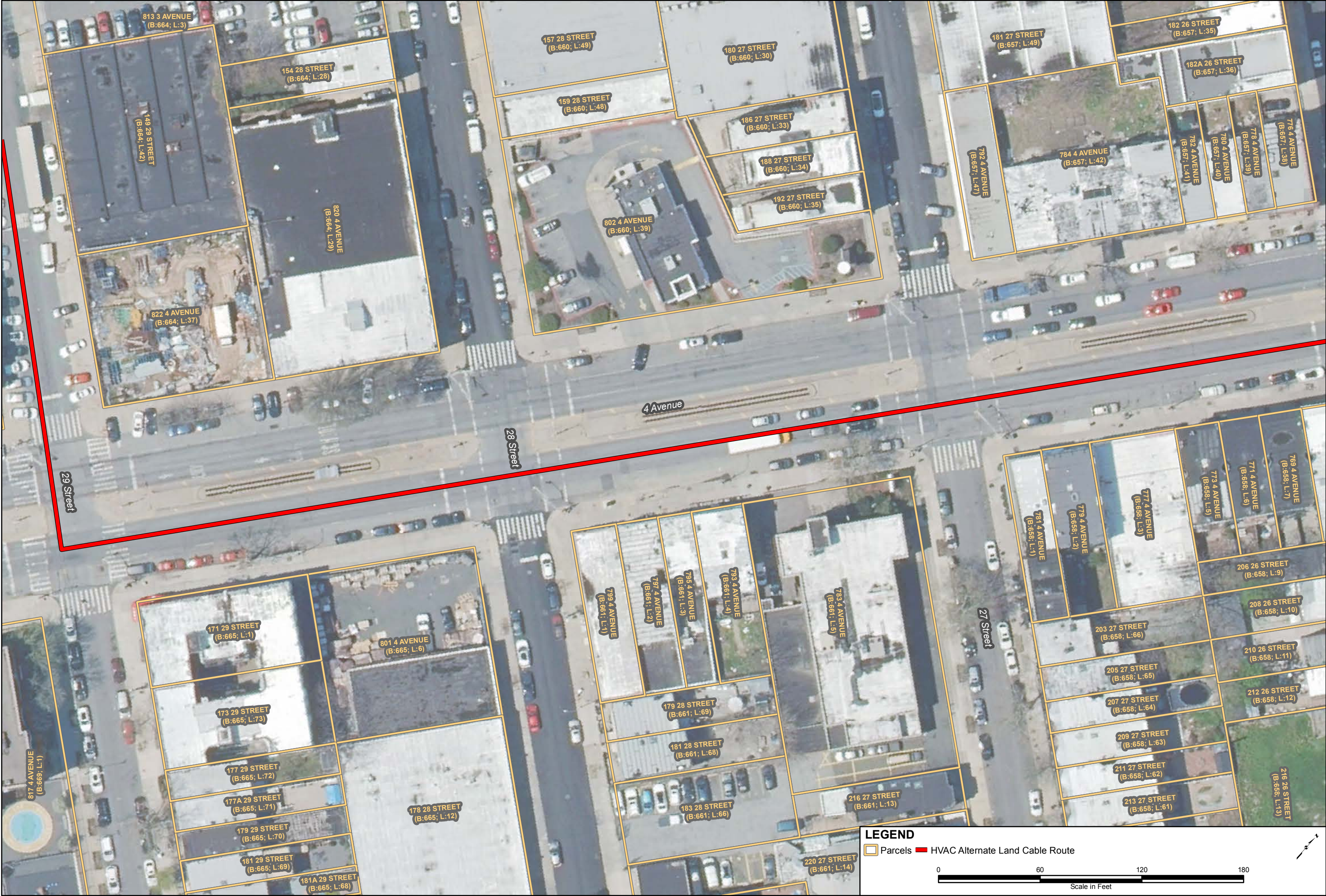
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FIGURE  
**10**

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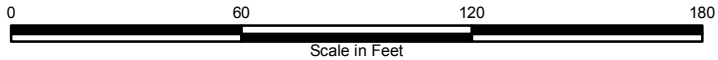




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LEGEND

- Parcels
- HVAC Alternate Land Cable Route



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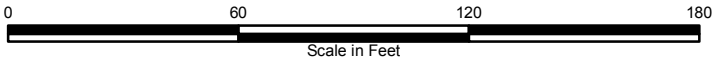




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LEGEND

- Parcels
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FIGURE

12

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FIGURE  
**13**

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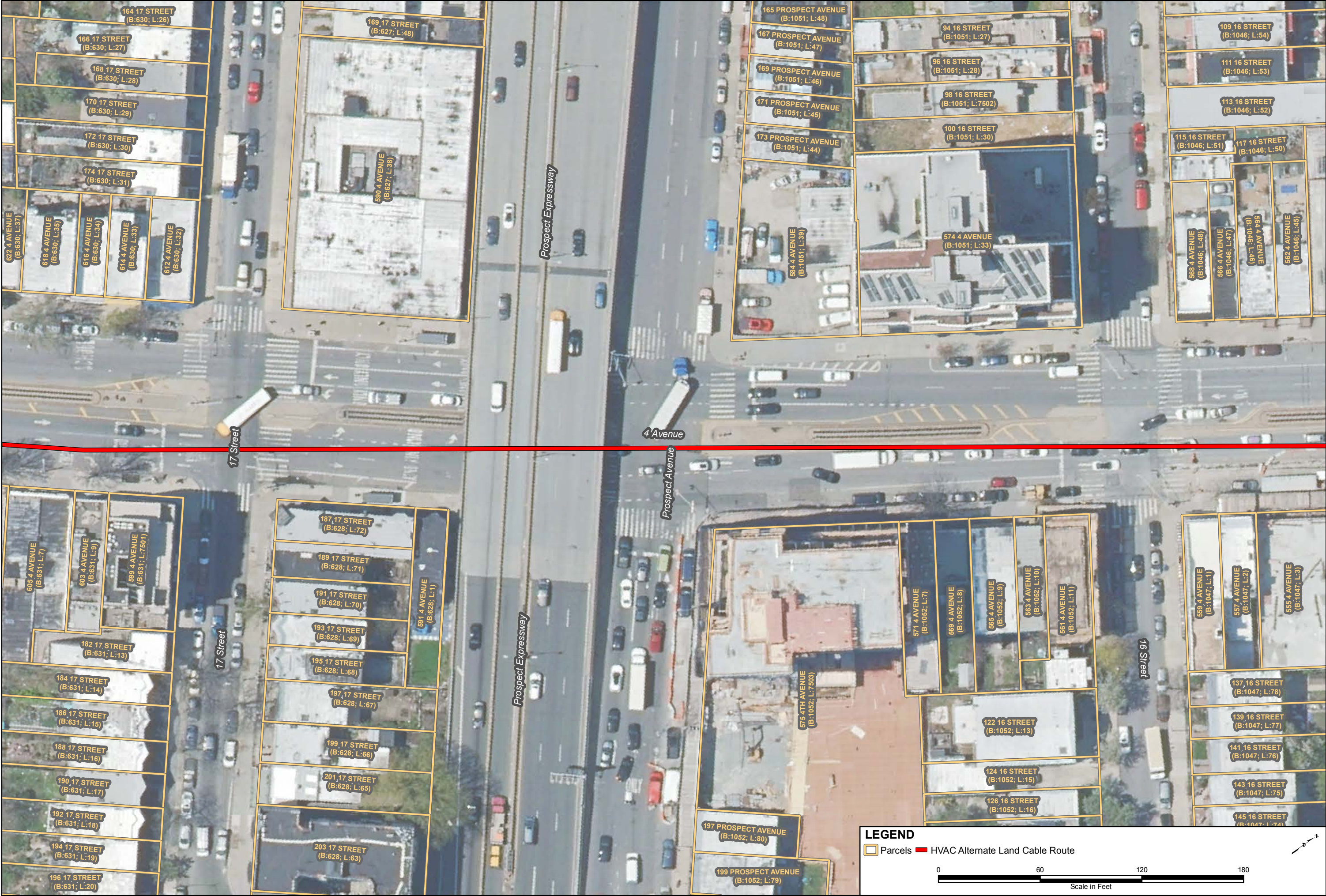
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FIGURE  
**14**





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FIGURE  
**15**





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FIGURE  
**16**

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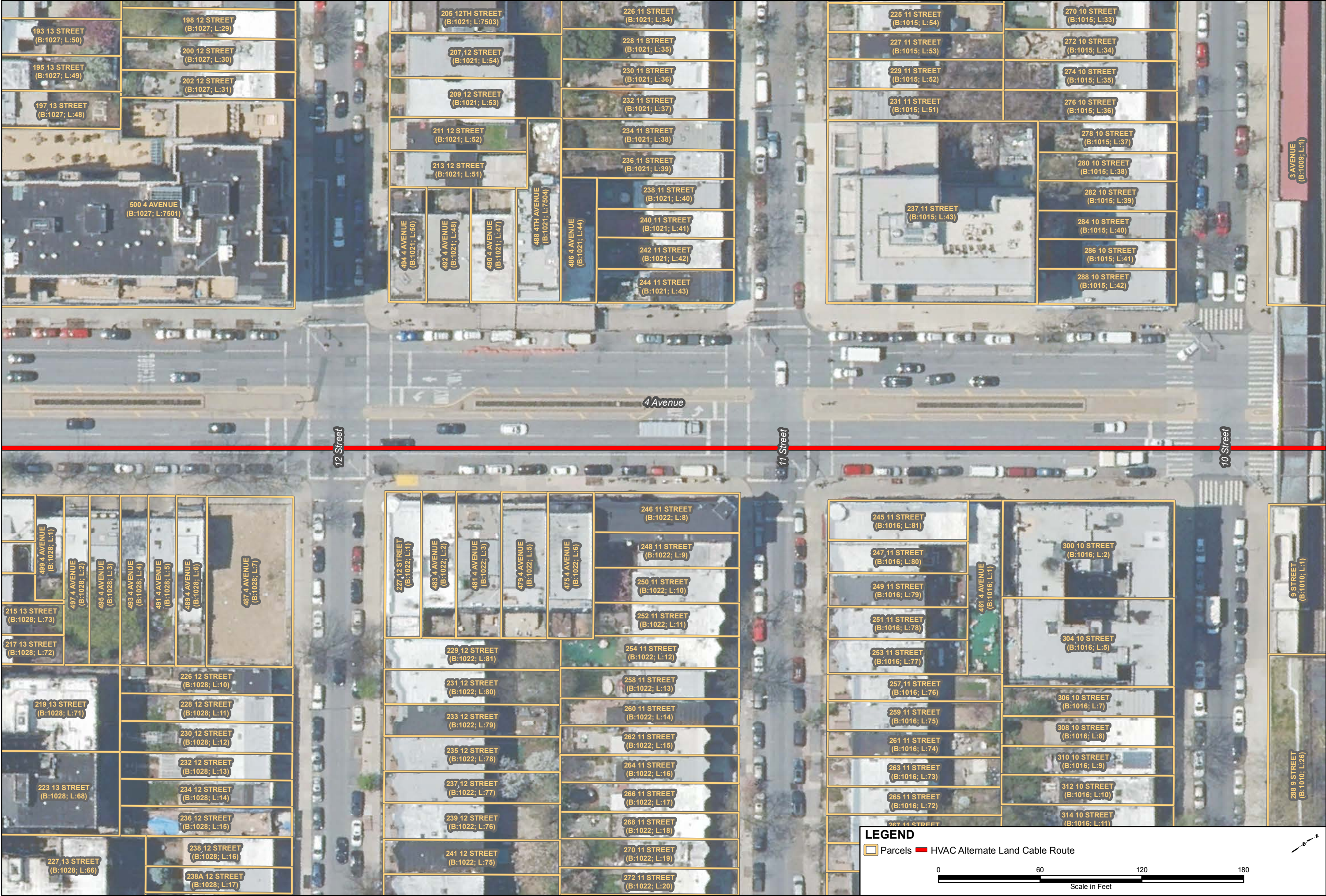
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FIGURE  
**17**





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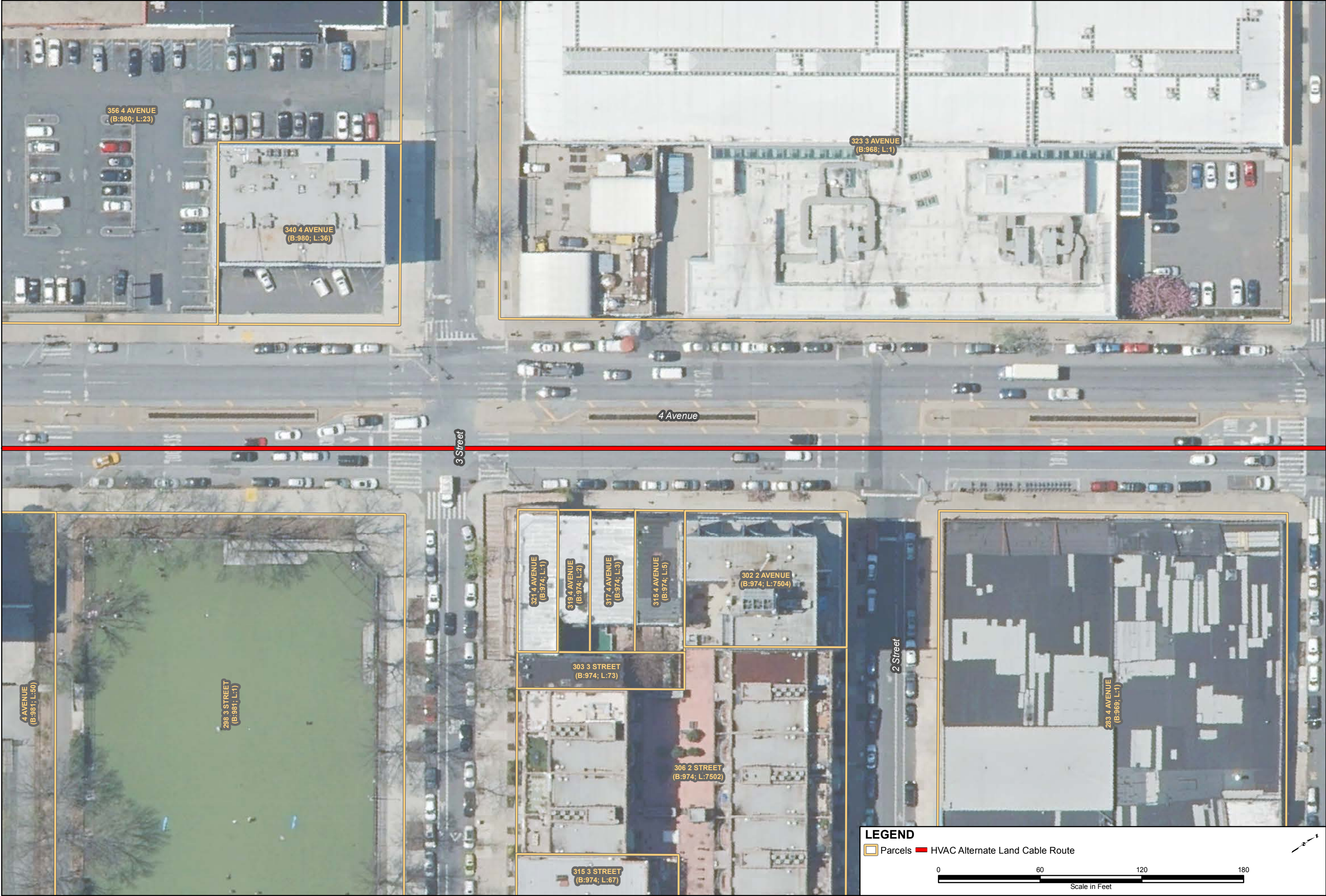
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FIGURE  
**18**









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FIGURE  
**21**

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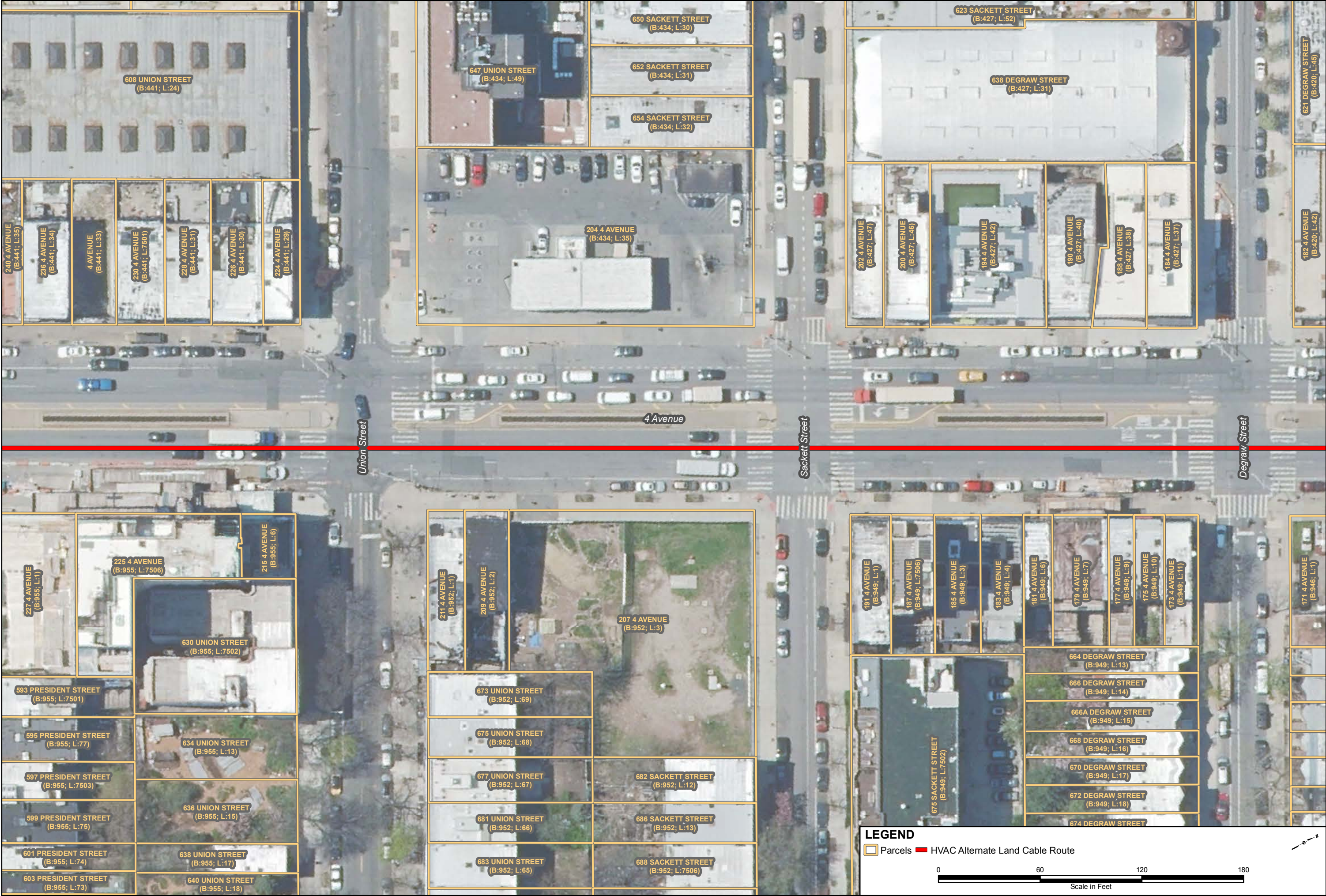
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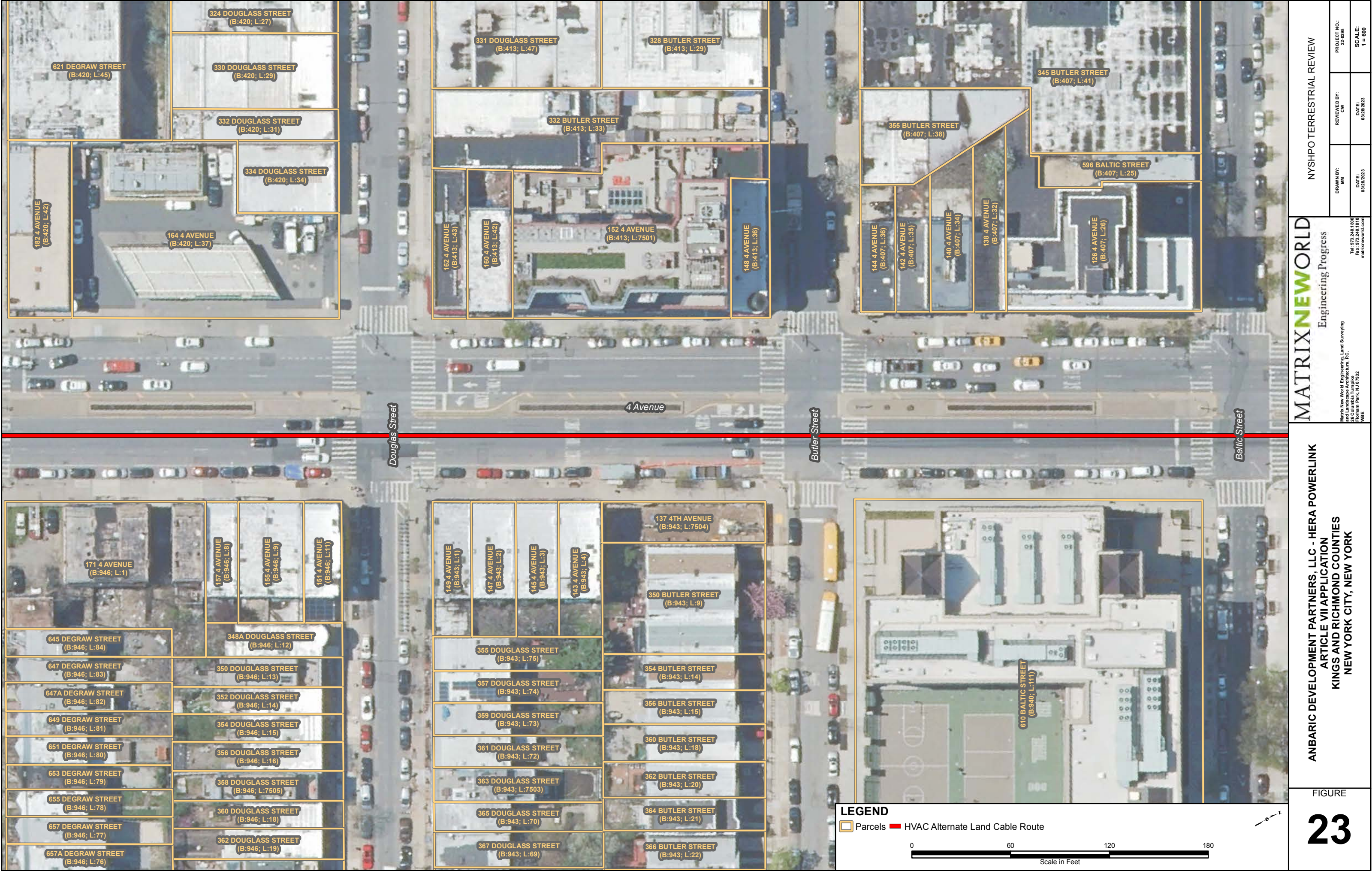
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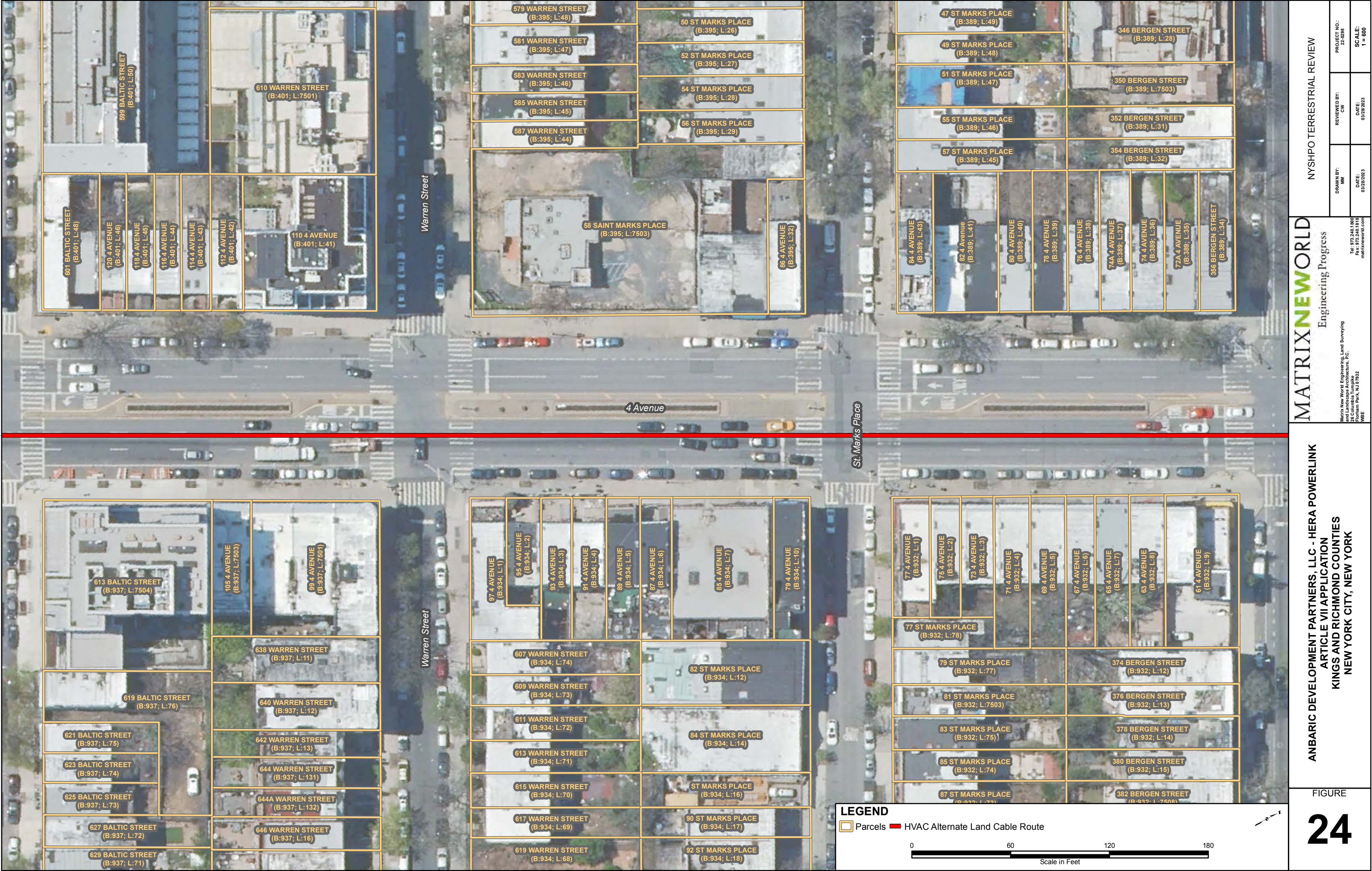




















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FIGURE  
**26**

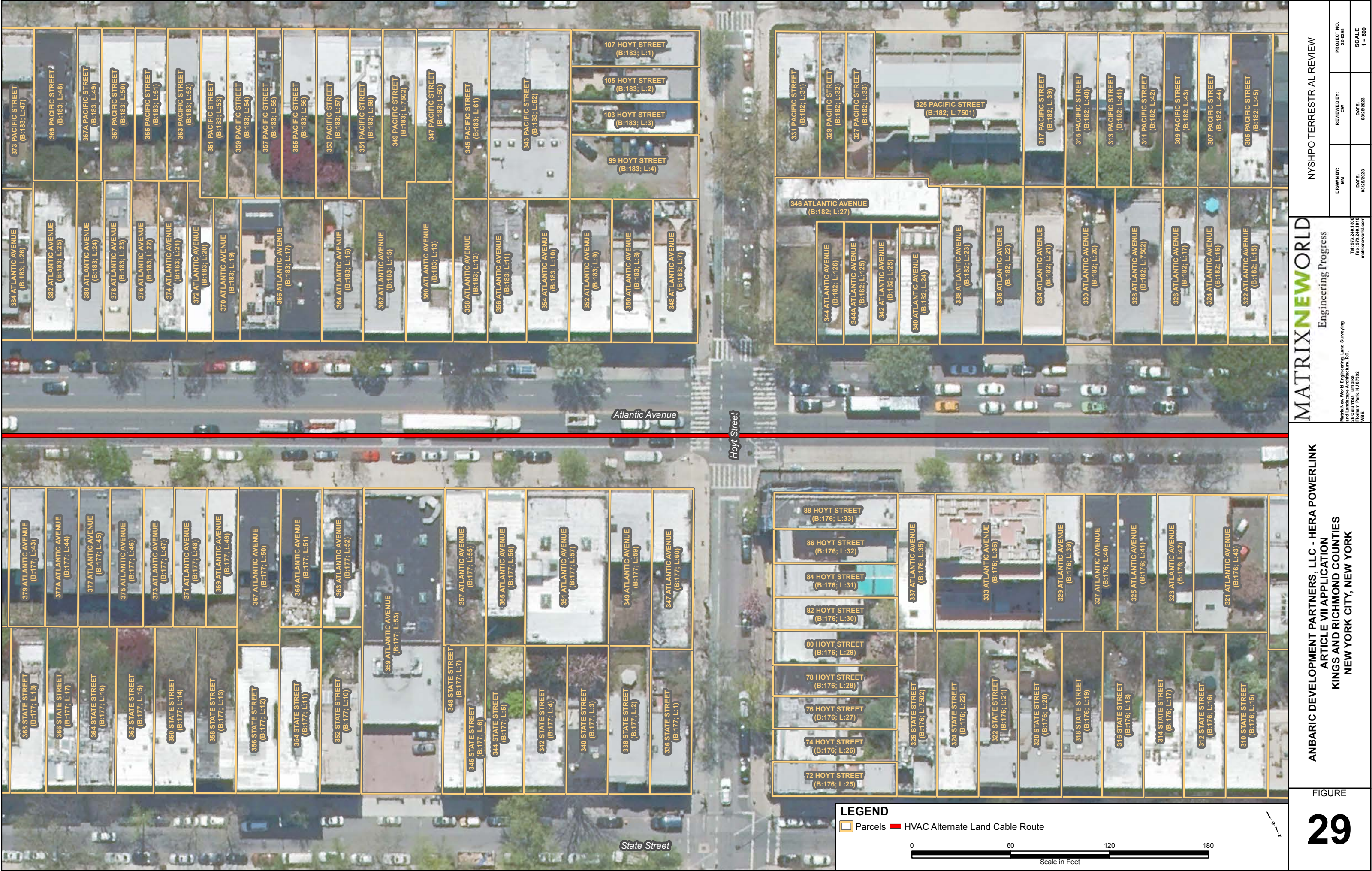
















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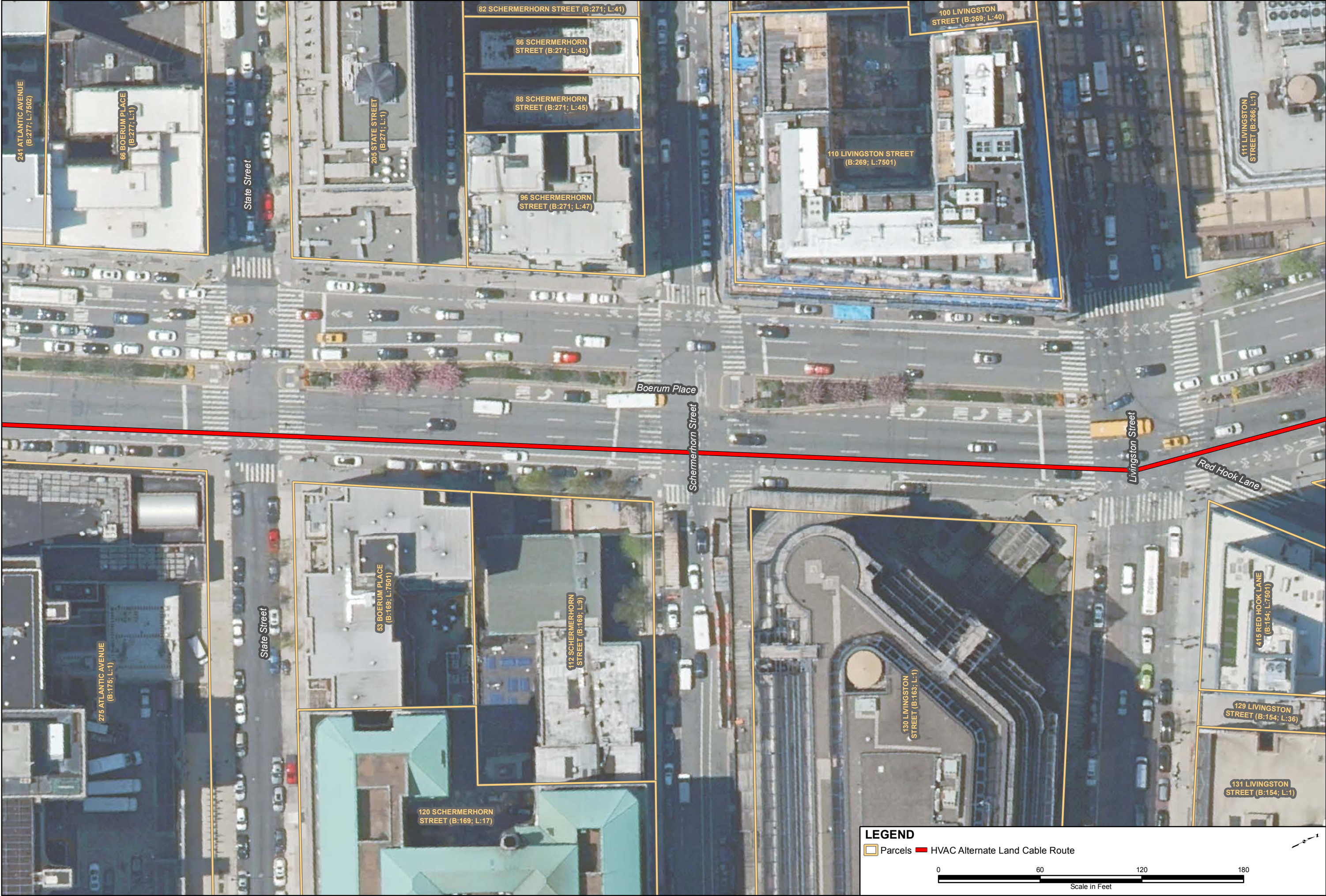
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FIGURE

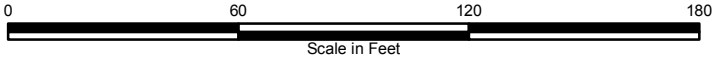
30





LEGEND

Parcels HVAC Alternate Land Cable Route



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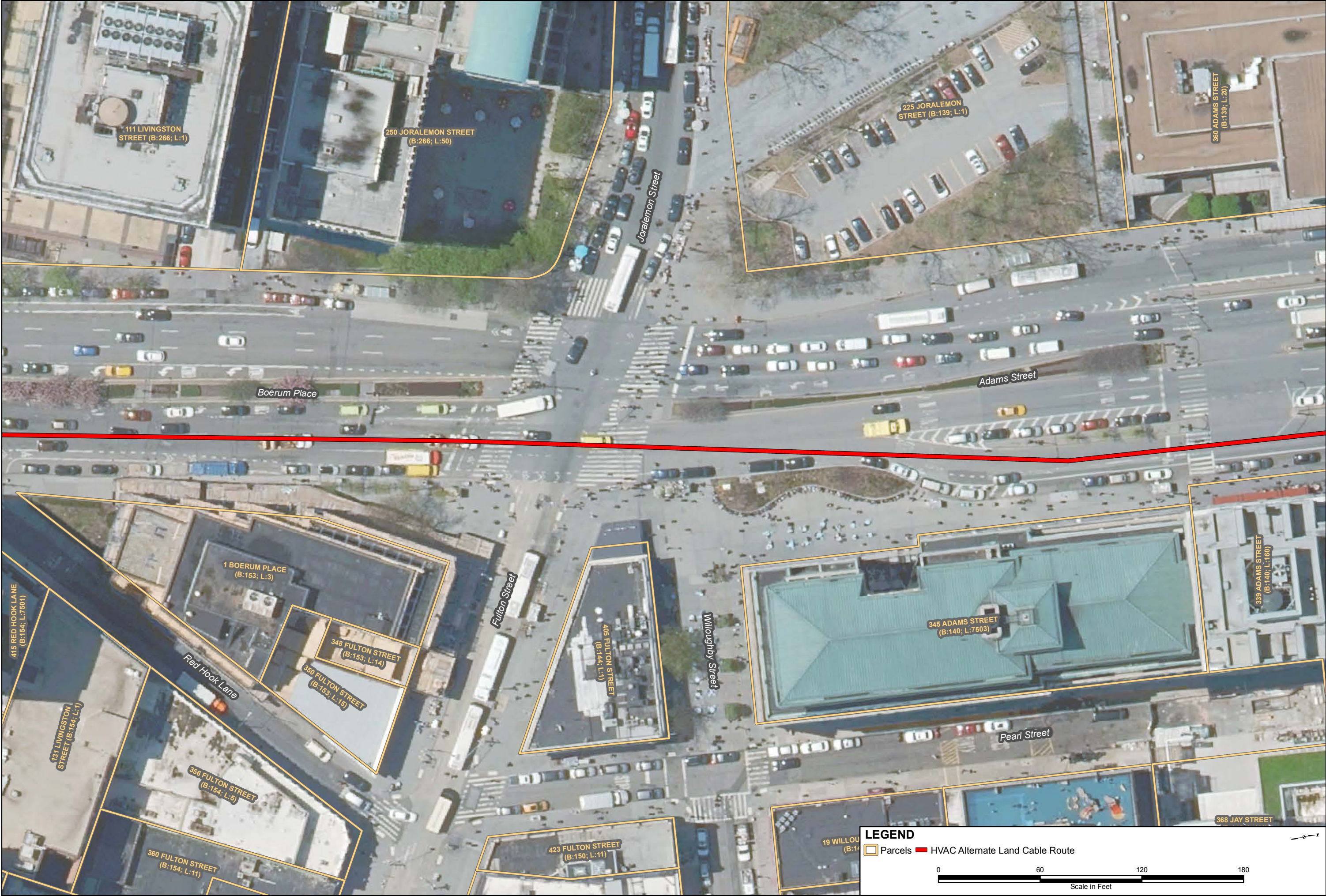
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FIGURE

31

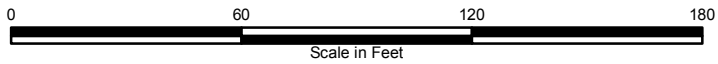




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LEGEND

- Parcels
- HVAC Alternate Land Cable Route



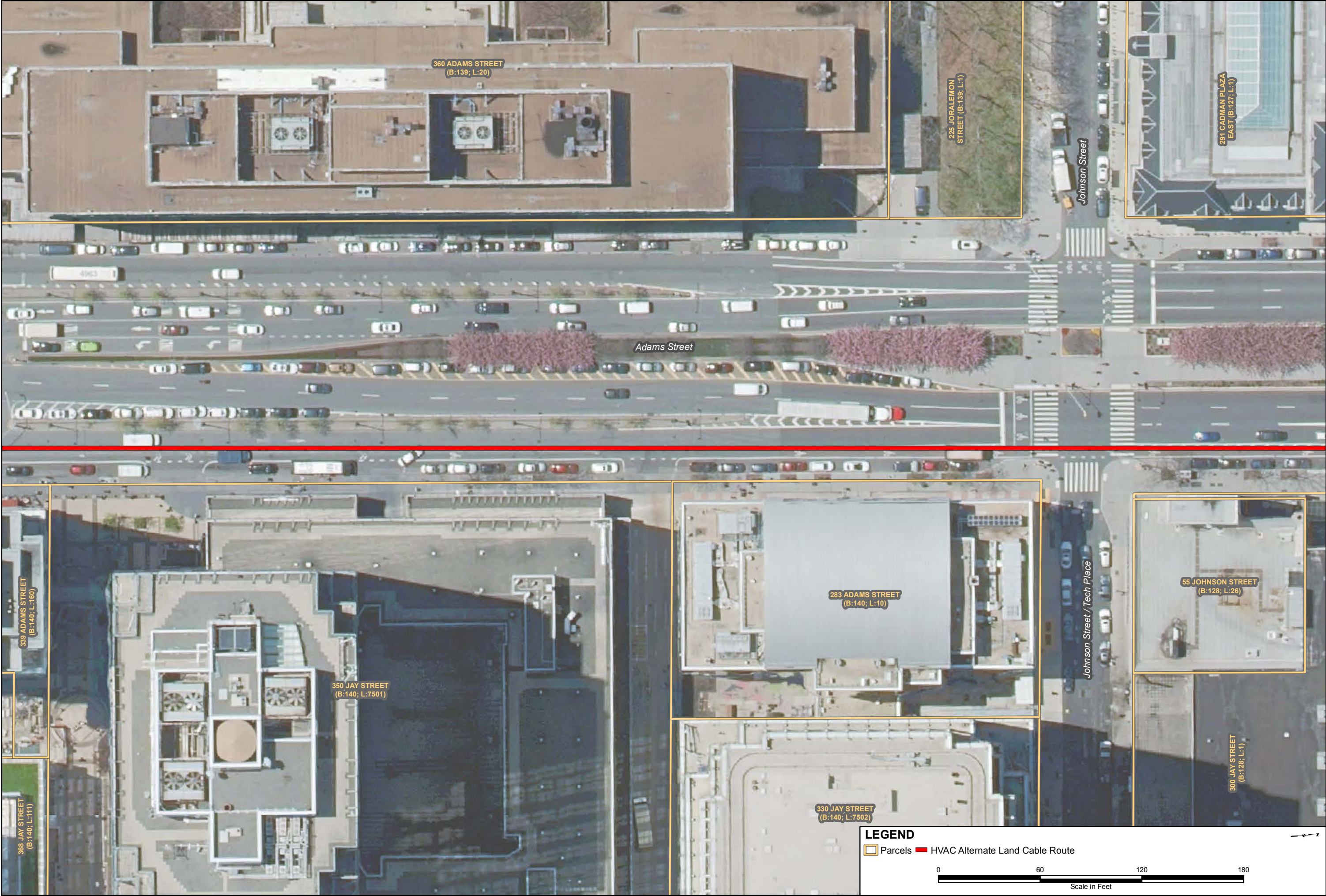
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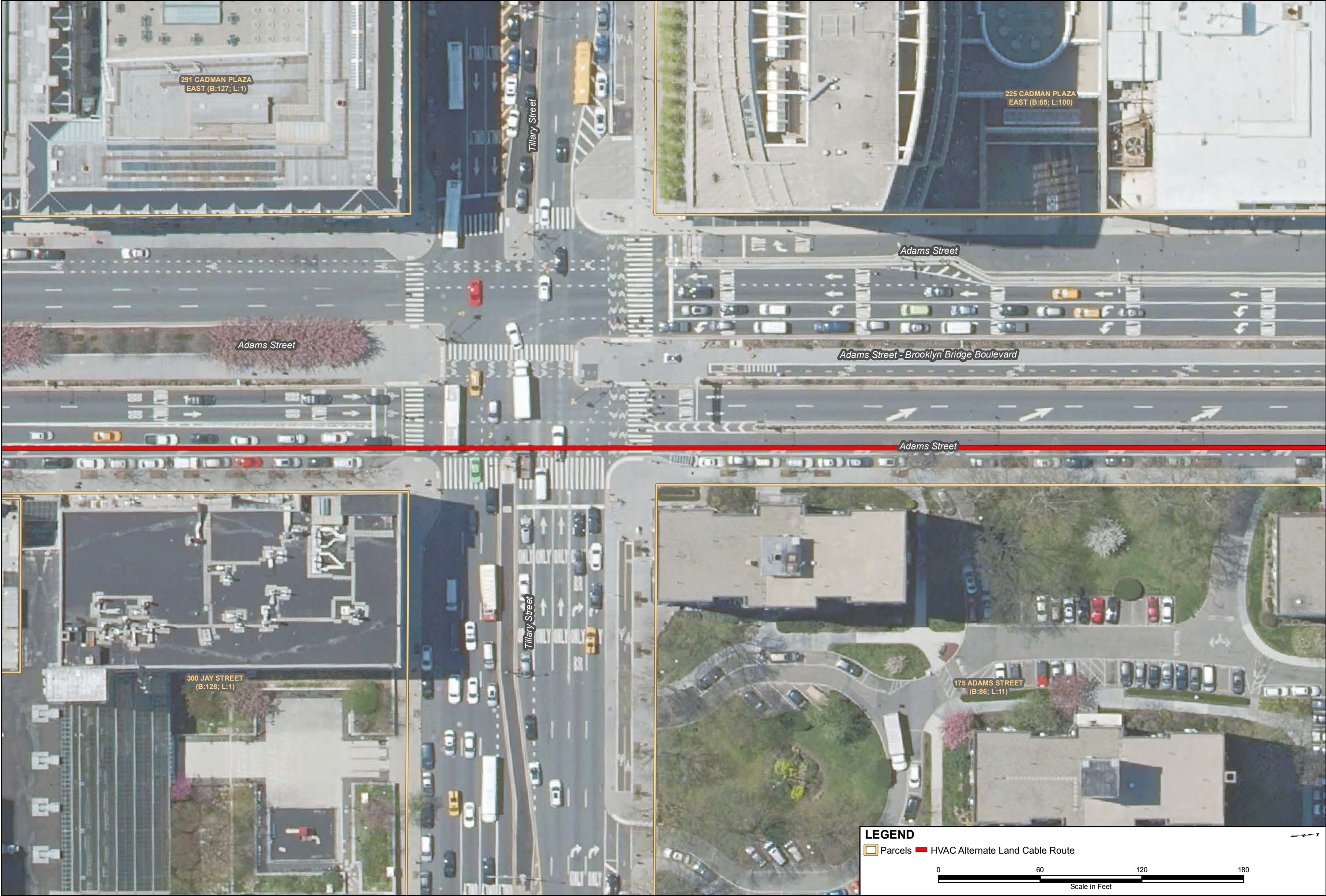
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FIGURE 33	





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FIGURE  
**34**

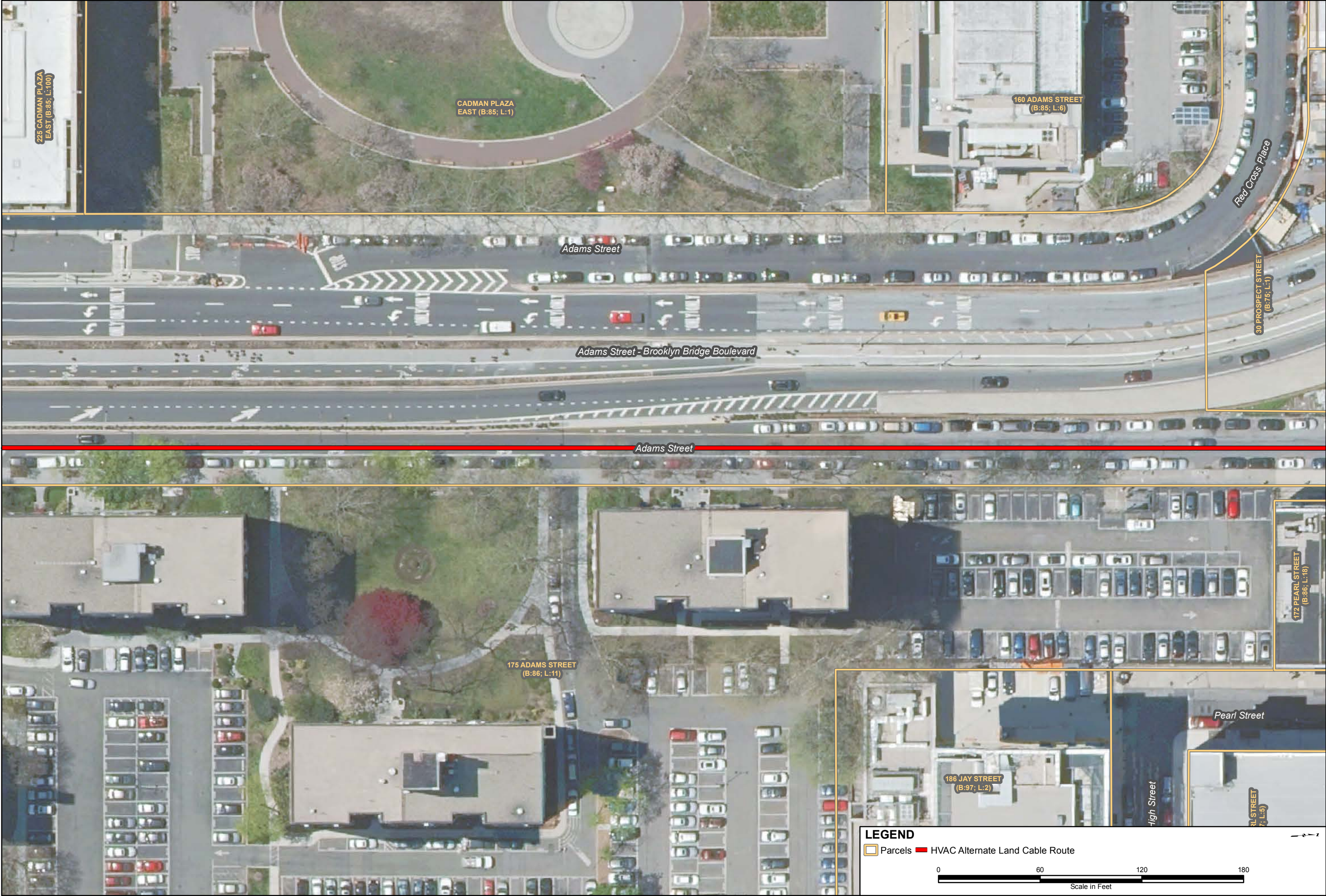
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FIGURE  
**35**

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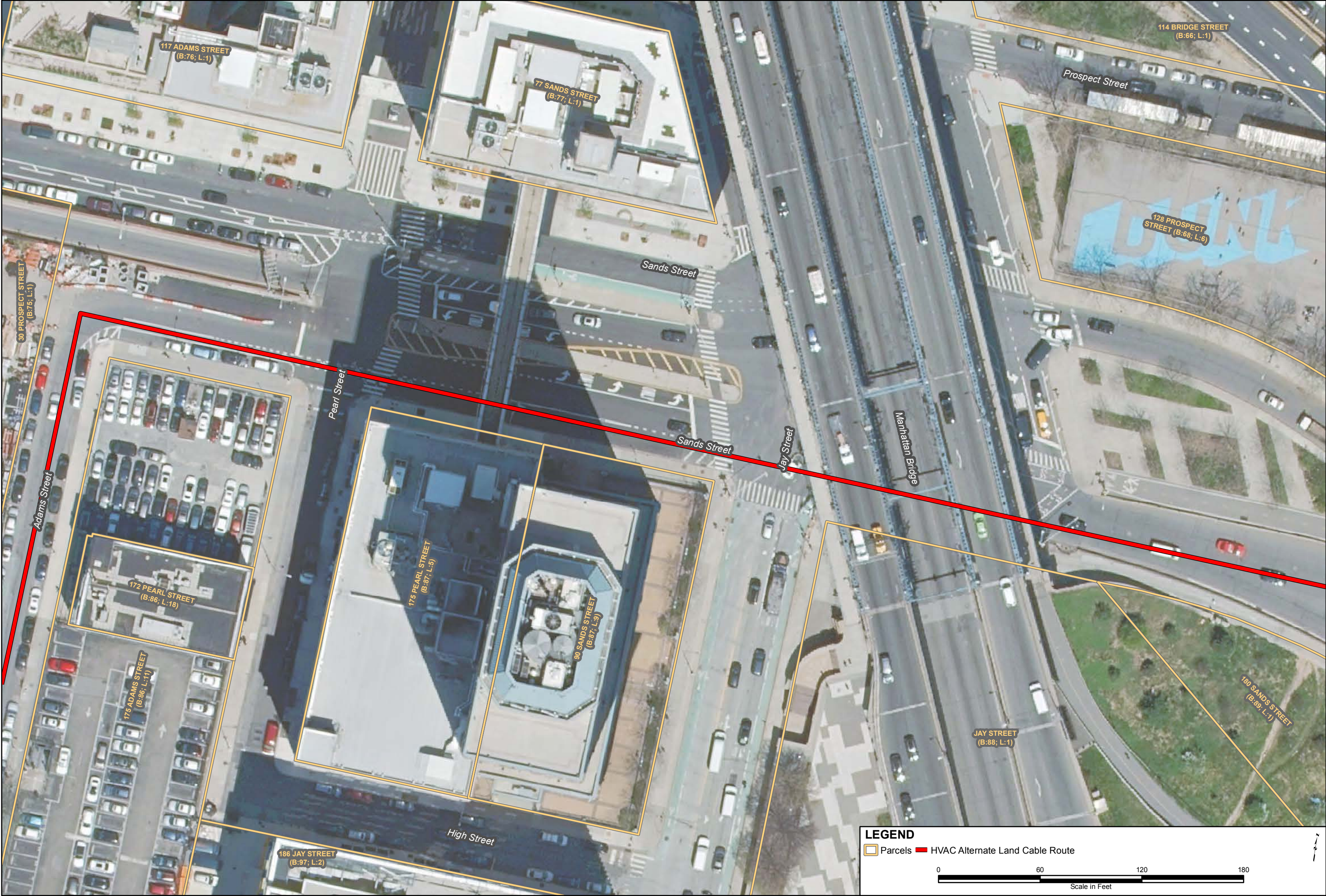
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FIGURE  
**36**

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FIGURE  
**36**

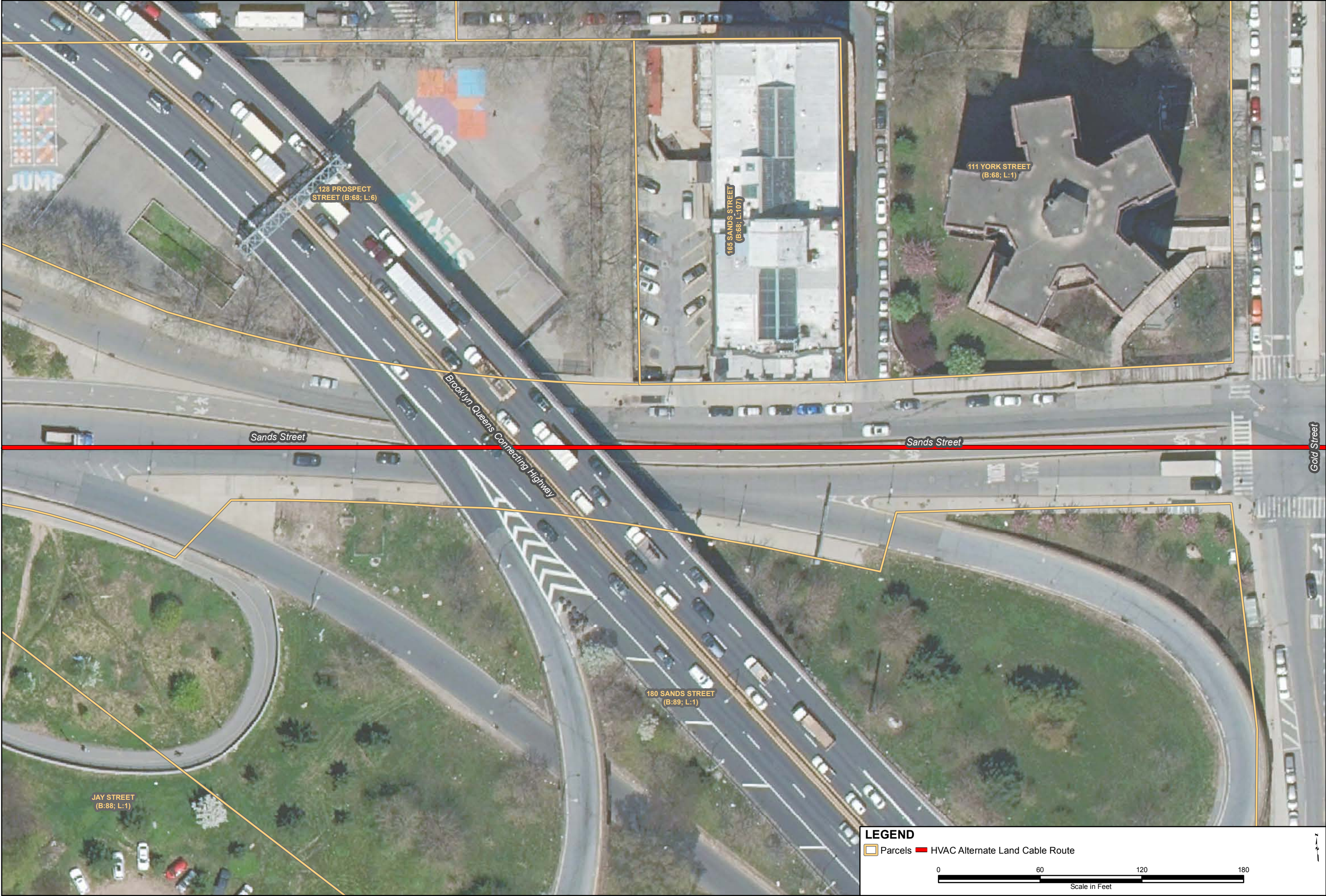
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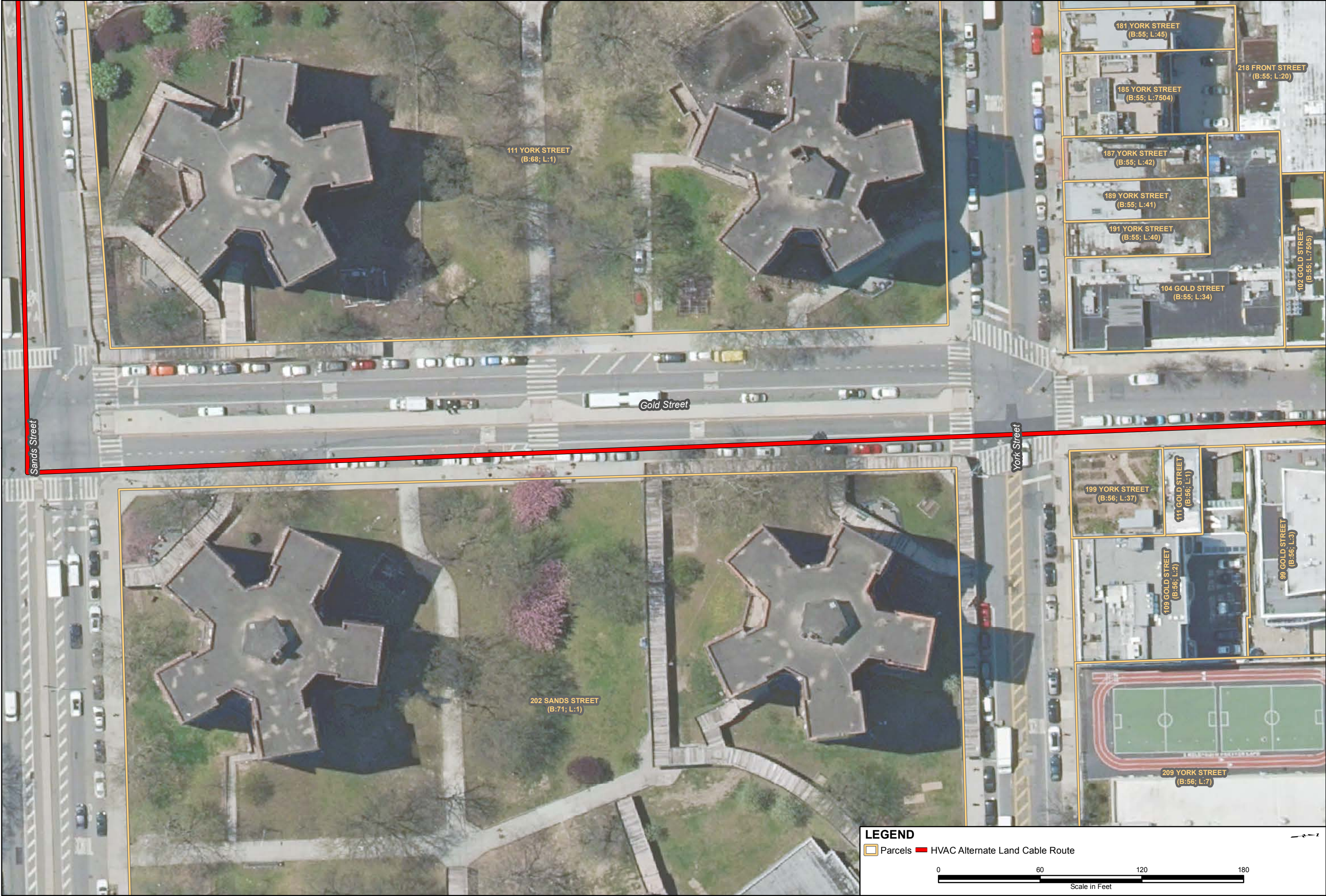




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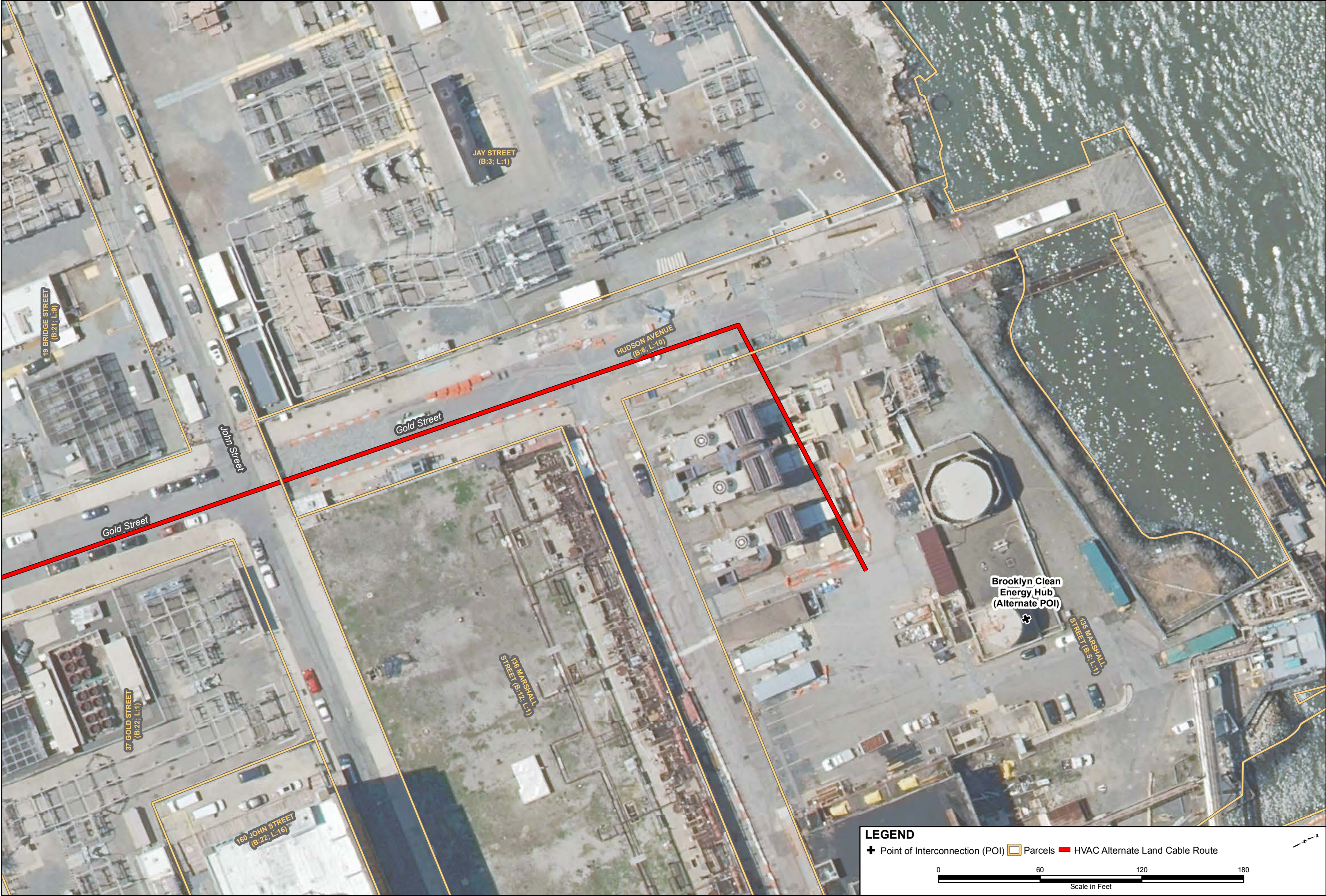
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FIGURE  
**40**

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