Harlem River Brownfields Opportunity Area [BOA] Nomination Report

Borough of the Bronx

Bronx Council for Environmental Quality (BCEQ) and
New York City Department of Parks and Recreation (NYC Parks)

December 2015

ON THE COVER
The Harlem River looking south to the High Bridge
All photography, mapping and concept images by ABB unless otherwise noted

CONTRIBUTORS

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LIST OF ABBREVIATIONS AND ACRONYMS

ABB - Abel Bainnson Butz Landscape Architects, LLP
AST - aboveground storage tank

BBPO - Bronx Borough President's Office
BCEQ - Bronx Council for Environment Quality
BCPGS - Bronx Coalition for Parks and Green Spaces
BOA - Brownfield Opportunity Area

CB - Community Board
CD - Community District
CSO- Combined Sewer Outfall or Overflow

DCP - Department of City Planning
DEC - Department of Environmental Conservation
DOH - Department of Health
DOS - Department of State
DOT - Department of Transportation

EDC - Economic Development Corporation
EFH - Essential Fish Habitat

FEMA - Federal Emergency Management Agency

FLS - Fleming Lee Shue
FVCP - Friends of Van Cortlandt Park

HEP - Harbor Estuary Program
HR BOA - Harlem River Brownfield Opportunity Area
HRWG - Harlem River Working Group

I-87/MDE - Major Deegan Expressway

JLP+D- James Lima Planning and Development

LEED - Leadership in Energy Efficient Design
LTCPs - Long Term Control Plans

MN - Metro-North Railroad
MS4 - Municipal Separate Storm Sewer System
MTA/MN - Metropolitan Transportation Authority/ Metro-North

NORCs - Naturally Occuring Retirement Communities
NWI - National Wetland Inventory
NYC - New York City
NYCHA - New York City Housing Authority
NYC Parks - Department of Parks and Recreation
NYS - New York State
NYRP - New York Restoration Project

OEM - New York City Office of Environmental Remediation
ORR - Office of Recovery and Resiliency
OSD - Official Series Description

PAH - polycyclic aromatic hydrocarbons
PBS - petroleum bulk storage
PCB - poly-cyclic biphenyls
PCE - perchloroethene

RCSP - Roberto Clemente State Park
RFP- Request for Proposals
ROW - right-of-way
ROWB - right-of-way biowales

SHIP - Subsidized Housing Information Program
STV - STV Group
SVOC - semi-volatile organic compound

TOD - transit-oriented development
TPH -
TPL - Trust for Public Land

ULI TAP-Urban Land Institute Technical Assistance Program
ULURP - Uniform Land Use Review Process
USFWS - U.S. Fish and Wildlife Service
UWFP - Urban Waters Federal Partnership

VOC - Volatile Organic Compound

WAP - Waterfront Access Plan
WWFPs - Waterbody/Watershed Facility Plans

Figure 1. Harlem River BOA Study Area Context Map

EXECUTIVE SUMMARY

The Harlem River BOA Step 2 report explores the potential for reviving a nearly five mile stretch of the Harlem River waterfront on the Bronx side of the river, bringing it back into a healthy functioning relationship with the community ecologically, socially and economically. The BOA Step 2 process has reaffirmed the community vision for a dynamic district of waterfront parks connected to one another, tied into the greater Greenway system and linked into the urban mesh of the city. Communities within the Community Participation Area and region stand to benefit from access to recreational destinations along the Harlem River and from cleaner water, air and soils and better overall environmental quality. The Step 2 process has confirmed the appropriateness and general feasibility of a predominantly recreational, environmentally rich waterfront district along the Harlem River, a goal that is already on its way to becoming a reality.

As **Section 1: Project Description and Boundary** notes, the Bronx Council for Environmental Quality (BCEQ) and NYC Parks have led this second phase of the Harlem River BOA process. New York State's Department of State Brownfield Opportunity Area (BOA) grant program has made this study possible.

The Harlem River BOA Project Area encompasses a narrow swath of land on the Bronx side of the Harlem River, extending from West 149th Street in the South Bronx northward along the waterfront and curving to the west where the Harlem River tidal strait meets the Hudson River. The Central Focus Area consists of a strip of land bounded by the riverfront and the I-87/ Major Deegan Expressway (MDE), while the smaller Spuyten Duyvil Focus Area is a non-contiguous segment of waterfront at the junction of the Harlem and Hudson Rivers.

Section 2: Public Participation Plan and Techniques to Enlist Partners describes the public process in this phase of the BOA study, which has entailed a robust community outreach program through the HR BOA Steering Committee, events hosted by BCEQ and partners and the efforts of a not-for-profit community based organization, Friends of Van Cortlandt Park (FVCP), as the outreach consultant.

The Harlem River BOA project has encouraged residents of the four upland communities to add new specificity to the planning for their shared waterfront. What uses would draw them to it? How would they get there? How can the waterfront be developed to connect the four communities to each other, to new employment centers, and to future amenities? How will the underlying resource, the Harlem River, be protected? How can the waterfront change from posing a threat to public health to enhancing public health?

Section 3: Analysis of the Proposed Brownfield Opportunity Area delves into the community and regional context of the study area. The Central Focus Area (the waterfront) is isolated by topography and the transportation corridors of I-87/MDE and rail lines; it is virtually unpopulated except for River Plaza Towers, which houses fewer than 5,000 people. On the other hand, the Community Participation Areas beyond the Focus Area include densely populated portions of Bronx Community Districts (CDs) 4, 5, 7, and 8, where over 150,000 people live within a one-mile walk of the waterfront. Neighborhoods in the area include the Lower Concourse, Highbridge, Morris Heights, University Heights, Kingsbridge, and Spuyten Duyvil areas.

The Harlem River waterfront is as a prime linkage in the midst of the Hudson-Raritan Estuary System. In 1987, the NY-NJ estuary system was designated as one of 28 "Estuaries of National Significance." Positioned within the core of the estuary, the Harlem River is actually a tidal strait linking the East River and the Hudson River. This preeminent natural resource merits protections of water quality and habitat through public, private and not-for-profit partnerships.

The **Inventory and Analysis** segment of Section 3 examines a range of issues impacting current uses and revitalization potential along the Harlem River waterfront. Key points include:

- **Brownfields, Abandoned and Vacant Sites:** The majority of the HR BOA Central Focus Area meets the BOA program definition of a brownfield as "any real property, the development or reuse of which may be complicated by the presence or potential presence of a contaminant." The Step 2 study included preliminary site assessment screening of 63 properties of interest in the Central Focus Area to reveal potential for contamination. Subsequently, the environmental investigation delved further into the environmental concerns and contamination potential on a subset of 29 tax lots. Findings are discussed in Section 3: "Brownfield, Abandoned and Underutilized Sites" and Appendix D.
- **Land Ownership/Jurisdiction:** As a key part of the Step 2 process, a complete inventory of properties within the BOA Study area was conducted. A

table with detailed property ownership information resulted. Key issues are summarized in Section C and the inventory is included in the Appendix.

- **Parks and Open Space**: In the past few years since the completion of the BOA Step 1 report, tremendous progress has been made in consolidating and improving land for public access along the Harlem River. In spite of the existing and planned parks, there is still a documented need for additional developed park space along and near the Harlem River waterfront. The neighborhoods of the BOA Central Focus Area are located in some of New York City's most park-starved districts.

- **Historic or Archaeologically Significant Areas:** The western Bronx is home to a collection of historic assets that together tell a richly layered story of New York City's physical and social development during the heyday of its urban expansion in the nineteenth century. The recently reopened High Bridge, a unique example of 19th century engineering infrastructure and emblem of the Croton Aqueduct System, as well as other landmark bridges merge with the spectacular views of natural and historic resources beyond the Central Focus Area.

- **Transportation:** The greatest transportation issue for the Harlem River BOA Study Area is the need for walkable and bikeable transportation infrastructure providing linear connections along the waterfront as well as connections to the inland/ upland neighborhoods. Access to the Harlem River waterfront by vehicle is limited to only a few points of entry—the main reason why the waterfront has remained mostly undeveloped. Subway and bus service is available within reasonable walking distance of most of the Harlem River BOA Focus Area and is most convenient on the southern end of the study area. An underutilized resource is the Metro-North regional rail line that runs along the waterfront and serves the BOA area with a total of five Metro-North Stations are within or immediately adjacent to the Harlem River BOA Focus Areas.

- **Recreational Boat Access:** In spite of the Harlem River's rich history as "Sculler's Row," access points for small boats are scarce today, especially on the Bronx shoreline. Additional access points rank high as a priority in the community vision.

- **Natural Resources and Environmental Features:** The Harlem River corridor is a treasure within the urban fabric of New York City, offering a rare opportunity to revitalize a corridor of ecologically rich green space in the core of the largest city in the nation. As a connection point from tidal estuary to shoreline to upland, from the expansive Van Cortlandt Park to the north to the future greenways to the south, the HR BOA corridor's ecological functioning matters for human health and well-being as well as myriad species of plants, birds, fish and other life forms. The waterfront offers existing and potential habitat to at least 63 species of migratory birds and is in a key location near a number of heavily wooded parks in the Bronx and Upper Manhattan. The relatively shallow river provides opportunities to enhance habitat for shorebirds and aquatic species. There is considerable room for habitat improvement through well planned and executed ecological enhancements.

- **Flood Hazards:** Virtually all of the study area is classified by FEMA as being at moderate to high risk of flooding, based on the FEMA Preliminary Flood Insurance Rate Maps. The 1% annual chance floodplain generally extends inland to I-87/ MDE. The area is also designated by NYCOEM as being in hurricane evacuation Zones 2 and 3, in a system of six zones with Zone 1 being the most likely to be evacuated. Flooding potential in New York City coastal areas is expected to worsen with sea level rise over the coming decades.

- **Infrastructure:** Inadequate stormwater treatment and aging infrastructure currently have an enormous impact on the river's water quality. A total of 11 combined sewer outfalls and approximately 8 outfalls for stormwater from local streets and I-87/ MDE empty into the Harlem River in the BOA study area in wet weather events. Limited sewer and water main access is also an issue in some parts of the study area.

- An **Economic and Market Trends Analysis** conducted as part of the Step 2 process determined that while overall employment and earnings figures suggest a weak market basis for development in the immediate areas surrounding the BOA Strategic Sites, the market for new development in the Community Participation Area and throughout the southern and western Bronx shows signs of increasing strength. Anticipated population growth suggests the need for additional public recreational facilities in the area.

Section 4: Key Findings and Recommendations

Section 4 proposes a number of Key Findings and Recommendations progressing toward the vision of a Harlem River waterfront that is alive with people enjoying biking, walking, boating, fishing, taking in the views, learning, spending time with family and friends and appreciating the wildlife that thrives in glistening clean water and beautiful native plant communities along the shore. Key Recommendations are:

- **Strategic Sites Nomination:** This Harlem River BOA Step 2 study nominates eight Strategic Sites and three Strategic Connections for inclusion in the NYS BOA program. All are vacant or underutilized brownfield properties with the potential to be remediated and upgraded to higher functioning uses to benefit local neighborhoods and the region.

- **Brownfield, Abandoned, and Vacant Sites:** The potential for petroleum and/or hazardous materials on Strategic Sites and other properties should be further investigated in order to determine the nature and extent of contamination. Results of these investigations should be used to determine appropriate remedial and mitigation measures in order to reduce contaminant discharge to the Harlem River, improve overall water quality and reduce possible health impacts. Wherever feasible, bioremediation techniques are preferred as effective long-term, low-cost strategies for cleaning waterfront sites, though in some areas, faster remediation techniques may be warranted to expedite public access projects.

- **Transportation Systems and Strategic Connections: The Crucial Role of Access:** For the Harlem River Waterfront to be revitalized and brought back into productive use, multi-modal access routes must be funded and built, particularly pedestrian and bike infrastructure.

    - ***Harlem River Greenway:*** The more greenway continuity can be developed between nodes of parkland, the higher the use value will be for all users. Harlem River Greenway connections clearly merit prioritization for funding allocations. Full construction of the Harlem River Greenway will unify and invigorate the Harlem River waterfront and adjacent neighborhoods. Connecting the HR Greenway to the Putnam Railroad Trail to the north and to other greenways within the NYC system will link the Harlem River to an expansive and ever-growing regional greenway system. Building on earlier Harlem River Greenway studies, this BOA study also delves into more detail about how the greenway might be routed through and around some very challenging obstacles. Concepts are presented in the Key Findings and Recommendations section.

    - ***Pedestrian Access and Public Transit:*** The Transportation section also makes specific recommendations for improving the safety and experience for those on foot with pedestrian signals, crosswalks and other safety measures at the limited entrances to the waterfront. Locations for possible new bus stops closer to the waterfront are also identified.

- **Land Use and Zoning:** The consensus is that there should be maximum public open space in the area and that a district of waterfront parks along the Harlem River connected by a continuous greenway system is feasible. If any residential or mixed-use development is constructed on the waterfront, it should provide maximum public open space and greenway space. These elements should be required even where the site is not technically a “waterfront” lot due to presence of the Oak Point Link. Designs for Waterfront Public Access areas should consider the open space, access, boating and connectivity recommendations contained within this report.

- **Land Ownership/Jurisdiction:** Combining fragmented parcels will achieve the greatest public and ecological benefits from waterfront projects. In order for the Harlem River parks district to expand and thrive, more waterfront land needs to be publicly accessible and developed as public space.

- **Parks and Open Space**: Priorities for parks and open space on the Harlem River include:

    - Obtaining funding for the first phase of the Harlem River Promenade concept (Depot Place).

    - Remediating and constructing Regatta Park (already initiated by NYC Parks).

    - Acquiring the CSX parcels in CDs 7 & 8 for ecologically-oriented park space and a greenway connection, including a pedestrian/bike bridge over the rail tracks.

    - Creating new access points for hand-powered craft (boat launches and possibly boathouses) in

CD5 in the proposed Harlem River Promenade and in CD7 near the University Heights Bridge and at the CSX site. The University Heights Bridge area is also often noted as a possible location for a marina.

- **Sustainable Design and Maintenance:** Whether funded publicly or privately, all new parks and open space in the BOA study area should be built and maintained according to sustainable design principles as recommended in the *High Performance Landscapes Guidelines* (2010) and other recommended resources. The community's vision includes job training and employment opportunities for installation, care and maintenance of green infrastructure and open space.

- **Resilient Design to Mitigate Flood Hazards:** Parks designed to withstand occasional flooding with minimal damage and to help manage storm surge are often considered the best land uses for flood prone areas. "Living" shoreline strategies should be pursued that allow for greater ecosystem benefits, rather than bulkheads or other hardening strategies. In some areas, new park and esplanade infrastructure could have the added benefit of helping to protect vulnerable rail infrastructure.

- **Natural Resources and Environmental Features:** The strategies that have the greatest potential for improving water quality in the Harlem River are:

- Clean-up of brownfields that may now be leaching contaminants into the river through groundwater and erosion sediments;

- Deploying green infrastructure through the greenway, waterfront parks and open spaces, and streetscapes to cleanse contaminated runoff and avert combined sewage overflows into the river;

- Improving the ecological productivity of the river corridor by creating rich aquatic and terrestrial habitats such as intertidal marshes, oyster reefs, and native grass, wildflower, shrub and tree canopy areas.

- **Infrastructure:** The most urgent infrastructure issue within the Harlem River BOA study area is to integrate green infrastructure into the Harlem River Greenway and waterfront parks to help reduce water pollution.

- **Historic Assets and Tourism Potential:** An interpretive and wayfinding program along the river with a "New York, Then and Now" theme can tell the story of the ambitious 19th and 20th century engineering projects that shaped the Harlem River Valley and New York City's water supply system, as well as the Harlem River's history as a recreational boating destination. Linking the historic significance of Harlem River as boating/regatta destination in the 19th century and early 20th centuries and bringing back recreational boating under the concept of the "People's River" (as proposed by ULI) would connect a greater constellation of attractions along the Harlem River and beyond. Designs for future parks and any new structures should capitalize on distinctive views of natural and historic areas and should protect significant viewsheds along the way.

The Harlem River BOA is poised for clean-up of brownfield contamination and for vibrant, transformative adaptive reuse projects along the river's edge.

The Department of State's Brownfield Opportunity Areas (BOA) Program provides communities with guidance, expertise and financial assistance . . . to complete revitalization and implementation strategies for neighborhoods or areas affected by brownfields or economic distress. Brownfields are dormant properties where contamination or perceived contamination has impeded investment and redevelopment.

Program grants support a variety of community revitalization activities permitted in three program steps:

- Step 1 - The Pre-Nomination Study consists of a preliminary analysis so communities can gain a basic assessment and understanding about existing conditions, brownfields and the area's potential for revitalization. This step sets the stage for detailed work.

- Step 2 -The Nomination consists of an in-depth assessment and evaluation of existing conditions, including an economic and market trends analysis, and assets to determine the best reuse potential for strategic sites and other revitalization opportunities.

- Step 3 - The Implementation Strategy funds a range of techniques and actions to achieve revitalization objectives by advancing redevelopment on strategic sites, improving supporting infrastructure, and overall neighborhood revitalization through investment, provision for public amenities and improving environmental quality.

Source: BOA Program Summary, NYS DOS, Office of Planning & Development http://www.dos.ny.gov/opd/programs/brownFieldOpp/boasummary.html

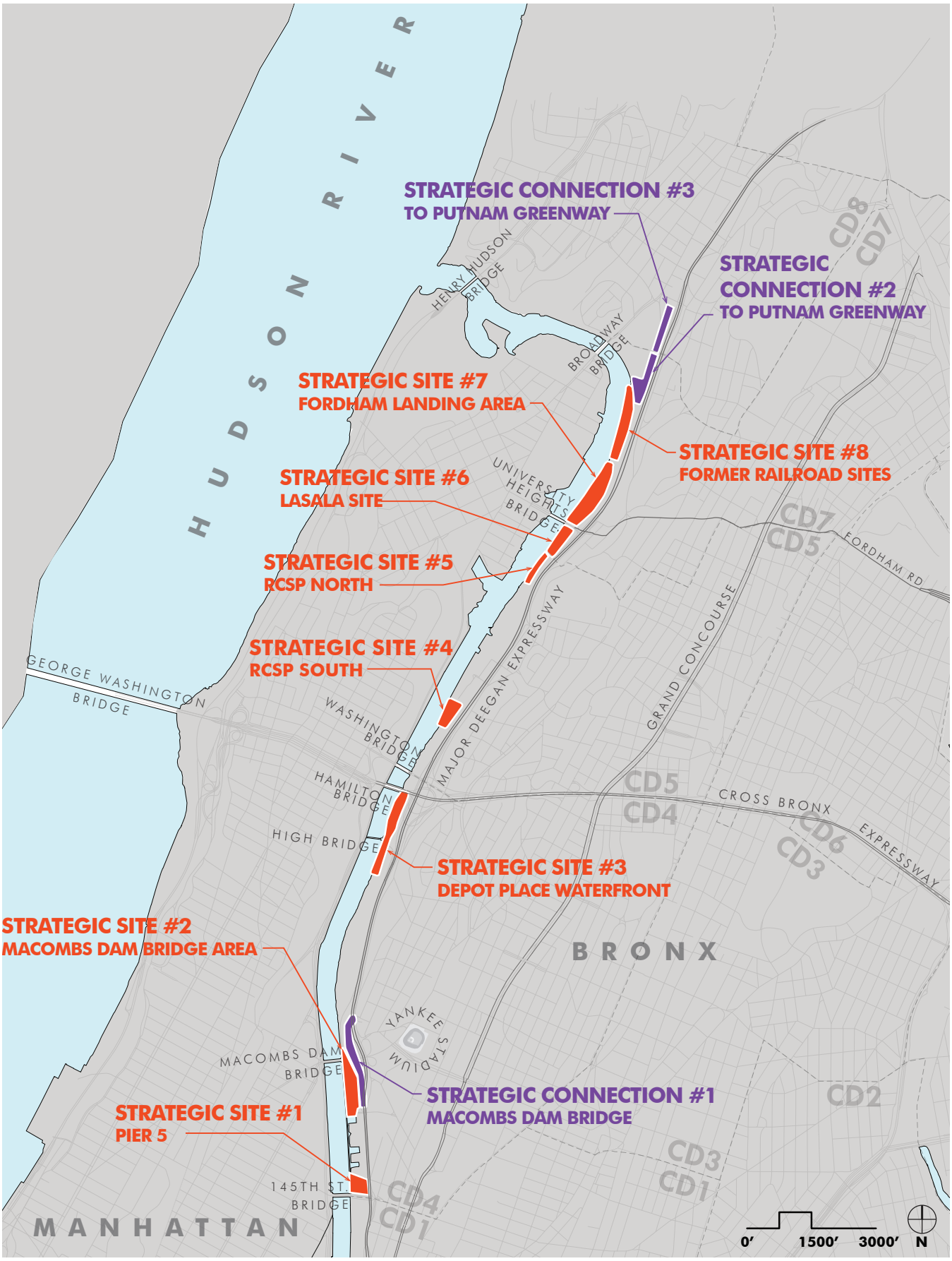

Figure 2. Overall Strategic Sites and Strategic Connections Map

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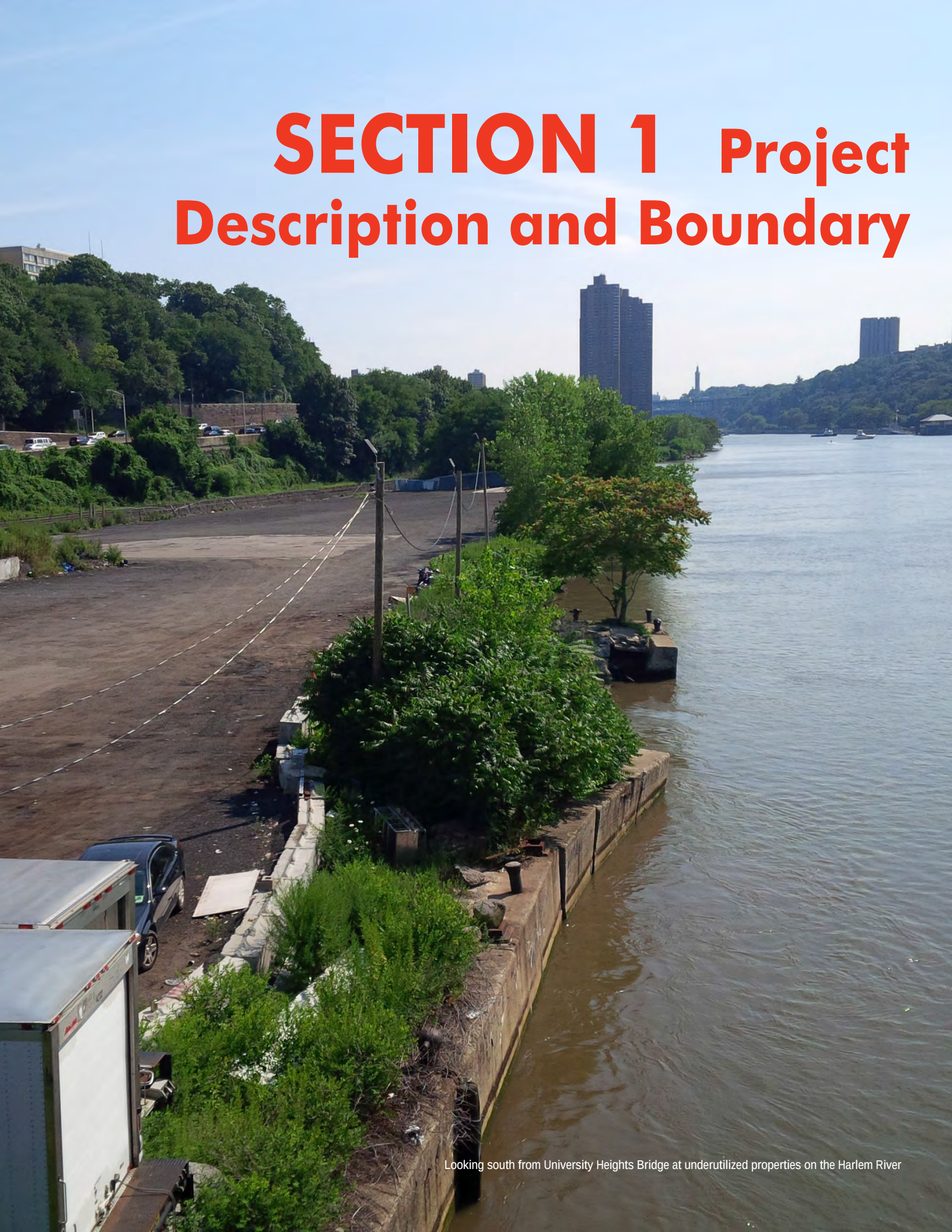
SECTION 1 Project Description and Boundary



Looking south from University Heights Bridge at underutilized properties on the Harlem River

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1.A LEAD PROJECT SPONSORS

PROJECT SPONSORS

The Harlem River BOA Step 2 Study is sponsored by the Bronx Council for Environmental Quality (BCEQ) and NYC Parks. BCEQ is a Bronx-based non-profit 501(c)3 membership organization that has been advocating for the transformation of the Harlem River waterfront into an accessible and amenity-rich destination since 2001. NYC Parks is the steward of approximately 29,900 acres of land — 14 percent of New York City — including more than 5,000 individual properties ranging from Coney Island Beach and Central Park to community gardens and Greenstreets.[1] They are New York City's principal providers of recreational and athletic facilities and programs.

Following the successful completion of the BOA Step 1 Pre-Nomination Study in 2007, BCEQ applied for and received funding from the New York State Department of State (NYSDOS) to pursue this Step 2 Nomination Study. BCEQ approached NYC Parks as an agency partner. Since much of the study area is owned by the City of New York and is under the jurisdiction of NYC Parks, the agency entered into an agreement with BCEQ to work together to complete the Nomination Report, providing project management and project administration services for the NYS Department of State (NYSDOS) grant.

PROJECT PARTNERS

The Harlem River BOA Step 2 study has a number of central project partners that make up the BOA Steering Committee, including representation from the Bronx Borough President's Office (BBPO), Bronx Community Boards (CB) 4, 5, 7 and 8, Roberto Clemente State Park (RCSP), National Park Service (NPS), the Gaia Institute, Manhattan College, the Mayor's Office of Environmental Remediation (OEM), the Department of City Planning (DCP) and the NYC Soil and Water Conservation District.

With vested interests in the surrounding neighborhoods, these BOA partners drew on their vast combined knowledge base of the study area and upland communities in order to prepare the Nomination document. Partners provided local oversight and monitoring, as well as technical assistance during the course of these studies. These partners were enlisted to ensure the planning process relates to municipal goals and obtains input from a wide variety of municipal and organizational stakeholders in the area.

Not-for-profit and private sector consultants also supported the BOA partners. Friends of Van Cortlandt Park (FVCP) assisted with the Public Participation initiatives. ABB, STV, JLPD and FLS were the selected planning and design consultant team that provided services to the project. The NYSDOS administers the BOA program throughout New York State. The NYSDOS has monitored progress, tracked satisfaction of grant requirements, attended BOA partner meetings, and evaluated utilization of grant funds.

Notes: Project Sponsors

[1] Ownership and jurisdiction categories within the city can be complex. As noted by NYCDCP, "Residential, commercial, industrial/ transportation, and public facility uses currently occupy about 65 percent of the city's total lot area. Another 10 percent is vacant or occupied by parking or miscellaneous uses. The remaining lot area, about 25 percent, is parkland or other open space, most of which is not subject to zoning regulations. (Lot area is exclusive of streets, which comprise about 21 percent of the city's gross land area.)". See http://www.nyc.gov/html/dcp/html/zone/zonehis2.shtml.

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1.B PROJECT OVERVIEW AND DESCRIPTION

COMMUNITY CONTEXT: RELATIONSHIP OF THE STUDY AREA TO THE COMMUNITY AND REGION

The Harlem River Brownfield Opportunity Area (HR BOA) is situated in the midst of the largest city in the country, with a current population of over 8.4 million[1] and expected to grow to 8.8 million in 2030 and to 9 million by 2040.[2] From a regional perspective, the New York-Newark, NY-NJ-CT-PA Combined Statistical Area had an estimated population of 23.6 million as of 2014. Within the HR BOA study area alone, over 150,000 people[3] live within the Community Participation Areas, and the figure expands dramatically if considering the populations of northern Manhattan on the other side of the river and within Marble Hill. Clean-up and revitalization efforts within the Harlem River BOA have the potential to positively impact literally millions of people now and in the coming decades.

The HR BOA Focus Areas encompass a narrow strip of land on the Bronx side of the Harlem River, extending from West 149th Street in the South Bronx northward along the waterfront and curving to the west where the Harlem River tidal strait meets the Hudson River. The Central Focus Area consists of a swath of land along the north-south portion of the Harlem riverfront, while the smaller Spuyten Duyvil Focus Area is a non-contiguous segment of waterfront at the junction of the Harlem and Hudson Rivers (Fig. 1). Just across the narrow channel of the Harlem River, which averages roughly 400 feet wide, about the width of a long city block, lies northern Manhattan. The two BOA Focus Areas are separated by Marble Hill, located at the tip of Manhattan, an anomalous portion of the Borough of Manhattan that, through a historical twist involving the digging of the Harlem Ship Canal in the 1890s, left a small remnant of what is still technically Manhattan on the Bronx side of the river.

Ironically, despite the enormous nearby populations, due to difficulties of access, the entire Central Focus Area contains only one residential property—River Park Towers in Roberto Clemente State Park, which houses fewer than 5,000 people. Therefore, the BOA Community Participation Area envelops densely populated upland residential communities in the Highbridge, Morris Heights, University Heights and Kingsbridge neighborhoods. In the Spuyten Duyvil Focus Area, residential properties, including both single and multifamily are located much nearer the shoreline and are included in the Spuyten Duyvil Focal Area boundary. Altogether, the Focus Areas plus the Community participation areas include 29 full and 11 partial census tracts in four Bronx Community Districts (4, 5, 7 and 8).

The Bronx, in terms of governmental jurisdictions, constitutes one of the five boroughs of the City of New York and also makes up Bronx County. In terms of legislative districts, the Harlem River BOA Focus Area and Community Participation areas participate in three congressional districts (13, 15 and 16), three New York State Senate districts (29, 33, and 34), five New York State Assembly districts (77, 78, 81, 84, and 86), and four City Council districts (8, 11, 14, and 16).

Notes: Community Context

1 United States Census Bureau, "QuickFacts Beta," accessed 5/27/2015, http://www.census.gov/quickfacts/table/PST045214/3651000,00.

2 The City of New York, Michael R. Bloomberg, Mayor, Department of City Planning, Amanda M. Burden, FAICP, Director, "New York City Population Projections by Age/Sex & Borough, 2010–2040," accessed 5/28/2015, http://www.nyc.gov/html/dcp/pdf/census/projections_briefing_booklet_2010_2040.pdf.

3 Calculated by adding together population of each census tract within the BOA study area. For census tracts only partially within BOA study area, the percentage of the tract by area within the study area was estimated, and then that percentage was multiplied by the total population of the tract.

STUDY AREA OVERVIEW

The Harlem River BOA study area covers nearly 5 miles of waterfront plus a five-block northern inland extension between 225th-230th Streets, while the Spuyten Duyvil Study Area adds another mile of shoreline. It takes in the lion's share of the Harlem River shoreline and encompasses the majority of the western boundary of the Bronx. The total acreage within the Harlem River BOA Central Focus area is 183 acres, not including I-87/MDE, while the acreage within the Spuyten Duyvil Central Focus Area totals 19 acres.

The larger study area, including both the Focus Areas and the upland Community Participation Area together comprise 1,535 acres. The Central Focus Area is bounded by the mapped pierhead line in the Harlem River on the western edge, while on the inland side, the eastern edge of I-87/MDE marks the boundary. The Spuyten Duyvil Focus Area extends from the Harlem River on its southern boundary up to Kappock Street/Johnson Avenue on the north, to the Hudson River to the west, and to the eastern edge of Kennedy High School.

Marble Hill, the anomalous segment of the borough of Manhattan that is north of the modern alignment of the Harlem River, is excluded from the study area.

BROWNFIELD SITES AND OTHER UNDERUTILIZED SITES IN THE BROWNFIELD OPPORTUNITY AREA (BOA)

There are a total of 63 "properties of interest" in the proposed Harlem River BOA. These "properties of interest" are identified as those sites deemed to have potential for nomination as Strategic Sites under the BOA program or that may be important as potential Strategic Connections. Research on environmental issues for these 63 properties (tax lots) conducted by subconsultant Fleming Lee Shue, Inc. (FLS) categorized 51 of these properties as having slight potential for contamination, eight with moderate potential, and one with high potential. Three properties listed within the study area were not found in the public databases reviewed. After applying Strategic Sites Criteria developed by the Steering Committee, a total of 29 tax lots were considered in more detail and are being nominated as potential Strategic Sites for the New York State Department of State BOA program. All of the properties being nominated fall within the Central Focus Area, while none are located in the Spuyten Duyvil Area, due to a number of limiting factors in the Spuyten Duyvil location.

OPPORTUNITIES FOR NEW PUBLIC AMENITIES AND RESTORATION OF ENVIRONMENTAL QUALITY

The proposed Harlem River BOA is rich in opportunities for new recreational areas and other public amenities, going hand-in-hand with opportunities to restore environmental quality on, in and near the river. The Harlem River is set within the core area of the NY-NJ Harbor Estuary Program (HEP), established in 1987, in which the NY-NJ estuary system is designated as one of 28 "Estuaries of National Significance." The goals of the program are to protect and restore healthy waterways and habitats, manage sediments, encourage community stewardship, educate the public and improve safe access to waterways. Federal, state, and local governments; scientists; civic and environmental advocates; the fishing community; business and labor leaders; and educators are all encouraged to cooperate through the HEP. The core area of the HEP that includes the Harlem River is an interconnected tidal system that includes the Hudson River, Upper and Lower Bays, Raritan Bay, Newark and Sandy Hook Bay, Jamaica Bay, and the East River, as well as the Hackensack, Passaic, Raritan, Shrewsbury, Navesink, and Rahway Rivers of New Jersey. As summarized by the HEP:

> *The NY-NJ Harbor Estuary is home to incredible natural diversity and is also one of the most vibrant and populated metropolitan areas in the country and the world, presenting unique opportunities and challenges. Over 300 species of birds breed or make their home in Jamaica Bay; striped bass and alewife travel up our tributaries to spawn; and salt marsh grasses line the shores, providing habitat to many fish, crabs, and other creatures. As residents, we use the estuary for fishing, boating, swimming, bird watching, transportation, and many other activities that bolster our quality of life and economy.*[1]

The Harlem River waterfront offers ample underutilized land that calls out for clean-up of contamination and development of new parks and open space amenities. Two priorities for public amenities are the Harlem River Greenway and new recreational boat access points.

Water quality and habitat value (both aquatic and terrestrial) can benefit substantially from sustainably designed projects in the study area while providing recreational opportunities that contribute to public health and enjoyment.

Notes for Opportunities for New Public Amenities and Restoration of Environmental Quality:

[1] New York-New Jersey Harbor and Estuary Program, "About the Program," http://www.harborestuary.org/about.htm, accessed 5/29/2015.

AREA'S POTENTIAL IN TERMS OF OPPORTUNITIES FOR NEW USES & BUSINESSES, NEW EMPLOYMENT AND ADDITIONAL REVENUES

A number of public and private actions, including rezonings, studies, and development proposals, have taken place or are being initiated currently that reflect city and private visions for redevelopment. Together, these actions contribute to a changing context for redevelopment and economic growth in the BOA and along the Harlem River waterfront.

Opportunities to create new employment and generate additional revenue in the BOA are fairly limited in the near term. The primary opportunity for new job-dense commercial development within the BOA will be in the portion of the BOA closest to the Manhattan Central Business District and transit connections.

Within the BOA Focus Area, development is most likely at Pier 5. According to City sources multiple scenarios will be explored for this site, including variations on the potential amount of housing, retail, office, light industrial, job-dense workspace, and other uses that could be realized, along with waterfront access and publicly accessible open space. If Pier 5 and other Lower Concourse development sites end up featuring commercial retail and/or community facilities uses on the first and second floors, these uses would create new employment in or very near the BOA.

Additional prospects for new employment opportunities may build from the more than $1 billion dollars in relatively new investment in the Yankee Stadium and Gateway Center (Bronx Terminal Market) immediately upland from the BOA's waterfront sites. In addition, development incentives from the City are currently focusing on the waterfront district to the immediate south of the BOA, in the separate Lower Grand Concourse BOA.

In the longer term, potential development sites at the northerly end of the BOA, including the "Fordham Landing" / La Sala site may present opportunities for employment growth in a mixed-use context, subject to future infrastructure investments on a similar scale to that currently committed by the Office of the Mayor to redevelopment at the Lower Concourse.

Development of parkland, Greenway and green infrastructure along the length of the waterfront has the potential to generate a certain amount of new employment. BCEQ sees opportunities for job training and job creation for installation and maintenance of green infrastructure that may be more professional and higher paying than many other jobs, creating a positive impact on the local economy while also providing environmental benefits.

PLANNING AND DEVELOPMENT CONTEXT

The Harlem River BOA study is set in the context of copious numbers of planning studies that have been done over the years at the local, state and federal levels, the most relevant of which is the Harlem River BOA Step 1 study prepared in 2007.

HARLEM RIVER WATERFRONT: LINKING A RIVER'S RENAISSANCE TO ITS UPLAND NEIGHBORHOODS: As the 2007 Harlem River BOA Step 1 report led by BCEQ noted, plans and studies for the Harlem River waterfront over the past decades have recommended an:

> *overarching vision for the Bronx waterfront of the Harlem River [as] a contiguous waterfront park. This is a fundamental consensus embraced by several generations of city and state agencies, elected officials, and their constituents. It has been outlined in some 25 plans that have been developed, refined, and reissued, all with public participation over the same number of years.*[1]

More details about the consensus represented in these 25 plans are presented in the Community Vision section.

As the 2007 study also discussed:

> *The Harlem-Hudson Waterfront Greenway was envisioned in the 1993 Harlem-Hudson Greenway Plan as a path along the Harlem River waterfront from Macombs Dam Bridge (where it connects with the Aqueduct) north, making an on-street link through Kingsbridge, accessing the water again at Spuyten Duyvil, and then proceeding north on either a river or inland route. Sections of this greenway are also part of important regional systems. In 2000 the Department of City Planning issued the Harlem River Greenway Master Plan (2000) for a multi-use path that runs the length of Harlem River. It recommended a multiphase approach that could take decades to implement.*[2]

In recent years, this vision of a recreational waterfront has been expanded and reinforced by other studies, several of which are discussed here.

The importance of the river corridor's ecology as a part of a significant estuary system, as well as the BOA study area's position in the midst of the largest city in the nation, mean that what happens in the Harlem River BOA Focus Area will have ripple effects throughout these larger systems. The vision for the Harlem River BOA is consistent with environmentally conscientious plans for the estuary system and with goals for sustainability and resilience for the city and region. A few of the most relevant plans are:

NEW YORK-NEW JERSEY HARBOR ESTUARY PROGRAM: The Harbor Estuary Action Plan, revised in April 2011, is organized around five major themes or goals that point to the potential within the Harlem River, and in the larger regional, national and global context:

- Clean Up Pollution in the Estuary
- Habitat and Ecological Health
- Improve Public Access
- Support an Economically and Ecologically Viable Estuary and Port
- Public Education and Community Involvement.[3]

These NY-NJ Harbor Estuary planning goals align perfectly with the Harlem River BOA's Community Vision and recommendations.

DRAFT HUDSON RIVER ESTUARY ACTION AGENDA 2015-2020: The Hudson River BOA initiative is also well aligned with the goals and visions of DEC's Harlem River Estuary program. The current 2015-2020 draft action plan lays out specific targets under six benefits, which are similar to the NY-NJ Harbor Estuary program themes:

- **Benefit 1: Clean Water** "Vision: The Hudson River estuary is drinkable, swimmable and fishable."
- **Benefit 2: Resilient Communities** "Vision: All watershed communities plan and manage their natural resources and built environment to reduce vulnerability to change and to provide for human uses in ways that sustain the estuary and a healthy watershed ecosystem."
- **Benefit 3: Vital Estuary System** "Vision: Life in the estuary thrives with support from healthy forests, wetlands, and streams throughout the watershed."
- **Benefit 4: Estuary Fish, Wildlife and Habitats** "Vision: The estuary supports robust populations of fish and wildlife that are popular for fishing and wildlife-related recreation."

- **Benefit 5: Natural Scenery** "Vision: Natural Scenery is preserved and enjoyed by the public."

- **Benefit 6: Education, River Access, Recreation and Inspiration** "Vision: The estuary, as an integral part of our river communities, is valued by Hudson Valley residents, and its many natural resources are available and accessible, providing high-quality, place-based educational, recreational and inspirational experiences."[4]

HUDSON RIVER SUSTAINABLE SHORELINES PROJECT: As a "collaboration between the NYSDEC and local science and state organizations to provide science-based information on the ecological, economic and engineering questions facing shoreline habitats in a changing environment,"[5] the Sustainable Shorelines project offers recommendations for the Hudson and its tidal tributaries, which includes the Harlem River. In general, scientists recommend adding complexity to engineered shorelines with vegetation, different materials and rougher surfaces in order to enhance their habitat value and ecological functioning. Naturalized edges with a variety of shoreline conditions and gradual slope are recommended, while long, straight stretches of bulkhead are discouraged because they are not beneficial ecologically. The *Managing Shore Zones for Ecological Benefits Handbook* prepared by the Sustainable Shorelines project provides more detailed recommendations for improving the ecological functioning of shorelines;[6] these strategies can help to improve water quality, resilience under storm conditions and overall value as habitat. The vision and recommendations for the Harlem River BOA draw heavily on these and similar science-based recommendations.

ONE NEW YORK: THE PLAN FOR A JUST AND EQUITABLE CITY: New York City's recently released vision plan builds on the strong sustainability initiatives begun during the Bloomberg administration under PlaNYC, adding Mayor de Blasio's emphasis on economic, social and environmental justice. Of particular relevance for the Harlem River BOA vision are two of the four goals: "Our Sustainable City," with a vision of NYC becoming "the most sustainable big city in the world and a global leader in the fight against climate change" and "Our Resilient City," envisioning that "Our neighborhoods, economy, and public services are ready to withstand and emerge stronger from the impacts of climate change and other 21st century threats."[7] "Sustainable City" strategies address greenhouse gas emission reductions, zero waste goals, air quality, brownfields clean-up, water management and parks and natural resources[8] all areas where visions for the Harlem River BOA area can make a positive impact to city-wide goals. In terms of resiliency, the Harlem River BOA area can help achieve the vision of a city where transportation and other infrastructure can withstand and recover quickly from severe weather events, including coastal flooding and sea level rise.

DCP VISION 2020 WATERFRONT PLAN: DCP's 2011 comprehensive waterfront plan recommends strategic interventions throughout the Harlem River BOA to improve upland pedestrian connections to the waterfront, manage storm surge and reduce wave action, and many other area-wide suggestions. As part of the citywide waterfront strategy, opportunities for ecological education, boat access, and passive recreation are strongly encouraged throughout sites in the BOA. The plan suggests development of a Waterfront Access Plan (WAP) for the University Heights waterfront in order to promote future development; a WAP allows for site-specific modification of public access requirements for stretches of waterfront with unique conditions and opportunities. In the wake of Superstorm Sandy, DCP design guidelines for resilient river's edge treatment will have to be considered. On the other hand, the Harlem River BOA is not the focus of DCP Open Space and Waterfront Division's more specific resilient neighborhoods studies due to the fact that natural topography and current limited development in the area shield residents and most businesses from most storm-related risks.[9]

NYC DEPARTMENT OF CITY PLANNING SUSTAINABLE COMMUNITIES IN THE BRONX STUDY: In 2011, the Department of City Planning Bronx Borough Office initiated a study examining opportunities for transit-oriented development (TOD) adjacent to existing or proposed Metro-North stations in the Bronx. There are two stations within the Central Focus Area of the Harlem River BOA: University Heights Station and Morris Heights Station. Three additional Metro-North stations are near the BOA Focus Areas: the Marble Hill, Spuyten Duyvil and Yankee Stadium-153rd Street stations. The DCP study includes recommendations to integrate Bronx Metro-North stations into communities, spur investment, and better connect Bronx citizens to job centers. The study also aims to improve station

Figure 3. Notable Land Uses Near University Heights Station (Source: DCP Sustainable Communities)

visibility and pedestrian safety, while expanding inter-modal connections in the future.

The area surrounding the University Heights station is of particular interest for its development potential within the Harlem River BOA and for improvements to connections between the waterfront and the upland neighborhood. Figure 3 depicts notable land use features located in close proximity to the University Heights station under existing conditions, highlighting nearby institutions and the contrast in land uses at the waterfront and upland.

To address deficiencies in market potential and waterfront access for the waterfront north of High Bridge, the DCP Sustainable Cities study recommends implementing phased access, safety, and pedestrian improvements to the area surrounding the University Heights station, which in its existing condition is oriented toward automobile access to I-87/MDE and presents an unfriendly environment for pedestrians. Short-term improvements include the installation of a vegetated median on Fordham Road up to the foot of the bridge, with additional pedestrian islands to enhance pedestrian safety and experience at the intersection with the I-87/MDE access ramps, at the University Heights station entrance. These improvements, coupled with longer-term enhancements such as new bike lanes, a station platform extension, and direct pedestrian access to the waterfront across the Major Deegan, would significantly improve pedestrian connections from Fordham Road and upland neighborhoods to the waterfront, to University Heights station, and to retail destinations and new public amenities proposed for Inwood. The study also recommends addressing misalignments in zoning by developing a comprehensive approach to redevelopment by permitting a balance of land uses tied to infrastructure improvements such as those described here.[10]

These improvements are suggested as part of a broader set of scenarios the report sets forth. The study offers scenarios which illustrate progressively more intensive development responses to proposed improvements in public access, public space amenities, and infrastructure in the area. As the study notes, further community visioning and planning is needed to determine the best possible combinations of uses in this area.

ULI UNIVERSITY HEIGHTS WATERFRONT TECHNICAL ASSISTANCE PANEL STUDY: In 2014, DCP convened Urban Land Institute members to evaluate development potential for the University Heights waterfront area. ULI panelists analyzed development scenarios, local capacity, self-financing, and public investment. The study sets forth short-term through long-term goals for the study area. These range from temporary retail kiosks to housing built on decking above I-87/MDE. One of the recommendations that most resonates with the BOA community participants is the concept of the Harlem River as the "People's River," regaining its former prominence as a mecca for recreational boating.[11]

HARLEM RIVER PROMENADE: The Bronx Overall Economic Development Corporation (BOEDC) and landscape architecture firm Starr Whitehouse reimagined the waterfront of Depot Place as a new public place. Community workshops in 2009 invited residents to offer their opinions and aspirations for the site. In its conceptual phase the proposal describes enhanced pedestrian riverfront access and improved community recreational opportunities. The proposed program envisions the waterfront site as providing direct waterfront access and providing "spaces for families to gather, play and experience a taste of nature in an urban setting." A riparian marsh at the shoreline would be planted with native species to help with stormwater management and environmental improvements. A shared greenway running through the site would connect directly to the south end of the existing greenway in Bridge Park. In more advanced phases of the Harlem River Promenade, the plan for this segment of parkland calls for a boathouse and a hydroponic greenhouse which could help "generate a local food economy and support programs for school groups and other community organizations." A third structure could house an education center with classroom and lab space "for teaching restoration, revitalization and protection of the urban estuary and watershed."[12]

UNIVERSITY STUDIES

COLUMBIA GSAPP "RECLAIMING THE RIVERFRONT" STUDY, 2010: In 2010, a Columbia University Urban Planning Studio in the Graduate School of Architecture, Planning and Preservation (GSAPP) focused on the Harlem River Waterfront in CD7. Students under the direction of Professor Ethel Sheffer worked with Community Board 7 to propose strategies for revitalizing the CD7 waterfront, with an emphasis on crafting a practical phased plan to introduce public access to the waterfront and encourage its redevelopment. The plan proposes a first phase of preliminary clean-up and community involvement, tree planting and intersection improvements, followed by

Phase II, which consists of remediating and "Realizing Regatta Park" to the north of the University Heights Bridge. Phase III would involve redevelopment of vacant and underutilized parcels both south and north of the University Heights Bridge, as well as access improvements to the northern segment of the waterfront.[13]

MIT DUSP "BRONX, MEET YOUR WATERFRONT" PLAN: In 2011, MIT urban planning students published a comprehensive plan as part of their academic coursework that focused on four strategic Harlem Riverfront sites in the Bronx. Working with the NYC Department of City Planning Waterfront and Open Space Division and Bronx community-based organizations, MIT students highlighted strategic sites to bolster community access and development on the river. Three of the strategic sites, High Bridge/Depot Place, Macombs Dam, and Pier 5 are located at least in part within the BOA Central Focus Area. The MIT plan proposed improved public riverfront access both on the waterfront in the form of new parks as well as upland in reconfigured pedestrian and vehicular circulation patterns. Concept design proposals include proposals to improve riparian ecology, activate spaces through temporary programming, adapt existing infrastructure, and lastly, develop existing and new connections between the community and the river.[14]

Notes: Planning and Development Context

1 Bronx Council for Environmental Quality, "Harlem River Waterfront: Linking a River's Renaissance to its Upland Neighborhoods," February, 2007, p. 31.

2 Ibid., p. 32.

3 New York-New Jersey Harbor and Estuary Program, "New York-New Jersey Harbor Estuary Action Plan for 2011-2015," accessed September 21, 2015, http://www.harborestuary.org/reports/HEP_Action_Plan-042711.pdf.

4 NYS Department of Environmental Conservation, "Draft Hudson River Estuary Action Agenda 2015-2020, accessed September 21, 2015," http://www.dec.ny.gov/lands/5104.html.

5 New York State Department of Environmental Conservation, "Shoreline Habitats, accessed September 21, 2015, http://www.dec.ny.gov/lands/87653.html.

6 David L. Strayer and Hudson River Sustainable Shorelines Project Team, "Managing Shore Zones for Ecological Benefits Handbook," accessed September 21, 2015, https://www.hrnerr.org/doc/?doc=273743856.

7 The City of New York, One New York: The Plan for a Strong and Just City," accessed September 21, 2015, http://www.nyc.gov/html/onenyc/downloads/pdf/publications/OneNYC.pdf, p. 5.

8 Ibid., pp. 160-213.

9 The City of New York Department of City Planning, Amanda M. Burden, Commissioner, "Vision 2020: New York City Comprehensive Waterfront Plan," March 2011 and communication with Shawn Brede, NYCDCP Bronx Borough Office, October 24, 2014.

10 The City of New York Department of City Planning, Amanda M. Burden, Commissioner, "University Heights: Balancing Access Needs and Development Potential," in "Sustainable Communities in the Bronx: Leveraging Regional Rail for Access, Growth and Opportunity." March 2014, pp. 78-102.

11 Urban Land Institute New York Technical Assistance Panels, "The People's River: A New Vision for the Bronx's University Heights Waterfront," July 23-24, 2014.

12 Bronx Overall Economic Development Corporation and Starr Whitehouse Landscape Architects, "Harlem River Promenade", 2010, p. 10.

13 Columbia University GSAPP, "Reclaiming the Riverfront," 2010.

14 Massachusetts Institute of Technology Department of Urban Studies and Planning , "Bronx, Meet Your Waterfront," Spring 2011.

PLANNING AND DEVELOPMENT CONTEXT IN AREAS ADJACENT TO THE HARLEM RIVER BOA STUDY AREA

Recent and on-going planning and development activity in areas adjacent to the Harlem River BOA Central Focus Area and Community Participation Area impacts development trends within the HR BOA. In particular, activity to the immediate south and southeast of the Focus Area in Bronx CD1 and initiatives just across the river in Upper Manhattan have implications for the HR BOA neighborhoods. Those initiatives and developments that are expected to have spill-over effects into the HR BOA and to create greater need for recreational amenities along the waterfront include:

LOWER GRAND CONCOURSE BOA AND PUBLIC INVESTMENT: In 2014 a BOA study was initiated for an area in Community District 1, immediately south of Pier 5 at the southern boundary of the Harlem River BOA.[1] In many respects, the vision proposed in the Lower Grand Concourse BOA differs considerably from the community vision for the adjoining Harlem River BOA: the Lower Concourse BOA vision calls for high-density mixed-use development primarily concentrated on the Harlem River waterfront between the 138th and 145th Street bridges. However, the two BOA visions have some importantly elements in common, most notably the desire to establish a continuous riverfront promenade along the Harlem River, to restore wetlands

and to create new publicly accessible open spaces. The Lower Concourse study also proposes extending street corridors to connect upland neighborhoods to developments at the water's edge.

MAYOR'S $200 MILLION COMMITMENT TO LOWER CONCOURSE INFRASTRUCTURE UPGRADES: Following on the vision set forth in the Lower Grand Concourse BOA in 2014, the Office of the Mayor has recently allocated approximately $200 million in infrastructure investment to support the development of affordable housing in the Lower Concourse area of the Bronx, in particular along the Harlem River. The City envisions that this infrastructure investment will help to create the market for a mixed-use, mixed-income neighborhood with housing, new job opportunities, and new open space. The initiative also includes objectives to expand Harlem River waterfront access and livability improvements through public realm enhancements. This financial commitment by the Mayor is a complement to the Lower Concourse Rezoning that has been in place since 2009. The close proximity of these public investments can be expected to increase populations in the immediate vicinity of the Harlem River BOA.[2]

INWOOD NYC NEIGHBORHOOD STUDY: The New York City Economic Development Corporation (NYCEDC) is partnering with the Department of City Planning and a team of planning and economic consultants on an initiative to support an innovative, mixed-use neighborhood integrating affordable and mixed-income housing with job-dense commercial uses to revitalize vacant and underutilized sites in the Sherman Creek district of Inwood, in Manhattan. The district, sited along the Harlem River waterfront, is connected directly to the BOA via the University Heights Bridge. The study, currently underway as of 2015, also seeks to identify opportunities to create a more unified greenway / blueway experience on both sides of the river.

The economic impacts of development and new public amenities in Inwood are expected to be felt across the Harlem River, too, as Inwood is already a strong retail and commercial destination for a catchment area that includes University Heights residents. New destinations and increasing retail and public space amenities will continue to strengthen cross-river connections that will have a progressive impact on the development potential of sites within the HR BOA, especially the La Sala and Fordham Landing North sites. At the same time, development in Inwood would also stimulate demand for more recreational amenities on both sides of the river.

Manhattan CD12 Inwood waterfront looking south from UH Bridge

Notes: Planning and Development Context in Adjacent Areas

1 South Bronx Overall Economic Development Corporation, "Lower Grand Concourse: Brownfield Opportunity Area Phase I Visioning Study," 2014

2 "State of the City: Mayor de Blasio Puts Affordable Housing at the Center of 2015 Agenda to Fight Inequality," February 3, 2015, http://www1.nyc.gov/office-of-the-mayor/news/088-15/state-the-city-mayor-de-blasio-puts-affordable-housing-center-2015-agenda-fight#/0

3 New York City Economic Development Corporation, "Inwood NYC Neighborhood Study," accessed September 22, 2015, http://www.nycedc.com/project/inwood-nyc-neighborhood-study

1.C COMMUNITY VISION, GOALS AND OBJECTIVES

BUILDING ON 25 PLANS OVER 25 YEARS

The community vision that was clearly and powerfully summarized in the 2007 Harlem River BOA Step 1 report, "*Harlem River Waterfront: Linking River's Renaissance to its Upland Neighborhoods*" still resonates with the Harlem River BOA Steering Committee and with community participants eight years later.

> *The overarching vision for the Bronx waterfront of the Harlem River is a contiguous waterfront park. This is a fundamental consensus embraced by several generations of city and state agencies, elected officials, and their constituents. It has been outlined in some 25 plans that have been developed, refined, and reissued, all with public participation over the same number of years. It is understood today that this means future development of the waterfront itself must be primarily recreational.*[1]

WHERE THE PLANS AGREE

- *The value of the Harlem River and its Bronx shoreline is as a coherent scenic and recreational resource, which is best achieved with a continuous esplanade or greenway.*
- *The Harlem River's many bridges should be utilized to connect the Manhattan and Bronx waterfront parks and neighborhoods. The most important is the pedestrian High Bridge.*
- *Upland communities must be connected to the public waterfront, physically and visually.*
- *Any new developments near the waterfront – whether they generate jobs, revenue or housing opportunities -- should draw people to the waterfront.*
- *The natural shoreline habitat should be restored where possible, with the principal goal of restoring its ecological function and the secondary goal of restoring its recreational functions (e.g. fishing and swimming)*[2]

Notes for Community Vision, Goals and Objectives

[1] BCEQ, "Harlem River Waterfront," (2007) p. 31. This list of previous plans was prepared as of 2007. Since that date, additional plans have explored the study area.

1982: New York City Waterfront Revitalization Program, revised in 2002.

1989: The Bronx Harlem River Plan (New York City Department of City Planning)

1990: Waterfront Management Plan (NYC Department of City Planning)

1992: New York City Comprehensive Waterfront Plan (New York City Department of City Planning)

1993: Plan for the Bronx Waterfront (New York City Department of City Planning)

1993: Bronx Greenway Plan (Bronx Borough Board)

1995: New Parkland for New Yorkers: Opportunities to Protect Open Space in New York City (Trust for Public Land)

1997: Investing in the Waterfront: New York City's Waterfront Revitalization Program (New York City Department of City Planning)

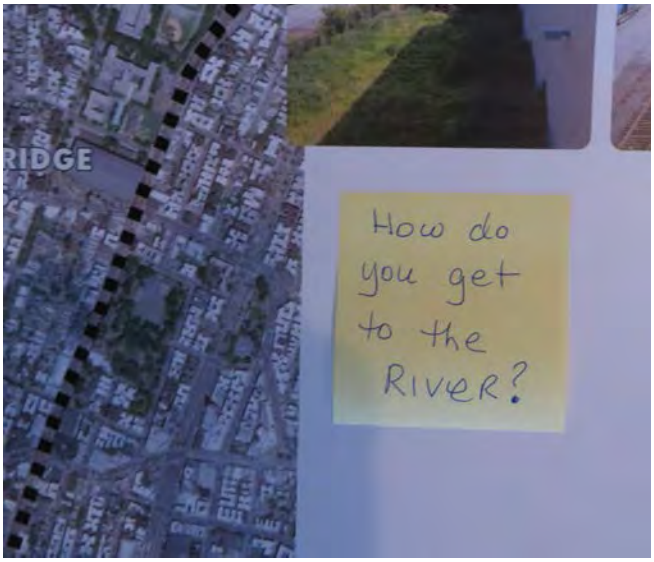
1997 New York City Bicycle Master Plan (New York City Departments of City Planning and Transportation)

1997 The Old Croton Aqueduct (The Parks Council, now New Yorkers for Parks)

2000 Harlem River Greenway Master Plan (Department of City Planning)

2002: New Waterfront Revitalization Program (New York City Department of City Planning)

2003: Report of the Bronx Waterfront Task Force (Borough President Adolfo Carrion)



Community input from BCEQ Mini-Waterfront Conference

2003: CD8 2000: A River to Reservoir Strategy (197a Plan)

2004: Bronx Waterfront Plan (Bronx Borough President Adolfo Carrion)

2004 Bronx Arterial Needs Major Investment Study (NYS Department of Transportation)

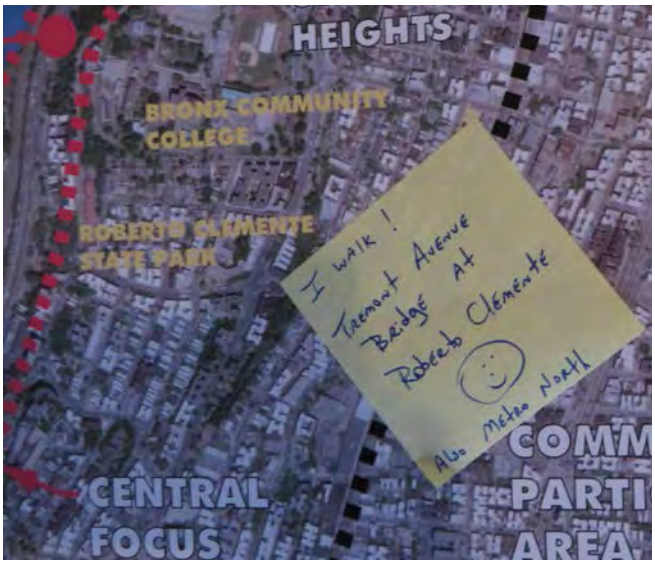
2004: The Harlem River Waterfront. (Bronx Council on Environmental Quality)

2005: NYS Open Space Conservation Plan (NYS Department of Environmental Conservation) (Updated 2009)

2006: Upper Harlem River Comprehensive Waterfront Plan (New York Restoration Project) Added since 2007:

2012: Harlem River Greenway: Our Vision, Our Future (Harlem River Working Group)

[2] BCEQ, “Harlem River Waterfront,” (2007) p. 22.



Community input from BCEQ Mini-Waterfront Conference

1.D BROWNFIELD OPPORTUNITY AREA BOUNDARY DESCRIPTION AND JUSTIFICATION

For purposes of this Step 2 study, the proposed Harlem River Brownfield Opportunity Area consists of the Central Focus Area, the smaller Spuyten Duyvil Focus Area and the more expansive Community Participation Areas, all in the New York City Borough of the Bronx, in Bronx County, New York. Separating the two study areas is Marble Hill, an anomalous section of Manhattan that is on the Bronx side of the Harlem River. It is excluded from the BOA boundaries. The Community Participation Areas have been drawn to capture residents who live with a one-mile walk of the river; these residents also live within the Harlem River watershed.

CENTRAL FOCUS AREA: The Central Focus Area is a linear strip of land along the eastern shore (Bronx side) of the Harlem River. Its eastern and western boundaries are clearly defined by the river on the east side and I-87/MDE on the western edge. The Central Focus Area encompasses nearly 5 miles of waterfront from West 149th Street on the south to West 225th Street on the north, plus a five block northern inland extension between 225th-230th streets. The average width of the waterfront portion of this strip of land is approximately 300 feet. The total acreage within the Harlem River BOA Central Focus area is 183 acres.

In the BOA Step 2 process, the Central Focus Area has been expanded somewhat from its original Step 1 boundaries. Early in the Step 2 process, the Steering Committee recommended extending the southern boundary from Macombs Dam Bridge to West 149th Street, taking in an additional 3,000 feet of waterfront. Extending the boundary to West 149th Street enables the BOA process to consider strategies for the waterfront in the vicinity of the new Yankee Stadium and Gateway Center mall, an area with high traffic, high visibility and much potential, but with persistent brownfields, underutilized sites and roadway infrastructure that is currently extremely unfriendly for cyclists and pedestrians. Potential connections and improvements in this area are crucial to achieving the vision of a continuous linear greenway and recreational areas along the Harlem River.

On the north end of the Central Focus Area, two areas of expansion have been added to the proposed BOA Boundary due to their strategic locations for potential greenway connections. The oblong block bounded by Exterior Street, West 230th Street, the Major Deegan and West 225th Street has become a strategically important link between the proposed Harlem River Greenway and a proposed extension of the Putnam Greenway to south of Van Cortlandt Park; the Putnam project is currently in the planning and easement acquisition process through NYC Parks, and when successfully completed, will offer a direct greenway connection to the existing greenway in Westchester County. Similarly, the proposed BOA Boundary has been extended slightly westward at River Plaza Mall between the Harlem River shoreline and West 225th Street, now reaching west to Broadway. This relatively small expansion could help facilitate pedestrian and bike access to Broadway, the 1 train line and the Marble Hill Metro-North stop at a key multi-modal transportation hub that links the Bronx, Manhattan and upstate locations.

Within the proposed Harlem River BOA Central Focus Area, a total of eight Strategic Sites and three Strategic Connections have been identified and are being nominated with this study. The Strategic Sites and Strategic Connections are distributed from the southern end to the northern tip of the Central Focus Area, making it clear that these boundaries define an area that has a strong underlying logic to it, even though it has the challenge of being fairly large for a BOA study area.

THE COMMUNITY PARTICIPATION AREA FOR THE CENTRAL FOCUS AREA includes both the Central Focus Area itself (whose population is concentrated in only one housing development, namely River Towers in Roberto Clemente State Park) and the upland communities extending east to Jerome Avenue. Jerome runs from Macombs Dam Bridge northward and intersects with West 230th Street, which is the northern extent of the Community Participation Area.

SPUYTEN DUYVIL FOCUS AREA: During the course of the Step 2 study, the boundaries of the Spuyten Duyvil Focus Area and Community Participation Area remained unchanged from the Step 1 BOA process; however, no Strategic Sites or Strategic Connections are being nominated in the Spuyten Duyvil area and therefore, it is not being recommended to NYSDOS for further inclusion in the BOA process at this time.

THE COMMUNITY PARTICIPATION AREA IN SPUYTEN DUYVIL encompasses the Study Area plus the residential community up to a line that includes West 230th Street and a line extending along the approximate trajectory of West 230th Street to the Hudson. On the

Figure 4. Harlem River BOA Boundary Map

east, the Community Participation Area is bounded by the eastern edge of Kennedy High School.

It became clear in the course of developing a potential list of Strategic Sites for nomination that all of the most logical sites for the BOA program were located in the Central Focus Area. The Spuyten Duyvil Focus area, although a spectacular location, lacked the right combination of characteristics for Strategic Sites and Strategic Connections for nomination to the BOA program at this time. Consequently, only the Central Focus Area and its Strategic Sites and Connections are being nominated for the next phase of the Harlem River BOA process through this report.

SECTION 2

Public Participation Plan and Techniques to Enlist Partners

BCEQ Water Conference

COMMUNITY PARTICIPATION PLAN: The Harlem River BOA project has encouraged residents of the four upland communities to add new specificity to the planning for their shared waterfront. What uses would draw them to it? How would they get there? How can the waterfront be developed to connect the four communities to each other, to new employment centers, and to future amenities? How will the underlying resource, the Harlem River, be protected? How can the waterfront change from posing a threat to public health to enhancing public health? Throughout the process, residents have been encouraged to think creatively and strategically about how brownfields along the waterfront can be a springboard for the revitalization of their neighborhoods and the river itself.

A Collaborative Approach to Urban River Management: The Harlem River BOA project was structured to give community-based organizations a leadership role in order to ensure that the public will remain engaged in the development of the waterfront from conception through implementation. In Step 1, BCEQ formed a steering committee that by agreement includes a majority of community-based, non-profit organizations with longstanding and diverse interests in the waterfront. This includes BCEQ, Manhattan College, NYC Soil and Water Conservation District, New York Restoration Project, Metro Forest Council, the Gaia Institute, and others. Many of the members of the Steering Committee were involved in planning this brownfields project, having worked with BCEQ on five Water Conferences, including three on the Harlem River. This committee was then supplemented with agency members, including representatives of New York State Department of State and Department of Environmental Conservation, NYC Parks, New York City Department of City Planning, the Bronx Borough President, and Bronx Community Boards 4, 5, 7, and 8, and formalized as the Harlem River Brownfield Opportunity Area Project Steering Committee. The Committee was involved in defining the scope and boundaries of the project and reviewing the draft of the report. Members contributed all of the concepts, technical data, and mapping. A smaller coordinating committee handled the day to day operations with the project manager, who was the point of contact with the state agencies.

The Harlem River BOA Step 2 process has entailed a robust community outreach program through the Harlem River BOA Steering Committee, events hosted by BCEQ and partners and the efforts of a not-for-profit community based organization as the outreach consultant, Friends of Van Cortlandt Park (FVCP).

Community Based Steering Committee: For the BOA Step 2 process, BCEQ convened an updated the Steering Committee consisting of all of the organizations that participated in the Step 1 BOA Steering Committee, and added some new economic development sector agencies, including the Bronx Overall Economic Development Organization and New York City Economic Development Corporation.

The Step 2 Steering Committee met in July 2012 to discuss the relationship with NYC Parks as the Program Manager. They met again in March 2014 to finalize the BCEQ – Parks Agreement. While the RFP, interviewing and hiring of the consultant team proceeded, BCEQ sought an appropriate community based organization to assist with the Public Participation Plan. Steering Committee meetings were held in September and December 2014. In 2015, the BCEQ Annual Meeting and Water Conference served as the Steering Committee's spring meeting, while another Steering Committee Meeting was held in July to review and seek feedback on the Draft Final Report.

Community Contact List: The community contact list for the Step 2 BOA process began with lists prepared under the Step 1 BOA phase and added names gathered through BCEQ and HRWG's more recent ongoing outreach efforts. The list continues to evolve and expand, with new names being added continually by FVCP as they conduct community outreach and by BCEQ, NYC Parks and the planning/design consultant team. The list has over 800 names as of Fall 2015.

Initial Kick-off Meeting: BCEQ's Mini-Water Conference, held on October 8th, 2014 at Roberto Clemente State Park, served as the forum for the public's initial kick-off meeting for the HR BOA Step 2 process. In the late afternoon, participants from BCEQ, the Harlem River Working Group (HRWG), Bronx Coalition for Parks and Green Spaces (BCPGS) and the BOA Steering Committee and consultant team were invited to explore the Harlem River in canoes in conjunction with the Wilderness Inquiry canoe event.

On the agenda for the evening session were the presentations by BCEQ, FVCP, ABB, and NYC Parks. The introduction and Part 1 focused specifically on explaining the intent and scope of the BOA Step 2, while Part 2 broadened the context to include BCPGS's fall event, coordination regarding the upcoming reopening of the High Bridge and concept study by NYC Parks regarding the potential for daylighting Tibbets Brook.

This event also served as a means of soliciting input on goals and objectives, opportunities and constraints of the Study Area, through a question and answer period, surveys and an interactive map. See "Brownfields in a Nutshell" in Appendix B, Community Participation Supplemental Information.

Public Informational Meetings and Notices: Two additional informational meetings held in the late winter/spring of 2015 served as the main venues for presenting and reviewing the Harlem River BOA current conditions, vision and goals and objectives. At the Bronx Speak-up in February 2015, the BOA team's consultant project manager participated on the Access Panel, discussing challenges to overcome to provide access to the Harlem River Waterfront.

Just as was the case for Step 1, the big event was the BCEQ's Annual Water Conference event, held at Manhattan College on March 18, 2015 devoted to "Going from Step 2 to Designating a Brownfield Opportunity Area along the Harlem River Waterfront in Bronx Community Boards 4, 5, 7 and 8." Advance publicity described the process to prospective participants. The general sessions entailed presentations on the Goals, Objectives and Vision Statement; the potential Strategic Sites for nomination; and the possibility of applying to designate the HR BOA area. Break-out sessions followed, organized by Community Districts to gain specific feedback on the draft vision, goals and sites proposed for nomination. Invitations went to the full mailing list and followed up with email blasts and phone messages. See Press Release and Report on the Water Conference Appendix B.

BCEQ Harlem River BOA on BCEQ website/ newsletter: The Harlem River Brownfield Opportunity Area is on the BCEQ website (http://www.bceq.org/category/projects/boa/) to share information and progress about the project with the public. It explains the program, schedule of meetings, reports issued, and news relevant to brownfields. As BCEQ is a membership organization, the web page is designed to allow the community to sign up for news alerts on the Harlem River, sign up for the mailing list or email list, and automatically updates the information. The BCEQ web page will also upload the BCEQ newsletter, which is more of an eNewsletter sent to the mailing list.

TECHNIQUES TO ENLIST PARTNERS: The majority of partner engagement has been done through BCEQ's connection to the Harlem River Working Group. The Harlem River is a Federal Waters Partnership waterbody and as such the working group has been closely engaged with Federal Agencies such as the Department of the Interior, NOAA and USGS. Contacts through HRWG and through BCEQ's NOAA grant have allowed us to continuously inform these partners about the progress of the BOA.

In terms of academic institutions, our strong partnerships with Manhattan, Hostos and Lehman colleges have included a wide range of faculty and student groups. Walter Matystik, Associate Provost at Manhattan, has been deeply engaged in BCEQ's Harlem River work since before the Step 1 process and Manhattan College has hosted the BCEQ Water Meeting since its inception. Additionally, BOA Steering Committee Co-Chair, Dart Westphal, is an adjunct instructor at Manhattan College. Lehman College, part of the CUNY system, hosted the Bronx Speak-up and a July 2015 BOA Steering Committee meeting.

As was planned during the Step 1 BOA process, the Step 2 phase has strengthened partnerships with the following stakeholders:

- MTA/MetroNorth, Amtrak, and private railroads
- NYS Office of Parks and Historic Preservation, including Roberto Clemente State Park
- Tenants and cooperative associations
- Parks Committee of each Community Board
- Planning/Land Use Committee of each Community Board

SECTION 3

Analysis of the Proposed Brownfield Opportunity Area

View looking north from Macombs Dam Bridge

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3.A COMMUNITY AND REGIONAL SETTING

COMMUNITY IN CONTEXT: COMMUNITY SIZE, POPULATION AND LOCATION

The communities that comprise the Harlem River BOA Community Participation Area are located within the Borough of the Bronx in the City of New York, which has a population of more than 8 million people. Bronx County itself is home to over 1.4 million people. From a regional perspective, the New York-Newark-Jersey City, NY-NJ-PA Metropolitan Statistical Area houses a population of approximately 20.1 million people according to 2014 census estimates.[1] The Combined Statistical Area that includes additional counties in New York, New Jersey and Connecticut is estimated at a population of 23.6 million as of 2014.[2] The region is by far the most populous in the United States and is an ethnically diverse area that is a major gateway for legal immigration. As of the 2010 census, the population within the Community Participation Areas is roughly 150,000. Of this BOA Community population, only approximately 5,000, namely the residents of River Park Towers, who constitute a single census tract, live within the BOA Central Focus Area.

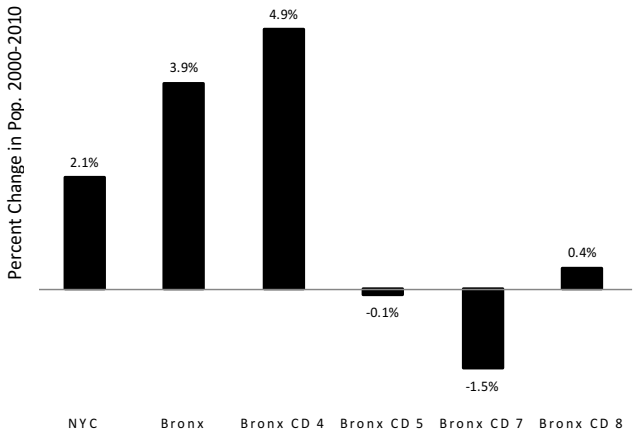

Figure 5. Changes in Population Graph, 2000-2010
(Source: 2000 and 2010 Census Data, NYCDCP Population Profiles and BOA Pre-Nomination Study, 2007)

KEY DEMOGRAPHIC INFORMATION AND TRENDS (COMMUNITY AND REGIONAL CONTEXT)

The Harlem River BOA includes portions of Bronx Community Districts (CDs) 4, 5, 7, and 8. Neighborhoods in the area include: Highbridge, Morris Heights, University Heights, Kingsbridge Heights, and Spuyten Duyvil; the Lower Concourse neighborhood adjoins the Central Focus Area on the waterfront to the south.

Between 2000 and 2010, both NYC and the Bronx grew in population. Three of the four community boards that include portions of the BOA, however, either lost population or gained less than borough-wide or city-wide figures. Both Community District 5 and Community District 7, which include BOA Community Participation Area neighborhoods Morris Heights, University Heights, and Kingsbridge Heights, lost residents. Bronx Community District 4, which includes Highbridge and the lower Concourse neighborhoods, on the other hand, outpaced both the Bronx and the City with a positive 4.9% change in population.

Throughout most of the BOA study area, Hispanics make up between 50% and 80% of residents. This corresponds to 53.3% in the Bronx as a whole, more than the 28.6% for New York City. These figures are consistent with out-migration of African Americans and Whites and in-migration of Hispanics, a trend that has been observed previously. The three census tracts in the Spuyten Duyvil neighborhood, however, stand out; in this portion of the BOA, White Non-Hispanics are about 70% of the population and Hispanics represent only about 15% of the population. If we look at one neighborhood more closely, we can get a sense of the communities that characterize much of the central focus area. In the University Heights neighborhood, 68% of residents are Hispanic and 42% of all residents are foreign-born.[4]

One demographic category where the Spuyten Duyvil area is markedly different from the majority of the BOA, is age. In the three census tracts in Spuyten Duyvil, between 25% and 50% of residents are 65 years of age or older. This is compared to 10.6% in the Bronx and 12.1% in New York City. As mentioned in the 2007 BOA Study, some of the residential developments in Spuyten Duyvil may qualify as “Naturally Occurring Retirement Communities” (NORC’s). The vast majority of the census tracts in the central focus area of the BOA have fewer seniors than borough- or city-wide.

Note: Community in Context and Key Demographics

1 U.S. Census Bureau, “Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014 – Metropolitan Statistical Area; and for Puerto Rico - 2014 Population Estimates,” accessed March 26, 2015.

2 U.S. Census Bureau, “Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014 – Combined Statistical Area; and for Puerto Rico - 2014 Population Estimates,” accessed March 26, 2015.

3 Refer to Appendix A for maps of 2010 census tracts in Bronx Community Districts 4, 5, 7, and 8.

4 This includes census tracts not located within the BOA. Source: DCP, Sustainable Cities Metro-North Study.

Table 1	Population 2010	% over 65	Hispanic Any Race	African American Non Hispanic	Asian Non Hispanic	White Non Hispanic
CD4 - High Bridge	146,441	9.10%	63.1%	32.3%	1.5%	1.5%
BOA Study Area						
Census tract 063*	5,280	7.6%	65.9%	24.0%	4.2%	3.7%
0189	7,752	6.1%	65.3%	31.0%	0.7%	1.6%
0193	5,461	8.6%	64.8%	33.1%	0.2%	0.7%
0199	8,154	7.7%	67.8%	29.3%	0.4%	1.4%
0201*	4,013	5.6%	61.6%	35.2%	0.4%	1.3%
0211	5,565	6.2%	61.7%	35.8%	0.4%	1.2%
0213.02	5,415	8.1%	59.2%	38.5%	0.6%	0.8%
0219	1,387	7.6%	73.8%	22.1%	1.0%	1.1%
CD5 - Morris Heights	128,200	6.7%	68.6%	33.7%	1.1%	12.9%
BOA Study Area						
Census tract 053	4,669	5.6%	43.4%	54.0%	0.2%	0.9%
0205.01*	6,996	8.1%	59.9%	37.4%	0.3%	1.1%
0205.02	1,764	16.5%	65.5%	31.2%	0.2%	2.0%
0213.01*	1,201	7.4%	79.2%	18.2%	0.1%	1.6%
0215.01	4,206	6.1%	64.6%	22.3%	4.5%	6.1%
0215.02	6,051	6.7%	67.9%	29.3%	0.2%	1.5%
0217	5,334	4.6%	52.3%	43.0%	0.7%	2.8%
0243	5,685	7.7%	69.0%	27.8%	1.0%	1.0%
0245.01	4,864	6.3%	76.3%	20.8%	0.3%	1.4%
0245.02	3,640	2.6%	72.4%	24.8%	0.2%	1.1%
0247	1,764	6.1%	46.6%	47.3%	1.9%	2.2%
0251	6,802	4.5%	67.3%	23.1%	7.0%	1.1%
CD7 - University Heights	139,286	8.9%	64.60%	21.40%	6.6%	17.0%
BOA Study Area						
Census tract 0239*	8,348	6.2%	75.6%	20.3%	0.8%	1.7%
0253	6,332	7.0%	74.1%	17.2%	5.3%	1.5%
0255	6,529	9.7%	77.2%	16.2%	3.2%	2.4%
0257*	1,912	6.7%	75.8%	20.4%	0.2%	1.9%
0261	1,932	17.3%	31.2%	55.6%	3.6%	8.3%
0263	6,984	13.3%	68.8%	17.3%	3.7%	8.7%
0265	6,942	10.0%	74.7%	12.0%	8.2%	3.2%
0267.01	4,037	8.5%	69.0%	9.4%	14.9%	4.4%
0269	3,777	8.9%	73.3%	19.5%	2.0%	4.1%
CD8 - Spuyten Duyvil	101,731	16.0%	44.90%		15.5%	45.50%
0267.02	7,040	7.8%	76.4%	14.4%	2.3%	5.8%
0273	7,942	8.9%	73.9%	15.8%	2.2%	7.0%
0293.01	1,875	26.3%	12.9%	7.2%	3.8%	74.5%
0293.02	5,052	26.6%	14.0%	8.6%	5.1%	69.9%
0301	1,304	48.6%	14.4%	8.1%	3.1%	72.5%
Bronx County	1,385,108	10.6%	53.5%	30.1%	3.4%	10.9%
New York City	8,175,133	12.10%	28.6%	22.8%	12.6%	33.3%
***partially within BOA Boundary**						

Figure 6. Demographics by Census Tract.

HOUSING TRENDS AND NEEDS (COMMUNITY AND REGIONAL CONTEXT)

New York City continues to face high pressure on its housing, indicated by extremely low rental vacancy rates, among other indicators. Under the de Blasio administration, affordable housing has gained even more prominence as one of the top City priorities. As emphasized in the OneNYC vision, "Housing is in high demand and short supply, as the population continues to grow and housing production lags demand."[1] By 2040, New York City's projected population of 9 million people will need a minimum of 3.7 million housing units within the five boroughs of the city.[2] Under the OneNYC plan, the City has set a goal of creating and preserving 200,000 affordable housing units and supporting creation of 160,000 additional market rate units by 2024. This initiative to create more affordable housing in the Bronx impacts the Harlem River BOA Focus Area and Community Participation Area, and a balance must necessarily be struck between these needs and those outlined in the Step 1 community goals - waterfront access, recreational opportunities, open space amenities and improved water quality.

BRONX HOUSING TRENDS AND NEEDS: Despite a 2.8% vacancy rate in 2013 (down from 4.1% in 2010) and a severe crowding rate of 6.5%, 42.7% of land across the borough possesses unused zoning capacity, i.e. it has been developed less than what the city's regulations allow. This unused development potential demonstrates a historic reluctance from the private sector to develop in the area. The borough's unemployment rate in 2013 was 14.6, nearly four percent higher than any other borough. Median rents in the Bronx were the lowest of any borough; more than 85% of renters in the Bronx paid less than $1,500 per month in 2013, compared to 68% across the city.[3]

In recent history, the majority of housing in the Bronx has been developed with public support. The Bronx has the highest share of subsidized housing in the city; 24.4% of housing units across the borough are publicly owned (e.g. New York City Housing Authority) or subsidized.[4] Thirteen percent of Bronx housing units receive some sort of public financing.[5] In contrast, only two percent of Queens rental units are in properties that receive financing from any of the programs covered in the Subsidized Housing Information Program (SHIP) database.[6] Of the borough's 390,348 rental units (as of 2011), 48,932 units were catalogued in the SHIP database. From 2011-2015, six properties with 4,200 units came to the end of their affordability requirements for all subsidy programs and could not renew at least one of their existing subsidy programs. Although the Bronx represents a concentration of projects that extend their affordability across the city, replacing these lost subsidies generally requires creative or complex financing arrangements. In total, 60 properties with 12,713 units had public affordability programs expire or were eligible to opt-out in the period from 2011 to 2015.[7]

Publicly owned and publicly subsidized apartments play an important role in the housing profile of the BOA and the Community Participation Area. River Park Towers (census tract 053 in CD5) is the only major residential use located on the river's edge. This Mitchell-Lama middle income housing development was constructed in 1974 and is home to more than 4,600 residents. The two towers, 42- and 44-stories, are located in the middle of RCSP. Several New York City Housing Authority (NYCHA) developments are also in the BOA Community Participation Area.[8]

HOUSING TRENDS, CONTEXT IN THE VICINITY OF THE HARLEM RIVER BOA: Despite its high unemployment rate, the Bronx's average annual wage of $47,000 is second highest behind Manhattan, supported by strong employment in the healthcare and wholesale sectors.[9] The market potential of the area — admittedly not driven exclusively by demand within the Bronx but also by adjacency and connectivity to the Manhattan market — is being recognized by the private sector. Investments in development sites

	2010 — Total Housing Units	Change 2000-2010	
	Number	Number	%
BX CD4	51,652	3,641	7.6
BX CD5	43,460	769	1.8
BX CD7	50,161	(418)	-0.8
BX CD8	44,164	1,087	2.5

Figure 7. Portrait of Housing in BOA Community Districts (Source: NYC Department of City Planning, "2010 Demographics Tables, Table PL-P2 CD: Total Population, Under 18 and 18 Years and Over by Mutually Exclusive Race and Hispanic Origin and Total Housing Units New York City Community Districts, 1990 to 2010," http://www.nyc.gov/html/dcp/pdf/census/census2010/t_pl_p2_cd.pdf.)

in the Bronx increased 88% from 2013 to 2014, to $129.7 million with over 40 transactions including 73 sites and almost 3 million buildable square feet. The majority of activity is in the South Bronx near the HR BOA, where 24 development sites traded with nearly 2 million buildable square feet in 2014, averaging $45 per buildable square foot.[9] CD1, immediately south of Pier 5 and the southern boundary of the Harlem River BOA, is a particularly active location for new development, which has implications for the population of potential waterfront users and for the market in the Harlem River BOA as well.

River Park Towers on Harlem River waterfront

Notes: Housing Trends Context

1 "One New York Vision," http://www1.nyc.gov/html/onenyc/visions/thriving/goal-3.html, accessed 6/3/2015.

2 Ibid.

3 Furman Center for Real Estate and Urban Policy, New York University, "State of New York City's Housing & Neighborhoods in 2014," http://furmancenter.org/research/sonychan.

4 Ibid.

5 As categorized in the Furman Center for Real Estate and Urban Policy at New York University, Subsidized Housing Information Program (SHIP) database.

6 Ibid.

7 Furman Center for Real Estate and Urban Policy, New York University, "State of New York City's Subsidized Housing: 2011," p. 51.

8 As noted in the BOA Step 1 study, there are four major public housing complexes within or adjacent to the BOA study area: River Park Towers (Mitchell Lama) and three NYCHA properties, Marble Hill Houses, Sedwick Houses and Highbridge Gardens. BCEQ, Harlem River Waterfront Study, p. 21.

9 Department of Labor statistics

10 Ariel Property Advisors, "Bronx Year-end Sales Report," January 2015, accessed at http://arielpa.com/download/APA-Bronx-2014-Sales-Report.pdf.

AREA'S ECONOMIC CONDITIONS: INCOME, DOMINANT EMPLOYMENT SECTORS AND UNEMPLOYMENT (COMMUNITY AND REGIONAL CONTEXT)

The majority of the BOA Central Focus Area, constrained between the Major Deegan and the Harlem River, currently has little economic activity. However, the River Plaza, a shopping center built in 2005 in Kingsbridge Heights, includes a Target, Marshall's and other national chain stores employing an estimated 600 people in total. Further south, several industrial uses, such as La Sala site and a cement plant, both in University Heights as well as the grocery store and educational complex in the River Towers, are the other employment nodes in the Central Focus Area. In the larger BOA Community Participation Area, Yankee Stadium and Gateway Mall at the Bronx Terminal Market (another large shopping center), the Veteran's Hospital and Bronx Community College employ thousands of Bronx residents, some of whom presumably live in the BOA. New residential and commercial development just south of the BOA may provide future employment opportunities for residents in the BOA study area.

The Bronx unemployment rate (14.6%) is nearly five percent more than New York City's (8.7%). Between 2000 and 2012, the unemployment rate in NYC as whole diminished 0.9%, from 9.6% to 8.7%. The Bronx unemployment rate, however, grew 0.3%, from 14.3% to 14.6%. In Bronx Community Districts 5, 7, and 8, unemployment rates diverged from borough trends and diminished. In Bronx CD4 unemployment did increase, but in the four community districts within the BOA community area the 2012 unemployment rate is still lower than borough-wide figures. CD8, where the Spuyten Duyvil focus area is located, includes wealthy (for the city as a whole) neighborhoods in Riverdale; unemployment here is lower than the city-wide figures.

Almost all census tracts in the Central Focus Area have median household income figures lower than those of the city as a whole; these numbers are generally characteristic of Bronx-wide figures. Within the BOA community area, however, there is a range of median household incomes. In census tract 063 in the Lower Concourse neighborhood (Community District 4), the median income is $63,051. In the Morris Heights (Community District 5) census tract 053 household median income is $16,582. This census tract is home to high-rise subsidized housing complex, River Park Towers.

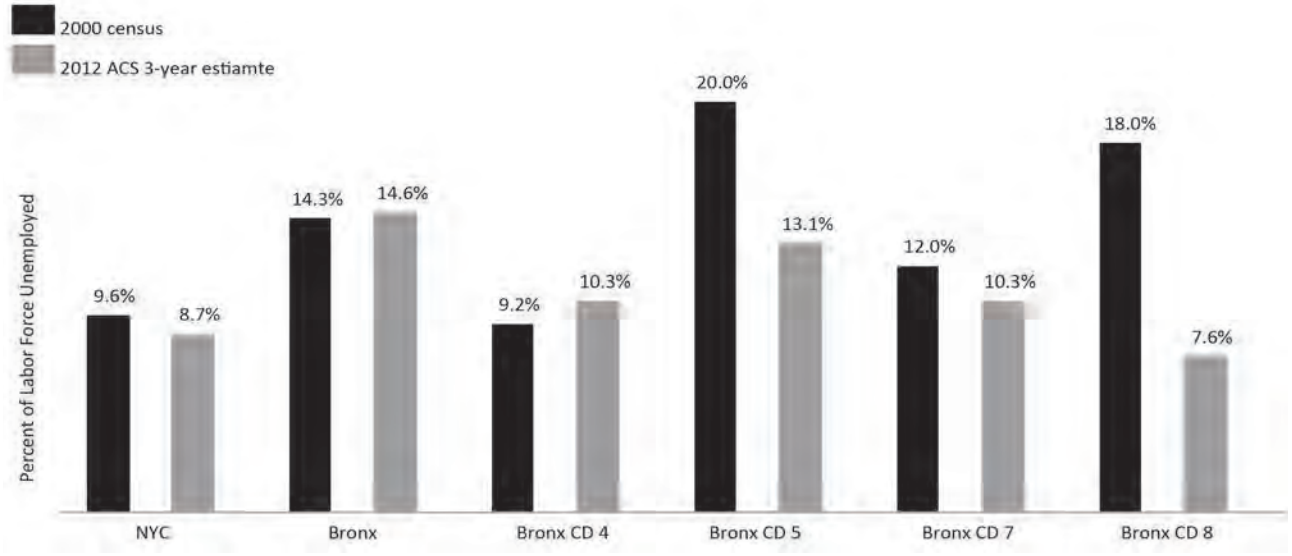

Figure 8. Unemployment 2000-2012
(Sources: U.S. Census Bureau 2000 Census and U.S. Census Bureau American Community Survey (ACS) 3-Year Estimates)

	Population 2010	Median Household Income (ACS 2012)	% renter occupied
Community District 4	146,441	$25,834.00	93.20%
BOA Study Area			
census tract 063*	5,280	$63,051	88.7%
0189	7,752	$24,000	92.7%
0193	5,461	$18,820	99.1%
0199	8,154	$24,226	91.3%
0201*	4,013	$31,582	100.0%
0211	5,565	$26,080	96.9%
0213.02	5,415	$23,855	94.9%
0219	1,387	$31,250	98.9%
Community District 5	128,200	$24,753	96.6%
BOA Study Area			
census tract 053	4,669	$16,582	100.0%
020501*	6,996	$24,615	95.3%
020502	1,764	$24,476	84.9%
021301*	1,201	$26,000	95.8%
021501	4,206	$34,485	99.3%
021502	6,051	$19,397	96.9%
0217	5,334	$17,207	98.5%
0243	5,685	$23,944	96.9%
024501	4,864	$27,144	90.4%
024502	3,640	$26,698	96.5%
0247	1,764	$51,250	100.0%
0251	6,802	$32,440	89.4%
Community District 7	139,286	$30,231	93.4%
BOA Study Area			
census tract 0239*	8,348	$22,404	95.7%
0253	6,332	$28,586	95.5%
0255	6,529	$21,889	96.5%
0257*	1,912	$31,728	87.8%
0261	1,932	$64,293	16.4%
0263	6,984	$26,576	98.2%
0265	6,942	$30,424	90.5%
026701	4,037	$26,935	97.6%
0269	3,777	$27,851	90.7%
Community District 8	101,731	$53,595	69.3%
census tract 26702	7,040	$38,765	93.9%
0273	7,942	$44,152	86.5%
029301	1,875	$105,682	27.0%
029302	5,052	$92,469	47.8%
0301	1,304	$78,036	59.3%
Bronx County	1,385,108	$34,300	80.1%
New York City	8,175,133	$50,711	69.0%

Figure 9. Economic Indicators For Harlem River BOA Communities

LAND USE HISTORY AND CURRENT STATUS[1]

The Harlem River was a stream flanked by high forested cliffs until the 1800s, when it became the object of radical interventions by transportation and civil engineers determined to make it viable for commercial navigation. Its tidal patterns and meandering course were the principal hurdles. Strong and variable currents in the upper river caused the river to silt up, leaving only a narrow channel between broad mud flats. The shoreline was cut and filled. The seven-foot channel was dredged to 18 feet and widened by 400 in Spuyten Duyvil. The river bent sharply around the peninsula jutting out from the Manhattan shore, so the soft marble rock was cut away to sever Marble Hill from Manhattan and re-attach it to the Bronx.

The Harlem Ship Canal, a 100-year project intended to make a shortcut from the Hudson to the Long Island Sound, manipulated the shoreline and the course of the river, but not its tides. The Harlem kept silting up, making it difficult for large ships – the kind that stood any chance of meeting the new competition from the railroad or that might have been developed in conjunction with it.

The first railroad came to the Bronx in 1840. In 1851 tracks were laid down along the Harlem shoreline, usurping about half of the available land on the waterfront fringe. Where the fringe was too narrow or even non-existent, trestles and tracks were installed on top of riprap. The railroad sealed off the waterfront from both sides, restricting access from the inland to a handful of crossings spread out over seven miles. It also made building and reaching new piers or docks nearly impossible.[1A]

This choked access to dwindling acreage restricted industrial development of the waterfront to small enterprises able to make use of small piers: boat building, coal storage and distribution, sand and gravel to supply the local building boom.[1B]

Spuyten Duyvil was an exception because of its proximity to the Hudson River and greater land. The Johnson Iron Works, a munitions factory, continued to operate there until the 1930s.

If heavy industry requiring acreage and access was precluded by the railroad, recreational development was left to thrive in response to the great recreational development on the Manhattan side. By the turn of the 19th century, the upper Harlem was a small boating mecca served by piers, boating clubs, and waterfront parks, joined by bridges used for promenades and viewing platforms. Kyle's Amusement Park south of the High Bridge and the Velodrome in Kingsbridge were major attractions. A plethora of stone step streets, many of them grand, were built throughout the area between 1890 and 1920 to bring people down from the upland. Commercial activity developed around the breaks or valleys where residential neighborhoods came closest to the river: e.g., Kingsbridge, Fordham, Burnside, Tremont, Highbridge.

But the recreational uses of the waterfront survived only as long as the there was sufficient public access from the upland Bronx neighborhoods, Manhattan, and the water. With the construction of the six-lane Major

Harlem River Rowing Late 19th Century
(Source: eastrivercrew.org)

Deegan Expressway in 1956, the six-lane Cross Bronx Expressway in 1963, the Harlem River Drive in 1964, and the closing of the High Bridge in 1970, the waterfront's strangulation was completed.

With the advent of containers, highway trucking eventually drove the railroads to bankruptcy and reorganization, forcing them to sell off land and rights, and to seek other revenue. One of the more lucrative sources of revenue was billboards aimed at the new highway. While old time residents recall the billboards of the railroad era being six feet high, invisible from the neighborhoods, the new ones now shot up

from the railroad yards along the waterfront hundreds of feet in the air, expanding to the size of the high-rise buildings whose views they now blocked….

The steep slope is also what enabled the City and State in 1974 to create Roberto Clemente State Park and the first (and so far only) residential development on the waterfront. Using air rights over the railroad, the city was able to build a platform to provide the infrastructure required by the new uses: broad at-grade connections with the local street and a school. The park was built on former industrial land, heralding the recognition by the State and the City that the future of the upper Harlem waterfront would be park and residential.

. . . In 2005 River Plaza became the first development in thirty years to bring the public to the waterfront, this time as employers and customers of a shopping mall instead of residents of a housing complex.

Notes: Land Use History

1 Land Use section excerpted from HR BOA Step 1 Report, *Harlem River Waterfront: Linking a River's Renaissance to it Upland Neighborhoods,* pp. 22-24.

1A Daniel Van Pelt, *Leslie's History of Greater New York*, (New York: Arkell, 1899).

1B Preservation Plan for the Harlem River: Columbia University Graduate School of Architecture Studio project, 2004. Also recollections from Robert Rothschild: "Colonial Sand & Gravel was north of the University Heights Bridge. The material would be brought by sailboat from the Long Island Sound to the entrance of the harbor, then transferred to a tug that would bring it to [Fordham Landing]."

COMMUNITY AND REGIONAL CONTEXT: TRANSPORTATION SYSTEMS

Most of the Harlem River waterfront is still severed from the neighboring Bronx communities by steep topography, I-87/MDE and Metro-North Railroad (MNR) tracks, two major transportation infrastructure resources that primarily serve through-trips. These transportation routes are used infrequently by local residents. A modest to high portion of housing units within the study area do not have a vehicle available,[1] as the rates of car ownership in Bronx Community Districts 4, 5, 7, and 8 are a respective 75, 74, 71, and 48 percent.

Traffic data obtained from the New York State Department of Transportation indicates that average daily traffic volumes along the I-87/MDE exceeded 107,000 vehicles, and that ten percent of these volumes consisted of heavy vehicles (i.e., trucks and buses).

View of waterfront and transportation infrastructure north of High Bridge

The Harlem River waterfront is very well served by commuter rail, an underutilized resource for the area: Metro-North Railroad (MNR) commuter rail stations in or near the BOA Focus Areas include the Spuyten Duyvil, Marble Hill, University Heights, Morris Heights, and Yankees/153rd Street Station. Daily commuter ridership at these Hudson Line stations is low, and with one exception, each has an average weekday ridership (boarding and alighting) totaling less than 200 passengers.[2] The exception is the Spuyten Duyvil station, which experiences more than 900 daily riders. The low ridership can be primarily attributed to the high cost ($6.50 for a one-way off-peak fare) for relatively short MNR trips within New York City as compared to the $2.75 MetroCard fare for subways and buses. To reach Metro-North destinations within the Bronx

that are on the on the Harlem Line as opposed to the Hudson Line that runs through the BOA Study Areas, it is necessary to go south to the 125th Street station in Harlem and then take the northbound Harlem line at high cost.[3] The new Yankees/153rd Street MNR station serves as a benefit for fans, as up to 6,000 riders use this station on game days. Train ridership reduces the parking and traffic demand in the vicinity of Yankee Stadium on game days. However, weekday ridership averages about 100 trips per direction, indicating that this station is not a primary transportation option for the adjoining community.

On the other hand, these Hudson Line MNR stations offer excellent reverse-commute potential as well as weekend access to points north. The MNR stations in the BOA area also offer potential for bringing more people to Harlem River waterfront destinations in the future.

NYCDCP's "Sustainable Communities in the Bronx" study noted that Bronx residents rely heavily on public transit to make their commutes, with about 65 percent using public transit daily, and local residents using buses more than other city residents.

Overall, MTA NYCT bus ridership has declined about seven percent citywide from 2009 to 2014. This decline has been attributed to increased traffic congestion that slows buses and results in unreliable service. However, Bronx bus ridership has increased by approximately two percent during the same period. The Bx 12, which is NYCT's second highest ridership bus route and first Select Bus Service route, operates along 207th Street in Manhattan, across the Harlem River on the University Heights Bridge and through the Bronx along Fordham Road; this route has experienced a seven percent increase in ridership since 2009. Similarly, average weekday subway ridership in the Bronx has increased by ten percent between 2009 and 2014, which is consistent with the citywide ridership increase. These trends highlight the growing importance of bus and subway service for Bronx residents. However, few bus routes stop near the Harlem River waterfront, while most subway stations are more distant (½-mile upland from the shorefront).

Bike ridership within NYC has more than doubled since 2009, and NYCDOT bike projects have totaled more than 200 miles of bike routes in NYC during this time. A current DOT initiative that favorably impacts the Harlem River waterfront is DOT's "High Bridge and Bridge Park Access – Pedestrian and Bicycle Connections" project, providing new dedicated bike lanes and wayfinding signage linking the High Bridge with the Harlem River waterfront at Depot Place.

NYCDOT's current bike map (2015) identifies a "potential future bike path" along Exterior Street the full length of the Harlem River waterfront north of RCSP, although there is no current agency movement to plan and implement this section. Regardless, developing the greenway remains a high priority for the Harlem River Working Group and this BOA study.

NYCDOT's latest initiative is Vision Zero, which seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. The 2015 Bronx Borough Safety Action Plan notes that pedestrian fatalities in the Bronx have fallen 55 percent in the past three decades, but have begun to rise in recent years, and are slightly higher than the citywide average. Priority safety corridors identified by NYCDOT within the Harlem River waterfront area include Fordham Road, 149th Street, and University Avenue.

As part of the Vision Zero initiative, the bridges across the Harlem River between the Bronx and Manhattan have been of particular concern for mobility and safety. DOT is responding with the Harlem River Bridges Access Plan to develop strategies for improving these conditions. Of the 16 bridges on the Harlem River (not all inside the limits of the HR BOA study areas), 13 of these have pedestrian facilities and 5 have bicycle facilities, including the recently opened Randall's Island Connector. A series of community workshops are being held on both sides of the river in 2015, with the intended results of generating priorities for short term, acheivable pedestrian-bike improvements, as well as helping to prioritize longer-term capital projects.

Routine water transportation to/from the Bronx and other locations within New York City does not exist, although a single ferry line currently operates a ferry service from Highlands, New Jersey for selected Yankee home games, and one tour line makes multiple trips per day around Manhattan via the Harlem River.

Other transportation and planning projects within the region that could have an effect on the BOA communities include:

- NYCDCP's Jerome Avenue Study, which seeks to revitalize a two-mile stretch of Jerome Avenue and support the surrounding neighborhoods in Bronx Community Districts 4 and 5. This is a key transportation corridor from which many of the public transit trips to the Harlem waterfront may originate.

- NYSDOT's Major Deegan Expressway Corridor Bridge Rehabilitation from 160th to 232nd streets.

Notes: Transportation Systems

1 U.S. Census Bureau, "2010-2012 American Community Survey 3 Year Estimates, Population Division – New York City Department of City Planning" (January 2014).

2 NYC Department of City Planning "Sustainable Communities in the Bronx" study noted a 2011 University Heights Metro-North weekday ridership of 40 inbound and 212 outbound passengers and that of Morris Heights at 36 inbound and107 outbound passengers daily.

3 Example peak fare for Morris Heights Station to Fordham Station was $25 as of 2015.

COMMUNITY AND REGIONAL CONTEXT: INFRASTRUCTURE

HARLEM RIVER WATERSHED: A healthy waterway is able to sustain ecosystems and natural habitats for animals and plants and to provide human populations with recreational opportunities ranging from boating, swimming and fishing. In order to provide all of these benefits, improving water quality is a key goal which both the NYS Department of Environmental Conservation (NYSDEC) and NYC Department of Environmental Protection (NYCDEP) have been working towards for all of the waterways around New York City, and of particular interest for this study, along the Bronx side of the Harlem River. The federal government also has a stake in improving the water quality of the Harlem River. In 2011, the Urban Waters Federal Partnership (UWFP) announced initiatives on seven pilot locations throughout the country, one of which was the Harlem River Watershed. The UWFP facilitates local government and community organizations' access to resources and technical assistance in an effort to improve water quality of local waterways.

The Harlem River is part of the Lower Hudson Sub-Basin. It is classified by the NYSDEC as a Class I saline surface water estuary. Due to low dissolved oxygen, PCBs and other toxins, floatables and CSO pollutants, the Harlem River's recreational use, aquatic life and fish consumption are known to be impaired. In 2014, NYSDEC proposed amending Parts 701 and 703 of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR) to require that the quality of Class I and Class SD saline surface waters be suitable for primary contact recreation, such as swimming. This is necessary to meet the "swimmable" goal of the federal Clean Water Act.

STORMWATER, WASTE WATER AND CSOs: Pollution of the Harlem River is attributed to several sources such as contaminated stormwater runoff, combined sewer overflows (CSOs), and contaminated soil on sites adjacent to the river. Both NYSDEC and NYCDEP have begun to tackle the pollution starting with NYSDEC's 2005 Consent Order requiring New York City to address the over 400 CSO release points of the NYCDEP municipal wastewater system. The Order follows the two-phased approach identified in the USEPA CSO Control Policy which calls for Nine Minimum Control Measures to minimize overflows and CSO pollution and the development of Long Term Control Plans to address water quality issues not fully addressed by the nine minimum controls. As a result NYCDEP is undertaking projects totaling $2 billion to capture about 75% of wet-weather overflows. The Order also requires NYCDEP to develop 11 Waterbody/ Watershed Facility Plans (WWFPs) to identify remaining water quality issues, evaluate CSO contributions to these problems and form the basis of subsequent Long Term Control Plans (LTCPs) to bring these waters into compliance with water quality standards. The Harlem River is included in the East River and Open Waters

Combined Sewer Overflow near RCSP

WWFPs.

Sewer Systems: The HR BOA Central Focus area has both storm sewers carrying stormwater run-off directly to the river and combined sewer systems. Combined systems are designed to transport sewage, industrial wastewater and rainwater runoff in the same pipes to wastewater treatment plants.

Combined Sewer Overflows: During periods of heavy rainfall or snowmelt, the volume of wastewater traveling through a combined sewer system can exceed the

capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, lakes or other water bodies. These overflows, called combined sewer overflows (CSOs), contain not only stormwater but also pollutants such as untreated human and industrial waste, toxic materials and debris. Stormwater may also contain pollutants, including oil, grease and toxic substances, picked up as rain washes across roads or fields. These pathogens, solids and toxic pollutants may be discharged directly to local waters when it rains, resulting in a discharge that exceeds water quality standards. They pose risks to human health, threaten aquatic habitats and life, and impair the use and enjoyment of waterways.

Exposure to polluted water from CSOs can cause waterborne infections including hepatitis, gastroenteritis, as well as skin, wound, respiratory, eye and ear infections. Although, generally, waterborne diseases result from ingesting contaminated water, they may also be contracted through inhalation of water vapors, eating contaminated fish and shellfish, and swimming. The most common symptoms are diarrhea and nausea. The impacts are not limited to adverse human health effects; CSOs can cause beach closures, affect fish survival, and result in shellfish bed closures and the destruction of aquatic life. They can also limit recreational use of important and beautiful natural resources. Data for New York State in 2008 indicate that of the 138 beaches that had beach closures or advisories about water quality, approximately 5 percent were determined to be directly due to CSOs. The largest CSO in the City, which discharges into the Harlem River, is in Bronx Community Board 8. Outfall WI-056 has the largest in terms of annual CSO volume, and has the third largest outfall subcatchment area, which occupies 2,114 acres in the northwest Bronx.

New York State Department of Environmental Conservation (DEC) issued a public notice for a draft State Pollutant Discharge Elimination System (SPDES) Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s) owned or operated by the City of New York. According to the notice and accompanying fact sheet, discharges to surface waters from both public and private property via MS4 outfalls owned or operated by the City, as well as discharges to surface waters from municipal operations and facilities that drain via overland flow, would be authorized under the terms of the permit (draft SPDES Permit No. NY-0287890). The Draft Permit applies to the approximately 40% of the City's land area that is served by the MS4 or by direct drainage, with the rest of the City served by the combined sewer system.
The City's sewer system includes over 7,500 miles of sewer pipes of varying size (consisting of combined, sanitary and separate storm sewers) and approximately 148,000 catch basins. Every year, New York City has approximately 45 inches of precipitation, generating an average of 165 billion gallons of stormwater runoff. Approximately half that rainfall/snowmelt makes its way into the City's combined sewer system, with much of the balance flowing directly into surrounding waterways through the City's MS4. Currently, DEP's separate sewer outfalls are incorporated into the SPDES permits for the 14 wastewater treatment plants. The Draft Permit, for the first time, implements City-wide MS4 system requirements to manage urban sources of stormwater runoff into the MS4.

NYC Green Infrastructure Program: New York City's Green Infrastructure Program began in September 2010 with the release of the *NYC Green Infrastructure Plan*, kicking off a multiagency effort led by DEP, along with NYC Parks and DOT. Under this program, the City is constructing and maintaining Right-of-Way bioswales and Stormwater Greenstreets (SGSs) on city-owned property such as streets, sidewalks, schools, and public housing.

To date there have been no Green Infrastructure program installations in the Harlem River BOA Focus Area or its upland sewershed drainage areas, though these strategies could be beneficial in some drainage areas outletting to the Harlem River. DEP also offers a grant program for private property owners in combined sewer areas of New York City. Eligible projects include green roofs, blue roofs, rain gardens porous pavement and rainwater harvesting. Since the BOA areas are served by combined sewer systems, private property owners within the BOA are eligible to apply for this grant funding.

NYC Community Parks Initiative: NYCDEP is partnering with NYC Parks on the new Community Parks Initiative (CPI), a targeted capital investment program to reconstruct parks in underserved communities; DEP will cover green infrastructure construction costs at CPI sites. Since the Harlem River BOA from the 145th Street Bridge to the University Heights Bridge is within the limits of the CPI, this initiative could offer possibilities to improve stormwater runoff in upland parks in areas that overflow into the Harlem River through already established city programs.

COMMUNITY AND REGIONAL CONTEXT: NATURAL FEATURES

> *The Harlem River Valley is a stunning remnant of wilderness in the midst of New York City: a river detour through a forested gorge. This arcadian setting is home to a collection of public works marking the city's ascendance to global metropolis – from the Roman-style aqueduct that brought water from the Catskills to the gravity-defying helix of viaducts and ramps built to tie the urban expressways. Skimming the river and soaring hundreds of feet above it are no less than fifteen bridges that transformed Manhattan into Greater New York. Hugging the narrow shoreline is the railroad, the mode that fueled the city's growth by linking it to its suburbs and the country's interior. All of this makes the Harlem River Valley one of the world's great urban landscapes.*[1]

The natural features of the Harlem River waterfront can best be understood in the context of the Hudson-Raritan Estuary System. As New York City has burgeoned over the past four centuries as one of the world's largest waterfront cities, its five boroughs now encompass over 520 miles of shoreline. The Harlem River's geographic context, positioned within the New York Harbor Estuary system as a link between the East River and the Hudson River, set the stage for its engineered reconfiguration in the 19th and early 20th century to its current alignment.

The Harlem River Valley offers spectacular views from the waterfront and from bridges with pedestrian access, particularly in the areas where forested parks (e.g. Highbridge Park and Inwood Park in Manhattan) flank the river, and on the Bronx side, the hill topped by the Hall of Fame of Great Americans can be seen for miles around. Where the Harlem River joins the Hudson at Spuyten Duyvil, the views also open up to the expansive Hudson River and to the unusual geological feature of the Palisades on the New Jersey side of the river.

The relative flatness of this valley downslope from the steep ridge has lent itself to becoming a transportation corridor over the past century and half. Both the steepness of the pre-existing grade change (approximately 150 feet in many areas) and the vehicular and rail transportation corridors still serve to isolate the northern reaches of the Harlem River from the upland neighborhoods.

Despite the environmental degradation that the waterfront has suffered over the past century or more, it is still a corridor full of spectacular views, green space, geological interest and ecological restoration potential.

Notes: Natural Features

1 BCEQ, "Harlem River Waterfront," (2007), p. 3.

View looking southwest from Marble Hill

3.B INVENTORY AND ANALYSIS

View of Harlem River waterfront from University Heights Bridge, domed Stanford White-designed Bronx Community College Library beyond

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EXISTING LAND USE AND ZONING

EXISTING AND ADJACENT LAND AND WATER USES: As Figure 13, the Land Use map, shows that parks, transportation, undeveloped land and industrial and manufacturing uses make up the bulk of the land uses along the Harlem River waterfront. The Property Report Table in Appendix C provides more detailed information about individual properties.

EXISTING ZONING DISTRICTS AND OTHER RELEVANT LOCAL LAWS OR DEVELOPMENT CONTROLS GUIDING LAND USE: Zoning designations in the Harlem River BOA Central Focus area range from Manufacturing (the vast majority of the study area), to multi-family Residential on very limited numbers of sites, to Commercial for the River Plaza Mall in Kingsbridge.

By Community District, the overall summary of zoning is:

- CB4—Most land in the BOA Focus Area is M2-1, with a few very small DOT-owned right-of-way lots zoned as R-7. According to DCP, these lots are part of a larger R-7 zone that predates the 1974 extension of the M2-1 zone north of Macombs Dam Bridge. Portions of Macombs Dam Park and Mill Pond Park are mapped parkland.
- CD5- The Focus Area is a combination of M1-1 and M2-1 for most of the transportation uses (e.g. Highbridge Yard and rail lines), along with some Parkland zones.
- In CD7, the La Sala site just south of the University Heights Bridge was rezoned as R7-2 in 1989 to encourage its use as residential. To the north of the bridge, the waterfront area is currently zoned for manufacturing (M2-1 and M3-1) and is largely undeveloped. Further north, the CSX sites carry M1-1 zoning, and River Plaza Mall sites in Kingsbridge are zoned C8-3.
- CD8—In CD8, the block between 225th and 230th Street in the study area is zoned M1-1.

ZONING DESIGNATIONS RELEVANT FOR THE HARLEM RIVER BOA:[1]

R-7 zones, which permit medium-density residential development, encourage lower-scale apartment buildings on smaller zoning lots and taller buildings with less lot coverage on larger lots. Alternatively, developers may choose the optional Quality Housing regulations to build lower buildings with greater lot coverage.

M1: Consists generally of light industrial uses, often serving as buffers between commercial and residential and heavier manufacturing. Strict performance standards apply. Retail and office use is permitted. (Target retains this zoning classification. Most of the active railroads are under this category.)

M2: Allows uses that permit more noise and vibration and have lower performance standards. In most cases industrial uses do not need to be entirely enclosed.

M3: Allows heavy industry that usually generates traffic, noise, odor and pollutants, though with some performance standards. Typically located on waterfronts and buffered from residential areas by distance or another manufacturing district. (The six small sites on the waterfront north of University Heights Bridge are an M-3 zone, although none are believed to be carrying out activities currently that fit this description.)

Waterfront zoning, enacted in 1993 and updated in 2009, sets forth zoning provisions that aim to maximize the public's access to and enjoyment of the city's waterfront, while enabling appropriate development along the shoreline. These regulations address the form, size and location of new development, the amount and design of waterfront public access areas required, and visual corridors to the waterfront. Waterfront zoning requires public access for the majority of waterfront residential and commercial developments (low density residential districts and heavy commercial and industrial uses are exempt). The Fordham Landing sites if developed for residential use would need to comply with these zoning provisions and provide a publicly accessible waterfront esplanade.

New York City Coastal Zone; The Harlem River BOA falls entirely within the boundary of the New York City Coastal Zone, which is generally delineated by the steep slope or the "nearest legally mapped street at least 300 feet landward of the Mean High Tide." The coastal zone establishes the City's policy for development and use of the waterfront. Consistency with the policies of the

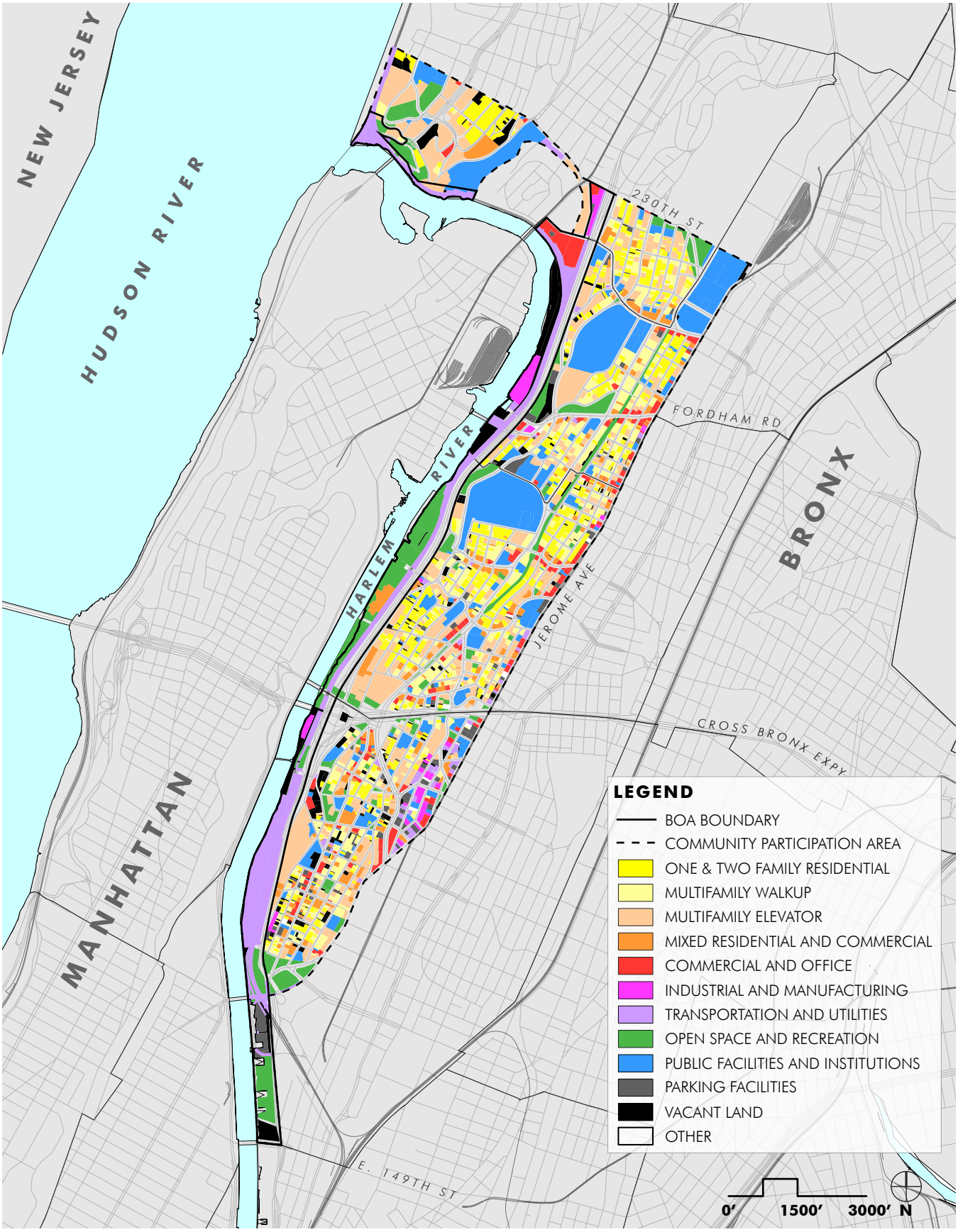


Figure 10. Existing Land Use Map (Source: ABB based on NYCDCP data)

NYC Waterfront Revitalization Program is required for all discretionary actions.

SPECIAL NATURAL AREA DISTRICT (SNAD): In the Spuyten Duyvil Study Area, the Riverdale Special Natural Area District includes areas that are within the BOA Focus Area. As the Step 1 Report summarizes:

> *It is a special zoning district overlay that provides added protections for an area's natural features, without changing or altering the requirements of the underlying zoning. In most cases, a development, site alteration, or enlargement must be reviewed by the Department of City Planning to evaluate impacts on natural features. The SNAD was mapped in Riverdale in 1975 and covers approximately one-half of Bronx Community District 8.*

RELEVANT REZONINGS: Since the date of the 2007 BOA Report, several rezonings, either located within the BOA Community Participation Area or nearby, are deemed relevant. These include:

- ***West Fordham Road / University Heights:*** The area south of the University Heights Bridge (Zone R7-2) was rezoned in 1989. In 2008, West Fordham Road immediately west of I-87/the MDE was rezoned to permit expanded commercial development. A commercial overlay district now covers most of the length of West Fordham Road between Jerome Avenue and the Major Deegan. The waterfront parcels north of the University Heights Bridge are still zoned for manufacturing, limiting potential development.
- ***161st Street/River Avenue Rezoning:*** Though not located within the Central Focus Area of the Harlem River BOA, the 2009 rezoning of 161st Street and River Avenue near Yankee Stadium creates opportunity for expanded residential and commercial development in close proximity to the Harlem River BOA within the Community Participation Area. The objectives of the rezoning include strengthening the 161st Street corridor, encouraging the development of new affordable housing by including an inclusionary zoning provision in portions of the rezoned area, and directing new development to areas with transit access. The updated zoning includes a new zoning district (C6-3D) that aims to encourage development along the elevated rail and to spur construction of affordable housing on 161st Street by employing the Inclusionary Housing Program (IHP). The IHP promotes economic integration in targeted areas of the city undergoing particularly intense residential development. Developers are offered an optional FAR bonus in exchange for creating or preserving affordable housing on-site or off-site. The principal beneficiaries of the program are low-income households.

Adjacent Rezonings: Lower Concourse Rezoning and the Special Harlem River Waterfront District (SHRWD): In 2009, the City successfully rezoned areas adjacent to the southernmost portions of the Harlem River BOA. The Special Harlem River Waterfront District sanctions high-density development south of Mill Pond Park and north of 138th Street, east of I-87/MDE. Zoning changes allow residential and commercial towers to rise up to 400 feet on lots 100,000 square feet or larger. In 2014, the Office of the Bronx Borough President released an announcement that suggested that SHRWD could produce as much as $500 million in new development, 3,544 new jobs, and more than 1,500 new housing units.[2]

ECONOMIC DEVELOPMENT DESIGNATIONS AND ZONES:

Portions of the BOA Central Focus Area are situated within Federal Empowerment Zone: Bronx 5 and Federal Empowerment Zone: Bronx 4. Federal Empowerment Zones are designated areas of high poverty and unemployment that benefit from tax credits provided to businesses within their boundaries.[3] The extent of these zones along the Harlem River is roughly between West Tremont Street to the north and to 149th Street to the south. No funds new have been available to businesses in the area since the program sunset two years ago. Funds are still circulating from previous disbursements, but benefits are no longer available to access by new applicants or recipients.[4]

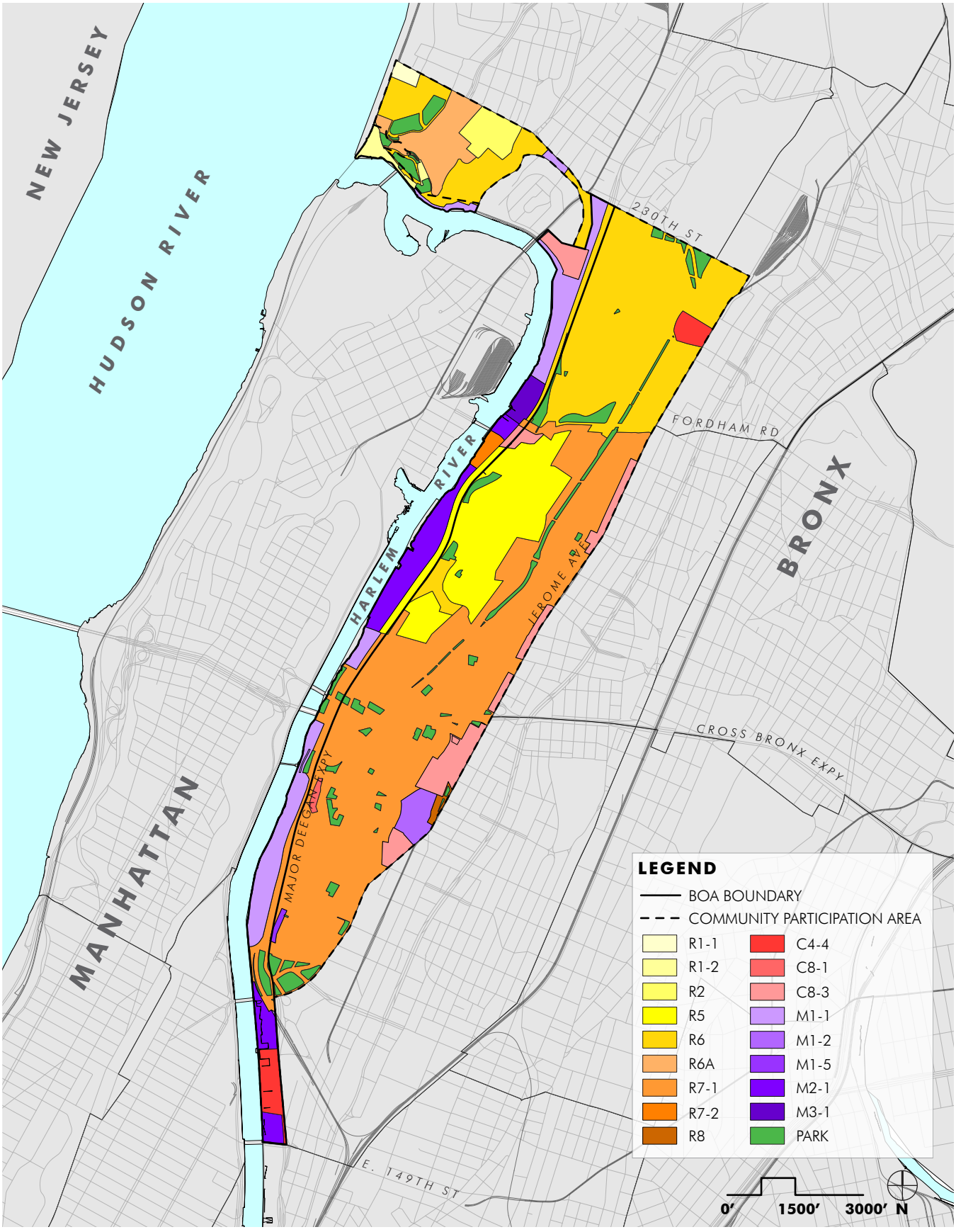


Figure 11. Existing Zoning Map (Source: ABB based on NYCDCP data)

Notes: Existing Land Use and Zoning

1 The Zoning Designation section is based on excerpts from the BCEQ, “Harlem River Waterfront” study, as well as information supplied by NYCDCP.

2 Bronx Borough President, “Special Harlem River Waterfront District,” http://bronxboropres.nyc.gov/pdf/bronx-bp-waterfront-report.pdf (n.d.).

3 U.S. Department of Housing and Urban Development, “Empowerment Zones,” accessed September 22, 2015, http://portal.hud.gov/hudportal/HUD?src=/huNYC Parksograms/empowerment_zones.

4 Communication between JLP+D and BOEDC.

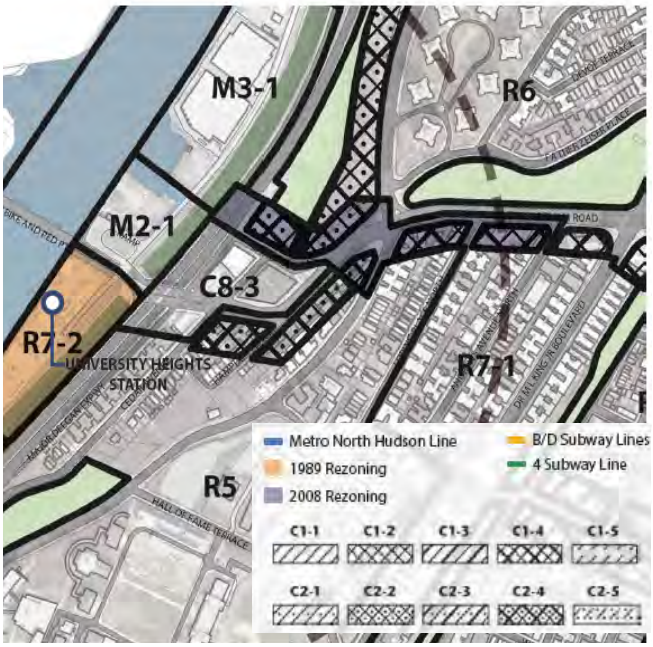


Figure 12. Zoning in University Heights Area
(Source: DCP Sustainable Cities Metro-North Study)

BROWNFIELD, ABANDONED AND UNDERUTILIZED SITES

KNOWN DATA ABOUT THE ENVIRONMENTAL CONDITIONS OF THE PROPERTIES IN THE AREA: Early in the BOA Step 2 process (fall 2014), consultants conducted a preliminary site assessment screening for a total of 63 properties of interest in the proposed Harlem River BOA; of these, 51 were categorized as having slight potential for contamination, eight parcels with moderate potential, and one parcel with high potential.

Subsequently, the environmental investigation delved further into the environmental concerns and potential for contamination on a subset of 29 tax lots in the Central Focus Area. These 29 tax lots have been identified as potential Strategic Sites for nomination to the BOA program. (Note that some individual tax lots may be considered a Strategic Site in-and-of-themselves, while in other cases, multiple tax lots may be aggregated into a "Strategic Site.") The tax lots within the potential Strategic Sites were selected for this round of environmental investigation based on criteria developed by the BOA Steering Committee in collaboration with the consultant group.

The Draft Environmental Report indicates that of the 29 tax lots investigated, environmental concerns were identified either onsite or within a 400 foot buffer for all of them. Of these 29 lots, 20 have environmental concerns that were identified onsite and the remaining 9 have environmental concerns that were identified within a 400 foot buffer. All of these properties, therefore, meet the definition of a "brownfield" set forth in the BOA guidance: "any real property, the development or reuse of which may be complicated by the presence or potential presence of a contaminant."

Underutilized site north of High Bridge acquired by NYC Parks

SITE PROFILES: Profiles of all 29 underutilized tax lots which are candidates for nomination as Strategic Sites can be found in the Strategic Site Profiles section, Appendix E. Numbers shown on the Existing Site Status Maps on the following pages correspond to Site Profile numbers in the Appendix.

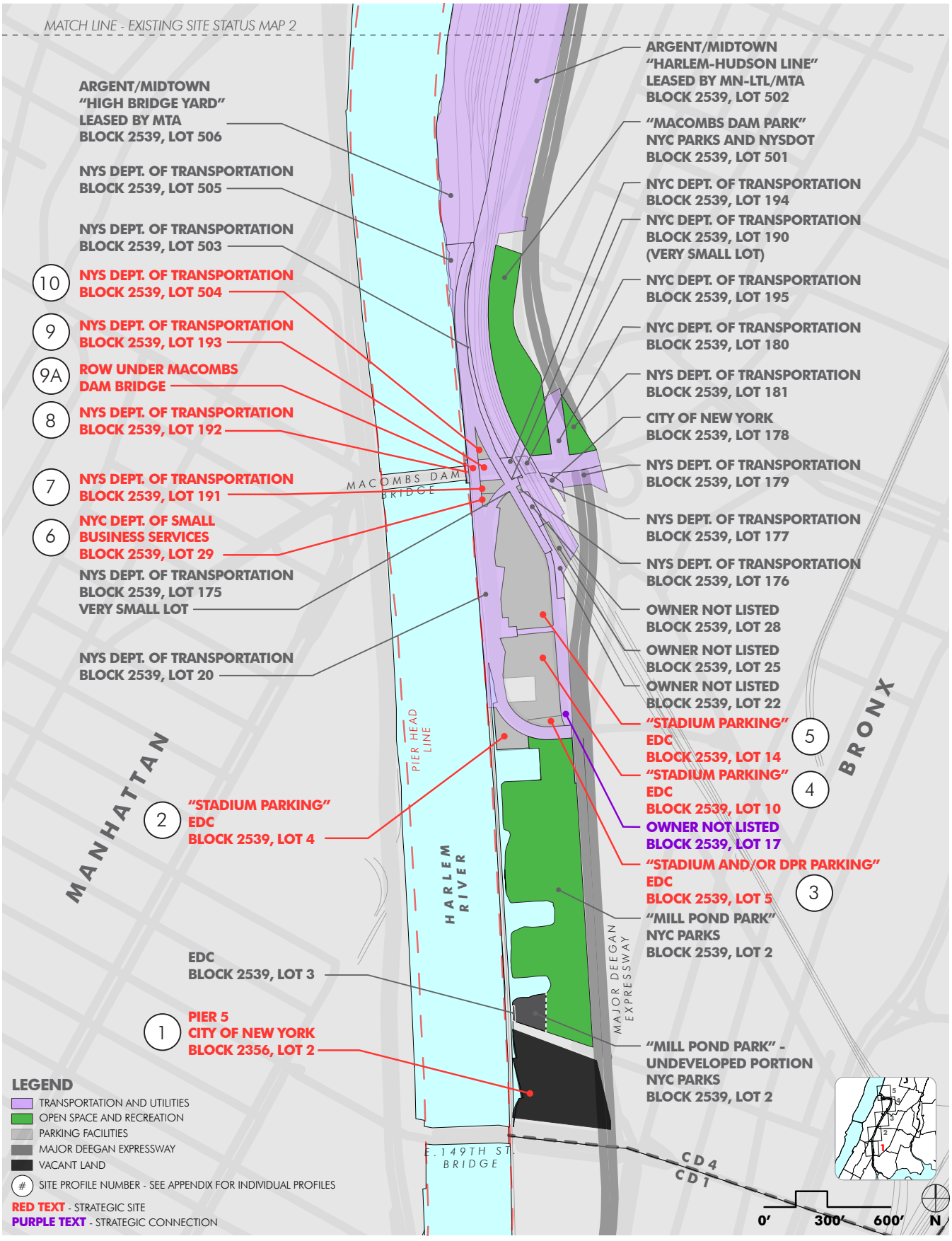


Figure 13. Existing Site Status Map 1 (Source: See Land Ownership/Jurisdiction Methodology in Appendix F)

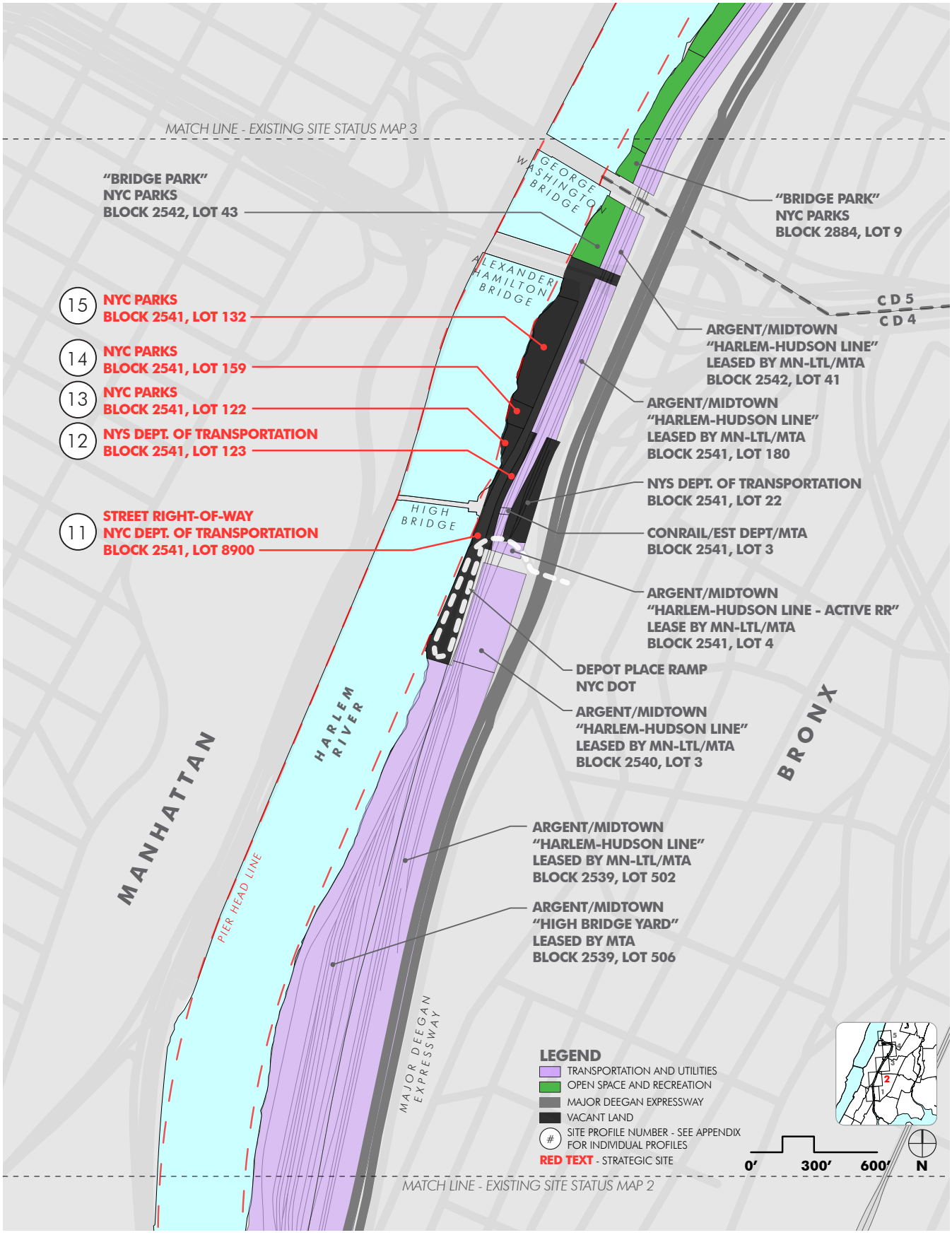


Figure 14. Existing Site Status Map 2 (Source: See Land Ownership/Jurisdiction Methodology in Appendix F)

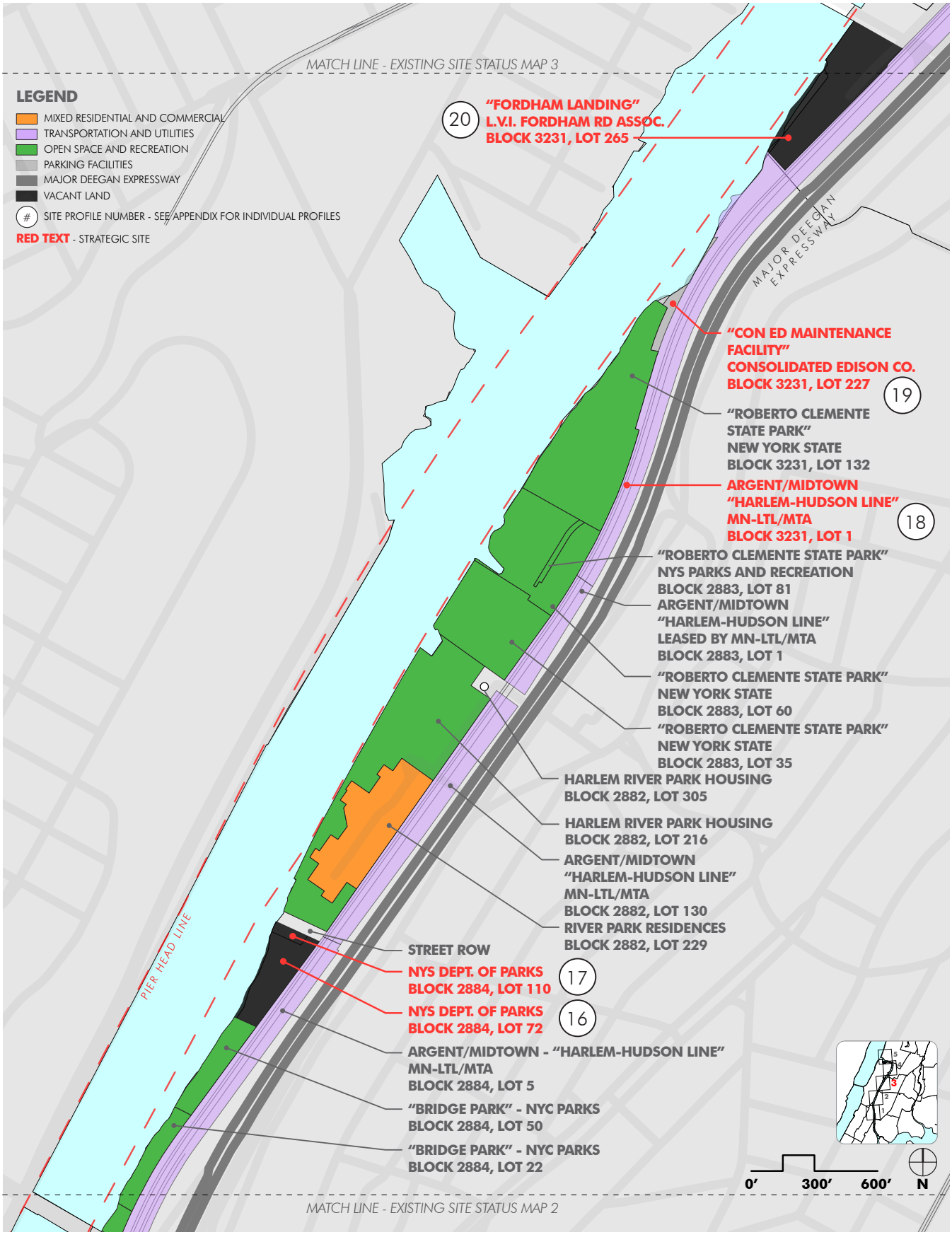


Figure 15. Existing Site Status Map 3 (Source: See Land Ownership/Jurisdiction Methodology in Appendix F)

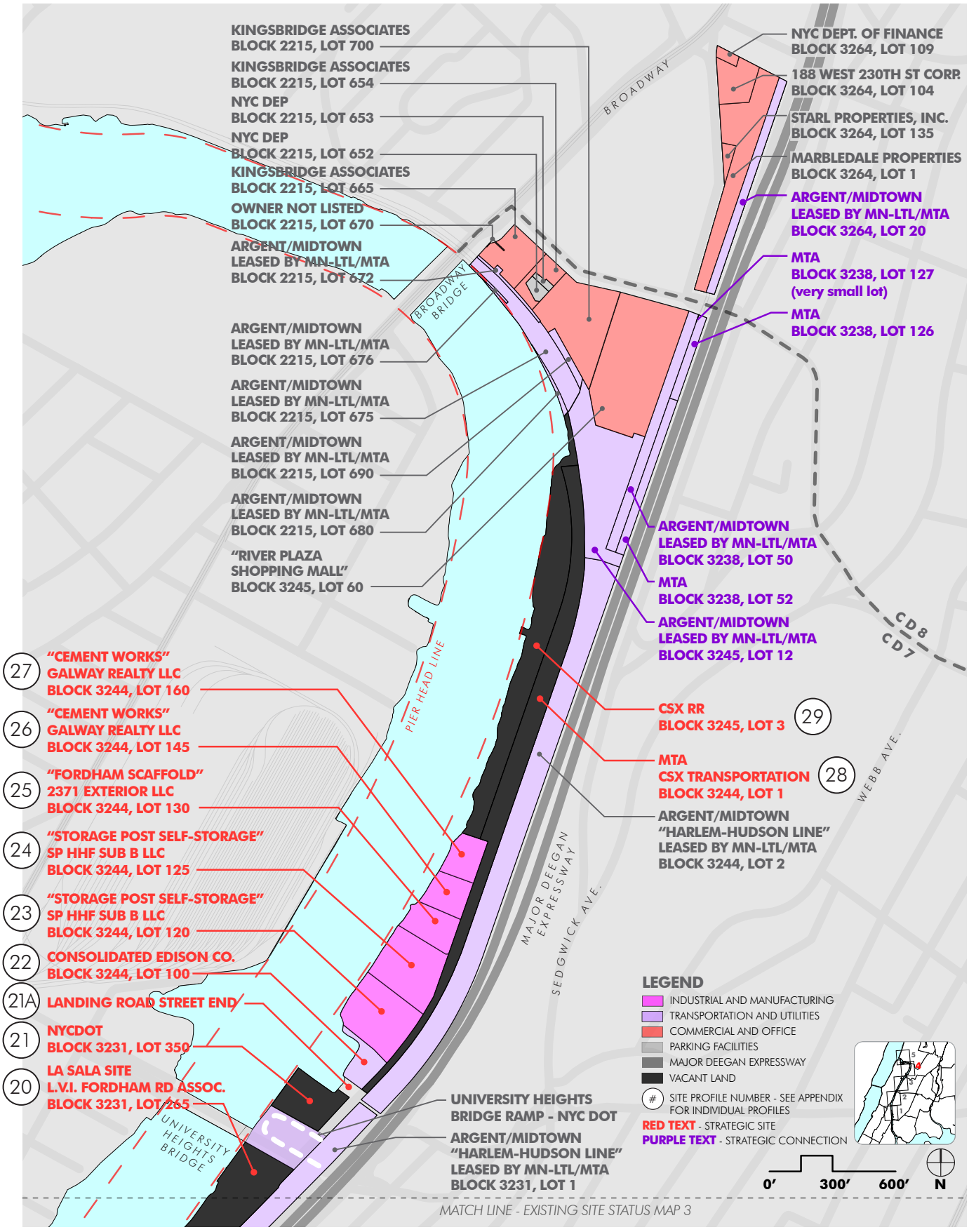


Figure 16. Existing Site Status Map 4 (Source: See Land Ownership/Jurisdiction Methodology in Appendix F)

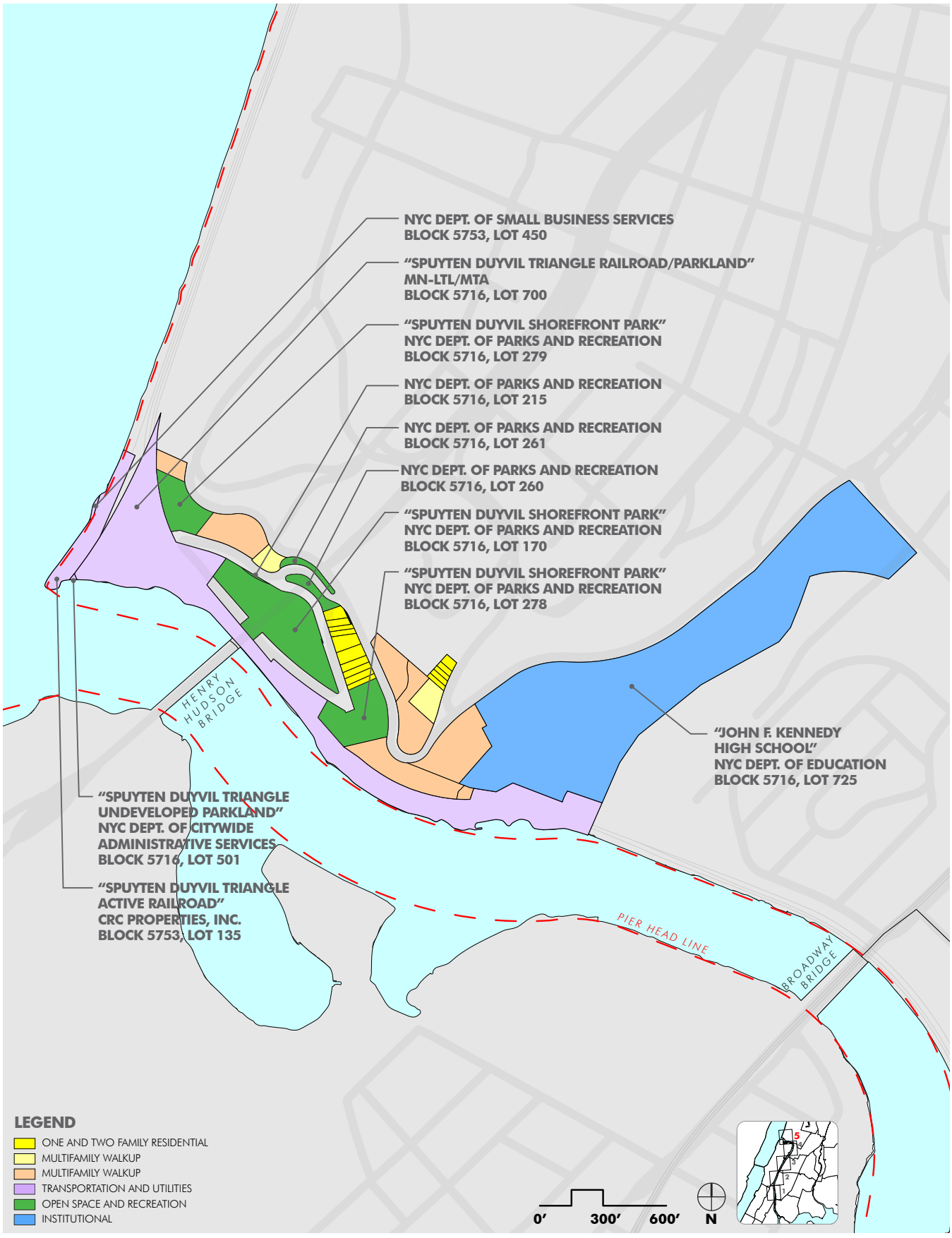


Figure 17. Existing Site Status Map 5 (Source: See Land Ownership/Jurisdiction Methodology in Appendix F)

LAND OWNERSHIP AND JURISDICTION PATTERNS

LAND OWNERSHIP/JURISDICTION PATTERNS; STUDY AREA OVERVIEW:[1] The Harlem River BOA Central Focus Area spans over 4 miles of waterfront plus a five block northern extension between 225th-230th Streets, while the Spuyten Duyvil Study Area adds another mile of shoreline. It takes in the lion's share of the Harlem River shoreline and encompasses the majority of the western boundary of the Bronx. The total acreage within the Harlem River BOA Central Focus area is 183 acres, excluding I-87/MDE, while the acreage within the Spuyten Duyvil Central Focus Area totals 19 acres.

Fragmentation characterizes the land ownership/jurisdiction pattern in the study area, which is one of the major challenges that must be overcome in order to achieve the vision of an "ecologically healthy, recreation-oriented waterfront district providing a continuous greenway." In total there are 95 parcels in the Central Focus Area and 11 in the Spuyten Duyvil Study Area (the Spuyten Duyvil Area also includes 20 single- and multi-family residential properties that have not been inventoried individually, though their locations are shown on Map 5). These are owned and/or controlled by a diverse array of different parties, including railroad entities with extremely complicated histories, relationships and business arrangements; several different state and municipal agencies; quasi-private, quasi-public entities such as state authorities and public benefit corporations; and private owners.

Railroad ownership/lease arrangements dominate a substantial portion of the land area, with the remainder in diverse ownership and land uses.

LAND IN PUBLIC OWNERSHIP/JURISDICTION: Publicly owned lands, including state and municipally-owned parks, streets, rights-of-way and undeveloped properties make up the majority of the non-railroad parcels. Private property is the exception rather than the rule in the BOA Central Focus area, in terms of number of parcels, average sizes of parcels and overall acreage. On the positive side, existing parks and/or park properties now blanket much of the waterfront and adjacent areas in the Central Focus Area, with RCSP (NYS), Mill Pond Park (NYC), Macombs Dam Bridge Park (NYC) all developed and functioning as recreational areas and the northern portion of Bridge Park (NYC) recently opened. The waterfront between Depot Place and Bridge Park is mostly aggregated under NYC Parks jurisdiction and ready for revitalization as a public park as soon as funding can be identified for the Harlem River Promenade.[2] To the north of West Fordham Road/University Heights Bridge, a City-owned parcel (Block 3231, Lot 350) is poised to become Regatta Park, with funding already allocated and design expected to commence this year through NYC Parks's Design Excellence Program. It is anticipated that this work will provide for basic site access and stabilization, for future phases to build upon. In the Spuyten Duyvil Focus Area, Spuyten Duyvil Shorefront Park is City-owned and under NYC Parks jurisdiction.

In Community District 4, most of the waterfront is City-owned property under the jurisdiction of New York City Economic Development Corporation (EDC). Surface parking lots north of Mill Pond Park are in the EDC asset management portfolio (Block 2539, Lot 4, Block 2539, Lot 10, and Block 2539, Lot 14), functioning as parking leased for the Stadium Tennis Center or for game-day short-term parking leased and managed by Bronx Parking Development Corporation. South of Mill Pond Park, the undeveloped Pier 5 site is currently City-owned and under NYC Parks jurisdiction.

ROADS AND VEHICULAR PARKING: Publicly-owned, paved vehicular and parking infrastructure is especially densely concentrated in the area from Macombs Dam Bridge south to Mill Pond Park, covering over 15 acres of waterfront and adjacent lands. This vehicular infrastructure is largely devoted to vehicular circulation and parking for events at Yankee Stadium. Beneath and between the roadway infrastructure are the parking lots under the ownership/jurisdiction of NYCEDC that are leased to private concessionaires for game-day parking, as well as some year-round use for the Stadium Tennis Center at Mill Pond Park.

Near these lots, on and off-ramps take up significant real estate, and are dedicated primarily to facilitating special event traffic flows. This dense vehicular infrastructure is impervious, exacerbating polluted stormwater runoff and intensifying urban heat island effects. It is also obstructionist to pedestrians and cyclists seeking waterfront and park access and upland connections, overall interfering with the Harlem River BOA's goal of establishing a linear greenway along the entirety of the waterfront.

In addition to the paved infrastructure in public ownership/jurisdiction in the BOA study areas, it should be noted that there are also two undeveloped, mapped street ends that meet the waterfront. One is East 150th

Street, which extends west beyond the Major Deegan/ Exterior Street to the shoreline between Mill Pond Park and Pier 5. The other unmapped street end is Landing Road, which is of interest since it adjoins the NYC Parks lot just north of the University Heights Bridge that is soon to become Regatta Park.

On the Depot Place waterfront, the Exterior Street segment north of the High Bridge to just south of West 171st Street is a city-owned mapped street, which is not required for access to any developed properties. Consequently, it could be demapped and formally added to Bridge Park at a later date.[2]

PRIVATELY OWNED LAND: Most of the sites in private ownership along the waterfront in the Central Focus Area are relatively small, with the majority of the underutilized privately-owned sites clustered around the University Heights Bridge, just north and south of West Fordham Road. The largest of these, the La Sala Site, is 3.72 acres. This site is sometimes referred to as Fordham Landing, but that name is avoided here to avoid confusion with properties north of the University Heights Bridge, including the end of the mapped street called Landing Road. North of the bridge, there are also five small parcels of approximately 1 acre to 2.3 acres each that make up a district that is currently still zoned for manufacturing (M3-1). These sites are currently occupied by self-storage, scrap metal and concrete plant businesses.

At the north of the Central Focus Area, private ownership predominates. The River Plaza Shopping Mall properties form an end-cap on the waterfront portion of the Central Focus Area, stretching upland from the shoreline and Metro-North corridor to 225th Street from Broadway to the old Putnam spur (leased by MTA) adjoining the Major Deegan. Just to the north of the Target parking entrance, the oblong block bounded by 225th Street, 230th Street, the Major Deegan and Exterior Street (Block 3264), which was added to the BOA study area during the course of the Step 2 strategic site selection process, is predominately in private ownership.

At the time of the Harlem River BOA Step 1 report, completed in 2007, a significant cluster of key waterfront parcels was still in private ownership in the Depot Place area. However, these properties have since been successfully purchased and aggregated under NYC Parks ownership/jurisdiction with the help of the Trust for Public Land and the Port Authority. These acquisitions are a major leap forward in reaching the goal of an ecologically healthy, recreation-oriented waterfront district. The parcels are currently undeveloped land previously having served as a staging area for the High Bridge restoration. Although NYC Parks does not yet have sufficient funding to build out the site, this area is poised for redevelopment as public park space when adequate funding can be allocated.

LAND IN RAILROAD OWNERSHIP: The Harlem River BOA study area encompasses one of the major rail corridors in New York State, with the Harlem-Hudson Line of Metro-North passing through the corridor and the Highbridge Yard located on the waterfront between Macombs Dam Bridge and Depot Place. Railroad ownership is highly complex, and it is difficult to even classify whether the railroad properties should be considered "publicly" or "privately" owned, because of the intricate web of ownership/lease arrangements, bankruptcies followed by other railroads gaining jurisdiction over former holdings of defunct rail corporations (e.g. Conrail), and existing quasi-governmental, quasi-private entities. For example, the Metropolitan Transportation Authority (MTA) is a "public benefit corporation" under New York law, with a board of directors appointed by elected officials. Another example of the complexity of the rail ownership situation is the case of Argent/Midtown Trackage Ventures. The ventures are privately owned companies with major rail holdings in the BOA area (and elsewhere, including Grand Central Terminal), from which MTA leases property.

The property research process for this Harlem River BOA Step 2 report involved outreach to ascertain more details about railroad property and lease issues. Communications with MTA included review of properties along railroad rights-of-way with attorneys from the MTA Real Estate Department, as well as review of MTA "val maps." Key points of information gained during this process:[3]

- The MTA indicates that it does not control the land along the commuter rail rights of way, nor does it control the sale of any available air rights associated with land parcels within the BOA study area. MTA states that Metro-North (MTA/MN) has a 200+ year term track right-of-way lease and assumes operational control, but the land is owned by Argent / Midtown Trackage Ventures (a.k.a. Midtown TDR Ventures, LLC). The right to sell any such air rights, if they exist, would belong to the land owner Argent/ Midtown. According to available online and media sources, Argent Ventures is a privately held real estate company based in NYC that owns extensive railroad track land leased by Metro-North Railroad

and is also the owner of Grand Central Station.

- MTA confirmed that there is an approximately 17-foot-high volume easement above the Metro-North rights of way in the BOA study area.
- It can be assumed that properties identified in public records as being in Conrail ownership are within the control of the MTA and/or CSX with respect to potential future uses; this is especially relevant for the northernmost section of the BOA, near the remnants of the north-south "Putnam Line."
- According to MTA Real Estate Department officials,

MTA Metro-North passenger train northbound alongside RCSP

development on properties adjacent to Metro-North/MTA operated rail lines typically require a setback 50 feet from centerline of railway. (The BOA properties for which this may be relevant include the cluster of underutilized parcels around the University Heights Bridge. It is also particularly relevant for the strip of waterfront between RCSP and the La Sala site, where the tracks hug the waterfront. To make a linear greenway connection at this point, the 50' setback would mean that a greenway path will have to be constructed outboard of the shoreline, if permits can be obtained.

- The MTA further advises that any future proposals for pedestrian flyovers, new paths in close proximity to operating railways, and the like should be discussed with the Metro-North Planning Department.

WATERFRONT PROPERTY OWNERSHIP ISSUES:
In general, on waterfront sites, property ownership extends to the pier line. In researching and analyzing the property data for the BOA study area, no issues emerged regarding uncertain ownership of underwater lands. However, one anomaly that should be noted is Block 2539, Lot 3, a 1.5 acre lot adjoining Mill Pond Park and Pier 5, which contains predominately underwater land. This lot appears in the public records as being under the jurisdiction of NYCEDC. It is an active rail line right-of-way for the Oak Point Rail Line, built by NY State just offshore alongside Pier 5, Mill Pond Park and the EDC-controlled parking lots. While acknowledging its role in the region's economy, the rail line has been recognized as an obstruction to waterfront access, particularly for the purposes of creating new direct water-based transportation and recreation opportunities across the Harlem River.

Notes: Land Ownership/jurisdiction Patterns

1 See Appendix for Land Ownership/jurisdiction Methodology.

2 The linear lot that encompasses Exterior Street is still in NYCDOT jurisdiction and still a mapped street as of 2015, though a ULURP process and street demapping is potentially feasible.

3 Communications between JLP+D and David Roth, Senior Real Estate Manager for MTA.

PARKS AND OPEN SPACE

PARKS OVERVIEW: The proposed BOA Central Focus Area features existing and proposed parklands under the jurisdictions of the State and City and operated by State and City Parks agencies, respectively. The 25-acre Roberto Clemente State Park (RCSP), which opened in 1973, is by far the best-known Harlem River waterfront park and the most heavily used by residents of the BOA neighborhoods. NYC Parks also cares for three existing parks within or adjoining the Central Focus Area: Macombs Dam Park (established 1899) and Mill Pond Park and Bridge Park, both of which were constructed or reconstructed in recent years. A small section of greenway was also recently added to Macombs Dam Park on the west side of the Major Deegan.

Proposed new parks or parkland acquired for park expansions include parkland now owned by New York City at Depot Place that is earmarked for the Harlem River Promenade; two tax lots now under State jurisdiction slated for a southern extension of RCSP; and the proposed Regatta Park on a lot just north of the University Heights Bridge. Also, on the north end of the Central Focus Area, NYC Parks is working with NYCDEP on concepts for the daylighting of Tibbets Brook, an interagency project that could potentially entail a future major linkage of regional greenway systems; in this area, the City is also in negotiations with CSX railroad to acquire transportation easements to extend the Putnam Greenway south of Van Cortlandt Park to 230th Street.

EXISTING PARKS, OLD AND NEW:

MACOMBS DAM PARK (COMMUNITY DISTRICT 4): The 17-acre Macombs Dam Park is the oldest of the parks along the Harlem River and the only one that dates to the 19th century. The park first opened in 1899, "drawing neighborhood children and aspiring athletes to its extensive recreational facilities including a track, baseball fields, tennis courts, comfort stations, and a playground. The quarter-mile track was a favorite for local and European runners," according to NYC Parks. A playground at Macombs Dam Park opened in 1914 when the Parks and Playgrounds Association established new playgrounds in eight parks across the Bronx. The park's proximity to the original Yankee Stadium, completed in 1923 on the site of a former lumberyard to the east of the park, gave it a special connection to the ballfield's great Bronx heroes and legends.[1]

The complex redevelopment of Macombs Dam Park began in 2005, when New York City agreed to site a new Yankee Stadium one block north of the original ballfield.[2] As part of the project, the city promised to replace "parkland displaced by the construction of the new Yankee Stadium, while also providing additional recreational space."[3] Thus commenced a $195 million effort to create eight new or renovated parks around the stadium, which opened in 2009.[4] Some of the replacement park space is within the BOA Central Focus area, particularly Mill Pond Park just west of Exterior Street/the Major Deegan, while the majority of the original Macombs Dam Park and new construction is just outside the Central Focus Area, east of the Major Deegan. The existing 161st Street pedestrian bridge connects a small strip of new greenway west of I-87/the MDE and north of Macombs Dam Bridge to the main promontory of Macombs Dam Park on the east side of the MDE corridor.

Among the recently constructed facilities is a 7-acre section of Macombs Dam Park constructed atop a two-story parking garage. This section features the Joseph Yancey Track and Field, including a state-of-the-art, 400-meter track, as well as a synthetic turf all-weather field that can be used for soccer or football, with grandstand seating for up to 600 patrons. There are also handball courts, four basketball courts, and a setting for adult fitness activities.

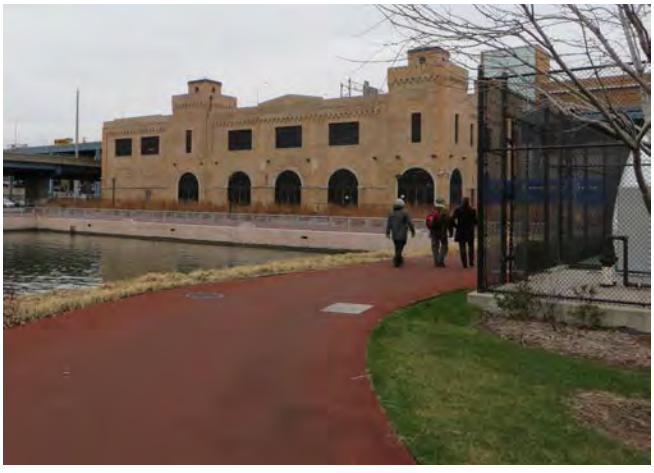
In 2011, an additional 10 acres of the park opened as Heritage Field, featuring three championship-quality grass ballfields on the site of the original Yankee Stadium. The southernmost field is built in the footprint of the original diamond, "which means that you can step up to the plate where Babe Ruth, Joe DiMaggio, Yogi Berra, Mickey Mantle, Derek Jeter, and all the Yankee greats once stood."[5]

MILL POND PARK (COMMUNITY DISTRICT 4): As part of the Yankee Stadium redevelopment, $64 million was allocated to construct Mill Pond Park along the Harlem River. Completed in October 2009, this 10-acre NYC Parks facility hosts 16 tennis courts surfaced with materials like those used at the U.S. Open and the Olympic Games. The Stadium Tennis Center at Mill Pond Park operates the tennis center and adjacent café concession through a license agreement with NYC Parks. Twelve of the 16 courts are enclosed under a state-of-the-art bubble from October through April. South of the tennis center, the park features sand and spray shower play areas, an outdoor classroom, and

an ADA-accessible esplanade for walking and jogging. The picnic area with barbecue facilities—offering one of the few places to grill in a public park—is particularly popular with area residents.

As noted by NYC Parks when the park was featured as "Park of the Month" in February 2010, "Mill Pond Park is the first significant City park to open on the Bronx bank of the Harlem River. Construction of the park included rehabilitation of the sea wall and four piers, bringing new vitality to what was only recently a decaying, unused industrial waterfront."[6] With a master plan and schematic design by Rogers Marvel Architects and landscape architecture by Thomas Balsley Associates, the project also cleaned up contamination and constructed new waterfront infrastructure. The high level of funding for the park entailed preservation and adaptive re-use of the 25,800-square-foot historic Power House building for a new comfort station, tennis clubhouse, café, and a new Parks district office, topped by a green roof. The renovation marked the first LEED Gold certified building in a New York City park.[7] South of Mill Pond Park, on the southwest corner of Block 2939, Lot 3, is a remaining undeveloped City-owned site currently assigned to NYC Parks.

ROBERTO CLEMENTE STATE PARK (COMMUNITY DISTRICT 5): This 25-acre park's existing facilities, which draw approximately 1.3 million visitors per year for recreational and cultural activities, include an Olympic-size pool complex, a multi-purpose recreation building, ballfields, basketball courts, picnic areas and playgrounds, and a waterfront promenade. The park adjoins the Harlem River along 3,700 linear feet of waterfront. Approximately 2,000 linear feet is bulkheaded, while the remainder consists of unstructured revetments and riprap shoreline. Amidst the portion stabilized with riprap is the only boat launch location on the Bronx side of the upper Harlem River. The ramp and floating dock, which is a suitable location for launching small non-motorized craft for rowing, canoeing, and kayaking, is under the joint jurisdiction of the Land and Water Conservation Fund of the National Park Service and the New York State Office of Parks, Recreation and Historic Preservation, according to signage at the entrance to the ramp.



Mill Pond Park and renovated LEED Gold Power Plant Building

An ambitious round of investment was launched after Hurricane Sandy, when the park was inundated by approximately 3 feet of flooding over the top of its 40-year-old bulkhead. Inspections revealed severe corrosion and loss of backfill, prompting the closing of the esplanade and the allocation of up to $46.5 million of Community Development Block Grant – Disaster Recovery (CDBG-DR) program funds for bulkhead replacement, other shoreline repairs, and overall improvements to the park.[8] Among ecological enhancements, a new 9,000-square-foot intertidal area will provide naturalized portions of shoreline to help buffer flooding, while native plant species will improve terrestrial habitat. In addition, improvements to the Lower Plaza area will reduce hardscape and create a more attractive public gathering space. Athletic fields are also slated for reconstruction and/or new construction, along with rehabilitation of the maintenance building and plaza facilities.[9] These investments follow additional upgrades since 2007, including the rehabilitation of the park's aquatic facility and basketball courts (2008), a new playground (2013), and baseball field improvements (2014).

Roberto Clemente State Park

BRIDGE PARK (COMMUNITY DISTRICTS 4 & 5): Bridge Park opened in 2104 as a part of the city's greenway network. Before the construction of I-87/the MDE in the 1950's, Bridge Park had provided local

Harlem River Greenway through Bridge Park

residents with opportunities for passive recreation and access to the Harlem River waterfront. Construction of the Expressway, however, led to the majority of the park being condemned, with the exception of the waterfront, which fell into disrepair in subsequent years. The rejuvenation of Bridge Park provides new opportunities for local communities to have safe access to the waterfront and connect with RCSP to the north. Bridge Park was designed by ABB Landscape Architects through NYC Parks' Design Excellence Program.

An accessible bicycle and pedestrian route runs through this 3.4-acre park, connecting with Exterior Street to the south and RCSP to the north. The Bridge Park segment of Class 1 greenway adds 1,650 linear feet of prime waterfront greenway toward the vision of a continuous Harlem River Greenway. Bike signage guides local residents from the nearby community to the Entrance Plaza at the south end of the park, where an open lawn, seating, and a plaza overlook provide a view of the Harlem River. The project preserved a historic granite staircase leading to the park and reconstructed a portion of the old cobblestone pavement. Seating areas are provided along the length of the bikeway, and security lighting enhances safety the park.

Bridge Park sets a precedent on the Harlem River for a continuous greenway coupled with ecological improvements along the waterfront. In years prior to the construction of Bridge Park, the New York Restoration Project had begun the reclamation of this area by reconstructing rock gardens and adding mulch pathways meandering through native meadow plantings. NYC Parks' Bridge Park construction project capitalized on these previous improvements while also stabilizing the shoreline and adding habitat value with more native plantings. On the river's edge, the existing revetment was rebuilt or reinforced in order to stabilize the embankment. Additional native trees and shrubs, as well as wildflower and riparian meadows, add habitat value, visual interest and absorbent pervious surface along the riverbank. On the east side of the pathway, a buffer of native plants visually separates the bikeway and the Metro-North Railroad.

HIGH BRIDGE (COMMUNITY DISTRICT 4): The city's oldest standing bridge reopened in July 2015 after an extensive $62 million rehabilitation project. The bridge, a remnant of the Old Croton Aqueduct, restores a park and critical greenway connection that has been closed to the public for four decades. The newly restored architectural landmark provides access to pedestrian and bicycle greenways on both sides of the Harlem River for residents of the BOA and Washington Heights, and will strengthen linkages to and from well-developed waterfront parks and greenways on the Hudson River waterfront. In particular, the bridge will connect the Highbridge neighborhood to Upper Manhattan and the recreational amenities of Highbridge Park.

On the Bronx side, the High Bridge can be reached from Highbridge Park's main entrance on University Avenue just north of 170th Street or the alternate entrance on University Avenue just south of 170th Street (pedestrians only via stairs). A lack of developable land, challenging topography, and physical infrastructure barriers on the Bronx side of the bridge limit development potential in the area, which might seek to capitalize on the increased pedestrian activity over the newly reopened river crossing.

On Sedgwick Avenue just north of Depot Place, a stone staircase connects the High Bridge to the street level of Sedgwick. This is the nearest connection between the High Bridge (and Highbridge Park on the Manhattan side) and the potential new waterfront park at Depot Place. Because Sedgwick is across the Major Deegan from the waterfront, and approximately 150 feet above


High Bridge as seen from Depot Place Bridge

the grade of the waterfront, this is unfortunately not a direct connection between the High Bridge and the Bronx side of the Harlem River shore. However, it is less than 600 feet from the bottom of the staircase to the waterfront, so the links between the High Bridge and the Depot Place reach of the waterfront will be achievable on foot, at least for intrepid walkers.

SPUYTEN DUYVIL SHOREFRONT PARK (COMMUNITY BOARD 8): This 6-acre park is situated directly beneath the Henry Hudson Bridge and adjacent to Metro-North Railroad's Spuyten Duyvil station. Its Halve Maen (Half Moon) Overlook offers a vista over forested cliffs to the Hudson River, while a small pond helps make the park "a natural stopover for songbirds migrating near the Hudson."[10] Together with Henry Hudson Park, just 150 feet north across Palisade Avenue, the park contributes to the community's scenic and recreational amenities. However, Spuyten Duyvil Shorefront Park has been noted as one of the city's poorest-performing parks.[11]

RECENT PARKLAND ACQUISITIONS AND PROPOSED PARKS/GREENWAYS: In addition to these existing parks, the community vision of an "ecologically healthy, recreation-oriented waterfront district providing a continuous greenway" has made considerable strides over the past several years with the public acquisition of several strategic parcels. NYC Parks and the state Office of Parks, Recreation and Historic Preservation (OPRHP) have acquired key properties along the Harlem River waterfront with the intention of creating new and expanded parks along the shoreline.

- With the help of the Trust for Public Land, NYC Parks now has jurisdiction over two additional tax lots between the Depot Place Bridge and the newly opened Bridge Park. An additional city-owned parcel was also added to NYC Parks's portfolio, and NYC Parks seeks to unite these parcels, quite possibly along with a linear lot under NYCDOT jurisdiction, through an as-yet-to-be-funded expansion of greenway and construction of a proposed Harlem River Promenade. The Harlem River Promenade Plan is discussed in the Planning and Development context section (CD4).
- The properties now being maintained by RCSP at the south end of the park will add 2.34 acres of additional space to RCSP, while also establishing a direct link between Roberto Clemente and the adjoining newly constructed greenway of Bridge Park (CD5).
- Just north of the University Heights Bridge in CD7, NYC Parks is currently (as of 2015) initiating the design process through the Design Excellence Program for a 3.68-acre parcel dubbed Regatta Park/Fordham Landing (Block 3231, Lot 350). The design intent of the proposed Regatta Park project is to provide public open space with access to the Harlem River where there is currently no safe access. According to the RFP, historic maps and aerial photos indicate that the site was open water until at least 1954, then was created by filling the Harlem River with unknown material between 1954 and 1966. The project objective is to transform it from an unimproved lot utilized by NYCDOT as a staging and vehicle storage area into a passive public park space with circulation, parking, a sitting area, and potentially a water access point. Due to the brownfield nature of the site, site investigations, including a Phase II Environmental Site Assessment Report, are required. Depending on the cost of site remediation and the availability of funding, landscape architectural design consultants will propose design alternatives. At a minimum, the intent is to construct a perimeter treatment, fence or guardrail, parking if necessary, sitting area, landscaping, circulation, water edge stabilization, and a water access point. Phasing may be necessary depending on the extent of contamination and necessary clean-up. Currently, approximately $1.38 million is allocated to this Regatta Park/Fordham Landing project.
- South of Van Cortlandt Park connecting to the Harlem River BOA Central Focus area, NYC Parks is in negotiations with CSX railway to purchase transportation easements in an abandoned railroad corridor for a southern extension of the Putnam Greenway. The overall goal of the Putnam Greenway acquisition has been to create greenway connectivity along the Putnam Line, which will ultimately link with segments of the old Putnam Rail Line in Westchester and Manhattan. The Putnam Rail Line provides an excellent opportunity for development as a recreational hiker-biker trail. The Putnam Rail Line in Westchester has already been developed as a paved greenway, within a system of 50 miles of bike paths. The segment south of Van Cortlandt Park has the potential to connect to Manhattan trails, while also possibly accommodating the daylighting of Tibbets Brook--an interagency project with DEP that could have tremendous positive impact on Harlem River water quality if deemed feasible.

Altogether, these acquisitions and projects, both built and planned, indicate the momentum that is building for

Publicly owned site north of UH Bridge slated for Regatta Park

bringing the community vision of a publicly accessible recreational waterfront with continuous greenway access to fruition.

NEED FOR ADDITIONAL PARKS AND QUALITY OPEN SPACES: In spite of these existing and up-coming parks, there is still a documented need for additional developed park space, shore public walkways and other publicly accessible, quality open spaces along and near the Harlem River waterfront. The neighborhoods of the BOA Central Focus Area are located in some of New York City's most park-starved districts. According to the most recent New Yorkers for Parks statistics, in City Council District 16 (Highbridge and portions of Morris Heights), only 4 percent is parkland, compared to a citywide average of 14 percent. In District 14 (University Heights and Kingsbridge Heights), 8 percent is parkland. And while District 11 (Spuyten Duyvil) is 36 percent parkland, most of that land is located far from Spuyten Duyvil in Van Cortlandt and Bronx parks.[12]

Even given the limited park space in these community districts, parkland is especially scarce for neighborhoods along the Harlem River waterfront, with no ready access to the borough's larger, more generous upland parks. Further, the topographic and infrastructural barriers in the area have long hindered the development of inclusive community open spaces.

OPEN, UNDERUTILIZED AND/OR UNDEVELOPED WATERFRONT PARCELS: In addition to land under NYC Parks jurisdiction that is being explored for recreational open space, the following sites are waterfront properties where alternative uses have been and are being envisioned by various parties. These explorations place importance on the availability of open space and waterfront connectivity in and through these sites.

Pier 5 (nominated as Strategic Site #1): The 4.4 acre parcel known as Pier 5, located just north of East 149th Street (Block 2356, Lot 2), is currently undeveloped, City-owned land, with only a single gantry remaining from its years as an Erie Railroad Freight Yard from 1928 to 1981. A prototype "pop-up wetland," installed by BCEQ on the east side of the site, treats stormwater runoff from the Major Deegan.

As the northernmost parcel within the study area for the Mayor's Lower Concourse infrastructure investment announced in early 2015, this site is being studied by EDC in partnership with City Hall, along with other sites outside of the Harlem River BOA Study Area, as part of the mayoral affordable housing initiative. EDC states that they will devise multiple development scenarios for the site that will seek to balance the goals of maximizing open space and affordable housing objectives, and will enlist stakeholder and agency input as the plan is drafted.

Stadium Parking Lots (nominated Strategic Site #2): Between the Macombs Dam Bridge and Mill Pond Park is an expanse of asphalt-paved surfaces used as surface parking lots. The southernmost parking lot (Block 2539, Lots 4 and 5) primarily serves the Stadium Tennis Center (also known as "Building J") in Mill Pond Park, while Block 2539, Lots 10 and 14, are leased by NYCEDC on a long-term basis to the Bronx Parking Development Corporation and operated as Quik Park parking facilities, mainly serving Yankee home games. According to news reports and to visual inspection on a season-opening game day, parking designated for game events is underutilized on major game days, and parking garages close to the stadium are also underutilized. Further analysis would be needed to examine utilization rates of these facilities over a longer period of time. The MIT Department of Urban Studies and Planning study, "Bronx: Meet Your Waterfront" envisioned these lots, combined with several very small parcels under NYS jurisdiction at the northern tip of the parking lots, as a hybrid space paved with permeable pavements that could be used by local residents as park space when not in use for game parking; the northern tip was proposed as a constructed stormwater wetland for treating run-off.

Northern BOA Central Focus Area Open Space: The northern section of the BOA study area near University Heights Bridge and north to the River Plaza Mall is predominantly underutilized open space. Challenges in providing access (both pedestrian and vehicular) and infrastructure have hindered more desirable uses

in recent decades, along with market and economic factors. The largest such parcels are the La Sala site (Strategic Site #6), portions of the Fordham Landing North cluster (Strategic Site #7) and former railroad sites (Strategic Site #8) (CD7). Additionally, Strategic Connection #2 (south of West 225th Street) and Strategic Connection #3 (from West 225th to West 230th Street) are abandonned rail corridors that have potential as key greenway connections.

La Sala site: Although the La Sala site is currently used as a milk distribution location, this use mainly entails truck parking rather than any significant structures, and much of the site south of the trucking center is unoccupied. The La Sala site has long been eyed as a potential northern extension of Roberto Clemente State Park, but is being marketed as a high-density residential site, with an asking price of $31 million; to date, it has not been feasible to acquire as parkland.

Fordham Landing North sites: The waterfront in CD7 north of the University Heights Bridge consists largely of underutilized and/or undeveloped open space. Potential scenarios for these sites have been studied in numerous planning studies, such as those dicussed earlier in the Planning Context section of this report.

CSX site: The former railroad sites to the north (Block 3245, Lot 3 and Block 3244, Lot 1), sometimes referred to collectively as "the CSX site," form a roughly 1800' foot long linear parcel on the waterfront that has potential as parkland if it could be acquired and if a pedestrian/bike bridge could be installed to cross the MTA/Metro-North rail tracks from the north. It is currently accessible from the south only through the Cement Plant on Exterior Street.

Notes: Parks and Open Space

1 NYC Department of Parks and Recreation, "Macombs Dam Park," accessed September 22, 2015, http://www.nycgovparks.org/parks/macombs-dam-park and www.nycgovparks.org/parks/macombs-dam-park/history.

2 "A Public Park to Rival the Yankees' Playground," *The New York Times*, April 5, 2012.

3 NYC Parks, "Yankee Stadium Park Redevelopment Project," accessed September 22, 2015, http://www.nycgovparks.org/park-features/future-parks/yankee-stadium-redevelopment.

4 "A Public Park to Rival the Yankees' Playground."

5 "Macombs Dam Park," http://www.nycgovparks.org/parks/macombs-dam-park/.

6 NYC Parks, "Mill Pond Park: Mill Pond Park is February's Park of the Month," http://www.nycgovparks.org/parks/mill-pond-park/pressrelease/20898, February 24, 2010.

7 "Yankee Stadium Redevelopment Project".

8 "Governor Cuomo Announces Plan to Strengthen Roberto Clemente State Park Waterfront; Protect Morris Heights Neighborhood." June 2014.

9 New York State Homes and Community Renewal, prepared by AKRF, "Roberto Clemente State Park Environmental Assessment," July 24, 2014, p. 1 and RCSP website, http://www.nysparks.com/parks/140/details.aspx.

10 New York City Audubon Society,"Birding the Hudson River Parks," accessed September 22, 2015, http://www.nycaudubon.org/bronx-birding/the-hudson-river-parks.

11 New Yorkers for Parks, "The Report Card on Parks 2007," http://www.ny4p.org/research/report-cards/rc-op07.pdf. Note that a more recent (2012) report card focused on large parks, but Spuyten Duyvil was not large enough to be included in that survey. For smaller parks, the 2007 survey is still the most recent report card available.

12 New Yorkers for Parks, District Profiles, accessed September 22, 2015, http://www.ny4p.org/research/ccd-profiles.

BUILDING INVENTORY

There are very few buildings located within the 183 acres of the Harlem River Central Focus area. The notable structures within the Focus Area are:

- **Stadium Tennis Center (Building J) in Mill Pond Park (CD4):** The 26,000 s.f. building, built in the early 1800s, was originally the Power House Building, which provided power to the food refrigeration warehouse at the Bronx Terminal Market. Its current use is the Stadium Tennis Center clubhouse and café, and it also houses the NYC Parks district office and a comfort station for the park. Additionally, there are plans to convert the second floor of the building into the Children's Discovery Center. This adaptive reuse project, including a green roof, was completed in March 2010. It is the first facility in a New York City Park to earn the LEED® Gold certification from the U.S. Green Building Council (USGBC).
- **River Park Towers (CD5):** consists of two towers, 42- and 44-stories. It was built in 1974 under the Mitchell-Lama affordable housing program and has remained a residential property since that date. River Park Towers is a single census tract, number 053, housing more than 4,600 residents.
- **Roberto Clemente State Park Recreation Building (CD5):** Constructed in 1973, the headquarters houses a multi-purpose recreation center with gymnasium, food concessions, and community meeting space.
- **PS 203 / IS 229 (CD5):** This public school building constructed along with RCSP and River Park Towers is the first and so far only project to be constructed atop decking over I-87/the MDE and rail tracks.
- **River Plaza Shopping Mall (CD7):** This shopping center at the northern end of the Central Focus Area at West 225th Street added approximately 230,000 s.f. of structures to the Harlem River waterfront, the first major construction on the Harlem River since the 1970s.

Most other structures within the Central Focus area are more utilitarian, including several added relatively recently:

- **Tennis bubble at Mill Pond Park:** A temporary structure erected seasonally October through April over 12 tennis courts.
- **Structures at the MTA High Bridge Yards** for washing passenger rail cars.
- **Self-storage buildings** north of University Heights Bridge.

The shell of a single historic rail transformer house building stands next to the rail tracks just south of River Plaza Mall, the only structure of possible interest for preservation and adaptive reuse.

For the complete Building Inventory, see Appendix G.

River Park Towers, two housing towers at 42 and 44 stories

HISTORIC AREAS, ARCHEOLOGICALLY SIGNIFICANT AREAS AND HISTORIC DISTRICTS

The western Bronx is home to a collection of historic assets that together tell a richly layered story of New York City's physical and social development during the heyday of its urban expansion in the nineteenth century. Within the proposed BOA Central Focus Area, the major resources constitute a series of magnificent bridge crossings—built over a nearly fifty-year period from High Bridge in 1848 to the University Heights Bridge in 1895—linking Manhattan with the mainland during a time of extraordinary growth and transformation. These engineering marvels embody not only some of the city's finest bridge design and detailing, but also the aspirations of working- and middle-class New Yorkers as they migrated from Manhattan to burgeoning neighborhoods like Morris Heights and the Grand Concourse in search of affordable, livable communities—much like New Yorkers today. That story gains depth and context within the broader BOA Community Participation Area, where landmark apartment houses, churches, schools, and other institutions offer tangible links to the Bronx's origins and touchpoints for themes of immigration, labor history, housing innovation, and economic opportunity that continue to shape the borough and its people.

HISTORIC HARLEM RIVER CROSSINGS

- ***High Bridge, Aqueduct, and Pedestrian Walk (Community District 4):*** A monument to the original Croton Aqueduct—New York's first reliable public water supply, carrying Westchester County water to a 42nd Street reservoir—High Bridge is a feat of 19th-century engineering and testament to the Bronx's role in the creation of a visionary metropolitan water system. Completed in 1848 with graceful, Roman-style arches stepping across the water, the bridge remains an admirable work of civic architecture despite the replacement of its central piers with a steel arch in 1923 to aid river navigation.

  In 2015, High Bridge's long-closed public walkway reopened following a $61.7 million rehabilitation, making the spot once again a popular promenading ground, and forging a new link in New York's waterfront greenway. Though the bridge is the most visible remaining feature of the Croton system, other portions are still extant, including a small stone gate house constructed circa 1890 as part of the New Croton Aqueduct at West Burnside Avenue and Phelan Place,[1] and, further east, Aqueduct Walk, a linear raised embankment engineered to keep the gravity-fed system's water flowing toward Manhattan. Linking West Kingsbridge Road to the north with the University Malls to the south, the Aqueduct Walk offers intriguing potential to connect neighborhoods and historic resources along its route. *National Register of Historic Places (1972); New York City Landmark (1970).*

Newly renovated and reopened High Bridge

- ***Washington Bridge (Community District 5):*** Built in 1888 to link booming northern M***a***nhattan neighborhoods with the Bronx, this beautiful steel-arch span was the product of a design competition intended to ensure the bridge compared favorably with the High Bridge to the south. Looking down from atop its twin main arches, urban gawkers could take in the spectacle of the Harlem River Speedway (now the Harlem River Drive) below. The bridge carried traffic from the George Washington Bridge until a second deck added to the GW required construction of the eight-lane Alexander Hamilton Bridge, built to the south of Washington Bridge in 1963. *National Register of Historic Places (1983); New York City Landmark (1982).*

- ***Macombs Dam Bridge (Community District 4):*** A steel swing bridge set atop stone end piers, the Macombs Dam Bridge was completed in 1895 on the site of an earlier 1814 bridge and dam constructed by Robert Macomb. It is considered the oldest swing-type bridge still in its original form in New York City. With its steel approach road linking to Jerome Avenue, and a long viaduct on the western side of the river connecting to 155th Street, the bridge remains a heavily used route from Manhattan to Yankee Stadium. *New York City Landmark (1992).*

- ***University Heights Bridge (Community District 7):*** Originally opened in 1895 as the Harlem Ship Canal Bridge, this steel swing bridge linked the northern tip of Manhattan with the Bronx across the canal's freshly-dredged navigation channel. Floated to its current location between 1905 and 1908, the University Heights Bridge was soon deemed the prettiest of the Harlem River swing bridges, with an unusually elegant profile and ornamental detailing befitting a highly visible urban focal point. *New York City Landmark (1984).*

Paddling south under Washington, Hamilton and High Bridges

HISTORIC NAVIGATION CHANNEL

- ***Harlem Ship Canal (Community Districts 7 & 8):*** Though not a designated New York City landmark, the Harlem Ship Canal should be considered a significant historic resource in its own right. Proposals had been made since at least 1826 to create a navigable channel incorporating part of Spuyten Duyvil Creek to connect the Harlem and Hudson rivers. In particular, the creek's tight course up around Marble Hill proved inhospitable to vessels seeking passage to and from the Hudson. As larger steamships began to ply New York City's waters later in the 19th century, construction of the Harlem Ship Canal was set in motion with the chartering of the Harlem River Canal Company in 1863. Completed in 1895, the canal cut through what was known as Dyckman's meadow, separating Marble Hill from Manhattan Island and ultimately creating a 15-foot-deep, 400-foot-wide navigation channel.[2] When the remaining creekbed to the north of Marble Hill was subsequently filled in, the Marble Hill island became physically attached to the Bronx, although Marble Hill remains politically a unit of Manhattan. The Ship Canal's origins and development possess considerable historic interest, and, though its story is not well known, it has reshaped the rugged geography of northern Manhattan and the southwestern Bronx, and continues to have consequential impacts on adjacent communities.

SIGNIFICANT BUILDINGS AND HISTORIC DISTRICTS: Within the BOA Central Focus Area and the Spuyten Duyvil Focus Area, there are no historic districts and only two buildings of any historic significance. The two historic structures are the renovated Power House Building in Mill Pond Park built in the early 1800's and the rail transformer house just south of the River Plaza Mall. On the other hand, the Community Participation Areas do lay claim to one NYC-designated historic district and several landmarked buildings that may be of interest for tourism development initiatives. More detailed descriptions of these historic assets can be found in the Appendix H, Historic Resources Supplemental Information.

- ***Grand Concourse Historic District (CD4):*** A one-mile stretch includes more than 60 Tudor, Moderne, and Art Deco apartment houses defining the neighborhood's special sense of place. *National Register of Historic Places (1987); New York City Landmark (2011).*

- ***Union Reformed Church of Highbridge, Public School 11, and Noonan Plaza Apartments (Community District 4):*** A trio of Highbridge landmarks reflects the evolving face of social institutions that defined public life in the Bronx in the late 19th century. *Union Reformed Church of Highbridge: New York City Landmark (2010); Public School 11: National Register of Historic Places (1983); Noonan Plaza Apartments: New York City Landmark (2010)*

- ***Park Plaza Apartments and (Former) American Female Guardian Society and Home (Community District 4):*** Two highly regarded architectural gems in CD4 reflect the development of Highbridge as one of the densest districts in New York City in the early 20th century. *Park Plaza: National*

Register of Historic Places (1982), New York City Landmark (1981); American Female Guardian Society: New York City Landmark (2000)

- ***Bronx Community College and Hall of Fame for Great Americans (CD5):*** Overlooking the Harlem River near the University Heights Bridge, this stunning architectural and cultural collection deserves to be better known and more frequently visited. The domed Gould Memorial Library of the former NYU campus designed by renown architect Stanford White crowns the campus and beckons to visitors from the distance, while the open-air colonnade, the Hall of Fame for Great Americans is lined with bronze portrait busts of celebrated honorees. The campus also boasts a landmark of modern architecture designed by Marcel Breuer. *National Register of Historic Places (1979); New York City Landmark (1966 & 2002).*
- ***Messiah Home for Children (CD5):*** Originally an orphanage for young children, this towered-and-turreted structure was designed by Boston architect Charles Brigham. Now the Department of Labor's South Bronx Job Corps Center, the building remains an important institutional anchor for the Morris Heights neighborhood. With its vocational training curriculum, as well as leadership, volunteer, and community support opportunities for young students, the Center should be considered a constituent for the Harlem River waterfront's revival. *New York City Landmark (1997).*
- ***Kingsbridge Armory (CD7):*** This splendid 1917 example of military architecture at the intersection of Kingsbridge Road and Jerome Avenue remains one of New York City's largest and most impressive armories. Vacant since 1996, the landmark structure is expected to reopen beginning in 2018 as the Kingsbridge National Ice Center, a nine-rink complex envisioned as the world's largest ice-skating venue. With an anticipated 2 million visitors per year, the center has the potential to be a significant sports, educational, and community destination.[3] Its location at the northern end of Aqueduct Walk and proximity to the greenway connection at W. 225th Street (which becomes W. Kingsbridge) is strategic for tourism development in the BOA vicinity. *National Register of Historic Places (1982); New York City Landmark (1974).*

ARCHAEOLOGICALLY SIGNIFICANT AREAS: Previous assessments of portions of the BOA Study Area have noted an extensive prehistoric Native American presence in the north and western Bronx, with aboriginal sites and middens identified along the Harlem River.[4] OPRHP indicates areas of recorded archaeological resources throughout the entire Community Participation Area and on both sides of the Harlem River.[5] By the time of early Dutch colonization of the area, subgroups of the Lenape peoples occupied seasonal encampments on and near the Harlem River, and tended planting fields as nearby as in the present-day Van Cortlandt Park.[6]

However, the major alterations made to the riverfront over the last century, including the creation of the Harlem River bulkhead, dredging of the Harlem Ship Canal, and the construction of bridges, railroad berms, and I-87/ MDE, have obliterated most of the original shoreline and small islands likely to have been occupied by prehistoric peoples. Given the large-scale reshaping of the waterfront, the presence of archaeological resources in the BOA Study Area is highly unlikely. As a 2004 study of a riverfront site north of the University Heights Bridge concluded: "The likelihood that prehistoric resources are extant within much of the site, considering the extreme land manipulation, is minimal."[7]

Hall of Fame of Great Americans, BCC Campus near University Heights Bridge

Revolutionary War resources have also been documented in this area of the Bronx, particularly along Fordham Heights ridge at some remove from the waterfront. Again, the uneven nature of the shoreline and the tidal action of the river suggests that sites adjacent to the river should not be considered sensitive for cultural deposits dating to the Revolutionary War era. Similarly, early historical resources, such as remnants of agricultural structures or dwellings dating from the seventeenth to nineteenth centuries, are also unlikely to be found along the Harlem River.[8] This being said,

the proposed greenway links to Van Cortlandt Park are points north that are noteworthy for their Native American, early Colonial and Revolutionary War past.

Notes: Historic and Archeologically Significant Areas

1 New York City Department of Environmental Protection, "Final Supplemental Environmental Impact Statement for the Croton Water Treatment Plant at the Harlem River Site," June 30, 2004, Section 7.12, p. 11.

2 Ibid., p. 5.

3 "Mayor Bloomberg Announces Plans to Transform Kingsbridge Armory in the Bronx into World's Largest Indoor Ice Facility," April 23, 2013. http://www.nycedc.com/press-release/mayor-bloomberg-announces-plans-transform-kingsbridge-armory-bronx-worlds-largest.

4 NYCDEP, "Final Supplemental Environmental Impact Statement for the Croton Water Treatment Plant at the Harlem River Site," p. 12.

5 Cultural Resource Information System (CRIS), https://cris.parks.ny.gov, retrieved June 2, 2015, New York State Office of Parks, Recreation, and Historic Preservation.

6 Edwin G. Burrows and Mike Wallace, *Gotham: A History of New York City to 1898* (Oxford: 1999) and NYC Parks Van Cortlandt Park website.

7 NYC DEP, "Final Supplemental Environmental Impact Statement for the Croton Water Treatment Plant at the Harlem River Site." p. 12.

8 Ibid.

TRANSPORTATION SYSTEMS

EXISTING TRANSPORTATION SYSTEMS OVERVIEW: Generally speaking, access to the Harlem River Waterfront is the greatest challenge to its successful revitalization. Although seven different modes of transportation are available in the vicinity of the waterfront (pedestrian, bicycle, bus, subway, commuter and freight rail lines, automobile and at least partially, boat), actual connections are relatively few and far between. Achieving connectivity between the waterfront and the upland neighborhoods at key points, as well as linear connectivity, is the number one challenge.

OVERALL PEDESTRIAN AND BICYCLE ACCESS: Except at the southern end of the Central Focus Area at and near Mill Pond Park, pedestrian access to much of the Central Focus Area currently ranges from difficult to impossible. On the southern end at Pier 5 and Mill Pond Park, pedestrian access is at grade and accessible, even if rather daunting and dangerous at the intersection of E. 149th St./ River Avenue/Gateway Center Boulevard. Moving north, pedestrian access to the waterfront becomes increasingly more difficult, with obstacles including highway infrastructure, grade changes of up to 150' feet between the waterfront and the adjacent upland area, and few bridges over the Major Deegan and rail corridors to the waterfront. Access to the north end of the Central Focus Area is currently blocked by the rail infrastructure and the River Plaza Mall, with no pedestrian bridge over the railway.

The Step 1 report describes the situation well for the areas where there are steep grade changes:

> *The highways, train tracks, and topography all conspire against waterfront access. Going down to the river (never mind getting back home) by foot or bicycle requires athletic stamina. Steep step streets – some of them over 200 steps long -- are built into the steep slopes throughout the area as shortcuts to circuitous, steep streets. Narrow sidewalks pass alongside and under the highway and through desolate areas. In Spuyten Duyvil, the steps near the bridge at the top of the hill have been closed by MTA for several years. The steep street leading down to the train station and the park has no sidewalk.*[1]

The Step 1 report also summarizes pedestrian and bike access to and from Manhattan:

> *Currently pedestrians and bicyclists make use of four bridges in the BOA to travel between the Bronx and Manhattan for employment and recreation opportunities: Macombs Dam, Washington, University Heights, and Broadway. The Henry Hudson Bridge is open to pedestrians, but little used because of local access problems on both sides. The high bridges bring people to the upland area, so do not help people get to the waterfront. Manhattan residents use the University Heights Bridge to reach the Bronx waterfront, but often resort to a dangerous shortcut along the tracks to get to Roberto Clemente State Park.*[2]

Step street at West Tremont Avenue typical of grade changes from adjacent neighborhoods

On a more positive note, two current NYCDOT initiatives are tackling mobility and safety concerns for pedestrians and bikes trying to reach the waterfront or the bridges over the Harlem River. In response to community requests for better access to the newly reopened High Bridge and the recently completed Bridge Park and greenway segment on the Harlem River, DOT is installing a series of bicycle and pedestrian improvements in the High Bridge neighborhood of the Bronx through the High Bridge and Bridge Park Access--Pedestrian and Bicycle Connections project. This project establishes West 170th Street as a highly visible pedestrian and bicycle corridor leading up to the High Bridge. One of the main goals is to enhance safety, particularly at challenging intersections. Of greatest impact for the Harlem River waterfront are the new bike connections and signage from the High Bridge landing on University Avenue to and from the waterfront at Depot Place.

The Harlem River Bridges Access Plan, which is presently studying all bridges across the river through community meetings and internal agency planning, should generate a number of priority pedestrian-bike projects that can be achieved on the short term. The

Access Plan will also help identify priorities for longer-term capital projects, some of which could be helpful in creating better access to the Harlem River BOA study area, particularly at 149th Street, the Macombs Dam Bridge and the University Heights Bridge.

In the larger context, the Harlem River Greenway is part of the overall system of greenways envisioned in DCP's 1993 *Greenway Plan for New York City,* much of which has been constructed in the intervening years. The NYC 2015 Bike Map also shows the greenway the full length of the waterfront as a "potential future bike path" along Exterior Street.

As of 2015, linear access along the Harlem River on foot or on bike is possible on two segments of the waterfront: through Mill Pond Park, where the pedestrian and bike path skirts the cove inlets and along a one- mile segment through the new Bridge Park and RCSP. In other locations, the Harlem River Greenway exists only on paper as a strongly held community vision, which was recently summarized by the Harlem River Greenway plan.

OVERALL BUS AND SUBWAY ACCESS: Access to subway lines and bus service in the vicinity of the Harlem River BOA is considered excellent for the "outer boroughs," even though there is little access directly to the waterfront. Subway access is most convenient on the southern end of the study area, where there are multiple options of trains at the nearby Yankee Stadium and at the Hub. In the central part of the study area (e.g. Depot Place, RCSP) the nearest subways are approximately a quarter mile away: not an unpleasant walking distance, but complicated by the very steep grade changes just east of the Major Deegan and need to cross the I-87/MDE/ rail line transportation corridor.

Despite the relative abundance of bus lines in the area:

> *Public transportation to the waterfront is limited. Only three places along the [Harlem River] waterfront can be reached by bus: Target in Kingsbridge, Fordham Landing, and Roberto Clemente State Park. A line running along Sedgwick Avenue stops several blocks from Depot Place and requires crossing the Deegan . [3]*

OVERALL RAIL ACCESS: The rail corridor along the Harlem River is a major linkage for both passenger and freight rail in the region.

The five Metro-North Stations within or immediately adjacent to the Harlem River BOA Focus Areas are an underutilized resource, with current day-to-day ridership at these stations notably low due to the high cost of short rides and the availability of much more convenient and economical subway and bus alternatives in the upland neighborhoods. Morris Heights and University Heights are within the Central Focus Area. The new Yankee Stadium-E. 153td Street station (which is heavily used at least on game days) and the Marble Hill and Spuyten Duyvil stations are outside of the Central Focus Area, but inside or in close proximity to the Community Participation Areas.

As part of the Full Freight Access Program initiated in the 1980s, a 1.9 mile section of track call the Oak Point Link was built on trestles just off the Bronx shore of the Harlem River. Its purpose was to provide a direct connection between the Highbridge Yard and Harlem River Yard, eliminating the need for a zig zag route on the Port Morris Branch and to avoid crossing commuter tracks. The Oak Point Link became operational in 1998. Raising of bridge clearances to 18 feet to allow stacked Trailers on Flat Cars (TOFC) to enter into the Bronx and Harlem Yard was completed in 2005.[4]

The major goals of the NYSDOT Full Freight Access Program were to improve and thereby increase freight rail access into the Bronx, create an intermodal facility at Harlem River Yard, reduce truck traffic leading into and out of the city and thereby improve economic development for the Bronx. Given various reasons, this goal has not been fully achieved. Currently the Harlem River Yard is classified as an industrial site. Only one tenant, Waste Management as of 2015; Waste Management runs four freight trains a day, each with an average of 75 rail cars, along the main line through the Bronx, compared with two trains a day seven years ago, per CSX. The cargo carried on the four daily trains would fill about 900 trucks.[5]

RAIL OPERATIONS GROWTH: Both passenger train volumes and freight volumes are expected to grow over the coming decades. With improvements in rail container transport over the previous decades, freight rail is becoming more economically competitive with trucking. Based on studies by the New York Metropolitan Transportation Committee (NYMTC) the freight forecast within the New York tri-state region is expected to grow by 47 percent between 2007 and 2040, from 10.2 million to 15.1 million tons.

CSX has noted on their website that they have obtained funding to upgrade the crossovers, rebuild track and

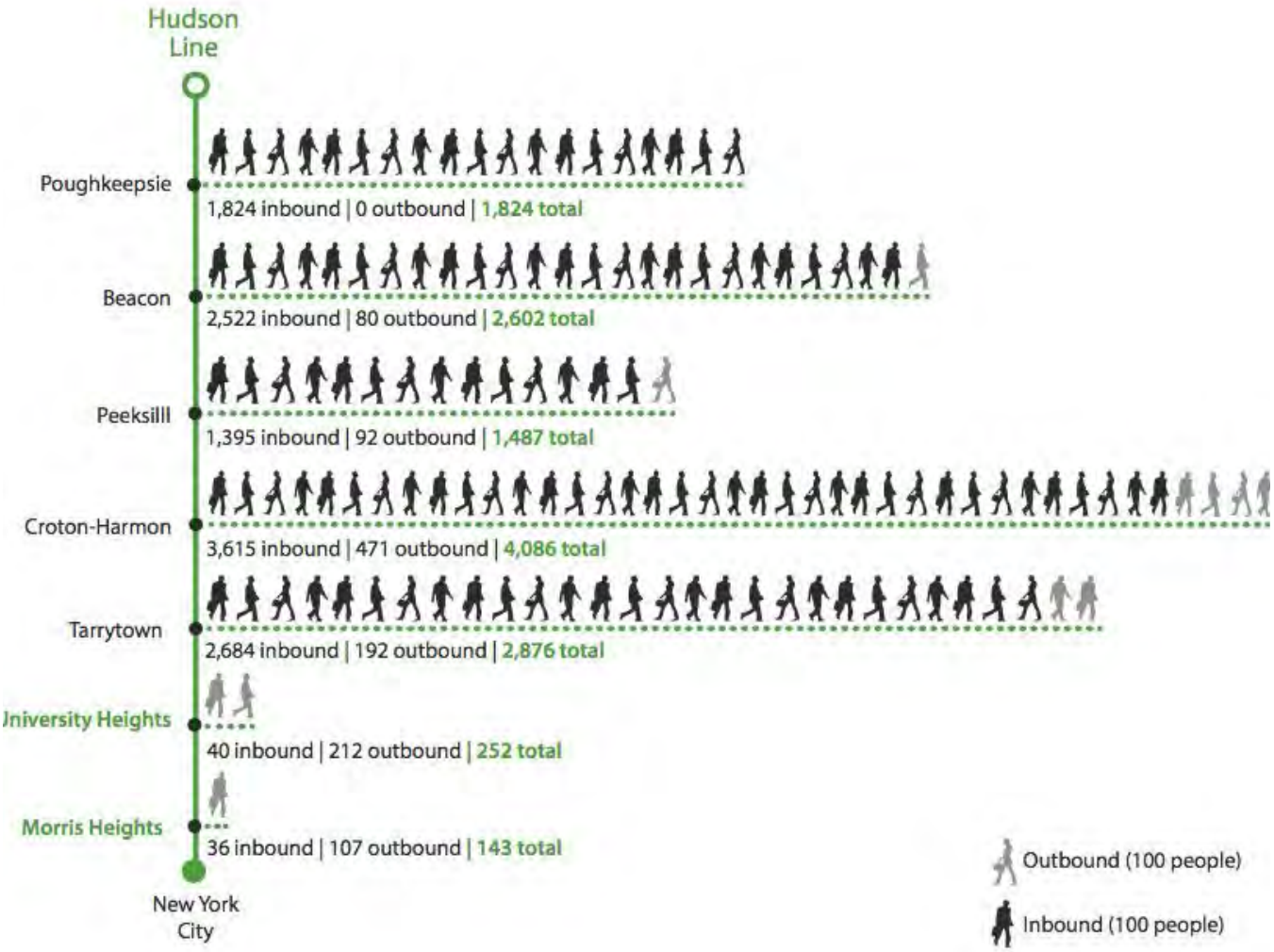


Figure 18. Metro-North Ridership Study (Source: DCP Sustainable Communities in the Bronx Study, p. 21)

increase clearances at the east and west ends of the Oak Point Yard in the Bronx, which will improve the yard's ability to receive and process trains. These upgrades will help increase capacity of the three major rail lines entering the yard; northwest from Selkirk via Hudson Line, northeast from Cedar Hill via Amtrak/ MNR New Haven Line, and south from Fresh Pond via Fremont Secondary.

A major capacity constraint is that all of the major freight access routes are also primary passenger routes, i.e. Metro-North. Approximately 40 Amtrak and 160 Metro-North trains operate over the Hudson Line on a typical weekday. Passenger train volumes are also expecting growth, making it more difficult to handle increased freight volumes. These constraints are particularly evident in that freight operations are generally permitted only during nighttime hours.

OVERALL MOTOR VEHICLE ACCESS: From an environmental justice standpoint, the Step 1 report rightly summarizes that:

> *The Harlem River waterfront is dominated by two transportation modes, neither of which serves the needs of local residents -- expressways and railroads."*[6]
>
> *The north-south Major Deegan Expressway runs within the BOA Central Focus Area on the BOA area's eastern boundary. The average daily traffic volumes along the I-87/MDE of 107,000 vehicles includes heavy truck traffic, and the Cross Bronx Expressway, which crosses over the BOA area is even more heavily traveled, with trucks making up about a quarter of its average 175,000 trips per day.*[7]

Figure 19. Transportation Map (Source: STV)

Despite this enormous volume of traffic through the BOA study area, vehicular access to the waterfront from the Major Deegan and from local streets is extremely limited. There are only five locations along a 4 mile stretch of the shoreline where east-west streets meet the waterfront.

Vehicular access to the waterfromt is best at the southern end of the Central Focus Area, where 149th Street intersects with Exterior Street, a.k.a. Gateway Center Boulevard, which runs under the Major Deegan alongside the Pier 5 site and Mill Pond Park. Between Mill Pond Park and Macombs Dam Bridge, highway ramps claim the entire waterfront with heavy infrastructure; there is no accessible shoreline here, and vehicles on ramps are bound for other destinations. North of Mill Pond Park, the next access point is 1.25 miles to the north at Depot Place. Vehicular access at this location is via a single ramp over the Major Deegan and rail tracks. The next entrances, are the RCSP/River Park Towers entrances at Sedgwick Avenue Overpass and the West Tremont Avenue Overpass; these bridges are 1.7 miles and 1.9 miles north of Depot Place, respectively. From West Tremont to the next vehicular access point, the ramp down from West Fordham Road to Exterior Street next to University Heights Bridge, is another 1.5 miles. In the 1.6 mile reach of waterfront above the University Heights Bridge, there are no other direct vehicular connections. At River Plaza Mall, it is possible to drive near the waterfront by entering the rear mall parking lot, but the rail tracks curve along the shoreline at this point, preventing any further access.

As the 2007 Step 1 BOA report discussed:

In June 2004 the New York State Department of Transportation (NYSDOT) completed the Bronx Arterial Needs Major Investment Study,[8A] which focused on the Cross Bronx Expressway and I-87/MDE. Its purpose was to "develop multi-modal solutions that will improve the mobility of the Bronx and those who travel there." Most of its recommendations focused on highway modification. Several will have an impact on the BOA study area:

- *A new Harlem River bridge at the Highbridge Interchange (will require major funding and a multi-year EIS)*
- *Continuous Cross-Bronx connector road (now being coordinated with the current rehabilitation of the Harlem River bridges)*
- *N/B auxiliary lane for West 179th Street (making use of abandoned water tunnels to route traffic onto Alexander Hamilton Bridge)*

Rare at-grade connection on south end of BOA Focus Area, Mill Pond Park to Exterior Street/Gateway Center Boulevard

- *Reconstruction of Major Deegan S/B Service Road from Highbridge Interchange to Yankee Stadium and Bronx Terminal Market*
- *Entrance ramp to Fordham Road Exit Ramp*
- *Reconstruction of West Fordham Road Interchange to Single Point Interchange*
- *Reconstruction of ramp at W. 230th Street to service Target Mall*

These projects are in various stages of design and development (some, like the new bridge, only conceptual), each which will need to be monitored closely for their impact on physical and visual access to the waterfront. While trucking is the dominant mode, as the container revolution has spread to intermodal rail, freight rail is increasingly competitive.[8]

As of 2015, NYSDOT's Statewide Transportation Improvement Program (STIP) for Region 11 includes:

1. *PIN X72039 – Rehabilitation of Major Deegan Expressway Bridges over abandoned subway and Metro-North rail yard in Bronx County to ensure structural integrity/motorist safety. BINS 1067451 and 1067452. These bridges are on southbound I-87/MDE Exit 6 ramp to East 153rd Street/River Avenue. This project is scheduled to be in detailed design in 2015 with construction in 2017.*
2. *PIN X72699 – Cross Bronx Expressway Bridge Rehabilitation on Highbridge Interchanges (BINs: 1066870, 1066850, 106685B). These bridges include:*

    a. I-87 South to I-95 North over Sedgwick Avenue
    b. I-95 South to I-87 South
    c. I-95 South to I-87 North over Sedgwick Avenue

Major Deegan, Cross Bronx Expressway and 181st Street infrastructure criss-cross the waterfront

This project is in preliminary design and has no future funding years or sources.

3. *PIN X77217 – Revitalize Highbridge step-street at 170th Street. Under construction.*

4. *PIN X720.30 – Replacement of concrete deck and minor rehab to I-87/I-87/MDE between 138th and 161st Street/Macombs Dam Bridge Interchange – Currently under construction*

OVERALL FERRY ACCESS AND RECREATIONAL BOAT ACCESS: Currently, the only ferry service to and from the Harlem River is on a few selected Yankee home game days, to and from the New Jersey Highlands, operated by Seastreak. Game day ferry service was provided within New York City in recent years, but did not continue due to low ridership.

The Circle Line Ferry operates multiple daily trips on the Harlem River as a part of its popular two-and-a-half hour tour around the island of Manhattan. This trip provides visual access to the Harlem River waterfront to tourists, but makes no stops in its round trip to and from Pier 42 in midtown Manhattan. The Circle Line is one of the rare ways for most people to view the Harlem River waterfront from the water; however,the trip's cost and the distance of the boarding point from the Harlem River mean that the vast majority of people who see the Harlem River from the water are out-of-town tourists rather than local residents.

RECREATIONAL BOAT ACCESS: While there is once again access for recreational boats, primarily rowers, from the Sherman Creek Boathouse on the Manhattan side of the river, small craft can currently launch at only one location within the Harlem River BOA Study Area. The boat ramp/ floating dock in Roberto Clemente State Park under the jurisdiction of OPRHP and NPS is appropriate only for canoes, kayaks or small rowboats.

The portion of the Harlem River from the High Bridge to the University Heights Bridge and the portion of the Harlem River between the Spuyten Duyvil trestle and the Broadway Bridge were designated as "No Wake Areas" in 2006.[9]

Notes: Transportation Systems--Overall

1 BCEQ, "Harlem River Waterfront," 2007, p. 17.

2 Ibid.

3 Ibid.

4 Benjamin Miller, "An Evaluation of New York's Full Freight Access Program and Harlem River Intermodal Rail Yard project," (CUNY: 2005).

5 Winnie Hu, "Rail Yard Reopens as City's Freight Trains Rumble Into Wider Use," http://www.nytimes.com/2012/07/20/nyregion/65th-street-rail-yard-reopens-in-brooklyn.html, July 19, 2012.

6 "Harlem River Waterfront," p. 16.

7 Ibid., p. 18.

8 Ibid.

8A Bronx Arterial Needs Major Investment Study (BAN MIS): http://www.dot.state.ny.us/reg/r11/bxmis/index.html.

9 Chapter 1, Title 10 of the NYC administrative code, sections, 10-158.1 and 10-158.2 and NYC Parks flyer "Safe Boating Advisory--Idle Speed, No Wake Areas," prepared by Parks Marina Operations, March, 2006.

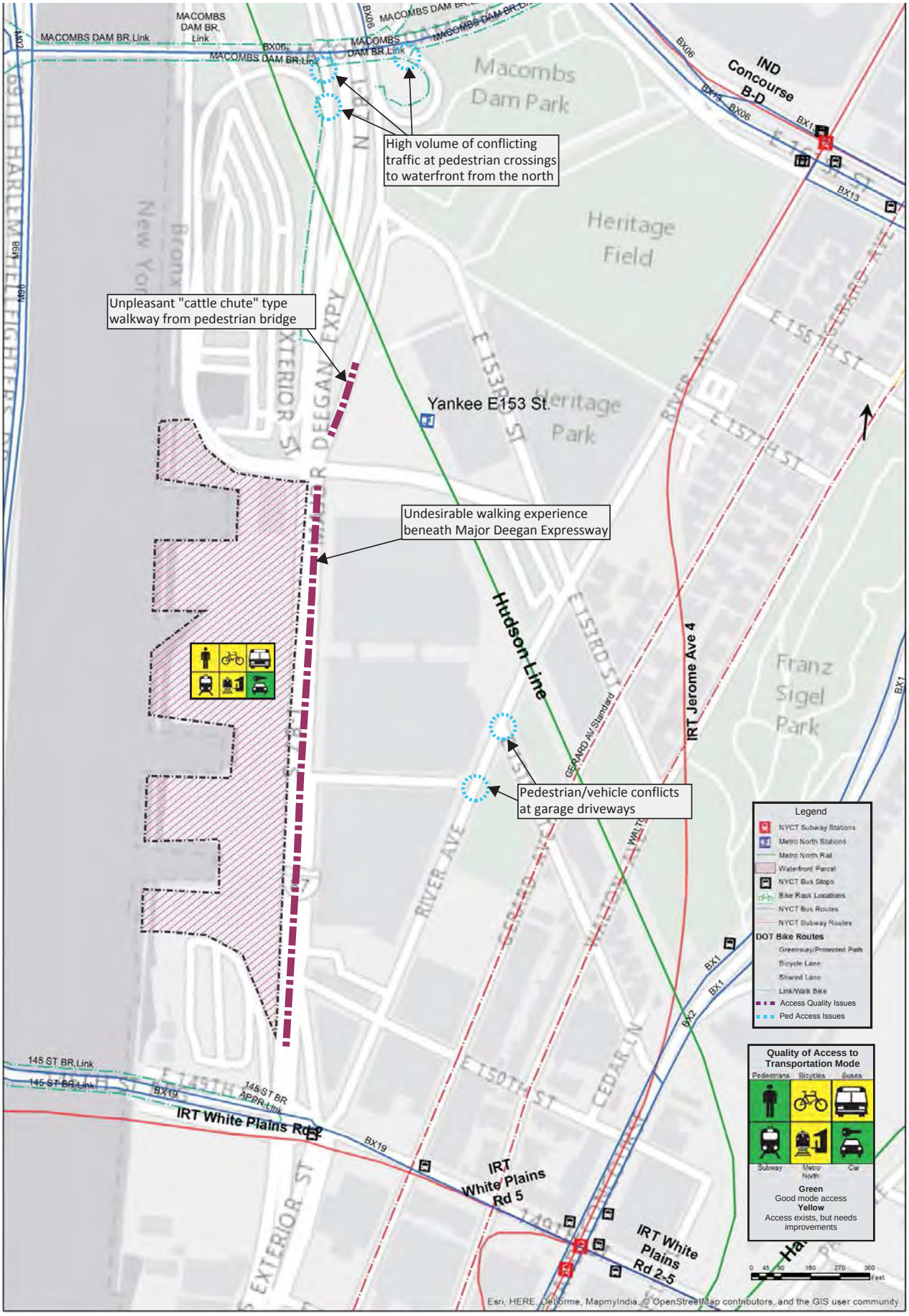


Figure 20. Macombs Dam Transportation Access Map (Source: STV)

TRANSPORTATION: MILL POND PARK/YANKEE STADIUM AREA (CD4)

Pedestrian Access: Pedestrian access to the Mill Pond Park waterfront is along Gateway Center Boulevard (formerly Exterior Street), which is located below I-87/MDE west of the Gateway Center at the Bronx Terminal Market (Figure 27). There are various gated entrances into the park along Gateway Center Boulevard, between 150th and 153rd streets. Gateway Center Boulevard runs from 150th Street northward until it merges with the I-87/MDE north and southbound on-ramps and southbound off-ramp, which are at 153rd Street.

Sidewalks line both sides of the boulevard; these are wide and in good condition. However, since the boulevard is at the back of Gateway Center and under I-87/MDE, walking along this stretch of Gateway Center Boulevard is uninviting, so it is relatively lightly used by pedestrians. The overhead I-87/MDE limits the amount of natural light that reaches the street level; consequently, pedestrians walking along or across the boulevard are typically in the shade/shadows of the structure. Additionally, the columns supporting the expressway line the sidewalks on each side of the street, restricting sight distance and pedestrian visibility. There is a very limited street-level retail presence on the west side of Gateway Center Boulevard, as this is the rear of the Center, which also discourages pedestrian activity along the boulevard. Furthermore, the retail entrances are approximately four feet above street level; consequently, the east sidewalk is bordered by a retaining wall with intermediate stair locations. This situation further separates the street from the retail development, and creates an undesirable walking environment.

To access Gateway Center Boulevard, and eventually across the street to Mill Pond Park, pedestrians connect from 149th, 150th, and 151st streets; all of the streets provide sidewalks on both sides. The parking garage entrances to Gateway Center are located near 150th and 151st streets on River Avenue, which creates undesirable pedestrian/vehicle conflicts at these sidewalk locations that lead toward Mill Pond Park. There is no crosswalk across Exterior Street between the ferry landing point/stadium parking lots and the access points toward Yankee Stadium, despite heavy pedestrian volumes on game days.

Pedestrian access to waterfront under elevated I-87/MDE at Exterior Street/ Gateway Ctr. Blvd. (waterfront at left, Bronx Terminal Market/ Gateway Ctr. on right)

From further north, pedestrian access is much more complicated and even less hospitable. Pedestrians can reach the boulevard from a pedestrian bridge that crosses the Metro-North Railroad tracks at the new Yankees-East 153rd Street station that opened in 2009 along with the new Yankee Stadium. Stairs to the pedestrian bridge are located in Heritage Field Park, across the street from Yankee Stadium. Heritage Field Park can be entered from 157th and 161st streets, as well as from the Ruppert Plaza garage and the 153rd Street garage. Walking alongside these parking garages is generally unpleasant as the building face is typically a continuous wall with fencing in the wall openings. On the west side of the Metro-North pedestrian bridge, the pedestrian route is an undesirable cattle chute-type walkway that is lined by concrete barriers with fencing on top of the barriers that lead to Gateway Center Boulevard.

The third way to reach Gateway Center Boulevard and Mill Pond Park is from the Macombs Dam Bridge, which spans across the Harlem River with walkways on both sides. From the south walkway of the bridge on the Bronx side, where the bridge intersects with the southbound off-ramp of the I-87/MDE, there is a walkway along the west side of the off-ramp which pedestrians could follow to reach the boulevard below. However, to access the waterfront sidewalk from the Bronx, pedestrians must cross the northbound I-87/MDE on-ramp, the southbound I-87/MDE on-ramp from Macombs Dam Bridge, and the southbound I-87/MDE on-ramp from Gateway Center Boulevard (these three intersections to/from Macombs Dam Bridge are circled in the Macombs Dam Transportation Access Map, Figure 20). Two of these on-ramp pedestrian crossings are located at uncontrolled crosswalk locations where vehicles are approaching along a curve. Motorists would not readily anticipate pedestrians to be crossing at these curve locations, which is a safety concern. The walking experience along these high-traffic volume roadways is unpleasant. Most of the walk route is channelized between fencing and concrete barriers installed for safety purposes.

Narrow ramp between Macombs Dam Bridge and Gateway Center Blvd.

Bicycle Access: New York City identifies three types of bicycles routes: Class I routes are physically protected from vehicle traffic, Class II routes are exclusive bicycle lanes painted on the street, and Class III routes are shared lanes, indicated with arrows painted on the street.

Bicyclists could use the pedestrian path described above from the Macombs Dam Bridge to reach Gateway Center Boulevard since the route is a NYCDOT-designated protected path. However, bicyclists must walk their bikes along Macombs Dam Bridge as the path is shared by bicyclists and pedestrians and narrows to less than five feet in some locations, such as at the corners near the I-87/MDE ramps. On the Bronx side, Macombs Dam Bridge connects with the Jerome Avenue shared bike route, which could be a difficult route for novice riders given the relatively high traffic volumes on Jerome Avenue and the narrow 60-foot roadway width that also accommodates four motor-vehicle travel lanes and two curb parking lanes. On the Manhattan side, the protected path runs along West 155th Street until it connects with the Harlem River Drive Greenway and the St. Nicholas Avenue bicycle lanes. East of the waterfront, there are north-south bicycle lanes along Gerard and Walton avenues, but no bike routes intersect with the waterfront between 145th Street and Macombs Dam bridges. South of Mill Pond Park, the 145th Street Bridge also provides a shared protected path, along which bicyclists can walk their bikes and connect with the Harlem River Drive Greenway in Manhattan.

Bus Service: At the north end of the Mill Pond Park area is the Bx6 bus route, which provides east-west service between Riverside Drive in Manhattan and Hunts Point in the Bronx, and traverses the Macombs Dam Bridge. The Bx6 provides connections to the Bx13, which provides north-south service along River and Ogden avenues. The nearest bus stops are located at the intersection of Jerome Avenue and 161th Street. The Bx1 and 2 bus routes along the Grand Concourse are next closest north-south routes, located about a half mile east of the river. These two routes connect with Bx13 at 161st Street and the Bx19 at 149th Street. The Bx19 is an east-west bus route south of Mill Pond Park that crosses over the 145th Street Bridge and has a stop at Gateway Center Boulevard and 149th Street.

Subway Service: The area is very accessible by subway, with five lines within ¼-quarter mile of the river on the Bronx side. From the south, the IRT 2, 4, and 5 subways intersect at the 149th Street station and the Grand Concourse. All three lines run through Brooklyn, Manhattan, and the Bronx. The 4 goes along Jerome Avenue to connect with the B and D subways at 161st Street next to Yankee Stadium. These five subway lines provide connections to/from the entire city.

Rail Service: The closest rail station is the Metro-North Railroad (MNR) Yankees-East 153rd Street Station. Opened on May 23, 2009, the station provides daily local service on the Hudson Line. For baseball games played at Yankee Stadium, there is also special train service on MNR's Harlem and New Haven lines stopping at this station before and after games. Metro-North also provides additional train service between Grand Central Terminal and Yankees-East 153rd Street Station on game/event days at Yankee Stadium.

Ferry Service: Seastreak will provide ferry service to selected 2015 Yankee home games from Highlands, New Jersey. Seastreak is currently scheduled to provide ferry service to 18 of the team's 81 home games in the 2015 season with one trip to and from each game. The dock is located north of Mill Pond Park, between two parking lots, the Harlem River South Lot and the Harlem River Lot. NY Waterway canceled their Yankee

Concrete walls thwart pedestrian and bike connections to waterfront

Clipper Ferry service in 2010 due to low ridership. Also, at one time Delta Air Lines sponsored free ferry service to Yankee Stadium on New York Water Taxi, but this ferry service has also terminated.

Automobile Access: The Grand Concourse is a major thoroughfare in the Bronx; the roadway acts as collector from the northern Bronx to the southern Bronx. The Grand Concourse is approximately a quarter mile east of the river. Intersecting with the Grand Concourse are two main cross streets, 149th and 161st streets. Besides curbside parking, there are many parking lots in the area due to the adjacent Gateway Center and Yankee Stadium. A 2012 *Bloomberg Businessweek* news article indicated that the Yankee Stadium parking garages operate at less than 50 percent capacity.[1]

The I-87/MDE is elevated above Gateway Center Boulevard. Traveling northbound, vehicles can exit at Exit 5, just before Macombs Dam Bridge, near Yankee Stadium. Vehicles coming from the north would also use Exit 5, which will take them directly down to Gateway Center Boulevard. The north and southbound I-87/MDE on-ramps are accessible from East 153th Street and Gateway Center Boulevard.

Notes: Transportation--Mill Pond Park/Yankee Stadium

1 Sam Handler, "Yankee Stadium Parking Garage Company Defaults," *Mobilizing the Region*, October 12, 2012, accessed July 2, 2015, http://blog.tstc.org/2012/10/12/yankee-stadium-parking-garage-company-defaults/.

TRANSPORTATION: DEPOT PLACE AREA (CD4)

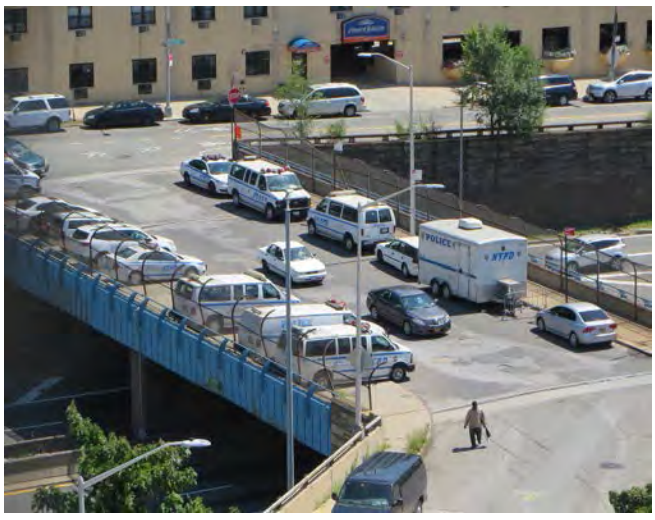
The Depot Place waterfront segment spans from the bottom of the Depot Place ramp (a two-way roadway between Sedgwick Avenue and Exterior Street at the waterfront) north to the end of Exterior Street under the Alexander Hamilton Bridge, Figure 28. Depot Place is bordered by the MTA's Metro-North train storage facility, the Highbridge rail yard to the south and the newly opened Bridge Park to the north.

Pedestrian Access: Pedestrians can access the waterfront from several locations north and east of the site. All pedestrians must cross both the I-87/MDE and Metro-North Railroad to access the waterfront. From the north, pedestrians would cross over the expressway and the tracks at the RCSP Bridge and West Tremont Avenue overpasses into RCSP. Once pedestrians have taken the stairs down to the state park, they could walk south, pass the River Park Towers complex along a waterfront promenade that now connects to the recently constructed Bridge Park. The walking distance from RCSP through Bridge Park to the undeveloped Depot Place site is a little over a quarter mile.

The newly constructed Bridge Park that continues south approximately 1,500 feet from RCSP to the Washington Bridge is a linear waterfront greenway with some seating areas and a shared pedestrian/bike path. From the south, pedestrian access from the Depot Place Bridge through the Depot Place waterfront to Bridge Park is currently undesirable, as pedestrians must walk along Exterior Street, a narrow two-way street that is bordered by the undeveloped segment of waterfront.

The main southern pedestrian entry to the Depot Place waterfront is from Sedgwick Avenue, where pedestrian safety and walking experience is currently very problematic. Sedgwick Avenue in the vicinity of Depot Place has a sidewalk on the east side of the street only; however, NYPD vehicles are almost always parked on this sidewalk as well as on the west side of the street overhanging into the street. Between Depot Place and 167th Street, the sidewalk on Sedgwick Avenue is completely occupied by parked police vehicles near the Bronx Task Force police building. These parked cars force pedestrians to walk in the street. Except for a few buildings near Depot Place, there are few land uses that front Sedgwick Avenue in the vicinity of Depot Place, creating an undesirable barren pedestrian environment. The intersection of Depot Place at Sedgwick Avenue is an unsignalized stop-controlled location with no pedestrian crosswalks. Once onto the Depot Place Bridge, more police vehicles are frequently parked on the sidewalk on the north side of the ramp, again forcing pedestrians to walk in the street.

Northeast of the Depot Place entry point, a stairway leads south from the High Bridge and the intersection



Pedestrian walking in street over Depot Place Bridge where police vehicles routinely park on sidewalks

of University Avenue and West 170th Street down to Sedgwick Avenue. This stairway is overgrown with trees and shrubs, with high walls that provide limited visibility. The NYC Parks removed some of this vegetative overgrowth in preparation for the reopening of the High Bridge in the summer of 2015.

From the north, Undercliff Avenue, which merges into Sedgwick Avenue just north of the High Bridge and Depot Place, provides a slightly better pedestrian experience than Sedgwick Avenue, with sidewalks on both sides of the street. However, the west sidewalk ends just north of Sedgwick Avenue, and the east sidewalk is overgrown with vegetation. With no active land uses or buildings along Undercliff Avenue by Depot Place, the street appears desolate.

Bicycle Access: Along the waterfront, cyclists can access the Depot Place site from the north, through the newly constructed Bridge Park and the older Roberto Clemente Park Greenway. The Bridge Park/Roberto Clemente segment of greenway currently functions primarily for recreational purposes, since there are as yet no completed greenway or street connections to major destinations at either end of the route.

Recently, the partially completed "High Bridge and Bridge Park Access – Pedestrian and Bicycle Connections" project has established clear bike connections between the High Bridge and the existing bicycle network and provides new bicycle routes and wayfinding signage to and from the waterfront via University Avenue, Boscobel Place, Undercliff Avenue and Sedgwick to the Depot Place Bridge. Much of this bike and signage infrastructure is already installed, with the exception of the Depot Place Bridge, where ramp conditions have delayed bike infrastructure installation to date. The High Bridge-Bridge Park connection will also designate a temporary greenway path along the waterfront from Depot Place to the Bridge Park greenway.

Inland, there are north/south bikes lanes along Edward L. Grant Highway/Dr. Martin Luther King Jr. Boulevard, about a quarter mile east of the site. There is a protected pedestrian/bike path on the Washington Bridge that links Manhattan with Edward L. Grant Highway in the Bronx, and provides an important inter-borough bike connection. Note that this route spans high over the waterfront; consequently, bicyclists must travel approximately ½-mile inland to touch down in the Bronx from the Washington Bridge, and then back track down to the waterfront. Also, bicyclists are required to walk their bikes on this bridge path.

On-street shared and signed routes allow cyclists to access Manhattan bike routes via the Macombs Dam Bridge to the south via Jerome Avenue., though

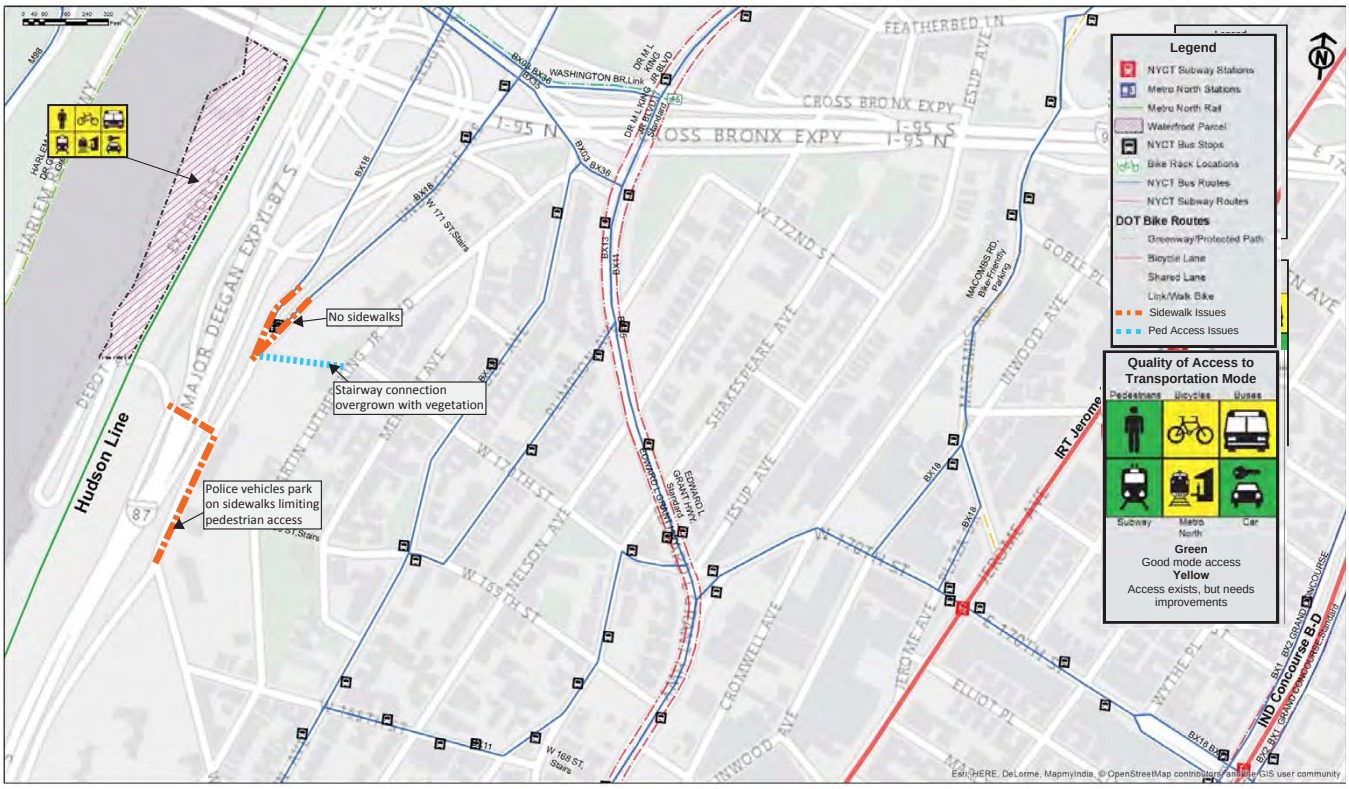


Figure 21. Depot Place Area Transportation Access (Source: STV)

Newly installed signage directs cyclists from High Bridge to Harlem River

protected bike paths are lacking. To the north, the route would connect to the existing Jerome Avenue/Edward L. Grant Highway/University Avenue Class II and III bike routes, major north-south bike routes in the Bronx.

Bus Service: There are five bus lines (Bx 3, 11, 15, 35, 36) that currently serve the area near the site, all providing access to/from Manhattan via the Washington Bridge. However, the nearest stops are more than a half mile away from Exterior Street at Depot Place.

The Bx18 line stops at the intersection of Undercliff and Sedgwick avenues, one block from Depot Place. It serves the residential communities northeast of the site. Headways range from 15 minutes during the weekday AM periods to 30 minutes during off-peak periods. Although the Bx18 stops closest to the site, compared to the other bus routes, it has the least frequent service.

The Bx11, 13, and 35 routes provide service from areas south and east of the site, connecting to the 4 and B/D subway lines. The walk from both bus stops to the waterfront is downhill. The walk route could include using the stairs at the eastern terminus of the High Bridge at University Avenue. Each route has low headways, generally 14 minutes or less at all times.

Subway Service: The elevated 4 train is the closest subway line to the waterfront, generally running parallel to the Harlem River in this area of the Bronx, following the route of River and Jerome avenues. The 4 line is approximately a half mile from the waterfront. The closest subway stations to the site are at 167th and 170th streets, with walking distances approaching a mile away. The B/D subway lines run under Grand Concourse, approximately a quarter mile east of the 4 line, with the closest stations to the site at 167th and 170th streets.

Rail Service: The MNR Hudson Line runs along the waterfront; however, the closest station is Morris Heights, approximately one mile to the north. The station is located adjacent to RCSP with its entrance on the West Tremont Avenue overpass. The most direct route to the Depot Place waterfront from the Metro-North station is via the RCSP promenade to the new greenway through Bridge Park.

Automobile Access: The site can be accessed by private vehicles only via Depot Place. Access from the I-87/MDE is via Sedgwick Avenue. From both directions on the expressway, vehicles would exit at Macombs Dam Bridge, near East 161st Street, and travel northbound on Sedgwick Avenue to Depot Place. Access from Manhattan is via Washington Bridge, which leads to Ogden Avenue, West 168th and 167th streets, and Sedgwick Avenue to Depot Place. Vehicles approaching from east of Jerome Avenue (including the Cross Bronx Expressway) would access the Depot Place site via Jerome and Shakespeare avenues, and West 168th Street. From north of the site, vehicles would use Nelson Avenue to get to West 168th Street. From south, vehicles would use Sedgwick Avenue to Depot Place.

Structural issues on the waterfront at the end of the Depot Place Bridge have necessitated temporary barriers closing off a portion of the roadway, which affects vehicular, bike and pedestrian access. Existing parking facilities at the site consist of curb parking on Exterior Street. Nearby, curbside parking is possible along some portions of Sedgwick and Undercliff avenues and on West 167th Street.

TRANSPORTATION: ROBERTO CLEMENTE STATE PARK AREA (CD5)

Roberto Clemente State Park spans approximately ¾-mile along the Bronx River waterfront, from the new Bridge Park at the south end, to north of the RCSP softball fields to the point where the Metro-North Railroad tracks begin to immediately abut the waterfront. The park is primarily bordered by the Metro-North Railroad and I-87/MDE to the east. Through the middle section of the park, the River Towers Apartment complex and PS 230 / IS 229 school border the park.

Pedestrian Access: Pedestrians can access RCSP from the RCSP Bridge, which spans from Sedgwick Avenue to Richman Plaza near River Park Towers, and via the West Tremont Avenue overpass. Both of these bridges provide pedestrian and vehicular access to the waterfront. The RCSP Bridge provides sidewalks on both sides of the road and high-visibility crosswalk markings at the Cedar Avenue/Sedgwick Avenue

intersection. The north sidewalk is approximately 15 feet wide, and is the primary walk route for students to PS 203 / IS 229. At the West Tremont Avenue Bridge, there is only a sidewalk on the north side of the street and no crosswalks across Cedar Avenue.

Despite the importance of West Tremont Avenue Bridge as the direct connection to the RCSP entry plaza and a key entry point to the waterfront, pedestrian access at this location from east of the I-87/MDE is poor. This pedestrian approach has no crosswalks on Cedar Avenue, inadequately sized curb ramps, poor sidewalk conditions, and a brick-paved roadway in poor condition that leads to a flight of step-street stairs between Cedar and Sedgwick avenues (see photo, page 107). There are no traffic controls (i.e., stop signs, crosswalk markings, or yield-to-pedestrian signs) on Cedar Avenue that would require motorists to stop for pedestrians at West Tremont Avenue.

There is stair and ramp access to the park from the west end of West Tremont Avenue at the RCSP entry plaza, as well as a staircase from the end of the RCSP Bridge. A waterfront promenade is provided through the park extending from Bridge Park to the south, past the Richman Plaza apartment complex, and around the pool complex and playing fields to the north. RCSP provides ADA access to the ball fields, waterfront and playgrounds via an ADA access ramp located north of the community recreation buildings from West Tremont Avenue. ADA access to the waterfront level and swimming pool areas is also provided through the community recreation building.

Bicycle Access: The RCSP Greenway is 0.6-miles long, running through RCSP and along Richman Plaza from Bridge Park to the north end of Roberto Clemente. Bicyclists have previously not been allowed

Depot Place Bridge, a key connector to the Harlem River Waterfront

(High Bridge Rail Yard beyond)

Newly installed dedicated bike lane on University Avenue connecting to High Bridge

to share space along the waterfront with the pedestrian promenade, but shared access is planned as part of the RCSP Revitilization Plan. Some bike maps indicate a bike route along Richman Plaza, which would require cyclists to enter the parking garage in order to connect with the park north of Richman Plaza. Consequently, this would not be considered a preferred bike route. As noted earlier the Roberto Clemente and Bridge Park stretch of greenway provides local recreational bike infrastructure, but at present is still difficult to access as a throughway for distance recreational riders or cycling commuters. From RCSP Bridge and West Tremont Avenue, bicyclists could access the waterfront by riding their bikes down Richman Plaza, or by carrying their bikes down stairs, or by walking them down an ADA access ramp to the park.

Also, as previously noted, there are north/south bikes lanes along Edward L. Grant Highway/Dr. Martin Luther King Jr Boulevard, about a quarter mile east of the waterfront. There are, however, no bike route connections east/west between these bike lanes and the waterfront on the stretch between the Depot Place Bridge and the RCSP Bridge.

Bus Service: The Bx18, 40, and 42 bus routes currently serve the area near RCSP, with stops along Sedgwick Avenue near the RCSP Bridge. The Bx40 and 42 provide east/west service between Morris Heights and Fort Schuyler (Bx40) and Throgs Neck (Bx42). The Bx18 provides local bus service between Morris Heights and the B and D subway station at 170th Street in Morrisania via Macombs Road.

Subway Service: The elevated 4 train continues northward running closest to the waterfront of the subway lines, still generally following the route of River and Jerome avenues approximately a half mile from the shoreline. The nearest subway station to RCSP is the

Burnside Avenue Station, where visitors can transfer to the Bx40 or 42 routes. Approximately a quarter mile east of the 4 line, the B/D subway lines run under Grand Concourse, with the most convenient station to RCSP being 170th Street. From 170th Street, visitors can transfer to the Bx18 bus to Morris Heights or walk.

Rail Service: The MNR Hudson Line runs along the waterfront, and the Morris Heights MNR Station is located adjacent to RCSP with its entrance on the West Tremont Avenue overpass. The Morris Heights Station is one of the least utilized stops on the Harlem line, but it is an asset that could be better capitalized on for revitalization of the BOA area.

Automobile Access: The park can be accessed by private vehicles in only two locations, via West Tremont Avenue from Sedgwick (the steep grades change and step street condition between Cedar and Sedgwick prevent direct east-west vehicular connections via West Tremont) and over the RCSP Bridge. Northbound I-87/MDE motorists can access RCSP via the West 179th Street exit and southbound I-87/MDE motorists can use the Fordham Road exit. Access from Manhattan is via the Washington or University Heights bridges, from which motorists can proceed to Sedgwick and Cedar avenues closer to the park. A public parking garage is located south of the RCSP Bridge.

Poor pedestrian access to RCSP at West Tremont, a key entry to RCSP and the Harlem River Waterfront

Morris Heights Metro-North Station at W. Tremont Avenue, an underutilized asset

Looking north at Depot Place Bridge, where structural problems are delaying greenway installation and impacting vehicular lanes

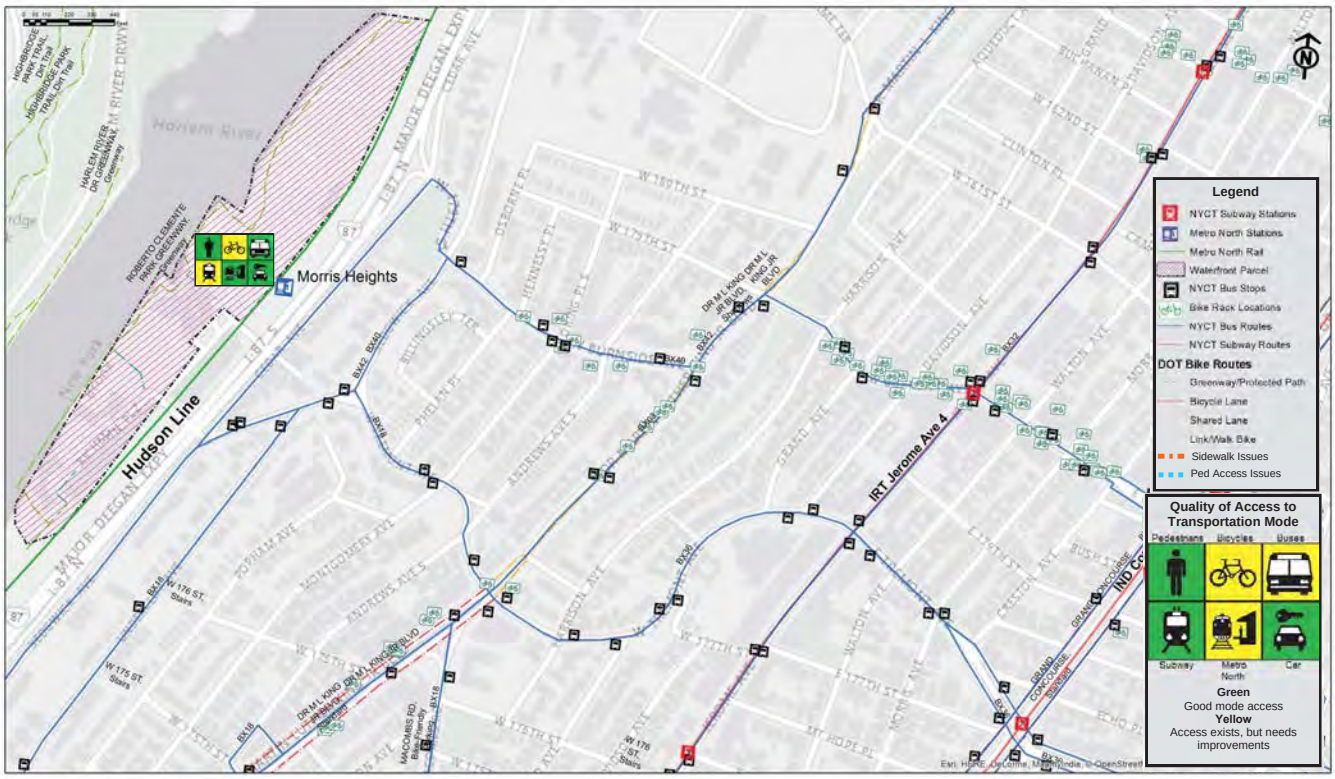


Figure 22. Roberto Clemente State Park Area Transportation Access (Source: STV)

TRANSPORTATION: UNIVERSITY HEIGHTS BRIDGE/WEST FORDHAM ROAD AREA (CD7) (FIG. 30)

Pedestrian Access: The only pedestrian access to this location is from the University Heights Bridge via a U-shaped pedestrian ramp from the bridge to Exterior Street on the north side of the bridge. A sidewalk runs alongside the vehicle lane on the ramp. The vehicle ramp connects to Exterior Street near the waterfront below. No sidewalks are provided on Exterior Street.

Ramp from W. Fordham Road to Exterior Street, sole access point to CD7 waterfront

Pedestrians conflict with a high volume of traffic when crossing the often congested intersections of West Fordham Road and the I-87/MDE ramps to reach this ramp down to Exterior Street. Pedestrian infrastructure across the Major Deegan and connecting east of the I-87/MDE on West Fordham Road is poor, with undersized sidewalks and pedestrian islands leaving pedestrians exposed amidst heavy traffic both across the University Heights Bridge and north-south on the I-87/MDE access road.

Bicycle Access: The University Heights Bridge includes a narrow, protected shared bike/pedestrian path on the south side of the bridge only. There are no bike routes that connect with the protected path on the bridge. On the Bronx side, the nearest bike route is along University Avenue, approximately a quarter mile east. On the Manhattan side, the 10th Avenue bike route is the closest. Both of these routes are Class III shared bike lanes.

Bus Service: The Select Bus Service Bx12 route runs along Fordham Road, providing connections between Manhattan (including the 1 train just across the river), the University Heights MNR Station and the 4, B/D, and A line subway stations to the east. The cross-Bronx Bx12 also provides a nearby connection with many north-south bus lines along its route, such as the Bx1, 2, 3, and 32.

Subway Service: The University Heights area has many transit options. The 1 line is located a quarter mile across the University Heights Bridge on the Manhattan side, with the closest station at 207th Street and 10th Avenue. The 4, B/D, and A subways all have stations within a mile of the University Heights Bridge.

Rail Service: The Metro-North University Heights Station is located at the south side of the bridge. Besides stairs down to the platform, there is an elevator for handicapped access to the platform. The station provides access to Grand Central Terminal in approximately 20 minutes, and provides access north to Poughkeepsie with key stops at Yonkers, Tarrytown, and Croton Harmon. Connection to Amtrak routes is available at Yonkers, Croton Harmon, and Poughkeepsie. This station, similar to the Morris Heights Station, is currently underutilized but is seen as a major asset to the future development of the waterfront.

Automobile Access: Vehicles can access the waterfront via the two-way ramp located off of West Fordham Road/University Heights Bridge just west of the intersection with the southbound I-87/MDE on- and off-ramps. I-87/MDE runs adjacent to the MNR line and the Harlem River, with north and southbound exit and entrance ramps on West Fordham Road, just east of the University Heights Bridge. The expressway connects to I-287 to the north, where it crosses the Tappan Zee Bridge, going north to Albany. The southbound expressway provides connections to I-95 (New Jersey and Connecticut) and I-278 (for Queens, Brooklyn, and Staten Island).

Constrained pedestrian infrastructure and no bike infrastructure looking west on W. Fordham Road toward waterfront

TRANSPORTATION: KINGSBRIDGE AREA (CD8)

Pedestrian Access: There is no direct pedestrian access to the waterfront area in the vicinity of the River Plaza shopping center, given that the MNR tracks run at the very edge of the river. Pedestrian access to the triangle of land behind the shopping center and in the vicinity of the former Putnam Rail Line can be made via the River Plaza parking lot behind Applebee's. This parking lot, which lies just east of Broadway, can be accessed from West 225th Street. The railroad tracks curving along the river also cut off the access to the CSX waterfront site just south of River Plaza Mall. This waterfront site can only be accessed by walking north along Exterior Street from West Fordham Road, where no sidewalks are provided, and it is unclear whether Exterior Street terminates at the Cement Plant and becomes private property or is actually still public street.

Bicycle Access: The closest bike route is a Class III type along University Avenue, which is approximately a half mile east from the river roughly parallel to the waterfront. Class II and III bike routes are provided along Marble Hill and Tibbett Avenues, which are approximately one-third of a mile to the west. There are no east-west bike routes on 225th Street or on any other nearby east-west streets in the Kingsbridge area of the Bronx.

Bus Service: The Bx9 is a cross-Bronx bus route with stops in front of River Plaza Mall, connecting with the 4 and B/D subways to the east. The Bx7 and 20 bus routes run from Riverdale to Manhattan, with stops along Broadway bordering the BOA Central Focus Area. Approximately a quarter mile east is the Bx3 route, which travels along Sedgwick Avenue.

Subway Service: The closet subway is the 1 line, which runs from Van Cortlandt Park – 242nd Street to South Ferry at the very southern tip of Manhattan. The 225th Street station is located at Broadway and 225th Street, immediately adjacent to the northern end of the Central Focus Area. Within a mile to the east are the 4 and B/D subway lines.

Rail Service: The MNR Marble Hill Station is located just west of Broadway on the Harlem River waterfront. The station entrance is on West 225th Street with stairs downhill from street level. The station is not handicapped accessible. The Metro-North tracks hug the shoreline around the bend of the river until the river curves from its north-south course turning westward toward the Hudson. Marble Hill is a fairly well utilized station for passengers to/from both the Bronx and Manhattan due to its proximity to the 1 train, taxis and livery cabs, and buses at the intersection of Broadway and West 225th Street.

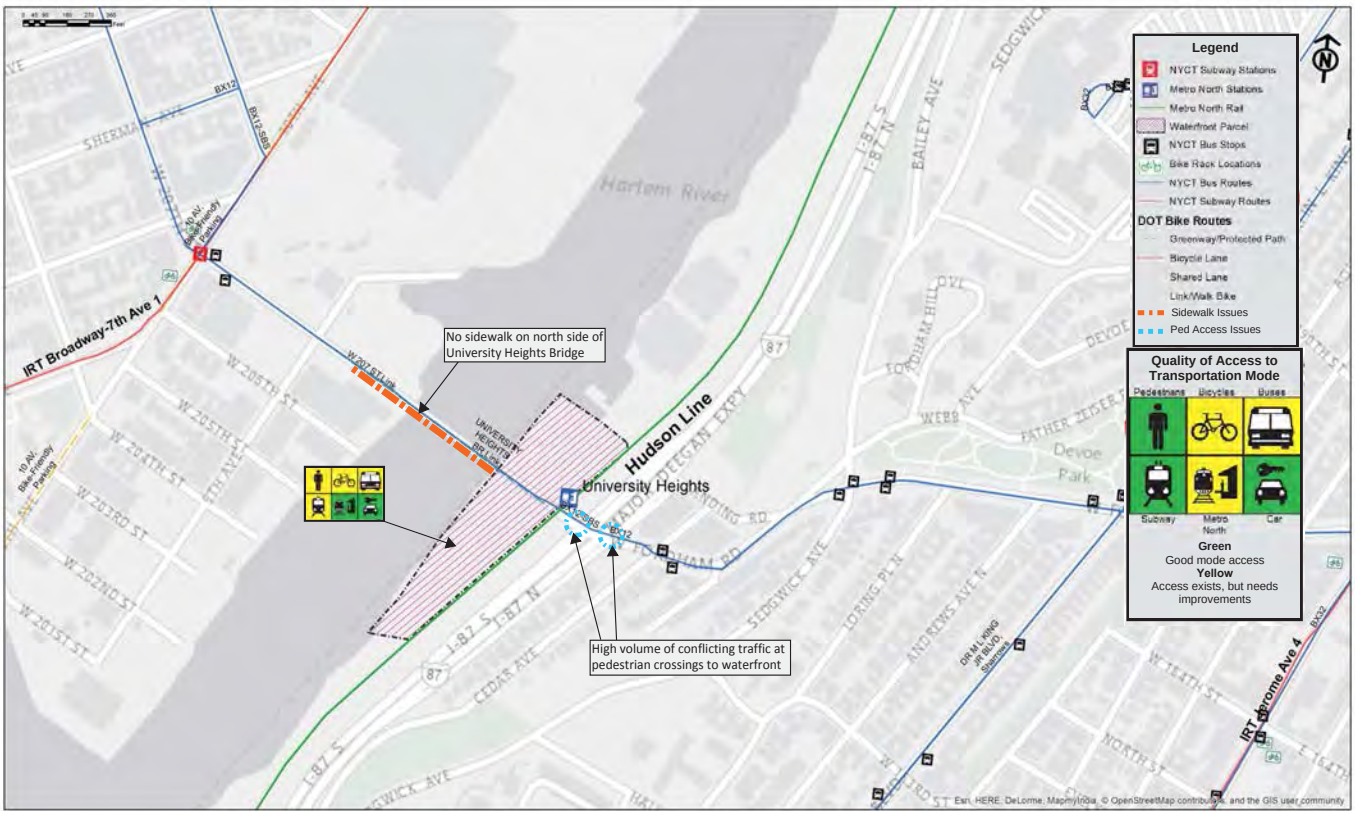


Figure 23. University Heights Area Transportation Access (Source: STV)

MTA Metro-North train and River Plaza parking lot on riverfront looking southeast from 225th Street 1 train station

Automobile Access: The northern part of the Central Focus Area is a fairly major vehicular crossroads where the northern tip of Manhattan meets the Bronx, divided by the Harlem River. Broadway runs the length of Manhattan, over the Broadway Bridge, through the Bronx, to Westchester County to the north. In the Marble Hill and Kingsbridge areas, it runs under the elevated 1 subway. Just north of the Harlem River, Broadway intersects with West 225th Street, which turns into West Kingsbridge Road past the Grand Concourse, and is a major thoroughfare in the Bronx. Kingsbridge Road intersects with Sedgwick and Undercliff avenues, providing connections with the other sites along the Harlem River.

As with pedestrian access, the nearest vehicular access to the waterfront in the Kingsbridge area is the River Plaza shopping mall parking lot, though railroad tracks lining the waterfront prevent direct access. Vehicles turn into the parking area from West 225th Street, east of Broadway. There is also an on-structure parking deck for Target, which is also accessed from West 225th Street at the intersection of 225th and Exterior Street.

TRANSPORTATION: SPUYTEN DUYVIL AREA (CD8)

Pedestrian Access: There is no direct pedestrian access to the immediate waterfront area in the vicinity of the Spuyten Duyvil Shorefront Park, as the MNR tracks run at the very edge of the Harlem River and steep slopes down to the waterfront make access difficult. The Spuyten Duyvil Shorefront Park can be accessed from Edsall Avenue, beneath the Henry Hudson Bridge, and is bordered by the Spuyten Duyvil MNR Station to the southwest. There are no sidewalks along Edsall Avenue, and most pedestrians approaching the park or the MNR station walk within the narrow two-way street that can only accommodate one direction of traffic in some locations.

Approaching Edsall Avenue from the south and east, sidewalks are provided along the south side of Johnson Avenue. From the north and west, a stair connection is provided to Edsall Avenue from Palisade and Independence avenues. The sidewalk along Palisades Avenue leads to the Half Moon Overlook, a small park that overlooks the Harlem and Hudson rivers and the Spuyten Duyvil Triangle. A staircase from Half Moon Overlook down to the Triangle exists, but has been locked at the time of site visits and appears to be kept locked at all times. Further north along Palisade and Independence avenues is Henry Hudson Park. About 200 feet west of the Palisade Avenue stairs on Edsall Avenue is a pedestrian bridge that connects to the pedestrian overpass at the MNR Spuyten Duyvil Station.

Bicycle Access: There are no bike routes in the vicinity of the Spuyten Duyvil Shorefront Park. The nearest bike route is a shared bike lane along Tibbett Avenue, which is nearly a mile east of Edsall Avenue. The 2014 NYCDOT Bike Map indicates that Kappock Street, and Johnson, Independence, and Palisade avenues are potential future bike routes.

Bus Service: The nearest NYCT bus stop is located at the intersection of Johnson Avenue and Kappock Street, which is about a quarter mile walk from Edsall Avenue. The Hudson Rail Link is a feeder bus system operated by Logan Bus Company for MNR that connects the Spuyten Duyvil Station to adjoining neighborhoods. This service accepts MetroCards, and operates on weekdays only, connecting with MNR. A bus stop is provided on Edsall Avenue directly across from the pedestrian bridge to the MNR Spuyten Duyvil Station.

Subway Service: Similar to the Kingsbridge waterfront site, the closet subway is the 1 line, which runs from Van Cortlandt Park – 242nd Street to South Ferry at the very southern tip of Manhattan. The 225th Street station is located at Broadway and 225th Street, more than a mile east of the Spuyten Duyvil Waterfront Park.

Rail Service: The MNR Spuyten Duyvil Station is located just south of the Spuyten Duyvil Shorefront Park and beneath the Henry Hudson Bridge. Pedestrian and vehicle access to the station is via Edsall Avenue, and a pedestrian bridge that connects to the station's pedestrian overpass takes advantage of the steep shorefront topography to minimize pedestrian walk distances.

Automobile Service: Auto access to the Spuyten Duyvil Shorefront Park is provided along Edsall Avenue. Some curbside parking is permitted along Edsall Avenue and

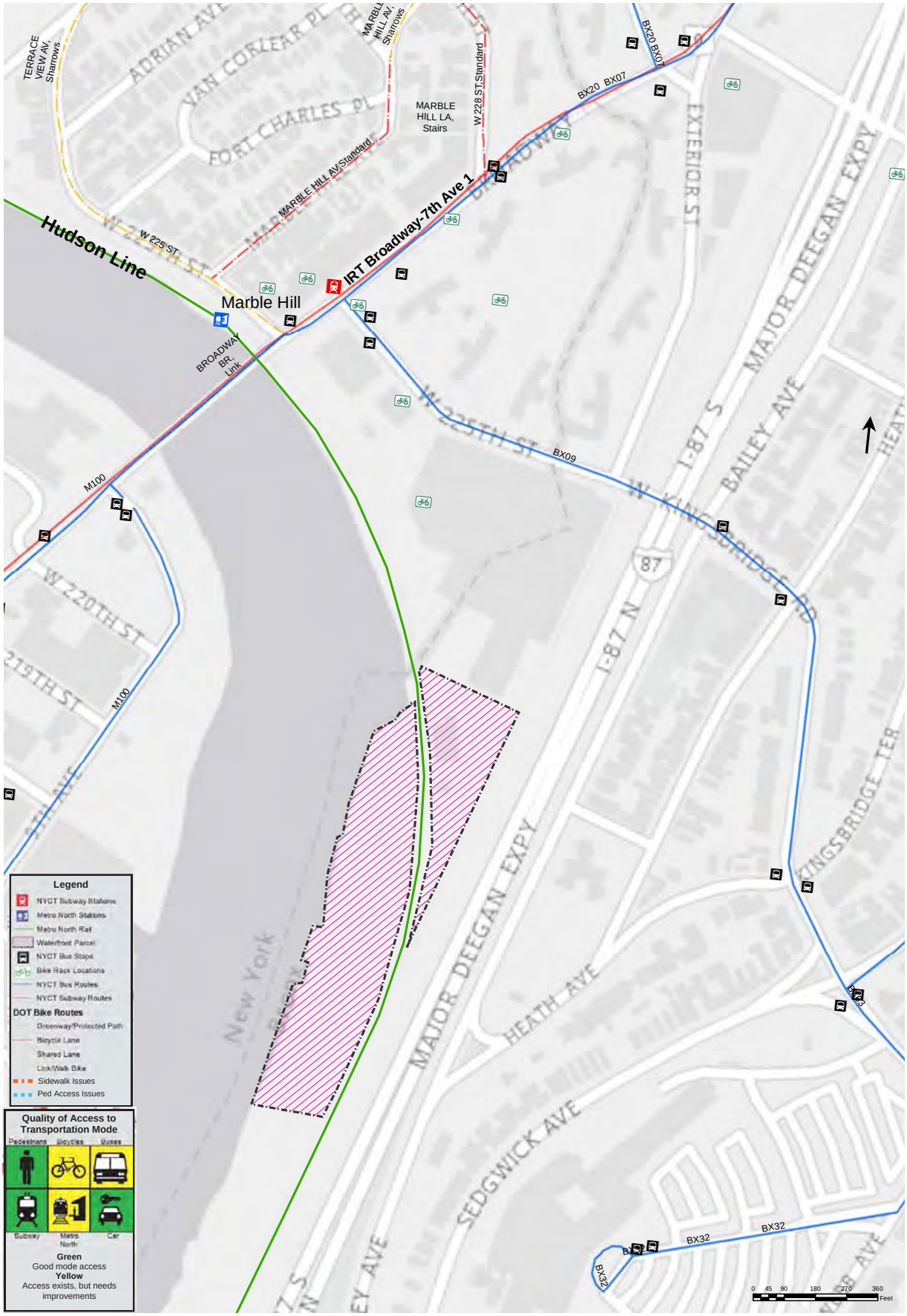


Figure 24. Kingsbridge Area Transportation Access Map 1 (Source: STV)

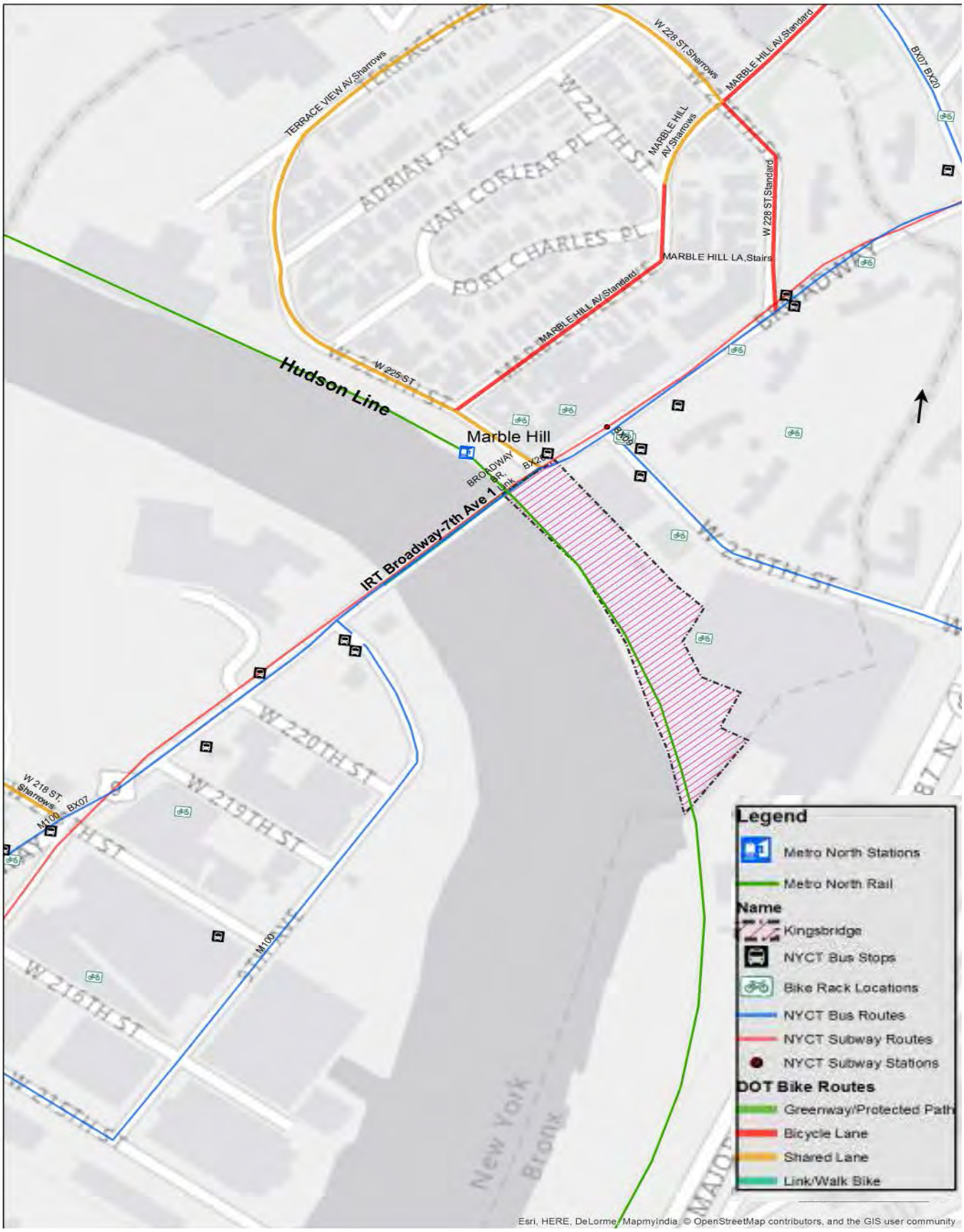


Figure 25. Kingsbridge Area Transportation Access Map 2 (Source: STV)

50 parking spaces are provided at the MNR Spuyten Duyvil Station. Motorists would use Johnson Avenue and Kappock Street or use Palisade and Independence avenues to access the Henry Hudson Parkway, a major north-south limited-access arterial in the study area. Further east are the local north-south routes of Riverdale Avenue and Broadway and West 225th Street, the nearest major east-west connector in the area.

INFRASTRUCTURE

Throughout the Harlem River BOA Study Area, combined sewage overflows into the river, as well as storm drainage from roadways and parking lots that discharge directly into the river, present the most pressing infrastructure issues. In order to address these conditions with green infrastructure or a combination of green and gray infrastructure improvements, it is necessary to first understand the drainage systems along the shoreline and the catchment areas for each outlet.

Additionally, in some areas, limited existing utilities infrastructure may be a constraint to some extent in adding new land uses to the waterfront. There is no sanitary sewer in Exterior Street and any new sanitary sewer would require pumping or a lift station from the waterfront to regulators which are at higher elevations inland. For initial recreational uses, composting toilets would be an option.

MILL POND PARK / MACOMBS DAM BRIDGE AREA (CD4)

Storm and Sanitary Sewers: Figures 26 and 27, Infrastructure and Drainage Maps 1 and 2, show the boundaries of the drainage areas, existing parks, the elevated highway and opportunity areas for street bioswales within this segment of the Central Focus Area. The drainage area for this section extends from the Grand Concourse, the upper ridge line to the east down to the Harlem River to the west. One of the major sewer trunk lines is within Jerome Avenue, capturing an area as far north as East 172nd Street and down to East 144th Street to the south. This is a combined sewer system with regulator chambers diverting low weather flow to the interceptor sewer and is part of the Wards Island Treatment Plant system.

An outfall at Mill Pond Park with Oak Point Rail Link over Harlem River beyond

There are four combined sewer outfalls (CSOs) within this section. There are two CSOs north of Macombs Dam Bridge from regulators number 60 and 60A (WI-049 and WI-62). The third CSO (WI-63) is just south of Macombs Dam Bridge for the parking areas along Exterior Street, the I-87/MDE and combined sewers on E. 157th Street. The fourth CSO (WI-64) is located just north of the East 149th Street Bridge. The three outfalls under Mill Pond Park appear to be for highway drainage from the elevated I-87/MDE only. Except where the prototype “Pop-Up Wetland” at Pier 5 captures stormwater from I-87/MDE, the I-87/MDE run-off directed to the river is untreated. The center outfall appears to be for the Gateway shopping center, though further investigation would be needed to determine this conclusively. The shopping center’s EA report notes that the property uses various Best Management Practices to provide water quality measures.

The 8’ -6” diameter interceptor is located in Sedgwick Avenue and crosses under I-87/MDE and MetroNorth just north of Macombs Dam Bridge to connect with Regulator Number 60. The interceptor then becomes a 10’ x 7’6” box and continues south within Exterior Street and Gateway Center Boulevard.

Water: The water mains within Sedgwick Avenue just north of Macombs Dam consist of a 48 inch, 1930 and a 12inch, 1930 main. In Exterior Street south of Macombs Dam Bridge, there is a 20 inch, 1930 water main which continues south in Gateway Center Boulevard to East 149th Street.

Electric and Communication: Underground electrical and communication lines are located within Sedgwick Avenue, Exterior Street south of Macombs Dam Bridge and Gateway Center Boulevard.

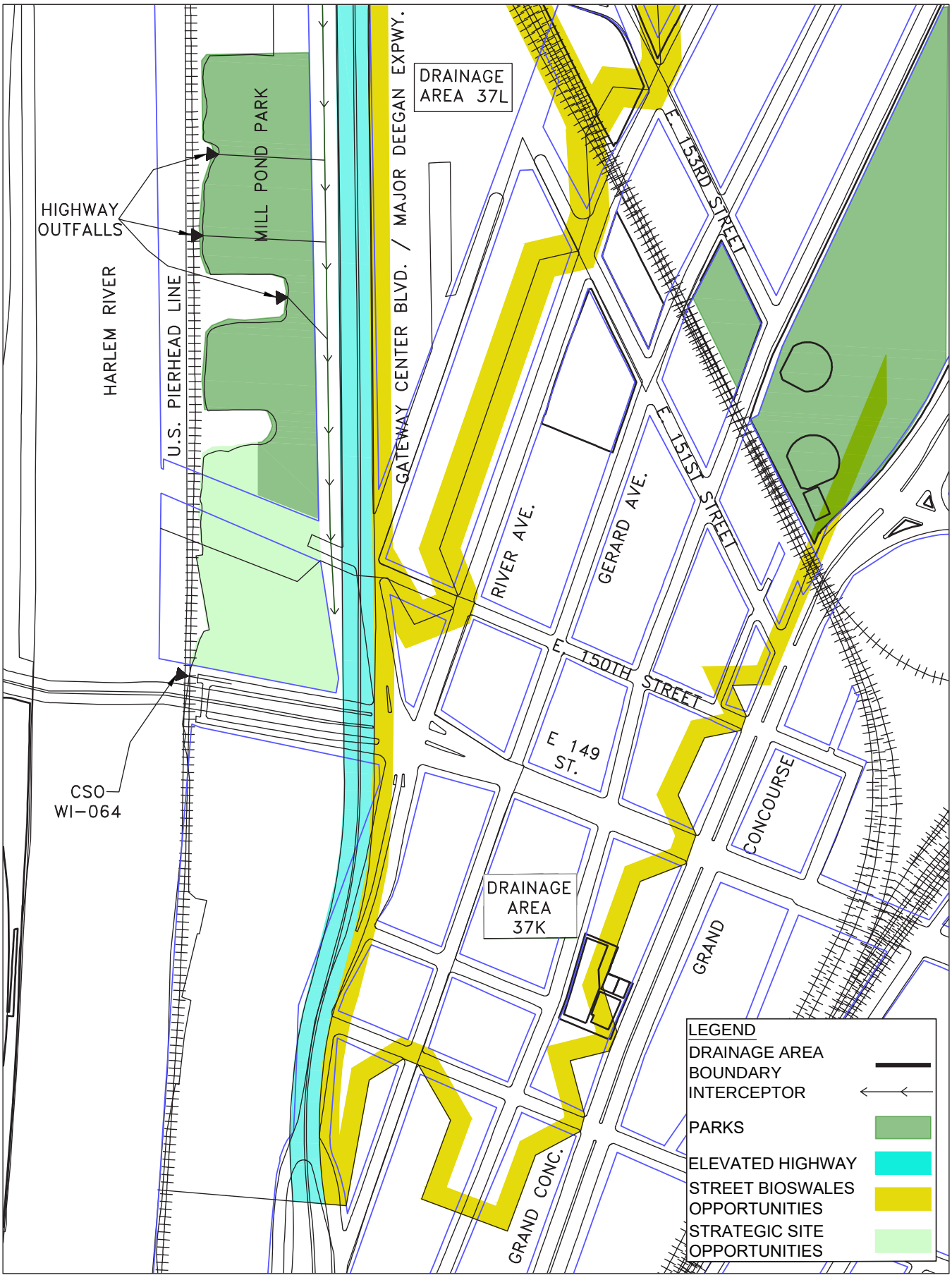


Figure 26. Infrastructure and Drainage Map 1: Mill Pond Park Area (Source: STV, utilizing DEP drainage maps)

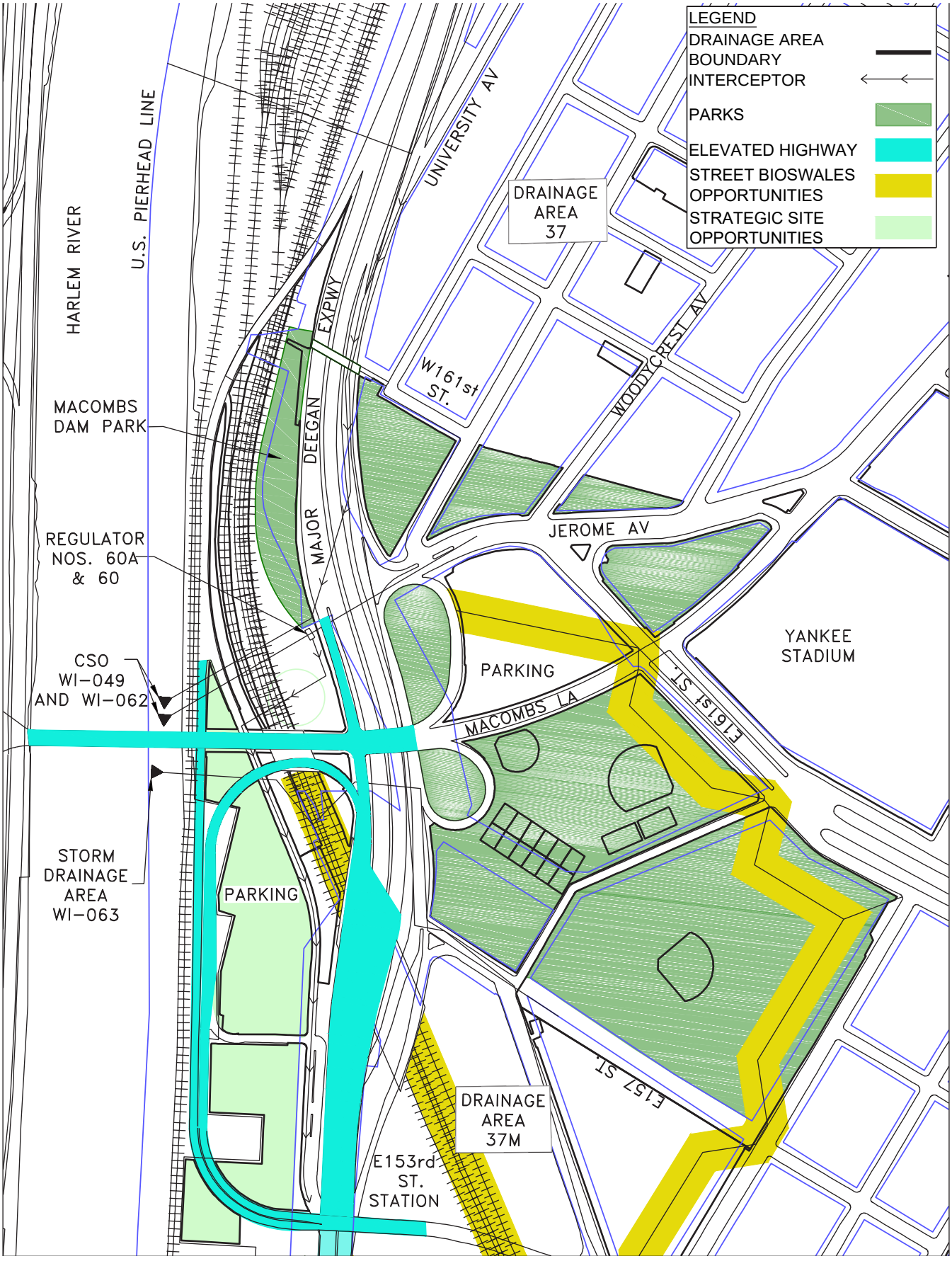


Figure 27. Infrastructure and Drainage Map 2: Macombs Dam Bridge Area (Source: STV, utilizing DEP drainage maps)

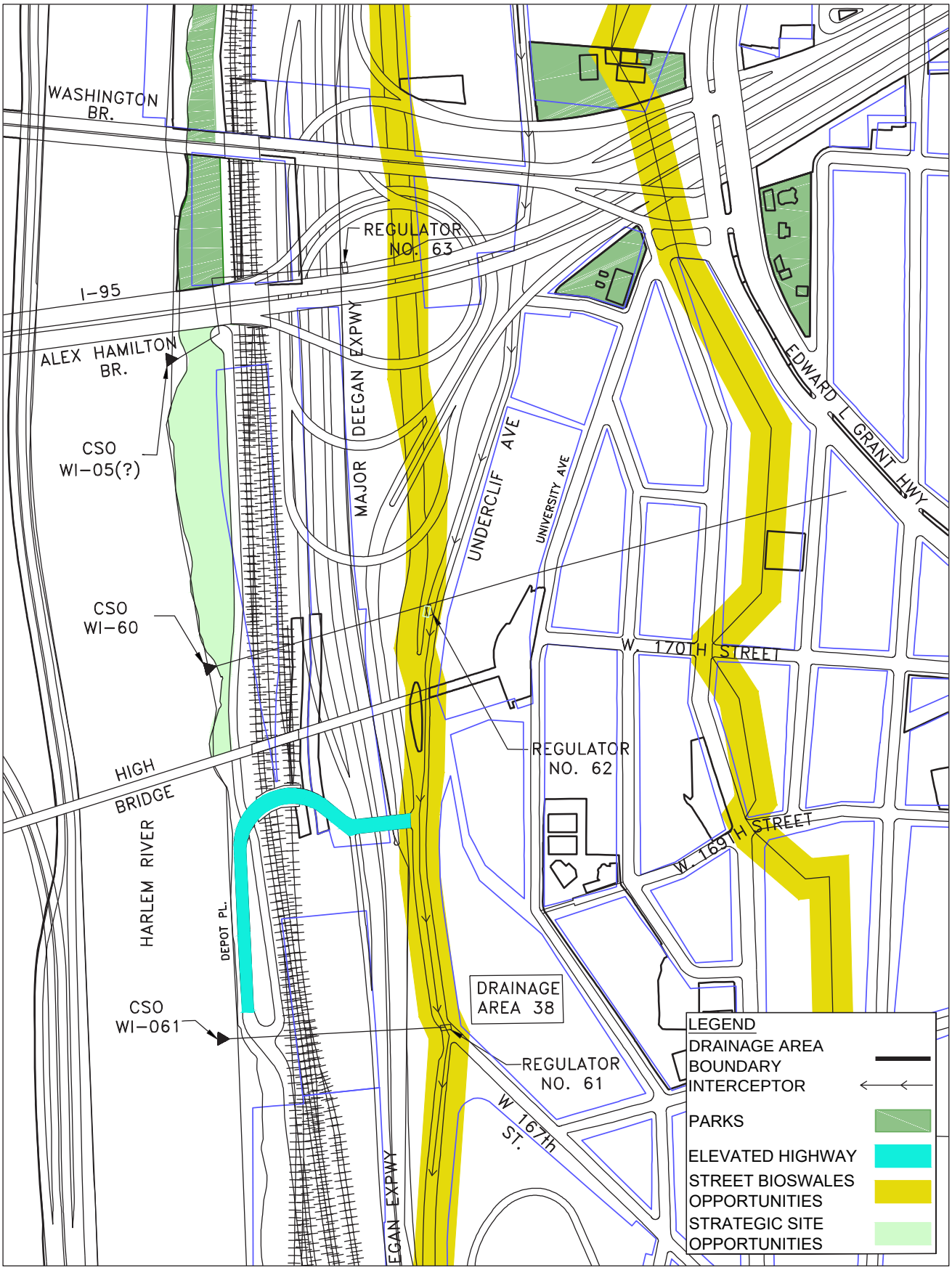


Figure 28. Infrastructure and Drainage Map 3: Depot Place Area (Source: STV, utilizing DEP drainage maps)

DEPOT PLACE TO SOUTH OF ROBERTO CLEMENTE STATE PARK AREA (CD4-CD5)

Storm and Sanitary sewers: See Figures 28 and 29, Infrastructure and Drainage Maps 3 and 4, respectively. The drainage area for this section extends from the Grand Concourse, westward, down to the Harlem River. It encompasses the area from East 176th Street to the north and to East 169th Street to the south. This is a combined sewer system with regulator chambers diverting low weather flow to the interceptor sewer and is part of the Wards Island Treatment Plant system. There are four CSOs within this section. The northerly CSO (WI-59) is just south of Roberto Clemente State Park from Regulator Number 64 that is in line with West 176th Street. The second CSO (WI-05 noted on DEP Drainage Plans but not on DEP's latest CSO listing) is south of Washington Bridge from Regulator Number 63. The third (WI-60) is just north of High Bridge from Regulator Number 62. The fourth (WI-61) is just south of Depot Place from Regulator Number 61. In addition, Depot Place and Exterior Street have storm / highway drains that outfall directly to the river.

The 7'-6" to 8'-6" diameter interceptor sewer flows north to south to the Wards Island Treatment Plant. Starting at the Bronx Community College, the interceptor is within Sedgwick Avenue, then at West Tremont Avenue aligns within Undercliff Avenue to Washington Bridge and then at Depot Place back into Sedgwick Avenue.

Combined sewers are located within Sedgwick Avenue to the east side of I-87/MDE, but not on Exterior Street adjacent to the Strategic Sites.

Because there is no sanitary sewer service at Depot Place, as the Harlem River Promenade study suggested, a composting toilet might be an option for initial start-up or limited recreational use.

The DEP website notes that the agency has amended the drainage plans in certain rezoned large waterfront areas with existing combined sewer systems, now requiring separate sewer systems to avoid large volumes of CSO discharge to the receiving waters. Gateway Center Boulevard – Harlem River is listed as one of these locations where separate sewer systems are now required.[1]

Water: There is a 12 inch water main that terminates at a hydrant north of Depot Place Bridge along Exterior Street. At the north end of Exterior Street where it abuts the developed portion of Bridge Park there is an 8 inch water main that terminates at a hydrant located within the cul-de-sac. There are no public water mains beyond this point to RCSP.

Electric and communication: Along Exterior Street from Depot Place to the Bridge Park south entrance, there are overhead electric and telephone service lines. There are no electrical or communication service lines south of RCSP.

Typical "Caution: Wet Weather Discharge Point" sign at a Depot Place outfall warns of untreated sewage discharges during wet weather

Figure 29. Infrastructure and Drainage Map 4: Bridge Park to RCSP Area (Source: STV, utilizing DEP drainage maps)

UNIVERSITY HEIGHTS BRIDGE / WEST FORDHAM ROAD AREA TO WEST 225TH STREET (CD7)

Storm and Sanitary sewers: Although there are no combined or sanitary sewers along Exterior Street, water quality in the Harlem River is adversely impacted by combined sewer overflows, including one outfall with the largest flow volume of any in the city. The drainage area for this section extends from the Grand Concourse, the upper ridge line to the east, down to the Harlem River to the west. It extends from Van Cortlandt Park to the north and to Bronx Community College to the south. This is a combined sewer system with regulator chambers diverting low weather flow to the interceptor sewer and is part of the Wards Island Treatment Plant system.

There are two combined sewer outfalls within this section. About 1,400 feet south of west 225th Street/ West Kingsbridge Road or in line with the old 192th Street alignment is CSO (WI – 056) from Regulator Number 67, which is a double barrel 15 x 9 foot outfall structure. This CSO has been identified as having the largest CSO flow in the city. The sewer trunk that it outlets capturesTibbets Brook south of Van Cortlandt Park as well as other adjacent combined sewers as it flows south towards the river. Due to the significant exacerbation of combined sewer overflows into the river, DEP, in collaboration with NYC Parks, is currently studying concepts for daylighting Tibbets Brook south of Van Cortlandt Park in order to remove its flow from the combined sewer system.

The second CSO (WI-057) from Regulator Number 66, is in line with Landing Road. Regulator Number 66 is located within the I-87/MDE and handles most of the combined sewer flow from the Fordham Road area.

In line with the Heath Avenue and Bailey Avenue intersection, is a storm water / highway outfall for I-87/ MDE. At the University Heights Bridge ramp to Exterior Street there are street catch basins which appear to outlet directly to the river.

The 7 foot diameter interceptor sewer starts at Regulator Chamber Number 67, continues due east under the I-87/MDE, then south on Bailey Avenue which mergers into Sedgwick Avenue and then continues within the bed of Cedar Avenue south of Landing Road.

The absence of sewage infrastructure on the waterfront and the expense and difficulty of connecting to the upland sewage system is often cited as one of the reasons that the University Heights waterfront has not been developed. A pumping or lift station would be required to connect from the waterfront to the inland sewer system on the other side of the rail tracks and across I-87/MDE. There is an easement under the Metro-North rail tracks in line with Landing Road, so obtaining permission to install a sewer under the tracks should not be an issue. The construction requirements and track outage would, however, require extensive coordination.

Water: An 8 inch, 1971 water main is located within Exterior Street from West Fordham Road which becomes a 12 inch, 1967 main at the Landing Road crossing, where is connects with a 36 inch main that crosses under the river from Manhattan. The 12 inch water main continues to the north within the Exterior Road extension, but is identified as a private main.

Due to the direct connection to the 36 inch main, there should be additional water capacity if needed. DEP would need to be consulted for more specific information.

Electric and communication: There are overhead electric and telephone lines along Exterior Street north of University Heights Bridge to the concrete plant. There is also overhead electric south of the bridge.

Notes: Infrastructure

[1] "New Separate Sewer Systems," NYCDEP, http://www.nyc.gov/html/dep/html/stormwater/other_investments_sep_sewer_systems.shtm, accessed December 16, 2015.

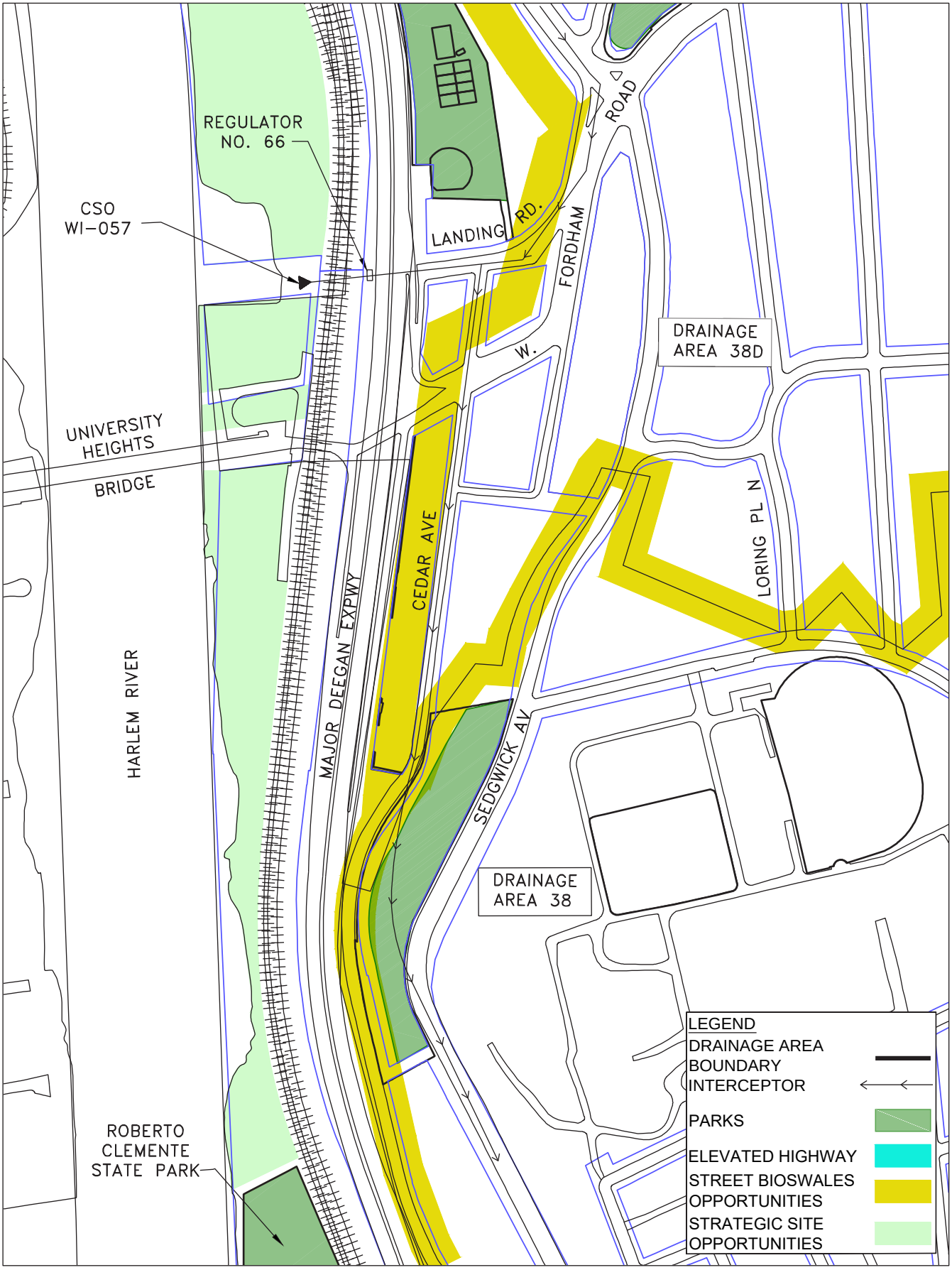


Figure 30. Infrastructure and Drainage Map 5: University Heights Bridge/WestFordham Road Area (Source: STV, utilizing DEP drainage maps)

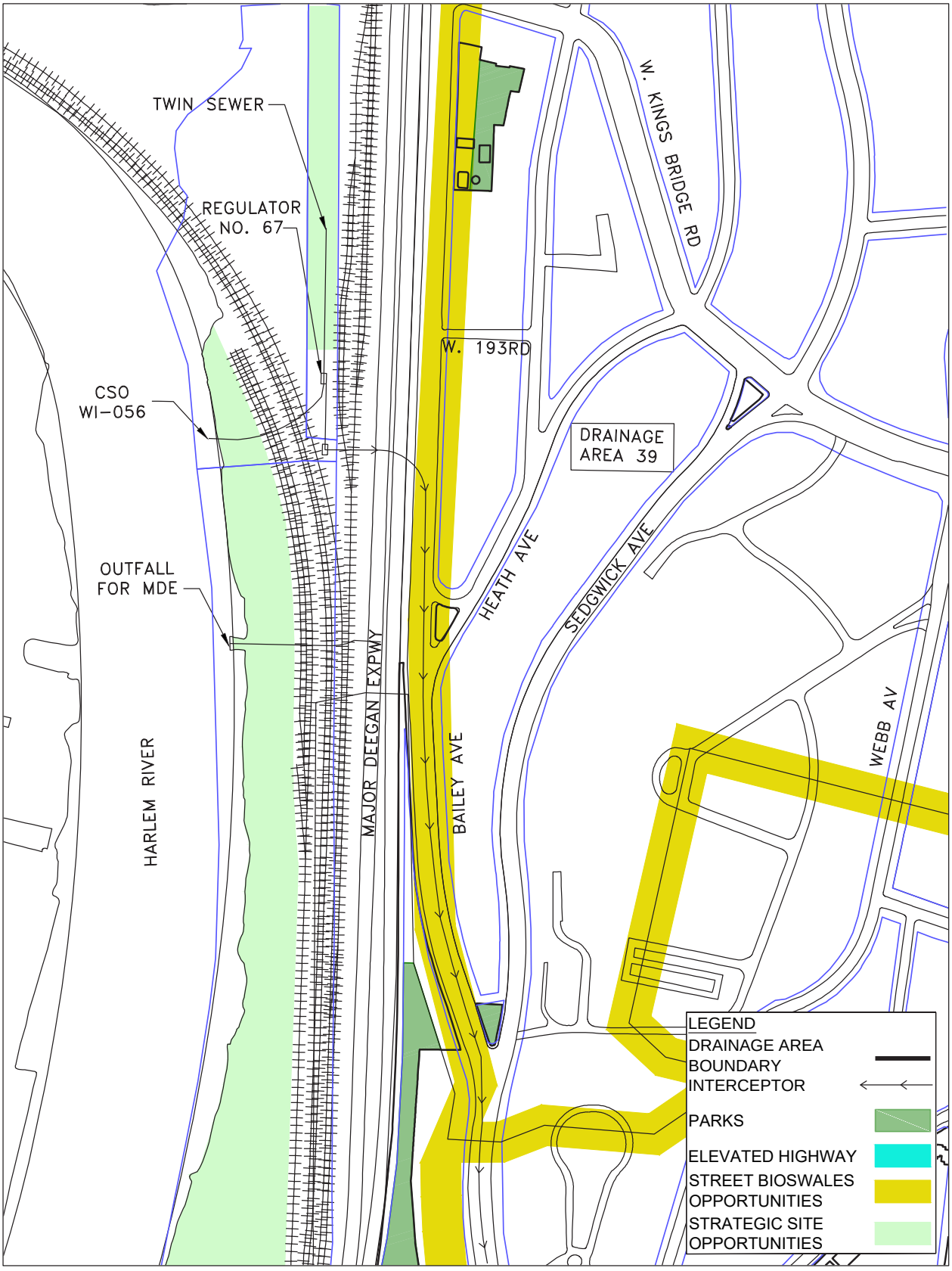


Figure 31. Infrastructure and Drainage Map 6 (Source: STV, utilizing DEP drainage maps)

MARITIME INFRASTRUCTURE

Maritime infrastructure is extremely important for developing the vision of the Harlem River waterfront as a place of recreational access to and from the water. The Shoreline Conditions map, Figure 33, shows the location of the sole launch point for hand-powered craft on the Bronx side of the river in RCSP and the ferry dock near Yankee Stadium. Rip rap, bulkhead and CSO locations are also indicated on the map.

Stone rip-rap lines the banks of the Harlem River throughout most of the study area, with the occasional inclusion of a debris such as a junked car

SHORELINE CONDITIONS: The Harlem River edge consists mostly of stone rip rap, with isolated segments of bulkhead interspersed along the waterfront. The floating dock at RCSP is within one of the sections of rip rap edge. Nearby, the largest section of bulkhead is the 2,000 linear foot stretch in RCSP; the State has allocated funding to rehabilitate the RCSP's bulkhead that was damaged during Superstorm Sandy, among other improvements to the park. Near Fordham Road, the University Heights bulkhead is also in a state of disrepair, particularly along the La Sala property, where runoff is prevalent from the land into the river. At the foot of Depot Place, a bulkhead is also in poor condition. An intact bulkhead exists south of Macombs Dam Bridge at Yankee Stadium parking lots (Lots 13 & 14).

BRIDGES AND BOATING: Vertical clearances for the various bridges over the Harlem River are sufficient to allow tour boats to navigate the Harlem River as they circle Manhattan Island. The bridges also allow ample clearance for ferries and for smaller craft such as kayaks, rowboats and sculls that are already being launched in the river. Bridge clearances are shown in Figure 32. The rather limited vertical clearance and movable bridges have a maritime calming effect by limiting larger sized marine vehicles from using the Harlem River, creating conditions generally favorable for small craft.

Bulkhead at RCSP damaged by Superstorm Sandy before reconstruction and replacement of some portions with a more naturalized shoreline

Under a city ordinance passed in 2006 after a tragic boating accident, NYC Parks has also established a "No Wake" zone from High Bridge to University Heights Bridge in order to provide better safety and quality of boating experience for small craft boaters.

While existing launch infrastructure for small craft is limited on the Harlem side of the river to the floating dock at RCSP, the Peter Jay Sharp Boathouse at Swindler Cove/Sherman Creek Park provides access from northern Manhattan. Columbia University also maintains a rowing facility at the northern tip of Manhattan near the HR BOA study area, and university rowers from Columbia and other universities practice in the upper Harlem River.

Floating dock at RCSP is currently the only small boat launch point on the Bronx side of the Harlem in the BOA Study Area

On the southern portion of the Study Area shoreline from Pier 5 through Macombs Dam Bridge, the Oak Point Rail Link over the water just offshore prevents access to the shore by any type of craft. The Oak Point Rail Link blocks any potential access to the coves at Mill Pond Park or to Pier 5 for even very small craft. The clearance between the water and the railroad bridge is only a few feet, varying with the tide. The ferry dock serving Yankee Stadium is just outside the Oak Point Link and passengers on the occasional game-day ferry cross the tracks to reach the dock.

Peter Jay Sharp Boathouse on the Manhattan side of the river, from which small craft launch

Bridge	Bridge Type	Vertical Clearance (Ft)
145th Street	Swing	30
Macombs Dam	Swing	27
High Bridge	Fixed	112
Alexander	Fixed	103
Washington	Fixed	134
University Heights	Swing	25
Broadway	Lift	24
Henry Hudson Parkway	Fixed	142
Spuyten Duyvil	Swing	5

Figure 32. Summary of Harlem River Bridge Types and Vertical Clearances

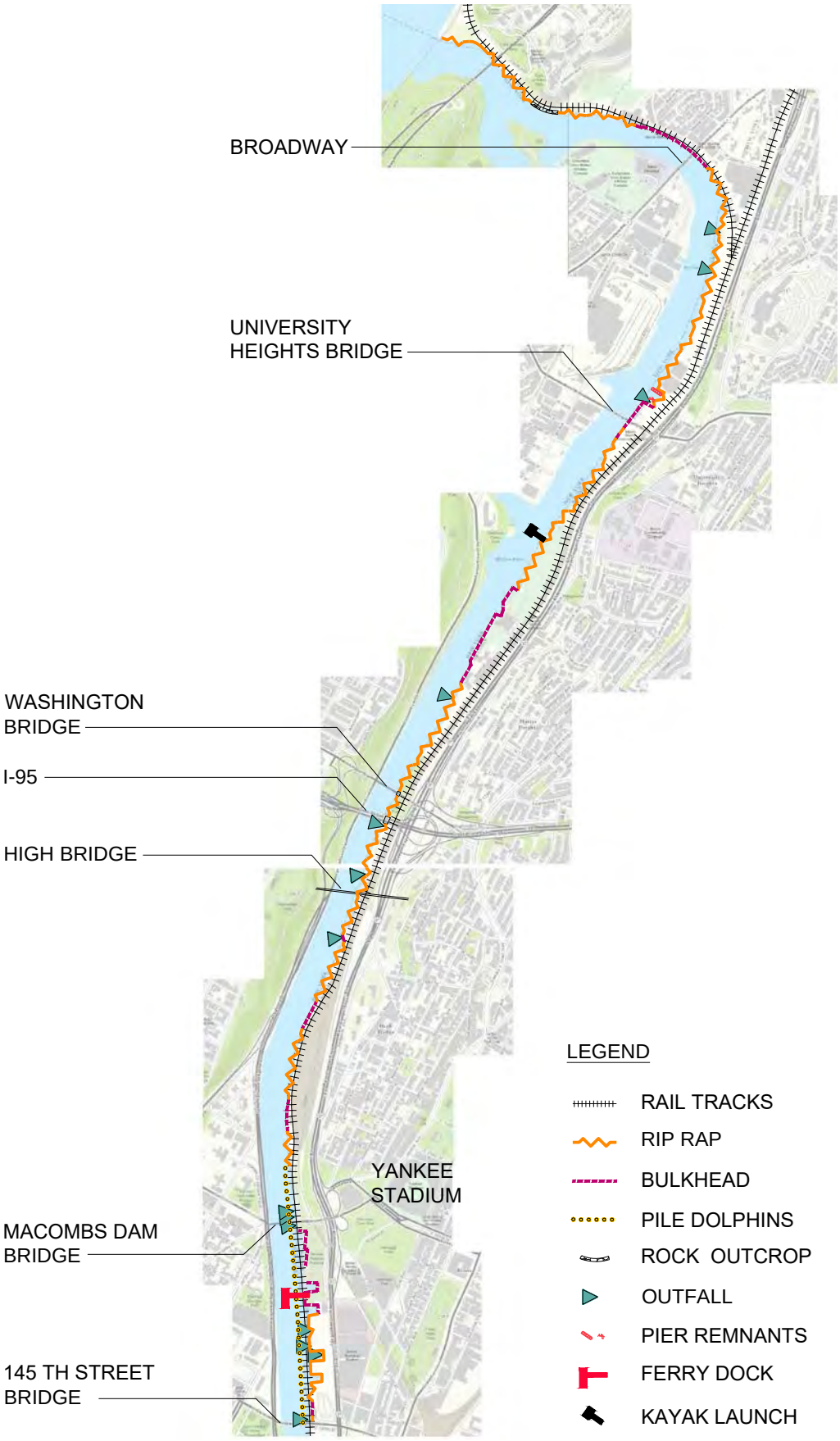


Figure 33. Harlem River Bronx Riverfront Shoreline Conditions (Source: ABB)

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES

GEOLOGY: The Harlem River nestles itself between upland slopes on both the Bronx and Manhattan sides of the river. As Figure 34, the Geologic Cross-Section at the Cross-Bronx Expressway shows, the river valley carves into the underlying Inwood Marble where it meets a more prominent outcropping of Fordham Gneiss. Inwood Marble is softer and more easily dissolved than the adjacent Manhattan Formation, which is comprised of schist and gneiss, or the Fordham Gneiss to the west.

Fordham Gneiss outcroppings form the beautiful, but difficult to traverse, upland ridge on east side of the Major Deegan. Inwood Marble is visible on both sides of the river just outside the HR BOA study area at Marble Hill, where the Harlem River Ship Channel was chiseled through the rock formation to connect with the Hudson River to the west.

Despite the relative clarity of the simplified cross-section that is shown, the geology of the Bronx and Manhattan is quite complex, resulting from great folds and thrust faults associated with the Taconic shear zone running generally northeastward. Rock formations here date back to some of the oldest geological eras, with Fordham Gneiss from the Proterozoic Eon in the Precambrian period (over 540 million years ago). The Cambrian Manhattan Formation and the Cambrian-Ordovician Inwood Marble are slightly more recent, dating to the Age of Invertebrates.[1]

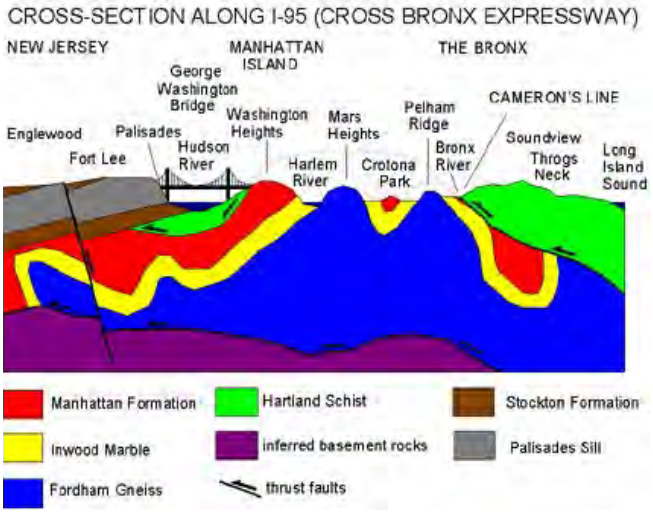


Figure 34. Geologic Cross-Section at Cross-Bronx Expressway (Source: USGS)

SOIL:[2] *One of the most valuable natural resources available to the Harlem River BOA is the soil underlying the waterfront and upland area. A soil survey suggests how the nutrient content and metals uptake capacity of the BOA and upland soils could be enhanced to contribute much more to the remediation of the downslope brownfields and to the public health of the upland communities.*[2A]

Much of the waterfront in the BOA's Central Focus Area is historic fill used in the construction of the Harlem Ship Canal and the railroad. The soil here is of the LaGuardia Ebbets series – very deep, well-drained soils that have formed on human created or modified landscapes in a thick mantle (>40 inches) of human transported soil materials mixed with construction debris. Coarse fragment (>2mm) content ranges from 10 to 35 percent by volume, with more than 10 percent human artifacts. Most of these (concrete, asphalt, bricks, coal, ash) will act like rock fragments. Permeability is moderate in areas where the soil has not been compacted at the surface, and moderately slow where it has surface compaction or platy structure. The Hydrologic Soil Group is B. . . .

The soil type of the Spuyten Duyvil waterfront and upland, as well as the band of land immediately upland of the BOA's Central Focus Area, is Chatfield Series. It consists of moderately deep, well-drained loamy soils that have formed in a moderately thick mantel of glacial till overlying granite, gneiss, or schist bedrock. Depth to bedrock ranges from 20 to 40 inches; solum thickness ranges from 16 to 36 inches. Rock fragments range from 5 to 50 percent in the A horizon and from 5 to 35 percent below. Permeability is moderate or moderately rapid; the Hydrologic Soil Group is C.

Much of the BOA upland is taken up by impermeable transportation infrastructure, with dense development of buildings, parking lots, and paved surfaces. This is characterized as the Pavement and Buildings Unit, areas in which 80% or more of the surface is covered by asphalt, concrete, buildings, or other impervious materials, so intermingled with other soils that it is not practical to map them separately. Substratum phases are added to provide additional information. The till substratum phase indicates a high probability

of unsorted and unstratified glacial till deposits in the substratum.

The upland has several significant areas characterized as Charlton Greenbelt. These are generally found in the area of the Old Croton Aquaduct and steep slopes running along the highway, service roads and railroad corridors. Charlton soils are very deep, well-drained loam that have formed in glacial till derived mainly from granite, gneiss, or schist. Depth to bedrock is greater than 60 inches; solum thickness ranges from 20 to 38 inches. Rock fragments range from 5 to 35 percent by volume to a depth of 40 inches, and up to 50 percent below. Permeability is moderate or moderately rapid; Hydrologic Soil Group is B.

The Greenbelt Series consists of very deep-to-bedrock, well-drained soils that have formed in more than 40 inches of loamy fill that has been piled on a natural surface that may or may not have had its topsoil layer removed before being covered. These soils do not have a fragipan or dense till within the top six feet, but the subsoil may have been compacted by heavy machinery as it was being deposited. Natural rock fragments range from 1 to 20 percent; these soils are relatively clean of human artifacts. Permeability is moderate in areas where the soil cap has not been compacted, but is moderately slow where it has been compacted and has platy structure; Hydrologic Soil Group is B.

AGRICULTURAL LANDS: Currently there are no agricultural lands within the proposed Harlem River BOA Focus Areas, due to their other uses within a densely urbanized area, e.g. transportation corridors, parking lots, industrial and former industrial sites, etc.) and due to contamination issues. However, urban agriculture is rapidly gaining prevalence and popularity in New York City and other urban areas, and future agricultural uses are entirely plausible. These agricultural uses could include, for example, community or demonstration gardens in raised at-grade beds, rooftop gardens, greenhouses or even possibly vertical farms in the more distant future. In fact, some of these urban agricultural uses have already been proposed for at least one area of the project site, in the Depot Place area, as part of the proposed Harlem River Promenade.[3]

WATER:

Surface Water and Tributaries: As noted in the Step 1 BOA report:

The Harlem River is part of the Hudson River Estuary, an ecosystem designated in 1987 as an Estuary of National Significance in the National Estuary Program (one of 28 in the U.S.). It is a tidal strait flowing 7.6 miles from the Hudson to the East River between the Bronx on the mainland and the island of Manhattan.

Its best use classification by NYSDEC is as a Class I saline surface water, making it suitable for secondary contact recreation, like boating, but not primary contact recreation, like swimming and shellfishing for marketing. ….

The Harlem River north of Macombs Dam Bridge is far cleaner and safer than either the lower Harlem or East Rivers, making it one of the most promising in the city for potential recreational development. A rigorous strategy to clean up the Brownfields, abate stormwater runoff (the main conduit of chemical contaminants) and combined sewer overflows (the major source of coliform bacteria and floatables) could raise the usage level to the legal requirement to permit swimming and fishing. This would catalyze the recreational value of the entire Harlem River Park with economic benefits to the adjacent communities.

Tibbets Brook flows south from Yonkers to the Harlem River, roughly along the route of the proposed Putnam rail trail. In the 1920s it was filled in and routed through a network of sewers south of Van Cortlandt Park. The Tibbett could one day be daylighted, as the Saw Mill River is in Yonkers, restoring it as an ecological and aesthetic feature of the waterfront and greenway, and mitigating rather than contributing to the pollution of the Harlem River.

Drainage

Stormwater flows in to the Harlem River when rains causing Combined Sewer Overflows (CSO's) to shut off flow to the Wards Island Water Pollution Control Plant. (See Infrastructure sections above for more details.)

Groundwater

The groundwater level in the proposed BOA fluctuates due to the proximity of the Harlem River. On average, groundwater levels are higher than the river and flow toward it. Groundwater in the Bronx is not used for potable water, which has left it vulnerable to weak enforcement of environmental regulations.[4]

View of Harlem River looking northwest from RCSP.: habitat on both sides of river is a rare resource in NYC.

WETLANDS, WATERWAYS AND FLOODPLAINS:

As the HR BOA Step 1 report goes on to note:

Wetlands

Less than a hundred years ago, this tidal strait had expansive wetlands in the northern reaches, connecting with the freshwater wetland system in the lower Tibbetts Brook. The river was once almost entirely lined with intertidal salt marsh, providing enormous habitat value for fish, local and migratory bird, and the substantial number of species that make salt marsh their permanent home, including Spartina alterniflora, ribbed mussels, and fiddler crabs. Oyster reefs, a keystone species of the estuary, were ubiquitous.[5]

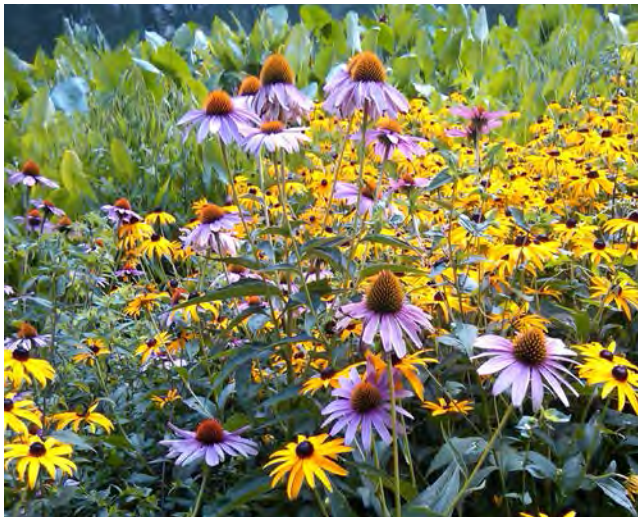
Today, there is little remaining intertidal wetland within the HR BOA study areas. The cove at Landing Road and the proposed Regatta Park is mapped on the NYS DEC Tidal Wetlands map under "Coastal Shoals, Bars and Mudflats." Just across the river on the Manhattan side, another inlet carries the same designation, underscoring the need for considering the river and its habitats as an ecological whole.

Although there are no intertidal marshes along the river within the HR BOA Central Focus area, the DEC map notes a small sliver of intertidal marsh just west of the Marble Hill Metro-North Station and another fragment in Inwood Hill Park on the Manhattan side. These could be important for reference for any future reintroduction of intertidal wetlands along the BOA Central Focus Area shoreline. The current RCSP Revitalization Project includes a new intertidal pool that will attempt a small reintroduction of an intertidal zone in a spot where it can be used for public education.[6]

No freshwater wetlands are depicted on the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map or the NYS Department of Environmental Conservation (NYSDEC) Freshwater Wetlands map for the study area. As the "Final Supplemental Environmental Impact Statement for the Croton Water Treatment Plant at the Harlem River" noted, "No freshwater wetlands, waterways or floodplains were evident ….. The presence of concrete bulkheads and concrete boulder riprap that lies along the entire accessible shoreline of the water treatment plant site may be one of the reasons for the lack of a bordering vegetated wetland."[7]

VEGETATION / WILDLIFE HABITAT: With the exception of the existing parkland in the Harlem River BOA Central Focus Area, the majority of the land is either paved with impervious surfaces (streets and parking lots) or has been cleared and maintained in a cleared state (e.g. railroad tracks and rail yard, distribution and manufacturing sites or construction staging areas). The reach between the University Heights Bridge and the River Plaza Mall in CD7 contains the bulk of the vegetated areas along the waterfront.

Vegetation along this reach of waterfront in CD7 consists of either "Urban Vacant Lot," "Successional Old Field," or "Successional Southern Hardwoods," according to the existing conditions survey for the proposed Croton Water Treatment facility. These plant communities are a mixture of non-native and native herbaceous and woody species, many of which fall into the category of invasives. Tree and shrub species found onsite include Robinia pseudo-acacia (Black Locust), Populus deltoides (Eastern cottonwood), Ailanthus altissima (Tree of Heaven), Morus rubra (Red mulberry), Malus sp. (Crabapple) and Zelkova serrata (Zelkova). The trees are all relatively small caliper, not mature individuals. Artemesia vulgaris (Common Mugwort), along with ragweed, goldenrods, wild sweet clover, thistles,



Echinacea and black-eyed susan blooming in Bridge Park

various grasses, vines and Japanese knotweed dominate the herbaceous layer.[8]

From the standpoint of habitat and ecological functioning, these vegetative communities found onsite, although certainly far better than barren impervious surfaces, are not considered optimal for food value or shelter for wildlife or for stormwater management purposes. There is considerable room for improvement in these areas through well planned and executed projects that include ecological enhancements.

FISH AND BENTHIC MACROINVERTEBRATES: As part of the estuary system that links the New York Harbor, the Long Island Sound and the Hudson River, the Harlem River is currently designated as Essential Fish Habitat (EFH) for 21 federally managed fishery species. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The fish species that may spend at least a portion of their lifecycles in the Harlem River include many well-recognized and prized fish species. However, it should be noted that even though the Harlem River is classified as EFH for all of the species noted below, not all have actually been found in the Harlem and some may be unlikely to occur here due to species preferences for specific temperature and salinity levels.[9] The fish species that could possibly spend at least a portion of their life cycles in the Harlem River are: Atlantic cod *(Gadus morhua);* haddock *(Melanogrammus aeglefinus);* pollock *(Pollachius virens);* whiting *(Merluccius bilinearis);* offshore hake *(Merluccius albidus);* red hake *(Urophycis chuss);* white hake *(Urophycis tenuis);* redfish *(Sebastes fasciatus);* witch flounder *(Glyptocephalus cynoglossus);* winter flounder *(Pseudopleuronectes americanus);* yellowtail flounder *(Limanda ferruginea);* windowpane flounder *(Scophthalmus aquosus);* American plaice *(Hippoglossoides platessoides);* ocean pout *(Macrozoarces americanus);* Atlantic halibut *(Hippoglossus hippoglossus);* Atlantic sea scallop *(Placopecten magellanicus);* Atlantic sea herring *(Clupea harengus);* monkfish *(Lophius americanus);* bluefish *(Pomatomus saltatrix);* long finned squid *(Loligo pealeii);* short finned squid *(Illex illecebrosus);* Atlantic butterfish *(Peprilus triacanthus);* Atlantic mackerel *(Scomber scombrus);* summer flounder *(Paralichthys dentatus);* scup *(Stenotomus chrysops);* black sea bass *(Centropristis striata);* surf clam *(Spisula solidissima);* ocean quahog *(Artica islandica);* spiny dogfish *(Squalus acanthias);* tilefish *(Lopholatilus chamaeleonticeps);* king mackerel *(Scomberomorus cavalla);* Spanish mackerel *(Scomberomorus maculatus);* cobia *(Rachycentron canadum);* sand tiger shark *(Carcharias taurus);* dusky shark *(Carcharhinus obscurus);* sandbar shark *(Carcharhinus plumbeus).*[10]

Historically, oysters were plentiful throughout the Harbor Estuary system, but due to pollution their numbers dwindled radically. In parts of the New York Harbor system, there have been recent efforts to reintroduce oysters as part of ecological restoration efforts. Both the Bronx River and the Harlem River are part of the Urban Waters Federal Partnership. The Bronx River has already been the site of the construction of an experimental oyster reef installed through a partnership between federal and local partners. In the Harlem River, there are a number of locations where reintroduction of oyster reefs for water quality filtering and for their value as habitat for estuarine fish and invertebrates might be accomplished.

The Harlem River's importance as a part of the Hudson River/Raritan/Sandy Hook Bays, New York/New Jersey block of major estuaries, bays and rivers along the northeast coast of the U.S. points to the fact that the health of the Harlem River is not only of local significance for fisheries habitat, but of national and global significance as well.

MACROINVERTEBRATES: For the Croton FEIS, *in situ* sampling was conducted to sample for benthic macroinvertebrates in the vicinity of the proposed Harlem River Site, concluding that "Overall, the species diversity and abundance of the macroinvertebrate communities along the water treatment plant site are typical of a New England Estuary." No state or

federally endangered or threatened species were found in any of the samples. The sampling, which was conducted in 2002-2003 at six sites in the river, from near University Heights Bridge to just south of the River Plaza Mall, revealed 24 species of invertebrates, which tended to be species that are "very tolerant of a changing and somewhat polluted environment." Two of the sampling sites were in close proximity to combined sewer outfalls.[11]

It is clear that improvements to water quality through enhanced stormwater management on the Harlem River could benefit species diversity and richness of aquatic species in the river and in the estuary system as a whole.

AMPHIBIANS AND REPTILES: Turtles, toads, frogs, lizards and snakes comprise the list of amphibians and reptiles that might potentially occur today along the Harlem River, though none of these were sighted during ecological surveys in 2002. The list of potential amphibian and reptile inhabitants includes Common Snapping Turtles and Eastern Box Turtles, Eastern American Toad and Fowler's Toad, Green Frogs and Northern Spring Peepers, Italian Wall Lizards, and Northern Brown and Common Garter Snakes.[12]

BIRDS: Despite its heavily urbanized land uses and reputation, the natural areas within New York City are key habitat for migratory birds stopping over along the Atlantic Flyway. The Harlem River shoreline offers current and/or potential habitat to at least 63 species of migratory birds. The list of potentially-occurring bird species includes shorebirds such as the Black-crowned Night-Heron (which has been seen on-site), Green Herons, Double-Crested Cormorants, Canada Geese, Mute Swans and a variety of ducks and gulls. Commonly recognized, urban tolerant birds such as starlings, robins, pigeons, cardinals, mockingbirds, sparrows and swallows join ranks with more elusive woodpeckers, vireos, chickadees, nuthatches and warblers, to name a few.[13]

Ducks inhabiting the Harlem River

With current concerns about rapidly declining bird populations due to incessant habitat losses and other factors, the Harlem River shoreline is a valuable resource with the potential for renewal of significant habitat. When combined with the heavily wooded Highbridge Park and mudflats at Sherman Creek and Inwood Hill Park on the Manhattan side of the river, as well as nearby inland parks and the Jerome Park Reservoir on the Bronx side, the Harlem River Valley can once again provide a significant patch of migratory bird habitat in a strategic location.

MAMMALS: Both the RCSP Environmental Assessment and the Croton SEIS determined that the mammals most likely to occur at sites along the Harlem River are small, urban tolerant mammals, particularly Norway rat *(Rattus norvegicus),* house mouse *(Mus musculus),* moles *(Scalpous sp.),* and gray squirrel *(Sciurus carolinensis).*[14] Additionally, Virginia Opossum, Eastern mole, various species of bats, Eastern Cottontail, Racoon and Striped Skunk could be expected to be found inhabiting vegetation along the Harlem River.[15]

These lists of mammals "most likely to occur" do not, of course, preclude the occasional appearance of other fauna or their reintroduction as environmental conditions improve. For example, beavers have famously made their reappearance on the Bronx River as water quality has been enhanced in recent years, and coyote, deer and the avian wild turkey have made news by making their way into densely populated boroughs of the city.

THREATENED AND ENDANGERED SPECIES: Although no rare, threatened or endangered species are known to appear within the Central Focus Area, a number of state or federally listed species have been recorded as inhabiting the New York City Harbor complex and/or terrestrial environments. It appears unlikely that any of these species would be found on sites along the Harlem River, but environmental reviews for any built projects, if required, would need to address any currently listed species. The "Roberto Clemente State Park Shoreline and Park Improvements Environmental Assessment" notes that the "Harlem

River is not considered Significant Coastal Fish and Wildlife Habitat by New York State Department of State (NYSDOS) (1992). NYSDEC has no current records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of the project site."[16]

The RCSP Environmental Assessment goes on to discuss several species of flora and fauna that are in the area, but do not appear to be on-site or likely to be on-site.[17] These include:

- The state-threatened plant Yellow Giant-hyssop (Agastache nepetoides), which was last confirmed in Bronx County in 1997.
- Two federally listed species whose ranges extend over the New York City metropolitan area, including the project site: piping plover (Charadrius melodus, threatened), and northern long-eared bat (Myotis septentrionalis, proposed endangered). Neither of these are expected to inhabit RCSP or the vicinity since the area does not contain their preferred habitat characteristics.
- Peregrine Falcon is still listed as endangered in New York State after populations declined in the previous decades, though it is common in many other parts of the US and globally. The RCSP EA concluded that "peregrine falcons are unlikely to use these buildings for nesting habitat, since better nesting and foraging habitat is located elsewhere in the region, and they are not likely to be found in the project site, which lacks tall structures preferred by the falcons for nesting." [18]
- Cooper's hawk (Accipiter cooperii) remains a state-listed species of special concern, although experts believe that population in the Eastern US have recovered from previous declines. The RCSP EA noted that RCSP "does not contain deep interior forest that is preferred by Cooper's hawks for nesting, and no Cooper's hawks were observed during the field investigation. The Cooper's hawk is unlikely to nest in the project, particularly since there are more suitable habitats nearby (i.e., Bronx Park), and no adverse impacts would occur."[19] This conclusion would likely apply to other potential project sites in the proposed Harlem River BOA.
- It is possible, though unlikely, that two species of sturgeon which are federally listed as endangered species may occur in the Harlem River as occasional transients. Both Atlantic sturgeon (Acipenser oxyrinchus) and shortnose sturgeon inhabit the Hudson River Estuary, but neither have been confirmed as being present in the Harlem River. The RCSP study concluded that if they did appear in the Harlem, it would be only as an occasional transient in the deeper navigation channel, which is away from the Bronx shoreline.[20]
- Seals sometimes appear in New York Harbor, but "Marine mammals are not commonly observed in the Harbor Estuary or the Harlem River, and it is unlikely that they would occur in the Harlem River unless they were unhealthy and/or lost."[21]
- Marine Turtles: The RCSP EA notes that four species of marine turtles - loggerhead (Caretta caretta); green (Chelonia mydas); Kemp's ridley (Lepidochelys kempii); and leatherback (Dermochelys coriacea) - all of which are state- and federally- listed (NYSDEC 2010b; USFWS 2010), can occur within the Harbor Estuary. However, none of these nest or are year-round residents in the Lower Hudson or Harlem Rivers. It is possible that occasional transient juvenile loggerheads or Kemp's ridley sea turtles might make their way into the Harlem River, although green sea turtles and leatherback sea turtles are usually only found in the higher salinity areas of the Harbor and are unlikely to inhabit the Harlem River.[22]

AIR QUALITY: As in many of the urban and suburban areas of the Northeast, New York City is in a "non-attainment" area as designated by the US EPA, meaning that it does not meet the National Ambient Air Quality Standards. NYC is within the New York-Northern New Jersey-Long Island, NY-NJ-CT Non-Attainment Area for 8-Hour Ozone. Since 2008, the status of the area has been considered "marginal."[23] On the one hand, air quality is reported to be the best it has been in over 50 years, according to New York City government announcements. This improvement is largely due to the city's Clean Heat program, which has been the impetus for replacement of some of the most highly polluting building heating systems.[24] However, even though air quality has improved over the previous two decades, NYC's air still does not meet federal air quality standards for two pollutants that are of particular concern for health reasons: fine particulate matter and ground level ozone.[25]

In the Bronx neighborhoods included in the proposed Harlem River BOA communities, air quality is generally worse than the overall city averages in most categories. New York City Health Department data summaries available for three areas that overlap the BOA Focus Areas and Community Participation Areas--Highbridge-

Air quality in the HR BOA area suffers from vehicular and other pollution sources

Morrisania, Crotona-Tremont and Kingsbridge-Riverdale—offer a more detailed picture of the health burdens from air pollution in the BOA neighborhoods.[26]

"Outdoor Air and Health in Highbridge-Morrisania" reveals conditions worse than city averages for nitrogen dioxide, fine particulate matter and sulfur dioxide, though better than city summer averages for ozone over the two-year period of 2009-2010. Health burdens as indicated by asthma-related emergency department visits and deaths estimated to be attributable to air pollution, and well as hospitalization rates and death rates for cardiovascular and respiratory causes related to air pollution, were worse than the city-wide averages in almost all categories.[27]

In the Crotona-Tremont neighborhood "Outdoor Air and Health" summary, which covers the residential neighborhoods in the central section of the BOA study area, the situation is reported to be slightly better, but still far from ideal. Levels of fine particulate matter and sulfur dioxide have proven to be worse than the city averages, while nitrogen dioxide and ozone have been in the "middle range."[28]

On the northern end of the study area and in the Spuyten Duyvil Focus Area, the "Outdoor Air and Health in Kingsbridge-Riverdale" study paints a somewhat better picture, though still cause for concern and action. Nitrogen dioxide levels in the 2013 study period were better than the city-wide average, fine particulate matter in the middle range, while ozone and sulfur dioxide were worse than the overall city average. All of the health burden data on asthma, respiratory and cardiovascular illness and deaths were in the "middle" to "worse" than city average ranges.[29]

With air quality and health impacts generally more dire than the city-wide average, in a region whose air quality is among the most challenged in the nation, the need for improvements is urgent. The Health Department notes that under NYC's currently policies, "Air quality initiatives currently focus on reducing emissions from motor vehicles, reducing traffic and congestion, promoting the use of cleaner burning heating fuels and planting trees." The community vision for increased greenspace and a continuous bike/pedestrian greenway along the Harlem River would contribute to these overarching strategies.

Notes: Natural Resources

1 USGS, Geology of Parks, "3D and Photographic Tours; Northern Manhattan," accessed September 17, 2015, http://3dparks.wr.usgs.gov/nyc/highlands/manhattan.htm.

2 The Soil subsection presented here is excerpted directly from the "Harlem River Waterfront" Step 1 BOA report.

2A Footnote as of 2007: "This layer of the urban landscape is under active investigation by the Natural Resource Conservation Service, and this agency, together with the New York Soil and Water Conservation District, has made New York City the most comprehensive urban soil survey yet undertaken. (Paul Mankiewicz, PhD. NYC Soil and Water Conservation District).

3 BOEDC & Starr Whitehouse, "Harlem River Promenade," p. xxxx

4 BCEQ, "Harlem River Waterfront," 2007, pp 63.

5 Ibid., p. 63-64.

6 New York State Homes and Community Renewal, prepared by AKRF, "Roberto Clemente State Park Environmental Assessment, "July 24, 2014.

7 NYC Department of Environmental Protection, "Final Supplemental Environmental Impact Statement for the Croton Water Treatment Plant," Section 7: "Water Treatment Plant at the Harlem River Site," 7.14 "Natural Resources," 2004, pp. 4-5, accessed September 22, 2015, http://www.nyc.gov/html/dep/html/environmental_reviews/crotoneis.shtml. The proposed Croton site (which was not chosen for the Croton facility) is the reach of the waterfront north of West Fordham Road/University Heights Bridge. Since another location was ultimately chosen for the Croton Water Treatment Facility and little other activity has since occurred at the Harlem River site, it is fair to assume that this report offers a still-relevant portrait of the northern section of the Central Focus Area.

8 NYCDEP, "Final SEIS for CWTP," pp. 1-4.

9 Ibid., pp. 19-25.

10 National Marine Fisheries Service, "Summary of Essential Fish Habitat (EFH) Designation," accessed May 18, 2015, http://www.nero.noaa.gov/hcd/STATES4/conn_li_ny/40407350.html.

11 NYC DEP, "Final SEIS for CWTP," pp. 10-18.

12 NYC DEP, "Final SEIS for CWTP," pp. 26.

13 Ibid., p. 26-28.

14 Ibid., p. 29.

15 Ibid.

16 Ibid., p. 30.

17 NYSHCR, "RCSP EA," pp. 5-10.

18 Ibid., p. 7.

19 Ibid.

20 Ibid., p. 6.

21 Ibid., p. 6-7.

22 Ibid., p. 7.

23 U.S. Environmental Protection Agency, "Current Non-Attainment Counties for All Criteria Pollutants," accessed May 18, 2015, http://www.epa.gov/airquality/greenbook/ancl.html.

24 NYC Office of the Mayor, "Mayor Bloomberg Announces New York City's Air Quality has Reached the Cleanest Levels in More Than 50 Years," http://www1.nyc.gov/office-of-the-mayor/news/311-13/mayor-bloomberg-new-york-city-s-air-quality-has-reached-cleanest-levels-more-than#/0, September 26, 2013.

25 Clean Air New York, "Air Quality Information," accessed May 18, 2015, https://511nyrideshare.org/web/clean-air-ny/air-quality-information.

26 NYC Department of Health and Mental Hygiene, "Environmental and Health Data Portal," accessed May 18, 2015, http://a816-dohbesp.nyc.gov/IndicatorPublic/publictracking.aspx.

27 NYC DOH, "Environmental and Health Data Portal," accessed May 18, 2015, "Outdoor Air and Health in High Bridge, Mor http://a816-dohbesp.nyc.gov/IndicatorPublic/NewQuickView.aspx

28 Ibid., "Outdoor Air and Health in Crotona-Tremont."

29 Ibid., "Outdoor Air and Health in Kingsbridge-Riverdale."

FLOOD HAZARDS: As with other locations in the Hudson-Raritan Estuary system, with the natural resource benefits also come risks. The Harlem River is impacted by the geographic phenomenon of the "New York Bight," where the New York and New Jersey coastlines meet at a right angle, a configuration that magnifies a hurricane's effects by funneling storm surge directly into New York City, amplifying flooding and related damage.[1] This situation was keenly felt during Superstorm Sandy, bringing much greater governmental and public awareness to the issue.

Within New York City's system of six different evacuation zones for coastal areas during hurricanes, the entire Harlem River BOA Central Focus Area is in either Zone 2 or Zone 3 based on the 2013 zone revisions. Zone 1 (found in the area south of this BOA) consists of the lowest-lying areas in locations most at risk of flooding from storm surges, with higher zones indicating gradually reduced risk. In the BOA Central Focus area, the High Bridge divides Zone 3 to the south and Zone 2 to the north. According to the NYC Office of Emergency Management, "these hurricane evacuation zones are based on coastal flood risk resulting from storm surge — the "dome" of ocean water propelled by the winds and low barometric pressure of a hurricane — the geography of the city's low-lying neighborhoods, and the accessibility of these neighborhoods by bridge and roads. The City may order residents who live in a zone to evacuate depending on a hurricane's forecasted strength, track, and storm surge." Roughly 3 million New Yorkers live within these six evacuation zones, and numbers are expected to increase.[2]

As separate but related issues, FEMA Flood Insurance Rate Maps (FIRMS) delineate areas at high risk for flooding. Flood risk is recognized to be worsening throughout the city due to a combination of sea level rise and land subsidence. Property owners with federally-backed mortgages on buildings identified in the high-risk areas on the FIRMs are required to purchase flood insurance.

On Preliminary FEMA Flood Insurance Rate Maps (PFIRMS), essentially all of the Central Focus Area is classified as either A/AE/AO (High Risk: Flooding) or X (Moderate Risk). None of the Central Focus Area is classified as VE (High Risk: Flooding & Waves), though the Hudson River side of the Spuyten Duyvil Focus Area, including the Spuyten Duyvil Triangle, is rated as VE.

The City, led by the Mayor's Office of Recovery and Resiliency (ORR), has developed a multifaceted plan for improving the city's resiliency--the ability

RCSP suffered flood damage in Superstorm Sandy necessitating closing off esplanade edge until reconstruction

of its neighborhoods, buildings and infrastructure to withstand and recover quickly from flooding and climate events. Currently, multiple city agencies and ORR are working with communties to understand the risks they face and support the vitality and resiliency of neighborhoods through the "Resilient Neighborhoods" initiative. This work builds on and compliments DCP's resiliency planning efforts, including a series of zoning text amendments as well as studies such as "Retrofitting Buildings for Flood Risk," "Urban Waterfront Adaptive Strategies" and the "Resilient Retail" study that are applicable for the Harlem River BOA Study Area.[3]

In addition to the flood damage that was suffered at RCSP during Superstorm Sandy, the storm also took a toll on low-lying regional rail track and highlighted the need for more resiliency measures to prevent damage during future storms. During Sandy, approximately 50% of the MTA's Hudson Line, which runs alongside the Harlem and Hudson Rivers, was flooded during the storm, causing immediate damage to tracks and signal systems, as well as reducing the life-expectancy of surviving infrastructure that was flooded with salt water. As was seen during Sandy, in areas where the tracks are immediately adjacent to the water, storm surges can undermine the tracks by washing away stone ballast and ripping out track infrastructure. A recently announced federal grant will allow MTA to build 92 elevated steel equipment platforms along 30 miles of track between the South Bronx and Croton-Harmon in Westchester County in order to protect critical signal, power and communications systems from future storm surge damage.[4] Activities such as these point to the need and potential for coordinating rail line resiliency projects with shoreline restoration projects that can have broader ecological and recreational benefits, while also helping to protect transportation infrastructure.

Climate change projections indicate that coastal flooding hazards will keep increasing in the NYC region throughout the 21st century due to sea level rise and increased incidence of extreme weather events due to global warming trends. For the Harlem River, projected sea level rise is shown in the table below and on the Flood Risk Map (see fig. 36).[5] Clearly, the low-lying topography of the Harlem River BOA study areas will require planning and design that takes into account the flood-prone nature of the sites.

Notes: Flood Hazards

1 NYC Department of Emergency Management, "Coastal Storms and Hurricanes," accessed September 22, 2015, http://www1.nyc.gov/site/em/ready/coastal-storms-hurricanes.page.

2 NYC Department of Emergency Management, "Know Your Zone," http://www1.nyc.gov/assets/em/html/know-your-zone/knowyourzone.html.

3 See NYC Department of City Planning, accessed September 22, 2015, "Resilient Neighborhoods", http://www.nyc.gov/html/dcp/html/resilient_neighborhoods/index.shtml. Other relevant DCP studies include "Retrofitting Buildings for Flood Risk," (2014) "Urban Waterfront Adaptive Strategies, " (2013) and the "Resilient Retail"study (ongoing as of 2015).

4 Metropolitan Transit Authority, "MTA Announces Receipt of $20.8 Million Federal Grant to Make Metro-North Railroad's Hudson Line Resilient Against Future Storm Surges, " August 21, 2015, http://www.mta.info/news-metro-north-hudson-line-superstorm-sandy-sandy/2015/08/21/mta-announces-receipt-208-million.

5 NYS Department of Environmental Conservation, "Sea Level Rise: What is Expected for New York State," (based on ClimAID), accessed September 22, 2015, http://www.dec.ny.gov/energy/45202.html.

Sea Level Rise Projections	Low-end (10th Percentile)	Middle Range (25th-75th Percentile)	High-end (90th Percentile)
2050s	8 inches	11-21 inches	30 inches
2080s	13 inches	18-39 inches	58 inches
2100	15 inches	22-50 inches	75 inches

Figure 35. Sea level rise projections for New York City (Source: NYC Panel on Climate Change)

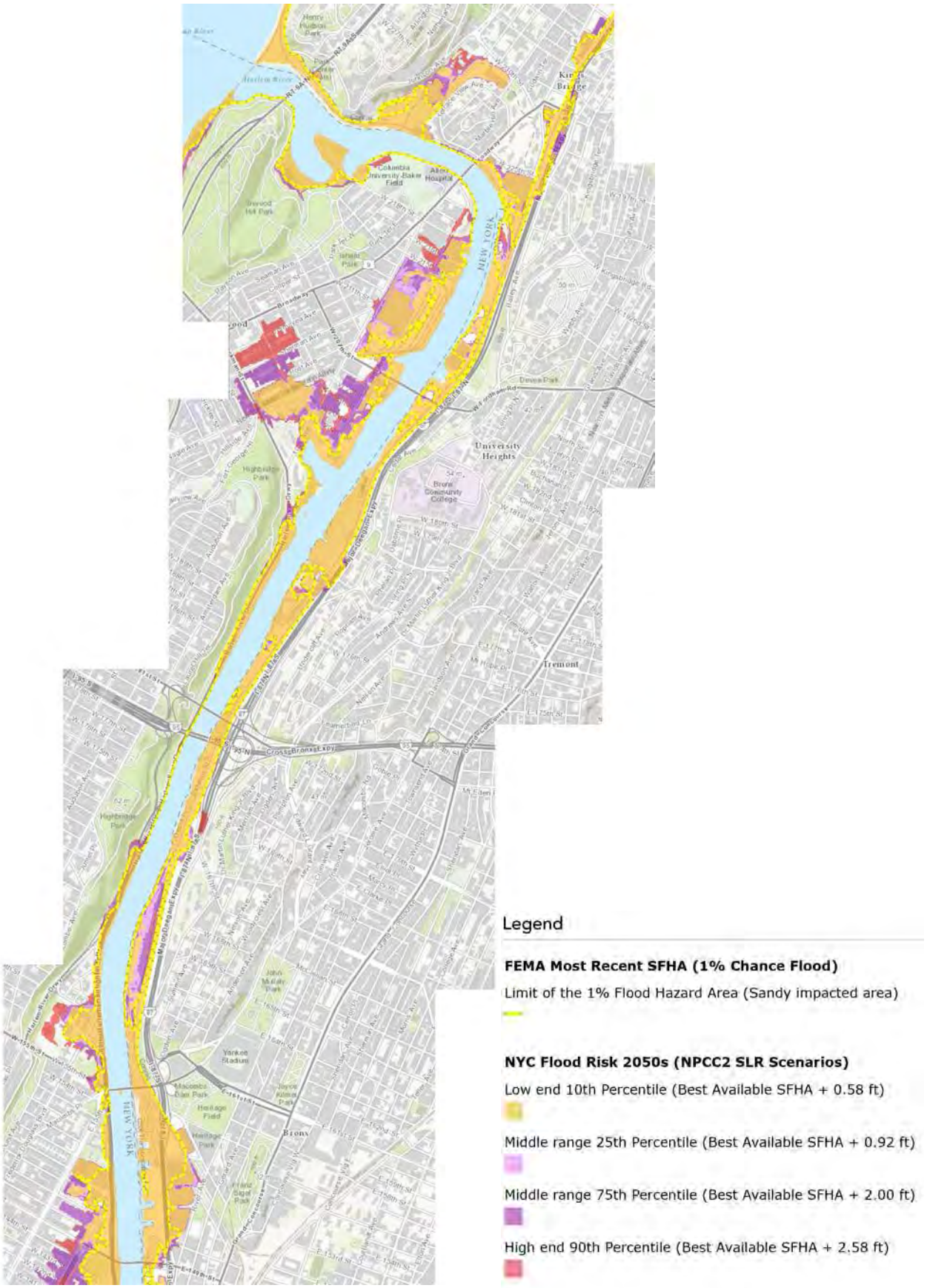


Figure 36. Flood Risk Map (Sources: Compiled from NOAA Geoplatform Map, "Future Sea Level Rise and Most Recent Special Flood Hazard Area," ArcGIS map last modified June 16, 2015, and New York City Panel on Climate Change, Climate Risk Information 2013 (June 2013)

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3.C. ECONOMIC AND MARKET TRENDS ANALYSIS

The following is a high-level scan of market-relevant demographic and economic indicators for the Study Area. These figures are assessed at the level of Community District, due to the low population density within the BOA boundaries and to more fully illustrate the potential market base for new development. Bronx Community Districts 4, 5, and 7, which contain the primary nominated Strategic Sites and Strategic Connections in this study, are included here, and are ranked among New York City's 59 Community Districts and assessed against borough-wide and citywide indicators.[1]

POPULATION

The combined population of Bronx Community Districts 4, 5, and 7 is 397,000 (2013); when including CD1, home to much of the development activity that sets the context for opportunities discussed in this report, the total population is 555,000. This represents a significant proportion of the total population of the Bronx (1.4 million) and is a large market area for potential visitors and users of proposed Strategic Sites throughout the BOA. The three core CDs (4, 5, and 7) have the three highest population densities among the twelve CDs in the borough, and thus present comparatively strong opportunities to reap positive benefits from the private and public investments in mixed-use development, transportation, and public realm investments discussed in this BOA study.

Residents of the Bronx are much more likely to identify as Hispanic (55%) and are much less likely to identify as white (10%) than are residents of the city as a whole (where 29% are Hispanic and 33% are white). Residents of CDs 4, 5, and 7 are more likely again to be Hispanic than are Bronx residents, with 63% of CD4, 68% of CD5, and 66% of CD7 residents identifying as such. White residents are noticeably fewer (2%, 2%, and 8%, respectively) than Bronx borough residents. The percentage of black residents in CDs 4 (33%) and 5 (27%) are similar to the percentage in the Bronx (30%), but much higher than the percentage in CD7 (16%), where white (8%) and Asian (7%) residents are more common than in other areas studied here.

EMPLOYMENT AND EARNINGS

The Bronx has the highest unemployment rate, at 14.6% (2013), among NYC boroughs; this compares to a citywide unemployment rate of 9.8%. Community Districts 4, 5, and 7 have much higher unemployment rates than the borough, at 17.5%, 18%, and 16.3%, ranking third, second, and fifth borough-wide, respectively. Although unemployment has fallen in the borough and NYC since 2010, it has risen in CD5 and CD7.

Residents of the Bronx have the lowest median household income ($33,400) among the five boroughs; the citywide median is $52,900 (2013). The three subject Community Districts have median incomes lower than the Bronx median, and rank near the bottom for median household income citywide: $26,100 in CD4 (52nd of 59), $24,800 in CD5 (53rd), and $30,900 (48th). Income distribution in the boroughs and in each of the subject CDs has increased in the two lowest income brackets (below $40,000) since 2000; in each CD more than two-thirds of residents now have household incomes below this threshold.

Poverty rates in the subject CDs are among the highest in the city: 38.9% in CD4 (4th of 59) (2013), 41.9% in CD5 (3rd), and 31.9% in CD7 (8th). While the overall Bronx rate is slightly lower, at 30.9%, the borough is highest among the city's five. The overall poverty rate in New York City stands at 20.9%.

While these figures suggest a weak market basis for development in immediate areas surrounding the BOA Strategic Sites, the market for new development in the Community Participation Area and throughout the southern and western Bronx shows signs of increasing strength. Proximity to Manhattan, particularly to express train service in East Harlem, is generating new development activity in CD1; residential product here is expected to be competitive for residents priced

Densely populated neighborhoods of Community Participation Area beyond the waterfront

out by the rising property costs in upper Manhattan, bringing more population to this area of the Bronx. Demand for new residential development near new public waterfront and recreational amenities in areas near Yankee Stadium may grow as a publicly accessible waterfront becomes a reality. By contrast, development demand in the northern sections of the BOA and its adjacent neighborhoods is comparatively limited by market softness and more significant access and infrastructure challenges. However, additional commitments to infrastructure investments and the creation of an attractive civic waterfront may together make these areas more attractive to new development and private investment.

Moreover, new development that provides a new public waterfront, housing opportunity for a broad mix of incomes, and new retail amenities that complement existing shopping destinations can together be catalysts that generate enormous and transformative economic benefits over time. These underinvested communities can also benefit in terms of quality of life measures: meeting demand for housing near transit, with excellent connectivity to waterfront parks and recreational amenities, can improve health outcomes and connect residents to the regional economic opportunities that begin to positively transform the economic, employment, and income metrics described above.

RECENT AND PLANNED DEVELOPMENT

Examples of recent and planned development in the Harlem River BOA Community Participation area impacting local economic and market trends include:

- The redevelopment of Yankee Stadium and related areas increased the impact of the stadium on employment and the local economy. According to NYCEDC, the stadium now employs over 4,000 people, an increase of over 1,600 jobs compared to the former stadium.

- *Bronx Terminal Market / Gateway Mall* — Opened in 2009 and now includes Target, Home Depot, and BJ's Wholesale Club as tenants in a 913,000 square foot, $500 million complex.[2]

- *Mill Pond Park* — Part of the Yankee Stadium Redevelopment Project, the $64 million, 15-acre park opened in 2009, including the tennis center and cafe.

- *Bronx Post Office* — Redevelopment of a historic post office building on Grand Concourse at East 149th Street into a market and additional retail, with a rooftop restaurant. Approved by Landmarks Preservation Commission in February 2015. Young Woo & Associates paid $19 million for the 175,000 square foot building ($108 per square foot).[3]

- *110 E. 149th Street* — New boutique hotel and affordable housing development.

- *984 Woodycrest Avenue* – A new supportive housing development with 48 units for veterans, with additional community and social space, in the Highbridge section.

- *987-989 Ogden Avenue* – In the Highbridge section near Yankee Stadium, four 14-unit market-rate residential buildings are approved for construction on land purchased for $745,000 ($42 per built square foot as approved, or $32 per buildable square foot). The project will leave approximately 5,000 developable square feet unused, suggesting a possible mismatch between zoning and actual market strength.

- *Bronx County Hall of Justice* — nine-story 775,000 square foot court facility on 161st Street, completed in 2007, relieves overcrowding in the nearby Bronx Family/Criminal Courthouse.

TRANSPORTATION INDICATORS

On average, 71% of commuters in New York City commute without a car (2013), similar to figures for the Bronx and the subject CDs. Bronx residents go without a car at a rate of 70%. Seventy-eight percent of residents of CD4, 73% of CD5, and 79% of CD7 residents get to work without a car (ranking 25th, 18th, and 24th among city CDs, respectively). Community Districts 4, 5, and 7 have mean commute times to work at or near the citywide average of 40 minutes: 40 minutes in CD4 (36th of 59), 42 minutes in CD5 (24th), and 43 minutes in CD7

West Fordham Road mixed-use corridor near UH Bridge

A scrap metal business, a recent addition to the University Heights waterfront under current manufacturing zoning

(20th). Boardings for Metro-North at University Heights and Morris Heights are the lowest on the Hudson Line; attracting new development near those stations in conjunction with improved service levels and enhanced pedestrian connections to stations may reduce travel times significantly for nearby residents and further reduce dependency on cars in the BOA and borough.

LAND AVAILABLE FOR DEVELOPMENT

In the city of New York, one-third of all properties have been developed to an extent that is less than what the city's zoning regulations permit for those parcels. The figures for this excess developable square footage, referred to as a parcel's "unused development potential," are even higher in the Bronx, at 42.7%. In and around the HR BOA study area, the figures are higher still: in CD4 (51.3%, 5th of 59 CDs), CD5 (46%, 11th of 59), and CD7 (46%, 11th of 59). These figures may reflect the relatively weak market demand that exists under current conditions without public incentives and public improvements. The numbers also indicate the capacity for intensified development within the BOA and in adjacent neighborhoods under conditions which incentivize private investment, such as commitment of public funds for infrastructure improvements or public-benefit bonuses, at targeted sites.

TYPES OF POTENTIAL FUTURE LAND USES

The Community Vision prefers to see waterfront sites devoted to purely recreational uses while channeling housing or mixed-use development into adjacent upland areas. This strategy has the advantage of preserving the waterfront, previously in manufacturing use and a barrier to public recreation and access, for permanent public enjoyment as open space. A challenge to this strategy, however, is finding adequate public funding to construct and maintain a purely recreational waterfront without the aid of the private investment in a public waterfront that would be required by law for waterfront developments under a model like that used in the Special Harlem River Waterfront District plan.

By contrast, the City, through its waterfront esplanade plan as expressed in the SHRWD plan, has demonstrated an interest in facilitating development directly on the waterfront (with direct provision of a public esplanade in exchange for those rights). Demand for such development is demonstrated in other locations in the city, particularly on East River waterfront sites. Decisions about future land uses at the waterfront will need to take a thoughtful approach to balancing those market demands with expressed community desires.

Whether new buildings are assumed to rise at the waterfront or near it, it is anticipated that any residential development within or near the Harlem River BOA will have an affordable housing component. Median asking rents for residential units are among the lowest among districts in the city: $1,350 in CD4 (48th of 59), $1,185 in CD5 (52 of 59), and $1,175 in CD7 (53 of 59), as compared to the $1,450 borough-wide and $1,129 citywide medians. Despite relatively low rents, high demand for housing is demonstrated by relatively low vacancy rates in the borough (2.8%) and the subject CDs (3.5% in CD4, 3% in CD5, and 2.8% in CD7), compared to 3.5% citywide. The combined vacancy rate in Inwood, just across the Harlem River from the University Heights portion of the BOA, stands at just 1.3% (2013), providing additional demand that could be met in mixed-use and mixed-income residential development on upgraded and well-connected strategic sites in the BOA, such as at La Sala and Fordham Landing North.

From the economic development standpoint, mixed-use development, as opposed to exclusively residential development, if deployed on the limited sites where upland street connections can be extended and enhanced, would present the best opportunity to increase the economic impact of private investment on strategic development sites. The BOA is already home to the Gateway Center/Bronx Terminal Market, a one million square foot retail center located near 149th Street that serves as a destination for residents arriving by car and transit from across the borough. The north end of the study area is served by the River Plaza shopping center, anchored by Target and Marshall's.

Additional neighborhood-serving retail is available on nearby corridors, such as on Fordham Road, but is limited in the immediate study area; for any new development in the BOA, ground-floor retail should thus be built at a scale that serves residents and workers and complements and builds upon, rather than erodes, the existing base of shoppers that are already drawn to Gateway Center and other nearby retail destinations in the Bronx and Manhattan. Relative isolation from transit, and the somewhat isolated waterfront location, suggest that opportunities for larger-format destination retail, and for office space, are not likely to be viable economic uses at these locations, with the possible exception of near Gateway Center and Yankee Stadium.

The BOA has a legacy of manufacturing uses, including some continuing operations that limit redevelopment potential for some sites absent changes to underlying zoning and/or infrastructure upgrades. Any manufacturing uses that remain should be considered for compatibility with the character of recreational and/or mixed-use residential and high-quality ground floor retail that have the highest economic development potential in the BOA. New creative manufacturing uses, if introduced as potential job-creation opportunities, should be planned for inclusion only on a basis of compatibility with the community vision of an accessible waterfront, pedestrian-oriented streetscapes, and a mixed-use neighborhood realm.

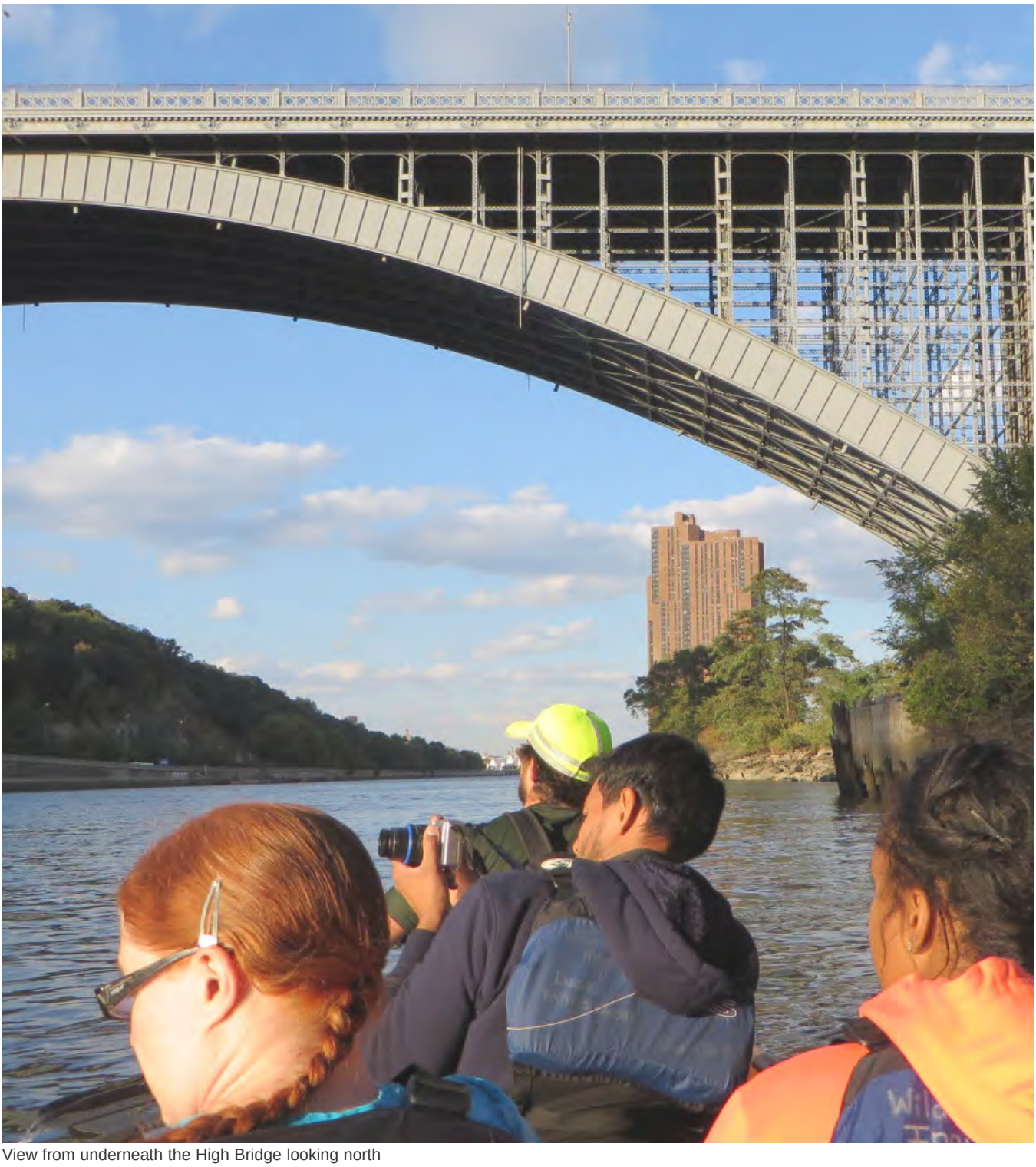
Notes: Economic and Market Trends Analysis

1 Data in this section from Furman Center for Real Estate and Urban Policy, New York University, "State of New York City's Housing & Neighborhoods in 2014."

2 "Retailers Take A Chance on Mall in the Bronx." New York Times, 1 Sept 2009. http://www.nytimes.com/2009/09/02/realestate/commercial/02bronx.html

3 "Youngwoo Picks Up Landmarked Bronx Post Office Site." The Real Deal, 4 Sept 2014. http://therealdeal.com/blog/2014/09/04/youngwoo-buys-bronx-postal-office-building/

SECTION 4
Key Findings and Recommendations



View from underneath the High Bridge looking north

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SUMMARY OF OPPORTUNITIES AND REUSE POTENTIALS FOR PROPERTIES IN THE PROPOSED HARLEM RIVER BOA

RECREATIONAL, ENVIRONMENTAL AND TRANSPORTATION POTENTIAL: The Harlem River waterfront is rapidly gaining momentum in re-purposing brownfield sites to provide high quality public access while improving environmental conditions. As this momentum grows-- and is encouraged through the BOA process and other initiatives--it can begin to provide the critical mass of destinations and connections needed to catalyze broader revitalization. The proposed BOA is well on its way toward achieving the community vision that proclaims:

> *The Harlem River Waterfront as an ecologically healthy, recreation-oriented waterfront district providing a continuous greenway from the Kingsbridge neighborhood to the southern Bronx. As part of this vision, the Harlem River Waterfront is stitched functionally, economically and visually to the upland neighborhoods of Community Districts 4, 5, 7 and 8.*

THE CRUCIAL ROLE OF ACCESS: The Harlem River waterfront itself can be a tremendously valuable recreational asset and neighborhood amenity that, if further opened to public access, can serve to generate broad social, environmental and economic benefits for the immediate area and the surrounding Community Participation Area. The Central Focus Area is rich in opportunities for providing waterfront access and greenway connectivity, remediating the landscape and improving water quality as the shoreline is repurposed with higher and better uses.

If the Harlem River Waterfront is to be revitalized and brought back into productive use, multi-modal access must be funded and built, particularly pedestrian and bike access. The most strategic generational investment in the Harlem River Waterfront revitalization effort would be to complete the Harlem River Greenway/ Blueway along the entire BOA study area, filling in the gaps where currently no publicly accessible waterfront exists. This is critically important to achieving the goal of a more activated waterfront. People visit parks that provide the "reward" of a diverse series of experiences, views, programming "moments," and loops of activity throughout a district. "One-shot" public waterfront parkland parcels that are disconnected from a broader network of civic, commercial, recreational and cultural uses in a district are less likely to attract frequent repeat visits or to broaden the range of parks users who are drawn to the experience offered. The proposed Harlem River Greenway is set within the context of a network of New York City waterfront parks and through-greenways that has been greatly expanded over the past two decades and continues to grow. Great waterfront parks, like great urban neighborhoods, provide a vibrant, engaging and diverse set of experiences, where visitors can discover nature, connect with others, get out on the water, enjoy an urban "perch," stop for a meal or drink and/or participate in an activity.

Programming that animates these public waterfront locations should build on patterns of pedestrian traffic from upland nodes of activity, helping to direct more people toward civic waterfront spaces. At these nodes of activity, concessions should be explored that provide affordable, quality food, beverage and other convenience goods and services that enhance, rather than detract from the park experience. The feasibility of adding small boat launch, floating dock, environmental restoration and other maritime related facilities along the coves and other appropriate locations should be fully explored in coordination with the many not-for-profit, public sector and other partners engaged in NYC waterfront and ecological revitalization. Opportunities and reuse potentials for new parkland are particularly strong in the central and northern portions of the Central Focus Area, namely the Depot Place area in CD5 (Strategic Site #3), which is already aggregated under City ownership/jurisdiction with the bulk under NYC Parks jurisdiction, and in CD7 near the University Heights Bridge and northward toward River Plaza Mall (Strategic Sites #6, 7 & 8 and Strategic Connection #2). This waterfront in CD7 holds potential for a combination of recreational uses, including on-shore park space and boating facilities, possibly complemented by food establishments and mixed-use, depending on whether the existing manufacturing zoning is retained or changed. Market and open space forces will have to work in tandem to create a truly dynamic and diverse waterfront.

MARKET DYNAMICS: The reuse potential of the BOA and its component properties must respond to community and stakeholder visions of a fully recreational waterfront and simultaneous strength of market momentum for new development, particularly demand for housing. The BOA exists in a context of new development interest just outside its boundaries, particularly on the southern end. Market momentum is building in areas directly south of the BOA, in the Lower Concourse itself, and through private proposals and site assemblages in the Port Morris neighborhood. This activity leverages

existing development entitlements (some the result of earlier public rezoning actions) and proximity to nearby transit lines in the Bronx and the short walk across the river to Manhattan. While the largest assemblages are in this southern zone, market-rate development in the Concourse and Highbridge neighborhoods - within the Community Participation Area and just east of the BOA itself - demonstrate a general upswing in development interest in the Bronx overall, taking advantage of low-cost land with excellent transit access.

Depot Place Waterfront connecting to Bridge Park, beyond, a key opportunity area for recreational and environmental renewal

Those parcels in the BOA and surrounding neighborhoods that possess the same cost and proximity advantages are likely to be subject to increased development pressure if development momentum in the western and southern Bronx continues to grow. Within the BOA Central Focus Area, the sites that are most attractive to new public or private development in the BOA are in its southern extent, in Community District 4. Block 2636, Lot 2, near the Gateway Center / Bronx Terminal Market and south of Yankee Stadium, as well as the parcels to the immediate north of Mill Pond Park (Block 2639 Lots 4, 10, and 14) that are currently used as parking lots, possess strong public or private redevelopment potential.

Further north in CD7, the cluster of sites around University Heights Bridge presents a possible third target for a combination of new public and private investment. Both the La Sala parcel to the south (Block 3261, Lot 265) and the Fordham Landing North parcels to the north (Block 3244 Lots 100, 120, 125, 130, 145, and 160) may attract new mixed-use development combined with waterfront access, but not without substantial investment in resolving access and infrastructure challenges.

STRATEGIC SITES AND STRATEGIC CONNECTIONS NOMINATION

A key part of the BOA Step 2 process involves identifying “Strategic Sites” within the BOA project area, i.e. brownfield sites that have potential to be transformed into locations with productive uses that benefit the community. For the Harlem River BOA, due to the importance and difficulty of creating better access to the waterfront, the Step 2 process has also identified certain crucial linkages that the BOA Steering Committee has dubbed “Strategic Connections.” These “Strategic Sites” and “Strategic Connections” are interdependent on one another for creating viable access and a critical mass of destinations throughout the BOA Central Focus Area. By focusing on these “Strategic Sites” and “Strategic Connections,” the Step 2 process can help to define proposed catalytic uses for these properties and identify them as priorities for future funding resources.

Advancing the shared vision of a Harlem River waterfront that contributes ecologically, socially and economically to a healthy community, this Harlem River BOA Step 2 study nominates eight Strategic Sites for inclusion in the NYS BOA program. Of these eight Strategic Sites, two are single tax lots on New York City Finance Department records, while the other six are composed of two or more adjacent tax lots to make up a larger Strategic Site parcel. Altogether, 29 tax lots are included in these eight Strategic Sites that are being nominated. The sites listed in Figure 39 are nominated as Strategic Sites for acceptance into the NYS Brownfield Opportunity Area program.

Along with these eight Strategic Sites and equal to them in importance, the study also identifies three especially significant linear linkages that are noted as “Strategic Connections.” These north-south connections are critical locations where land acquisitions and/or new infrastructure interventions are needed in order to be able to provide a continuous Harlem River Greenway through the length of the study area. It should be noted that there are also a number of crucial east-west connection points to the waterfront (at Depot Place, Roberto Clemente State Park and the University Heights Bridge) that are strategically extremely important and in need of pedestrian/bicycle infrastructure improvements. These are discussed in the Key Findings and Recommendations under relevant transportation sections.

University Heights Waterfront south of University Heights Bridge, one of the opportunity areas for recreational and environmental improvements

All of the nominated Strategic Sites and Connections are within the Central Focus Area, while none are in the Spuyten Duyvil Area. During the course of studying both Focus Areas, it became apparent that while there was no shortage of potential Strategic Sites in the Central Focus Area and there is strong community support for BOA nominations, this was not the case in the Spuyten Duyvil area at this time. In Spuyten Duyvil, there were no sites that were particularly viable as Strategic Sites at the present time, and community concerns about potentially spurring unwanted development on the waterfront outweighed support for nomination. Consequently, preliminary site assessments to determine whether or not contamination might exist were not conducted on any sites in the Spuyten Duyvil area. This conclusion, however, does not preclude the possibility of the Spuyten Duyvil Focus Area being re-examined at a future date as part of a BOA process.

The nominated sites in the Central Focus Area were evaluated using Strategic Sites Criteria developed by the Steering Committee in consultation with the BOA project consultant group. The criteria (see Appendix I) were applied to create a potential list of sites to nominate.

After developing this list of criteria and using it as a screening tool to develop a list of potential Strategic Sites and Connections, an evaluation system was then developed for this list, which validated which sites warrant nomination into the BOA program. The summary results of this evaluation are represented graphically in Figure 38 - Strategic Sites Matrix.

SUMMARY OF BROWNFIELD, ABANDONED, AND VACANT SITES FINDINGS AND RECOMMENDATIONS

All eight nominated Strategic Sites (encompassing 29 tax lots) meet the definition of a brownfield as “any real property, the development or reuse of which may be complicated by the presence or potential presence of a contaminant.” All of these sites are vacant or underutilized brownfield sites with the potential to be remediated and upgraded to higher functioning uses that benefit the local neighborhoods and the region.

An additional 28 “properties of interest” that were included in the initial phase of the Preliminary Site Assessments also have at least some potential for contamination, although for various reasons they are not being nominated as Strategic Sites. Most of these are active rail lines or vehicular infrastructure located immediately upgradient of the Harlem River, so any potential contamination would be adversely impacting the water quality of the Harlem River.

As opportunities arise in the future, the potential for petroleum and/or hazardous materials at these properties should be further investigated in order to determine the nature and extent of contamination. The results of these investigations should be used to determine appropriate remedial and mitigation measures for these properties in order to reduce contaminant discharge to the Harlem River and improve overall water quality. In particular, bioremediation techniques should be used as effective long-term, low-cost strategy for cleaning waterfront sites wherever feasible given the types of contaminants.

University Heights waterfront north of University Heights Bridge, part of a cluster of Fordham Landing North sites

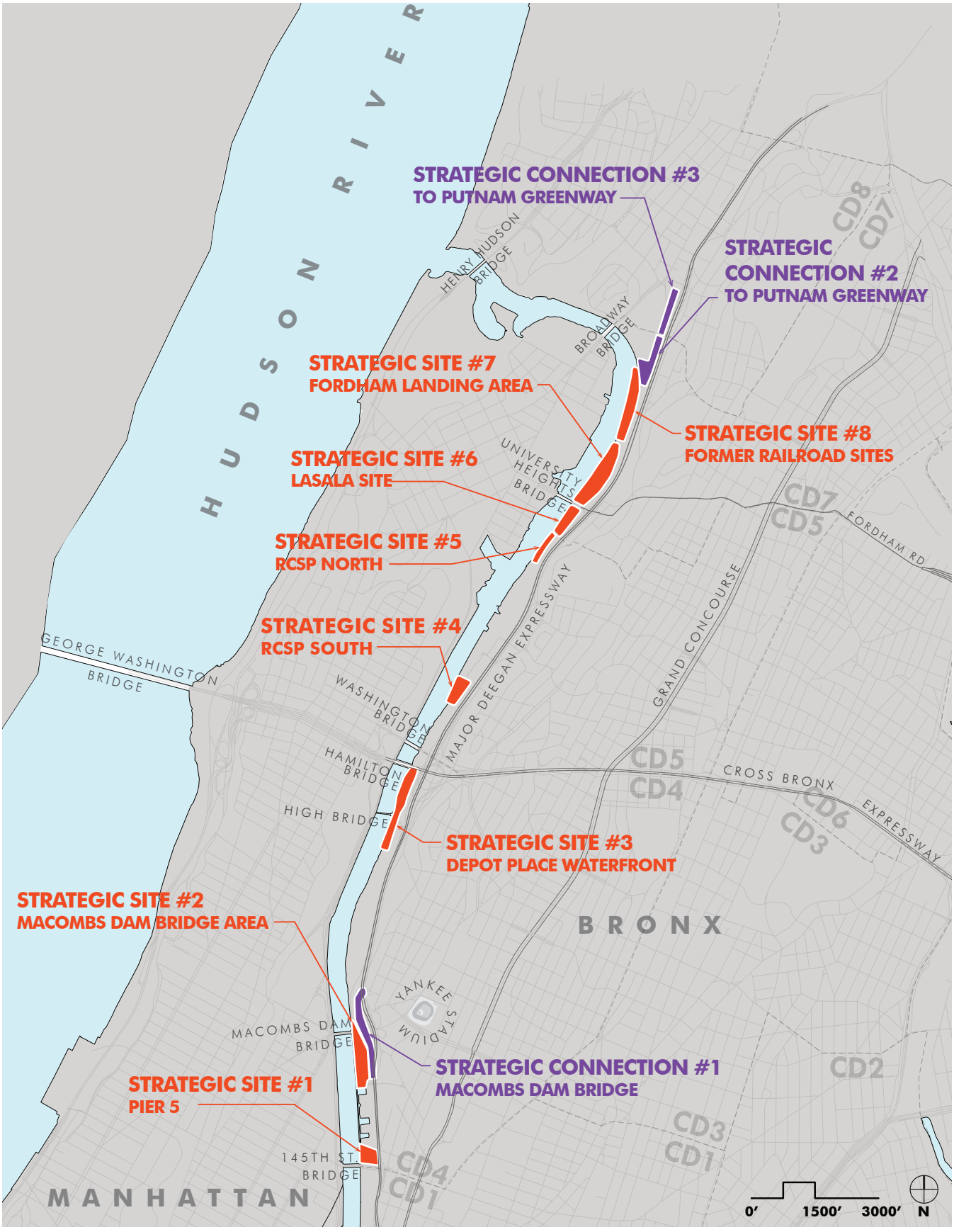


Figure 37. Strategic Sites and Strategic Connections Overview Map (Source: ABB)

Note: Strategic Sites and Connections Criteria developed by Steering Committee in consultation with the BOA project consultant team. For a full description of the criteria, see Appendix I.

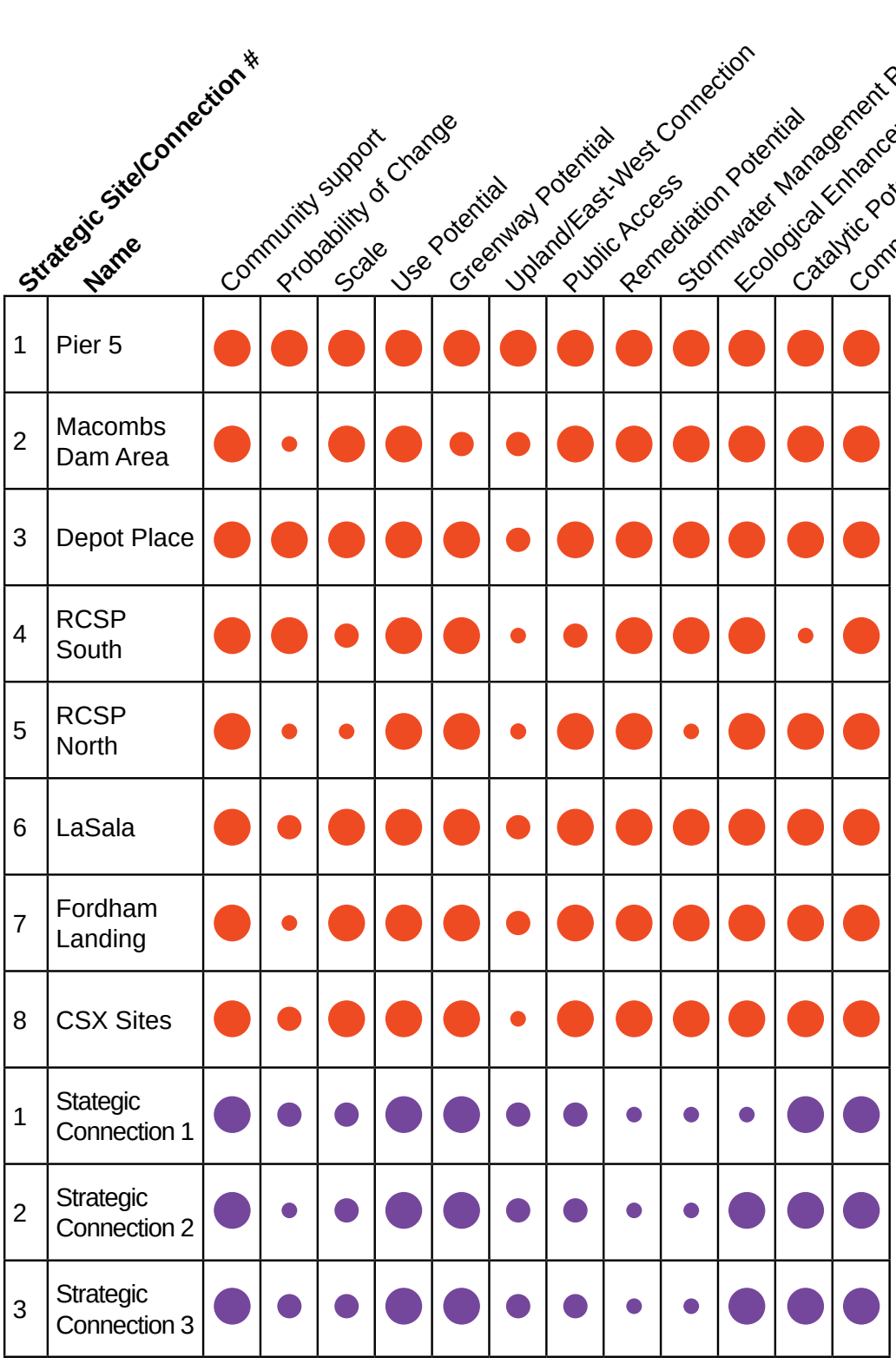


Figure 38. Strategic Sites and Connections Criteria Matrix

Strategic Sites & Connections Inventory	Site Description	Block/Lot	Acreage	Total Acreage Per Site
Map 1 - 149th Street to 161st Street Pedestrian Bridge (CD4)				
Strategic Site # 1	**Pier 5**	B 2356, L 2	4.4	**4.4**
Strategic Site # 2	**Stadium Tennis Center Parking**	B 2539, L 4	0.5	**6.16**
	Stadium Tennis Center Parking	B 2539, L 5	0.14	
	Stadium Parking South & Tennis Center Parking	B 2539, L 10	2	
	Stadium Parking North	B 2539, L 14	2.9	
	Small lot-NYCEDC Ferry Landing entry	B 2539, L 29	0.08	
	Stadium Parking N Triangle	B 2539, L 191	0.16	
	Stadium Parking N Triangle	B 2539, L 192	.06	
	Stadium Parking N Triangle	B 2539, L 193	.23	
	Stadium Parking N Triangle	B 2539, L 504	0.092	
Strategic Connection #1	**Exterior Street and Sidewalk**	B 2539, L 17	1.1	
Map 2 - Highbridge Yard to George Washington Bridge (Depot Place Area) (CD4)				
Strategic Site # 3	**Exterior St R.O.W.**	B 2541, L 8900	3.2	**8.58**
	NYS Strip	B 2541, L 123	0.39	
	Former Kennel Site	B 2541, L 122	0.38	
	Former Junkyard Site	B 2541, L 159	0.21	
	Former Bridge/Scaffolding Site	B 2541, L 132	4.4	
Map 3 - Bridge Park to La Sala Site (Roberto Clemente S.P. Area) (CD5)				
Strategic Site # 4	**State Parks South Site**	B 2884, L 110	0.22	**2.34**
	State Parks South Site	B 2884, L 72	2.12	
Strategic Site # 5	**Con Ed Site North of RCSP**	B 3231, L 227	0.4	**9.3**
	Con Ed Site North of RCSP	B 3231, L 1	8.9	
Map 4- La Sala Site to 225th/230th (CD7 and CD8)				
Strategic Site # 6	**La Sala Site**	B 3231, L 265	3.72	**3.72**
Strategic Site #7	**NYC Parks Site at Fordham Landing**	B 3231, L 350	3.68	**11.59**
	Con Ed Site at Fordham Landing	B 3244, L 100	0.6	
	Storage Post Self Storage (S)	B 3244, L 120	2.3	
	Storage Post Self Storage (N)	B 3244, L 125	1.96	
	Fordham Scrap Metal	B 3244, L 130	0.99	
	Cement Works (S)	B 3244, L 145	1.1	
	Cement Works (N)	B 3244, L 160	0.96	
Strategic Site #8	**CSX (Inland) Site**	B 3244, L 1	5	**10.8**
	CSX (Waterfront) Site	B 3245, L 3	5.8	
Strategic Connection #2	**Harlem Hudson Line with structures**	B 3245, L 12	3.18	
	RR adjacent to Major Deegan	B 3238, L 50	0.86	
	RR adjacent to Major Deegan	B 3238, L 52	0.69	
	RR adjacent to Major Deegan	B 3238, L 126	0.37	
	RR adjacent to Major Deegan	B 3238, L 127	0.003	
CD8				
Strategic Connection #3	**RR adjacent to Major Deegan (225-230th)**	B 3264, L 20	0	**0**

Figure 39. Strategic Sites and Connections

Strategic Sites Criteria

1. Community support
2. Probability of change to promote vision
3. Scale
4. Use potential
5. Greenway potential
6. Upland connectivity
7. Access for public
8. Brownfield remediation potential
9. Potential for stormwater management to improve water quality
10. Ecological enhancement potential
11. Catalytic potential
12. Community needs

TRANSPORTATION SYSTEMS AND STRATEGIC CONNECTIONS

The Greenway Vision: The community vision of a Harlem River Greenway offering a continuous linear route for pedestrians and cyclists on or near the river, as well as navigable connections to the upland neighborhoods, remains strong today. Full construction of the greenway would unify and invigorate the Harlem River waterfront, whereas without it, the BOA Strategic Sites will remain largely or completely inaccessible. The *Harlem River Greenway: Our River, Our Future* concept plan prepared in 2012 by Pratt Center for Community Development on behalf of the Harlem River Working Group and The Trust for Public Land synthesizes the "Harlem River Greenway Vision" that has evolved through a number of different planning efforts over a period of decades.

The Harlem River segment of the New York City greenway system is also shown as a desired linkage within the New York City Greenway system (see Figure 40). Ultimately, the vision is to connect New York City greenways within an inter-county greenway system. Completing the Harlem River Greenway and connecting it to the Putnam Railroad Trail to the north and to other greenways within the NYC system will link the Harlem River to an expansive and ever-growing greenway system. The conceptual-level routing recommendations for linear and upland connections in the Harlem River Greenway Plan and the New York City Greenway system plan offer solid approaches to build upon for providing access within the Harlem River BOA area. These greenway connections merit prioritization for funding allocations. The need for strategic interventions to improve upland pedestrian connections to the waterfront is also noted in the Department of City Planning 2011 comprehensive waterfront plan.

In addition to recommending that funding be prioritized for more Harlem River Greenway development, this BOA study also delves into more detail about how the greenway might be routed through and around some very challenging obstacles. To provide a continuous greenway along the full extent of the study area and link it to the Putnam Greenway to the north, it will be necessary to thread the greenway over and under some particularly dense vehicular and train infrastructure in multiple locations. This study recommends new ramps and pedestrian bridges in the Macombs Dam/Yankee stadium area, an outboard esplanade north of Roberto Clemente State Park where train tracks immediately adjacent to the waterfront leave no other options for a greenway connection, and a pedestrian bridge over the railroad tracks just south of River Plaza Mall.

Although pedestrian bridges over tracks and highways are by no means inexpensive proposals, nor are they easy to get approved by property owners and reviewing agencies, immeasurable potential benefits could result not only for local residents, but also by creating

Oak Point Link just off-shore in southern portion of Central Focus Area

strategic linkages for regional bike access. (Refer to Figures 42, 49, 50 and 53) for specific greenway routing recommendations.) The conclusion of the Harlem River BOA Step 2 study is that the Harlem River Greenway is certainly feasible in spite of the major land use hurdles that must be overcome. This BOA Step 2 report also recommends new bus stops on the Bx19 line at 149th Street west of Exterior Street, and a Bx18 stop on Depot Place or nearby, to provide safer and more convenient transit access to the waterfront.

LAND USE AND ZONING- OVERALL FINDINGS AND RECOMMENDATIONS

The community vision of linear shoreline parks and a continuous waterfront greenway along the Harlem River currently encounters both encouraging new developments and some intransigent land use obstacles. The progress that is being made in adding new waterfront parkland to both the City and State parks along the Harlem and the reopening of the High Bridge represent a major leap forward for the vision of waterfront recreational access. With the recent addition of Bridge Park, reopening of the High Bridge, reinvestment in RCSP, acquisition of Depot Place and Roberto Clemente South parcels and upcoming environmental investigation and design for the Regatta Park parcel, it is clear that the public sector is making a concerted commitment to a waterfront park district along the Harlem River.

While a district of waterfront parks along the Harlem River connected by a continuous greenway system does appear feasible, it is also clear that some existing land uses that interrupt the continuity of waterfront access will co-exist with this expanding parks district for quite some time. The hurdles presented by certain land uses— highway and bridge infrastructure around Macombs Dam, the High Bridge Rail Yard, the as-yet-undeveloped La Sala site, existing manufacturing uses north of the University Heights Bridge and northern waterfront parcels in rail ownership and hemmed in by active rail lines—present challenges.

A handful of sites in the BOA study area have been discussed as potential future mixed-use development parcels, including the La Sala property and Pier 5. Our position is that it is necessary to balance these land uses synergistically with the open space and environmental goals of the Harlem River BOA. If new commercial and housing uses are constructed in these available parcels, the consensus is that public open space, waterfront access, greenway connectivity and environmental services be protected and built into any mixed-use program. In addition, a waterfront esplanade/greenway should be required even if the site is not technically a “waterfront” site due to the presence of the Oak Point Link. A precedent has been set for this requirement in the Lower Concourse Rezoning, where the LCZ states that similar parcels shall be considered waterfront zoning lots. This issue could be addressed within the BOA study area as a part of a Waterfront Access Plan (WAP) when additional rezonings take place along the waterfront.

Presently, waterfront lots are required by NYC zoning (Article IV, Chapter 2) to provide a waterfront public access area consisting of at least a 40 foot minimum width shore public walkway (however, if the lot is less that 150 feet deep, this requirement is incrementally reduced to an absolute minimum of 10 feet in width). The shore public walkway must offer an upland connection to a public sidewalk or park at least every 600 feet; this upland connection must generally be at least 30 feet wide, but in some circumstances can be reduced to a 16 foot-wide minimum. Unobstructed “visual corridors” are also required at least every 600 feet to the nearest upland bounding street, which would be Exterior Street in the case of the Harlem River waterfront. The visual corridors must be a minimum of 50 feet wide. In some cases, supplemental public access area(s) may be required to meet required public space. Public space amenities must include seating, planting, bicycle parking, trash receptacles, lighting, and tables and chairs. The public space must be open to the public from dawn to dusk. At times, NYC Parks will take over maintenance responsibilities; in these instances, a restrictive declaration/maintenance and operation agreement is worked out with NYC Parks.

Looking south from recently constructed Harlem River Greenway in Bridge Park to undeveloped greenway and parkland at Depot Place

Figure 40. Harlem River Greenway Vision Map (Source: Trust for Public Land and Harlem River Working Group, 2012)

Underutilized rail corridor alonside I-87/MDE near West 225th Street

NYC zoning regulations "also allow for the site-specific modification of public access requirements through WAPs for stretches of waterfront parcels with unique conditions and opportunities," as noted by DCP.[1] These tools might be helpful for ensuring quality public access to the waterfront on any parcels that may be developed as housing or mixed-use.

Notes: Land Use and Zoning

1 NYC Department of City Planning, "Zoning Tools: Waterfront Zoning," accessed September 22, 2015, http://www.nyc.gov/html/dcp/html/zone/zh_ztools_waterfront.shtml.

LAND OWNERSHIP/JURISDICTION- OVERALL FINDINGS AND RECOMMENDATIONS

Two land ownership issues in the Harlem River BOA Central Focus Area present particular challenges for the revitalization of the waterfront: 1) fragmentation of land under multiple owners and governmental jurisdictions, and 2) railroad ownership and lease arrangements, which make it difficult to ascertain who has actual ownership and decision-making authority, much less to negotiate and fund an ownership transfer or easement. To address the fragmentation challenge, the strategy of acquiring and aggregating additional parcels to develop them as parks at particular nodes where there is at least some access has already been underway in recent years, most notably at Depot Place. Also, the jurisdiction of the Regatta Park parcel near University Heights Bridge is being considered for tranfer to NYC Parks, and parcels on the south end of RCSP have been consolidated by the State.

In order for the goals of the Harlem River BOA to be realized, more waterfront land needs to be publicly accessible and developed as public space. Whether land is aggregated under public ownership/jurisdiction or private ownership, it is crucial to combine fragmented parcels to achieve the greatest public and ecological benefits from waterfront projects. If acquired by the private sector, zoning controls that maximize public access will help balance new land uses.

To overcome railroad ownership complications, ongoing gathering of information, forging working relationships and gaining political support for the goal of revitalizing the waterfront are the best strategies, though they require great persistence. The biggest constraints posed by the railroad ownership situation, aside from the High Bridge Rail Yard directly on the waterfront in CD4, result from rail lines that are located just off the shoreline over the river (i.e. the Oak Point Rail Link on the southern end of the BOA Focus Area) or very near the shoreline (the MTA/Metro-North tracks just north of Roberto Clemente and also north of the Fordham Landing manufacturing sites/ south of River Plaza Mall). Realization of the greenway vision in these northern segments of the BOA area will require coordination with and approvals from MTA/MN for construction of the proposed outboard esplanade and pedestrian bridge to create access, among other approvals.

PARKS AND OPEN SPACE- OVERALL

The resounding recommendation from stakeholders in the Harlem River BOA Step 2 process is to continue the trend of converting underutilized properties on the Harlem River waterfront to park space and to move forward with connecting existing and new parks via the greenway.

What sets the Harlem River waterfront apart is its relatively undeveloped shorefront and limited access points creating the potential for long stretches of ecologically rich greenway, broken up by a few higher density access points offering recreational and visitor activities such as boating, public parks, and cafes.

The Harlem River Greenway holds potential for creating a "world apart" of wild grasses and nature-based experiences, all within sight of the Bronx and Manhattan's skyscrapers. This would invite the visitor to bike, stroll, ramble, and explore the Greenway at a leisurely pace, experiencing nature and the river activities in a more relaxed – and removed – setting than is available elsewhere along waterways that ring the City's boroughs.

Given the potential of the Greenway setting to be of the City, yet removed from the City – and the fact it is something of a tabula rasa, given how despoiled many brownfields currently are – the Harlem River Greenway offers the opportunity to create a unique nature environment that could be something of an outdoor living history of New York that unfolds in stages as the visitor moves along the waterfront.

Building on the tremendous progress that has already been made over the past few years in establishing new parks and greenways along the Harlem River, the logical next steps in transforming these areas into fully functioning parks for the public include:

- remediation and construction on the proposed Regatta Park parcel;
- completion of the $46 million reconstruction and park improvements at RCSP (underway);
- finding funding to initiate construction on at least the first phase of the Harlem River Promenade concept plan for Depot Place and then future phases beyond;
- park development of the southern extension of RCSP connecting with Bridge Park, and
- acquiring property and/or transportation easements for park and greenway extensions from RCSP northward through the HR BOA Central Focus area and connecting to the Putnam Greenway.

Connecting these existing and proposed parks with the envisioned continuous linear greenway with lateral connections to and from the upland neighborhoods ranks as the highest priority for community stakeholders. In addition to the greenway's potential for bike commuters

Seating area amidst grasses creates a strong visual identity for the waterfront at Gantry State Park (ABB)

Boathouses on the Harlem River around the turn of the 19th-20th centuries took advantage of relatively calm waters for small recreational boats (Source: Harlem River Community Rowing website)

as the route becomes more connected on long stretches, even shorter segments of greenway such as the Roberto Clemente/Bridge Park segment that is now open can offer excellent recreational value for local residents. The more continuity that can be developed between nodes of parkland, the higher the use value will be for all users.

"PEOPLE'S RIVER" BOATING ACCESS AND IDENTITY: For community stakeholders, one of the highest programming priorities for the shoreline is the addition of boat access for small craft. New facilities to support boating on the Harlem River, coupled with public awareness campaigns around the theme of the "People's River" on both sides of the waterfront, can be lynchpins for the resurgence of the Harlem River waterfronts.

New boating infrastructure, ideally with a boathouse, but at the least, with new boat launch areas, will help reach this vision. The Harlem River clearly offers quality conditions for kayak, canoe and rowing access. Assets for boating include:

- waters that are sufficiently clean to be classified by NYCDEC as being safe for secondary recreation, i.e. for boating
- relatively calm waters, especially when compared with the notoriously turbulent and swift East River
- the "No Wake" zone from High Bridge to University Heights Bridge implemented by NYC Parks
- fewer large boats creating wakes than in many other parts of the Harbor Estuary system
- the existing use of the Harlem for rowing practice launching from the Sherman Creek Boathouse and

Columbia facility on the Manhattan side of the river

- captivating views of historic bridges over the river, nearby promontories and the more distant Palisades across the Hudson.

As noted in NYC's Vision 2020 comprehensive waterfront plan, additional boat launches and possibly a marina would be desirable on the Harlem River as a part of New York's city-wide "Blue Network" for both hand-powered craft and ferries.

Efforts should be coordinated with those under consideration along the Manhattan side of the Harlem River, including the targeted revitalization planning effort for the Sherman Creek/Inwood waterfront, led by NYCEDC. Numerous coves and underutilized waterfront edges are being considered for ecological restoration and new public placemaking.

PARK SUSTAINABILITY AND RESILIENCE: Whether funded publicly, privately or through a not-for-profit, all new parks and open space in the BOA study area should be both built and maintained according to principles of sustainable and resilient design.

New construction should be in conformance with the *High Performance Landscape Guidelines* published in 2010 by Design Trust for Public Space and NYC Parks.[1] The national Sustainable Sites Initiative of the Lady Bird Johnson Wildflower Center and the American Society of Landscape Architects is also a recommended source of guidance for Best Management Practices in sustainable public open space design.[2] Due to the particularly sensitive location of the sites immediately on the estuary shoreline, it is especially important not only that brownfield contamination be addressed, but also that there be no fertilizer, herbicide or pesticide use that would impair water quality through surface runoff. Organic landscape management methods are preferred; the Battery Park City landscape, which is maintained completely organically, is a sound model for organic management of a large-scale publicly-accessible landscape within New York City. The New York Botanical Garden in the Bronx is also a resource for composting programs, horticultural training and other topics through the Bronx Green-Up community outreach program or other avenues.

Rowing teams and HR Community Rowing row on the Harlem River today

NYC Parks is actively making progress towards Citywide resiliency goals, as outlined in "A Stronger, More Resilient New York." Beyond rebuilding, Parks envisions advancing forward-thinking resilience through integrated strategies to protect and enhance communities, public space and infrastructure, as well as through restoration, investment in and management of natural resources. The approach involves planning and implementation for coastal park protection, addressing at-risk operations and recreation facilities, and increasing the health of natural areas and systems through nature-based design and restoration, forest and wetland management, and green infrastructure.

PARK AND GREENWAY CARE, MAINTENANCE AND JOB PROGRAMS: Providing adequate maintenance for parks on both the short and long terms is a critically important issue, and a complex one. It is often easier to obtain capital funding for construction of parks projects than to ensure adequate funding for their care and maintenance year after year. While construction projects can be funded with municipal bonds, Operations and Maintenance (O&M) budgets are funded mainly from annual tax revenues, making them extremely vulnerable to cuts during economic downturns. O&M staff are often overextended in caring for existing and new parks. NYC Parks sometimes augments paid staff with volunteers and community service workers who are often not as knowledgeable or efficient as Parks staff. Despite increased resources, NYC Parks O&M faces significant challenges in continued maintenance of existing and new parks.

Notwithstanding the challenges, any newly developed public spaces must be clearly matched with short and long-term funding mechanisms for stewardship to maintain and preserve capital investments. Recommendations for helping to ensure sufficient care and maintenance of new parks:

- Ongoing community advocacy for funding of O&M budgets for maintenance of parks is every bit as important as advocacy for construction of new parks,

e.g. through direct outreach to elected officials and through New Yorkers for Parks, Partnership for Parks, BCEQ, the Bronx Speak-up, etc.

- BCEQ sees the Harlem River Greenway as an opportunity for job training for "green jobs" and employment in the Bronx.
- Models for green jobs programs include the Goddard Riverside Community Center's Green Keepers program, which partners with the Broadway Mall Association to maintain Broadway's planted medians on the Upper West Side and West Harlem.
- The citywide organization New York Restoration Project has been instrumental in revitalizing neglected areas of the Harlem River and other locations.
- Well-organized volunteerism, usually through the not-for-profit sector, is also a meaningful way to supplement paid NYC Parks staff. However, volunteer labor cannot be expected to substitute for sound levels of Parks staffing.
- Including economic generators such as food concessions and rental spaces to help with maintenance costs may also be an option in some locations.
- Any residential and mixed-use projects on the waterfront must also have some public space associated with them, either maintained by the owner or cared for by NYC Parks under a maintenance and operations agreement.

The main advantage of having parks under public ownership/jurisdiction and management (whether City or State) is that an entire parcel can be dedicated to public open space; however, privately-funded and maintained open space associated with new construction can sometimes be a huge boon to a redeveloping parks district. The private sector can often act much faster to get new facilities built than can the public sector, based on projected revenue streams from the new residential or mixed-use property. These revenue streams and the incentives to keep up property appearances for residents and to protect the value of the investment can often result in a fairly high level of maintenance of the open space. For example, the edge mixed-income development along the Williamsburg waterfront has helped to fund both construction and ongoing maintenance of an an extremely popular, heavily used public waterfront park and esplanade.

PARK SAFETY AND SECURITY: A final challenge that must be overcome for the long-term success of a parks district along the Harlem River is the challenge of providing safe spaces throughout an isolated corridor where access points are few and far between. One of the reasons that RCSP works well in its location is that the nearly 4,600 people living in the associated River Park Towers provide a high enough density of usage to make it a reasonably safe facility, in spite of some crime and security issues in the development. An advantage of having some additional residential and/or or mixed uses near main access nodes (e.g. near the University Heights Bridge) would be to provide a built-in pool of regular users of public open spaces to offer sufficient "eyes on the street"—or "eyes on the park" in this case—to enhance safety in the corridor. In all areas, whether populated or not, designing according to principles of "defensible space," with good sight lines, secondary means of egress, adequate lighting and other safety measures will be key design issues.

Notes: Parks and Open Space

1 Design Trust for Public Space and NYC Parks, *HIgh Performance Landscape Guidelines: 21st Century Parks for NYC,* (2010).

2 American Society of Landscape Architects and Lady Bird Johnson Wildflower Center at the University of Texas at Austin*, The Case for Sustainable Landscapes (2010)*. See also "Sustainable Sites Initiative" at www. sustainablesites.org.

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES

The upper Harlem River waterfront offers a rare opportunity to revitalize a corridor of ecologically rich green space in the core of the largest city in the nation. As a connection point from tidal estuary to shoreline to upland, from the expansive Van Cortlandt Park to the north to the future greenways to the south, the HR BOA corridor's ecological functioning matters for human health and well-being as well as myriad species of plants, birds, fish and other life forms.

The Harlem River, as a part of the Hudson-Raritan Harbor Estuary system, is itself is a preeminent natural resource that merits additional protections of water quality and habitat through public, private and not-for-profit partnerships. A number of opportunities exist along the Bronx side of the Harlem River for improving environmental quality of both water and land while providing public access and enhancing views of existing resources.

Though rivers are often seen mainly as dividing lines between political jurisdictions—in the case of the Harlem River, the Bronx divided from Manhattan—it is essential to consider how both shorelines and watersheds are working in tandem as an ecosystem. Better understanding of the Harlem River as a whole, within its ecological context as a tidal strait connecting the Hudson River and the East River within the larger harbor estuary system, can be reinforced as a part of future public awareness campaigns building on efforts to date by the Harlem River Working Group (HRWG), BCEQ and others. An Ecological Restoration Plan for the Harlem River is recommended as a next step toward revitalizing the Harlem River and its shorelines.

Native vegetation along the Harlem River Greenway can have multiple benefits, including adding habitat value and cleansing stormwater run-off

View of Harlem River and Highbridge Park

SUSTAINABLE SHORELINES: In addition to the sustainable design approaches recommended by the *High Performance Landscape Guidelines* and the Sustainable Sites Initiative, new guidelines have emerged in recent years to inform shoreline projects. Among the most useful for the Harlem River are the Hudson River Sustainable Shorelines program of the NYSDEC and guidelines developed by NYC Parks through the Desiging the Edge process for Harlem River Park.[1] These resources should guide waterfront projects along the Harlem River wherever possible, in order to increase the habitat value for aquatic, terrestrial and bird species. The sustainable construction and maintenance techniques recommended for all parks, open spaces and shorelines will have a beneficial impact on the overall environmental quality of the Harlem River Valley. These sustainable design and maintenance guides recommend use of predominantly native species that have the highest value for habitat for birds and other wildlife.

VISUAL RESOURCES: The Harlem River Valley is rich in visual resources, with some of the most beautiful views anywhere in the city. Designs for future parks and any new structures should capitalize on these views and protect significant viewsheds, especially views of Highbridge Park, Sherman Creek and Inwood Hill Park, as well as the upland outcropping on which the Hall of Fame of Great Americans and Bronx Community College are situated.

AIR QUALITY: Providing high quality air to breathe is one of the most fundamental ecosystem services that a healthy environment furnishes to human populations and other species. The proposed addition of a greenway system, with strong lateral connections to the upland

neighborhoods and improved public open space along the Harlem River, would help advance air pollution-related public health goals set forth by the New York City Health Department. The Health Department recommends that citizens reduce polluting emissions by walking, biking or using mass transit instead of a car and that they support policies that promote energy conservation.[2] The Harlem River Greenway and other related pedestrian and bike connections would provide much-needed infrastructure to enable pedestrians and cyclists to follow these recommendations, especially as the population is expected to increase in the area in coming decades.

WATER QUALITY: The goal of making the Harlem River a "swimmable, fishable" river suitable for primary contact recreation is in line with NYS goals for the Hudson River Estuary system as a whole.

The two strategies that have the greatest potential for improving water quality in the Harlem River are: 1) clean-up of brownfields that may now be leaching contaminants into the river through groundwater and erosion sediments and 2) stormwater management approaches that can reduce both contaminated runoff and combined sewage overflows into the river, with a strong emphasis on green infrastructure approaches, starting with the Harlem River Greenway itself.

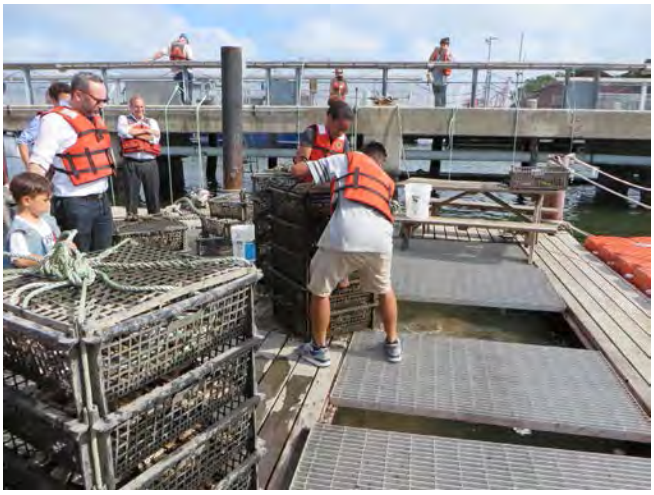
BROWNFIELD REMEDIATION APPROACHES TO WATER QUALITY: Bioremediation strategies are strongly favored by the community wherever they would be effective and feasible. When timing of new uses and the types of existing contamination necessitate faster approaches, in some cases, the greatest benefits for water quality of the Harlem River might be achieved by removing any source material and backfilling with a clean soil/fill cap. The remedial investigation data and application of appropriate soil cleanup objectives would determine the extent of any required removals. Additionally, remedial excavation and capping is typically a cost effective alternative that is frequently used in conjunction with various types of redevelopment including parks and open spaces.

South tidal pool at Harlem River Park on Manhattan side sets model for an ecologically sensitive edge where space is limited
(Photo: NYC Parks/Designing the Edge)

Determining brownfield clean-up strategies for sites along the waterfront will depend on investigation of the nature and extent of contamination. Once this is understood, potential remediation alternatives will be identified and compared using several evaluation criteria. These criteria include overall protectiveness of public health and environment, long-term effectiveness, reduction in toxicity, mobility and volume, short-term impacts and effectiveness, implementability, cost-effectiveness, community acceptance and land-use.

Pop-up wetland at Pier 5 capturing run-off from elevated I-87/MDE

STORMWATER MANAGEMENT APPROACHES TO WATER QUALITY: Regarding stormwater management approaches, radical reductions in combined sewage overflow events and in non-point-source pollution (surface runoff) would be a hugely positive move for improving the natural resources of the Harlem River and catalyzing further revitalization of the waterfront. In many locations along the waterfront, the extension of the Harlem River Greenway providing green space along the river to help filter run-off can be an asset for improving water quality. Integrating green infrastructure into parks, playgrounds, streetscapes and buildings in areas that are identified as being strategic for reducing CSO events is another highly recommended strategy.



Students at the Harbor School on Governor's Island demostrate oyster farming tasks; similar educational opportunities could be developed on the Harlem River

Several types of stormwater management practices are recommended for the BOA study area and discussed in more detail in the Infrastructure sections.

Also, the Tibbets Brook Daylighting Project that is now in conceptual design through DEP and NYC Parks could have enormous positive results for the Harlem River, with excellent potential for combining greenway development and stream daylighting to remove it from the combined sewer system. Water quality could also be improved with projects such as the proposed introduction of oyster reefs into esplanade infrastructure and restoration of intertidal wetlands in strategic locations as recommended in this report.

EDUCATIONAL OPPORTUNITIES: The Harlem River has already been used for ecological education through initiatives such as the MIT Urban Design and Architecture study in 2011; it was the students' suggestion to create a wetland park at Pier 5 to address run-off from the above-ground highway. This spurred BCEQ to apply for and be awarded a WCS/NOAA Regional Partnership Grant and funding allocated by Congressman Jose Serrano for the "eco-machine" water treatment system that uses biogeochemical processes to reduce contaminant levels. This green infrastructure pilot project was installed in 2013 and is still functioning well as of 2015.

Faculty and students of Manhattan College, located just outside the northern end of the BOA study area, utilize the Harlem River as a focus of some of their academic studies. Manhattan College is also reportedly very interested in having a boathouse on the Harlem River for additional educational access for science projects and related activities.

For younger students, the Harlem River Working Group is responsible for bringing the Wilderness Inquiry organization to the Harlem River annually, offering canoe excursions to school children and adults that raise awareness by getting people out on the water. BCEQ and HRWG have also worked closely with the National Park Service and USGS in recent years on other programming and outreach efforts that help to educate the community at various ages. Opportunities abound for doing more environmental education programs on the Harlem, particularly if facilities such as a proposed greenhouse and education center at Harlem River Promenade are funded.

Another model of interest for future educational projects on the Harlem River is the Harbor School on Governor's Island. Here, students are instrumental in introducing oysters into the Harbor Estuary system for water filtering purposes (oysters from the harbor are not edible), while learning the science and practical skills of oyster farming.

FLOOD MITIGATION AND RESILIENCE: Any and all new uses for the Harlem River BOA Central Focus Area will need to grapple with the current flooding potential from coastal storm surges and the projected increased risks over the coming decades. With virtually all of the study area classified by FEMA as being at moderate to high risk of flooding and designated by NYCOEM as being in hurricane evacuation Zones 2 and 3—a situation expected to worsen with sea level rise--consideration of flood potential is an extremely

The Bridge Park segment of the Harlem River Greenway offers shoreline habitat while protecting the shoreline from erosion with riprap; bike path is beyond

important planning and design issue when considering new uses. In the wake of Superstorm Sandy, the City has ramped up its resiliency strategies on a number of fronts and continues to augment regulations and codes to better deal with flood hazards and other threats. Parks that are designed to withstand occasional flooding with minimal damage and to help manage storm surge are often the best land uses for flood prone areas.

As noted in the Inventory and Analysis section, flood hazards are a serious challenge for the HR BOA Central Focus Area. Site planning to locate buildings out of the flood zone is generally the safest strategy. For any new buildings constructed on the waterfront, the NYC Building Code's provisions for Flood Resistant Construction would apply throughout most of the Study Area. Resilience strategies such as elevating mechanical equipment (for both retrofitting of existing buildings and for any new structures),[3] dry flood proofing and wet flood proofing are also relevant within flood-prone areas along the Harlem River.

Notes: Natural Resources and Environmental Features

1 David L. Strayer and Hudson River Sustainable Shorelines Project Team, "Managing Shore Zones for Ecological Benefits Handbook," accessed September 21, 2015, https://www.hrnerr.org/doc/?doc=273743856 and NYC Parks, MWA, NYS DOS Division of Coastal Resources and Harlem River Park Task Force, Marcha Johnson, PhD ASLA, Primary Author, "Designing the Edge: Creating a Living Urban Shore at Harlem River Park," (2010), report available for download at https://www.nycgovparks.org/sub_opportunities/business_ops/pdf/designing_the_edge_4-7-2010.pdf.

2 NYCDOH, Environmental and Health Data Portal, "Citywide Air Quality," accessed September 22, 2015.

3 See page 110 for references to several DCP publications with recommended strategies for neighborhood and building resil ience.

INFRASTRUCTURE: OVERALL FINDINGS AND RECOMMENDATIONS

The most urgent infrastructure issue within the Harlem River BOA study area is to improve stormwater management by adding green infrastructure to existing grey infrastructure, in order to reduce pollution into the river. Green infrastructure, the practice of managing stormwater through infiltration, evapotranspiration, reuse and detention, is a particularly compatible approach in a district where the community vision is for public open space. As the most basic rule-of-thumb, it is helpful in meeting water quality goals to have less land area covered with impervious paved surfaces and more area land area in permeable greenspace or at a minimum treated as hybrid space with green infrastructure (e.g. parking with permeable pavements). The permeable open space within the proposed Harlem River Greenway corridor would be extremely beneficial for filtering run-off in many locations along the river.

The specific types of recommended green infrastructure Best Management Practices (BMPs) vary from location to location, depending on the pollution sources that are most likely to be reaching the Harlem River in each area, the available space and subsurface conditions. Combined sewer overflows from the CSO locations in the Central Focus Area can be reduced or eliminated with a variety of green infrastructure techniques to detain or retain stormwater run-off within each CSO catchment area. Among other approaches, stormwater Greenstreets (SGS) and Right-of-Way Bioswales (ROWB) installed by NYC Parks through collaborative interagency programs with NYCDOT and NYC Parks could be useful in a number of locations, both on the waterfront and upland.

A number of different site-specific strategies could be used, depending on the results of future soil borings to better understand very localized conditions. For example, if parking lots south of Macombs Dam Park were to remain as surface lots or dual-purpose parking/recreational areas, the stormwater wetland envisioned by the MIT DUSP study might be a valid approach in this location; however, the type and its design would depend on site conditions. The prototype pop-up wetland near 149th Street that is capturing and treating run-off from downspouts from the elevated Major Deegan Expressway could be refined and replicated at other locations. Vegetated swales, rain gardens, permeable pavements and pocket wetlands can be integrated into future park designs.

Along with these techniques, any new buildings on the waterfront could harvest rainwater with the goal of zero discharge wherever possible. A nearby precedent is planned in Brook Park, in CD1, where roof run-off, including rainfall captured from adjacent residences, along with other stormwater, will be channeled to a wetland in the park. Similarly, the "Waterwash" wetland installation on the Bronx River captures run-off from an adjacent commercial building and property. Green roofs can also mitigate the impacts of any new impervious surfaces in the area. DEPs publication "Guidelines for the Design and Construction of Stormwater Management Systems," July 2012, which defines permitting criteria for both DEP and DOB, currently governs green infrastructure installations in NYC for both subsurface and rooftop systems.

Street bio-swales installed by DEP and NYC Parks could help reduce combined sewer overflows in certain drainage areas outletting to the Harlem River

HISTORIC OR ARCHEOLOGICALLY-SIGNIFICANT AREAS

Historic and recreational resources in the Harlem River Valley and nearby have potential for catalyzing revitalization in the Central Focus Area and nearby Community Participation neighborhoods, provided that access issues, way-finding and "branding" are addressed creatively and effectively. Online maps, apps, and social media can also be harnessed to reach wider audiences to tout the Harlem River's assets as connections to the river are improved.

The historic bridges over the Harlem River—in particular the High Bridge which is an utterly unique example of engineering infrastructure—combined with the spectacular views of natural and historic resources beyond the Central Focus Area—the Hall of Fame of Great Americans, Highbridge Park, Sherman Creek, Inwood Hill Park and the Harlem-Hudson intersection at Spuyten Duyvil and the Palisades—together form a memorable, visually appealing experience of the Harlem River. Bringing back recreational boating access from the Bronx side of the river with the "People's River" concept and linking to the regional historic infrastructure routes of the nearby Aqueduct Walk and the Putnam Greenway system would form a network of historic infrastructure appealing to history buffs, avid walkers, runners, cyclists and other visitors.

A "New York, Then and Now" interpretive experience along the river could consist of a series of nature environments that evoke New York's historic stages from pre-European colonization with signage and interactive kiosks that discuss how Native Americans used the river as a food source and transportation; to the City's seemingly relentless growth from Dutch

An interpretive program on the renovated High Bridge recounting the story of 19th century engineering feats could be expanded and elaborated along the Harlem River

colony to the temporary capital of a new nation and how each stage impacted and transformed the natural environment; to the story of the ambitious 19th and 20th century engineering projects that shaped the Harlem River Valley: the construction of the Harlem Ship Channel itself, which created the route of the Harlem River as we now know it and buried Tibbets Brook; the High Bridge's role in the Croton Aqueduct system; the five vehicular bridges; the railroads and even the construction of the Major Deegan; on up to the late 19th century/early 20th when the Harlem River was the premier venue for regattas, where the river was almost as packed with boats as the esplanades were with spectators. The story continues into the 20th century when industrial development and shortsighted civic decisions – from handling rain runoff to serving the transportation needs of the automotive age – turned the Harlem River into a forgotten, inaccessible waterway; to today's reengagement with the City's various waterfronts to better serve the recreational and leisure needs of a City reinventing itself with the new century and the challenges such a reengagement presents, from brownfields mitigation to water quality issues.

Creating a "New York, Then and Now" visitors' experience would 1) solidify the Harlem River Greenway as a public park unique within the city; 2) create a recognized public space unique to the Bronx; and 3) create an outdoor living history environment that would be a draw for the public in the Tristate area and beyond.

The reopening of the High Bridge in summer 2015 is drawing thousands more people to BOA neighborhoods, as well as press attention to this extraordinary historic engineering resource.[1] There are rare opportunities to capitalize on the draw of new visitors to the Bronx. Continued concerted effort is needed to better link the upland High Bridge landings to waterfront access and destinations, and vice versa.

Notes: Historic or Archeologically Significant Areas

[1] See, for example, Ruth Cremson, "High Bridge Reopens After More than 40 Years," New York Times, June 9, 2015.

COMMUNITY DISTRICT 4 - STRATEGIC SITES AND CONNECTIONS RECOMMENDATIONS

STRATEGIC SITES AND CONNECTIONS: This study nominates three Strategic Sites and a Strategic Connection in Community District 4 for acceptance into the BOA program: Strategic Sites #1 (Pier 5), Site #2 (Macombs Dam Area), and Site #3 (Depot Place), along with Strategic Connection #1 at Macombs Dam Bridge. These locations in CD4 would all benefit from opportunities to further investigate and remediate as needed their potentially contaminated conditions and to elevate their use from undeveloped, underutilized open space and parking lots to higher and better environmental and economic uses. All of these properties in CD4 meet the criteria for brownfields and are clearly underutilized sites and linkages. Additionally, all of these proposed Strategic Sites and Connections offer excellent opportunities to expand public access along the waterfront and to improve environmental quality with well-developed greenspace and stormwater management strategies.

Strategic Connection #1 - Greenway under Macombs Dam Bridge - CD4: Bold design solutions are sorely needed to make a linchpin greenway linkage through Strategic Connection #1. Pedestrian and bike access between Mill Pond Park and 161st Street on either side of the Macombs Dam Bridge is currently extremely difficult and dangerous, complicated by the high traffic volume conflicts at the Macombs Dam Bridge interchange with I-87/MDE. The dire situation and volume of pedestrians and traffic in the area warrant a creative solution for a north-south greenway route that would connect pedestrians and cyclists over the railroad tracks and across the Major Deegan. The capital expenditures that may be entailed are warranted in this location (see Figures 42-45).

Currently, a sidewalk is provided adjacent to the southbound I-87/MDE ramp, which could be widened by narrowing the adjacent roadway width, to provide a shared pedestrian/bike route to/from Macombs Dam Bridge. Once the existing sidewalk is north of the Metro-North tracks, a ramp connection may be possible down to the parkland beneath Macombs Dam Bridge between the MNR tracks and the I-87/MDE landing. A new, ADA-compliant pedestrian/bike connection could accommodate north/south pedestrian movements beneath Macombs Dam Bridge.

North of Macombs Dam Bridge, this new greenway linkage would connect with a recently constructed short segment of greenway in Macombs Dam Park on the west side of the I-87/MDE; this segment is presently very isolated and feels unsafe due to minimal foot traffic because it is difficult to reach on foot.

As part of the proposed greenway route at Strategic Connection #1, improvements north of Macombs Dam Bridge should include a new and realigned pedestrian bridge a new and realigned pedestrian bridge at 161st Street to replace the existing non-accessible, aging pedestrian bridge.

Strategic Site #1 (Pier 5, 4.4 acres) - CD4: Strategic Site #1 (Block 2636, Lot 2), known as Pier 5, may be one of the most versatile potential sites, due to ease of access, location and a pattern of previous investment in the area. Its location at the major intersection of 149th Street and Exterior Street, its situation topographically at-grade with no need for convoluted ramps or stairs, its superior connectivity to transit (with the 2 and 4/5 express lines at the Hub and MetroNorth a short walk away) and its unique riverfront location make it a desirable site for a number of potential uses. The site also benefits from proximity to potential users from nearby Hostos Community College and Lincoln Hospital.

The site, which is currently zoned M2-1, is the subject of continued City study and analysis to determine its highest and best use. If any new construction other than uses allowed under Manufacturing were to be included on Strategic Site #1, it would need to be rezoned. As a City-owned site, a rezoning would entail a public process.

It is imperative that public open space be included along the waterfront, even though the existence of the Oak Point Rail right-of-way (Block 2539, Lot 3), might technically exempt the site from required public waterfront access (as similarly occurred at River Plaza Mall in Kingsbridge). Any rezoning should ensure public open space and greenway connections both on the waterfront and on Exterior Street.

Strategic Site #1: Pier 5, between 145th Street Bridge and Mill Pond Park

This site, which is adjacent to the Gateway Center / Bronx Terminal Market and south of Yankee Stadium, benefits from proximity to Hostos Community College, Lincoln Hospital and several layers of earlier successful private and public investment on which it can build: the $1 billion investments in Yankee Stadium, Gateway Center and related improvements to the immediate northeast, and the city's investment in a public waterfront and new open space at Mill Pond and Macombs Dam Parks near Yankee Stadium to the immediate north. These public realm investments – realized with over $200 million in public funds – create a node that is likely to attract further investment on the waterfront in this location.

BCEQ's pilot stormwater management project at Pier 5 site has been testing the ability of plants to filter stormwater runoff from the elevated I-87/MDE since 2015 and appears to be working well. The redevelopment of Pier 5 should include full implementation of stormwater BMPs, to include treatment and/or reuse of additional runoff from I-87/MDE. The I-87/MDE runoff can be treated via additional pop-up wetlands or by using large scale rain barrels as was suggested by others[1] [1]for use as irrigation or other gray water uses. Mill Pond Park offers some infiltration over a 15 acre area within CD4.

Strategic Site # 2 (Macombs Dam Area, 6.2 acres)*:* Strategic Site #2 consists of a cluster of several lots that are currently all paved with impervious surface (Block 2639, Lots 4, 10, and 14 are the largest). Lots 4, 10, and 14 remain as surface parking today; they are utilized on Yankee game days, and the southern lot is used for Tennis Club parking, to a degree that does not meet their highest and best use given the potential conferred by such strong proximity to local amenities, transit, and the waterfront. Strategic Site #2 also encompasses several smaller fragments on the north end that are roadway right-of-way.

These lots possess strong public or private redevelopment potential for many of the same reasons that Pier 5 has become attractive for various possible uses. This site is located a short walk from Yankee Stadium, the Gateway Center, and the public parks in the area, the result of the city's transformation of former surface parking lots.

Greater economic value, social benefit for the community and environmental quality would be derived if the sites

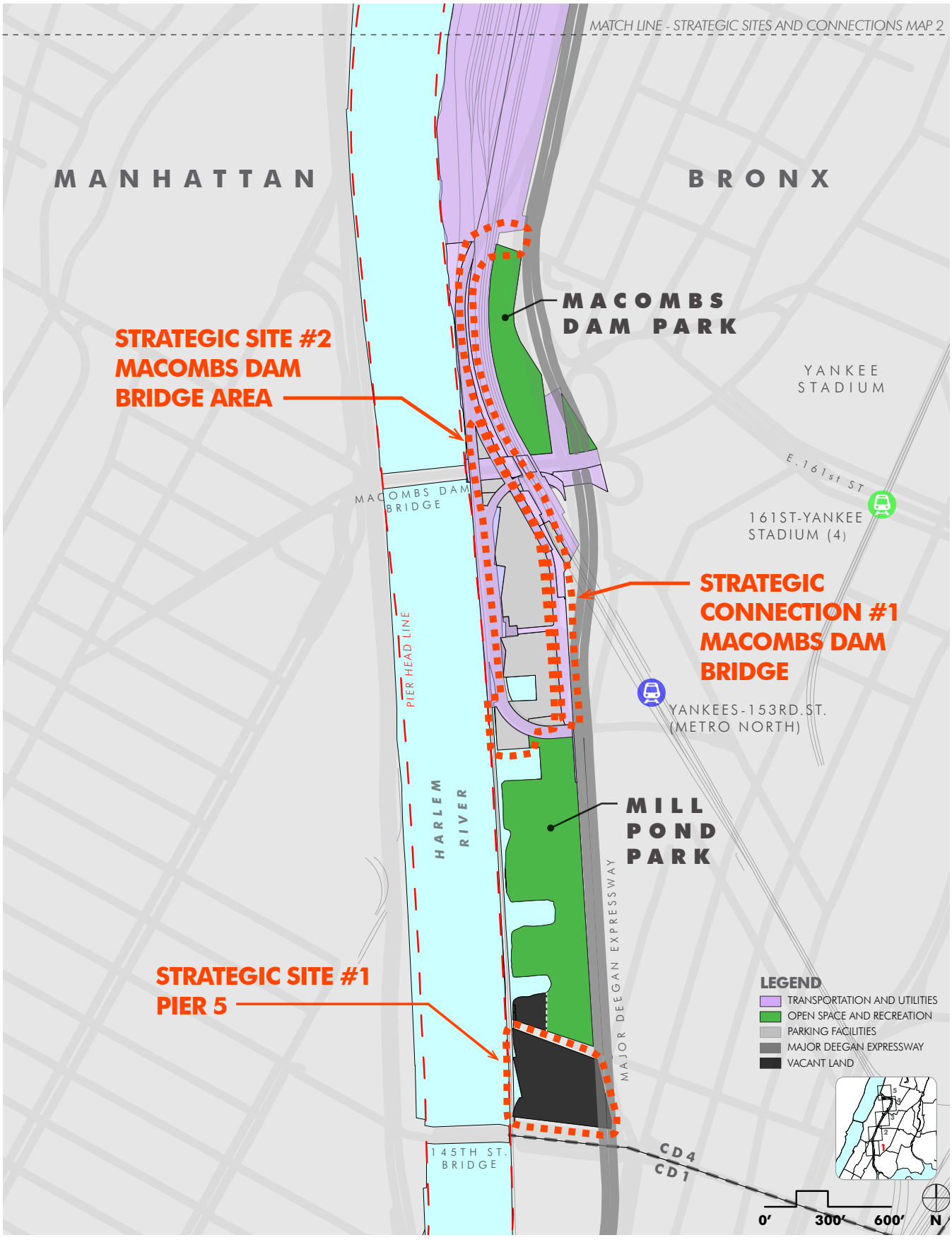


Figure 41. Strategic Sites and Connections Map 1 (CD4, Southern Portion)

Figure 42. Concept Plan: Proposed Greenway at Macombs Dam Bridge - Strategic Site #1 (Note: All concept images in this report are intended to convey general design ideas for a particular location. No feasibility studies, including engineering or cost estimating, have been performed for these conceptual designs.)

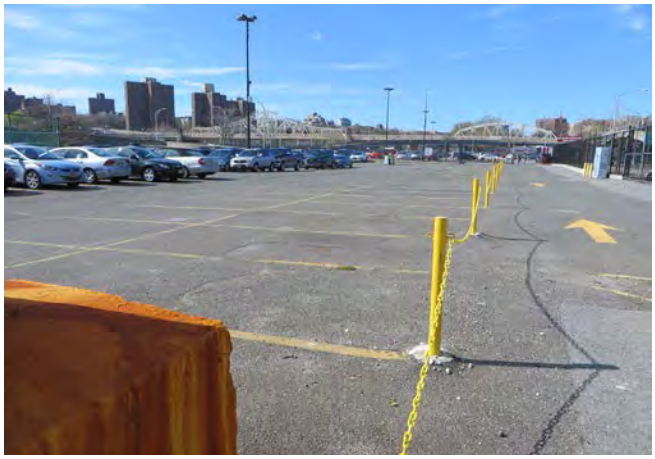
were redeveloped as an extension of the open space at Mill Pond Park, either in whole or in concert with some sensitively designed development to support the creation of a public esplanade or other public open space, as is being facilitated in the Special Harlem River Waterfront District to the south. The triangle just south and west of the roadway ramp and northwest of the cove and Tennis Center should be an extension of Mill Pond Park and a showcase project for ecological restoration. There appears to be sufficient space on the site to retain adequate parking for the Stadium Tennis Club through reconfiguration of these lots, while vastly improving the functioning and appearance of this area.

Lots 4, 10, and 14 are today within the EDC asset management portfolio, and are in a long-term lease with Bronx Parking Development Corporation. Parking utilization and requirements would have to be evaluated and revisited in order to potentially free up the unused parking on the leased lots. ULURP actions would also be appropriate to map new parkland adjacent to Mill Pond Park and update the NYC zoning map to reflect the change.

Redevelopment of Strategic Site #2 would also provide opportunities to deal with the stormwater run-off situation on this 5.7 acre expanse of impervious surface. The parking areas have basins on the east side of the lot, presumably connected to the Exterior Street storm sewer to WI63, outletting to the river south of Macombs Dam Bridge. The balance of the parking lots drain via sheet flow to the river. Any new stormwater strategy should aim to treat storm flow that currently drains to the existing basins on the east side of the parking area and sheet flow directly to the river.

As envisioned in the "Bronx, Meet Your Waterfront Plan," these parcels could be utilized as a hybrid parking area/ park with permeable paving, providing recreational space to neighborhood residents when not in use for game-day parking. The permeable pavement system throughout, along with a pocket wetland tucked into the otherwise wasted northern tip of NYCDOT ROW space, could make significant improvements to water quality here. This site is an excellent candidate for permeable pavement, bioswale strips between parking stalls and downstream wetlands as recommended in the MIT study.[2]

One issue, however, that would need to be considered in designing green infrastructure for this site is the available depth between the existing grade and tidal mean high water elevations. It is anticipated that infiltration techniques will not be efficient here due to the relatively thin layer of available space now and even less in the future due to sea level rise. Shallow underdrain systems outletting to a wetland adjacent to the river would be most practical and resilient.



Strategic Site #2: Underutilized parking lots between Mill Pond Park and Macombs Dam Bridge

Strategic Connection #1: Exterior Street, over tracks and under Macombs Dam Bridge, looking north

Strategic Connection #1, looking north under roadway ramp and Macombs Dam Bridge

Figure 43. Proposed Greenway Connection Concept Under Macombs Dam Bridge--Looking North

Figure 44. Proposed Greenway Connection Concept Under Macombs Dam Bridge--Looking South

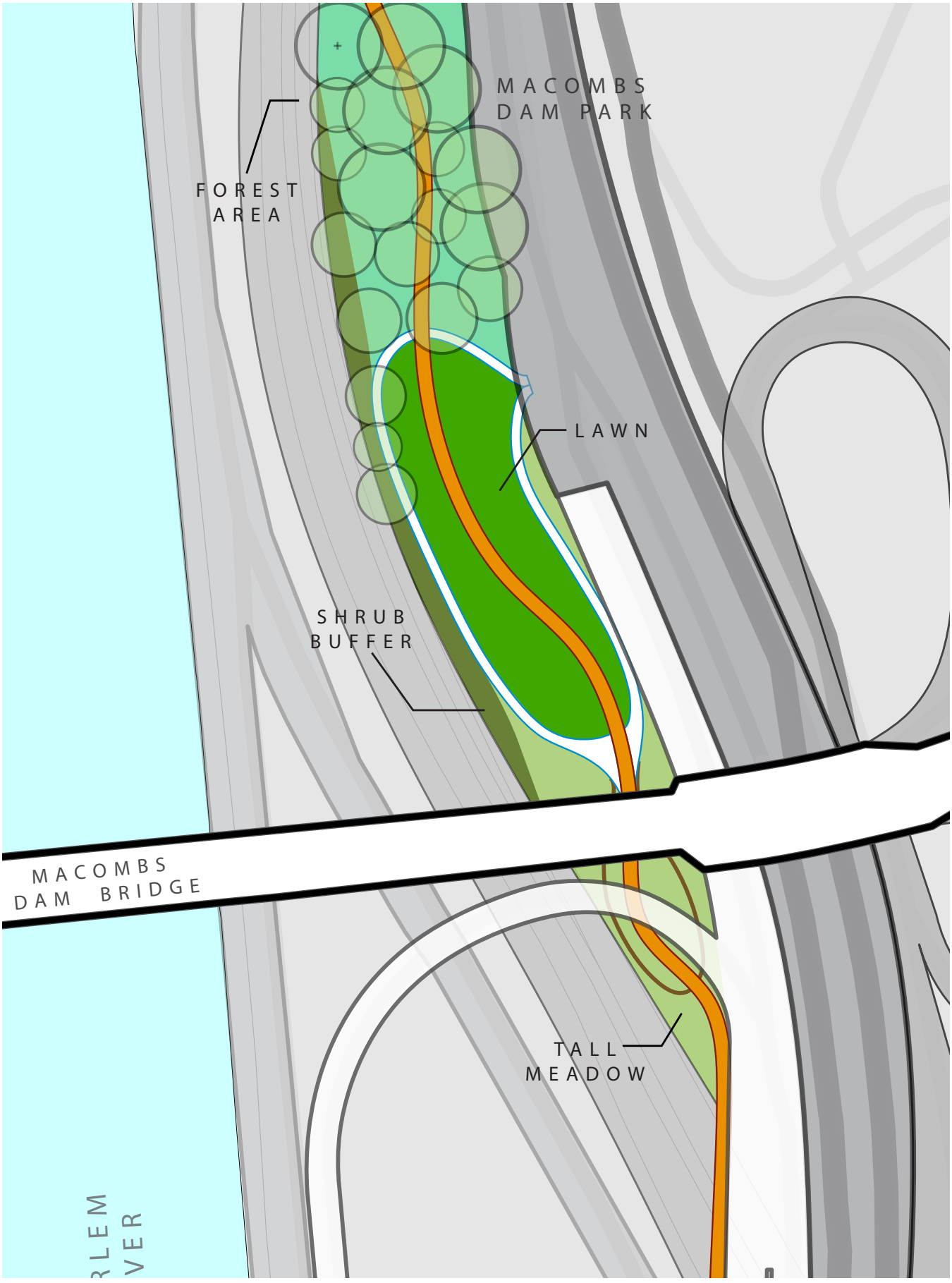


Figure 45. Concept Plan: Proposed Greenway at Macombs Dam

Strategic Site #3: Depot Place waterfront, proposed site for Harlem River Promenade

Strategic Site #3 (Depot Place, 8.6 acres): Strategic Site #3 is a composite of five lots stretching between the High Bridge Yards to the immediate south and Bridge Park to the immediate north, with access to the site via the Depot Place Overpass. There is widespread consensus that the highest and best use for this site is as public parkland and greenway. In this location, NYC Parks has been able to aggregate three greatly underutilized waterfront sites between the High Bridge and the Hamilton Bridge into its jurisdiction in the past several years, with the help of the Trust for Public Land, with the intention of developing these sites as a NYC public park once capital funding can be allocated. This waterfront site possess spectacular views of the river, the High Bridge overhead, Highbridge Park across the river and the Hamilton Bridge crossing at its northern end. Although the site is in a degraded state today, it has excellent potential as public parkland functioning to support diverse wildlife, recreational and educational uses and as part of the blueway system with a boat launch area.

During the Step 2 BOA process, stakeholders validated the continued desirability of the Harlem River Promenade Concept Plan that was commissioned by the Bronx Overall Economic Development Corporation (BOEDC) and developed by landscape architecture firm Starr Whitehouse, based on community input.[3] At BOA community engagement events such as the March 2015 Water Conference, the Depot Place/Harlem River Promenade project was cited repeatedly as being the highest priority on the Harlem River waterfront at this time.

Some of the most promising opportunities for better utilizing existing natural resources and improving ecosystem functioning are in this Strategic Site, through the proposed Harlem River Promenade Plan. After remediating any contamination on these sites, the concept plan proposes to redevelop this area as parkland with minimal impervious surfaces and to include a riparian marsh that would also help restore the polluted shoreline and provide new habitat. Since this site is immediately across the river from the 130 acre Highbridge Park, which is largely forested even though it is heavily impacted by invasive plants, improvements to habitat on the Bronx side would expand the habitat value of the entire Harlem River Valley in this location. With direct connection to Bridge Park where native species plantings have already been installed, the Depot Place to RCSP South shoreline could offer continuous waterfront habitat with minimal impervious surfaces an a non-bulkheaded shoreline. Once funding is allocated, NYC Parks will begin the design process with a public scoping session to incorporate updated community priorities into the design for this waterfront park.

One parcel within this Strategic Site, Block 2541, Lot 8900, is an oblong, oddly-shaped linear parcel that is street right-of-way for Exterior Street, under the jurisdiction of NYCDOT. In order to complete this stretch of parkland, it will be necessary for the street to be demapped and formally added to NYC Parks holdings. Since the street is not needed for access to any developed properties, it is probably feasible to demap the street and dedicate the area to parkland.[4] A ULURP process will be required for a street demapping.

This site is in a highly strategic location in a number of ways, even though it is challenged by its state as a brownfield. It is an important southern extension to the existing, connected NYC Bridge Park and RCSP. Because it is the connection between the Depot Place Overpass and Bridge Park, it is a critical linkage in establishing the waterfront greenway. Also, it is the

Figure 46. Proposed Accessible Cove at Depot Place Waterfront (Source: Harlem River Promenade Study, BOEDC/Starr Whitehouse)

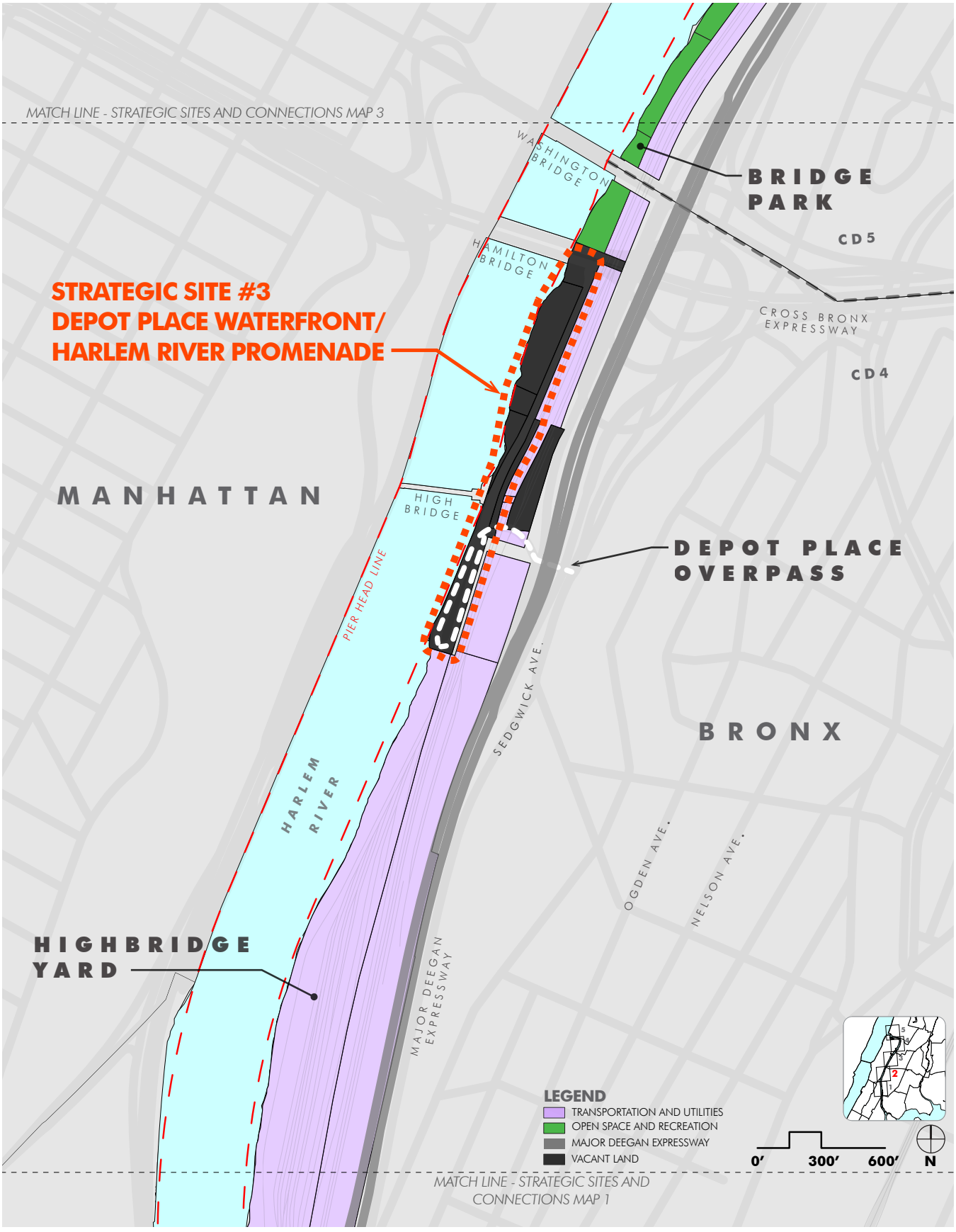


Figure 47. Strategic Sites and Connections Map 2 (CD4, Northern Portion)

only opportunity to provide additional waterfront park space in this northern portion of CD4, since the entire waterfront just south is taken up by the High Bridge Yard. For these reasons, the community and NYC Parks are eager to see this Strategic Site developed as park and greenway.

The catalytic potential of the site is, however, hindered to some degree by difficult access, due to the extreme grade changes from the waterfront to the upland neighborhood, its distance from public transit and poor pedestrian and bike access on and around the Depot Place Overpass. Also, unfortunately, though the High Bridge passes overhead, the nearest staircase connecting to the High Bridge is across the Major Deegan on Sedgwick, not directly into the site.

In order for the potential of the Depot Place parcel and the greenway to be realized, it is particularly important to provide safe vehicular and bike access from Sedgwick to Depot Place. This will require that police vehicles that are currently parking illegally on the sidewalks and roadway on Sedgwick and Depot Place relocate, among other upland connectivity improvements.

As of 2015, the Depot Place/ Harlem River Promenade parcels have not yet been mapped as parkland. (Only the portion of Bridge Park that existed prior to construction of the Major Deegan is mapped parkland.) Officially mapping the more recently acquired parcels as parkland would add a more permanent protection for public recreational access at this Strategic Site.

Police parking at Depot Place

Stormwater Management--Strategic Site #3: The Harlem River Promenade report identifies potential stormwater management strategies such as bioswales along pathways and hardscape areas.[5] In addition there are recommendations for rain barrels or rainwater harvesting to collect water for irrigation or other gray water needs.

Of particular interest is the concept to provide a vegetative bioswale / rain garden within the switchback of the Depot Place ramp. This would potentially alleviate overflow from two existing outfalls located just west of the ramps.

Future design development for the Harlem River Promenade will need to consider the very large four-tide-gate structure, about 30 feet wide, which outfalls north of the High Bridge structure and approximately

Figure 48. Harlem River Promenade Concept Plan (Source: HRP Study, BOEDC/Starr Whitehouse)

at the proposed boat launch location shown on the proposed schematic plan.

The Depot Place/Harlem River Waterfront site does not have direct access for a sanitary connection. There is also limited water service at either end of the site. The available water pressure and capacity would need to be tested. Overhead electrical and communication is available from Depot Place and could be upgraded if required.

Once funding is obtained for Depot Place, NYC Parks would host a public scoping meeting to refine the recommendations of the Harlem River Plan and provide public feedback into the new design. The amount of allocated funding and the community priorities determined in the scoping meeting will determine the park design.

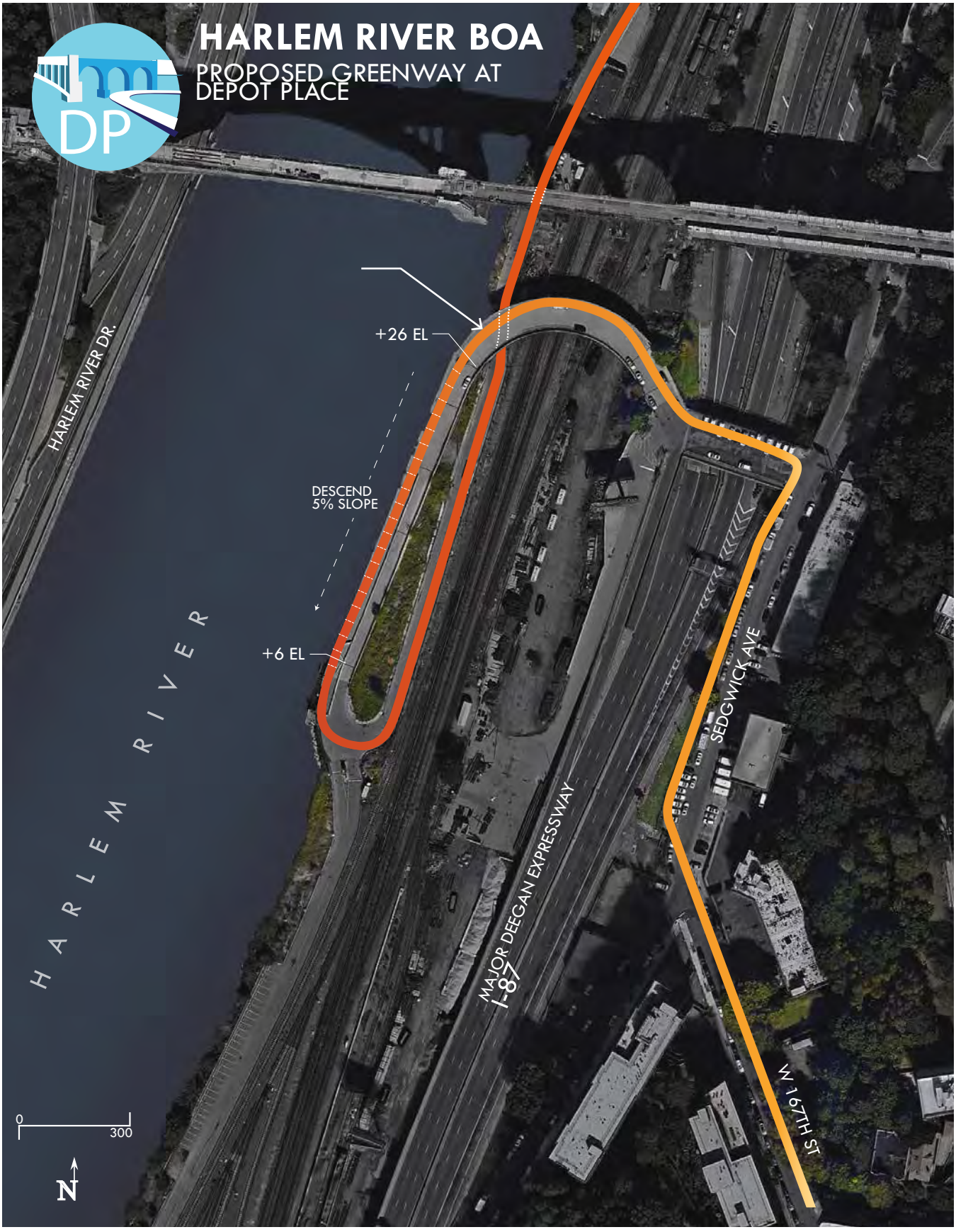


Figure 49. Concept Plan: Proposed Greenway at Depot Place

Figure 50. Bird's Eye View: Proposed Greenway Connection Concept over Depot Place Bridge

Figure 51. Proposed Greenway Connection Concept over Depot Place Bridge

COMMUNITY DISTRICT 4 - ADDITIONAL RECOMMENDATIONS

PARKS AND OPEN SPACE-CD4: Sites in Community District 4 offer a number of excellent opportunities to add additional waterfront parks and open space to complement existing parks. Altogether, Strategic Sites #1, 2 and 3 have up to 20 acres that could potentially become public park or an open space portion of a residential or mixed-use development.

HISTORIC ASSETS-CD4: The major historic asset in Community District 4 is the newly renovated and reopened High Bridge soaring overhead above the Depot Place waterfront. For the waterfront BOA area to contribute to and benefit from the catalytic potential of this new $61 million investment, rehabilitation of the staircase on the east side of Sedgwick to improve its safety and security, as well as additional improvements to pedestrian and bike access from the upland neighborhoods and across the Depot Place Overpass, are needed. Even though the Harlem River Promenade reach of the waterfront is as yet undeveloped, it is possible now to walk or bike across Depot Place and north on Exterior Street to Bridge Park and through RCSP. In this stretch are some of the best views of the historic High Bridge, as well as the Hamilton and Washington Bridges. The existing granite staircase that was preserved as part of the Bridge Park project is another remnant of historic infrastructure along the way. This reach of the waterfront is one of the areas where a coordinated interpretive program would help make best use of its historic visual amenities.

Further south, the single existing gantry at the Pier 5 site is another historic resource that should be considered for possible preservation, much as gantries are key features of Gantry State Park in Queens and Eerie Basin Park on the Red Hook, Brooklyn, waterfront. In the south Bronx, Cement Plant Park offers another precedent for integrating former industrial infrastructure into a redeveloped public open space.

ADDITIONAL TRANSPORTATION RECOMMENDATIONS-CD4:

Making greenway linkages in CD4, both linear and lateral, is particularly challenging but essential if the vision of a Harlem River Greenway is to come to fruition and help fuel the revitalization of the BOA Study Area.

Today, because the southern terminus of the Harlem River Greenway in Mill Pond Park ends at East 150th Street, visitors to the riverfront from the neighborhoods to the south and east or from the public transit connections along 149th Street must cross congested intersections. A better connection could involve extending the greenway through the Pier 5 property and under the 145th Street Bridge to the south side. This linear connection should be a high priority for open space use at Pier 5, as the City considers various scenarios for this site.

With this linkage in place, consideration could also be given to providing east and westbound Bx19 bus stops on 149th Street west of Exterior Street. These new bus stops would allow riders to access the extended greenway and Mill Pond Park without having to cross any streets. Westbound riders could simply walk into the park opposite the bus stop, and eastbound riders could walk under the 145th Street Bridge to the park.

The expanded Pier 5 south end of the City-owned land could be the gateway to the Harlem River Greenway for most subway visitors as well, since the Bx19 route provides transfer connections with the 2, 4, and 5 subway lines at 149th Street and Grand Concourse.

East 149th Street is also a NYCDOT potential future bicycle route; therefore, expansion of the park/greenway south to connect with East 149th Street would provide the City with an additional incentive to study and implement this bike route. Direct bike connections from the street route to the greenway could be provided.

NYCDOT's Harlem River Bridges Access Plan and the current mayoral Vision Zero initiative aimed at improving traffic safety will likely yield some improvements in pedestrian and bike routes in the Macombs Dam Bridge area.

The pedestrian connections between the CD4 waterfront (including Mill Pond Park and the existing park lots to the north and) inland to Yankee Stadium, Heritage Field and Macombs Dam Park cry out for safety and experiential improvements and wayfinding, all of which should be a high priority. Existing pedestrian connections are indirect amd inhospitable, existing pedestrian signage is incomplete and the routing in not intuitive.

- The Metro-North pedestrian overpass links Heritage Field/Macombs Dam Park with the west side of the railroad tracks; however, pedestrian signs from the pedestrian overpass do not exist at the foot of the stairs, and the path to the waterfront is not easily recognizable. The pedestrian connection between the Metro-North overpass and 149th Street should

be improved by removing it from within the confined walkway under the I-87/MDE and instead providing a green park-like connection to/from 149th Street in the area east of the I-87/MDE overpass between the I-87/MDE and Metro-North Railroad (MNR) that once served as a parking lot and is now a construction staging area.

- For the pedestrians/bicyclists crossing the southbound I-87/MDE on-ramp, a pedestrian signal, either a Rectangular Rapid Flash Beacon (RRFB), or High-Intensity Activated Crosswalk beacon (HAWK) could be added to enhance pedestrian crossing safety. The southbound on-ramp is on a curve; however, there are clear sightlines for an RRFB or HAWK signal to be installed.
- On Macombs Dam Bridge, pedestrians walking east/westbound should be given a seven-second leading pedestrian interval to provide them with an opportunity to cross without any conflicting traffic. Currently, pedestrians are given the walk signal concurrent with the east and westbound traffic, and must wait until a motorist yields before crossing.
- An alternative concept for crossing I-87/MDE and Macombs Dam Bridge interchange is a new pedestrian bridge that would span over the ramps, just south of the bridge, and connect from the south side of Macombs Dam Bridge near the waterfront and land in Macombs Dam Park. Near the southbound Major Deegan Expressway off-ramp, this pedestrian bridge would be approximately 16 feet above street level, and a stairway would be needed to connect with the street level or the park at ground level. Site space constraints may not allow for the construction of an ADA ramp to Macombs Dam Bridge level. Alternatively, an elevator may need to be installed to provide pedestrian connections between the at-grade park, Macombs Dam Bridge, and pedestrian bridge levels.

Improved pedestrian and bike connections are sorely needed south of Macombs Dam Bridge

North of Macombs Dam Bridge, four possible options have been identified for the greenway to continue north and are discussed here as Options 1, 2, 3, and 4. Ideally, at least two of these options would be used in combination, in order to provide north-south continuity on or near the shoreline, as well as bikeable, ADA-compliant access across the MDE to the upland neighborhoods.

- Option 1 assumes the construction of a new pedestrian/bike bridge over I-87/MDE that would connect with Macombs Dam Park, as per the proposed Greenway alignment in Figure 42. just south of West 161st Street. From this point, bicyclists would use inland streets such as Summit and Ogden avenues to proceed northbound. The downsides of this concept are that the bike route moves away from the waterfront and onto city streets, with significant changes in street grades that would likely deter recreational cyclists.
- A second option is to continue the bikeway along the west side of the MDE north of the (existing or replaced) 161st Street pedestrian bridge, and then cross under the I-87/MDE to Sedgwick Avenue in the vicinity of an abandoned subway station. Once on Sedgwick Avenue, it is possible that the curb lane would be converted into a separated two-way bike facility to Depot Place. The benefit of this alternative is that the bikeway remains near the waterfront and along a more level street route. Issues with this option include the feasibility of the connection under the I-87/MDE and possible safety concerns within a bikeway tunnel. Additionally, at Depot Place, bicyclists would still need to navigate through the difficult Depot Place/Sedgwick Avenue intersection.
- A third option is to cantilever a bikeway off of the west side of the I-87/MDE above the MNR Highbridge Yard to Depot Place.
- The fourth option would have the bikeway use the eastern edge of the MNR Highbridge Yard property adjacent to the I-87/MDE. This option would require the bikeway to cross one MNR service track. Advantages of Option 4 would be that this route would be the most direct, would consist of an easeir at-grade construction, and would be least costly. However, a narrow strip of property through the MNR yard would need to be obtained and necessary protection at the railroad grade-crossing would need to be provided. MTA has indicated in a press statement that they would be willing to consider the idea of a park or

Poor pedestrian and bike conditions south of Macombs Dam Bridge

> greenway alongside the rail yard; in this statement, the MTA spokesperson stated that the rail entity is willing to review specific plans illustrating a possible greenway and demonstrating that a greenway would not create safety concerns or impact train operations. Developing such a plan is a logical next step in exploring potential greenway options alongside High Bridge Yard.[6]

At Depot Place the high volume of traffic destined for the southbound I-87/MDE on-ramp and presence of NYPD vehicles parked on the sidewalks make access to the waterfront via Depot Place difficult. Ideally pedestrian access could be provided via a pedestrian bridge from the Highbridge stairs that would serve the residential neighborhoods at the top of the stairs, as well as making a safer connection to the Harlem River waterfront from Manhattan. This pedestrian bridge would connect with the north side of Depot Place, from which ramp access down to the waterfront could be provided. Bicyclists using a potential bikeway along the east side of the Metro-North Highbridge Yard could also use this Depot Place ramp to cross over the MNR tracks and access the waterfront and Bridge Park to the north .

Whether or not a pedestrian bridge across the I-87/MDE and Sedgwick Avenue is possible, safety improvements are needed at the Sedgwick Avenue intersection with Depot Place. These improvements would include pedestrian crosswalks and possibly a traffic signal, which would include pedestrian signals/phasing to improve pedestrian access across Sedgwick Avenue. Alternative parking locations would need to be identified to remove the NYPD vehicles from parking on the Depot Place sidewalks.

The best bike route to/from the north and Depot Place is via Undercliff Avenue, which leads to University Avenue and the bike lanes on Edward L. Grant Highway. The first phases of this bike route has recently been installed, connecting the newly opened High Bridge to the Depot Place Bridge.

Currently, the Bx18 bus route ends at Sedgwick Avenue at Undercliff Avenue. When the Depot Place waterfront is completed, consideration should be given to providing a Bx18 bus stop closer to the Highbridge stairs on Sedgwick or on Depot Place, as there are currently no sidewalk connections from the existing last bus stop location to Depot Place.

Notes: CD4 Recommendations

1 MIT DUSP , “Bronx, Meet Your Waterfront,” p. 49-51.

2 MIT report, page 53.

3 BOEDC and SWLA, “Harlem River Promenade.”

4 Communication from Colleen Alderson, NYC Parks Parklands, May 26, 2015.

5 “Harlem River Promenade,” p. 72.

6 MTA spokesperson Aaron Donovan, quoted in DNAinfo/New York--Eddie Small, June 15, 2015, “High Bridge Reopening Leads to Renewed Calls to Develop Bronx Waterfront,” http://www.dnainfo.com/new-york/20150615/high-bridge/high-bridge reopening-leads-renewed-calls-develop-bronx-waterfront.

COMMUNITY DISTRICT 5 - STRATEGIC SITES AND CONNECTIONS RECOMMENDATIONS

STRATEGIC SITES AND CONNECTIONS: The two nominated Strategic Sites within Community District 5, Strategic Site #4 (RCSP South) and Strategic Site #5 (the Greenway Connection between RCSP and the La Sala site), are both relatively short linear waterfront sites, but are being nominated because their locations are particularly strategic for the continuity of the linear park system and greenway and due to their classification as brownfields according to the BOA program definition. All other waterfront land in CD5 is already developed as public parks.

Strategic Site #4 (RCSP South, 2.3 acres) consists of two tax lots in Block 2884, Lots 72 and 110, that in recent years have been maintained by RCSP. Together, they

Strategic Site #4, looking north to RCSP; these lots provide a connection between Bridge Park and RCSP

form a 2.34 acre site that links Bridge Park (under NYC Parks jurisdiction) with the State Park. The parcel is currently undeveloped parkland with a riprap shoreline, which also hosts an existing combined sewer outfall location. The site is clearly a crucial greenway linkage. This parcel has been proposed as a prospective boat launch location although that potential use may be constrained by the physical presence of a concrete sewer outfall structure. Designers will need to be aware and consider the impact of CSO (WI-059) from Regulator Number 64 which outfalls at the south end of RCSP. This combined sewer outfall is a 42" diameter concrete pipe.

The site's catalytic potential is significant due to its role as a linkage on the linear greenway, connecting the existing greenway in RCSP with the 2,300 linear feet of existing and proposed greenway south to Depot Place. The catalytic potential of Strategic Site #4 is constrained by its relatively small acreage and the fact that the nearest connections over the I-87/MDE and rail corridor are at Depot Place and in RCSP. Its only logical use is as a park/greenway connection with possible boat facilities if deemed feasible. If boating infrastructure is provided, consideration must also be given to the resilience of the structure to flooding.

Currently, there is the potential for stormwater runoff to flow from the MNR ballasted pervious railroad section just east of the waterfront across to the river, particularly in severe storm events. It would be beneficial to provide a bioswale and or underdrain system along the edge to provide some water quality management.

Strategic Site #5 (the Greenway Connection, between RCSP and La Sala site, 9.3 acres) consists of a very small parcel on the waterfront just north of RCSP in Con Edison ownership (Block 3231, Lot 227) and a short segment of a much longer active railway line (Block 3231, Lot 1) which is understood to be leased by MTA/Metro-North from Argent/Midtown for the Harlem-Hudson line. Similar to the position of Strategic Site #4, this parcel is the only potential route for the greenway if a connection between Roberto Clemente and all points north is to be made in the future.

This site poses significant challenges that will need to be overcome in order to create this greenway linkage. On the other hand, it also holds great potential as a location that could accomplish several goals at once: providing the greenway connection, creating new intertidal habitat and oyster reef, and helping to protect vulnerable rail infrastructure. In terms of its challenges, it contains a portion of a longer linear lot that is an active rail corridor, and the rail line is so close to the waterfront that the greenway connection would have to be built "outboard" of the shoreline in order to allow for 50 feet of clearance between the greenway and the railroad tracks. Fortunately, there is room for this structure to be constructed within the pierhead line. Figures 54-56 illustrate concepts for this ecology-enhancing esplanade and breakwater.

In some ways, the esplanade might be similar to the one built for Riverside Park between 86th and 90th streets, yet here it could be constructed to introduce oyster reef beneath the path for water cleansing and for providing new aquatic habitat. Between the esplanade and the existing shoreline, intertidal marsh could be reintroduced. Together this assemblage would create a highly productive estuarine environment that would

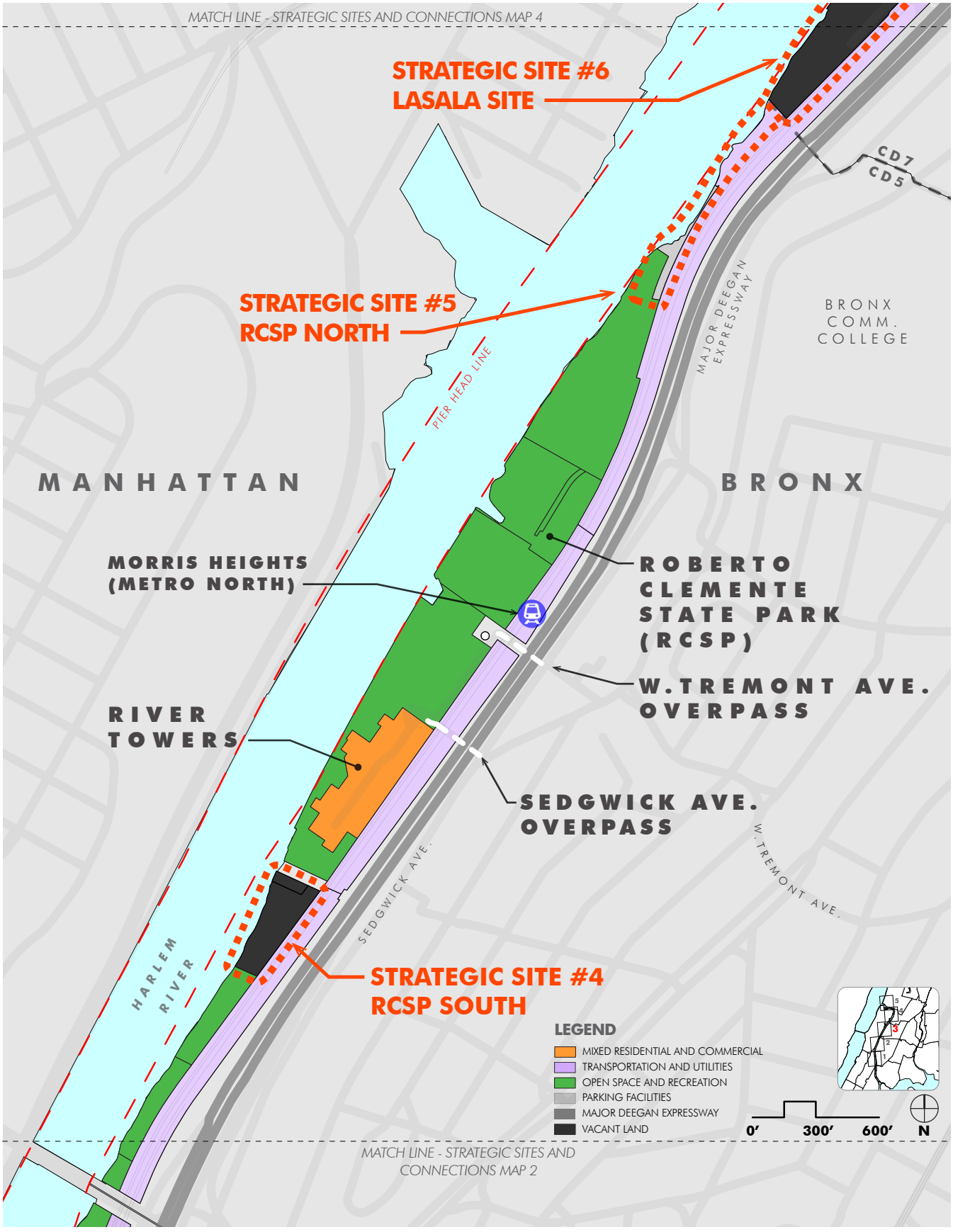


Figure 52. Strategic Sites and Connections Map 3 (CD5)

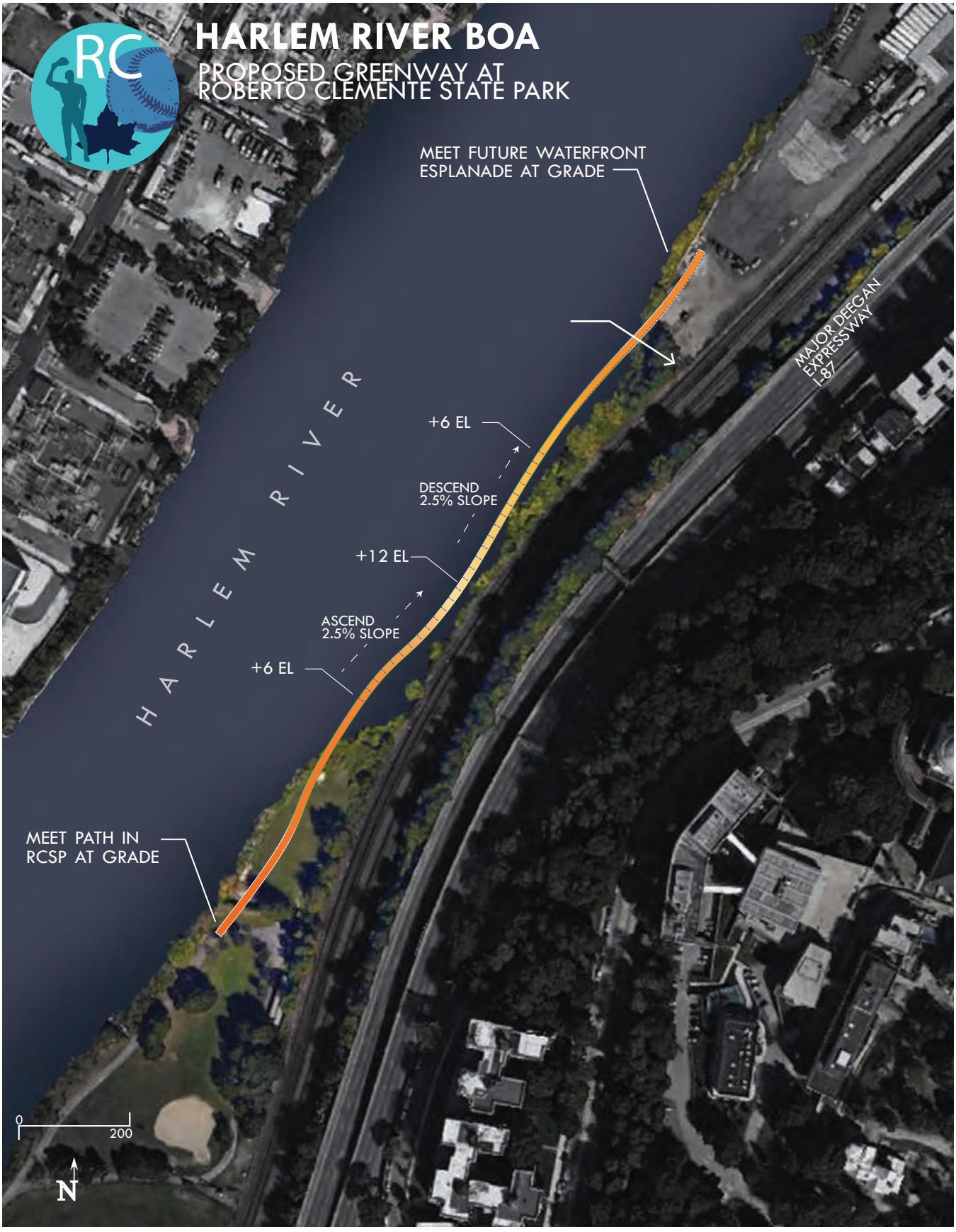


Figure 53. Concept Plan: Proposed Greenway Connection at Strategic Site #5, North of RCSP

vastly improve its ecological functioning. At the same time, the esplanade/oyster reef structure and the intertidal marsh would help to buffer the railroad tracks and related infrastructure from future storm surges.

This project would be an opportunity for the public sector (NYS and NYC) and rail entities to collaborate to produce a resilient and functional shoreline treatment with multiple ecological and public benefits.

This initiative would require the cooperation of multiple owners and jurisdictions to negotiate a property use arrangement (most likely a transportation easement) to allow for this greenway connection. It would also be necessary to obtain the necessary permits from federal, state and city regulatory entities.[1] Over the past decades, regulators have been extremely reluctant to approve any new structures over the water; however, after Superstorm Sandy, there has been some increased awareness of of the need to experiment with new shoreline projects that have the potential for flood mitigation and other ecosystem services.

Finally, the expense of the outboard esplanade would be greater than greenway segments on grade, so funding sources will need to be allocated.

Strategic Site #5, beyond the north end of RCSP, is a very narrow strip of land with rail tracks along the shore

There is no alternative waterfront route due to the close proximity of the track and the Major Deegan. Any inland connections would be on-street, and far from the waterfront. Therefore, it seems likely that as other proposed segments of the greenway are developed, it will become worthwhile to develop this connection, especially when the La Sala site is developed with a required waterfront esplanade and other open

Figure 54. Bird's Eye View: Proposed Greenway Connection Concept at Strategic Site #5, North of RCSP

space. Next steps would be to reach out to decision makers for the Con Edison and railroad properties to discuss transportation easement feasibility, explore permitting requirements and prepare an order of magnitude cost estimate. Although construction of this segment is probably contingent upon redevelopment of the La Sala property to the north, these planning steps could be completed in advance.

PARKS AND OPEN SPACE-CD5: The majority of the land on the CD5 waterfront is either in NYS control (RCSP and/or River Park Towers) or in NYC Parks control (Bridge Park and most Depot Place lots). The recent opening of Bridge Park, transfer of the RCSP South sites (Strategic Site #4) to RCSP management and $46 million allocation for RCSP renovation are all extremely helpful steps toward the community vision of

Figure 55. Section Perspective: Proposed Greenway Connection Concept at Strategic Site #5, North of RCSP

a continuous parks district. The BOA Focus Area along the CD5 shoreline is unquestionably now a “parks district,” with almost all of the land now in either State or City Parks hands and in active use as parks.

As the RCSP Revitalization Plan is currently being developed, OPRHP and its consultants, RBA, are taking into account a possible future greenway connection to the north into account.

BUILDINGS-CD5: The only existing buildings along the CD5 waterfront are the two River Park Towers residential buildings, RCSP facilities buildings within the State park, and the school, PS 230 / IS 229, which is the only structure in the entire BOA area built on decking over the railway and Major Deegan. Since these structures were all constructed in 1974, they are now forty years old, have sustained storm damage and need energy efficiency upgrades. Upkeep of these properties will remain an important issue for the waterfront area.

No new buildings are being recommended in CD5.

HISTORIC ASSETS: The historic structures along the waterfront in CD5 are Washington Bridge, which spans across Bridge Park, gives it its name and marks the dividing line between CD4 and CD5, and the historic granite staircase that was preserved in Bridge Park. Despite the comparatively few historic features on CD5 waterfront land, this reach of shoreline is treated to dramatic views of the Hamilton Bridge and High Bridge, along with the impressive punctuation mark of the 1872 High Bridge Water Tower on the Manhattan side of the river in Highbridge Park. Even though these visual resources are located beyond CD5, the best views of them are actually from the CD5 waterfront.

Directly upland from the BOA area at the northern edge of CD5, the Bronx Community College and Hall of Fame for Great Americans at Bronx Community College is a spectacular beacon atop a high outcropping of Fordham Gneiss, visible from the from Northern Manhattan and for miles around. This relatively unknown and very much underutilized historic National Register complex deserves to be better known and should be treated as one of the main assets in a constellation of attractions that includes the High Bridge, other Harlem River bridges, the Hall of Fame, Aqueduct Walk and the waterfront parks.

Although quite a climb, the Hall of Fame of Great Americans and the Bronx Community College/ former NYU campus can be accessed from RCSP via University Woods Park, where a major reconstruction of historic stairways and landings was completed in 2014.

Alternatively, visitors can reach the Hall of Fame via West Fordham Road in CD7. Since the Hall of Fame is an intriguing feature of the Bronx skyline seen from the Cloisters and the Circle Line Ferry, both of which attract tourists, it could become a draw for tourism-related economic development as part of a cluster of engineering and architectural gems on the Bronx side of the river, if better publicized in tourist-oriented media for out-of-towners and NYC resident urban explorers alike.

TRANSPORTATION SYSTEMS - CD5: To further strengthen the pedestrian/bike greenway system here, better lateral connections to and from the inland neighborhoods are needed. The steep grade change between the shoreline and the upland (up to approximately 160 feet difference) makes pedestrian connections, much less bike routes, extremely challenging in many areas in Community Districts 5 and 7; nevertheless, improvments can and should be made in pedestrian and cycling connections into RCSP and through the adjacent neighborhoods. Encouragingly, NYCDOT’s Harlem River Bridges Access Study is currently exploring options for some of the routes discussed here.

The pedestrian experience and safety is currently poor at the intersection West Tremont Avenue and Cedar Avenue, even though this intersection links the heavily used West Tremont step street from the neighborhood to the main entrance of RCSP. A pedestrian signal, crosswalks, and curb cuts should be provided across Cedar Avenue at the West Tremont Avenue intersection to improve safety and legibility.

The best eastbound (upland) bike connection for RCSP is Sedgwick Avenue to West Tremont Avenue to the existing bike routes on University Avenue.

The segment of West Tremont Avenue between University and Undercliff avenues is a NYCDOT potential future bike route. The NYCDOT potential bike routes along Undercliff and Sedgwick avenues would provide connections to Manhattan via the Washington Bridge or University Heights Bridge. The Sedgwick route would also connect to points to the south, e.g. the Depot Place Bridge to the waterfront, to Manhattan via the Macombs Dam Bridge or to future southerly extensions of the greenway on the Bronx side. To the north, the route would connect to the existing Jerome Avenue/Edward L Grant Highway/University Avenue Class II and III bike routes which are major north-south bike routes in the Bronx. Details of the potential

University/Undercliff bike route have not been released by NYCDOT, and this is not a project currently in development, but is needed in order to develop viable bike routes in this section of the Bronx.

INFRASTRUCTURE-CD5:

Stormwater Management Strategies: Bridge Park and RCSP in CD5 both provide existing greenway and open space that is an asset for water quality in this reach of the river. Additionally, the extensive rehabilitation planned for RCSP will include new green shoreline infrastructure with an intertidal area on an underutilized plaza location, with the goals of improving stormwater management and storm resiliency.

Water quality in this sewershed would also benefit from a DEP green infrastructure program to install bioswales in the local streets east of the I-87/MDE, along with other types of green infrastructure within the sewershed, such as green and blue roofs.

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES - CD5:

Efforts to conserve and enhance the natural resource and environmental features of the Harlem River and river valley—the water, the shoreline and its aquatic and terrestrial ecosystems—are well underway in CD5, and completing the ecological connectivity of the waterfront should continue to be a high priority. In CD5, recent Bridge Park construction and proposed RCSP renovations are renewing some of its environmental features. Installation of native woody and herbaceous plantings at Bridge Park has provided more habitat area for pollinators, butterflies, birds, and other wildlife along this reach of the waterfront and stabilized the impervious areas along the shoreline and greenway, which also benefits Harlem River water quality. The planned intertidal wetland area at RCSP, though of modest size, will improve water quality and habitat value at in the State Park as well. When viewed together with improvements over the past decade and a half around Swindler Cove on the opposite Manhattan side of the river, these ecological improvements start to create meaningfully sized patches of habitat and natural beauty that could be augmented by future projects that improve shoreline and aquatic habitat to the north and south of RCSP.

At present, approximately 2,000 linear feet of the shoreline of RCSP is bulkheaded. The remaining 1,700 is built up with stone riprap and revetments and contains two combined sewer outfalls. The rest of the CD shoreline is treated with riprap. Any opportunities to “soften” edges and provide additional aquatic and terrestrial habitat and to improve stormwater management will help with ecosystem functioning. An experimental model for an “ecological edge” that accommodates a tidal pool has already been prototyped by NYCNYC Parks further south on the Harlem River on the Manhattan side.This project might be a model for portions of the Roberto Clemente shoreline and further north.

Notes: CD5 Recommendations

[1] Con Edison has either outright ownership or an easement on Block 3231, Lot 227, depending on the sources consulted. It is understood that MTA/Metro-North leases the Hudson Line from Argent/Midtown, but this would need to be further confirmed.

COMMUNITY DISTRICT 7 - STRATEGIC SITE AND CONNECTION RECOMMENDATIONS

STRATEGIC SITES AND CONNECTIONS: The three proposed Strategic Sites in CD7 form a rich collection of opportunities for bringing underutilized brownfields into healthy functioning, ecologically, socially, recreationally and economically. The entire Harlem River waterfront in CD7 is taken up by underutilized brownfield sites that are being proposed as Strategic Sites, with the exception of a section just south of River Plaza Mall that is the active rail line.

Looking north from the University Heights Bridge, Strategic Sites #7 and #8 on right,Manhattan Inwood riverfront on left

In contrast to other areas within the Harlem River BOA, the majority of the waterfront in CD7 is in private ownership and/or railroad ownership/control. The only publicly-owned land or easements are the Regatta Park parcel (Block 3231, Lot 350, which is expected to be transferred from NYCDOT to NYC Parks) and a DEP easement on the north end at River Plaza Mall.

The three nominated Strategic Sites in CD7 are Strategic Site #6 (the La Sala site), Site #7 (the Fordham Landing area north of UH Bridge), and Site #8 (the former RR sites, also sometimes referred to as the CSX Site).

Proposed Strategic Sites #6 and #7, flanking the University Heights Bridge, are seen collectively as a strategic target for new public and private investment. These sites were the subject of study in some detail in the NYC Department of City Planning Sustainable Communities in the Bronx Study (2011)**,** as well as the reports by the ULI TAP program and MIT and Columbia graduate planning studios.

Both of the Strategic Sites – the La Sala parcel to the south (Block 3261, Lot 265) and the Fordham Landing North parcels to the north (Block 3244, Lots 100, 120, 125, 130, 145, and 160) – benefit from proximity to destinations and transportation: the underutilized University Heights/Metro-North station at the foot of the bridge, further connection to transit and destination retail and entertainment in Inwood, additional shopping and bus transportation on Fordham Road, and proximity to major employment clusters at several nearby medical and educational institutions. Proximity to projected new developments in Inwood across the river is likely to increase demand for recreational space and destinations such as restaurants that could have an impact on the Bronx shoreline as well.

However, realization of visions for the University Heights Bridge/West Fordham Road collection of parcels is hampered by challenges that also limit public or private redevelopment potential for the adjoining development sites both north and south of the bridge: an uninviting, inhospitable pedestrian realm, highway-scale street infrastructure, and limited connection to upland neighborhoods. Vehicular access is also limited to a single ramp down from West Fordham Road/the University Heights Bridge with an awkward intersection where the ram merges into West Fordham Road traffic.

The transformation of these parcels into public parks, marketable private development sites, or some combination of the two will require significant public investment in infrastructure upgrades and public realm improvements. The commitment of funding toward the public realm improvements suggested in the DCP Metro-North study, coupled with a potential rezoning if private mixed-use residential development is deemed to be desirable and feasible here, would dramatically change this waterfront district. The area that is to remain part

Looking west on West Fordham Road torward UH Bridge; public investment in transporation access and other infrastructure is needed

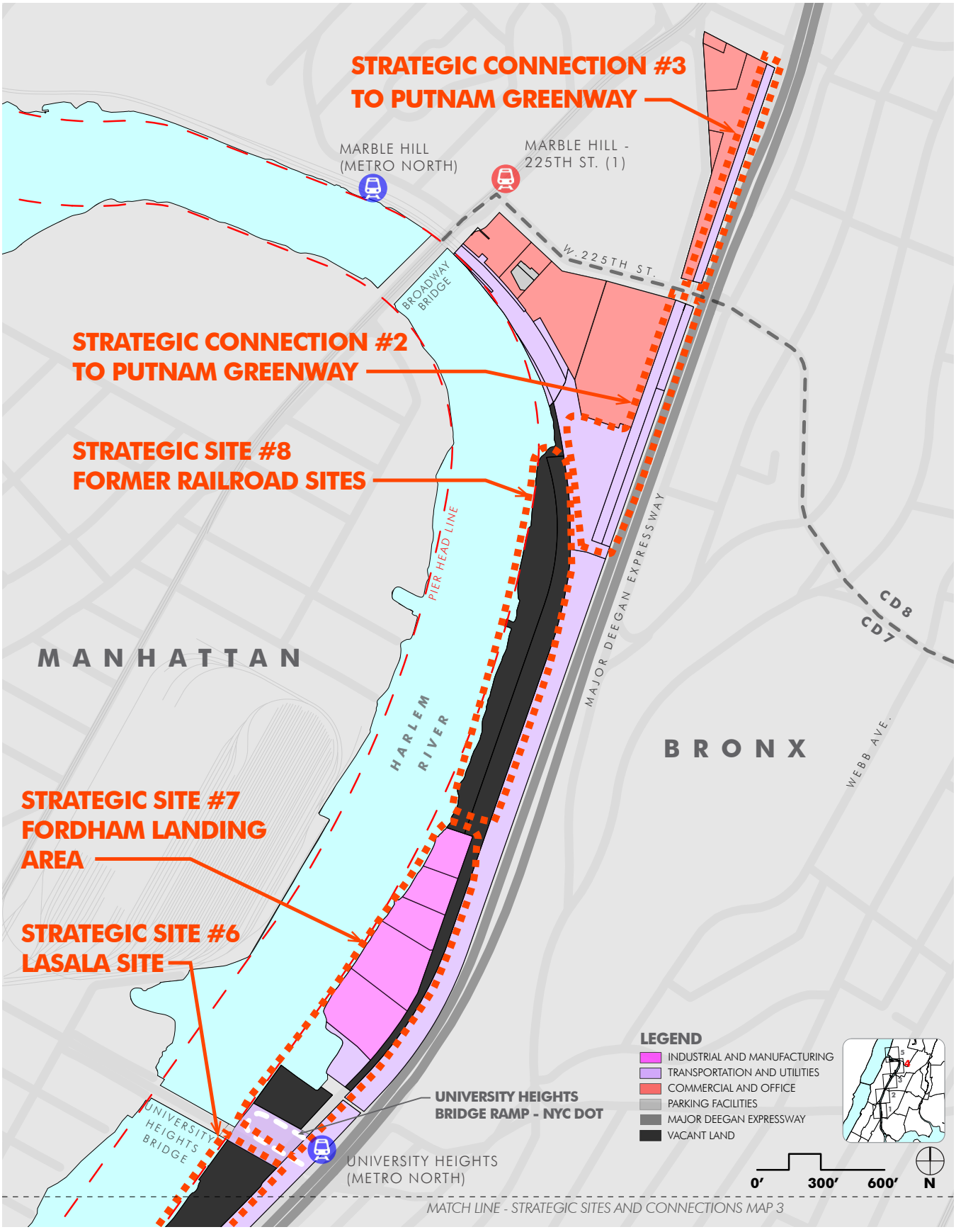


Figure 56. Strategic Sites and Connections Map 4 (CD7 and 8)

of the public realm along this Bronx waterfront should be clearly delineated to align with the local community vision for this section of the Harlem riverfront. Proposed redevelopment of Block 3231, Lot 350 into an initial phase of Regatta Park is seen to be the first step in bringing greater attention and awareness to this area in hopes of attracting additional investments, whether public or private sector.

Targeted redevelopment initiatives by the City directly across the University Heights Bridge in Inwood may also development pressure to the La Sala and Fordham Landing Sites, in ways similar to how real estate development initiatives sponsored by the City administration along the Lower Grand Concourse Waterfront may place new development pressures on lands at the south end of the BOA Focus Area. Redevelopment of the Inwood waterfront may also enhance waterfront views from the Bronx side of the river.

STRATEGIC SITE #6 (THE LA SALA SITE, 3.7 acres): The La Sala site, rezoned in 1989 for residential redevelopment, remains in manufacturing use (milk distribution) despite carrying its development entitlement and close access to Metro-North and I-87/ MDE. Its rezoning from Manufacturing to R7-2, which was intended to set the stage for redevelopment as a residential property, has not yet resulted in this type of development.The Community Vision recalls decades-old planning efforts that foresaw this parcel as a future extension of RCSP, but this potential acquisition never became a reality. Later, as the Step 1 report recounts:

> *In the 1980's and 90's, the prospect of an easement or walkway along the river as part of a residential development of Fordham Landing, the largest undeveloped parcel on the waterfront at the foot of University Heights Bridge, seemed attractive to the community. It is now understood that riverfront walkways do not make public waterfronts. The public benefit of a riverfront esplanade in this location will be realized only by tying it to some other public amenity (e.g., a marina or recreational facility, restaurant) and, more, by connecting it to Roberto Clemente State Park. Absent either or both of these, it will simply function as a private space…* [1]

Ideally, this site would be re-examined as part of a larger waterfront rezoning with enhanced open space requirements incorporated.

Strategic Site #6, the La Sala Site, looking south from the UH Bridge

Under current waterfront zoning regulations, at a minimum, a shore public walkway will be required if the site is developed with housing or mixed use. If the greenway connection can be constructed just south of the La Sala site linking to Roberto Clemente and the greenway beyond, the public will benefit significantly from the required Shore Public Walkway on this proposed Strategic Site, because it would complete the waterfront greenway connection from Depot Place to the University Heights Bridge, a 2.75 mile extent between these east-west connections. Additionally, Waterfront Zoning will require that a private developer provide amenities for the public space and that the developer either maintain it or enter an agreement with NYC Parks to maintain the public area.

Clean-up of contamination on the site and removal of the visual blight of the largely vacant lot used for truck parking, along with shoreline improvements to replace the existing crumbling bulkheads, would in and of themselves provide considerable public benefit. Any incentives that may accrue from nomination and designation of this site and adjacent sites as a BOA Strategic Site might be helpful in instigating investment.

STRATEGIC SITE #7 (FORDHAM LANDING NORTH AREA, 11.6 acres): The Fordham Landing North site is made up of 8 tax lots just north of the University Heights Bridge plus one mapped street end, Landing Road (Block 3231, Lot 350; Block 3244, Lot 100; Block 3244, Lot 120; Block 3244, Lot 125; Block 3244, Lot 130; Block 3244, Lot 145; and Block 3244, Lot 160) The Landing Road mapped street end is entirely separated from the upland portion of Landing Road across the Major Deegan and rail line from the waterfront.

A public waterfront, Regatta Park, has been considered for a large portion of this Strategic Site[2] and the site has also been studied by DCP for possible residential use as a part of the transit-oriented development study.[3] The RFP recently released by NYC Parks for Regatta Park is for the 3.68-acre Block 3231, lot 350 only, the sole parcel which is in City ownership/jurisdiction at this time. The scope of this upcoming Regatta Park project is for remedial investigation, site clean-up as required and basic amenities to be able to open it to the public. The City hopes that opening up access at Regatta Park in the relatively near future will help spur attention and additional reinvestment.

In addition to other uses that might be considered for this reach of the waterfront, this location could be catalytic for the area if waterfront food establishments were included in the program and if the area as a whole were converted from manufacturing to mixed use and recreational area. There is a scarcity of waterfront eateries anywhere in the City, and the few that do exist, such as City Island in the Bronx, the former Water Taxi Beach in Long Island City, the bar and grill at Pier 66 and aboard the docked Lightship Frying Pan, or the Coney Island/Brighton Beach boardwalk in Brooklyn tend to be popular destinations and economic generators.

These parcels continue to be zoned for manufacturing use (all either M2-1 or M3-1), despite a waterfront setting and the many other assets of this area. They contain the only active uses classified as "manufacturing" within the BOA: a cement plant, a metal scrapyard, two relatively recent self-storage buildings, a Con Edison cable crossing and a construction staging area. If rezoning of this waterfront north of University Heights Bridge/West Fordham Road takes place in the future, rezoning should include more detailed requirements such as those that are included in Waterfront Access Plans (WAPs). The DCP Vision 2020 plan proposed a Waterfront Access Plan (WAP) in University Heights in order to promote future development.. A WAP should be implemented as part of a comprehensive study that includes rezoning of the entire University Heights Waterfront. This could ensure thoughtful and balanced development to include significant open space.

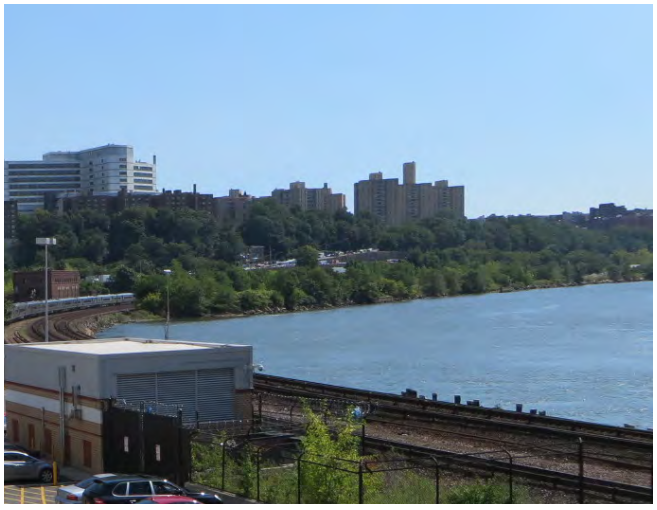
In Strategic Site #7, north of the University Heights Bridge, a concrete plant is the most intensive manufacturing use

Underutilized waterfront lot north of UH Bridge, part of Strategic Site #7

Restoration and programming in the cove adjacent to Regatta Park should be planned in coordination with efforts directly across the river in Inwood, where a similar protected cove offers the opportunity to create a new public place with environmental discovery and educational programming, possibly a kayak / small boat launch and passive recreational use. Coordination between boating opportunities, as well as improved views from both sides of the river, would benefit the communities in both boroughs.

Over the past decades, the possibility of decking over I-87/MDE and rail lines near West Fordham Road for construction of new residential and/or mixed use structures has been discussed from time to time. Both the ULI TAP study and this current BOA Step 2 study conclude that at least for the present time, market demand would not justify the tremendous expense of such an endeavor. However, the ULI TAP report does note that decking might be a viable option at some point in the future, and the study includes a sketch envisioning construction spanning the transportation corridor.[4]

STRATEGIC SITE #8 (THE FORMER RR SITES, 10.8 acres) AND STRATEGIC CONNECTION #2: This proposed Strategic Site, sometimes referred to as the CSX site, encompasses two abandoned and



Strategic Site #8 on riverfront in distance

underutilized rail lots along the waterfront (Block 3245, Lot 3 and Block 3244, Lot 1). Strategic Site #8 adjoins Strategic Connection #2, which spans across the active rail line (Block 3245, Lot 12) and includes inactive rail lines in Block 3238, Lots 50 and 52, reaching up to 225th Street.

This location is strategic as potential ecologically enhanced parkland and for the proposed waterfront greenway. The greenway route would require a pedestrian/bike bridge over the rail tracks and a northern connection to 225th and beyond. Block 3245, Lot 12, the active rail corridor, also is the location of the rail building shell that is potentially of interest for possible adaptive reuse if feasible.

Together, this Strategic Site and the adjoining Strategic Connections possess good potential for linking the Harlem River Greenway to the growing shopping districts to the north while expanding recreational space. Due to several factors--the waterfront location, the long and very narrow configuration of the site between the train tracks and the shoreline, its use by migratory birds, its flood hazard potential and very limited options for vehicular access--the highest and best use of this property appears to be as public park space lightly developed in a way that also improves the habitat value of the site.

Figures 58 and 59 show the alignment of the proposed greenway and a concept for a bermed edge, respectively. The berm, which is sinuously curved to form a grassy bowl, accomplishes multiple goals. It would provide a protective flood barrier to the adjacent rail tracks, cap the potentially contaminated soils on site, allow for dramatic views of the river and enable pedestrian/bike crossing over the MetroNorth tracks.

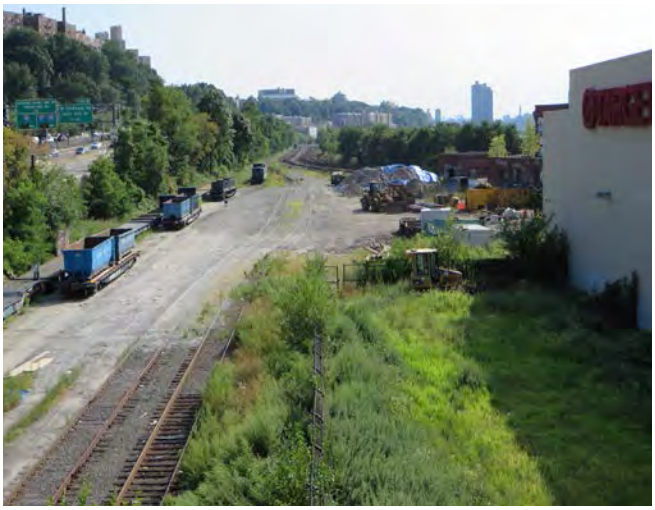
This site would provide a key greenway linkage between the Harlem River Greenway, Van Cortlandt Park and the planned extension of the Putnam Greenway. Without this northern connection, the Harlem River Greenway would dead-end where Exterior Street fades away into the nebulous condition of quasi-public street or quasi-private drive at the cement plant and CSX site. Also, as today, there would still be no access to the waterfront from the Kingsbridge neighborhood.

From the water quality standpoint, this site is a key location in multiple respects. It is an important potential linkage for the Tibbets Brook Daylighting project, which together with the greenway, would have enormous positive benefits for water quality in the Harlem River. Because the site itself is a brownfield with a significant amount of undetermined fill material, is isolated and attracts illegal dumping on the waterfront, its acquisition and remediation by the public sector and development as public open space would directly benefit the river.

COMMUNITY DISTRICT 7 - ADDITIONAL RECOMMENDATIONS

PARKS AND OPEN SPACE-CD7: The waterfront in CD7 possesses considerable potential for new ecologically productive, low-intensity park development, with nodes of public park space and/or privately funded open space in the proposed Strategic Sites, linked together with the Harlem River Greenway.

Another priority issue for parks and open space in CD7 is the potential for recreational boat access. As the ULI TAP report recommended, branding the Harlem as “The



Strategic Connection #2 (foreground) and Strategic Site #8 (at right beyond buildings), looking south from River Plaza Mall

People's River" and providing opportunities for small craft access could be an excellent catalyst strategy for this area. Adding launch points for hand-powered craft (kayaks, canoes, stand-up paddle boards, and rowboats) near the University Heights Bridge and at the CSX site, as well as possibly a marina along the University Heights waterfront, could be part of the waterfront transformation and major part of the blueway network. Potential land use changes on the Manhattan side of the river should be watched carefully to consider opportunities for synergy, particularly around "The People's River" concept.

Visually and experientially connecting the river and proposed waterfront parks with the upland area is another objective that could yield very positive catalytic impacts. One placemaking opportunity that begs for a small Greenstreets-type installation with seating area and green infrastructure is located on a triangular expanse of sidewalk at the intersection of West Fordham Road and Landing Road. The location offers a rare glimpse of the river from West Fordham Road, from an elevation approximately 150 feet above the river level. A "placemaking" approach to this small underutilized expanse of pavement, placing seating with views of the river, could be an economical catalytic investment for the City in this area, especially if combined with pedestrian improvements through DOT between this intersection and the new Regatta Park.

BUILDINGS-CD7: Just south of River Plaza Mall on Block 3245, Lot 12, a red brick rail transformer house building has some architectural merit, but it has been gutted, has no roof and now stands as an intriguing ruin. Evaluation of its structural condition is outside the scope of the BOA process, so it is not possible to make a recommendation about its actual potential for adaptive reuse. However, if it is structurally sound and could be saved and rehabilitated, some community members have suggested that it could be adaptively reused for a Parks headquarters for the Harlem River waterfront and greenway, perhaps combined with a gallery space and restroom facilities. The 2010 Columbia GSAPP studio working on the Harlem River also recommended that the MTA might put out an RFP for its reuse, noting that it might also have potential for uses sucha as an indoor marketplace, a reestaurant, small manufacturing shops and/or community facilities. In any case, it appears that an adaptive reuse could be an asset to the BOA area.

HISTORIC ASSETS-CD7: The proposed Harlem River "Then and Now" interpretative program through this waterfront reach that would discuss the natural resources and historic engineering of the Harlem River Ship Channel and provide way-finding to nearby points of interest. West Fordham Road to Sedgwick Avenue is the easiest route to the Hall of Fame of Great Americans and Stanford White-designed former NYU/ current Bronx Community College campus located in CD5 just beyond the boundary of CD7. West Fordham Road also offers a very easy and fast connection from Northern Manhattan via the Bx12 Select Bus or a short walk across the University Heights Bridge. Also, Aqueduct Walk intersects with West Fordham Road a bit further inland.

Shell of rail transformer house building south of River Plaza Mall

Taken together with the High Bridge to the south and destinations to the north, e.g. Van Cortlandt Park, the Putnam Trail and the nearby planned conversion of the Kingsbridge Armory building into the Kingsbridge National Ice Center, these resources could constitute excursion destinations for visitors interested in recreation and historic attractions, particularly if matched with destination local eateries. Because the Hall of Fame of Great Americans is so prominently sited that it is beckons to the curious from the Cloisters and other well-traveled northern Manhattan locations, marketing efforts to raise awareness of these points of interest through NYC tourism sites, ad campaigns, social media and local wayfinding signage could be beneficial as community catalysts, bringing day-trip expenditures to the area's businesses.

TRANSPORTATION SYSTEMS-CD7: Providing greenway continuity along the waterfront throughout CD7 is feasible if property ownership/jurisdiction issues, political will and funding can be garnered, even though this would require the outboard esplanade south to RCSP from the La Sala site and a new pedestrian/bike bridge over the active rail tracks at the north end.

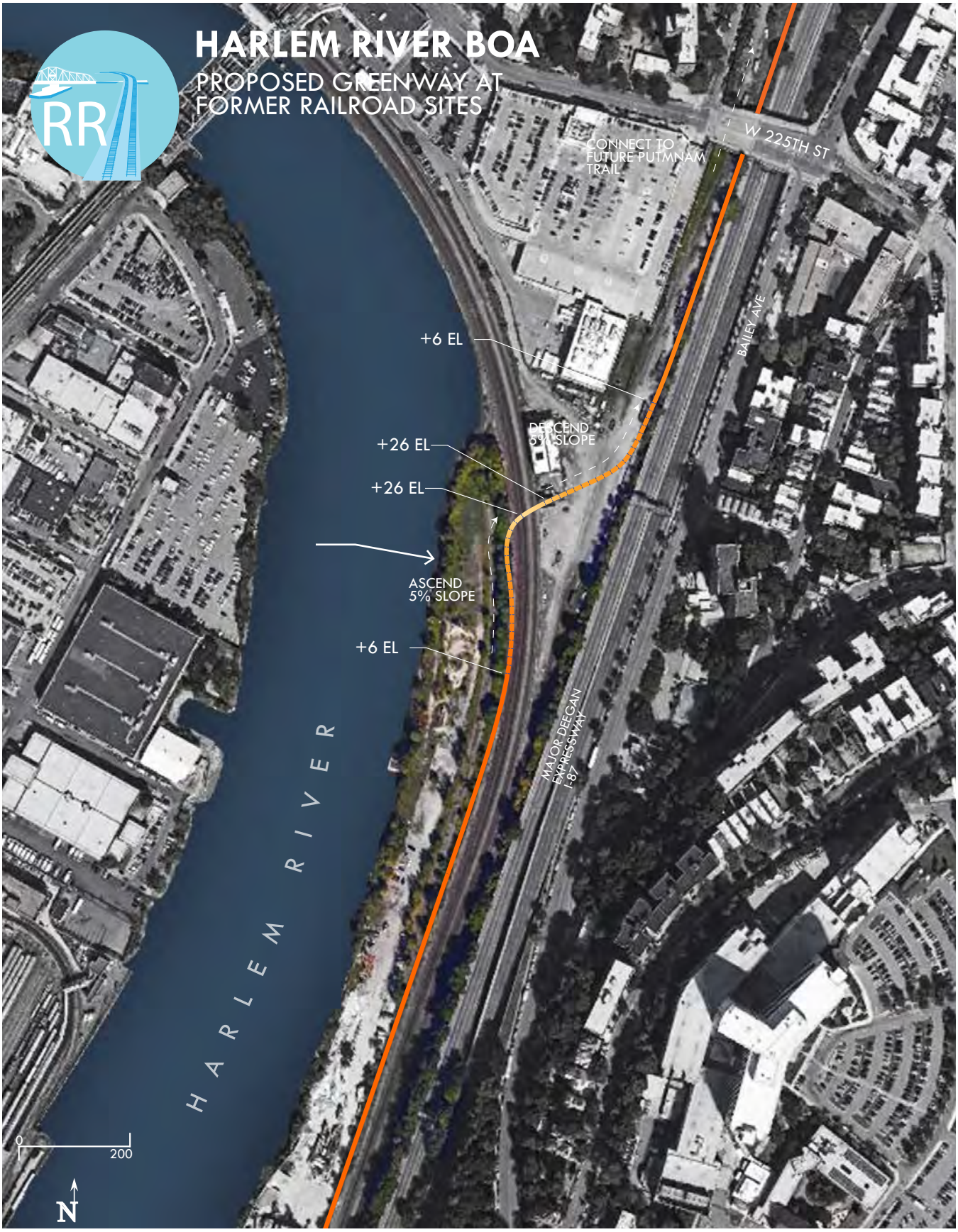
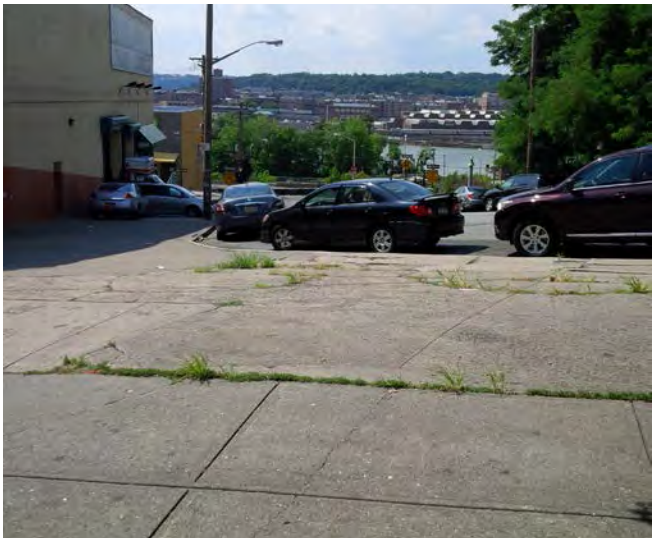


Figure 57. Concept Plan: Proposed Greenway Connection at Former Railroad Sites

Fordham Road is a future NYCDOT potential bike route; however, traffic congestion at the I-87/MDE interchange does not provide for ideal street conditions for recreational users. Therefore, a new pedestrian/ bike bridge might be recommended to span the I-87/ MDE and MNR from Landing Road. In this location, the pedestrian bridge could also serve riders of the Bx12 Select Bus connecting to the waterfront, which stops east of the I-87/MDE. Some misgivings about the concept of a pedestrian bridge have been expressed by community members who would prefer to see foot traffic kept on Fordham Road. The subject deserves further exploration between traffic planning and community groups to discuss pros and cons and possible alternatives. In any event, pedestrian and bike access improvements are needed for those crossing the I-87/MDE on Fordham Road.

The current alignment of Exterior Street with Fordham Road is not desirable, and it is recommended that Exterior Street might ramp up to Fordham Road to create a standard four-way intersection. This would likely require a new traffic signal along Fordham Road. The disadvantages would be that this intersection would add to the existing traffic congestion issues and the elevated roadway would take up considerable land area.



View west to river from placemaking opportunity at Landing Road; Landing Road also hold some potential for a possible future pedestrian bridge across the I-87/MDE and rail tracks

As an alternative, if any high-density residential uses were developed on the CD7 waterfront, consideration should be given to constructing a new bridge connection to the waterfront from Cedar Avenue to the south or from Bailey Avenue to the north. Auto access to the

Figure 58. Bird's Eye View: Proposed Park and Greenway Connection Concept at Former Railroad Sites

waterfront would be restricted from Fordham Road to relieve congestion in this area, but would continue to provide pedestrian and bike access.

The Metro-North University Heights station is on the south side of Fordham Road, and currently the only pedestrian access to the waterfront is from the north side of Fordham Road. Therefore, it is recommended that a typical train station "up-and-over" bridge be provided on the south side of Fordham Road, which would provide a new stair and elevator to the waterfront.

INFRASTRUCTURE-CD7:

Stormwater management strategies: The sites within CD7 are sandwiched between the Harlem River and Exterior Street and/or Metro-North Railroad tracks (see Figures 30 and 31, Infrastructure and Drainage Maps 5 and 6). Any redevelopment should include full implementation of stormwater BMPs to help address contaminants onsite as well as from runoff from portions of Exterior Street and the railroad ROW.

For the two CSOs in CD7, i.e. the Landing Road CSO and Regulator Number 67, the goal is to greatly reduce or preferably eliminate any combined sewage overflow events from occurring. The Landing Road CSO is a smaller sewershed system and would benefit from green infrastructure integrated into NYC Parks projects or other open space construction on the waterfront, as well as a NYC Parks/ DEP green infrastructure program to install bioswales in the local streets east of the Major Deegan. Regulator 67 is part of the sewer system that captures the former Tibbetts Brook south of Van Cortlandt Park, contributing to the outfall with the largest annual CSO volume in the city. There are separate City studies underway to consider alternatives for improving water quality, ranging from daylighting Tibbetts Brook to various other alternatives upstream of Van Cortlandt Park.

For the I-87/MDE outfall, two alternative strategies could improve water quality. One alternative may be to provide a detention / oil water separator system. A second alternative may be to create bioswale or rain garden systems in public open space in proposed future park areas.

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES:

The CD7 waterfront holds promising potential for clean-up and ecological renewal within the Harlem River BOA Area. Having the entire CD7 waterfront accepted as Strategic Sites and Connections under the8822 NYS BOA program would lend additional endorsement regarding the potential of these sites.

With further investigation about the types of contaminants found on CD7 waterfront sites, clean-up strategies including phytoremediation and other forms of bioremediation could potentially be utilized in some parts of the CD7, which would be an additional boon for water quality in the Harlem River.

The CD7 shoreline is located in close proximity to several significant habitat patches for bird species including Inwood Hill Park, Fort Tryon Park, Van Cortlandt Park, Highbridge Park, the Spuyten Duyvil Triangle and the Hudson River shorelines on both sides of the river. Migrating shorebirds and songbirds, whose numbers have been in serious decline in recent years, would benefit from additional well-planned habitat on the Harlem River shoreline. Reintroduction of pockets of intertidal marsh in key locations could also bring added aquatic life and ecosystem service back into this reach of waterfront.

Notes: CD7 Recommendations

1 BCEQ, "Harlem River Waterfront," 2007, p. 33.

2 Columbia Graduate School of Architecture, Planning and Preservation, Urban Planning Studio, Prof. Ethel Sheffer, "Reclaiming the Riverfront," May 2010.

3 DCP, "Sustainable Communities in the Bronx."

4 ULI TAP, "The People's River: A New Vision for the Bronx's University Heights Waterfront."

COMMUNITY DISTRICT 8 - STRATEGIC CONNECTIONS RECOMMENDATIONS

STRATEGIC CONNECTION #3: In the long, narrow oblong block bounded by West 225th, West 230th, the Major Deegan and Exterior Street (Block 3264), a former rail line (Lot 20) presents an opportunity to connect to the proposed extension of Putnam Greenway south of Van Cortlandt Park.The City is in negotiations with CSX for a transportation easement extending from Van Cortlandt Park southward to 230th Street. This proposed transaction entails Block 3266, Lot 11; Block 3267, Lot 72; Block 3268, Lot 30; Block 3269, Lot 118; Block 3270, Lot 75, and Block 3271, Lot 100.

Adding the key linkage from 225th to 230th opens up the possibilities of a continuous inter-county off-street greenway. coupled with a major stormwater infrastructure project, the possible daylighting of Tibbets Brook.This extremely strategic greenway linkage is the dominant transportation issue for the Harlem River BOA within CB8. Completing the Harlem River Greenway through this Strategic Connection would have exciting catalytic potential, allowing not only direct off-street connections between NYC and Westchester, but also connections to the rapidly expanding shopping and entertainment destinations in the Kingsbridge/Marble Hill/Riverdale neighborhoods.

The Putnam Rail Trail in Van Cortlandt Park is part of a former spur of the New York Central Railroad; the Rail Trail on the 40-mile former spur was included on the earliest master plans for the NYC Greenway System, and has already been developed as a trail in Westchester County. A current NYC Parks project in Van Cortlandt Park is developing the “Old Put” to a multi-user Greenway, providing an accessible trail for pedestrians, joggers and runners, bicyclists, wheelchairs users, skaters and strollers.[1]

This greenway segment could help provide direct off-street bike and pedestrian connections between the Bronx, other NYC boroughs and Westchester.

This potential greenway linkage offers an opportunity for synergy with another extremely important potential project for the Harlem River: the daylighting of Tibbets Brook. Today, Tibbets Brook, As previously discussed, the Tibbets Brook Daylighting project being studied by DEP and NYC Parks has the potential to vastly reduce combined sewer overflows into the Harlem River, since the brook currently flows directly into the Broadway sewer, contributing to the volume of water that must be treated as sewage and to combined sewer overflows.

Looking north along rail corridor from River Plaza Mall parking toward 225th Street

This project would also offer a rare opportunity to piggyback a greenway project on top of an expensive but critical drainage infrastructure project, making the best use of public expenditures.

Access to and from city streets would be via a mid-block connection in Block 3264 that leads from the parking areas on the interior of the block to Exterior Street. Another access point would be from 225th Street through the River Plaza Mall parking areas. Both of these would require easements, transfer of ownership or other public-private land use arrangement. To link to the Hudson River Greenway from the Harlem River Greenway, cyclists would likely have to use the street bike route network to weave back to the Hudson River Greenway via Broadway, 218th Street, Seaman Avenue and Dyckman Street.

Pedestrian access to the Kingsbridge waterfront would either be from the Putnam Greenway to the north or from the University Heights waterfront area to the south. Pedestrians and bus riders could access the Putnam Greenway from new pedestrian connections provided from the 225th Street overpass.

This concept also offers other advantages to the immediate local neighbhorhood. The current blighted state of the underutilized properties on this block would be vastly improved by clean-up of contamination and debris, as the underutilized site attracts illegal dumping. Residents of Marble Hill Houses, a NYCHA property across Exterior Street that houses approximately 3,400 people, have direct views into the interior of this long, narrow block. Any future redevelopment on other portions of the block would also benefit from the environmental and recreational improvements of having a greenway buffer the east side of the block rather than a vacant, debris-ridden abandoned rail corridor.

A purchase or long-term easement arrangement would need to be completed, in conjunction with the same on the linear lot(s) to the immediate south. Despite the challenges of acquiring rail corridors due to complex negotiations and appraisal processes, and the fact that transactions must be approved by the State, NYC continues to explore ways to accomplish this concept.

Although this site was not among the preliminary site investigations conducted during this BOA Step 2 process because it was a later addition to the BOA study area, it is presumed to have similar brownfield contamination issues to other former rail sites in this corridor. Block 3264 includes the former rail corridor, and still hosts at least one automotive repair shop and a tow pound, so contamination is very probable.

The block currently has both commercial and automotive structures, with the quality of construction varying widely. Buildings on the north end of the block are well rehabbed and mostly leased for medical and other offices, a gym and a small amount of retail. The entire block is currently zoned M1-1. If there were developer interest in mixed use on the west side of this block, a rezoning would be required to allow this land use change.

HISTORIC ASSETS--CD8: This northern segment of Greenway is an important piece in the overall "Then and Now" interpretive program. As a former rail line that complemented but also outcompeted the Harlem River Ship Canal's transportation significance, it is a meaningful corridor in its own right. The corridor's role in linking to Van Cortlandt Park and the area's rich Lenape, Dutch colonial and Revolutionary War history expands the stories that could be revealed along the way.

The northern extension would also connect points on the Croton Water Supply system, bridging centuries of engineering: from the marvel of the High Bridge at the south, to the latest addition to the Croton water supply system: the $3.2 billion Croton Water Filtration Plant (completed 2015) hidden beneath the golf driving range in northern VCP.

PARKS AND OPEN SPACE--CD8: Another advantage of extending the Harlem River Greenway northward thorugh the 225th-230th Street corridor is that it would help link major nodes of existing and proposed parks with an off-street bicycle/pedestrian greenway. Van Cortlandt Park is an extraordinary environmental, historic, scenic and recreational resource in the NYC Parks system: the third largest park with over 1,000 richly forested acres in its heartland; the oldest structure in the Bronx, the Van Cortlandt mansion (now museum); a freshwater lake fed by Tibbets Brook; playing fields on the 66-acre former Parade Ground and other perimeter locations; the oldest public golf course in the U.S., now with the Croton Water Filtration Plant below; home to track and field events and cross-country skiing; and important bird habitat with forests, stream and lake, destination for birders.

An off-street linkage between Van Cortlandt Park --and points north beyond--and the Harlem River Greenway to the south would expand access to all of these park resources. Future greenway expansion to the south could link to the Randall's Island Connector, providing a bike route between Van Cortlandt Park and the tremendous recreational and ecological assets of Randall's Island. Stops along the way might include tennis and a bite to eat at Mill Pond Park, a canoe rental and paddle from the future Harlem River Promenade, a swim at RCSP or a stop at a future marina cafe or water taxi beach near Regatta Park.

Strategic Connection #3: Looking north at Block 3264 from 225th Street overpass

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES: Lot 20 is a narrow rail corridor that is sunken approximately 15-20 feet below the grade of the Major Deegan and cross streets (225th-230th). Volunteer trees and other vegetation are on the site which appeared from a distance to be typical of plant communities that tend to colonize disturbed areas such as rail corridors: a combination of native, naturalized and invasive species. A tree inventory and assessment of other vegetation should be performed when the site can be accessed. There is no sidewalk on the Major Deegan access road at this location and there is a high fence between Lot 20 and the adjacent linear lot (Lot 1), so visual inspection is difficult.

The rest of this very long, very narrow block is sufficiently urbanized and in such a degraded condition that it has few natural resources or environmental features remaining. A stone wall on the southwest corner might be investigated to determine whether it is providing any meaningful habitat for birds or pollinators.

Notes: CD8 Recommendations

[1] NYC Parks, "Putnam Rail Trail, Van Cortlandt Park," accessed September 22, 2015, http://www.nycgovparks.org/park-features/van-cortlandt-park/putnam-rail-trail.

CONCLUSIONS AND NEXT STEPS

The Harlem River BOA Step 2 process has helped crystalize the vision for the Harlem River Waterfront in the Bronx from 149th Street and northward. From the perspective of eight years after the Step 1 study completed in 2007, the momentum that has been gained in renewing the Harlem riverfront is clear. The progress to date serves as an inspiration for tackling the next steps.

Figure 59, the Project Summary Matrix, summarizes the projects that need to be accomplished to make the Harlem River BOA vision a reality and notes some of the lead stakeholders who will need to be involved. The matrix indicates an approximate "Priority/readiness level" for each Strategic Site and Strategic Connection, based on which sites are already in public ownership and poised for redevelopment and which others are likely to take more time to implement due to various ownership, jurisdictional and funding issues. While there is presently no NYS funding for Step 3 of the BOA process, the Step 2 process has identified any number of priority projects and steps that can be take by the public, private and not-for-profit sectors working together to further the vision.

Although these projects are grouped roughly into the three "priority/readiness" categories, in fact all of the sites and potential projects are "high priority" if a continuous greenway and parks district is to become a reality for the Harlem River shoreline. The approximate levels of priorities and/or readiness of the sites for revitalization projects are:

Overall planning priority:

- Harlem River BOA Study Area Harlem River Ecological Restoration Study

Priority/readiness level 1 (highest priority and most ready for implementation (e.g. site in public ownership):

- Strategic Site # 3, Depot Place site
- Strategic Site #7-A, DPR Site at Fordham Landing (Regatta Park site)
- Strategic Site #1, Pier 5 Site

Priority/readiness level 2 (high priority for next steps in exploring feasibility):

- Strategic Connection #1-A: Macombs Dam Bridge Area
- Strategic Site # 4, RCSP South Site
- Strategic Site # 5, Con Ed Site North of RCSP
- Strategic Connection #1-B: 161st Street Pedestrian Bridge
- Strategic Site #8-A CSX Waterfront Site
- Strategic Connection #2 RR Spur adjacent to MDE (s. of 225th)
- Strategic Connection #3 (225th-230th)

Priority/readiness level 3 (strategically high priority but likely requires more lead time to implement):

- Strategic Site # 2 Stadium and Tennis Center Parking
- Strategic Site #6, La Sala Site
- Strategic Site #7-B, Con Ed Site at Fordham Landing
- Strategic Site #7-C, Manufacturing Uses
- Strategic Site #8-B Hudson Line with structures

The Project Summary Matrix also suggests possible funding sources that might be accessed to finance projects. These range from local to state and federal funding sources to private and not-for-profit sector resources. Designation of the Harlem River Brownfield Opportunity Area will help to position HR BOA projects for grant funding from selected state grant sources, as well as local grants through the Mayor's Office of Environmental Remediation and for federal grants that the City may apply for, such as through EPA.

Many of the state grant programs can be accessed through New York State's Consolidated Funding Application (CFA) program. State grants that are particularly of interest for the Harlem River BOA area are those that help fund parks and green infrastructure projects, particularly:

- Environmental Protection Fund Municipal Grants (OPRHP)
- Local Waterfront Revitalization Program (DOS)
- Water Quality Improvements Projects (DEC)
- Green Innovation Grant Program (EFC

Site Name	Block/Lot	Priority/ Readiness Level*	Main Potential Use	Key Players	Next Steps	Possible Funding Sources
Harlem River BOA Study Area	N/A	1	Overall Ecological Restoration of Harlem River	BCEQ, DPR	Harlem River Ecological Restoration Study	BOA Step 3; philanthropic grants
Strategic Site #1 Pier 5 Site	B 2356, L 2, B 2539, L 3	1	HR Greenway, other TBD	Mayor's office, EDC, not-for-profits, public	EDC developing scenarios for public review	EDC; City; private developers
Strategic Site # 2 Stadium and Tennis Center Parking	B 2539, L 4, 10, 14, 29, 191, 504	3	Hybrid park and parking space	Hybrid park and parking space	Not-for-profits, EDC, DPR discuss options	EDC; City; State Consolidated funding programs; Step 3 BOA
Strategic Connection #1-A Macombs Dam Bridge Area	Trans ROW	2	HR Greenway over tracks, under MD Bridge	CDOT, DPR	CDOT explore feasibility & cost; not-for profits advocate; all explore funding options	CDOT; TEP funds; State Consolidated funding programs; Step 3 BOA; Step 3 BOA
Strategic Connection #1-B 161st Street Pedestrian Bridge	Trans ROW	2	Accessible 161st ped/bike bridge	SDOT	Not-for-profits advocate with SDOT; SDOT develop concepts in coord with DPR and CDOT; SDOT	SDOT; TEP funds; Step 3 BOA
Strategic Site # 3 Depot Place	B 2541, L 8900	1	Part of HR Greenway, HR Promenade park	DPR, CDOT	DPR initiate street demapping and ULURP	City interagency process
	B 2541, L 122,123, 132, 159	1	Harlem River Promenade park	DPR, not-for-profits	Identify funding for Ph. 1 and construct; then identify funding for subsequent phases	City (DPR, Councilmember, MOER); State Consolidated funding programs; philanthropic grants; not-for-profit partners; Step 3 BOA
Strategic Site # 4 RCSP South Site	B 2884, L 72, 110	2	RCSP Southern Extension	OPRHP	Explore feasibility of boat access vis-à-vis existing CSO; find funding for preferred uses, e.g. possible boat access	State sources; elected officials; not-for-profit developer; philanthropic grants
Strategic Site # 5 Con Ed Site North of RCSP	B 3231, L 227	2	HR Greenway RCSP N. Outboard	OPRHP, DPR, not-for-profits, Con Ed	Explore potential permitting options with SDEC; identify lead agency; locate funding	City; State Consolidated funding programs; philanthropic grants; Step 3 BOA

Figure 59. Project Summary Matrix

Strategic Site #6 La Sala Site	B 3231, L 265	3	Development with public open space	Private owner, DCP	Owner sale of property; prepare Waterfront Access Plan (WAP)	Private developer
Strategic Site #7-A DPR Site at Fordham Landing	B 3231, L 350	1	Regatta Park	DPR	Complete remedial investigation, remediation and design (already initiated by DPR	City (DPR)
Strategic Site #7-B Con Ed Site at Fordham Landing	B 3244, L 100	3	Possible Regatta Park expansion	DPR	Determine feasibility re: park on cable crossing; identify funding	City (DPR, Councilmember, MOER), Con Ed, philanthropic grants
Strategic Site #7-C Manufacturing Uses	B 3244, L 120, 125, 130, 145, 160	3	Future uses to be explored	DCP	DCP undertake rezoning process with public participation	City (MOER) ; Step 3 BOA; philanthropic planning grants
Strategic Site #8-A CSX Waterfront Site	B 3244, L 1, B 3245, L 3	2	HR Greenway, park	DPR, not-for-profits, CSX	DPR and not-for-profits explore acquisition for parkland	City (DPR, Councilmember, MOER); State Consolidated funding programs; philanthropic grants; not-for-profit partners; Step 3 BOA
Strategic Site #8-B Hudson Line with structures	B 3245, L 12	3	HR Greenway, ped/bike crossing over RR	DPR, not-for-profits, MTA/MN	Seek approval of concept of crossing; identify funding sources	City (DPR, Councilmember, MOER); State Consolidated funding programs; philanthropic grants; not-for-profit partners; Step 3 BOA
Strategic Connection #2 RR Spur adjacent to MDE (s. of 225th)	B 3238, L 50, 52, 126, 127	2	HR Greenway & Tibbets Brook Daylighting	NYC DEP & DPR	Explore property acquisition or easement options	City (DEP, DPR); State Consolidated funding programs; EPA grants; philanthropic grants; not-for-profit partners; Step 3 BOA; adjacent commercial property owners
Strategic Connection #3 (225th-230th)	B 3264, L 20	2	HR Greenway	NYC DEP & DPR	Explore property acquisition or easement options	City (DEP, DPR); State Consolidated funding programs; EPA grants; philanthropic grants; not-for-profit partners; Step 3 BOA; adjacent commercial property owners and private developers

***Priorities/Readiness Level:**
1= Highest priority and most ready for implementation (e.g. site in public ownership)
2=High priority for next steps in exploring feasibility
3=Strategically high priority but likely requires more lead time to implement

APPENDIX

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Figure A-1. 2010 Census Tract Map for Bronx CD4 (Source: NYC Planning)

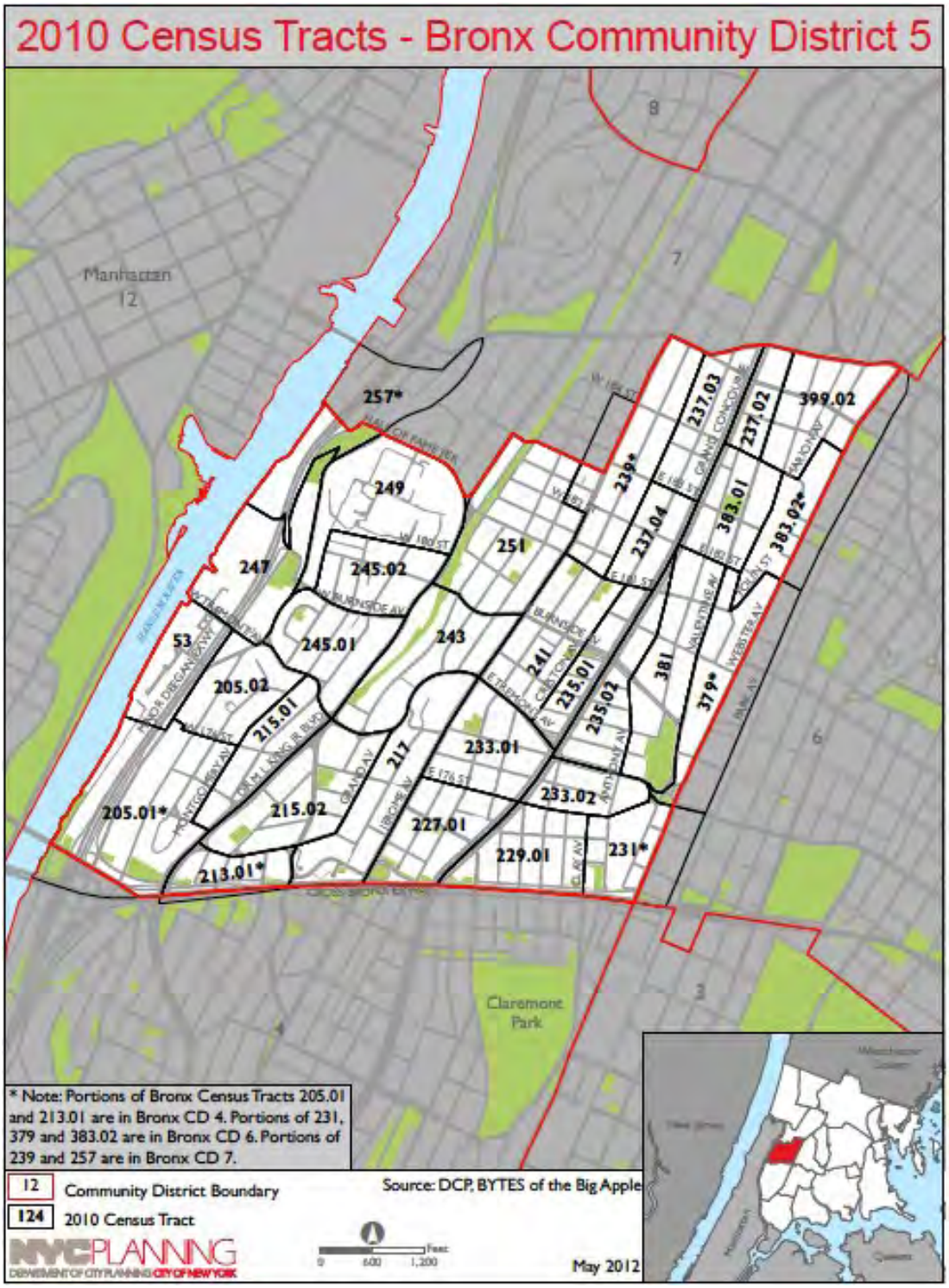


Figure A-2. 2010 Census Tract Map for Bronx CD5 (Source: NYC Planning)

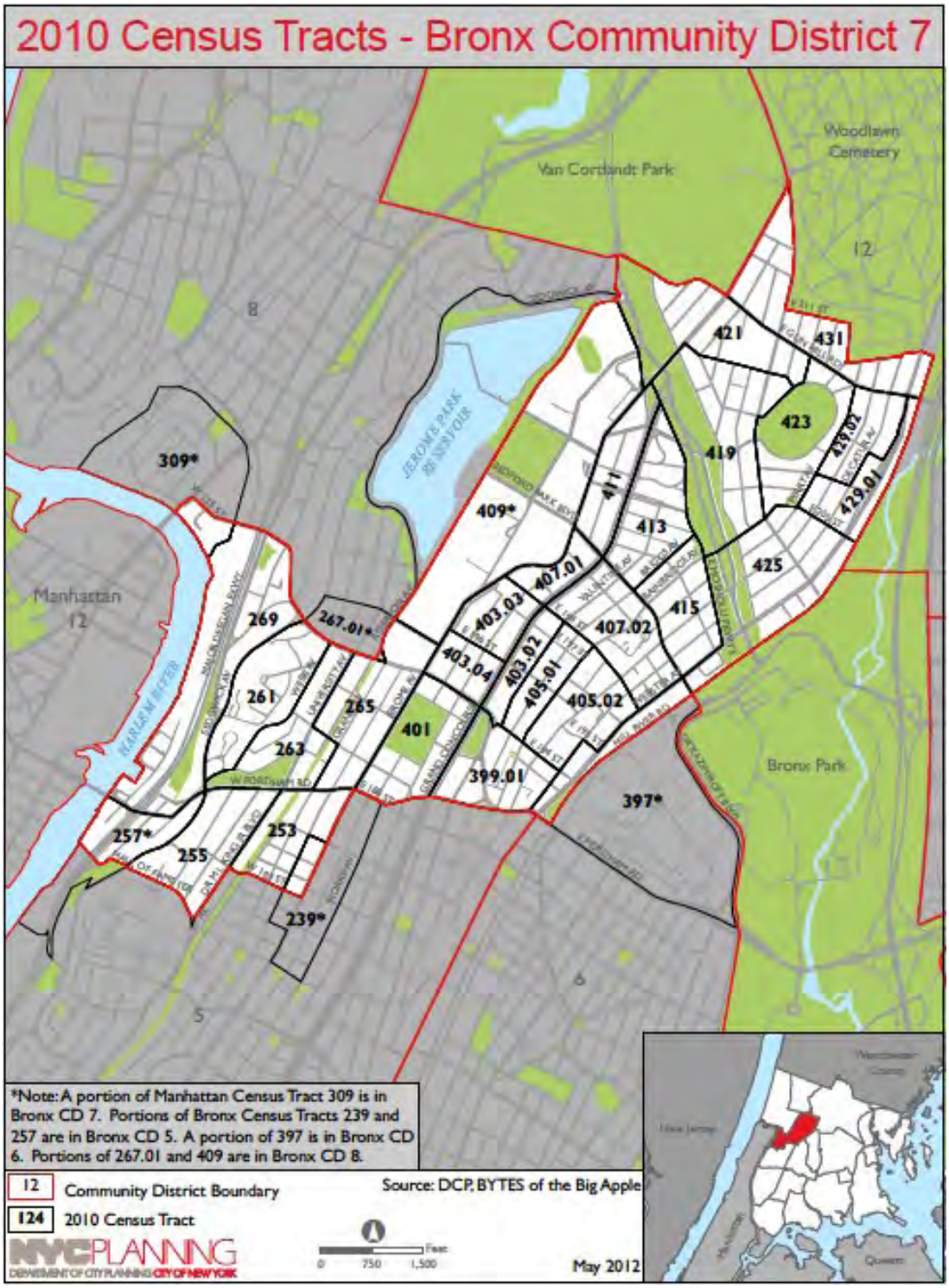


Figure A-3. 2010 Census Tract Map for Bronx CD7 (Source: NYC Planning)

Figure A-4. 2010 Census Tract Map for Bronx CD8 (Source: NYC Planning)

HARLEM RIVER BOA COMMUNITY OUTREACH BY FVCP
AS OF JUNE 2015

Harlem River BOA interns worked through Friends of Van Cortlandt Park, the BOA's Community Participation Consultant, to conduct outreach throughout the HR BOA Focus and Community Participation Areas and nearby. Following is a list of events and places where the interns attended events and administered surveys in HR BOA communities:

- Roberto Clemente State Park for a Harlem River Mini Water Conference to do a presentation in October 2015
- Roberto Clemente State Park to participate in a canoe trip hosted by Wilderness Inquiry in October 2015
- Van Cortlandt Park to attend the Family Fun Day at the Van Cortlandt Lake in October 2015
- Canvassed Fordham Road and Fordham University Campus
- Attended the Community Boards 7 & 8 meetings to do a presentation in the Fall of 2014
- Attended the Bronx River Symposium at the Bronx Zoo in October 2014
- The NY Botanical Garden Farmers Market in the fall of 2014
- Surveyed polling sites on election day 11/04/2014
- Attended a Pumpkin Smash at Lehman College in Fall of 2014
- Gave out surveys at a DOE event for new teachers at Lehman College
- Reached out to commuters at the 1 train station on 242nd
- Attended a composting event at Van Cortlandt park and surveyed volunteers
- Heritage Week event at Manhattan College
- Attended Bronx Parks Speak Up in February 2015
- Canvassed in Poe Park
- Attended BCEQ Mini Water Conference in March 2015
- Environmental Conference at Baruch College in March 2015
- Community Board 5 Meeting at March 2015
- Community Board 8 Meeting at April 2015
- Attended small events at City College
- Canvassed W. 242nd St. nd W. 225st St.
- Canvassed NYC subway on the 4 train
- Attended FVCP Volunteer Event in April 2015
- Attended FVCP Hike-A-Thon at April 2015
- The Highbridge opening June 2015
- Riverfest June 2015
- Canvassed Harlem River Park
- Visited 52nd Police Precinct open house
- Canvassed around Yankee Stadium and E. 167st St. in the Bronx
- Canvassed Van Cortlandt Park
- Attended General PA meetings at AmPark Neighborhood School
- Attended General PA meeting at PS95
- Attended Executive Board Meeting at AmPark Neighborhood School
- Canvassed parents at Amalgamated Nursery School
- Canvassed teachers at Amalgamated Nursery School
- Attended School Leadership Team meeting at AmPark Neighborhood School
- Attended two Family Movie Nights at AmPark Neighborhood School
- Canvassed parents and staff at Family Fitness Night at AmPark Neighborhood School
- Canvassed at Montefiore Medical Center, East Gun Hill Rd
- Canvassed at Williamsbridge Playground
- Canvassed at Inwood Hill Park

Results from Fall Survey, September-November 2014

Short Form Survey:

- 308 people participated to take the short form survey
- Most respondents were from Community Board 7 (36.9%)
- Most respondents were age range of 18-40 (51.8%).
- In response to "What would you like to see developed along the Harlem River?" Both choices of Canoeing/Ferries and Recreational Trails tied at 38% each. The least popular choice for this question was Commercial or Light industrial uses at 4%.

Long Form Survey:

- 149 people participated in the long form survey
- Most respondents were from Community Board 8 (33.3%).
- In response to "out of these recreational options, which would you most like to

see along the Harlem River," 88.4% of respondents preferred Recreational Uses.
- Most respondents were 55 and greater (27.5).
- 55.7% of respondents said there are obstacles that prevent them from accessing the Harlem River
- Most respondents placed "the highway" and "train tracks" as obstacles to the Harlem River.
- When asked "What would you like to access along the planned Greenway", majority of respondents favored exercise or recreational activity (86.6%).

Using feedback from the various Harlem River BOA project partners after reviewing the first set of responses a new survey was created for the spring of 2015. The decision was also made to just have one survey option since most people elected to complete the short version when given the choice.

Spring Survey Results as of June 25th, 2015:

- 575 people participated in the this survey from January to June 2015.
- Most of respondents were ages 17-24 (24.6%)
- 28.3% of respondents were from Community Board 8; 19.8% of respondents were from Community Board 7; 10.8% of respondents were from Community Board 5; 13.6% were from Community Board 4; and 27.5% of our respondents do not live or work in the areas along the Harlem River.
- 86.6% of respondents preferred "recreational activity, active and passive" to be established along waterfront of the Harlem River.
- When asked "What would you like to access along the planned Greenway," the majority of respondents (42.7%) were in favor of recreation followed by exercise (36.5%)
- When asked "How often do you access the Harlem River," 46.5% of respondents said they access the river very little.
- Respondents gave various reasons for not being able to access the Harlem River, including the highway and trains blocking the way, but also concerns about safety of the areas.

Since a total of 575 people responded to the most recent survey given, we have surpassed our original goal of getting 500 people to respond to our current survey by the end of June. We have attempted to reach out more people from the South Bronx, which includes Community Board 4, but unfortunately community boards 4 and 5 remained the lowest rate of response.

In comparing all three surveys, the majority of individuals preferred recreational activity as the top choice to be established along the Harlem River. In comparison the long form survey and spring survey, majority of respondents choose exercise and recreational related activity as the top choice to be established along the planned Greenway. Some individuals who choose "other" as a choice for the Greenway gave interesting ideas while doing the surveys like establishing a soccer field, an archery club, a rain garden or a skateboard park.

While open online, the survey was available on the Friends of Van Cortlandt Park's website, www.vancortlandt.org/harlemriver. In addition, we have set up the following social media sites to get interest in the project:
Instagram: Harlem_River
Facebook: Harlem River BOA Project

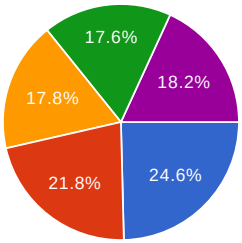
HARLEM RIVER BOA COMMUNITY PARTICIPATION SURVEY SUMMARY
AS OF 6/5/2015

575 responses

View all responses Publish analytics

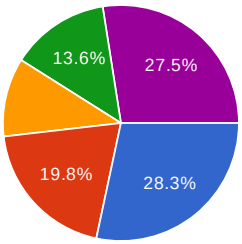
Summary

What is the range of your age?



17-24	141	24.6%
25-34	125	21.8%
35-44	102	17.8%
45-54	101	17.6%
55 and greater	104	18.2%

Do you work or live in one of these NYC zipcodes?



10463, 10471 (Community Board 8)	163	28.3%
10458, 10467, 10468 (Community Board 7)	114	19.8%
10453 (Community Board 5)	62	10.8%
10451, 10452, 10461 (Community Board 4)	78	13.6%
Other	158	27.5%

How many children live in your household?

no

five

3

2

1

0

6

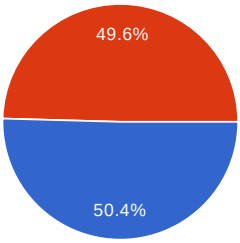
5

4

O

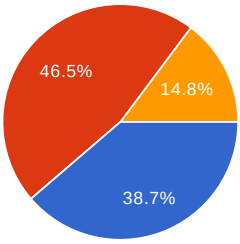
None

Do you go to parks and places along the Harlem River?



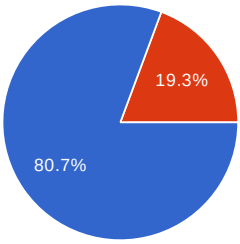
Yes	286	50.4%
No	281	49.6%

If yes, how often do you access the Harlem River?



Not all	178	38.7%
Very little	214	46.5%
Often	68	14.8%

If you chose no to question 4, would you like to go to parks and places along the Harlem River?



Yes	317	80.7%
No	76	19.3%

Is there anything that prevents you from using parks and places along the Harlem River? If so, what?

The train. Is in the way

not sure I have never been there

N/a

Nothing prevents me from using the parks. They are just sometimes a little difficult to access.

The drive and trains are in the way.

Access into the space with proper signage, transportation difficulty and safety.

not really time maybe

time

Public transportation to access the Bronx side seems limited.

the train

Highway

it is not safe or clean

allergies

nothing prevents me from using parks and places along the harlem river

Travel is tough

I don't know

Highway

bad people and traffic

Probably that I don't really have time to go

access, safe streets, proper signage etc.

I do not feel like Roberto Clemente State Park is safe. Compared to Riverbank State Park, there is very little police presence.

private property

riverdale park is kind of deserted at times and it does not seem safe so I stay at the street level.

not close enough

I dont know

Largely inaccessible

thought that the Harlem river was the Hudson

The roads and train

Garbage

The train and the highway block it.

its very far from where I live

Train and the highway.

i go to areas around the hudson river

time and transportation

Security

Work

there are better parks in other areas

Don't know about opportunities and facilities

life

Access and safe places to play

mobility issues

safety of the area

i have no knowledge the area and would like to know more

access is an issue

I don't live on the west side

The location is not convenient for me to get to.

i

I have no problems

didn't know where it was

im busy with work

Lack of knowledge of its location.

The train is in the way.

no safe, mobility issues

im way too busy, work and kids

Idk don't go around there much

busy

access parking

dont know

There is no access to the water. There needs to be!

transportation

There is no place that I know of to go.

train tracks

Not in a good area

n/a

The train, and transportation.

RR, highway cutoff access

There is a lot of infrastructure highways, train tracks, lack of signage, and places along the Harlem river.

I am not around the harlem river often

railway tracks condition of the landscape location of neighborhood parks

Train

Distance

nope i have accessible transportation

Difficult access, and trash etc.

Need more green space for kayaking, canoeing + river fun.

Dogs

lots of traffic in major deegan and little access points

I'm not totally sure where the Harlem River is, perhaps i'd go if I knew where.

Lack of knowledge of where it is.

There needs to be more events in the parks that are there now.

not that I can think of

too busy

knowledge of parks and how to get there. if we know a good one with easy access we would use it.

i have a hard time getting to the park

lack of recreational areas. Knowing about events scheduled

nothing i can think of

it's very dirty

No idea where it is.

they have to make sure its clean and safe

No access in South Bronx at all, waste transfer station, power plants, garbage fill, bus depots, coned, nypost, fedex and now even Freshdirecxt is proposed FYI, the survey does not include 10454 and 10455 zip codes

It's not very clean.

The railroad

I have a park I go to but cannot go often

Difficulty traveling.

Designated Dog Park

the drive

danger from traffic, not well lit debris on the road

i used to go a long time ago with no problem

Work and traffic

the train and parkway

I would love to actually touch the Harlem river, rather than only see it as I cross it by bridge.

it is very closed off.

No access, would like to see abandoned building on Kingsbridge as HQ for Harlem river parkway.

location don't nearby

Safety concerns (crime-related, not terrain) unsightly litter / trash few access points (due to highways & railroads)

gangs

opportunity

parking

no

public transportation access, knowing any programs

not enough transportation

highway and trains

Transportation to the waterfront.

access is difficult can not walk to river edge

the highway

It's not friendly to visiting. There's a railroad track, industrial areas, shopping centers.

Did not know where it was

limited access, no acces to water need more parks

not safe

No there is nothing that is preventable

I live in Westchester.

safety concern, poor access

people walking their dogs allowing dog poop everywhere. Band smoking from the parks. Have park security for more safety.

traffic

no signs! need directions.

fences, major deegan, traffic

never been there

I live too far

native to long island

polutes

Not accessible. Probably lack of bike paths.

Accessability.

havent had a reason to go over there

Lack of access to the river.

There are very few pleasant options for using parks and places along the Bronx side of the Harlem River. Many areas are hard to get to because the train tracks or highway is between residential areas and the river. The Manhattan parks along the river are nice and I use those often, but the green spaces on the Bronx side are fewer and harder to access.

Not many parks

live outside city limits

not close by

We live in Manhattan so it's difficult to get there. We go to the Hudson river parks in Manhattan.

I'm able to go to the park and places near the Harlem River but only on certain occasions

Major Deegan

not very clean or nice, and the train is in the way

No

access

poor access

nope i bike through there all of the time but like everything else it could be cleaner

the highway the railroad tracks

nothing there

Looks terrible and highway in my way

no route

very limited (if any) buses, fences at the bridges hinder photography it would be helpful to install ports or holes for cameras.

I'm not that close

The train.

lack of interest

never really went to any Harlem River events

none really

n/A

emotionally? no physically? the deegan and the railroad! :(

That area is not very safe.

no

none

Nope

train

Not safe.

Metro North

transportation

work

Tend to go to central park or along the Hudson early access.

Parking

schoolwork

no, I go to the park on the Manhattan side

acess to transportation lack of knowledge of area

It is difficult to get to by public transportation.

There is nothing that is convenient to access.

I dont know

Crime, insects

access to waterfront

never heard of it

highway

Yes

didn't know one of those parks was nearby.

not close by

dangerous dealers

no bike lane

didn't know about it

fences and private property.

lack of recreational activities

swimming pools

It is not easy to access.

The limited travel options.

parking is terrible

not that I can think of

There is only Roberto Clemente park. Other than that there is not much access.

land is not developed

not really- when i lived in the heights i went all the time!

schedule

I don't live in the area, but visit often. If a nice park opens I would like to go with family that lives in the area.

Didn't know it existed

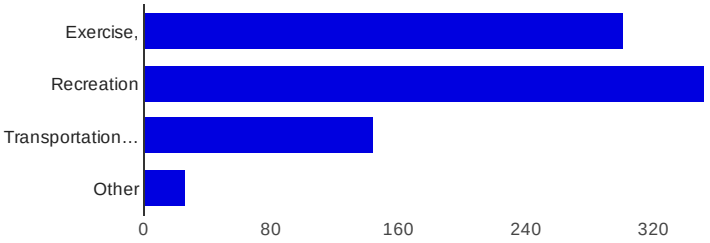
mobility is a problem

It needs to be nicer.

accessibility

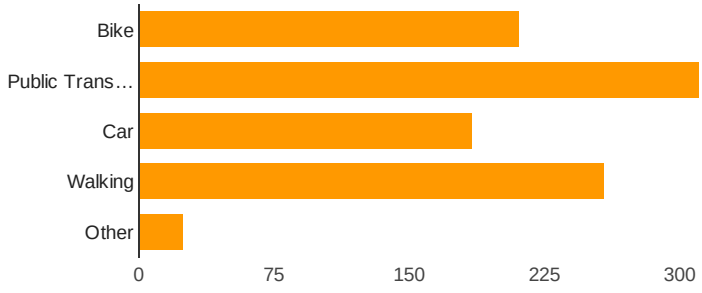
Not sure

If you work near the Harlem River, would you access the planned Greenway for any of the following?



Exercise,	301	60.9%
Recreation	352	71.3%
Transportation to and from work	145	29.4%
Other	26	5.3%

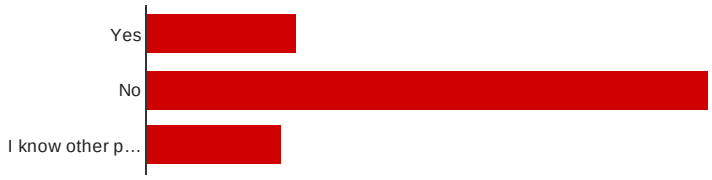
What methods would you use to travel along the Harlem River Greenway?



Bike	212	39.2%

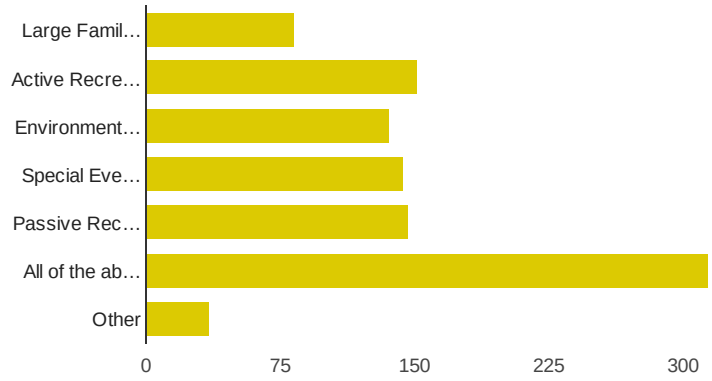
Public Transportation	311	57.5%
Car	185	34.2%
Walking	258	47.7%
Other	25	4.6%

Does anyone in your household have mobility issues? (ex; uses a wheelchair, cane or crutches or is legally blind)



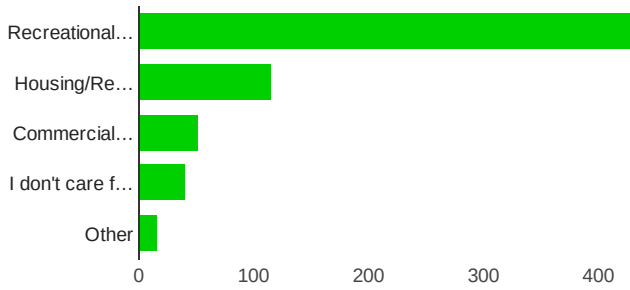
Yes	103	18.8%
No	387	70.7%
I know other people who have mobility issues	93	17%

In planning uses along the Greenway, what kind of programming would you like to see in parks and open spaces along the Harlem River?



Large Family Gatherings	83	15%
Active Recreation (playgrounds, athletic, etc..)	152	27.4%
Environmental Education	136	24.5%
Special Events/Entertainment	144	26%
Passive Recreation (gardens, lawns, benches)	147	26.5%
All of the above	314	56.7%
Other	35	6.3%

What use would you prefer to be planned along the Waterfront?



Recreational, both active and passive	488	86.4%
Housing/Residential Development	117	20.7%
Commercial or Light Industrial	52	9.2%
I don't care for any development along the Harlem River	41	7.3%
Other	17	3%

BROWNFIELDS IN A NUTSHELL
OCTOBER 2014

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment.[1]

Brownfields redevelopment can be ecologically, economically, and socially sustainable. The nature, context, and perspective of the challenges confronting Brownfields practitioners demand this new approach. By integrating the concepts of sustainable development, community involvement, risk management, and collaborative project teams with Brownfields redevelopment, Brownfields redevelopers can avoid re-creating Brownfields and continuing their legacy.[2]

The **Brownfield Opportunity Area (BOA)** grant program was created by the October 2003 New York State Brownfields Law to promote neighborhood planning in areas with multiple Brownfields. Most brownfields produce little tax revenue and few jobs, if any. When brownfields are investigated, cleaned up, and returned to productive use New York City, its economy, and its neighborhoods benefit.

The **Brownfield Opportunity Areas** (BOA) Program provides municipalities and community based organizations with assistance to complete area-wide approaches to brownfields redevelopment planning. Through the Brownfield Opportunity Areas Program communities will have opportunities to return dormant areas back to productive use and simultaneously restore environmental quality.

The Brownfield Opportunity Areas Program enable local governments and community based organization to: address a range of problems posed by multiple brownfield sites; build consensus on the future uses of strategic brownfield sites; and establish the multi-agency and private-sector partnerships necessary to leverage assistance and investments to revitalize neighborhoods and communities.

1 http://www.epa.gov/brownfields
2 http://www.epa.gov/brownfields/sustain.htm p. i

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PRESS RELEASE

(MARCH 10, 2015)

Contact: Karen Argenti, 646-529-1990

BRONX, NY - The Bronx Council for Environmental Quality (BCEQ) will hold its Annual Membership Meeting and Water Conference on Wednesday, March 18, 2015 from 3 p.m. to 7 p.m. at Manhattan College, Leo Engineering Building at 3825 Corlear Avenue at 238th Street, Bronx NY.

The Annual Membership Meeting will nominate and vote on the Board of Directors Class of 2015. The Water Conference will discuss diverse topics including: Opening of the Highbridge, Combined Sewer Overflow (CSO)'s Impact on Water Quality, Stormwater Quality at the Pier 5 Wetland, and BCEQ Harlem River Brownfield Opportunity Area (BOA). Following these topics the groups will breakout into workshops to provide opinions, comments and visions for the use of the water and the land along the Harlem River in the Bronx.

Since 2006, BCEQ has been working on revitalizing and restoring the brownfields along the Harlem River from Sputyen Duyvil to 161st Street -- later expanded to 149th Street. Part of this work involved the project south of Mill Pond Park known as Pier 5 Stormwater Wetland, improving Harlem River water quality, and working to capture runoff before it goes into the drain to limit the CSO overflow of the combined system.

Formed in 1971, BCEQ sought to establish — as an Inherent Human Right — a sound, forward-looking environmental policy regarding an aesthetic, unpolluted, environment protecting a natural and historic heritage. We are a group of volunteers – the only countywide environmental group in NYC. Since 2001, we focused on developing connections to and along the Harlem River and created on-water access and activities in an effort to improve water quality. We formed the Harlem River Working Group and received technical assistance from National Park Service Rivers, Trails & Conservation Assistance Program. In 2011, the **Urban Waters Federal Partnership (UWFP)** announced efforts on seven pilot locations -- the Bronx & Harlem River Watersheds (New York) were chosen because both "*locations had a strong restoration effort underway, spearheaded by local governments and community organizations*."

The Program is free and open to the public. Special thanks to Con Edison for their support and the refreshments for this conference.

REPORT OF THE 2015 WATER CONFERENCE

The Bronx Council for Environmental Quality (BCEQheld its Annual Membership Meeting and Water Conference on Wednesday, March 18, 2015 from 3 p.m. to 7 p.m. at Manhattan College, Leo Engineering Building in the Bronx NY. The Program was free and open to the public. Special thanks to Con Edison for their support and the refreshments for the conference. Since 2006, BCEQ has been working on revitalizing and restoring the brownfields along the Harlem River from Sputyen Duyvil to 161st Street -- later expanded to 149th Street. Part of this work involved the project south of Mill Pond Park known as Pier 5 Stormwater Wetland, improving Harlem River water quality, and working to capture runoff before it goes into the drain to limit the CSO overflow of the combined system.

Formed in 1971, BCEQ sought to establish — as an Inherent Human Right — a sound, forward-looking environmental policy regarding an aesthetic, unpolluted, environment protecting a natural and historic heritage. We are a group of volunteers – the only countywide environmental group in NYC. Since 2001, we focused on developing connections to and along the Harlem River and created on-water access and activities in an effort to improve water quality. We formed the Harlem River Working Group and received technical assistance from National Park Service Rivers, Trails & Conservation Assistance Program. In 2011, the **Urban Waters Federal Partnership (UWFP)** announced efforts on seven pilot locations -- the Bronx & Harlem River Watersheds (New York) were chosen because both "*locations had a strong restoration effort underway, spearheaded by local governments and community organizations*."

At the Membership Meeting, new Board Members and reinstated Directors Class of 2015 were nominated and voted in. After this, the Water Conference began with distinguished speakers discussing Water Quality and Stormwater on the Harlem River, Pier 5 Pop Up Wetland, the Highbridge Opening and BCEQ's Harlem River Brownfield Opportunity Area. There was also an update of the new NYS Department of Environmental Conservation rules concerning water quality standards.

The Plenary Session - The following speakers provided very intense discussions. The presentations are here: http://www.bceq.org/2015/04/15/reports-from-the-bceq-2015-water-conference-plenary-session/

- "Combined Sewer Overflows (CSOs) impact on water quality and environmental ecosystem in the Harlem River" - Presentation by Dr. Gemma Wang, http://bit.ly/1Fq8mVc (20
- "Stormwater quality at the Pier 5 Pop-Up Wetland" based on provisional 2013-14 sampling data - Presentation by Shawn Fisher of the USGS.
- "New York City's Newest Waterfront Park: Re-Opening the High Bridge," Ellen Macnow, NYC Parks
- BCEQ's Harlem River Brownfield Opportunity Area Public Participation
- Reaffirming Step 1 Goals, Objectives and Vision Statement for Step 2 – Karen Argenti, BCEQ Co-Chair of the Water Committee
    - Community Consensus on Step 2 – BCEQ Community Consultant for the BOA project: Christina Taylor, Friends of Van Cortlandt Park
    - Potential Strategic Site/Area Nomination for Step 2 – BCEQ Planning Consultant for the BOA project: ABB, Denisha Williams
    - Designating Brownfield Opportunity Area – BCEQ Administrator of the BOA Grant, Project Manager, Cristina Ungureanu

The Workshops: Following these topics the groups broke out into workshops to provide opinions, comments and visions for the use of the water and the land along the Harlem River in the Bronx.

Bronx Community Board 4 and 5 – Dart Westphal

The table considering the portions of the BOA area in Community Boards 4 and 5 reviewed several possibilities for Strategic Site designation.

The first was Pier 5. Community planning processes undertaken and resulting plans created up until now have always concluded that this site should be developed as open space for active recreation.

It has come to our attention that other uses are being considered by government stakeholders. If portions of the site were to be developed in other ways, the group thought that additional open space should be provided on the site of the current parking lots A and B controlled by EDC just south of the Macombs Dam Bridge. Creating some open space on those lots would facilitate extension of the greenway under Macombs Dam Bridge to the 161st Street pedestrian bridge to the Highbridge neighborhood. Further discussions

concerning Pier V will be undertaken with local stakeholders.

North of the MTA rail yard, the DOT property below depot place was highlighted along with the sites now controlled by Parks identified as The Promenade in the BOEDC report by Starr Whitehouse.

North of Bridge Park the State owned property just below Roberto Clemente State Park should be added to the Park along with the lot north of Roberto Clemente State Park. It was not clear to the group if designating those particular state controlled parcels would be appropriate.

Highbridge and the Greenway – Chauncy Young

The table discussed the opening of the Highbridge in the summer and what the community can do to participate. The also discussed how people from the Bronx would get to the festivities.

Community Board 7 and 8 – Karen Argenti

The Table at the Water Conference considering Community Board 7 and 8 areas of the Brownfield Opportunity Area was clearly defined. There was no objection to applying for Designation of the areas as a Brownfield Opportunity Area, a new program offered by the State of New York Department of State.

The conversation for CB 7 included the need to replicate the work of Columbia University, which did not include housing. They are interested in parkland and recreation. They are not interested in the pedestrian bridge as they want people to enter from Fordham Road/207th Street. Several Community Board 7 Members were in attendance, and were all in agreement. Unsolicited they offered support to Community Board 8 area concerning the Putnam Trail from Van Cortlandt Park to their area in CB 7 south of 225th Street. They are in favor of it extending the greenway to the whole area north of the 207th Street Bridge to 225th Street.

The conversation for CB 8 did not have any plans for the area west of the Broadway Bridge to Spuyten Duyvil. They supported our addition of the land along the Putnam Rail Trail from 230th Street to 225th Street, and the land adjacent known as the Dairy. Several Community Board Members and Community Members were in attendance, and all were in agreement.

All wanted to remain informed of our studies.

May 2, 2015

Site Name	Owner	Block/Lot	Acreage	Zoning	Current Use
Map 1 - 149th Street to 161st Street Pedestrian Bridge (CD4)					
Pier 5	NYCDPR	B 2356, L 2	4.4	M2-1	Undeveloped land
Mill Pond Park	DPR	B 2539, L 2	11.3 (incl. water)	M2-1	Park and undeveloped parkland
Waterfront Lot at Mill Pond Park	EDC/NY State	B 2539, L 3	1.5 (incl. water)	M2-1	Oak Point Rail Line
Stadium Tennis Center Parking	EDC	B 2539, L 4	0.5	M2-1	Parking
Stadium Tennis Center Parking	EDC	B 2539, L 5	0.14	M2-1	Parking
Stadium Parking South & Tennis Center Parking	EDC	B 2539, L 10	2	M2-1	Parking
Stadium Parking North	EDC	B 2539, L 14	2.9	M2-1	Parking
Exterior St & sidewalk	Not listed--presumed NYC DOT	B 2539, L 17	1.1	M2-1	Street and ROW
Non-continguous ROW	NYSDOT	B 2539, L 20	3	M2-1	Transportation ROW
Fragmented ROW lot	Not listed	B 2539, L 22	0.27	M2-1	Transportation ROW
Fragmented ROW lot	Not listed	B 2539, L 25	0.18	M2-1	Transportation ROW
Fragmented ROW lot	Not listed	B 2539, L 28	0.15	M2-1	Transportation ROW
Small lot-NYCEDC Ferry Landing entry	NYC Dept. of Small Business Services	B 2539, L 29	0.08	M2-1	Transportation
Very small lot	NYSDOT	B 2539, L 175	0.0003	N/A	Transportation ROW
Fragmented ROW lot	NYSDOT	B 2539, L 176	0.017	M2-1	Transportation ROW
Fragmented ROW lot	NYSDOT	B 2539, L 177	0.008	R7-1	Transportation ROW
Fragmented ROW lot	NYC	B 2539, L 178	0.12	R7-1	Transportation ROW
Fragmented ROW lot	NYSDOT	B 2539, L 179	0.7	Not specified	Transportation ROW
Fragmented ROW lot	NYCDOT	B 2539, L 180	0.96	R7-1	Transportation ROW
Fragmented ROW lot	NYSDOT	B 2539, L 181	0.45	Not specified	Transportation ROW
Fragmented ROW lot	NYCDOT	B 2539, L 190	0.0014	M2-1	Transportation ROW
Stadium Parking N Triangle	NYSDOT	B 2539, L 191	0.16	Not specified	Transportation ROW/Parking
Stadium Parking N Triangle	NYSDOT	B 2539, L 192	0.06	M2-1	Transportation ROW/Parking
Fragmented ROW lot	NYSDOT	B 2539, L 193	0.23	M2-1	Transportation ROW

Note: See figures 13-17, Existing Site Status Maps

Fragmented ROW lot	NYCDOT	B 2539, L 194	0.14	M2-1	Transportation ROW
Fragmented ROW lot	NYCDOT	B 2539, L 195	0.13	R7-1	Transportation ROW
Macombs Dam Park	NYCDPR	B 2539, L 501	1.2	Park	Park
Harlem Hudson Line	Argent/Midtown	B 2539, L 502	19.6	M1-1	MetroNorth line
Fragmented ROW lot	NYSDOT	B 2539, L 503	3.5	Park	Transportation ROW
Stadium Parking N Triangle	NYSDOT	B 2539, L 504	0.092	M2-1	Transportation ROW/Parking
Fragmented ROW lot	NYSDOT	B 2539, L 505	1.2	M2-1	Transportation ROW
Highbridge Yard--See Map 2		B 2539, L 506			
Map 2 - Highbridge Yard to George Washington Bridge (Depot Place Area) (CD4)					
Highbridge Yard	Argent/Midtown	B 2539, L 506	20.4	M1-1	MetroNorth line
Harlem Hudson Line	Argent/Midtown	B 2540, L3	2.4	M1-1	MetroNorth line
Exterior St R.O.W.	NYC DOT	B 2541, L 8900	3.2	N/A	Transportation ROW
Small lot	Argent/Midtown	B 2541, L 3	0.04	R7-1	MetroNorth line
Harlem Hudson Line	Argent/Midtown	B 2541, L 4	0.09	M1-1	MetroNorth line
Bridge Park	NYS DOT	B 2541, L 22	1.14	Park	Park
NYS Strip	NYS DOT	B 2541, L 123	0.39	Park	Transportation ROW
Former Kennel Site	NYC DPR (formerly New Tabernacle)	B 2541, L 122	0.38	M1-1	Undeveloped parkland
Former Junkyard Site	NYC DPR (formerly New Tabernacle)	B 2541, L 159	0.21	M1-1	Undeveloped parkland
Former Bridge/Scaffolding Site	NYC DPR	B 2541, L 132	4.4	M1-1	Undeveloped parkland

Note: See figures 13-17, Existing Site Status Maps

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Harlem Hudson Line	Argent/Midtown	B 2541, L 180	1.7	M1-1	MetroNorth line
Harlem Hudson Line	Argent/Midtown	B 2542, L 41	0.8	R7-1	MetroNorth line
Bridge Park	NYC DPR	B 2542, L 43	1.2	R7-1	Park

Note: See figures 13-17, Existing Site Status Maps

Map 3 - Bridge Park to La Sala Site (Roberto Clemente S.P. Area) (CD5)					
Harlem Hudson Line	Argent/Midtown	B 2882, L 130	3.7	M2-1	MetroNorth line
Roberto Clemente State Park	Harlem River Park Housing	B 2882, L 216	8	M2-1	Park
River Towers	River Park Residences	B 2882, L 229	3.9	M2-1	Mixed residential and community facilities
Roberto Clemente State Park	Harlem River Park Housing	B 2882, L 305	0.027	M2-1	Park vehicular infrastructure
Harlem Hudson Line	Argent/Midtown	B 2883, L 1	1.47	M2-1	MetroNorth line
Roberto Clemente State Park	NYS DPR (OPRHP)	B 2883, L 35	3.79	M2-1	Park
Roberto Clemente State Park	NYS DPR (OPRHP)	B 2883, L 60	4.24	M2-1	Park
Roberto Clemente State Park	NYS DPR (OPRHP)	B 2883, L 81	0.21	M2-1	Park
Bridge Park	NYC DPR	B 2884, L 9	0.46	R7-1	Park
Bridge Park	NYC DPR	B 2884, L 22	1.5	R7-1	Park
Harlem Hudson Line	Argent/Midtown	B 2884, L 5	4.02	M1-1	MetroNorth line
Bridge Park	NYC DPR	B 2884, L 50	1.63	M1-1	Park
State Parks South Site	NYS DPR (OPRHP)	B 2884, L 110	0.22	M1-1	Undeveloped parkland
State Parks South Site	NYS DPR (OPRHP)	B 2884, L 72	2.12	M1-1	Undeveloped parkland
MTA/MN North of RCSP (Argent)	Argent/Midtown	B 3231, L 1	8.9	M2-1	MetroNorth line
Roberto Clemente State Park	NYS DPR (OPRHP)	B 3231, L 132	6.85	M2-1	Park
Con Ed Site North of RCSP	Con Ed	B 3231, L 227	0.4	M2-1	Utilities

Note: See figures 13-17, Existing Site Status Maps

Map 4- La Sala Site to 225th/230th (CD7 and CD8)

CD7

La Sala Site	LVI Fordham Rd Assoc.	B 3231, L 265	3.72	R7-2	Undeveloped/ distribution facility
DPR Site at Fordham Landing	DOT to NYCDPR	B 3231, L 350	3.68	M2-1	Undeveloped parkland
Landing Road Street End	NYC DOT	None; mapped st.			Transportation ROW
Con Ed Site at Fordham Landing	Con Ed	B 3244, L 100	0.6	M3-1	Utilities
Storage Post Self Storage (S)	SP HHF Sub B	B 3244, L 120	2.3	M3-1	Commercial and Office
Storage Post Self Storage (N)	SP HHF Sub B	B 3244, L 125	1.96	M3-1	Commercial and Office
Fordham Scrap Metal	2371 Exterior LLC	B 3244, L 130	0.99	M3-1	Industrial and Manufacturing
Cement Works (S)	Galway Realty LLC	B 3244, L 145	1.1	M3-1	Industrial and Manufacturing
Cement Works (N)	Galway Realty LLC	B 3244, L 160	0.96	M3-1	Industrial and Manufacturing
CSX (Inland) Site	CSX RR	B 3244, L 1	5	M1-1	Rail line--appears inactive
Harlem Hudson Line	Argent/Midtown	B 3244, L 2	7.1	M1-1	MetroNorth line
Harlem Hudson Line with structures	Argent/Midtown	B 3245, L 12	3.18	M1-1	MetroNorth line
CSX (Waterfront) Site	CSX RR	B 3245, L 3	5.8	M1-1	Vacant
River Plaza Shopping Mall	Target Corp.	B 3245, L 60	5.08	C8-3	Commercial and Office

Note: See figures 13-17, Existing Site Status Maps

RR adjacent to Major Deegan	Argent/Midtown	B 3238, L 50	0.86	M1-1	Transportation and Utilities
RR adjacent to Major Deegan	MTA	B 3238, L 52	0.69	M1-1	Transportation and Utilities
RR adjacent to Major Deegan	MTA	B 3238, L 126	0.37	M1-1	Transportation and Utilities
RR adjacent to Major Deegan	MTA	B 3238, L 127	0.003	M1-1	Transportation and Utilities
DEP site at River Plaza Mall	NYC DEP	Man. B 2215, L 652	0.2	C8-3	Infrastructure/Utilities
DEP site at River Plaza Mall	NYC DEP	Man. B 2215, L 653	0.08	C8-3	Infrastructure/Utilities
River Plaza Shopping Mall	Kingsbridge Associates	Man. B 2215, L 654	0.7	C8-3	Commercial and Office
River Plaza Shopping Mall	Kingsbridge Associates	Man. B 2215, L 665	1	C8-3	Commercial and Office
Very small lot	Unknown	Man. B 2215, L 670	0	C8-3	Commercial and Office
Harlem Hudson Line	Argent/Midtown	Man. B 2215, L 672	0	C8-3	Transportation and Utilities
Harlem Hudson Line	Argent/Midtown	Man. B 2215, L 675	0.8	M1-1	Transportation and Utilities
Harlem Hudson Line	Argent/Midtown	Man. B 2215, L 676	0	M1-1	Transportation and Utilities
Harlem Hudson Line	Argent/Midtown	Man. B 2215, L 680	0.1	M1-1	Transportation and Utilities
Harlem Hudson Line	Argent/Midtown	Man. B 2215, L 690	0.2	C8-3	Transportation and Utilities
River Plaza Shopping Mall	Kingsbridge Associates	B 2215, L 700	2.6	C8-3	Commercial and Office
CD8					
Marbledale Site	Marbledale Properties	B 3264, L 1	1.7	M1-1	Industrial and Manufacturing
RR adjacent to Major Deegan (225-230th)	Argent/Midtown	B 3264, L 20	0	M1-1	Transportation and Utilities

Note: See figures 13-17, Existing Site Status Maps

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188 W. 230th Street	188 West 230th St. Corp.	B 3264, L 104	1	M1-1	*Commercial and Office*
R.O.W. at 188 W. 230th Street	NYC Dept. of Finance	B 3264, L 109	0.3	M1-1	Commercial and Office
Former Country Delight Milk Plant & Grocery	Starl Properties	B 3264, L 135	0.1	M1-1	Commercial and Office

Note: See figures 13-17, Existing Site Status Maps

Map 5 - Spuyten Duyvil Focus Area (CD8)					
John F. Kennedy High School	NYC Dept. of Education	B 5716, L 725	21.5	R6	Public Facilities & Institutions
Spuyten Duyvil Shorefront Park	NYC DPR	B 5716, L 278	1.6	Park	Park
Spuyten Duyvil Shorefront Park	NYC DPR	B 5716, L 170	1.5	Park	Park
Small lot	NYC DPR	B 5716, L 260	0.3	Park	Park
Small lot	NYC DPR	B 5716, L 261	0.2	Park	Park
Small lot	NYC DPR	B 5716, L 215	0.03	Park	Park
Spuyten Duyvil Shorefront Park	NYC DPR	B 5716, L 279	1.03	Park	Park
Spuyten Duyvil Triangle Railroad/Parkland	MN-LTL/MTA	B 5716, L 700	TBD	R1-2	Transportation / Utility
Spuyten Duyvil Triangle Undeveloped Parkland	NYC Dept.of Citywide Administrative Svcs	B 5716, L 501	TBD	R1-2	Transportation / Utility
Small lot	NYC Dept. of Small Business Services	B 5753, L 450	TBD	R1-2	Transportation / Utility
Spuyten Duyvil Triangle Active Railroad	CRC Properties, Inc.	B 5753, L 135	TBD	R1-2	Transportation / Utility

Note: See figures 13-17, Existing Site Status Maps

HR BOA SUMMARY OF ENVIRONMENTAL ASSESSMENT AND

Area	Community District	Site Name	Block	Lot	Address	Recommendation
Map 1 - 149th St. to 161st St. Pedestrian Bridge (Yankee Stadium Area)	CD4	Pier 5	2356	2	65 East 149th Street	BOA
	CD4	Stadium Tennis Center Parking	2539	4	Major WM Deegan Boulevard	BOA
	CD4	Stadium Tennis Center Parking	2539	5	Major WM Deegan Boulevard	BOA
	CD4	Stadium Parking South & Tennis Center Parking	2539	10	Major WM Deegan Boulevard	BOA
	CD4	Stadium Parking North	2539	14	Major WM Deegan Boulevard	BOA
	CD4	Stadium Parking N Triangle	2539	29	Major WM Deegan Boulevard	BOA
	CD4		2539	191	Major WM Deegan Boulevard	BOA
	CD4		2539	192	Macombs Dam Park	BOA
	CD4		2539	504	Macombs Dam Park	BOA
	CD4	Under Macombs Dam Bridge	None	None	N/A	BOA
Map 2 - High Bridge Yards to George Washington Bridge (Depot Place Area)	CD4	Former Kennel Site	2541	122	1343 Exterior Street	BOA
	CD4	NYS Strip	2541	123	Depot Place	BOA
	CD4	Formerly Bridge/Scaffolding	2541	132	1363 Exterior Street	BOA
	CD4	Former Junkyard Site	2541	159	1353 Exterior Street	BOA
	CD4	Exterior St. R.O.W	2541	8900	N/A	BOA
Map 3 - Bridge Park to La Sala Site (RCSP Area)	CD5	State Parks South Site	2884	72	Harlem River Terrace	BOA
	CD5		2884	110	Harlem River Terrace	BOA
	CD5	MTA North of RCSP (Argent)	3231	1	N/A (West 178th Street)	BOA
	CD5	Con Ed Site N. of RCSP	3231	227	Harlem River Terrace	BOA
Map 4 - La Sala Site to 225th St.	CD7	La Sala Site	3231	265	West Fordham Road	BOA
	CD7	DPR Site at Fordham Landing	3231	350	N/A	BOA
	CD7	Landing Road Street End	None	None	N/A	BOA
	CD7	Con Ed Site at Fordham Landing	3244	100	Landing Road	BOA
	CD7	Storage Post Self Storage (S)	3244	120	301 West Fordham Road	BOA
	CD7	Storage Post Self Storage (N)	3244	125	305 West Fordham Road	BOA
	CD7	Metal Scrapyard (was scaffold)	3244	130	2371 Exterior Street	BOA
	CD7	Cement Works (S)	3244	145	N/A (Major Deegan Expressway)	BOA
	CD7	Cement Works (N)	3244	160	N/A (Major Deegan Expressway)	BOA
	CD7	CSX (Inland)	3245	1	N/A (West 192nd Street)	BOA
	CD7	CSX (Waterfront)	3245	3	N/A (West 192nd Street)	BOA

Legend:

BOA	indicates environmental concern identified onsite
BOA	indicates environmental concern identified within 400 foot buffer

N/A = No address

HR BOA ENVIRONMENTAL ASSESSMENT AND RECOMMENDATIONS

Area	Community District	Site Name	Block	Lot	Address	Existing Zoning	Current Use	Sanborn Maps	City Directory	Regulatory Agency Databases	Environmental Concern within 400 ft. Buffer	Recommendation
Map 1 - 149th St. to 161st St. Pedestrian Bridge (Yankee Stadium Area)	CD4	Pier 5	2356	2	65 East 149th Street	M2-1		Jy		RCRA, Sp	X	BOA
	CD4	Stadium Tennis Center Parking	2539	4	Major WM Deegan Boulevard	C4-4 / M2-1					X	BOA
	CD4	Stadium Tennis Center Parking	2539	5	Major WM Deegan Boulevard	M2-1		I			X	BOA
	CD4	Stadium Parking South & Tennis Center Parking	2539	10	Major WM Deegan Boulevard	M2-1		I		Sp	X	BOA
	CD4	Stadium Parking North	2539	14	Major WM Deegan Boulevard	M2-1		M			X	BOA
	CD4	Stadium Parking N Triangle	2539	29	Major WM Deegan Boulevard	M2-1					X	BOA
	CD4		2539	191	Major WM Deegan Boulevard	Park					X	BOA
	CD4		2539	192	Macombs Dam Park	M2-1					X	BOA
	CD4		2539	504	Macombs Dam Park	M2-1				Sp	X	BOA
	CD4	Under Macombs Dam Bridge	None	None	N/A	M2-1					X	BOA
Map 2 - High Bridge Yards to George Washington Bridge (Depot Place Area)	CD4	Former Kennel Site	2541	122	1343 Exterior Street	M1-1	Cy				X	BOA
	CD4	NYS Strip	2541	123	Depot Place	M1-1				Sp	X	BOA
	CD4	Formerly Bridge/Scaffolding	2541	132	1363 Exterior Street	M1-1		M, Tk			X	BOA
	CD4	Former Junkyard Site	2541	159	1353 Exterior Street	M1-1	Cy	Jy	Eqs		X	BOA
	CD4	Exterior St. R.O.W	2541	8900	N/A	M1-1		M		Sp	X	BOA
Map 3 - Bridge Park to La Sala Site (RCSP Area)	CD5	State Parks South Site	2884	72	Harlem River Terrace	M1-1		A				BOA
	CD5		2884	110	Harlem River Terrace	M1-1					X	BOA
	CD5	MTA North of RCSP (Argent)	3231	1	N/A (West 178th Street)	M2-1	RR	RR			X	BOA
	CD5	Con Ed Site N. of RCSP	3231	227	Harlem River Terrace	M2-1					X	BOA
Map 4 - La Sala Site to 225th St.	CD7	La Sala Site	3231	265	West Fordham Road	R7-2		A, M		Sp	X	BOA
	CD7	DPR Site at Fordham Landing	3231	350	N/A	M2-1				Sp	X	BOA
	CD7	Landing Road Street End	None	None	N/A	City Street					X	BOA
	CD7	Con Ed Site at Fordham Landing	3244	100	Landing Road	M3-1		A			X	BOA
	CD7	Storage Post Self Storage (S)	3244	120	301 West Fordham Road	M3-1		I			X	BOA
	CD7	Storage Post Self Storage (N)	3244	125	305 West Fordham Road	M3-1		I		ERNS	X	BOA
	CD7	Metal Scrapyard (was scaffold)	3244	130	2371 Exterior Street	M3-1	Jy	A	A	Tk	X	BOA
	CD7	Cement Works (S)	3244	145	N/A (Major Deegan Expressway)	M3-1	I	A			X	BOA
	CD7	Cement Works (N)	3244	160	N/A (Major Deegan Expressway)	M3-1	I	M			X	BOA
	CD7	CSX (Inland)	3245	1	N/A (West 192nd Street)	M1-1	RR	RR			X	BOA
	CD7	CSX (Waterfront)	3245	3	N/A (West 192nd Street)	M1-1	RR	RR			X	BOA

Legend:

X = Potential environmental concern identified during review

BOA indicates environmental concern identified onsite

BOA indicates environmental concern identified within 400 foot buffer

A = Auto repair/service/sales/towing
M = Manufacturing
Sp = Spill
RCRA = Resource Conservation and Recovery Act Site
RR = Active railroad
Eqs = Equipment Services
ERNS = Emergency Response Notification System site
I = Industrial
Tk = Storage Tank
Jy = Junk yard
N/A = No address
Cy = Construction yard

HR BOA PREVIOUS ENVIRONMENTAL REPORTS REVIEWED

Community District	Site Name	Block	Lot	Existing Phase I ESA	Existing Phase II ESA
CD4	Former Kennel Site	2541	122	x	x
CD4	Former Junkyard Site	2541	159	x	x
CD7	DPR Site at Fordham Landing	3231	350	x	

As part of the Step 2 Preliminary Environmental Assessment process, FLS reviewed existing Phase 1 and Phase II ESA documents for Harlem River BOA properties where available. The table above summarizes the existing Phase I and II reports that were consulted, along with regulatory databases, historic maps and directories and other standard sources. It is possible that additional Phase I or II ESAs exist for other properties within the HR BOA boundaries.

Block: 2356

Lot: 2

Site Name: Pier 5

Address: 65 East 149th Street

Owner / jurisdiction: NYC Parks

Waterfront: Yes

Size: 4.4 acres

Current Use: Undeveloped land

Zoning: M2-1

1

Existing Infrastructure and Utilities: Pier 5 is adjacent to and west of Gateway Center Blvd. which is directly under the elevated Major Deegan Expressway. The existing entrance is opposite East 150th Street. East 149th Street, located one block south, is a major east west travel corridor which also connects into Manhattan.

Gateway Center Boulevard contains the major utilities, i.e. sewer, water, electric and telephone.

Onsite: The Pier 5 site is currently an undeveloped lot. According to historic Sanborn fire insurance maps, the site was utilized as a lumber yard in 1908, a Consolidated Edison facility in 1922, an Erie Railroad Freight Yard from 1928 to 1981 and as a warehouse from 1984 to 2007.[1] Sanborn maps further indicate that the site's shoreline along the Harlem River was extended incrementally from 1891 to 1928 at which time it appears similar to the current configuration. This suggests that the shoreline was extended with unknown material.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The Prow Building, located adjacent to the east of the site at 560 Exterior Street, is identified in the RCRA-LQG database as a hazardous waste generator of lead. The 145th Street Bridge located adjacent to the south is listed in the RCRA-SQG as another hazardous waste generator of lead. Until recently, lead paint was removed during painting without controls, resulting in releases of lead onto adjacent properties. Several adjacent properties are listed in the NY Spills databases for contaminant releases to the environment. Five spills are listed for a Mobil gasoline station located east of the site (Spill Numbers 8911938, 9208906, 9708729, 0307681, 0311549, 9513870). Spill Number 9912518 reports a release to a manhole located north-northeast of the site. Spill Number 0605936 relates to contamination from underground storage tanks located north-northeast of the site. Spill Numbers 9815541 and 0204235 are related to releases caused by a car accident or vehicles on the Major Deegan Expressway located to the north-northeast of the site. Spill Number 9612108 is the result of equipment failure on a truck to the east-southeast of the Site. Spill Numbers 1407530 and 1400009 are associated with petroleum contamination identified during environmental sampling at properties located east-southeast and southeast of the site. There are three sites located to the east and north-northeast that are identified in the NY UST database (PBS Facility ID 2-610368, 2-600626, 2-479977).

Recommend: The historic uses of this property as a Consolidated Edison facility and freight yard in addition to the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The historic release of lead based paint from the adjacent bridge may have directly impacted site soils near the bridge. Additionally, portions of the site were originally open water and were filled with unknown material which may have contained various contaminants. The potential for contaminants at the site may complicate redevelopment; therefore, it is recommended for BOA nomination.

[1] No Sanborn Maps were produced for the study area after 2007.

Block: 2539

Lot: 4

2

Site Name: Stadium Tennis Center Parking

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYC Economic Development Corp.

Waterfront: Yes

Size: 0.5 acres

Current Use: Parking

Zoning: M2-1

Existing Infrastructure and Utilities: The Stadium Tennis Center Parking is adjacent to Exterior Street at the north end of Gateway Center Boulevard, before the entrance and exit ramps connecting to the elevated I-87/Major Deegan Expressway. The existing entrance is just south of the Yankee Stadium ferry access walkway.

Exterior Street contains the major utilities, i.e. sewer, water, and electric. These utilities continue south into Gateway Center Boulevard.

Onsite: The Stadium Tennis Center Parking site is currently a paved parking lot with two metal storage containers in the southwest corner. According to historic Sanborn fire insurance maps, the site was never developed further or used for other purposes.

Offsite: The area to the east and immediately upgradient was historically occupied by a railroad and the Bronx Terminal Market loading platforms. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. Several properties are listed in the NY Spills databases for contaminant releases to the environment. Spill Number 0705989 reports a petroleum release at a construction site located south-southeast and Spill Number 0702081 is the result of a ruptured tank located to the east.

Recommend: The industrial history of the surrounding area and the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. Due to the likely presence of contamination which may complicate redevelopment, it is recommended for BOA nomination.

Block: 2539

Lot: 5

Site Name: Stadium Tennis Center Parking

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYC Economic Development Corp.

Waterfront: No

Size: 0.14 acres

Current Use: Parking

Zoning: M2-1

3

Existing Infrastructure and Utilities: The Stadium Tennis Center Parking site is adjacent to Exterior Street at the north end of Gateway Center Blvd. before the entrance and exit ramps connecting to the elevated Major Deegan Expressway. The existing entrance is just south of the Yankee Stadium ferry access walkway.

Exterior Street contains the major utilities, i.e. sewer, water, and electric. These utilities continue south into Gateway Center Boulevard.

Onsite: The Stadium Tennis Center Parking site is currently a parking lot. According to historic Sanborn fire insurance maps, the site was utilized as a Bronx Terminal Loading Platform with railroad tracks shown going through the site parallel to the Harlem River from 1944 to 1989. After 1989 the site is shown as being used for parking, which is consistent with the current use.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. Surrounding properties are identified in the NY Spills database. Spill Number 0702081 is the result of a ruptured tank located to the east of the site. Spill Number 0705989 reports a petroleum release at a construction site located south-southeast of the site.

Recommend: The historic uses of this property as a loading platform and railway in addition to the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The potential for contaminants at the site may complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2539

Lot: 10

Site Name: Stadium Parking South & Tennis Center Parking

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYC Economic Development Corp.

Waterfront: Yes

Size: 2 acres

Current Use: Parking

Zoning: M2-1

4

Existing Infrastructure and Utilities: The Stadium South Parking is adjacent to and west of Exterior Street. The site can be accessed from the south via Gateway Center Boulevard and from the north via Exit No. 6 from southbound Major Deegan Expressway.

Exterior Street contains the major utilities, i.e. sewer, water, electric and telephone. There is a 3' x 3' box sewer running north to Regulator Chamber Number 60. It currently serves as drainage for Exterior Street and I-87/MDE. It is not clear if NYCDEP would allow a sanitary connection to it if any were proposed.

Onsite: The Stadium Parking South & Tennis Center Parking site is currently a parking lot. According to historic Sanborn fire insurance maps, the site was utilized as a Bronx Terminal Loading Platform with railroad tracks shown going through the site parallel to the Harlem River from 1944 to 1989. After 1989 the site is shown as being used for parking, which is consistent with the current use.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. The adjacent site to the east is listed in the NY Spills database for Spill Number 0702081 and is enrolled in the NYSDEC Brownfield Clean-up Program (BCP) as Site Number C203015. Spill Number 0705989 reports a petroleum release at a construction site located south-south east of the site. Spill Number 0300090 is the result of a release from abandoned drums near the I-87/MDE.

Recommend: The historic uses of this property as a loading platform and railway in addition to the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The potential for contaminants at the site may complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2539

Lot: 14

Site Name: Stadium Parking North

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYC Economic Development Corp.

Waterfront: Yes

Size: 2.9 acres

Current Use: Parking

Zoning: M2-1

5

Existing Infrastructure and Utilities: The Stadium North Parking is adjacent to and west of Exterior Street. The site can be accessed from the south via Gateway Center Boulevard and from the north via Exit No. 6 from southbound Major Deegan Expressway.

Exterior Street contains the major utilities, i.e. sewer, water, electric and telephone. There is a 3' x 3' box sewer running north to Regulator Chamber Number 60. It currently serves as drainage for Exterior Street and I-87/MDE. It is not clear if NYCDEP would allow a sanitary connection to it if any were proposed.

Onsite: The Stadium Parking North site is currently a parking lot situated along the eastern bank of the Harlem River. According to historic Sanborn fire insurance maps, the site was utilized as a freight shed and railroad yard from 1944 to 1970 and a railroad yard and Dairy Product Manufacturer from 1977 to 1978. After 1978 the site is shown as open parking, which is consistent with the current use. Sanborn maps further indicate that portions of the site were originally open water (part of the Harlem River) that was incrementally filled from 1928 to 1978 with unknown material. After 1978 the shoreline along the Harlem River is shown as its current position.

Offsite: Based on the findings from the Yankee Stadium Environmental Impact Statement (EIS) dated February 10, 2006, there were two 275-gallon fuel oil ASTs identified in the Macomb's Dam Park Field House located east of the site. No further information was provided in the report regarding the status of these tanks at the adjacent upgradient site. A vent line was also identified during a site inspection behind the field house indicating a potential UST. No tanks were listed in the NYSDEC PBS database for this property. Spill Number 9813424 reports the release of petroleum from piping associated with two 15,000-gallon fuel oil USTs at Yankee Stadium, 800 Rupert Place, located adjacent to the east of the site.

Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The area to the east is occupied by the Bronx Terminal Market. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. Spill Number 0300090 is the result of a release from abandoned drums near I-87/MDE. Spill Number 0702081 is the result of a ruptured tank located to the south east of the site. The NYSDOT Bin 124009B site, located north-northeast, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Recommend: The historic uses of this property as a railroad yard, freight shed and dairy manufacturer in addition to the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The historic release of lead based paint from the adjacent bridge may have directly impacted site soils near the bridge. Additionally, portions of the site were originally open water and were filled with unknown material which may have contained various contaminants. The potential for contaminants at the site may complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2539

6

Lots: 29

Site Name: Small Lot – NYC EDC Ferry Landing Entry

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYC Dept. of Small Business Services

Waterfront: Yes

Size: 0.08 acres

Current Use: Transportation

Zoning: M2-1

Existing Infrastructure and Utilities: The Stadium Parking North Triangle is between the ramps that lead to the stadium and Exterior Street from the southbound Major Deegan Expressway, Exit No. 6.

The only utilities are the interceptor sewer and 3' x 3' box sewer within the bed of the ramp that leads to Exterior Street.

Onsite: The Stadium Parking North Triangle site is currently a parking lot. According to historic Sanborn fire insurance maps, the site has never been developed for other purposes. Sanborn maps further indicate that the site was originally open water (Harlem River) and that it was filled incrementally from 1891 to 1980 with unknown material.

Offsite: The area immediately east and upgradient was historically used as a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located to the east, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Recommend: The historic uses of the surrounding properties and the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. Additionally, portions of the site were originally open water and were filled with unknown material which may have contained various contaminants. The likely presence of contaminants may complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2539

Lot: 191

Site Name: Stadium Parking North Triangle

Address: Major Wm. Deegan Boulevard

Owner / jurisdiction: NYS Dept. of Transportation

Waterfront: No

Size: 0.16 acres

C**urrent Use**: Transportation ROW / parking

Zoning: Not specified

7

Existing Infrastructure and Utilities: The Stadium Parking North Triangle is between the ramps the lead to the stadium and Exterior Street from the southbound Major Deegan Expressway, Exit No. 6.

The only utility is the 48" storm sewer outfall.

Onsite: The Stadium Parking North Triangle site is currently a parking lot. According to historic Sanborn fire insurance maps, the site has never been developed for other purposes.

Offsite: The area immediately east and upgradient was historically used as a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located to the east, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Based on the findings from the Yankee Stadium Environmental Impact Statement (EIS) dated February 10, 2006, there were two 275-gallon fuel oil ASTs identified in the Macomb's Dam Park Field House located east of the site. No further information was provided in the report regarding the status of these tanks at the adjacent upgradient site. A vent line was also identified during a site inspection behind the field house indicating a potential UST. No tanks were listed in the NYSDEC PBS database for this property. Spill Number 9813424 reports the release of petroleum from piping associated with two 15,000-gallon fuel oil USTs at Yankee Stadium, 800 Rupert Place, located adjacent to the east of the site.

Recommend: The historic uses of the surrounding area and regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. Since the likely present of contaminants could complicate redevelopment, it is recommended for BOA nomination.

Block: 2539

Lot: 192

Site Name: Stadium Parking North Triangle

Address: Macombs Dam Park

Owner / jurisdiction: NYS Dept. of Transportation

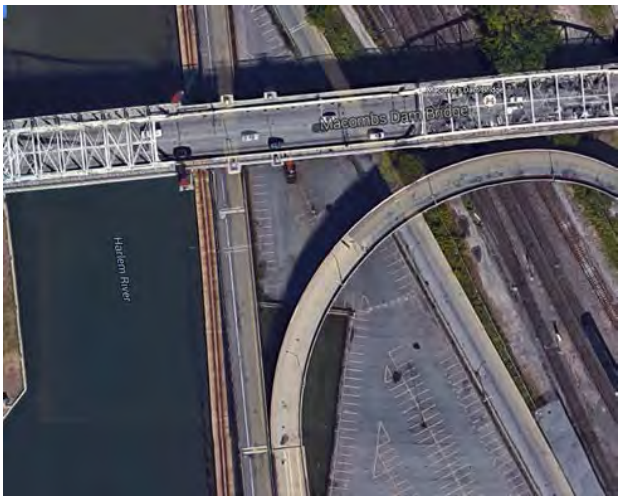
Waterfront: Yes

Size: 0.06 acres

Current Use: Transportation ROW / parking

Zoning: M2-1

8



Existing Infrastructure and Utilities: The Stadium Parking North Triangle is between the ramps that lead to the stadium and Exterior Street from the southbound Major Deegan Expressway, Exit No. 6.

The only utilities are the interceptor sewer and 3' x 3' box sewer within the bed of the ramp that leads to Exterior Street.

Onsite: The Stadium Parking North Triangle site is currently inaccessible from the street. According to historic Sanborn fire insurance maps, the site has never been developed. Sanborn maps further indicate that the site was originally open water (Harlem River) and that it was filled incrementally from 1891 to 1980 with unknown material.

Offsite: The area immediately east and upgradient was historically used as a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located east of the Site, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Recommend: The historic uses of the surrounding area and regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. Additionally, portions of the site were originally open water and were filled with unknown material which may have contained various contaminants. Since the likely present of contaminants could complicate redevelopment, it is recommended for BOA nomination.

Block: 2539

Lot: 193

Site Name: Stadium Parking North Triangle

Address: Macombs Dam Park

Owner / jurisdiction: NYS Department of Transportation

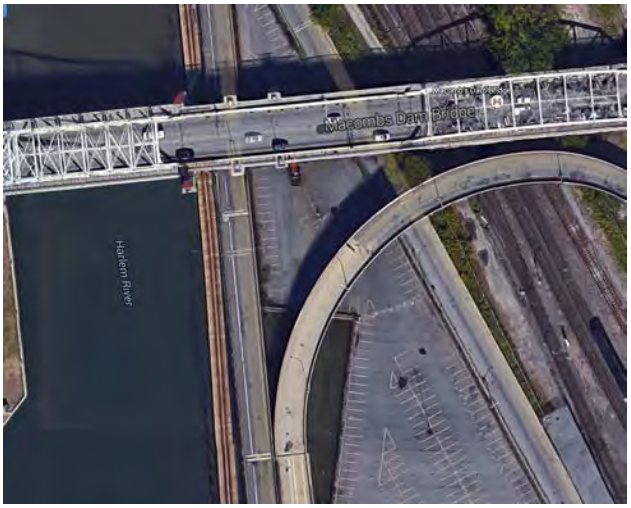
Waterfront: No

Size: 0.23 acres

Current Use: Parking lot

Zoning: M2-1

9



Existing Infrastructure and Utilities: The Stadium Parking North Triangle is between the ramps the lead to the stadium and Exterior Street from the southbound Major Deegan Expressway, Exit No. 6.

Onsite: The Stadium Parking North Triangle site is currently a parking lot. According to the historic Sanborn fire insurance maps, the steel viaduct runs above the site and approaches the Macombs Dam Bridge. Historic Sanborn maps show the site has never been developed for other purposes. There is a potential for lead contamination given the site's location immediately beneath the Macombs Dam Bridge. This is due to the fact that until recently, lead paint from bridges was not controlled during maintenance, resulting in discharge of lead under and near the bridges.

Offsite: The area east and upgradient was historically used as a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located to the east, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Based on the findings from the Yankee Stadium Environmental Impact Statement (EIS) dated February 10, 2006, there were two 275-gallon fuel oil ASTs identified in the Macomb's Dam Park Field House located east of the site. No further information regarding the status of these tanks is provided in the report. A vent line was also identified during a site inspection behind the field house indicating a potential UST. No tanks were listed in the NYSDEC PBS database for this property. Spill Number 9813424 reports the release of petroleum from piping associated with two 15,000-gallon fuel oil USTs at Yankee Stadium, 800 Rupert Place, located adjacent to the east of the site.

Recommend: The downgradient location and regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The site's location under a bridge could have resulted in releases of lead paint the site. Such impacts would complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: N/A

Lot: N/A

Site Name: Under Macombs Dam Bridge

Address: N/A

Owner: N/A

Waterfront: Yes

Size: .N/A

Current Use: Transportation ROW

Zoning: N/A

9A

Existing Infrastructure and Utilities: There is no direct street access to the site given the elevated roadway and the railroad tracks. However, pedestrian access is possible from the south end of Macombs Dam Park.

The utilities on the north side of Macombs Dam Bridge include the interceptor sewer, Regulator 60 and outfall. On the south side there is a storm sewer for I-87/MDE.

Onsite: According to historic Sanborn fire insurance maps, the site has never been developed. There is a potential for lead contamination given the site's location immediately beneath the Macombs Dam Bridge. This is due to the fact that until recently, lead paint from bridges was not controlled during maintenance resulting in discharge of lead under and near the bridges.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located east and upgradient of the site, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Recommend: The downgradient location and regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The site's location under a bridge could have resulted in releases of lead paint on the site. Such impacts would complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2539

Lot: 504

Site Name: Stadium Parking North Triangle

Address: Macombs Dam Park

Owner / jurisdiction: NYS Dept. of Transportation

Waterfront: Yes

Size: 0.09 acres

Current Use: Transportation ROW / parking

Zoning: M2-1

10

Existing Infrastructure and Utilities: The Stadium Parking North Triangle is between the ramps the lead to the stadium and Exterior Street from the southbound Major Deegan Expressway, Exit No. 6.

The only utilities are two CSOs.

Onsite: The Stadium Parking North Triangle site is currently a parking lot. According to historic Sanborn fire insurance maps, the site has never been developed for other purposes.

Offsite: The area immediately east and upgradient was historically used as a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills and RCRA-LQG databases. Spill Number 0402659 reports the release of gear/spindle oil on the Macombs Dam Bridge due to equipment failure. The NYSDOT Bin 124009B site, located east and upgradient of the Site, is identified in the RCRA-LQG database as a hazardous waste generator of lead.

Recommend: The historic uses of the adjacent property and regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. Therefore, it is recommended for BOA nominations.

Block: 2541

Lot: 8900

Site Name: Exterior Street ROW

Address: N/A

Owner / jurisdiction: NYC Dept. of Transportation

Waterfront: Partial

Size: 3.2 acres

Current Use: Transportation ROW

Zoning: N/A

11

Existing Infrastructure and Utilities: Exterior Street can be accessed from the Depot Place Overpass.

Exterior Street has overhead electric and telephone service lines. In addition, Exterior Street has storm drains that outfall to the river. There are water mains located north and south of this lot (see Lots 122 and 132). There are no sanitary sewers.

Onsite: The Exterior Street ROW site is currently used as a roadway. According to historic Sanborn fire insurance maps, the site uses have included a freight yard on the south end of the site in 1891, a coal yard on the north end of the site in 1928, and a concrete company with a sand hopper in 1951. The site was identified in the NY Spill regulatory database. Spill Number 9900836 was called in by a driller who found contamination while test boring. There also is a potential for lead contamination given that portions of the site are located under and around the High Bridge. This is due to the fact that until recently, lead paint from bridges was not controlled during maintenance resulting in discharge of lead under and near the bridges.

Offsite: The site is located immediately adjacent to and downgradient from a historic railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. Spill Number 9901001 is the result of a release from abandoned drums that were located south-southeast of the site. Spill Number 9008201 relates to a petroleum spill located east of the site. Spill Number 9416098 is the result of a petroleum release due to a traffic accident on the Major Deegan Expressway located to the east of the site. Spill Number 1101665 relates to a petroleum release due to a traffic accident on MDE and Cross Bronx South Parkway located to the northeast of the site. Four spills are listed as a result of traffic accidents on MDE and Cross Bronx Parkway located to the northeast of the site (Spill Number 0104091, 0105418, 0707044, 0111297). Spill Number 9212402 is associated with abandoned drums, which have since been removed, located to the north of the site.

Recommend: The historic uses of this property and adjacent areas in addition to regulatory database listings for the site and surrounding properties indicate adverse impacts to the environmental quality of the site. The potential historic releases of lead-based paint from the adjacent bridge may have directly impacted site soils near the bridge. The presence of contamination would complicate redevelopment, so it is recommended for BOA nomination.

Block: 2541

Lot: 123

Site Name: NYS Strip

Address: Depot Place

Owner / jurisdiction: NYS Dept. of Transportation

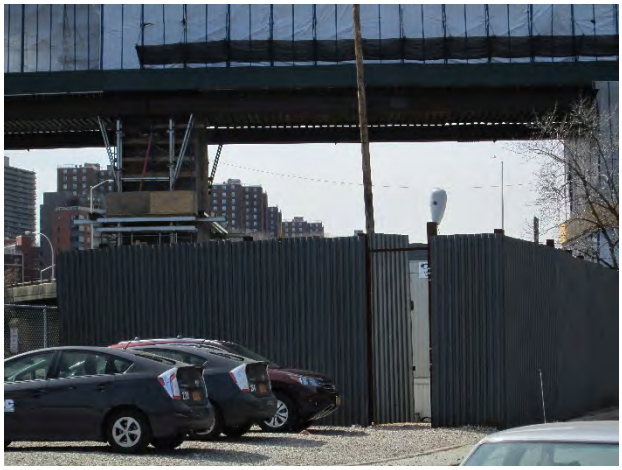
Waterfront: No

Size: 0.39 acres

Current Use: Transportation ROW

Zoning: Park

12



Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the Depot Place Overpass from the south.

Exterior Street has overhead electric and telephone service lines. In addition, Exterior Street has storm drains that outfall to the river. There is a 12" water main that terminates at a hydrant north of Depot Place Bridge along Exterior Street. There are no sanitary sewers.

Onsite: The NYS Strip site has recently been used as a Field Office for the High Bridge Reconstruction project. According to historic Sanborn fire insurance maps, the site has never been developed. There is a potential for lead contamination given the site's location immediately beneath the High Bridge. This is due to the fact that until recently, lead paint from bridges was not controlled during maintenance, resulting in discharge of lead under and near the bridges.

Offsite: The area immediately east and upgradient was historically used as a large railroad and freight yard. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. Spill Number 9900836 was called in by a driller who found contamination while test boring to the south of the site. Spill Number 9901001 is the result of a release from abandoned drums that were located south-southeast of the site. Spill Number 9008201 relates to a petroleum spill located east of the site.

Recommend: The downgradient location and historic uses of the adjacent properties, in addition to regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. The potential historic releases of lead-based paint from the adjacent bridge may have directly impacted site soils near the bridge. The likely presence of contaminants may complicate development; therefore, it is recommended for BOA nomination.

Block: 2541

Lot: 122

Site Name: Former Kennel Site

Address: 1343 Exterior Street

Owner / jurisdiction: NYC Dept. of Parks & Recreation (formerly owned by New Tabernacle Church)

Waterfront: Yes

Size: 0.38 acres

Current Use: Undeveloped parkland

Zoning: M1-1

13

Existing Infrastructure and Utilities: This site is adjacent to and west of Exterior Street. The site can be accessed from Exterior Street via the Depot Place Overpass from the south.

There is a major twin box sewer outfall at this location. Along Exterior Street there are overhead electric and telephone service lines. In addition, Exterior Street has storm drains that outfall to the river. There is a 12" water main that terminates at a hydrant north of the Depot Place Overpass along Exterior Street. There are no sanitary sewers.

Onsite: The Former Kennel Site was recently used as a construction storage yard for the purposes of High Bridge construction staging. According to historic Sanborn fire insurance maps, the site has never been developed for other purposes.

Evidence of historic fill and stained soils were observed during a 2010 Phase I Environmental Site Assessment inspection conducted by Thomas Burke of JM Sorge, Inc. During the site inspection, one chemical storage area was identified on the property containing motor oil and transmission fluid.

Based on the findings of the Phase I investigation, JM Sorge, Inc. conducted a soil and groundwater investigation. Soil borings identified a layer of historic fill consisting of debris, brick fragments, burnt wood, coal, ash and gravel. Soil analytical results identified several historic pesticides (dieldrin, 4,4'-DDD, 4,4'-DDE and 4,4'-DDT) at concentrations above the NYSDEC's Unrestricted Use Soil Cleanup Objective. No other exceedances were identified is site soils. Groundwater analytical results identified perchloroethene (PCE) at concentrations that did not meet the NYSDEC Groundwater Quality Standard. No other exceedances were detected in groundwater at the site.

Offsite: The area immediately east and upgradient was historically used as a large railroad and freight yard. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. Spill Number 9900836 was called in by a driller who found contamination while test boring to the south of the site. Spill Number 9901001 is the result of a release from abandoned drums that were located south-southeast of the site. Spill Number 9008201 relates to a petroleum spill located south-southeast of the site.

Recommend: The historic uses of the surrounding area and regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. Additionally, impacted urban fill material was identified in the previous environmental studies. The presence of contamination will complicate site redevelopment, so it is recommended for BOA nomination.

Block: 2541

Lot: 159

Site Name: Former Junkyard Site

Address: 1353 Exterior Street

Owner / jurisdiction: NYC Parks (formerly owned by New Tabernacle Church)

Waterfront: Yes

Size: 0.21 acres

Current Use: Undeveloped parkland

Zoning: M1-1

14

Existing Infrastructure and Utilities: This site is adjacent to and west of Exterior Street. As such the site can be accessed from Exterior Street via the Depot Place Overpass from the south.

Exterior Street has over head electric and telephone service lines. In addition Exterior Street has storm drains that outfall to the river. There are water mains located north and south of this lot (see lots 122 and 132). There are no sanitary sewers.

Onsite: The former Junkyard Site has recently been used for construction storage. According to historic Sanborn fire insurance maps, the site was used as a boat yard from 1977 to 2007.

Evidence of historic fill and stained soils were observed during a 2010 Phase I Environmental Site Assessment inspection conducted by Thomas Burke of JM Sorge, Inc. During the site inspection, one chemical storage area containing motor oil and transmission fluid was identified on the property.

Based on the findings of the Phase I investigation, JM Sorge, Inc. conducted a soil and groundwater investigation. Soil borings identified a layer of historic fill consisting of debris, brick fragments, burnt wood, coal, ash and gravel. Soil analytical results identified several historic pesticides (Dieldrin, 4,4'-DDD, 4,4'-DDE and 4,4'-DDT) at concentrations slightly above the NYSDEC's Unrestricted Use Soil Cleanup Objective. No other exceedances were identified in site soils. Groundwater analytical results identified PCE at concentrations that did not meet the NYSDEC Groundwater Quality Standard. No other exceedances were detected in groundwater at the site.

Offsite: The area to the east and upgradient of the site was historically used as railroad tracks with heavier industrial uses beyond the tracks. One site of environmental concern was identified within the 400 ft. buffer. Spill Number 9008201 relates to a petroleum spill located east of the site.

Recommend: The downgradient location and industrial uses of the area, in addition to regulatory database listings of surrounding properties, may have adversely impacted the environmental quality of the site. Therefore, it is recommended for BOA nomination.

Block: 2541

Lot: 132

Site Name: Former Bridge/Scaffolding Site

Address: 1363 Exterior Street

Owner / jurisdiction: NYC Parks

Waterfront: Yes

Size: 4.4 acres

Current Use: Undeveloped parkland

Zoning: M1-1

15

Existing Infrastructure and Utilities: This site is adjacent to and west of Exterior Street. The site can be accessed from Exterior Street via the Depot Place Bridge from the south.

Exterior Street has an overhead electric and telephone service lines. In addition Exterior Street has storm drains that outfall to the river. There is a 8" water main that terminates at a hydrant located within the cul-de-sac at the north end of Exterior Street. There are no sanitary sewers.

Onsite: The former Bridge/Scaffolding site has recently been used for High Bridge restoration staging. According to historic Sanborn fire insurance maps, the site was shown as a coal yard in 1928; four 5,000 gallon fuel oil tanks were shown in 1951; and a metal shop existed from 1977 to 2007. Portions of the site were originally shown as open water; these areas were filled in by 1951 with unknown material.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are identified in the NY Spills database. Spill Number 9416098 relates to a petroleum release due to a traffic accident on the MDE located to the east of the site. Spill Number 1101665 is the result of a petroleum release due to a traffic accident on the MDE and Cross Bronx South Parkway located to the north-east of the site. Four spills are listed as a result of traffic accidents on the MDE and Cross Bronx Parkway located to the north-northeast of the site (Spill Numbers 0104091, 0105418, 0707044, 0111297). Spill Number 9212402 relates to abandoned drums, which have since been removed, located to the north of the site.

Recommend: The historic uses of this property and the regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. Additionally, portions of the site were originally open water and were filled with unknown material which may have contained various contaminants. The likely presence of contaminants would complicate redevelopment; therefore, it is recommended for BOA nomination.

Block: 2884

Lot(s): 72, 110

Site Name: State Parks South Site

Address: Harlem River Terrace

Owner / jurisdiction: NYS OPRHP

Waterfront: Yes

Size: 2.12 acres, 0.22 acres

Current Use: Undeveloped parkland

Zoning: M1-1, M1-1

16 17

Existing Infrastructure and Utilities: The site can be accessed from Bridge Park at the south end and Roberto Clemento State Park at the north end.

There is an existing combined sewer outfall at the north end that is in line with West 176th Street. There is also a Metro-North substation at the northerly end that has an access road to it. There are no other utilities within the immediate area.

Onsite: The State Parks South Site is currently a public park. According to historic Sanborn fire insurance maps, this site was historically undeveloped land from 1896 to 2007, with the exception of a small auto wrecking yard on the east border in 1950.

Offsite: The area immediately east and upgradient of the site has been historically occupied by a railroad. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are registered in the NY Spills, NY Drycleaners, NY MANIFEST, US AIRs, RCRA Non-Generator and Historic Auto Station databases. Three spills are reported on adjacent properties. Spill Number 0410612 reported the release of 100 gallons of diesel fuel to the east of the site due to a traffic accident. Spill Number 9700991 reported the release of one gallon of ethylene glycol to the southeast on the Harlem River. Spill Number 0502902 reported the release of an unknown amount of #2 Fuel Oil to the north of the site with an unknown cause. North River Park Cleaners, located north of the site, is listed in the NY Drycleaners (Facility ID 2-6004-00506), NY MANIFEST, US AIRs and RCRA Non-Generator databases. The property handles ignitable hazardous wastes/halogenated solvents, but has not received any violations. The property located at 10 Richman Plaza to the north of the site is listed in the EDR Historic Auto Station database as Gregory Auto Corporation (2004).

Recommend: The auto wrecking yard noted on the 1950 historic Sanborn fire insurance map and the regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. Therefore, it is considered for BOA nomination.

Block: 3231

Lot: 1

Site Name: MTA/MN North of RCSP (Argent)

Address: N/A (West 178th Street)

Owner: Argent / Midtown

Waterfront: Yes

Size: 8.9 acres

Current Use: Metro-North Line

Zoning: M2-1

18

Existing Infrastructure and Utilities: The lot is adjacent to Roberto Clemente State Park and the La Sala property.

There are no utilities within the site with respect to the strategic site location.

Onsite: The MTA North of RCSP (Argent) site is currently an active railroad. According to historic Sanborn fire insurance maps, the property was historically utilized as a railroad from the earliest map in 1896 through 2007.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are registered in the NY Spills, NY LTANK, NY MANIFEST and E Designation databases. There are three spills to the northwest: Spill Number 9703877 reported several gallons of an unknown petroleum product released to storm drains; Spill Number 9611109 reported an unknown quantity of diesel; Spill Number 9508967 reported PCB oil from a cable house/oil regulator. There are five adjacent spill sites to the northeast: Spill Number 0407793 reported 25 gallons of diesel released due to equipment failure; Spill Number 8909821 reported a release of creosote due to a barge fire; Spill Number 0813940 reported 20 gallons of diesel released during a truck trailer accident; Spill Number 9707112 reported an unknown amount of transmission fluid released as a result of a traffic accident; and, Spill Number 9909964 reported 10 gallons of kerosene released due to equipment failure. There is one adjacent spill site located to the east of the center of the site. Spill Number 1006037 reported 20 gallons of gasoline released during a traffic accident. Adjacent properties are also registered in the NY LTANK database and located adjacent to the site. LTANK Spill Number 9703316, located on a property to the east of the site, leaked 100 gallons of diesel fuel due to tank failure. There are a total of 18 USTs registered at 296 West Fordham Road, upgradient (east) from the site, two of which are in service. LTANK spills associated with this property include Spill Numbers 0230030, 8701260, 8705665 and 8701258. 296 West Fordham Road is also listed in the EDR Historic Auto Stations database and the NY and NJ MANIFEST databases for handling benzene. There is one NY E Designation site (E-189) located upgradient (east) from the site at 233 Landing Road. The E Designation has been effective since 1/9/2008 and the property is owned by American Self Storage.

Recommend: The historic use as an active railroad and the regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. Therefore, it is considered for BOA nomination.

Block: 3231

19

Lot: 227

Site Name: Con Ed Site North of RCSP

Address: Con Edison

Owner: Consolidated Edison Company of New York, Inc.

Waterfront: Yes

Size: 0.4 acres

Current Use: Utilities

Zoning: M2-1

Existing Infrastructure and Utilities: This site can be accessed from the south through Roberto Clemente State Park, though the gate at RCSP is normally closed.

There are no utilities.

Onsite: The Con Edison Site North of RCSP was inaccessible during site inspections. According to the most recent aerial photographs the site appears to be undeveloped land. According to historic Sanborn fire insurance maps the property was historically utilized as part of the Hudson River Railroad from 1896 to 2007.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are listed in the Petroleum Bulk Storage (PBS) Facility and NY Spills databases. There are three PBS facilities containing fuel oil Aboveground Storage Tanks (ASTs) located along Cedar Avenue to the south (PBS Facility Numbers 2-345938, 2-345946, and 2-345911). There was a lack of violations, spills or leaking tanks identified with these facility registrations. There are two registered NY Spills to the east and adjacent to the site. Spill Number 1006037 reported 20 gallons of gasoline released during a traffic accident. Spill Number 0307078 reported one gallon of unknown petroleum product released from a transformer vault.

Recommend: The historic use as a railroad and the regulatory database listings for surrounding properties can potentially impact the environmental quality of the site. Therefore, it is considered for BOA nomination.

Block: 3231

Lot: 265

Site Name: La Sala Site

Address: West Fordham Road

Owner: L.V. I. Fordham Rd. Associates

Waterfront: Yes

Size: 3.72 acres

Current Use: Undeveloped / distribution facility

Zoning: R7-2

20

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There is an overhead electric line along the bulkhead side of the site. A 12" water main is located on the north side of the University Heights Bridge within Exterior Street. There are no sanitary sewers.

Onsite: The La Sala Site is currently a truck loading facility. According to historic Sanborn fire insurance maps the site was historically undeveloped until 1928 when Ames Building Material Company/Arrow Builder Supply Corporation developed the northern portion. Arrow Builder Supply Corporation remained on the property until 1985 and the southern portion remained undeveloped. The site remained largely undeveloped with one small commercial structure on the eastern boundary from 1986 through 2007. The site was originally shown as open water (Harlem River) that was incrementally filled in with unknown material between 1896 and 1977. The top layers of fill contained milled asphalt. The site was identified in the federal and state regulatory databases. Spill Number 9703877 reported several gallons of an unknown petroleum product released to storm drains that lead to the East River on 6/30/1997. The incident was reported as a 200 foot spill on the southbound entrance ramp to I-87/MDE. The spill was closed the same day it was reported after NYC DEP came to take samples and it was determined the spill likely did not impact the river.

The Harlem River BOA Step I Study, dated February 2007, reports Volatile Organic Compounds (VOCs), lead and Polycyclic Aromatic Hydrocarbons (PAHs) identified in the soil samples collected at the site during a 1987 Environmental Assessment. No further data analysis was provided.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are listed in the PBS Facility and NY Spills database. There are three PBS facilities containing fuel oil ASTs located along Cedar Avenue to the south (Facility Numbers 2-345938, 2-345946, and 2-345911). There was a lack of violations, spills or leaking tanks identified with these facility registrations. There are several registered NY Spills adjacent to the north and east of the center of the site. Spill Number 8909821 reported a release of creosote after a barge fire. Spill Number 9508967 reported PCB oil leaked from a cable house/oil regulator. Spill Number 0813940 reported 20 gallons of diesel released during a truck trailer accident. Spill Number 9707112 reported an unknown amount of transmission fluid released as a result of a traffic accident. According to historic Sanborn fire insurance maps, the surrounding properties to the east were utilized as railways from 1896 to 2007.

Recommend: The historic use of the site, the presence of unknown urban fill material, the registered NY Spills identified onsite and the regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. The presence of contaminants would complicate redevelopment; therefore, it is considered for BOA nomination.

Block: 3231

Lot: 350

Site Name: NYC Parks Site at Fordham Landing

Address: N/A

Owner / jurisdiction: NYC DOT, potentially transferring to NYC Parks

Waterfront: Yes

Size: 3.68 acres

Current Use: Undeveloped parkland

Zoning: M2-1

21

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the west side of Exterior Street. A 12" water main is located within Exterior Street. There are also basins in Exterior Street; it is assumed that they outfall to the river. There are no sanitary sewers.

Onsite: The site is currently a construction yard. According to historic Sanborn fire insurance maps the site was undeveloped until 1989, when the area was developed into a playground.

The site was identified in the NY Spills databases. An unnamed caller reported free product in the water on 11/30/1996 related to a spill he reported the previous week. The spill was assigned Spill Number 9611109 but there was no further information associated with this spill number and it was closed on 12/9/1996.

The site was created by filling the Harlem River from 1954 to 1966. The material used as fill is of unknown origin and quality. Peat and organic rich material underlays the fill layer and is a concern for production of methane. The property is located within the 100-year flood zone for the Harlem River and was historically used for vehicle storage by NYCDOT.

A 2010 Phase I ESA by ATC Associates identified two onsite recognized environmental conditions including the filling of the Harlem River and use of the site by NYCDOT for staging of equipment, materials and vehicles.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are listed in the NY Spills regulatory databases. There are five registered NY Spill sites to the north and east of the center of the site. Spill Number 9703877 reported several gallons of an unknown petroleum product released to storm drains that lead to the East River. The incident was reported as a 200 foot spill on the southbound entrance ramp to I-87/MDE. Spill Number 9508967 reported PCB oil leaked from a cable house/oil regulator located directly northeast of the site. Spill Number 8909821 reported a release of creosote north of the site after a barge fire. Spill Number 0813940 reports 20 gallons of diesel released east of the site during a truck trailer accident. Spill Number 9707112 reported an unknown amount of transmission fluid spilled east of the site as a result of a traffic accident. LTANK spills associated with the Mobil station located upgradient 400 feet southeast of the property include Spill Numbers 0230030, 8701260, 8705665 and 8701258.

According to historic Sanborn fire insurance maps the property to the south was undeveloped until 1928 when Ames Building Material Company/Arrow Builder Supply Corporation developed and remained operational until 1985. The surrounding properties to the east were utilized as railways dating back as early as 1896 and as late as the most recent Sanborn map dated 2007.

The 2010 Phase I ESA by ATC Associates Inc. identified historic uses of surrounding properties within 50 feet as commercial garages, gasoline stations and railroad tracks, operating as early as 1896 through the present. Four USTs were identified at the gasoline station, Mobil and Gaseteria, located 400 feet southeast and upgradient ,

adding the potential for contaminated groundwater to adversely impact the property. Spill No. 0230030 identified contaminated groundwater flowing west. The spill was closed under the assumption that BTEX concentrations were naturally attenuating.

A 2003 Environmental Impact Statement (EIS) for the proposed Croton Filtration Plant identified VOCs and Semivolatile Organic Compounds (SVOCs) related to gasoline, diesel-range Total Petroleum Hydrocarbons (TPHs), metals and PCBs in soil at and around the site.

Recommend: The presence of unknown fill material, regulatory database listings for surrounding properties and historic uses of the surrounding area may have adversely impacted the environmental quality of the site. Due to the likely presence of contamination, it is considered for BOA nomination.

Block: None, mapped street

21A

Lot: None, mapped street

Site Name: Landing Road Street End

Address: N/A (West 192nd Street)

Owner / jurisdiction: NYC Dept. of Transportation

Waterfront: No

Size: N/A

Current Use: Transportation ROW

Zoning: N/A

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the west side of Exterior Street. A 12" water main is located within Exterior Street. There are no sanitary sewers.

This former street is an easement for a combined sewer outfall from Regulator Number 66. It also has a 36" water main that crosses under the river to Manhattan.

Onsite: The Landing Road Street End site is currently a vacant lot. The lot contains dumped solid waste including tires, garbage, and old electronic equipment. According to historic Sanborn fire insurance maps, the site was utilized as a roadway until 1914 when the lot was improved with two small office buildings and cement shed. The cement shed and one office were no longer identified in 1950. The second small office was no longer identified in 1977. The area remained a roadway/paved lot through 2007.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties to the north are identified in the NY Spills database. Spill Number 9508967 relates to the release of poly-cyclic biphenyls (PCBs) and associated cleanup under the direction of Con Edison. Spill Number 9611109 was called in by an unknown caller reporting an unknown quantity of free product visible on the Harlem River.

Recommend: The observed illegal dumping and the regulatory database listings of surrounding properties may have adversely impacted the environmental quality of the site. The site is considered for BOA nomination due to the likely presence of contamination that could impact redevelopment.

Block: 3244

Lot: 100

Site Name: Con Ed Site at Fordham Landing

Address: Exterior Street / Landing Road

Owner: Consolidated Edison

Waterfront: Yes

Size: 0.6 acres

Current Use: Utilities

Zoning: M3-1

22

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the west side of Exterior Street. A 12" water main is located within Exterior Street which is identified as a private main. There are no sanitary sewers.

Onsite: The Con Ed Site at Fordham Landing is currently an empty lot with the exception of a small existing one-story building near the waterfront. According to historic Sanborn fire insurance maps, the site was undeveloped from 1896 to 1945. A one story building labeled "lockers" was erected on the eastern portion in 1945 and identified as offices in 1977. This building is shown on Sanborn maps through 2007 but was not identified during site reconnaissance performed in April 2015. A Con Edison cable house occupied the western portion of the site from 1945 to 2007 and was seen during the site inspection. Sanborn maps further indicate that the site was originally open water (Harlem River) and was filled incrementally with unknown material between 1896 to 1945.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are listed in the NY Spills regulatory databases. Spill Number 9508967 relates to the release of PCBs and associated cleanup under the direction of Con Edison. Spill Number 9611109 was called in by an unknown caller reporting an unknown quantity of free product visible on the Harlem River. Spill Number 9909964 reported 10 gallons of kerosene released to the south due to equipment failure.

As the Harlem River BOA Step I Study, dated February 2007, notes, VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The site was created by extending the Harlem River shoreline with unknown material that may contain contaminants. The regulatory database listings for surrounding properties and the identified cable house onsite may have adversely impacted the environmental quality of the site. Due to the likely presence of contamination that may impact redevelopment, it is considered for BOA nomination.

Block: 3244

Lot: 120

Site Name: Storage Post Self Storage (South)

Address: 301 West Fordham Road

Owner: SP HHF Sub B

Waterfront: Yes

Size: 2.3 acres

Current Use: Commercial and office

Zoning: M3-1

23

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street. A 12" water main is located within Exterior Street and is identified as a private main. There are no sanitary sewers.

Onsite: The Storage Post Self Storage (South) site is currently a commercial storage facility. According to historic Sanborn fire insurance maps, the site was undeveloped from 1896 to 1977. City Directory records indicate the site has been occupied by Storage Post Self Storage since 2008. The Butler Lumber Yard Co. Inc. occupied the site from 1977 through 2007. Sanborn maps further indicate that the site was originally open water (Harlem River) and was filled incrementally with unknown material between 1896 to 1945.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties are listed in the NY Spills regulatory databases. Spill Number 9508967 relates to the release of PCBs and to associated cleanup at a cable house/oil regulator located to the south. Spill Number 9611109 was called in by an unknown caller reporting an unknown quantity of free product visible on the Harlem River. Spill Number 9909964 reported 10 gallons of kerosene released to the south due to equipment failure.

The Harlem River BOA Step I Study, dated February 2007, notes that VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The site was created by extending the Harlem River shoreline with unknown material that may contain contaminants. The onsite operation of a lumber yard and the regulatory database listings for surrounding properties may have adversely impacted the environmental quality of the site. The likely presence of contamination may complicate development; therefore, it is considered for BOA nomination.

Block: 3244

Lot: 125

Site Name: Storage Post Self Storage (North)

Address: 305 West Fordham Road

Owner: SP HHF Sub B

Waterfront: Yes

Size: 1.96 acres

Current Use: Commercial and office

Zoning: M3-1

24

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street. A 12" water main is located within Exterior Street and is identified as a private main. There are no sanitary sewers.

Onsite: The Storage Post Self Storage (North) site is currently a commercial storage facility. According to historic Sanborn fire insurance maps, the site was undeveloped from 1896 to 1977. The Butler Lumber Yard Co. Inc. occupied the site from 1977 through 2007. Sanborn maps further indicate that the site was originally open water (Harlem River) and was filled incrementally with unknown material between 1896 to 1945.

Offsite: Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. An adjacent property was listed in the Emergency Response Notification System database. A caller reported 800 tires on top of a seal wall and 100 tires released into the Harlem River immediately adjacent to the site at 305-310 West Fordham Road. The property to the immediate south was also used as a lumber yard from 1896 through 2007.

Recommend: The site was created by extending the Harlem River shoreline with unknown material that may contain contaminants. The onsite operation of a lumber yard and the regulatory database listings for the surrounding properties may have adversely impacted the environmental quality of the site. The likely presence of contamination may complicate development; therefore, it is considered for BOA nomination.

Block: 3244

Lot: 130

Site Name: Fordham Scrap Metal

Address: 2731 Exterior Street

Owner: 2731 Exterior LLC

Waterfront: Yes

Size: 0.99 acres

Current Use: Industrial and manufacturing

Zoning: M3-1

25

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street. DEP records do not show a water main north of Lot 125. However, given that the adjacent existing main is a private main and a concrete plant is located at the northerly lot, Lot 160, the main most likely continues. There are no sanitary sewers.

Onsite: The Fordham Scrap Metal site is currently occupied by Fordham Scrap Metal. According to historic Sanborn fire insurance maps, the site was undeveloped from 1896 to 1978. From 1978 to 2007 the site was occupied by an auto junkyard. City Directory records identified the site as occupied by Fordham Scrap Metal & Equipment Ltd in 2013. Sanborn maps further indicate that the site was originally open water (Harlem River) and was filled incrementally with unknown material from 1896 to 1945.

Offsite: The property to the immediate south was also used as a lumber yard from 1896 to 2007. As the Harlem River BOA Step I Study, dated February 2007, notes, VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The onsite operation of an auto and scrap metal yard, the presence of unknown urban fill material and the known contamination at nearby properties may have adversely impacted the environmental quality of the site. Since the likely contamination would complicate redevelopment, it is considered for BOA nomination.

Block: 3244

Lot: 145

Site Name: Cement Works (South)

Address: Exterior Street

Owner: Galway Realty, LLC

Waterfront: Yes

Size: 1.1 acres

Current Use: Industrial and manufacturing

Zoning: M3-1

26

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street. DEP records do not show a water main north of Lot 125. However given that the Exterior Street main is a private main and a concrete plant is located at the northerly lot, Lot 160, the main most likely continues. There are no sanitary sewers.

Onsite: The Cement Works (S) site is currently used as a cement mixing plant. According to historic Sanborn fire insurance maps, the site was undeveloped from 1896 to 1984. From 1984 to 2007, the site was occupied by Redi-Mix Batch Plant on the northern portion of the site. Sanborn maps further indicate that several portions of the site were originally open water (Harlem River) and were filled incrementally with unknown material from 1896 to 1945.

Offsite: The property to the immediate south was used as an auto junkyard from 1978 to 2007. As the Harlem River BOA Step I Study, dated February 2007, notes, VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The historic operation of the Redi-Mix Batch Plant, the presence of unknown urban fill material, the known contamination at nearby properties and the operation of an auto junkyard to the south may have adversely impacted the environmental quality of the site. It is considered for BOA nomination, since the likely presence of contamination would impact site redevelopment.

Block: 3244

Lot: 160

Site Name: Cement Works (North)

Address: Exterior Street

Owner: Galway Realty, LLC

Waterfront: Yes

Size: 0.96 acres

Current Use: Industrial and manufacturing

Zoning: M3-1

27

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street. DEP records do not show a water main north of Lot 125. However, given that the Exterior Street main is a private main and a concrete plant is located on this site, Lot 160, the main most likely continues. There are no sanitary sewers.

Onsite: The Cement Works (North) site is currently used for storing stockpiles for the neighboring cement mixing plant to the south. According to historic Sanborn fire insurance maps, the site appears to have remained undeveloped from 1896 to 1984. From 1984 to 2007 the site was occupied by Redi-Mix Truck Repair on the southern portion of the site. Sanborn maps further indicate that several portions of the site were originally open water (Harlem River) and were filled incrementally with unknown material from 1896 to 1945.

Offsite: The property to the south was occupied by the Redi-Mix Batch Plant facility from 1984 to 2007. As the Harlem River BOA Step I Study, dated February 2007, notes, VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The historic operation of the Redi-Mix Batch Plant, the presence of unknown urban fill material, and the known contamination at nearby properties may have adversely impacted the environmental quality of the site. It is considered for BOA nomination since the likely presence of contamination would impact site redevelopment.

Block: 3245

Lot: 1

Site Name: CSX (Inland)

Address: N/A (West 192nd Street)

Owner: CSX RR

Waterfront: No

Size: 5 acres

C**urrent Use**: Rail line (appears inactive)

Zoning: M1-1

28

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the northeast end of the University Heights Bridge.

There are overhead electric and telephone lines along the east side of Exterior Street up to Lot 160. DEP records do not show a water main north of Lot 125. However, given that the Exterior Street main is a private main and a concrete plant is located at Lot 160, the main most likely continues to that site. There are no sanitary sewers.

In line with the Heath Avenue and Bailey Avenue intersection there is a storm water outfall for I-87/MDE. About another 430 feet north is a combined sewer outfall from Regulator Number 67.

Onsite: The CSX (Inland) site is currently used as a dead-end roadway that can only be accessed from Exterior Street through or alongside the concrete plant. At the time of a site inspection in April 2015, the outskirts of the roadway contain dumped garbage and tires. According to historic Sanborn fire insurance maps, the site was operated as part of the Hudson River Railroad from 1896 to 2007. Exterior Street occupied the northern portion of the site from 1896 to 1900. The roadway was extended southward in 1914.

Offsite: A historic railroad is shown immediately east and upgradient of the site. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties to the north are identified in the PBS Facility and NY Spills databases. PBS Facility Number 2-608936 recorded eight closed/removed 550-gallon gasoline tanks. PBS Facility Number 2-111112 recorded two #2 Fuel Oil ASTs temporarily out of service. Surrounding properties are also listed in the NY Spills database. NY Spill Number 9508060 reported the release of 760 gallons of raw sewage with no reported cleanup at a commercial facility located adjacent to the east. Spill Number 8705226 was also related to the sewage spill with the cause identified as equipment failure.

Recommend: The historic onsite operation of the Hudson River Railroad and issues noted in regulatory database listings of surrounding properties may have adversely impacted the environmental quality of the site. Therefore, it is considered for BOA nomination.

Block: 3245

Lot: 3

Site Name: CSX (Waterfront)

Address: N/A (West 192nd Street)

Owner: CSX RR

Waterfront: Yes

Size: 5.8 acres

Current Use: Vacant

Zoning: M1-1

29

Existing Infrastructure and Utilities: This site can be accessed from Exterior Street via the ramp from the north east end of the University Heights Bridge

There are overhead electric and telephone lines along the west side of Exterior Street. DEP records do not show a water main north of Lot 125. However given that it is a private main and a concrete plant is located at the northerly lot, Lot 150, the main most likely continues . There are no sanitary sewers.

In line with the Heath Avenue and Bailey Avenue intersection there is a storm water outfall for I-87/MDE. About another 430 feet north is a combined sewer outfall from Regulator Number 67.

Onsite: The CSX (Waterfront) site is currently unoccupied and underutilized but contains large stockpiles of gravel and soil. Sanborn maps indicate that several portions of the site were originally open water (Harlem River) and were filled incrementally with unknown material from 1896 to 1945.

Offsite: A historic railroad is shown immediately east and upgradient of the site. Several sites of environmental concern were identified within the 400 ft. buffer during a review of environmental databases and historical records. The surrounding properties to the north are identified in the PBS Facility and NY Spills databases. PBS Facility Number 2-608936 recorded eight closed/removed 550-gallon gasoline tanks. PBS Facility Number 2-111112 recorded two #2 Fuel Oil ASTs temporarily out of service. Surrounding properties are also listed in the NY Spills database. NY Spill Number 9508060 reported the release of 760 gallons of raw sewage with no reported cleanup at a commercial facility located adjacent to the east. Spill Number 8705226 was also related to the sewage spill with cause identified as equipment failure.

The Harlem River BOA Step I Study, dated February 2007, notes that VOCs and SVOCs related to gasoline and diesel-range TPHs were identified in the soil during the 2003 Environmental Impact Statement for the proposed Croton Filtration Plant. Select metals and PCBs were also detected in soil samples collected for the assessment.

Recommend: The presence of unknown fill material used to extend the Harlem River shoreline and regulatory database listings of surrounding properties may have adversely impacted the environmental quality of the site. Since the presence of contaminants may complicate redevelopment, it is considered for BOA nomination.

PROPERTY OWNERSHIP & JURISDICTION METHODOLOGY

As consultants and sub-consultants to NYC Parks and BCEQ, Abel Bainnson Butz, LLP Landscape Architects (ABB) and James Lima Planning and Development (JLP+D) conducted research on property ownership within the BOA study areas during the fall of 2014 and early spring of 2015. Engineering sub-consultant STV also assisted in this research, along with representatives of NYC Parks and BCEQ. This research entailed review of public records, site visits and interviews with key owner representatives and knowledgeable community members.

The specific methods used to compile the property information in Table 1 began with compilation of draft Property Ownership Maps from available GIS data (data layers provided by STV and NYC Parks). The primary property ownership data layer in the GIS maps is the New York City MapPLUTO 14V1, prepared by the NYC Department of City Planning, Information Technology Division (creation date 2014-06-06). The boundaries of the BOA study areas were established during the BOA Step 1 process and revised by BCEQ and NYC Parks to extend south to 149th Street and north to West 230th Street for the purposes of the Step 2 study.

Based on the draft Property Ownership Maps, a draft Property Inventory with all relevant tax lots was created. Acreage of each lot and current zoning information was drawn from the Automated City Register Information System (ACRIS), provided online by the NYC Finance Department. Next, the Property Ownership Maps and Property Inventory were cross-checked and refined to try to resolve discrepancies and uncertainties to the greatest degree possible without title searches. As noted by the Department of City Planning in the MapPLUTO description:

> *There are a number of reasons why there can be a tax lot in PLUTO that does not match the DTM [Department of Finance's Digital Tax Maps]: the most common reason is that the various source files are maintained by different departments and divisions with varying update cycles and criteria for adding and removing records*.

The draft maps and list were checked for accuracy and refined using several methods:

1) Key knowledgeable representatives of BCEQ and NYC Parks reviewed the maps to identify areas of special concern and/or discrepancies between maps and current conditions.

2) NYC Parks Parklands Division provided updated information on land under the jurisdiction of NYCNYC Parks, as well as helpful information regarding jurisdictions of other agencies (e.g. NYSDOT, NYCDOT, NYC EDC, DCAS) over numerous other parcels and transportation corridors in the BOA study area.

3) The team checked ownership information as noted on the MapPLUTO against New York City Department of Finance Records. Both ACRIS (http://a836-acris.nyc.gov/CP/) and NYCProperty (http://nycprop.nyc.gov/nycproperty/nynav/jsp/selectbbl.jsp) have been used to verify ownership information. If a discrepancy exists between Department of Finance records and the MapPLUTO GIS datasets, the Department of Finance owner of record has been shown in the Property Inventory and the ownership information updated on the Property Ownership Maps.

4) Special efforts have been made to update ownership records on all of the railroad parcels through contact between JLP+D and senior railroad representatives. The team was able to obtain some additional information on railroad parcels in this way, though in many cases the information is not as conclusive as would be liked. The Property Inventory and maps reflect the most accurate information currently available and note discrepancies where they exist.

HARLEM RIVER BOA CENTRAL FOCUS AREA BUILDING INVENTORY

Map 1 - 149th Street to 161st Street Pedestrian Bridge (CD4)								
Mill Pond Park - Tennis bubble	NYC Parks or Stadium Tennis Center	B 2539, L 2	2012	n. a.	(12 tennis courts)	Park	Recreational - Tennis	temporary structure
Mill Pond Park - Stadium Tennis Center Clubhouse and Café	DPR or Stadium Tennis Center	B 2539, L 2	1935	2	26,000 sf	Park/C4-4 M2-	Current use: Recreational - Tennis Clubhouse, Café, NYC Parks district office, comfort station. Original use: Refrigeration warehouse for Bronx Terminal Market	
Major Wm. Deegan Boulevard	Argent /Midtown & or CONRAIL	B 2539, L 506	2012	unknown	unknown	R7-1	Transportation & Utility - train garage or shop	leased by MTA
Map 2 - Highbridge Yard to George Washington Bridge (Depot Place Area) (CD4)								
Major Wm. Deegan Boulevard	Argent/Midtown	B 2539, L 506	unknown	unknown	unknown	R7-1	Metro-North line: rail car wash facility	Per NYCProperty, still listed as Conrail. Per ACRIS: MTA: MTA Real Estate indicates that Conrail sites are in MTA control.
Major Wm. Deegan Boulevard	Argent/Midtown	B 2540, L 506	unknown	unknown	unkown	R7-1	Metro-North line: rail car shop or garage, open with just roof	Per NYCProperty, listed as MTA/Metro North. ACRIS lists as MN-LTL/MTA: Part of Argent / Midtown lease to MTA / MetroNorth.
Map 3 - Bridge Park to La Sala Site (Roberto Clemente S.P. Area) (CD5)								
16 Richman Plaza - River Park Towers	River Park Residences	B 2882, L 229	1973	(2) towers w/ 44 fl. (2) towers w/ 42 fl. (1) bldg. w/ 3 fl.	1,597,950 sf (estimated)	M2-1	Mixed residential and commercial use	Towers are residential; long 3 floor building is mainly parking garage, has supermarket
67 West 176 Street	MTA - Metro North	B 2882, L 130	unknown	(4) (estimated)	unknown	M2-1	Metro-North - shop/office	big rail facility with vehicle accesibility from street
West 176 Street - Roberto Clemente State Park	NYS DPR (OPRHP)	B 2883, L 216	1974	2	55,000 sf (estimated)	PARKNYS	Open space & recreation	Swimming pool, spray shower, playground, gymnasium
500 McCracken Avenue	The City of New York	B 2883, L 60	1980	1	6,000 sf (estimated)	M2-1	Industrial and manufacturing - warehouse	unclear if part of Roberto Clemente State Park or not, per DCP website it is not.
Map 4- La Sala Site to 225th/230th (CD7 and CD8)								
CD7								
West Fordham Road - La Sala Site	L.V.L. Fordham Rd Assoc.	B 3231, L 265	unknown	1 (estimated)	unknown	R7-2	Vacant Land (DCP classification) Undeveloped/ distribution facility	
301 West Fordham Road - Storage Post Self Storage (S)	SP HHF Sub B LLC	B 3244, L 120	2003	1	56,050 sf (estimated)	M3-1	Self-storage	
305 West Fordham Road - Storage Post Self Storage (N)	SP HHF Sub B LLC	B 3244, L 125	2003	1	44,450 sf	M3-1	Self-storage	
2371 Exterior Street - Fordham Scrap Metal	2371 Exterior LLC	B 3244, L 130	2007	3	6,250 sf	M3-1	Scrap yard and office	
West 192 Street	MTA Metro-North	B 3245, L 12	unknown	(1) bldg. w/ 1 fl (half) bldg. w/ 1fl (half) bldg. w/ 2 fl. (estimated)	unknown	M1-1	Transportation and utility	Per NYCProperty, listed as MTA. ACRIS lists as MN-LTL/MTA. Part of Argent / Midtown lease to MTA / MetroNorth.
300 West Kingsbridge Road - River Plaza Shopping Mall	Target Corp.	B 3245, L 60	2003		156,474 sf (estimated)	C8-3	Retail	River Plaza Mall owners not list on public records, but confirmed through Target Corp.
Harlem River Drive - DEP building	NYCDEP	Man. B 2215, L 652	unknown	1 fl. (estimated)	unknown	C8-3	Infrastructure/utilities	
68 West 225 Street - River Plaza Shopping Mall	Kingsbridge Associates	Man. B 2215, L 654	1949	1	7,656 sf	C8-3	Retail	
5188 Broadway - River Plaza Shopping Mall	Kingsbridge Associates	Man. B 2215, L 665	2009	2	41760 sf	C8-3	Retail	

HISTORIC RESOURCES IN COMMUNITY PARTICIPATION AREAS

- ***Grand Concourse Historic District (CD4):*** Opened in 1909 as an extension of Manhattan's leafy parks and boulevards, the Grand Concourse is slowly regaining its luster as a dazzling display of working- and middle-class life. The Historic District's one-mile stretch includes more than 60 Tudor, Moderne, and Art Deco apartment houses that define the neighborhood's special sense of place. Individual landmarks include the monumental Bronx County Courthouse (1934) at East 161st Street, as well as the handsome Andrew Freedman Home (1924) at East 166th Street, a former senior housing center now being reinvented as a hub for workforce development initiatives, artistic programming, and cultural exchange. *National Register of Historic Places (1987); New York City Landmark (2011).*[1]

- ***Union Reformed Church of Highbridge, Public School 11, and Noonan Plaza Apartments (CD4):*** A trio of Highbridge landmarks reflect at a glance the evolving face of social institutions that defined public life in the rapidly developing western Bronx in the decades following the borough's annexation by New York City in 1874. Initially home to workers who built the Harlem River's infrastructure—particularly Irish laborers who constructed the High Bridge, aqueduct, and railroad—the bustling neighborhood soon had a distinguished religious center in the Union Reformed Church of Highbridge, built in 1888. Known today as Highbridge Community Church, it stands as one of the city's outstanding examples of the robust Richardsonian Romanesque style. Across Ogden Avenue, Public School 11, built in 1889 in the Romanesque Revival style with later sensitive additions, offered a dignified composition in sturdy Harlem River stone, with an ennobling central entrance tower that was one of the first of its type in New York City schools. The later Noonan Plaza Apartments, adjacent to the church, embody the borough's flourishing decades as a destination for middle-class apartment dwellers. Dating to 1931, Noonan Plaza is considered one of the finest examples of Art Deco apartment houses in the Bronx, with a sophisticated site plan arranged around a garden court that made its 238 units unmatched in elegance and amenities. *Union Reformed Church of Highbridge: New York City Landmark (2010); Public School 11: National Register of Historic Places (1983); Noonan Plaza Apartments: New York City Landmark (2010)*

- ***Park Plaza Apartments and (Former) American Female Guardian Society and Home (CD4):*** Two additional historic resources in the southernmost section of the BOA Community Participation Area reflect the development of Highbridge as one of the densest districts in New York City. Like Noonan Plaza, the Park Plaza Apartments were among the pioneering housing complexes of the Bronx. (Both were designed in part by architect Marvin Fine.) Considered among the borough's Art Deco masterpieces, the Park Plaza opened in 1931 as a response to the arrival of rapid transit to the area beginning in 1917 and an influx of veterans from World War I. With its vertical, skyscraper-esque styling, recessed courtyards, and elaborate window treatments, the Park Plaza became a sought-after address for upwardly-mobile immigrants. A social counterpart to the Bronx's glamorous apartment living, the American Female Guardian Society was completed in 1902 as a home for abandoned and impoverished children. William B. Tuthill—the architect of Carnegie Hall—skillfully designed a hospital-style pavilion plan disguised as a large mansion, seamlessly fitting into the fashionable urban district. Today the building provides long-term health care to geriatric, AIDS, and disabled residents as part of the Bronx-Lebanon Hospital Center Health Care System. *Park Plaza: National Register of Historic Places (1982), New York City Landmark (1981); American Female Guardian Society: New York City Landmark (2000)*

- ***Bronx Community College and Hall of Fame for Great Americans (CD5):*** The prospect occupied today by Bronx Community College is home to one of New York City's richest and most historically resonant ensembles. Overlooking the Harlem River, with views to the Cloisters and Palisades beyond, the site is dominated by the Hall of Fame for Great Americans—whose open-air, 630-foot colonnade is lined with bronze portrait busts of celebrated honorees—along with the domed Gould Memorial Library, Cornelius Baker Hall of Philosophy, and the Hall of Languages, all designed by renowned Gilded Age architect Stanford White as the core of New York University's bluff-top campus. Nearby Begrisch Hall, a landmark of modern architecture designed by Marcel Breuer in 1961, adds a dashing composition in cantilevered concrete. Though this prized collection of cultural assets does not always

receive the attention it deserves, its proximity to the waterfront—via University Woods Park, where a $420,000 reconstruction of stairways and landings was completed in 2014—offers an opportunity for rediscovery as a treasure of the Bronx. *National Register of Historic Places (1979); New York City Landmark (1966 & 2002).*

- ***Messiah Home for Children (CD5):*** Originally an orphanage for young children, this towered-and-turreted structure was designed by Boston architect Charles Brigham and completed in 1908. Subsequently occupied by the Salvation Army, and since 1978 home to the U.S. Department of Labor's South Bronx Job Corps Center, the building remains an important institutional anchor for the Morris Heights neighborhood. With its vocational training curriculum, as well as leadership, volunteer, and community support opportunities for young students, the Center should be considered a constituent for the Harlem River waterfront's revival. *New York City Landmark (1997).*

- ***Kingsbridge Armory (CD7):*** This splendid example of military architecture at the intersection of Kingsbridge Road and Jerome Avenue remains one of New York City's largest and most impressive armories. Completed in 1917 and occupying a full city block, the Romanesque-style fortress, with its towers and crenellated parapets, has been home to the Eighth Coast Artillery—dating to 1786—and was long used by the National Guard. Vacant since 1996, the landmark structure is expected to reopen beginning in 2018 as the Kingsbridge National Ice Center, a nine-rink complex envisioned as the world's largest ice-skating venue. With an anticipated 2 million visitors per year, the center has the potential to be a significant sports, educational, and community destination.[2] Its location at the northern end of Aqueduct Walk and proximity to the greenway connection at W. 225th St. (which becomes W. Kingsbridge) is strategic for tourism development in the BOA vicinity. *National Register of Historic Places (1982); New York City Landmark (1974).*

- ***Edgehill Church of Spuyten Duyvil (United Church of Christ) (CD8):*** Set on a sloping site near the Spuyten Duyvil Focus Area, this small, picturesque church was completed in 1889 as the Riverdale Presbyterian Chapel chiefly to serve workers of the nearby Johnson Iron Foundry, which occupied a peninsula jutting into Spuyten Duyvil Creek. Prominent New York City architect Francis H. Kimball designed an eclectic, Shingle-style structure befitting its rustic setting. Rising above a massive stone base is an asymmetrical composition of imbricated shingles, trefoil-arch windows, and half-timbered gables, expressing a new American freedom in ecclesiastical architecture. The church stands as a neighborhood anchor and one of the few extant links to Spuyten Duyvil's early residential and industrial history. *National Register of Historic Places (1982); New York City Landmark (1980).*

Notes: Historic and Archeologically Significant Areas

1 History narratives and designation dates based on New York City Landmarks Preservation Commission LPC Designation Reports database, accessed June, 2015, http://www.nyc.gov/html/lpc/html/publications/landmark_designations.shtml, with supplemental information from Neighborhood Preservation Center database, accessed June, 2015, http://www.neighborhooNYCParkseservationcenter.org/designation_reports/.

2 "Mayor Bloomberg Announces Plans to Transform Kingsbridge Armory in the Bronx into World's Largest Indoor Ice Facility," April 23, 2013. http://www.nycedc.com/press-release/mayor-bloomberg-announces-plans-transform-kingsbridge-armory-bronx-worlds-largest.

HARLEM RIVER BOA STRATEGIC SITES SELECTION CRITERIA

1. Community Support - Does the area have community support, such as that of a neighborhood association, community group or the Community Board?

No support	0
Community/Issue Group	5
Local Neighborhood Association	10
CB support	15

2. Probability of Change to Promote Vision - Is there a possibility for change that would advance the HR BOA Vision and Goals in the area within the next 20 years, 10 years, or 5 years?

Change unlikely	0
20 years	5
10 years	10
5 years	20

3. Scale – Is the site large enough to support some of the desired programmatic uses in the HR BOA Vision and Goals?

No	0
Only if combined with other site(s); combination does not appear feasible	5
Only if combined with other site(s); combination appears feasible	15
Yes—large, significant site	20

4. Use potential: Is the site strategically located to support a desired recreational use or other key Vision goal?

Not in a desirable location	0
In a moderately desirable location	15
Prime location for recreational/maritime use (e.g. boat house) or other key goal	20

5. Greenway Potential - Could the area support a greenway for use by cyclists and pedestrians?

No greenway	0
On-street greenway	10
Waterfront greenway, disconnected from larger greenway network	15
Waterfront greenway strategically connected to larger greenway network	20

6. Upland Connectivity- Is the area close enough to existing or potential upland access points to promote active use?

No access from upland	0
Future connection possibly feasible	5
Existing upland connection relatively close (c. ½ mile)	10
Existing good upland connection at site	20

7. Access for public - What is the likelihood that the site can be developed in such a way that maximizes public access to the waterfront?

No access	0
Probably private development only, limited access	5
Private development with some public access	15
Public access	20

8. Brownfield remediation potential – Does the site offer strong opportunities for brownfield remediation and other bioremediation environmental clean-up strategies?

No¸ remediation is not feasible or is not needed	0
Limited potential for effective brownfield remediation	10
Good potential for effective brownfield remediation	15
High potential for meaningful brownfield remediation	20

9. Potential for stormwater management to improve water quality – Is the site in a location and of a sufficient size to support green infrastructure (GI) strategies for stormwater management to improve water quality?

No¸ site location and/or lot size would make green infrastructure ineffective	0
Site has limited potential for effective GI systems	5
Site offers good potential for effective GI systems	15
Site is strategically located and large enough for effective GI systems	20

10. Ecological enhancement potential – Does the site offer a strategic location for ecological enhancements and sufficient patch size to be helpful in enhancing biodiversity? (Example: room for native plantings, pollinator & fauna habitat)

No¬¸ site location and/or patch size is inadequate for ecological enhancements	0
Site has limited potential to support ecological enhancements	5
Site offers good potential to support ecological enhancements	15
Site is well located and sized to support meaningful ecological enhancements	20

11. Catalytic Potential – Does the site provide good potential to catalyze positive economic and social impacts within the BOA study area?

No¸ the site location and/or size does not lend itself to catalyzing positive impacts	0
Site has limited potential to catalyze positive impacts	5
Site offers good potential to catalyze positive impacts	15
Site is strategically located and large enough to catalyze positive impacts	20

12. Address Community Needs—Does the site have potential to address needs of the adjacent communities?

No, the site locations and/or size does not lend itself to community needs	0
Site has limited potential to address community needs	5
Site offers good potential to address community needs	15
Site is strategically located and large enough to address community needs	20

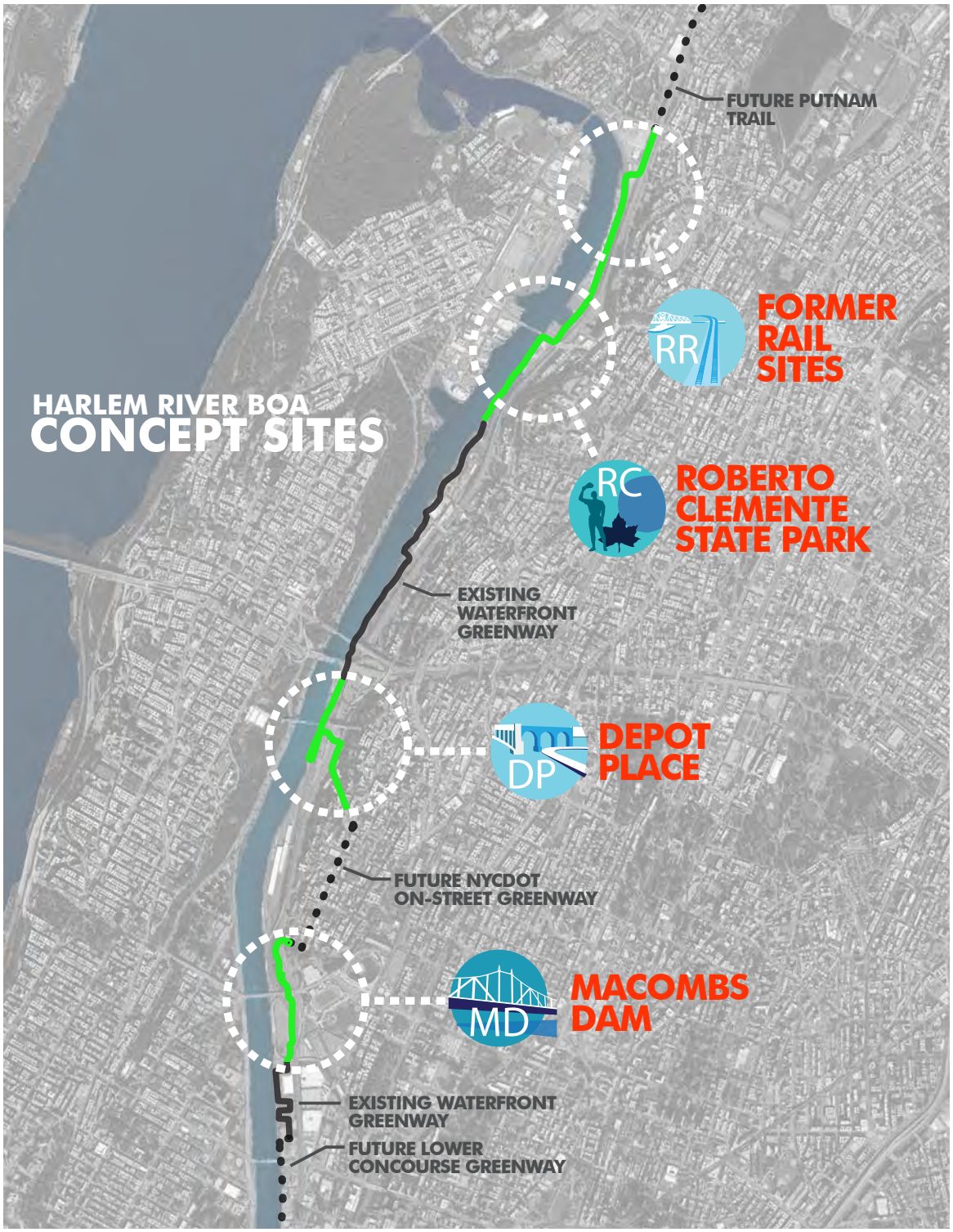


Figure J-1 - Harlem River BOA Concept Site Locations (Source: ABB)

As part of the scope for this Harlem River BOA Step 2 Study, the consultant team was asked by NYC Parks to develop concepts for four key connection points along the Harlem River waterfront. This map summarizes the four proposed Greenway connections for which ABB developed concepts. These are presented as part of the Key Findings and Recommendations, along with conceptual designs and ideas that have been generated by others in previous studies.

Figure K-1- Randall's Island Park Waterfront (Source: RIPA Waterfront Stewardship Activities Booklet (2014))

Case Study: Randall's Island Waterfront

The Randall's Island Park Waterfront is a model for restoring wetlands and other high quality habitats into a public park with educational and recreational benefits. These maps from inspriring educational booklets about stewardship of Randall's Island show shoreline areas replete with bird watching, boat launches, fishing, urban forests, water filtration, wetlands, wildflower meadows, playgrounds, cafes, picnic areas and comforts stations--all connected with pedestrian and bike routes.

Figure K-2. Randall's Island Park Waterfront Stewardship Field Guide (Source: RIPA Waterfront Stewardship Wetlands Poster)

Case Study: Waterwash Wetland
A wetland. shown shortly after installation, reduces pollution into the Bronx River, collecting run-off from an adjacent commercial roof. The project, dubbed Waterwash by its designer, Lillian Ball, was funded through the Bronx River Watershed Initiative.

Tanner Springs Park in Portland, OR, a stormwater wetland park precedent (Photo: N. Byles)

Case Study:
Tanner Springs Park
Tanner Springs Park is constructed on a former contaminated industrial site. The stormwater park captures and treats run-off using natural soil and plant filtration as well as an ultraviolet system. its design uses a variety of recycled materials.

Tanner Springs Park (Photo: N. Byles)

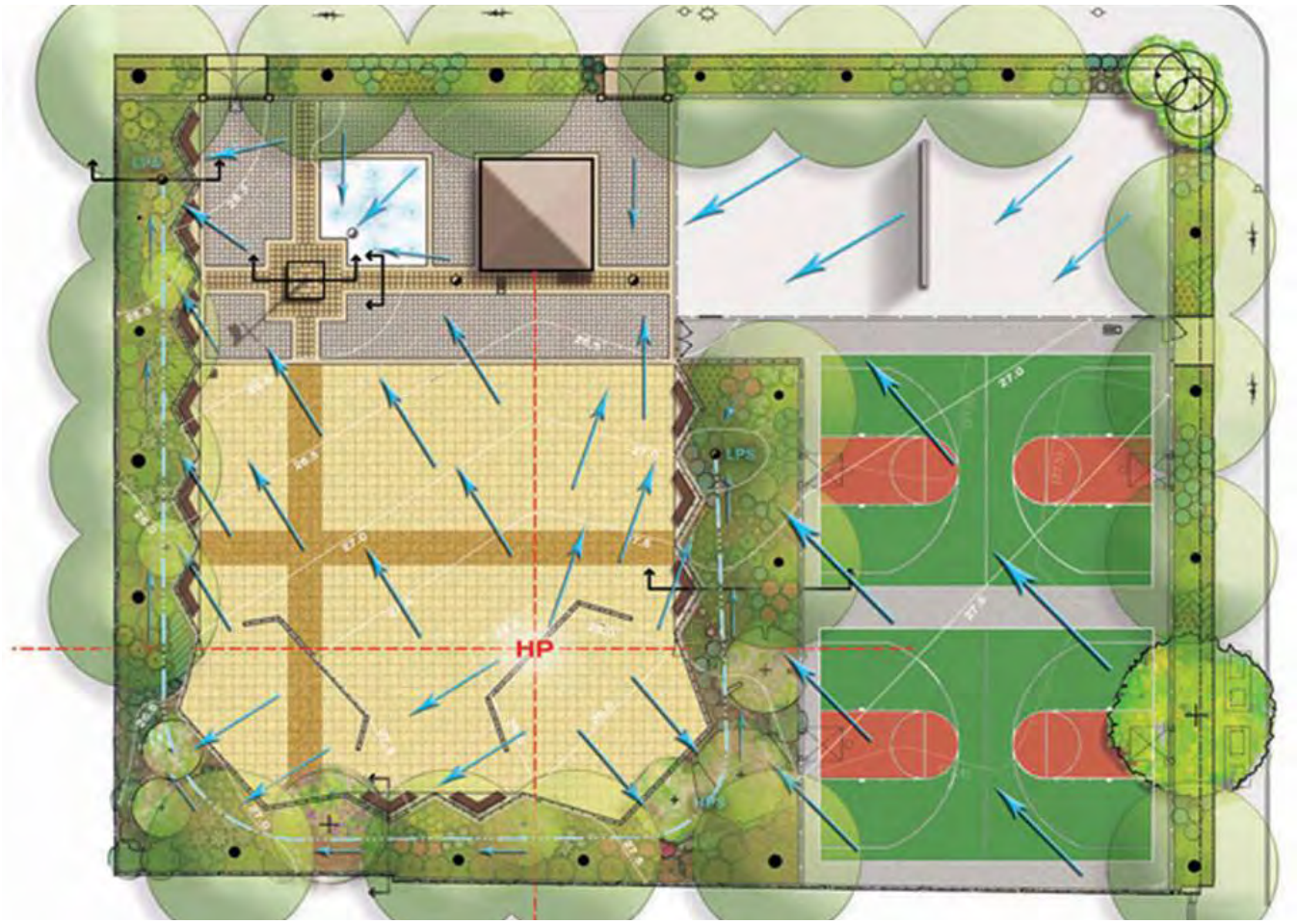


Figure K-3. Plan: Pearly Gates Park Renovation (Source: NYC Parks and S. Koren)

Case Study: Pearly Gates Park
During its 2010 renovation by NYC Parks, a rain garden border was added to capture run-off from court surfaces in order to alleviate flow to overburdened sewer lines to reduce CSO events.

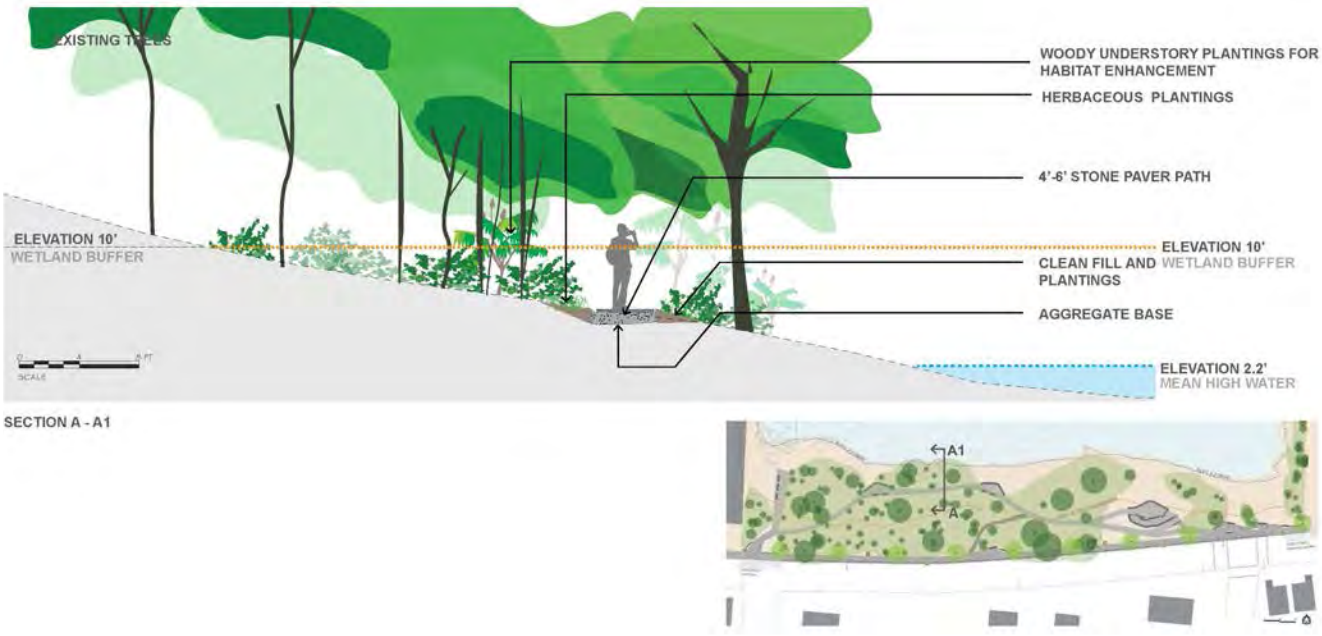


Figure K-4. Van Name/Van Pelt Plaza, Staten Island (Source: NYC Parks)

Case Study: Van Name/Van Pelt Plaza, Staten Island
The NYC Parks design for this waterfront park, which is yet to be constructed, emphasizes shoreline resilience while providing recreational access.

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