

North/West Battery Park City Resiliency Project

Draft Scope of Work to Prepare a Draft Environmental Impact Statement

Battery Park City Authority

October 19, 2022

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SEQR No.: 22BPC001M

SEQR/CEQR Lead Agency: **Battery Park City Authority**

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1 Introduction

1.1 Overview

The Battery Park City Authority (BPCA), as Lead Agency, has determined that implementing the proposed North/West Battery Park City Resiliency Project (referred to herein as the “NWBPCR Project” or “Proposed Project”) requires a number of discretionary actions and may have significant impacts on the environment. Therefore, in accordance with the requirements of 6 NYCRR Part 617 implementing regulations to Article 8 of the State Environmental Quality Review Act (SEQR), BPCA will prepare for public review a Draft Environmental Impact Statement (DEIS) that will disclose potential environmental impacts, propose mitigation that may address those impacts, and evaluate alternatives.

This Scoping Document sets forth the proposed content of the DEIS and provides a summary description of the Proposed Project; a description of alternatives to be evaluated, including the No Action Alternative; and the methodologies for assessing environmental impacts based on SEQR and 2021 *City Environmental Quality Review (CEQR) Technical Manual* guidelines.

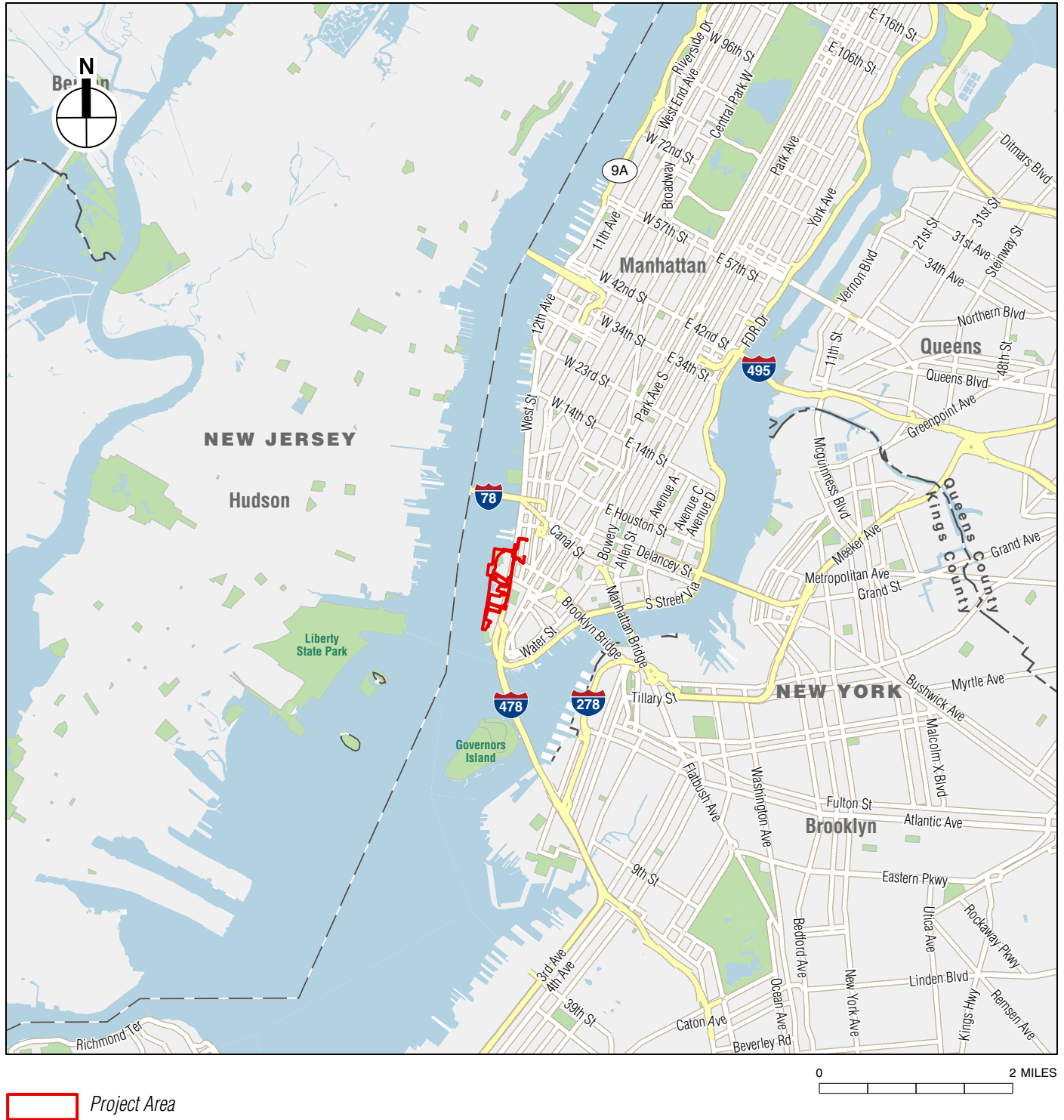
1.2 Background and Description of the Proposed Project

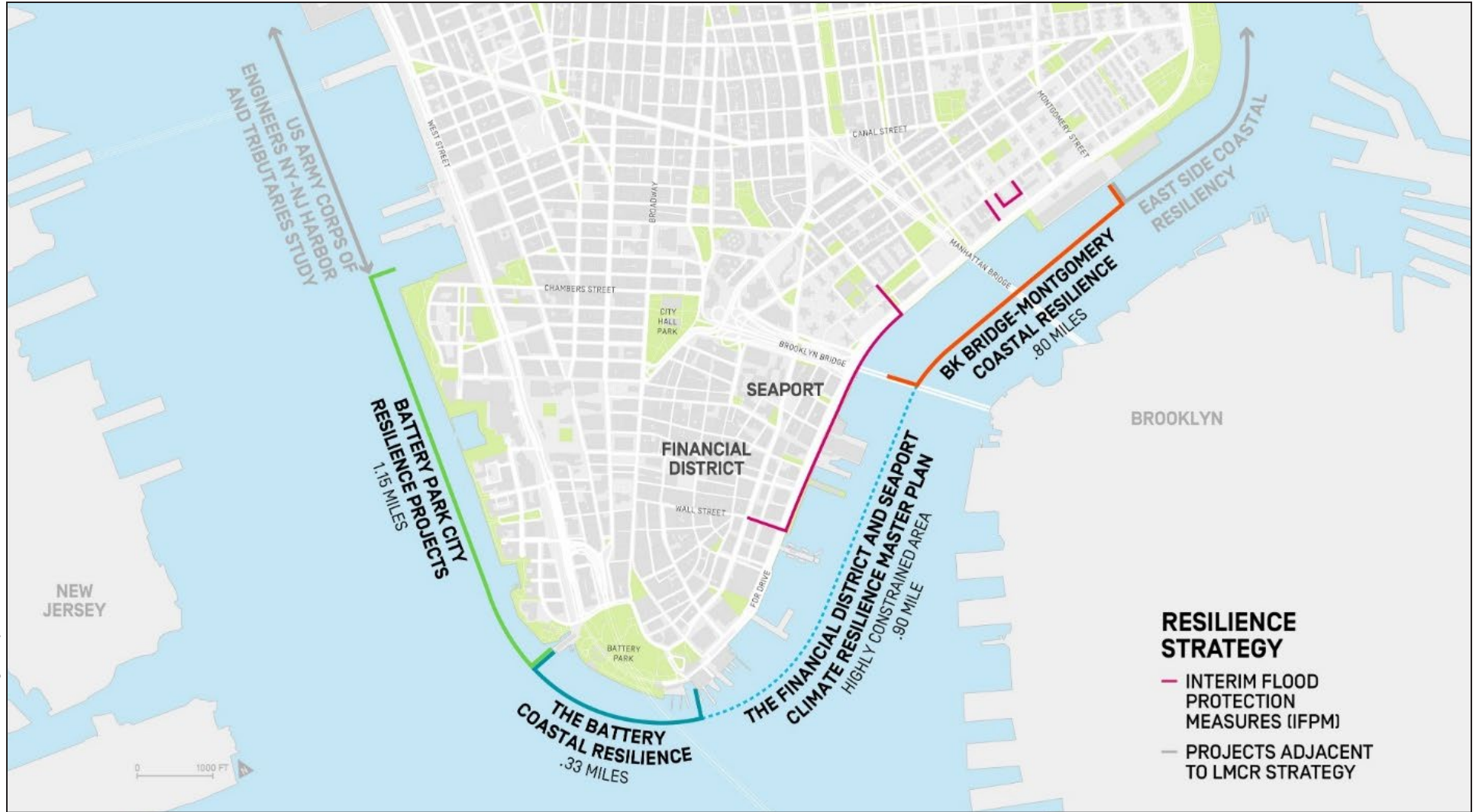
Climate change-induced sea level rise accompanied by more frequent, intense storm events and storm surges are a significant risk to coastal communities, and in 2012 Superstorm Sandy accentuated the impacts of these types of events in the New York City area. In anticipation of the need for coastal protection against future severe storms and sea level rise, the NWBPCR Project has been proposed by BPCA to be designed in coordination with a broader coastal flood risk management system for Lower Manhattan (see **Figure 1**) that includes several separate and distinct projects, specifically the South Battery Park City Coastal Resiliency Project (SBPCR Project), the Battery Coastal Resilience Project, Financial District and Seaport Master Plan, the Seaport Coastal Resilience Project, and the Brooklyn Bridge-Montgomery Coastal Resilience Project that collectively will support the overall Lower Manhattan Coastal Resiliency (LMCR) Strategy and reduce vulnerability to coastal floods (see **Figure 2**).

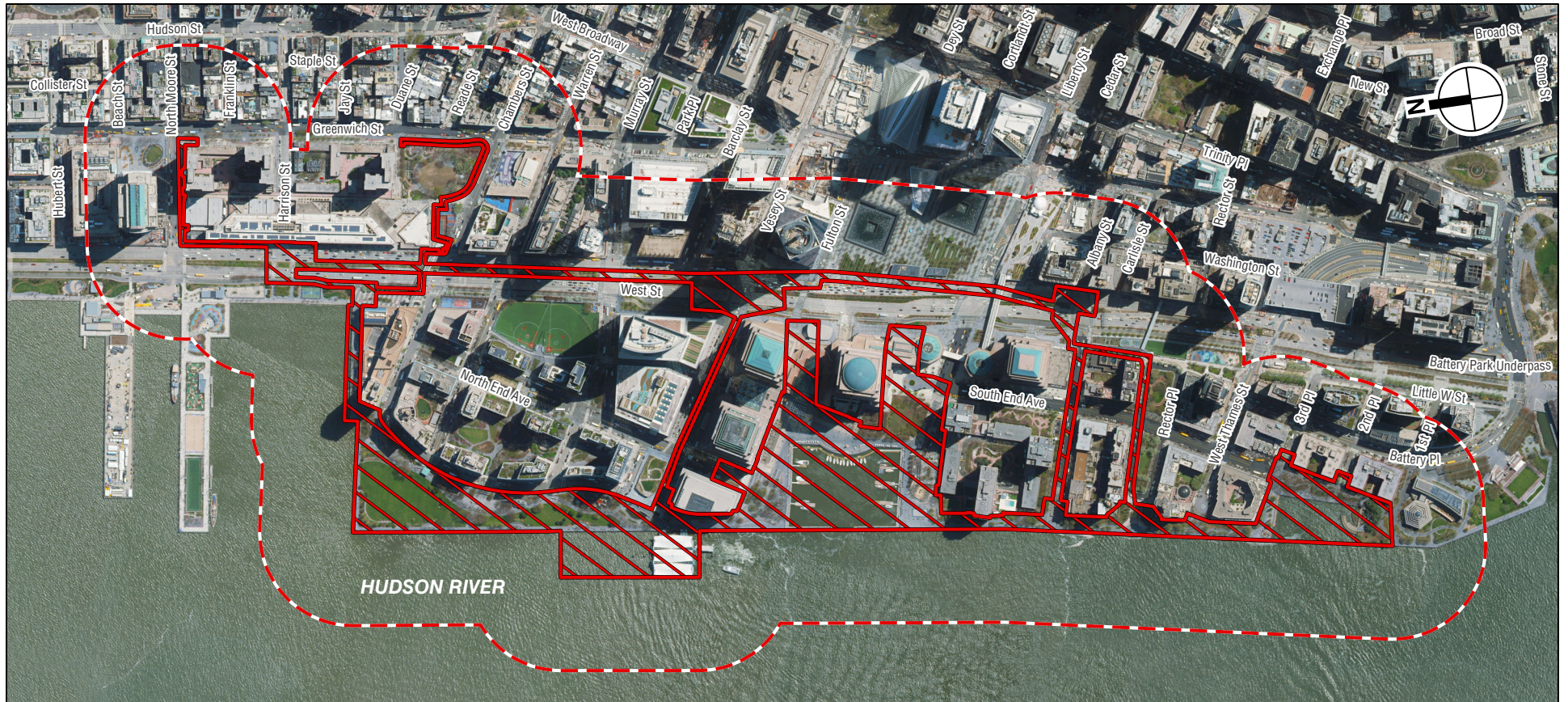
The NWBPCR Project Area (Project Area), defined herein as the area in which direct physical disturbance is necessary to implement the project, extends from South Cove in Battery Park City’s (BPC) south neighborhood (where it would connect with the SBPCR Project at 1st Place) northward to the North Esplanade with an alignment continuing across Route 9A (West Street) either at Chambers Street or further north at North Moore Street, and continuing east before terminating at an upland limit on Greenwich Street (see **Figure 3**). The NWBPCR Study Area (Study Area), which extends beyond the Project Area, varies by technical analysis area, but is generally within 400 feet of the Project Area (see **Figure 3**). Foundations for the flood barrier system are anticipated to extend 50 to 90 feet below the ground surface, pending final geotechnical investigation and final foundation design.

The NWBPCR Project is being designed to provide flood risk reduction for the proposed protected area for 2050s 100-year storm events, inclusive of rainfall, coastal surge, and predicted sea level rise (see **Figures 4 and 5**). It is one of three resiliency projects having been undertaken by BPCA to address flood risk reduction within the 92-acre Battery Park City property. The other two projects are the Battery Park City Ball Fields and Community Center Resiliency Project and the SBPCR Project (see **Figure 6**). The proposed flood barrier system is also being designed to provide protection against 100-year storm events inclusive of the 90th percentile projection for sea level rise for the 2050s, with adaptability for future conditions considered as well (see **Figure 6**).

The proposed flood barrier system would include passive structures (e.g., above-grade concrete walls, below grade concealed walls, etc.) with deployable structures at vehicle and pedestrian crossings (see

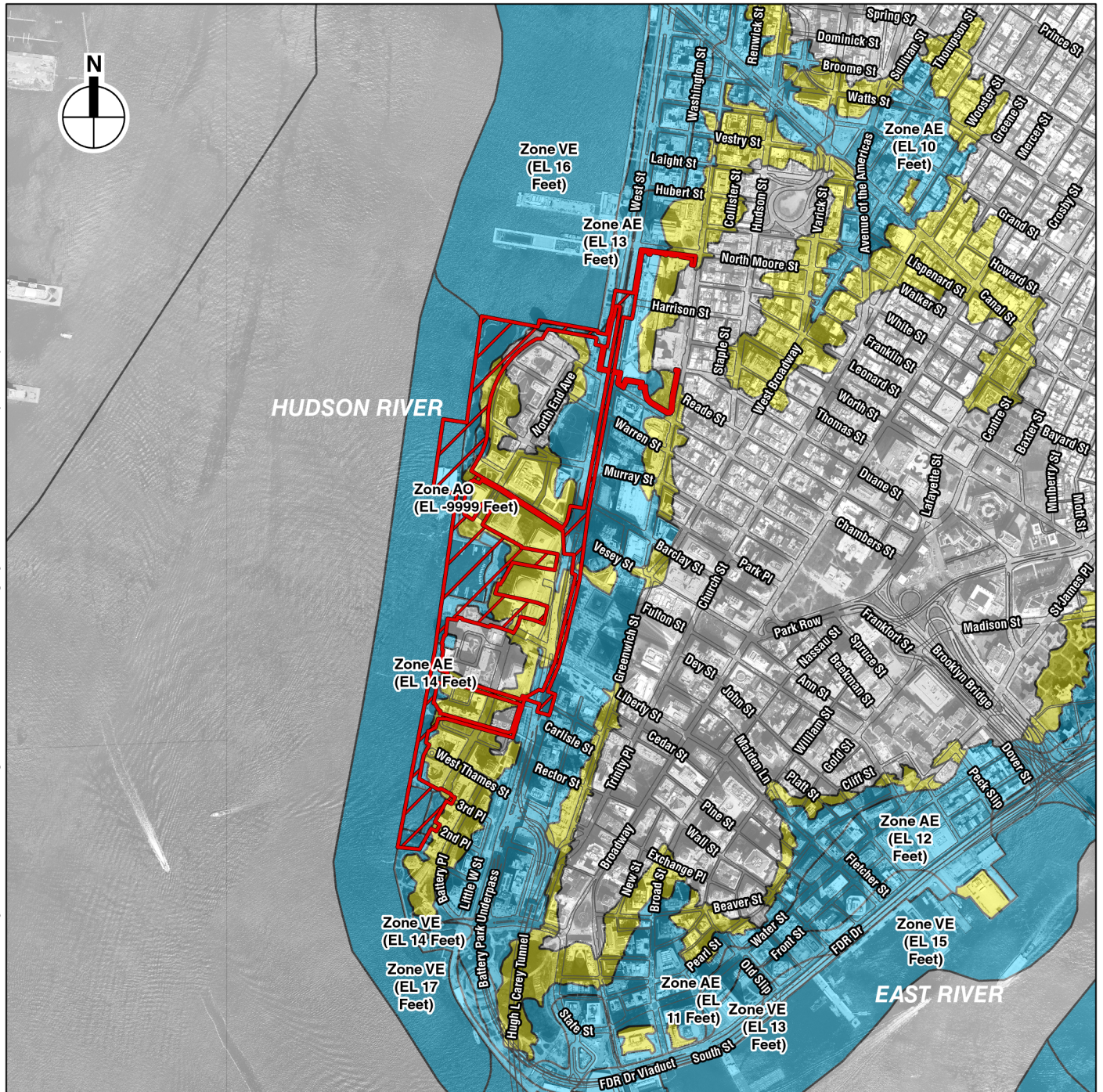






-  Project Area
-  Study Area (400-foot perimeter)

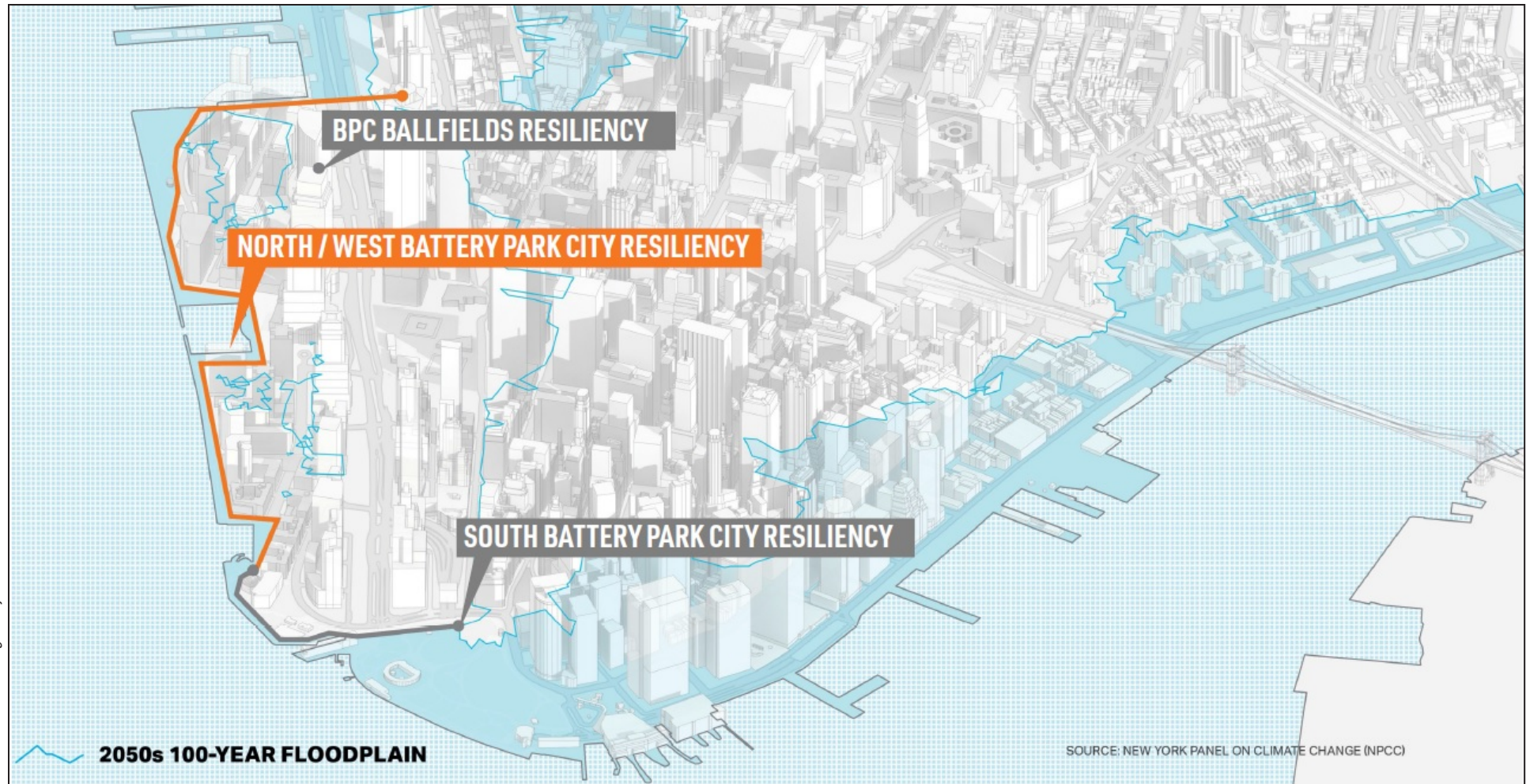
0 1,000 FEET



-  Project Area
-  Limit of Moderate Wave Action
-  1% Annual Chance of Flooding
-  0.2% Annual Chance of Flooding

FEMA Preliminary FIRM 2015
Figure 4





Figures 7 and 8). As described in this scope, the term “flood barrier system” is used to identify this potential combination of flood barrier measures. In describing the location of the proposed flood barrier system protection measures, the term “flood barrier alignment” is used. In addition, to protect against interior flooding, improvements are proposed to the City’s drainage infrastructure, including the isolation of the existing underground sewer components. The proposed flood barrier alignment would span the Port Authority Trans-Hudson (PATH) tunnels that run beneath the Project Area; the Port Authority of New York and New Jersey has separately implemented measures to provide flood protection for its assets. For more information on the proposed flood barrier system, its alignment and associated improvements, see Section 3.1 and **Figure 9**.

Battery Park City was planned and developed according to a Master Plan adopted in 1979 and is partially situated on filled land created by construction of the World Trade Center during the late 1960s and the early 1970s. A key feature is its waterfront esplanade and open spaces to the west (or riverside) of the developed structures.¹

Rockefeller Park in the north neighborhood of BPC provides the majority of BPC’s recreational lawn with a large playground, plantings and gardens, several public art pieces, and a sheltered pavilion. This park is named in honor of Governor Nelson A. Rockefeller who signed the Battery Park City Authority Act in 1968 establishing Battery Park City for generations of New Yorkers and visitors. Rockefeller Park opened in 1992 and was designed by the architecture firm Carr, Lynch, Hack, and Sandell and landscape architects Oehme Van Sweden and Donna Walcavage.

The Battery Park City Esplanade was designed by landscape architecture firm Hanna Olin and opened in phases between 1986 and 1996. It runs the entire length of Battery Park City’s Hudson River waterfront from Wagner Park in the south to Stuyvesant High School in the north. The esplanade provides expansive views of the Hudson River and New York Harbor, the Statue of Liberty, Ellis Island, and the New Jersey waterfront. There are also landscaped parks and gardens inland from the esplanade with memorials, sculptures, and public art installations.

Belvedere Plaza was designed by the architecture firm Mitchell Giurgola, the landscape architecture firm Child Associates, and the artist Martin Puryear. It opened in 1995 and is a semicircular redoubt.

North Cove was designed by the artists Scott Burton and Siah Armajani, the architect Cesar Pelli, and the landscape architect M. Paul Friedberg. It includes the North Cove Marina, which provides public access to the waterfront with views of the Hudson, as well as a marina with recreational, commercial, and public boat slips.

South Cove is the result of a collaboration between the artist Mary Miss, the landscape architect Susan Child, and the architect Stan Ecksut. South Cove opened in 1988 and incorporates natural materials, plantings, and constructed elements to create a public open space at the water’s edge.

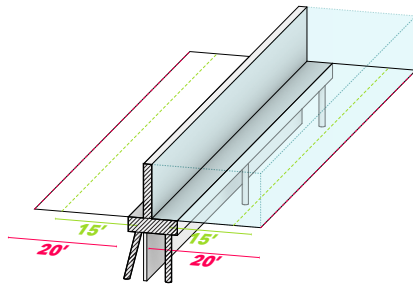
1.3 Purpose and Need

As stated above, climate change-induced sea level rise with the prediction of more frequent, intense storm events and storm surges poses a significant risk to coastal communities and in 2012, Superstorm Sandy accentuated the impacts of these types of events in the New York City area. Many coastal communities like Lower Manhattan face the significant challenge of identifying how to address these types of impacts to create more resilient places to live and work, while simultaneously prioritizing design strategies that improve the quality of life and livability in city spaces. Innovative design strategies are

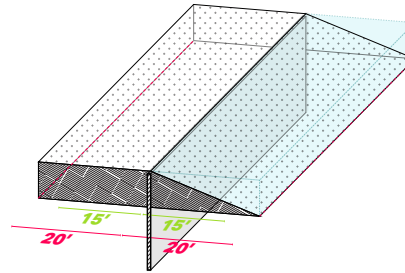
¹ <https://bpca.ny.gov/places/parks/>

INFRASTRUCTURE TOOLKIT | PASSIVE TREATMENTS

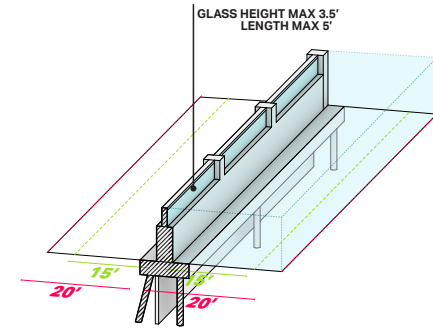
--- No tree zone
--- Construction Area



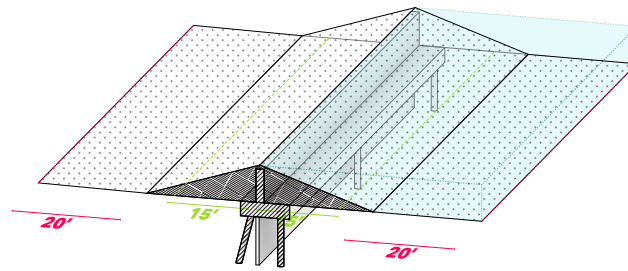
FLOODWALL



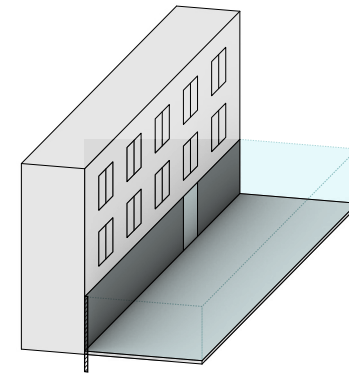
CONCEALED FLOODWALL



GLASS-TOPPED WALL



NON-STRUCTURAL BERM

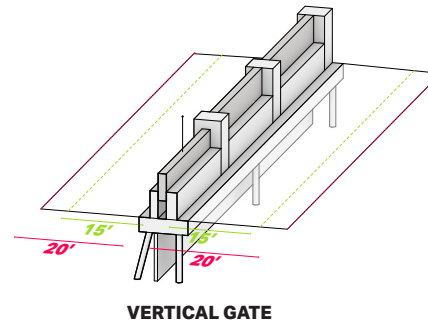
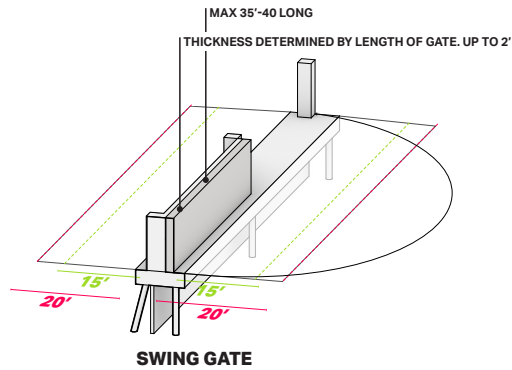
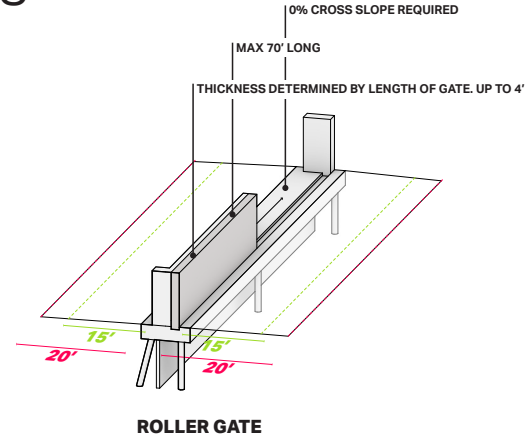
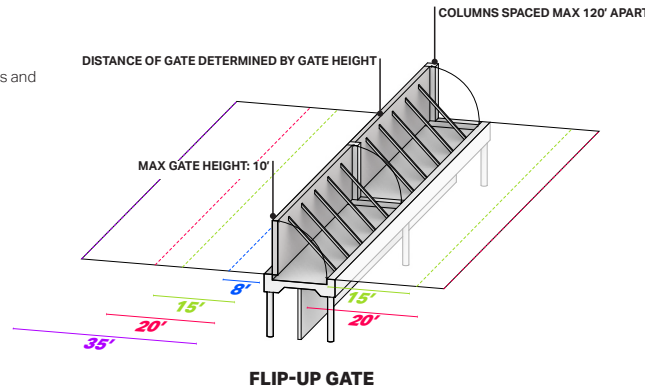


BUILDING LEVEL FLOOD-PROOFING

INFRASTRUCTURE TOOLKIT | DEPLOYABLES

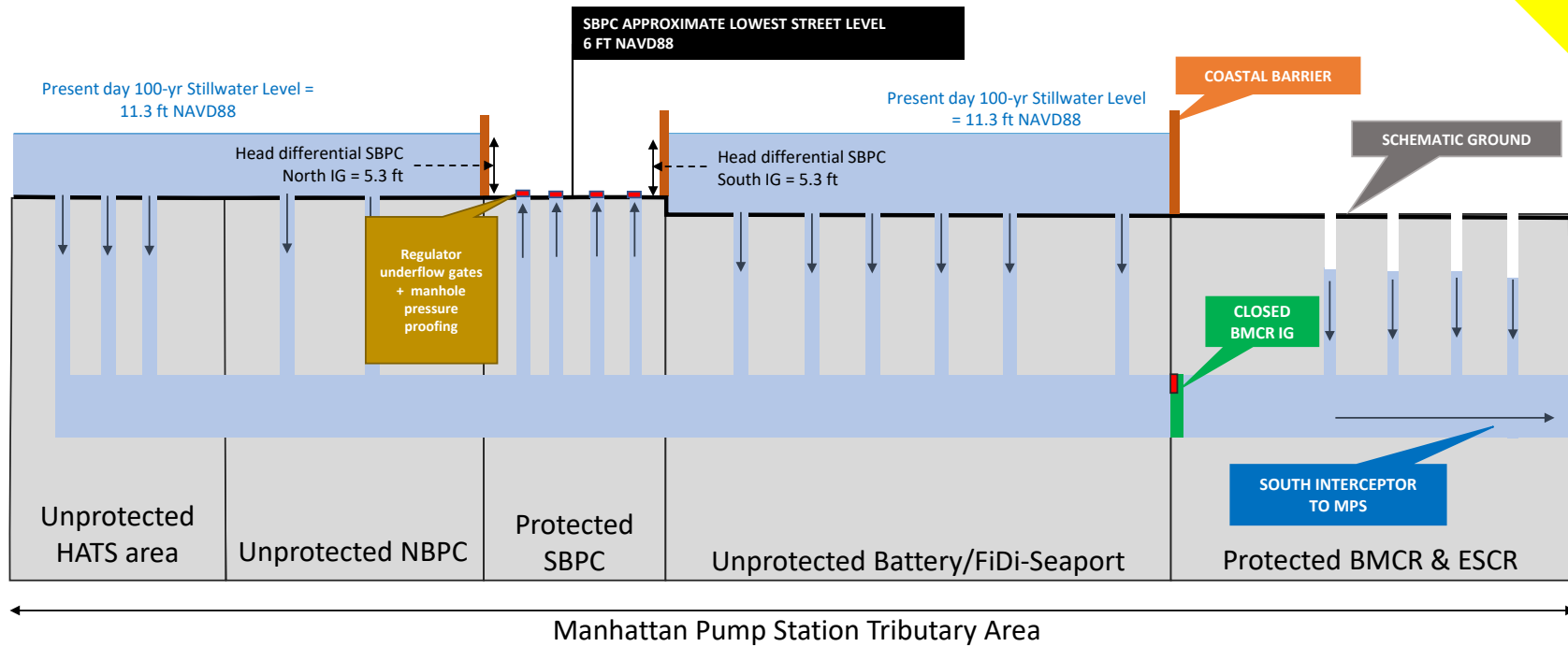
- No tree zone
- Construction Area
- Manual Deployment
- Vehicular Deployment

*All deployables require power units and manual deployment system



CONCEPTUAL NEAR-SURFACE ISOLATION

DRAFT



***Requires assessment of existing conditions and intervention on multiple regulators and interceptor manholes.**

required to implement multi-purpose resilient systems that also maintain and enhance development and open space goals of coastal communities.

The NWBPCR Project's primary goal is coastal storm flood risk reduction within and inland of Battery Park City. To achieve this goal, a flood barrier alignment is proposed between South Cove in the south neighborhood (where it would connect with the SBPCR Project) and the North Esplanade in the north neighborhood. Since provision of coastal storm surge protection requires connecting to higher ground inland, the proposed alignment would continue across Route 9A (West Street) either at Chambers Street or further north at North Moore Street, and continue east before terminating at an upland limit on Greenwich Street (see **Figure 3**). It is proposed to achieve the goal of coastal storm risk reduction by implementing flood barrier measures integrated into the public realm meeting the design criteria for a 2050s 100-year storm event, inclusive of increased intensity and frequency of rainfall, coastal surge, and predicted sea level rise (corresponding to the 90th percentile projection for the 2050s). It is the objective of the NWBPCR Project, once installed, to be accredited by the Federal Emergency Management Agency (FEMA). Accreditation requires a FEMA review of as-built plans and verification that the flood barrier system meets all pertinent requirements and achieves acceptable risk reduction in practice. FEMA accreditation will remove the project area from the current flood zone. As a result, owners in the area who have a federally backed mortgage would no longer be required to obtain flood insurance.

In summary, the principal purposes of the NWBPCR Project are to:

- Provide a reliable coastal flood barrier system to provide risk reduction to property, residents and assets within the vicinity of Battery Park City that addresses the design storm event;
- Preserve, enhance, and protect to the maximum extent practicable and integrate to the proposed design the open space and waterfront cultural resources of Battery Park City;
- Preserve and enhance the character, accessibility, including universal access, and design aesthetic of the community and its interface with the BPC waterfront and access to coastal view sheds, particularly views of the Hudson River, the New York Harbor, and the Statue of Liberty; and
- Avoid or minimize disruption to existing below and above-ground infrastructure (i.e., water and sewer infrastructure, tunnels, utilities, etc.) from both construction impacts and flood events.

Specific objectives of the NWBPCR Project are to:

- Provide a reliable and adaptable coastal flood barrier system that minimizes risk and the need for operational interventions by relying on passive flood control rather than mechanical "deployable" flood barrier systems to the extent practicable;
- Minimize urban heat island effect and enhance outdoor occupant thermal safety to the extent practicable;
- Construct and operate the project in an environmentally responsible manner; and
- Utilize cost-effective low-impact solutions to maximize capital investment over the lifespan of the NWBPCR Project.

2 State Environmental Quality Review Act (SEQR) Process

The SEQR process provides for the consideration of environmental impacts in the early planning stages of the approval, funding, or permitting process for proposed actions. By incorporating a systematic interdisciplinary approach to environmental review, impacts can be identified and avoided or minimized to reduce the potential for significant adverse impacts to the environment to the maximum extent practicable. All discretionary decisions of a state, regional, or local agency to approve, fund, or directly undertake an action that may affect the environment are subject to review under SEQR. It is the intent of SEQR that protection and enhancement of the environment and community resources be balanced with social and economic factors in the decision-making process. As the Proposed Project is being developed by a State Authority, BPCA will serve as the Lead Agency in this process and will prepare the EIS using analysis guidelines established in the New York City Environmental Quality Review (“CEQR”) and contained in the *CEQR Technical Manual*.

2.1 Classification and Lead Agency Designation

In accordance with 6 NYCRR Part 617, the Proposed Project has been classified as a Type 1 action, as section 617.4(b)(10) includes “any Unlisted action, that exceeds 25 percent of any threshold in this section, occurring wholly or partially within or substantially contiguous to any publicly owned or operated parkland, recreation area or designated open space, including any site on the Register of National Natural Landmarks pursuant to 36 CFR part 62.” One such threshold for a Type 1 action is the physical alteration of 10 acres of land. Under section 617.4(b)(10), the Type I threshold would be met if there is an Unlisted action proposed within or directly adjacent to a publicly owned parkland or open space that would result in physical alteration of 25 percent of that threshold, or disturbance of 2.5 acres. As the NWBPCR Project would result in the physical alteration of more than 2.5 acres of land wholly or partially within or substantially contiguous to any publicly owned or operated parkland, this threshold is met. On February 18, 2022, BPCA initiated a Coordinated Review of the Proposed Project to request Lead Agency designation and to solicit comments from all Involved and Interested Agencies.

2.2 Purpose of the Scoping Process

To ensure that the DEIS addresses all potentially significant environmental impacts identified by the Lead Agency in Parts 2 and 3 of the Environmental Assessment Form (EAF) and the Positive Declaration, and pursuant to 6 NYCRR Part 617.8(a) of the implementing regulations of SEQR, a formal scoping process has been initiated with the release of this Draft Scope of Work to establish a framework for preparing the DEIS and identifying potentially significant adverse impacts. To that end, this Draft Scoping Document has been prepared pursuant to 6 NYCRR 617.8(b) to outline the topics and analysis methodologies to determine those potential significant environmental impacts and has eight objectives:

- 1) focus the DEIS on the potentially significant adverse environmental impacts;
- 2) identify the relevant environmental impacts;
- 3) eliminate irrelevant impacts or issues;
- 4) identify the extent and quality of information needed;
- 5) list available sources of information;
- 6) specify methods or models to be used to generate new information;
- 7) identify the range of reasonable alternatives to be discussed; and,
- 8) specify possible measures for mitigation of potential impacts.

As part of the scoping process, and in accordance with SEQR, this Draft Scoping Document is available for agency and public review and comment via BPCA's website. A notice of scoping was also published in the New York State Department of Environmental Conservation (NYSDEC) Environmental Notice Bulletin (ENB), announcing the public comment period and the date for the Scoping Meeting. Following agency and public comment, a Final Scoping Document will be prepared and will respond to comments received on this Draft Scoping Document and guide the content and impact methodologies to be provided in the DEIS. Similarly, after the DEIS is circulated for public review and comment, a Public Hearing will be conducted to receive comments. There will also be the opportunity to comment on the DEIS following the close of the Public Hearing. Following the DEIS public comment period, BPCA will prepare responses to the comments, develop the Final EIS, and issue SEQR Findings.

2.3 Potential Regulatory Permitting, Approvals, and Coordination

Implementation of the Proposed Project would require federal, state, and local approvals involving the following agencies:

2.3.1 Federal

- U.S. Army Corps of Engineers (USACE) – Permits or authorizations for activities in Waters of the United States (Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act).
- As part of the USACE permitting process, coordination with the U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) – Advisory agencies to the federal permitting process focusing on activities that affect wetlands, water quality, protected plant and wildlife species, and essential fish habitat.
- U.S. Coast Guard (USCG) – Coordination and authorization, as needed (e.g., temporary siting of construction barges).
- Federal Emergency Management Agency (FEMA) – Letter of Map Revision (LOMR) revising the current Flood Insurance Rate Maps (FIRM) to show changes based on the flood barrier design and construction.

2.3.2 State of New York

NYSDEC – Permits related to activities in tidal wetlands or adjacent areas (Article 25) or protection of waters (Article 15) including the underwater land adjacent to the north esplanade, Water Quality Certification (Section 401); permits related to the State Pollutant Discharge Elimination System (SPDES) program; and approvals related to the import of fill material requiring Beneficial Use Determination.

As part of the NYSDEC permitting and the environmental review processes the following coordination would also be performed with New York State agencies:

- New York State Department of State (NYSDOS) – Coastal Zone Consistency Determination.
- New York State Office of Parks, Recreation and Historic Preservation (OPRHP) /New York State Historic Preservation Office (SHPO) – Consultation on federal and state review process pursuant to Section 106 of the National Historic Preservation Act (NHPA) and/or Section 14.09 of the State Historic Preservation Act (SHPA) with respect to designated and protected properties on the State and National Registers of Historic Places and properties determined eligible for such listing.
- New York State Department of Transportation (NYSDOT) – Design coordination as needed, and issuance of Highway Use and Occupancy Permit and construction permits for work within the NYSDOT-owned right-of-way (ROW) within Route 9A (West Street).

- Dormitory Authority of the State of New York (DASNY) – Coordination for proposed work with the potential for effects to the Borough of Manhattan Community College (BMCC).
- New York State Office of General Services (NYSOGS) Bureau of Land Management – Coordination on temporary relocation of ferry terminal
- Hudson River Park Trust (HRPT) – Design coordination as needed for work within and along the Park, as well as potential need for legislation to change the southern boundary of the HRPT jurisdiction to facilitate proposed work at the North Esplanade.

2.3.3 City of New York

- New York City Department of Environmental Protection (NYCDEP) – Review of design for project elements that may require modification of the City sewer system.
- New York City Department of Transportation (NYCDOT) – Coordination/review for flood barrier elements, bike lane, lighting, and other work in NYCDOT ROW, including a revocable consent for flood barrier elements in the public ROW.
- New York City Department of City Planning (NYCDCP) – Consistency determination under the Waterfront Revitalization Program and Uniform Land Use Review Procedure (ULURP) actions, as needed.
- New York City Landmarks Preservation Commission (NYCLPC) – Advisory agency for activities on or near sites of potential historical or archaeological significance.
- New York City Transit Authority (NYCTA) – Coordinate if any permanent or temporary impacts to bus routes/stops on in the Project Area.
- New York City Police Department (NYPD) – Obtain approval for bollard and security design.
- New York City Fire Department (FDNY) – Coordinate access requirements and impact to FDNY facilities and conduits within the right-of-way.
- New York City Department of Parks and Recreation (NYC Parks) – Permits for street tree pruning and removal, construction near street trees, or actions within City parkland.
- New York City Department of Small Business Services (NYCSBS) – Review of design, plan approval, and work permit for project elements on NYCSBS managed property and review and approval of waterfront construction permits.
- New York City Department of Citywide Administrative Services (NYC DCAS) – Review and coordination related to proposed work adjacent to DCAS property.
- New York City Public Design Commission (PDC) – Design review of project elements within City-owned land.
- School Construction Authority (SCA) – Coordination and review of project elements that relate to Stuyvesant High School.

2.3.4 Regional Agencies

- Port Authority of New York and New Jersey (PANYNJ) – Approval for alignment crossings over the PATH Tunnels and potential coordination for temporary terminal relocation of the BPC Ferry Terminal.

3 Description of the Proposed Project

3.1 Overview of the Proposed Project

The Proposed Project is located in Lower Manhattan, and includes the installation of a flood barrier system within Battery Park City along the Hudson River waterfront between 1st Place in the south and the BPC North Esplanade in the north; the flood barrier alignment then continues across Route 9A (West Street) either at Chambers Street or further north at North Moore Street, and continues east before terminating at an upland limit on Greenwich Street (see **Figure 3**). In addition to the flood barrier systems, interior drainage improvements would be included, such as a near surface isolation (NSI) system along Route 9A (West Street). Additionally, six tide gates are proposed along the flood barrier alignment on Chambers Street, Albany Street, Rector Street, south of the Irish Hunger Memorial at Vesey Street, near Rector Park, and near Stuyvesant Plaza immediately east of Stuyvesant High School (see **Figure 9**).

For analysis purposes the Project Area has been organized into seven reaches, which are, from north to south (see **Figure 10**):

- Reach 1 – Route 9A (West Street) Crossing/Tribeca;
- Reach 2 – North Esplanade;
- Reach 3 – Rockefeller Park;
- Reach 4 – Belvedere Plaza;
- Reach 5 – North Cove;
- Reach 6 – South Esplanade; and
- Reach 7 – South Cove

A description of existing conditions, key features, and flood barrier considerations in each reach is as follows.

3.1.1 Reach 1 – Route 9A (West Street) Crossing/Tribeca

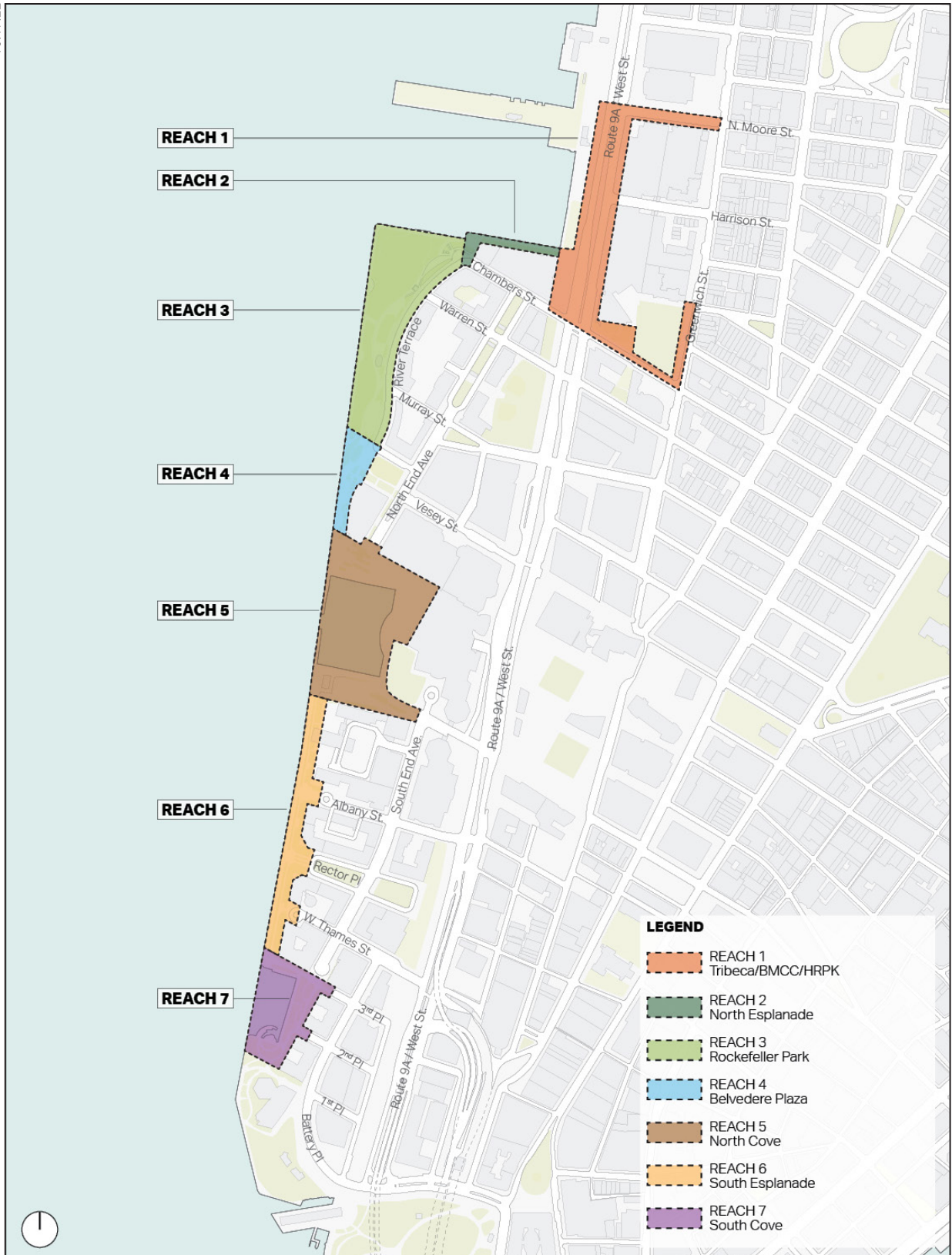
Reach 1 consists of the “tie-back” to the inland flood barrier limits which are outside of BPCA property. The inland extent of Reach 1 therefore extends to approximately the intersection of Greenwich Street and either North Moore Street or Chambers Street. The inland extent is subject to final design. Reach 1 also includes a crossing of Route 9A (West Street), and potential alignment locations paralleling the Hudson River Greenway bikeway/walkway both of which are maintained by NYSDOT, as well as an alignment that parallels Chambers Street. In addition to the Hudson River Greenway and Route 9A (West Street), key uses along this reach include the Borough of Manhattan Community College (BMCC), Independence Plaza, Washington Market Park and Hudson River Park.

Reach 1 is approximately 1,430 linear feet in length and totals approximately 2.0 acres in size.

3.1.2 Reach 2 – Battery Park City North Esplanade

Reach 2 is comprised of the BPC North Esplanade between the intersection of Chambers Street and River Terrace, and the Hudson River Greenway and Route 9A (West Street). The Battery Park City Esplanade in this reach is a primary pedestrian, bicycle, and emergency and maintenance vehicular access point to Rockefeller Park and Battery Park City. Along the east boundary of this segment are access and egress points connecting the esplanade with Stuyvesant High School and Tribeca Pointe Apartments.

Reach 2 is approximately 485 linear feet in length and totals approximately 0.7 acres in size.



3.1.3 Reach 3 – Rockefeller Park

Reach 3 includes Rockefeller Park, which at approximately 8 acres is the largest contiguous open space in Battery Park City and contains the majority of the open lawns in the BPC park system. Rockefeller Park also includes the Rockefeller Park Playground, basketball courts, restrooms, and artwork.

Reach 3 includes the BPC waterfront from the North Esplanade south to the southern end of Rockefeller Park's South Meadow and is bounded to the east by River Terrace. There are several residential buildings adjacent to this Reach, including Tribeca Park, The Solaire, River & Warren, and Riverhouse.

Reach 3 is approximately 1,700 linear feet in length and totals approximately 6.5 acres in size.

3.1.4 Reach 4 – Belvedere Plaza

Reach 4 includes approximately 500 linear feet of the Battery Park City Esplanade and adjacent Belvedere Park and Plaza, south of Rockefeller Park's South Meadow. Features in this reach include the Lily Pond, the Battery Park City Ferry Terminal access, the commercial office building at 300 Vesey Street and the open spaces surrounding the Irish Hunger Memorial.

Reach 4 is approximately 500 linear feet in length and totals approximately 1.4 acres in size.

3.1.5 Reach 5 – North Cove

Reach 5 includes the North Cove Marina and surrounding open spaces, collectively referred to as North Cove. North Cove includes multiple distinct active and passive use areas situated within the terraced plaza surrounding the marina. North Cove provides access to Brookfield Place, is directly adjacent to the Winter Garden and is the location for seasonal temporary programming. Permanent programming in North Cove includes outdoor dining, the Sirius Dog Run, Kowsky Playground, and the NYC Police Memorial.

Reach 5 is approximately 8.7 acres and extends approximately 1,630 linear feet along the waterfront spanning the marina entrance.

3.1.6 Reach 6 – South Esplanade

Reach 6 includes the Battery Park City Esplanade between Esplanade Plaza at the southern terminus of North Cove to the northwest corner of 21 South End Avenue (The Regatta Building). Three streets intersect with the Battery Park City Esplanade in Reach 6: Albany Street, Rector Place, and West Thames Street. Along this Reach are several residential buildings, including Gateway Plaza, Hudson Tower, Liberty House, Liberty Terrace, and The Regatta Building. The limits of work in this Reach include the areas landward of the Esplanade at these intersections, including several public art installations.

Reach 3 is approximately 1,500 linear feet in length and totals approximately 2.8 acres in size.

3.1.1 Reach 7 – South Cove

Reach 7 is the South Cove and adjacent upland esplanade and includes an artist-designed landscape as well as tie-in to the South Battery Park City Resiliency Project at 1st Place. This reach begins at the southwest corner of The Regatta Building at 21 South End Avenue and extends south along the water's edge to the 1st Place right-of-way corridor. There are several residential buildings along this Reach, including Cove Club, River Watch, and South Cove Plaza.

Reach 7 is approximately 950 linear feet in length and totals approximately 2.7 acres in size.

3.2 Proposed Design Elements

This section describes the key design elements of the Proposed Project including the flood barrier elements and interior drainage improvement measures. Once all the approvals are issued, construction is expected to begin in 2024 and be completed in 2027. **Figures 7 and 8** provide illustrations of the types of flood barrier measures proposed, which are described in greater detail below.

3.2.1 Design Flood Elevation

The Preliminary Design Flood Elevation (DFE) varies across the project segments. The DFE is highly sensitive to surface water conditions and flood conditions and wave effects. Ranges of DFEs are along different alignments and at different points in the Project Area are shown on **Figure 11**, and, given the sensitivity to various preliminary design assumptions, are subject to change as design development proceeds and coastal modeling is performed. The required Heights of Intervention (HOIs) also vary across the Project's flood barrier alignment. The HOI for a project location will be determined by subtracting the elevation of the existing grade from the proposed DFE.

3.2.2 Flood Barrier Elements

As stated above, the flood barrier system would be comprised of passive and deployable flood barrier elements such as floodwalls and floodgates. Typical passive flood barrier components include above grade floodwalls, concealed and/or buried floodwalls. Illustrations of these typical passive flood barrier components are shown in **Figure 7**. All the typical passive flood barrier elements require a 15-foot no tree zone, as to not compromise the structural integrity of the passive structures, as well as a 35-foot construction area. Typical deployable flood barrier components, or floodgates, include flip-up-gates, roller gates, swing gates, and vertical gates. **Figure 8** provides illustrations of typical deployable structures. Deployable structures require manual deployment, which require approximately minimum 8 feet of clearance, while other deployable structures require vehicular deployment, which require approximately 35 feet of clearance. Piles to support the foundation for the flood barrier system are anticipated to extend to bedrock (50 to 90 feet below the ground surface) in several areas, pending final geotechnical investigation and final foundation design. Foundations for the flood barrier system would extend 2 to 15 feet below the ground surface depending on whether the section of the system is or is not pile supported. In addition, a seepage barrier under the flood barrier system would extend 15 to 20 feet below ground level. This barrier would consist of a low permeability soil mix to minimize flow under the barrier during storm surge conditions.

3.2.3 Interior Drainage Improvements

Interior drainage improvements are also proposed to prevent storm surge from unprotected areas from entering the Project Area through the sewer system and to handle runoff and combined drainage that may accumulate within the protected area during the storm event. As described below, the NSI system approach is proposed to manage storm surge through the existing interceptor sewer. A concept of the proposed interior drainage interceptor isolation method is provided in **Figure 9**.

Near Surface Isolation System (NSI System)

Under this design approach, a n NSI system is proposed to prevent storm surge from entering the protected area. The NSI system would consist of a slide gate within the existing regulator structures, M4, M5, and M6, which would then be closed in a flood event to prevent the storm surge from rising through the regulator's underflow connections to the interceptor line and flooding the streets. Access manholes to these regulator chambers would also be pressure proofed as necessary. Additionally, up to eight interceptor manholes



Preliminary Design Flood Elevation Overview
Figure 11

along Route 9A (West Street) between Albany Street and Harrison Street would be pressure proofed and retrofitted with a cover that can be sealed shut and locked during a coastal flood event.

Other Interior Drainage Improvements

Additional required interior drainage improvements include tide gates to be installed at three separate existing storm sewer system outfalls:

- Chambers Street
- Albany Street
- Rector Street

Three tide gates would also be installed within combined sewer overflow (CSO) underground pipes, one near Rector Park, another just south of the Irish Hunger Memorial at Vesey Street, and the third near Stuyvesant Plaza immediately east of Stuyvesant High School. These gates would be installed in approximately 20-feet-by-20-feet chambers located within 300 feet of the existing discharge points.

Isolation of other wet or dry utilities crossing the proposed coastal barrier system would be implemented as necessary.

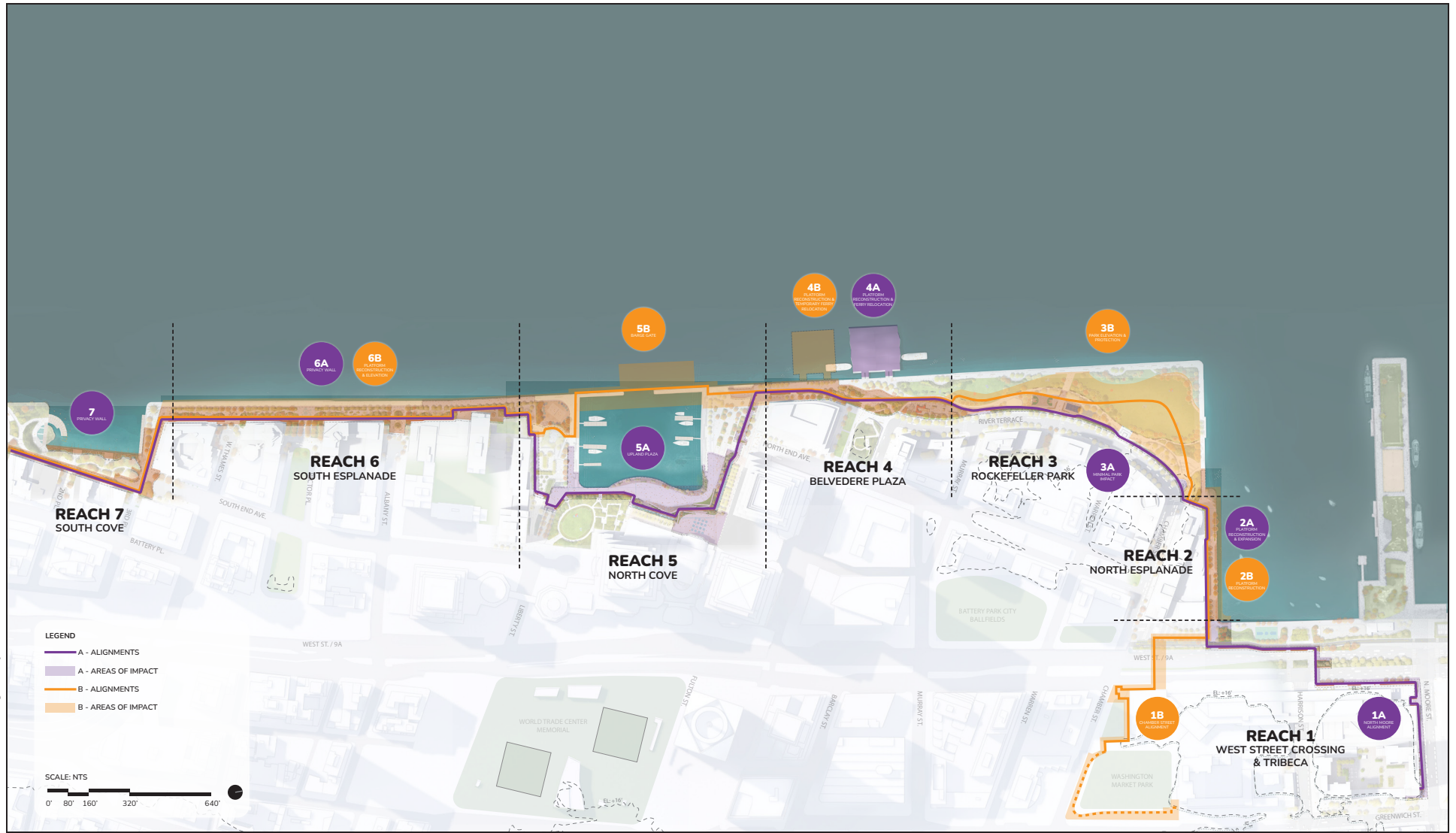
Other stormwater management techniques that may be considered and implemented as part of the Proposed Project include temporary or permanent pump stations, storage, and green infrastructure.

3.2.4 Development of the Proposed Project

Alternate Alignment Scenarios Considered

This section provides an overview of the alternative alignments that were considered and that led to developing the Proposed Project. As described in Sections 4.4 and 4.7.11, the alternatives described below will be analyzed and compared with the Proposed Project in the DEIS's Alternatives chapter.

A number of flood protection alternative alignment approaches were considered in developing the Proposed Project guided by evaluations of inboard (i.e., upland) and outboard (i.e., waterfront), alignments that ultimately resulted in a hybrid of both approaches. The **Inboard Alignment's Flood Protection (Alternative A)** objective was to provide flood protection along the most upland location from the water's edge (see **Figure 12**). This alignment would include an upland "tie-back" near Greenwich Street in Reach 1, then follow along North Moore Street, crossing Route 9A (West Street) near Harrison Street. Reach 2, at BPC's North Esplanade, the design proposes in-place reconstruction, without modification of width. Turning southward this alignment generally follows the existing BPCA retaining wall that frames the interior edge of Rockefeller Park, thereby minimizing park modifications in Reach 3. In Reach 4, this alignment reconstructs the waterfront platform at the location of the ferry terminal. Within North Cove in Reach 5, this alternative is aligned along the upland terraces of the plaza to be integrated with the existing plaza platform and also crosses the two PATH tunnels which requires special subsurface bridging structures and sluice gates. Continuing along the South Esplanade, in Reach 6 this alignment replaces the existing privacy walls with the goal of maximizing the preservation of existing trees and minimizing changes to the esplanade, to the extent feasible. In Reach 7, South Cove, the system is integrated to the existing elevated sidewalks and privacy walls along the eastern edge of the cove. The alternative generally minimizes regulatory approvals resulting in a lower cost and shorter construction period as compared to the outboard approach (described below) with less modification of existing open spaces and urban design features and a lesser impact on existing view corridors; however, this alignment also provides the least protection of the existing waterfront open spaces.



Inboard (A) and Outboard (B) Overall Alignments
Figure 12

The **Outboard Alignment Flood Protection (Alternative B)** provides flood protection nearer the water's edge and increases modifications to existing open spaces (see **Figure 12**). In Reach 1, this alignment would include a similar "tie-back" near Greenwich Street, then follows an alignment along Chambers Street, crossing Route 9A (West Street) between Greenwich and Harrison Streets. This alignment would not provide coastal flood protection for areas south of North Moore or Harrison Streets which are included in the Inboard Alternative. Under this alignment in Reach 2, the North Esplanade is reconstructed and expanded, providing additional public space for pedestrian, vehicular and bicycle access. Continuing southward to Reach 3, the flood barrier alignment runs through the center of Rockefeller Park, with the flood protection wall installed beneath a partially raised and reconstructed park. Within Belvedere Plaza in Reach 4, the flood protection requires reconstructing the waterfront platform with a temporary relocation of the ferry terminal. In Reach 5, North Cove, the flood barrier system is outboard, extending along the marina breakwater with a barge gate to be deployed at the entrance. This alignment also crosses the two PATH tunnels with special subsurface bridging structures and sluice gates. In the South Esplanade in Reach 6, the flood protection is co-located with a reconstructed and raised esplanade structure. Only one alignment was considered for South Cove (due this reach's geographical constraints), in Reach 7, comprised of elevated sidewalks and privacy walls along the eastern edge of the cove.

This alternative generally increases the area of BPCA assets receiving protection including open space resources and public art installations; however, it also requires more in-water work and increases the duration of temporary closure of public open space during construction. It would also result in more permanent alterations to existing open space resources. While this alternative would also be expected to have greater costs and construction duration, upon completion, it could increase the opportunity for new public space programming, amenities and accessways. This alignment would also eliminate the need for deployable structures in some reaches with the opportunity to provide in-water ecological features.

Additional details on the alignment review process and alternatives considered in developing the Proposed Project will be provided in the DEIS and evaluated for a comparison of impacts with the Proposed Project in the alternatives chapter (see also Section 4.7.11, below).

Proposed Project (Preferred Alternative)

The Proposed Project, which is also referred to as the Preferred Alternative, is described below and is a combination of key elements of the above Inboard and Outboard Approaches on a reach-by-reach basis, comprising alignments 1A or 1B, 2B, 3A, 4B, 5A, 6A, and 7A (see **Figure 13**).

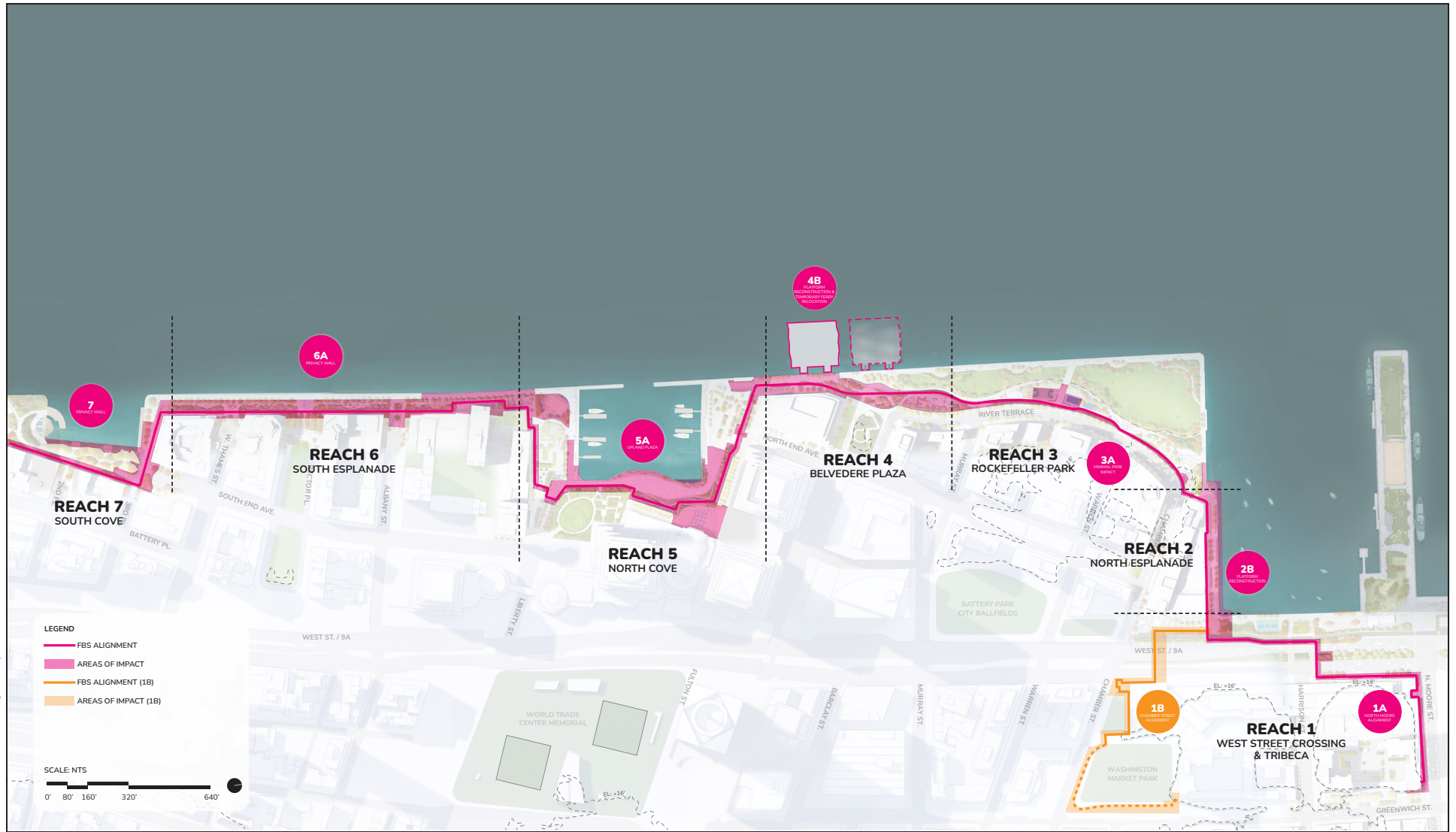
Provided below is a summary description of the Preferred Alternative; the DEIS will provide additional text and graphics with greater detail on the design objectives of the Preferred Alternative in each reach.

Reach 1 – Route 9A (West Street) Crossing/Tribeca (1A or 1B)

Reach 1 would include multiple different property owners and is the only reach in the Project Area that extends east of BPCA property, across Route 9A (West Street) (see **Figures 14a and 14b**). In this reach, two alternatives are under consideration and a preferred alternative will be selected as the design progresses. The flood barrier system concept would be comprised of a combination of passive and deployable structures and would "tie-back" to higher ground at Greenwich Street via an alignment along either North Moore Street or Chambers Street. Both alignments would cross Route 9A (West Street) and be located adjacent to public and private properties, requiring a number of gates to maintain access.

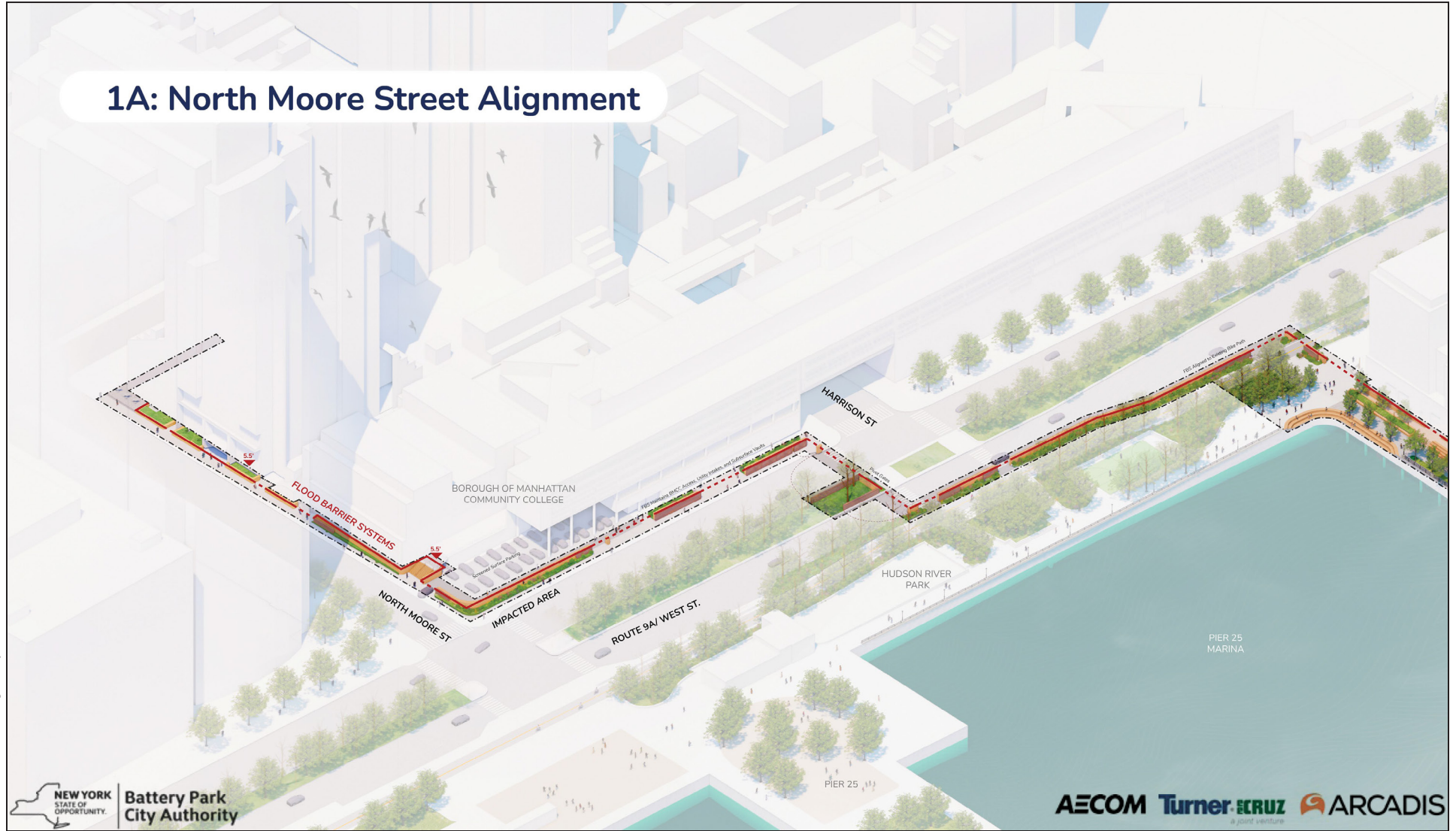
Reach 2 – Battery Park City North Esplanade (2B)

In this reach, a passive flood protection structure is proposed to be concealed within a terraced garden landscape treatment (see **Figure 15**), while a reconstructed relieving platform extension would increase the opportunity to screen the passive structure and the platform would be rebuilt at elevation +12.0 feet.



Preliminary Preferred Overall Alignment
Figure 13

1A: North Moore Street Alignment

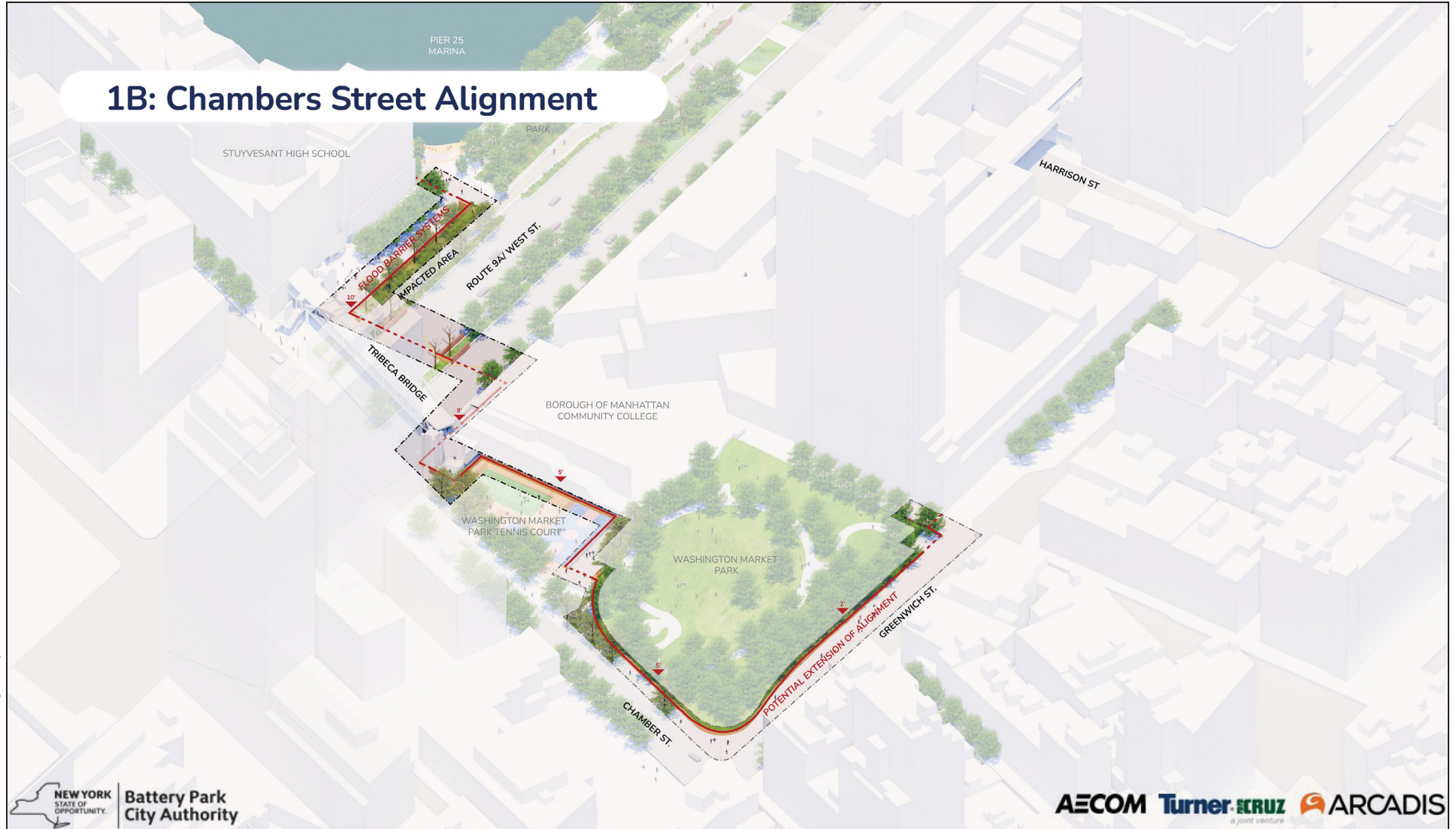


Source: AECOM Design Projects

NEW YORK
STATE OF
OPPORTUNITY
Battery Park
City Authority

AECOM Turner **KRUZ** ARCADIS
a joint venture

1B: Chambers Street Alignment



Source: AECOM Design Projects

2B: Platform Reconstruction & Expansion



Source: AECOM Design Projects

Proposed Concept Rendering-
Reach 2 - North Esplanade
Figure 15

Northward expansion of the platform would also improve pedestrian circulation and emergency vehicular access by creating a widened shared pathway, with additional room for landscape improvements. Under this alternative the northern platform would extend into the Hudson River Park beyond existing BPCA property boundaries.

Reach 3 – Rockefeller Park (3A)

In Rockefeller Park, the proposed flood barrier is comprised of a passive structure aligned furthest from the waterfront, and closer to River Terrace (see **Figure 16**). This inboard approach requires both a passive structure with deployable systems at park entrances and pedestrian crossings and wave attenuation measures within the existing park. Under the Proposed Project, the open lawn would remain mostly undisturbed and waterfront views would be preserved; installation would require some tree clearing and replacement along River Terrace and design modification of certain park elements. In addition to the barrier, wave mitigation measures will be explored and if feasible sited on the eastern perimeter of the lawn edge.

Reach 4 – Belvedere Plaza (4B)

The approach in this reach would include a newly elevated platform with flood defense components integrated into the design (see **Figure 17**). Under the Proposed Project, the plaza and esplanade west of the Irish Hunger Memorial would be split into two different levels, with the area surrounding and inclusive of the playground elevated and protected from storm surge and the lily pond replaced. While this approach would temporarily relocate the ferry terminal roughly 170 feet to the north, it would ultimately be moved back to its original location thereby resulting in no net long-term change in the current related noise or foot traffic impacts conditions in the vicinity of the residential buildings and playground north of the current location.

Reach 5 – North Cove (5A)

In North Cove, flood protection would be provided by a passive structure integrated into terraced planting, located inland from the waterfront (see **Figure 18**). This approach requires both a passive structure and deployable structures for access between upper and lower levels. Where the alignment crosses the two PATH tunnels, special bridging structures below the plaza deck would be required. The bridging structures would incorporate sluice gates that would be operated from the surface to regulate the open water over and adjacent to the PATH tunnels. The preferred alternative would minimize the regulatory delays from in-water work and reduce the flood protection height by taking advantage of natural wave attenuation that occurs as storm waves move inland. Although this alignment results in greater plaza construction and disruption, it also allows for the possibility of enhanced programming opportunities and incorporates waterfront universal access adjacent to Brookfield Place.

Reach 6 – South Esplanade (6A)

Along the South Esplanade, a passive structure is proposed following the existing masonry privacy wall at the inland edge of the planting area of the esplanade, furthest from the water's edge (see **Figure 19**). This inboard approach would likely not affect the existing relieving platform except where existing buildings are located over the relieving platform and deployable structures would be needed at intersection locations. Roller gates are proposed at the street ends leading to the Esplanade to maintain both pedestrian and emergency vehicle access.

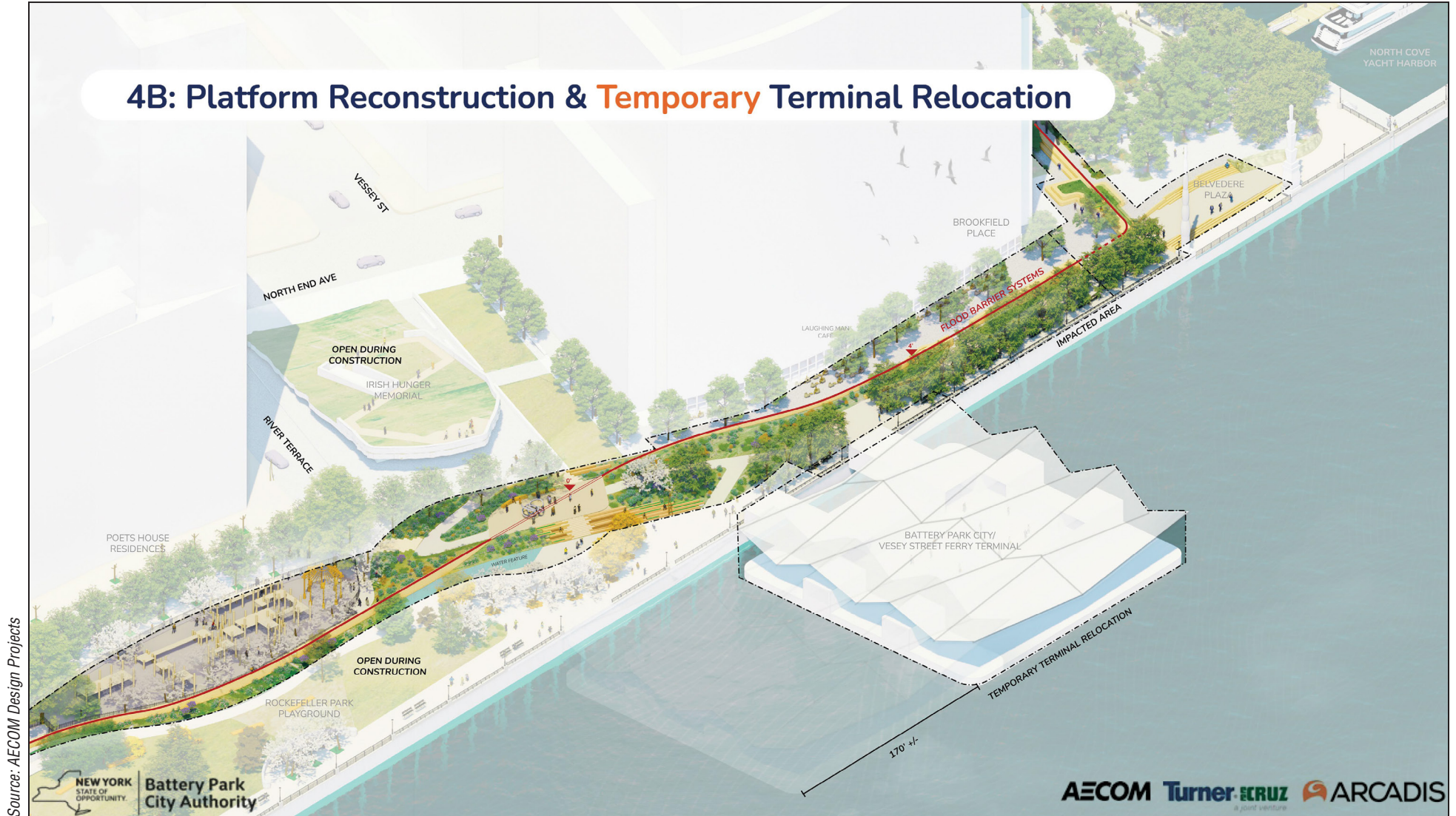
Reach 7 – South Cove (7A)

In South Cove, a passive structure is proposed along the existing masonry privacy walls adjacent to the existing buildings and courtyards, inland from the water's edge (see **Figure 20**). This inboard design also



Proposed Concept Rendering-
Reach 3 – Rockefeller Park
Figure 16

4B: Platform Reconstruction & Temporary Terminal Relocation



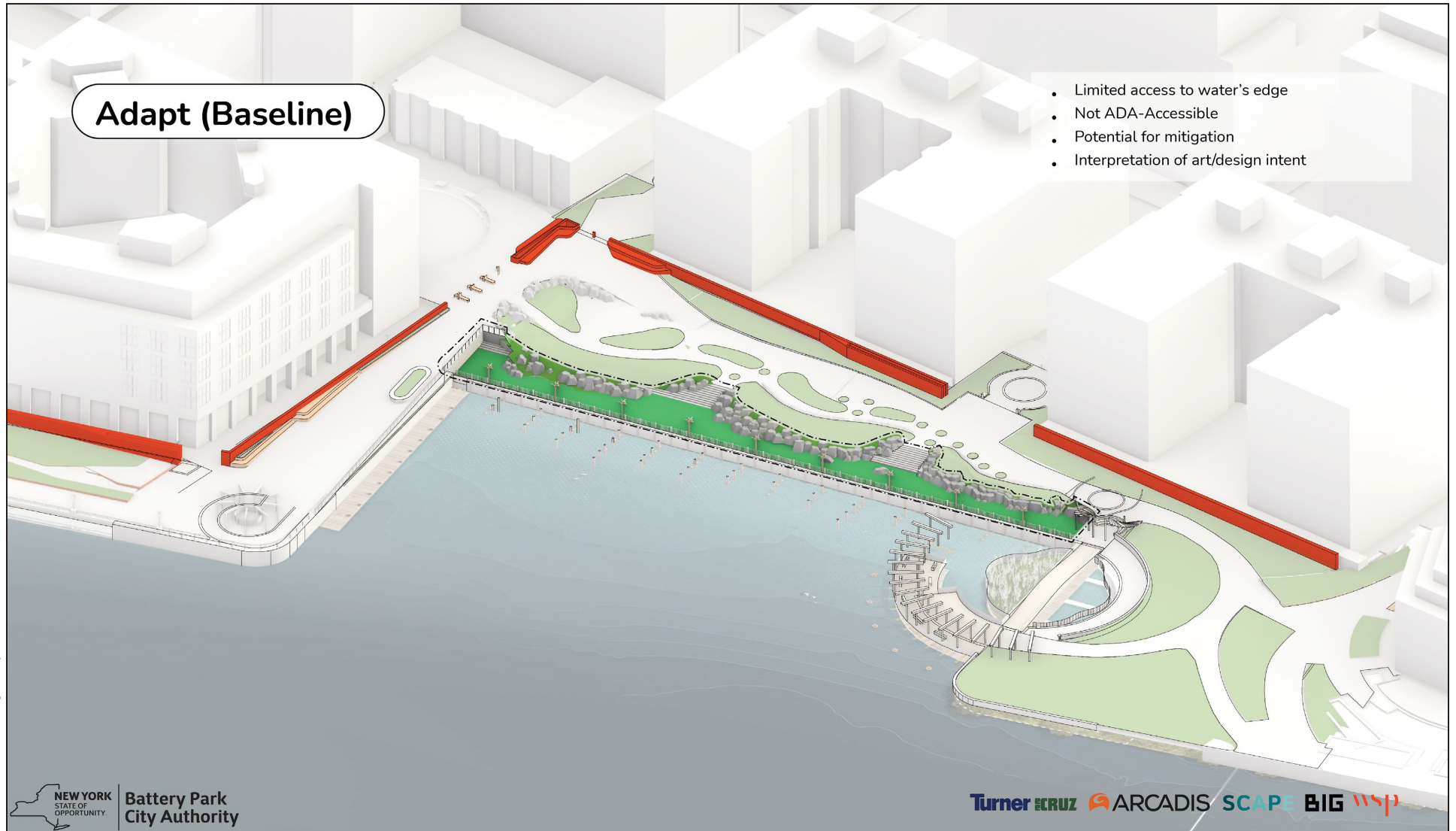
Source: AECOM Design Projects

Proposed Concept Rendering-
Reach 4 – Belvedere Plaza
Figure 17



Proposed Concept Rendering-
Reach 5 – North Cove
Figure 18





Source: AECOM Design Projects

requires deployable structures for pedestrian access to buildings and intersections. A section of the relieving platform near the northwest corner of South Cove may be rebuilt to facilitate the installation of the floodwall. The design of the waterfront edge will be refined concurrent with development of the DEIS.

4 Content of the Draft Environmental Impact Statement

4.1 Cover Sheet and Table of Contents

The cover sheet will identify all required information contained in applicable SEQR regulations in 6 NYCRR 617.9(b)(3), including a summary description of the Proposed Project, its location, contact information for the Lead Agency and DEIS preparers, the date of acceptance of the DEIS by the Lead Agency, and the date by which comments must be submitted. The table of contents will follow the cover sheet.

4.2 Executive Summary

The executive summary will provide a brief overview of the DEIS content including a summary of the Proposed Project, the most pertinent information from the technical impact analyses, the significant impacts, mitigation, and alternatives considered.

4.3 Description of the Proposed Project

This section will describe the Proposed Project, including the following elements:

- Project location and setting;
- Project description (including proposed elements, changes to site, acreage developed, etc.);
- Purpose and objectives;
- Public needs and benefits;
- Required public actions and approvals; and
- SEQR process and chronology.

This description will also address all aspects of site development with graphics (site plans, renderings, photographs, cross sections, and maps), such as:

- Site layout and design;
- Architectural design of the passive structure design elements in the context of the site and the buildings in the surrounding areas;
- Landscaping, lighting, and signage;
- On-site traffic, pedestrian, and bicycling circulation;
- Utilities and stormwater management facilities;
- Site access;
- Specific uses to be included in the Proposed Project; and
- Regulatory compliance, including zoning, permitting, and other approvals needed.

4.4 Reasonable Alternatives to the Proposed Project

Pursuant to 6 NYCRR Part 617, the DEIS must contain a description and evaluation of reasonable alternatives to the Proposed Project. Because of the unique characteristics of the Project Area, the Proposed Project was divided into seven reaches for the purposes of evaluating alternatives. The alternatives that will be analyzed in the Alternatives chapter are summarized below (further detail is provided in Section 4.7.11, “Alternatives”):

4.4.1 No Action Alternative

This section will include an evaluation of the potential impacts that would result by the build year if the Proposed Project was not undertaken. The No Action Alternative will assume no new comprehensive coastal flood protection system is implemented in the Proposed Project area. In the absence of this system, the existing area would therefore remain at risk to coastal flooding during extreme tidal surges.

The build year for the Proposed Project is 2027, and accordingly, the No Action Alternative therefore assumes that projects planned or currently under construction in the Project Area or Study Areas are completed by the 2027 analysis year (i.e., the No Action projects). The DEIS will include a description of the future without the Proposed Project for each analysis area, that will include other projects currently under construction or planned within the Study Area. The DEIS will include a map and list of the projects expected to be completed through the 2027 analysis year.

4.4.2 Alternative Alignments

Inboard Alignment Flood Protection (Alternative A)

The Inboard Alignment Flood Protection (Alternative A) objective was to provide flood protection along the most upland location from the water's edge (see **Figure 12**). This alignment would include an upland "tie-back" near Greenwich Street, then follow along North Moore Street, then crossing Route 9A (West Street). In the next reach, the BPC North Esplanade, the design proposes in-place reconstruction, without modification of width. Turning southward this alignment generally follows the existing BPCA retaining wall that frames the interior edge of Rockefeller Park, thereby minimizing park modifications. Along the Belvedere Plaza reach, this alignment reconstructs the waterfront platform at the location of the ferry terminal. Within North Cove, this alternative is aligned along the upland terraces of the plaza to be integrated with the existing plaza platform and also crosses the two PATH tunnels, which requires special subsurface bridging structures and sluice gates. Continuing along the South Esplanade this alignment replaces the in-place privacy walls with the goal of maximizing the preservation of existing trees, and minimizing changes to the esplanade, to the extent feasible. In South Cove, the system is integrated to the existing elevated sidewalks and privacy walls along the eastern edge of the cove. The alternative generally minimizes regulatory approvals resulting in a lower cost and construction period as compared to the Outboard Alignment (described below) with less modification of existing open spaces and urban design features and a lesser impact on existing view corridors; however, this alignment also provides the least protection of the existing waterfront open spaces.

Outboard Alignment Flood Protection (Alternative B)

The Outboard Alignment Flood Protection (Alternative B) provides flood protection nearer the water's edge and increases modifications to existing open spaces (see **Figure 12**). In Reach 1, this alignment would include a similar "tie-back" near Greenwich Street, then follows an alignment along Chambers Street, crossing Route 9A (West Street) between Greenwich and Harrison Streets. This alignment would not provide coastal flood protection for areas south of North Moore or Harrison Streets which are included in the Inboard Alternative. Under this alignment, the Battery Park City North Esplanade is reconstructed and expanded, providing additional public space for pedestrian and bicycle travel. Continuing southward, the flood barrier systems are aligned through the center of Rockefeller Park, with the flood protection wall installed beneath a raised and reconstructed park. Within Belvedere Plaza, the flood protection requires reconstructing the

waterfront platform with a temporary relocation of the ferry terminal. In North Cove, the flood barrier system is outboard, extending along the marina breakwater with a barge gate to be deployed at the entrance. This alignment also crosses the two PATH tunnels with special subsurface bridging structures and sluice gates. In the South Esplanade, the flood protection is co-located with a reconstructed and partially raised esplanade structure. As with the Inboard Alignment, only one alignment was considered for Reach 7 (due to this reach's geographical constraints), for the South Cove comprised of elevated sidewalks and privacy walls along the eastern edge of the cove.

4.5 Analysis Framework

The Lead Agency is required to take a “hard look” at the environmental impacts of proposed actions and, to the maximum extent practicable, avoid or mitigate potentially significant adverse impacts on the environment, consistent with social, economic, and other essential considerations. An EIS is a comprehensive document used to systematically consider environmental effects, evaluate reasonable alternatives, and identify and mitigate, to the maximum extent practicable, any potentially significant adverse environmental impacts. The EIS provides a means for the lead and involved agencies to consider environmental factors and choose among alternatives in their decision-making processes related to a Proposed Project.

The framework for the DEIS analysis will be to compare the future conditions with the project (the Proposed Project) to the future conditions without the project (No Action Alternative).

4.5.1 No Action Alternative

This section will include an evaluation of the potential impacts that would result by the build year if the Proposed Project was not undertaken. Under SEQR, the potential impacts of the Proposed Project are measured as the increment of impact over the No Action Alternative, which is the future condition without the Proposed Project and assumes that no new comprehensive flood barrier system is installed along the Project Area. The build year for the Proposed Project is 2027, and accordingly, the No Action Alternative therefore assumes that projects planned or currently under construction in the Project Area or Study Areas are completed by the 2027 analysis year (i.e., the No Action projects). The DEIS will include a description of the future without the Proposed Project for each analysis area, that will include other projects currently under construction or planned within the Study Area. The DEIS will include a map and list of the projects expected to be completed through the 2027 analysis year.

The No Action Alternative will assume no new comprehensive flood barrier system is implemented in the Proposed Project area. In the absence of this system, the existing area would therefore remain at risk to coastal flooding during extreme tidal surges.

4.5.2 Proposed Project

The Proposed Project would create a comprehensive flood barrier system located in Lower Manhattan, along the Hudson River waterfront between 1st Place in the south and the BPC North Esplanade in the north, then continuing with an alignment Route 9A (West Street) and then continuing inland to Greenwich Street via an alignment on either North Moore Street or Chambers Street. In addition to the flood barrier alignment described above, interior drainage improvements will be included, such as an NSI system along West Street. Additionally, six tide gates will be installed along the flood barrier alignment on Chambers Street, Albany Street, Rector Street, south of the Irish Hunger Memorial at Vesey Street, near Rector Park, and near Stuyvesant Plaza immediately east of Stuyvesant High School. The Proposed Project would be a flood barrier system that would include passive structures (e.g., above-grade concrete walls, below grade concealed walls, etc.) with deployable structures at vehicle and pedestrian crossings. As described in this

scope, the term “flood barrier alignment” is used to identify this potential combination of flood barrier measures. In addition, to protect against interior flooding, improvements are proposed in the City’s drainage infrastructure, including the isolation of the existing underground sewer components. The proposed flood barrier alignment will span the PATH tunnels that run beneath the Project Area; the Port Authority of New York and New Jersey has separately implemented measures to provide flood protection for its assets. The Proposed Project is described in detail in Section 3.2.4 above.

4.6 Scope of Work for the EIS

This section describes the framework for the DEIS technical analyses through the 2027 analysis year. The DEIS will document the affected environment and environmental impacts for future conditions with and without the Proposed Project for the following technical resources: land use, zoning and public policy, socioeconomic conditions, community facilities, open space, historic and cultural resources, urban design and visual resources, shadows, natural resources, hazardous materials, water and sewer, solid waste and sanitation services, energy transportation, air quality, greenhouse gas emissions (GHG), noise and vibration, public health, neighborhood character, and construction. Both the long term (operational) and short term (construction) impacts will be evaluated for each technical resource.

Of the technical analyses to be evaluated in the DEIS, the following technical disciplines have been screened out and will not require detailed analysis in the DEIS: socioeconomic conditions, community facilities and services, operational open space, shadows, solid waste and sanitation services, energy, operational air quality, noise and vibration impacts, and public health. The following summarizes why each of those technical resources did not meet the criteria for a detailed analysis.

4.6.1 Socioeconomic Conditions

According to the *CEQR Technical Manual*, there are six guidelines for determining whether a socioeconomic assessment is required. They are related to the following:

- Displacement of residential population;
- Displacement of more than 100 employees;
- Business displacements;
- New development that is markedly different from existing land uses;
- New or improved retail development; or
- Effects on a specific industry.

As the Proposed Project requires no residential, employee or business displacements, includes no retail development, does not create land uses markedly different from existing conditions and does not affect a specific industry, no further socioeconomic assessment is required.

4.6.2 Community Facilities and Services

As the Proposed Project would not physically impact or displace any community resources, nor result in any increases in resident population, nor have any impact on public schools, healthcare facilities, publicly funded group early childhood programs, libraries or local police and fire facilities, no detailed assessment of community facilities is required.

4.6.3 Open Space

As the Proposed Project would not result in an increase in population that would change the utilization of the existing open spaces in the Study Area, nor would it physically alter the size of the existing open spaces,

there would be no potential for significant adverse impacts on open space resources and no detailed assessment of open spaces is required.

4.6.4 Shadows

As the Proposed Project would not result in structures over 50 feet in height, nor any structures adjacent to a sunlight sensitive resource, there would be no potential for significant adverse impacts from shadows and a detailed assessment is not required.

4.6.5 Solid Waste and Sanitation Services

According to the *CEQR Technical Manual*, further analysis would be conducted if the project:

- Exceeds 50 tons per week or more of solid waste generation;
- Involves the construction, operation, or closing of any type of regulated solid waste management facility, New York City Department of Sanitation (DSNY) district garage, or borough repair shop; or
- Involves a change to the public or private waste collection.

As operation of the Proposed Project does not meet any of these criteria, no further assessment is required.

4.6.6 Energy

As the Proposed Project would not result in an increased energy usage nor would it have the potential to effect existing energy systems, there would be no potential for significant adverse impacts related to energy and no detailed assessment of energy is required.

4.6.7 Air Quality

Since there will be no mobile sources (e.g., traffic) or stationary sources (e.g., fossil-fuel fired heating, ventilation, and air conditioning systems) generated by the Proposed Project, no further assessment of operational air quality impacts is required.

4.6.8 Noise and Vibration

Since the operation of the Proposed Project would not result in the introduction of any new stationary or mobile sources of noise, and consequently would not have the potential to impact nearby sensitive receptors in the vicinity of the Study Area, no further assessment of operational noise and vibration impacts are required.

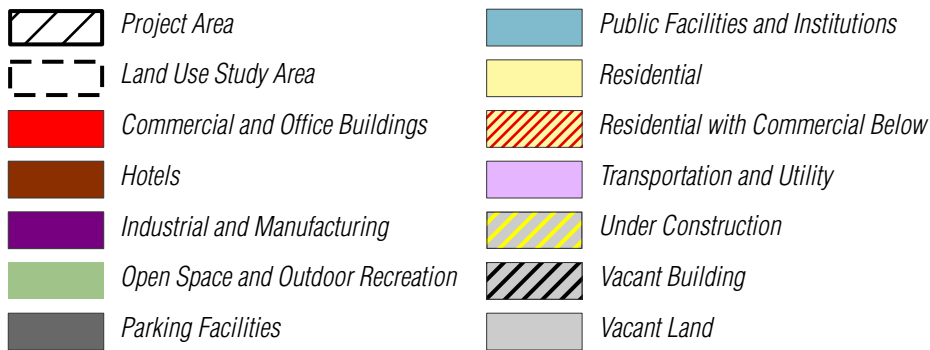
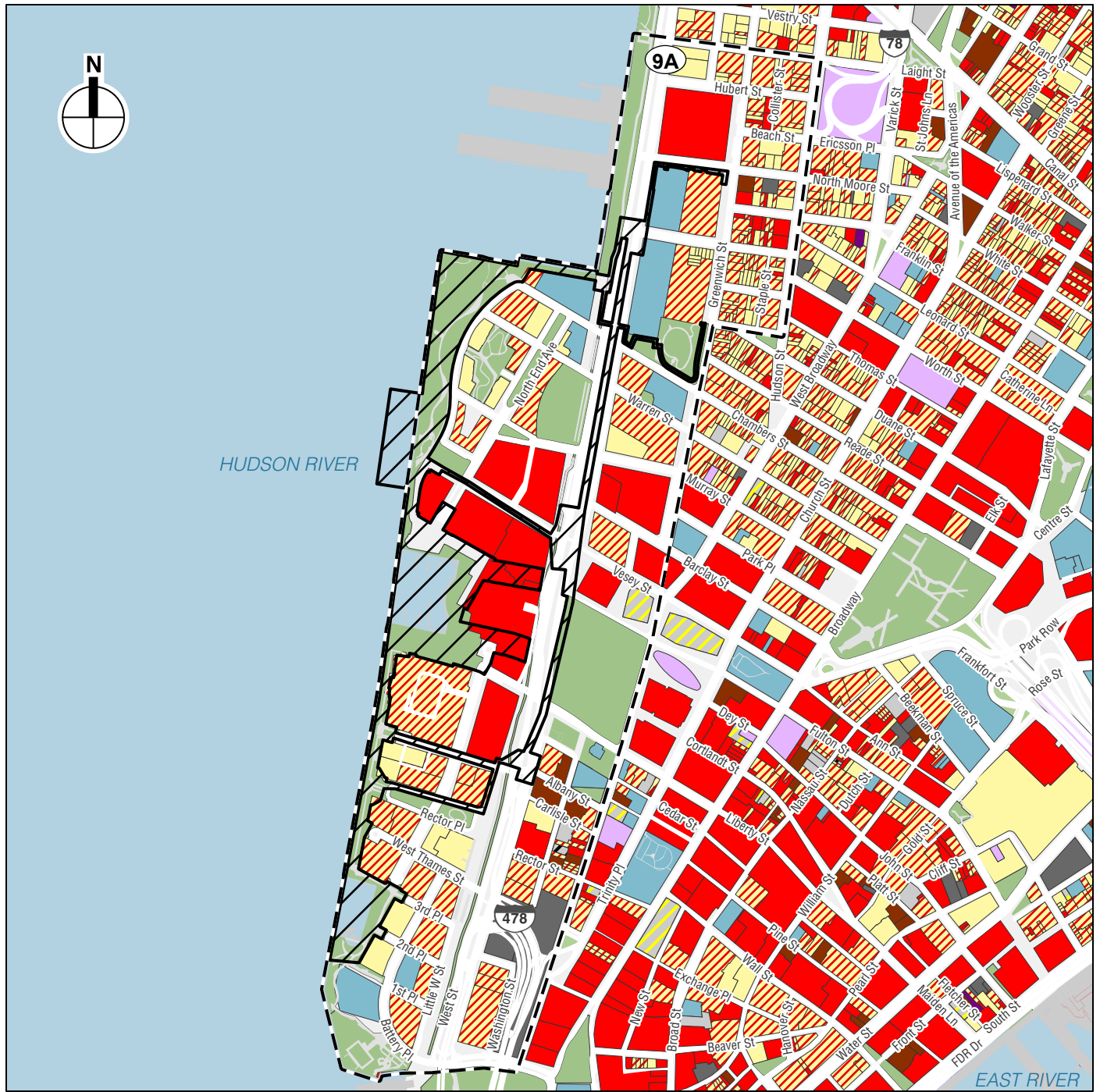
4.6.9 Public Health

According to the *CEQR Technical Manual*, assessment of public health impacts would be required if there are significant unmitigated adverse impacts associated with the Proposed Project. Long term operation of the NWBPCR Project would not have any unmitigated air quality, noise, hazardous materials, or natural resource impacts, therefore, no further assessment is required.

4.7 Affected Environment and Environmental Impacts

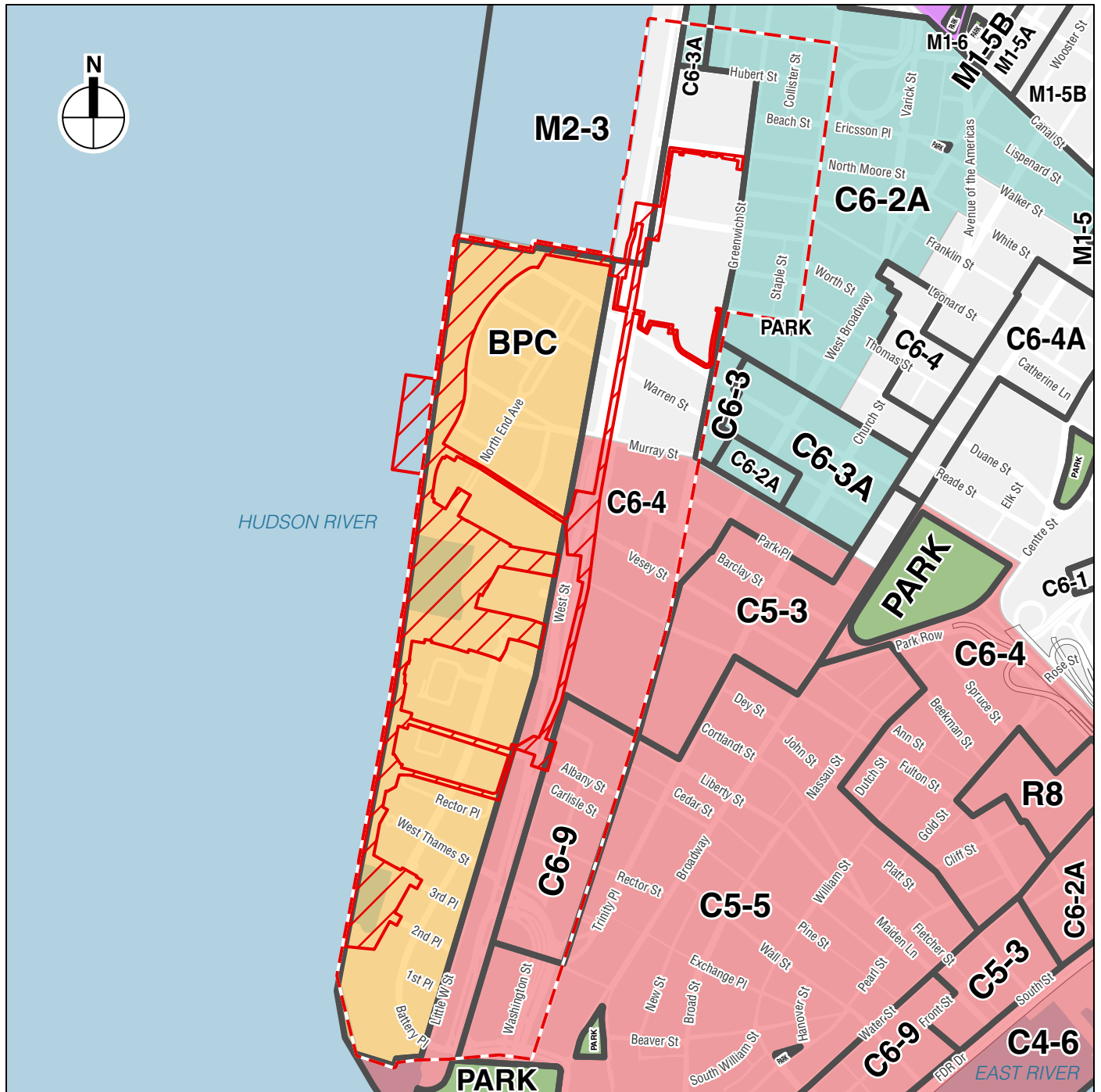
4.7.1 Land Use, Zoning, and Public Policy

This section will examine the potential for the Proposed Project to impact land use, zoning, and public policy. As recommended by the *CEQR Technical Manual*, a 400-foot Study Area from the proposed flood barrier system will be used for the analysis (see **Figures 21 and 22**). The analysis will describe land uses, zoning regulations, and applicable policies in the Study Area and then assess the potential land use



0 1,000 FEET

Existing Land Use
Figure 21



- | | |
|--|--|
|  Project Area |  Special Hudson Square District |
|  Land Use Study Area |  Special Lower Manhattan District |
|  Park Boundary |  Special Tribeca Mixed Use District |
|  Special Battery Park City District |  Park Boundary |

Existing Zoning
Figure 22

impacts and compliance with zoning regulations and policies. This analysis will also address any impacts or potential conflicts with public parkland.

The primary land uses along the Proposed Project are the waterfront open spaces and residential uses of Battery Park City, the Hudson River Greenway and Route 9A /West Street corridor and residential, retail, commercial, and institutional uses. According to the *CEQR Technical Manual*, the appropriate study area for land use and zoning is guided by the type and size of a Proposed Project, the location and context of the area that potentially affected by the project, and other factors, such as natural and man-made geographic boundaries. Land uses in the Study Area will be determined through a review of New York City Department of City Planning (NYCDP) Primary Land Use Tax Lot Output (PLUTO) data (20v7) and confirmed through field work.

The New York City Zoning Resolution (ZR) defines through text and maps the use, density and bulk of developments in the City. The zoning text describes the zoning districts and the regulations governing land uses and developments, while the maps show the boundaries of those districts. Zoning designations in the Study Area will be determined through a review of NYCDP's Zoning Maps 12a (effective date December 15, 2021) and 12b (effective date March 20, 2013) and through a review of the City's online Zoning Resolution (as updated through January 6, 2021).

Various public policies can affect the allowable land uses on a project site. Officially adopted and promulgated public policies also describe the intended use applicable to an area or particular sites in the City. Some public policies have regulatory status, while others describe general goals that can help define the existing and future context of the land use and zoning of an area. Policies may also change over time to reflect the evolving needs of the City, as determined by appointed and elected officials and the public.

The Project Area is located in the City's Coastal Zone. Actions subject to CEQR and in the Coastal Zone must be assessed for their consistency with the City's Waterfront Revitalization Program (WRP). Adopted under the federal Coastal Zone Management Act of 1972, the WRP is administered by the City Planning Commission acting as City Coastal Commission. Currently the City of New York has developed a 10-policy program that is used for projects that require City actions only. It is intended that this analysis will be used to support the Federal and State permits necessary for the project. The City's Coastal Assessment Form (CAF) and the Federal consistency form will be completed for the Proposed Project. The DEIS will include an analysis of the No Action and Proposed Project's impact of land use, zoning, and public policies.

4.7.2 Historic and Cultural Resources

This section will examine the potential for the Proposed Project to impact historical and cultural resources (including both archaeological and architectural resources). The historical and cultural resources analysis will be prepared in accordance with SEQR and Section 14.09 of the New York State Historic Preservation Act of 1980 (SHPA) (Section 14.09). In addition, because a federal permit will be sought from the USACE for in-water or over-water work, the project must also comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA). The USACE Section 106 review will be limited to the effects of the in-water or over-water work, while the Section 14.09 review will consider the entirety of the Proposed Project.

Section 14.09 of the SHPA was established as a counterpart to the NHPA and declares historic preservation to be the public policy of, and in the public interest of, the state. The SHPA created the State Register, the official list of resources significant in the history, architecture, archaeology or culture of the state, its communities, or the nation. The NHPA requires State agencies to consult with the commissioner of OPRHP if it appears that any project which is being planned may or will cause any change, beneficial or adverse, in the quality of any historic, architectural, archaeological, or cultural property that is listed on the State or National Registers of Historic Places (S/NR) or that is determined by the commissioner to be eligible for

S/NR-listing. It requires State agencies, to the fullest extent practicable, consistent with other provisions of the law, to avoid or mitigate adverse impacts to such properties, to fully explore all feasible and prudent alternatives and to give due consideration to feasible and prudent plans which would avoid or mitigate adverse impacts to such property. It establishes agency preservation officers for the purpose of implementing these provisions.

A required step in the Section 106 process is the identification of the Area of Potential Effect (APE). Section 106 defines the APE as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist” (36 CFR § 800.16[d]). The federal APE is influenced by the scale and nature of an undertaking and may vary for different kinds of effects caused by the undertaking. Archaeological and historic architectural APEs have been delineated to take into account potential direct effects of the Proposed Project on archaeological resources, and potential direct and indirect effects of the proposed flood barrier system on historic architectural resources. In the Section 106 process, consultation will be undertaken with OPRHP acting in its capacity as the federal State Historic Preservation Office (SHPO).

Archaeological Resources

The potential for impacts on archaeological resources include direct effects that may result from subsurface disturbance during construction or activities required to prepare for the start of construction. The Archaeological APE will comprise both the horizontal APE—e.g., the footprint of proposed ground disturbance—and the vertical APE, e.g., the depth to which the proposed ground disturbance is anticipated to extend beneath the ground surface.

The Proposed Project would include alterations to ROW areas along North Moore Street, Harrison Street, and Route 9A (West Street), the Hudson River Greenway, the North Esplanade, Rockefeller Park, Belvedere Plaza, North Cove, the South Esplanade, and South Cove, namely through installation of drainage improvements, utility relocations, and foundation installation for the flood barrier system. The Proposed Action would create varying levels of subsurface disturbance. As part of the DEIS analysis, coordination with NYC Landmarks Preservation Commission (NYCLPC) and SHPO will be initiated. If requested by NYCLPC and/or SHPO, a Phase 1A Archaeological Documentary Study will be prepared to determine the potential effects on archaeological resources under the Proposed Project. The Phase 1A Archaeological Documentary Study will document the APE’s occupation and development histories from the time of indigenous occupation through the present. The study will also include an assessment of historical and modern disturbance in order to identify areas of potential archaeological sensitivity where further archaeological analysis (e.g., Phase 1B archaeological testing) may be required. The Phase 1A Archaeological Documentary Study will be prepared in coordination with NYCLPC and SHPO and its conclusions will be summarized in the DEIS.

Architectural Resources

The historic architectural resources analysis will include all areas where the Proposed Project may result in changes to land or structures and their uses, including the area of ground disturbance and locations from which elements of the Proposed Project may be visible from historic structures. In accordance with *CEQR Technical Manual* guidelines, the APE for architectural resources has been defined as the area within 400-feet of the Project Area (see **Figure 23**). This APE accounts for both potential direct effects of the proposed flood barrier alignment and interior drainage improvements, described above, and indirect visual and contextual effects, and it includes views toward the historic Statue of Liberty, Ellis Island, Hudson River, and New York Harbor. The DEIS will include an analysis of the incremental impacts of the Proposed Project over the No Action Alternative.



-  Project Area/Archaeology Area of Potential Effect
-  Architectural Resources Area of Potential Effect (400-foot perimeter)

Historic Resources - Area of Potential Effect

4.7.3 Urban Design and Visual Resources

This section of the DEIS will examine the potential for the Proposed Project to impact urban design and visual resources. Based on *CEQR Technical Manual* guidance, a Study Area for urban design and visual resources has been established for the area where the Proposed Project would most likely be visible and affect the pedestrian experience and the viewsheds of aesthetic and visual resources (see **Figure 24**). Due to the dense urban environment of Lower Manhattan, the Project Area is generally not visible from long distances. This analysis will address the urban design and visual resources of the Study Area for existing conditions, the No Action Alternative, and the future with the Proposed Project. To prepare this analysis, information will be collected through field visits and the identification of visually sensitive locations and viewer groups. The duration of view impacts will be assessed to determine any potential effects.

In compliance with NYSDEC's *Assessing and Mitigating Visual Impacts* guidance (DEP-00-2, issued July 31, 2000, revised December 13, 2019), aesthetic resources will be identified, and a visual assessment will be conducted. Utilizing visual modeling techniques, the conditions that would be present for the Proposed Project will be assessed as to their relative visual effects from specific viewpoints and distances. This modeling will be conducted to provide some indication as to whether any specific viewpoint might be associated with obvious positive or negative visual effects.

In assessing the significance of a visual resource impact, key considerations include "whether the project obstructs important visual resources and whether such obstruction would be permanent, seasonal, or temporary; how many viewers would be affected; whether the view is unique or do similar views exist; or whether it can be seen from many other locations." According to the *CEQR Technical Manual*, a detailed analysis would be required if the preliminary assessment shows that changes to the pedestrian environment could be significant and adverse, which would be determined as follows:

- When the project partially or totally blocks a view corridor or a natural or built visual resource, and that resource is rare in the area or considered a defining feature of the neighborhood; or
- When the project changes urban design elements so that the context of a natural or built visual resource is altered.

The DEIS will include a description of the No Action and the incremental impacts of Proposed Project on urban design and visual resources.

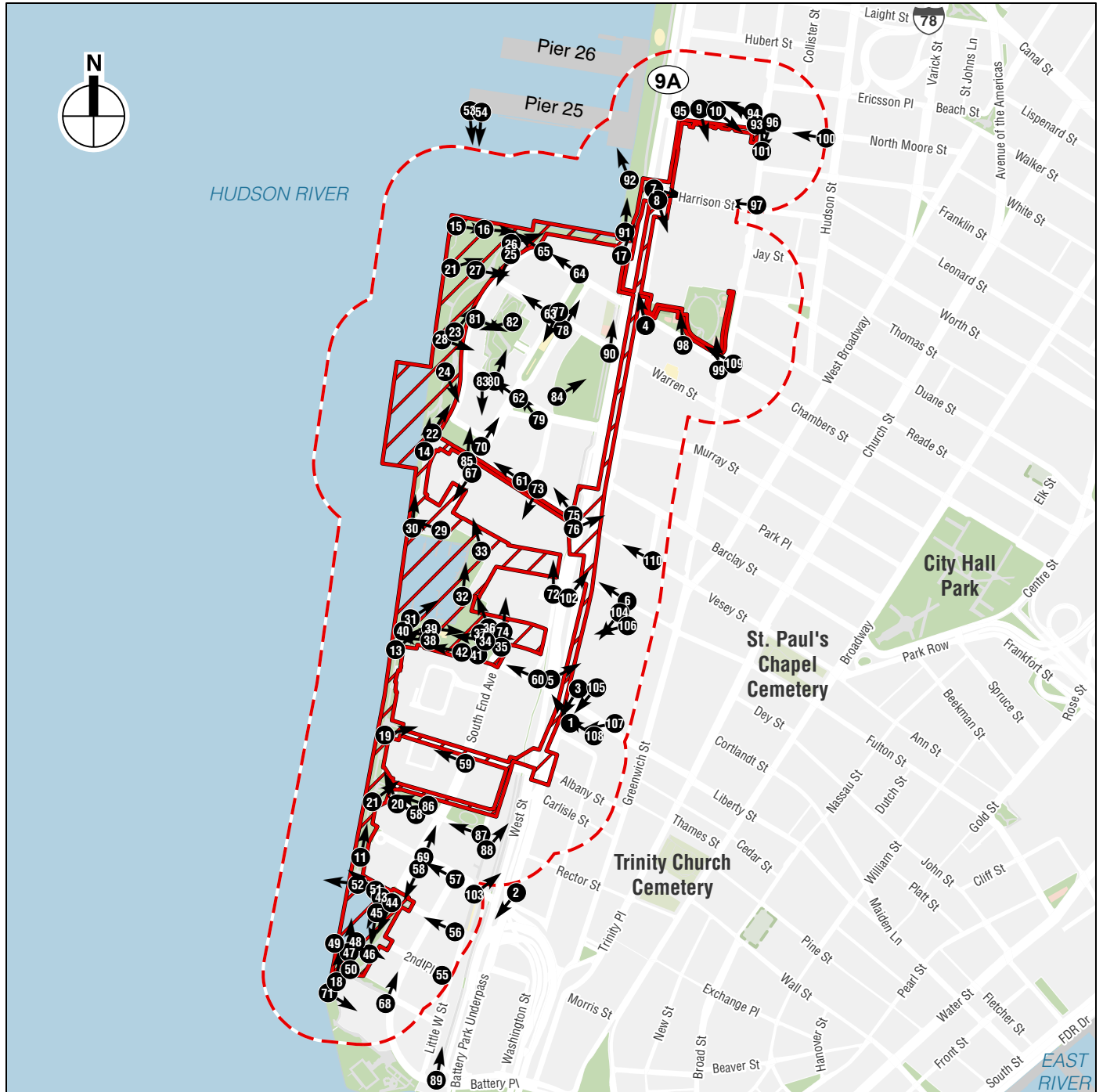
4.7.4 Natural Resources

The assessment of Natural Resources includes ground water, soils, geologic features, natural and human-created aquatic and terrestrial habitats, and wildlife habitats (see **Figure 25**).

The natural resources assessment will characterize the existing terrestrial and aquatic resources including the following: terrestrial ecological communities and the wildlife species that use them, water quality, aquatic habitat and aquatic organisms of Upper New York Bay, wetlands, and threatened or endangered terrestrial and aquatic organisms. The DEIS will include an analysis of Natural Resources for the No Action Alternative and the incremental effects of the Proposed Project on natural resources.

4.7.5 Hazardous Materials

The section of the DEIS will describe the potential for environmental concerns related to the disturbance of any contaminated or hazardous materials during construction. To understand the potential for the presence of contaminated or hazardous materials along the Proposed Project area, a Phase I Environmental Site Assessment (ESA) and a Phase II Limited Site Investigation (SI) are proposed. The area of these proposed evaluations includes both the proposed flood barrier alignment and the interior drainage components. The Phase I ESA will be conducted in accordance with the scope and limitations of



-  Project Area
-  Study Area (400-ft boundary)

0 1,000 FEET

Urban Design and Visual Resources
Study Area

ASTM Standard Practice Designation E 1527-13 for ESAs. **Figure 26 and Figure 27** also show the approximate locations of soil and groundwater testing locations along the Proposed Project area that are proposed as part of the SI Work Plan. Based on the findings of the site investigations remedial action plans (RAP) and construction health and safety plans (CHASP) will be recommended as mitigation as needed. These locations may be adjusted based on Phase I ESA findings, and the SI Work Plan will be submitted to the Lead Agency for review and approval prior to conducting the SI. The DEIS will include an assessment of the incremental changes between the No Action and the Proposed Project to determined impacts related to contaminated and hazardous materials.

4.7.6 Water and Sewer Infrastructure

This section will assess the potential for the Proposed Project to impact the water and sewer infrastructure in the Study Area. It will include an overview of the sewer and water service areas where the project is located, as well as the potential for the Proposed Project's impact on the physical components of these sewer and water systems. Since the Proposed Project is located within an area of the City that is served by both a combined sewer system and a Municipal Separate Storm Sewer System (MS4), the potential for effects on stormwater drainage will also be discussed. The *CEQR Technical Manual* indicates significant effects on water and sewer infrastructure would be expected when an action results in physical changes to the infrastructure or in situations where an action will increase demands for these services or affects treatment capacities. As the Proposed Project would not generate increased water or sewer demands, the focus of this analysis will be on the proposed changes to the drainage infrastructure. The DEIS will therefore include an analysis of the No Action Alternative and the incremental impacts of the Proposed Project on water and sewer infrastructure.

4.7.7 Transportation

This section of the DEIS will examine the potential for impacts to the transportation infrastructure and operations including traffic, parking, transit, and pedestrian facilities during the operation of the Proposed Project. In its post-construction, fully operational phase, the Proposed Project is not expected to generate increased vehicular, transit, pedestrian volumes, or a parking demand that would require detailed analyses. Therefore, similar to water and sewer infrastructure (see Section 4.7.7), this assessment will focus on determining whether the Proposed Project has the potential to adversely and significantly affect a specific element in the transportation system with the introduction of the proposed flood barrier system.

A Travel Demand Factors (TDF) Memorandum documenting the assumptions describing the Proposed Project and its effects on the street conditions both permanently and during construction of the proposed flood barrier system will be prepared and submitted to the NYC Department of Transportation for review; However, per the above paragraph, it has preliminarily been assumed that no detailed traffic, parking, pedestrian, or transit analyses would be required for the operational condition.

It will be determined if more detailed transportation analyses will be required for the construction phase of the Proposed Project (see Section 4.7.10).

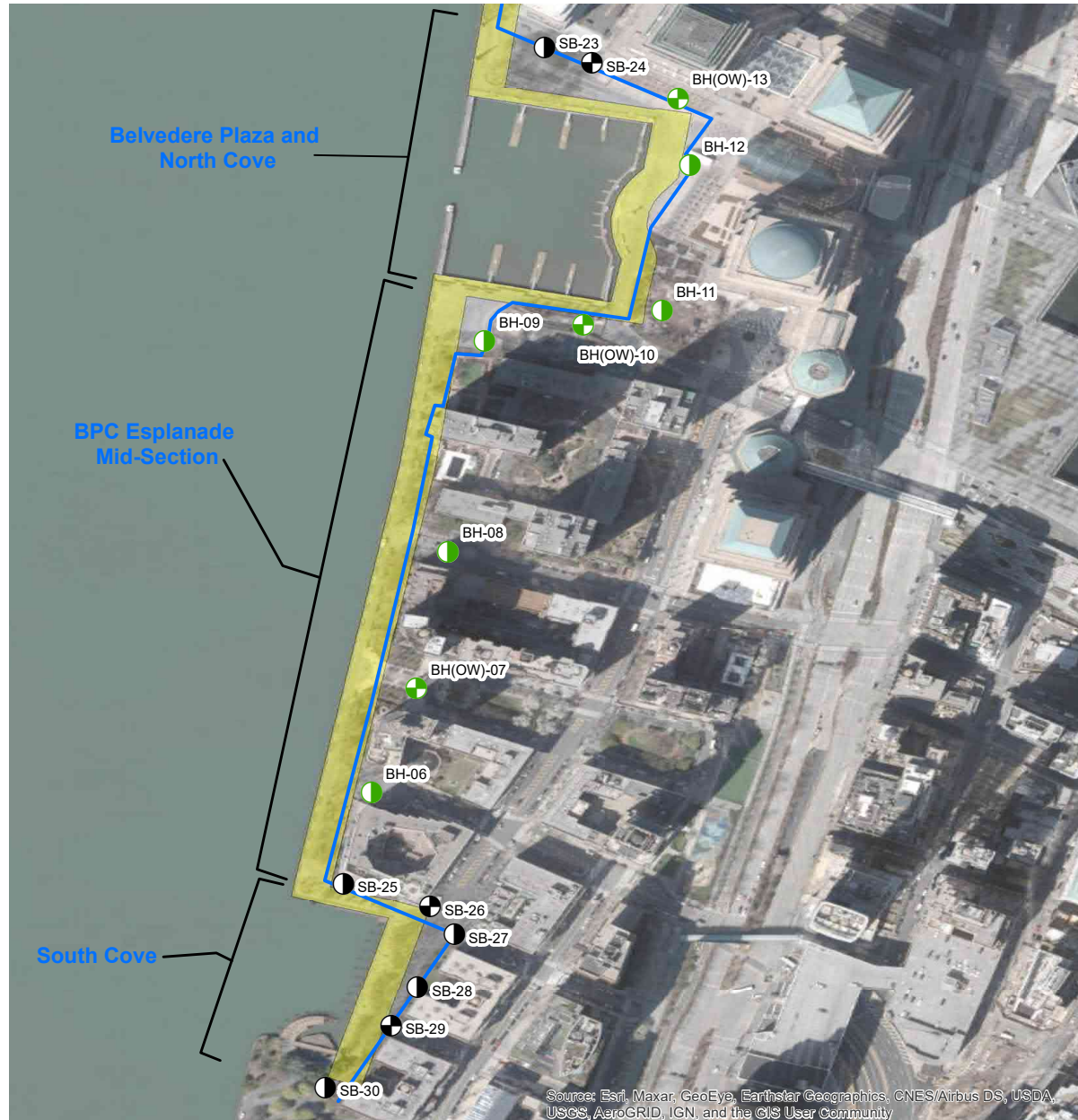
4.7.8 Greenhouse Gas Emissions and Climate Change

According to the *CEQR Technical Manual*, although the contribution of a Proposed Project's Greenhouse Gas (GHG) emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate, it should still be analyzed to determine a project's consistency with the City's citywide GHG reduction goal "...of reducing citywide GHG emissions by 30 percent below 2005 levels by 2030." The Proposed Project does not include construction of a building totaling the 350,000 square foot threshold requiring further GHG analysis. Therefore, the GHG consistency assessment will be qualitatively performed in the DEIS.



Source: Matrix New World Engineering

Soil and Groundwater Testing Locations - Part 1 of 2
Figure 26



Legend

— North Alignment

— West Alignment

Approximate Extents of Existing Platform

Proposed Environmental Boring Samples

● Soil

● Soil & Groundwater

Proposed Geotechnical Boring Samples

● Soil

● Soil & Groundwater

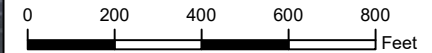
Notes:

1. Displayed geotechnical borings are limited to those from which Matrix proposes to collect environmental samples.

2. Environmental samples will be collected from geotechnical borings if grossly contaminated soil is encountered within proposed construction depth.

3. Locations and names of geotechnical borings were provided by AECOM.

4. Platform area layout is approximated based on historical drawings and design estimates provided by AECOM.



4.7.9 Neighborhood Character

This section will examine the potential for the Proposed Project to impact the neighborhood character. Under the CEQR guidance, neighborhood character assessments consider how elements of the environment combine to create the context and feeling of a neighborhood and how a Proposed Project may affect that context and feeling. To determine a Proposed Project's effects on neighborhood character, the elements that contribute to a neighborhood's context and feeling are considered together. As defined by the *CEQR Technical Manual*, neighborhood character is a mixture of the various elements that give a neighborhood its distinct "personality." These elements may include a neighborhood's land use, urban design, visual resources, historic resources, socioeconomics, transportation, and/or noise.

An assessment of neighborhood character is generally recommended when a Proposed Project has the potential to result in significant adverse impacts in any, or moderate effects on several, of the following technical areas that define a neighborhood's character: land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; transportation; and noise. A "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area. When considered together, there are elements that may have the potential to significantly affect neighborhood character.

Since many of the relevant components of neighborhood character are examined in other sections of this DEIS, this section will be a summary of those analyses. The DEIS will describe the No Action Alternative and the incremental effects of the Proposed Project on neighborhood character.

4.7.10 Construction

An assessment of the construction activities and impacts on the following resources will be conducted including a screening assessment of open space, natural resources, hazardous materials, transportation systems, air quality, and noise. Since the Project Area includes a publicly accessible esplanade and parkland at the water's edge, the construction analysis will focus on the temporary loss of open space and the natural environment of the Hudson River, including short-term impacts to recreational facilities, trees and vegetation, water quality, wetlands, and landscaping. In addition, since the Proposed Project is in a dense urban setting, temporary impacts on traffic and pedestrian circulation, air and noise emissions, and other temporary community disruptions will be assessed.

A preliminary assessment is conducted when construction activities are anticipated to be long-term, more than two years or when short term construction activities would directly impact a technical resource. The Proposed Project is anticipated to have a 36-month construction schedule and a preliminary assessment will be conducted.

The preliminary assessment will evaluate the Proposed Project's construction activities' impact on the above-mentioned technical resources. A detailed assessment is anticipated for construction-related open space, transportation, air quality and noise and vibration impacts. The detailed assessment methodology is summarized in the following sections.

Open Space

This section will examine the potential for the Proposed Project to impact open space directly or indirectly in the Study Area throughout construction by reducing or changing open space. According to the *CEQR Technical Manual*, open space is defined as "publicly or privately owned land that is publicly accessible and available for leisure, play, or sport, or is set aside for the protection and/or enhancement of the natural environment." Public open space is available "to the public on a constant and regular basis, including for designated daily periods." Examples of public open space in the Open Space Study Area

include, but are not limited to, Rockefeller Park, the Battery Park City Esplanade, North and South Coves, Teardrop Park, and Hudson River Park.

Construction activities could impact the open spaces in Battery Park City and potentially along the Hudson River Greenway, including the temporary closure or relocation of park spaces and/or temporary closure or relocation of access points to the park. The open space analysis will project the extent and timing of open space closure during construction and consider the construction-related noise and air pollutant emissions on the quality of the open space resources. Subject to determining the extent and duration of open space closure, the open space analysis will also assess how open space ratios for the open space Study Area could be affected during the construction period in comparison to the No Action Alternative.

Transportation

The transportation assessment will consider the Proposed Project's anticipated effects on the surrounding roadways, transit services, and pedestrian facilities during construction, and will identify the increase in vehicle trips from construction workers, trucks, and barges if needed. The assessment will focus not only on the immediate areas surrounding the Project Area, but also on the corridors that connect with the Project Area and construction staging locations. Following the *CEQR Technical Manual*, a tiered transportation screening assessment will be performed.

The screening assessment would indicate whether or not 50 or more vehicular trips or 200 or more pedestrian/transit trips during a peak hour are expected in an initial screening ("Level 1"). Should any Level 1 thresholds be exceeded, assignment of trips through intersections and to transit nodes would be conducted to identify if detailed analysis may be warranted according to those thresholds ("Level 2"). Should detailed analysis of traffic, pedestrians, or transit be warranted according to the tiered transportation screening assessment, those locations would be identified in coordination with NYCDOT and MTA before any data collection or transportation studies are undertaken.

The requirements of Maintenance and Protection of Traffic (MPT) plans during construction will also be described. These plans identify any short-term lane closures and other measures such as temporary consolidation and/or relocation of bus stops and parking regulation changes that may be needed during construction.

Air Quality and Greenhouse Gases

The construction of the Proposed Project is expected to take more than two years and the major tasks are expected in close proximity to one another such that there is the potential for air quality impacts to nearby sensitive receptors. Therefore, a quantitative air quality impact assessment will be conducted.

On-site construction activities are considered stationary source activities. Because these activities would occur over multiple years between 2024 and 2027, the reasonable worst-case periods for the pollutants of concern (Particulate Matter (PM), Carbon Monoxide (CO), Nitrogen Dioxide (NO₂)) will be determined throughout the duration of construction on an 'annual average' and a 'peak day' basis for PM_{2.5}. PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers (PM_{2.5}) and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀, which includes PM_{2.5}). PM_{2.5} could reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere.

PM_{2.5} was selected for determining the worst-case periods, because the ratio of predicted PM_{2.5} incremental concentrations due to construction activities is higher than for other pollutants. Therefore, estimates of PM_{2.5} emissions throughout the construction years will be used for determining the worst-case periods for the analysis of all pollutants.

The types and number of units of construction equipment will be identified based on the construction activity schedule established for the Proposed Project. Emission factors for NO_x, CO, PM₁₀, and PM_{2.5} from on-site construction engines from both nonroad equipment and trucks will be estimated using the latest EPA's Motor Vehicle Emission Simulator (Version MOVES3) associated with New York County model input parameters provided by the NYSDEC. Fugitive dust emissions from construction operations (e.g., excavation, grading, and transferring of excavated materials into dump trucks) will be estimated based on EPA procedures provided in AP-42 Sections 13.2.1 and 13.2.2.

The refined dispersion model (the EPA/AMS AERMOD dispersion model) will be used to predict the reasonable worst-case condition of PM, CO, and NO₂ concentrations during the construction period at the sensitive receptors located within the 400-foot radius impact area of the main construction sites located within the Project Area. Overall GHG emissions associated with the construction will be used to assess the consistency with the City's GHG reduction goals.

The highest predicted concentrations will be compared with the applicable New York City *de minimis* criteria and the National Ambient Air Quality Standards (NAAQS).

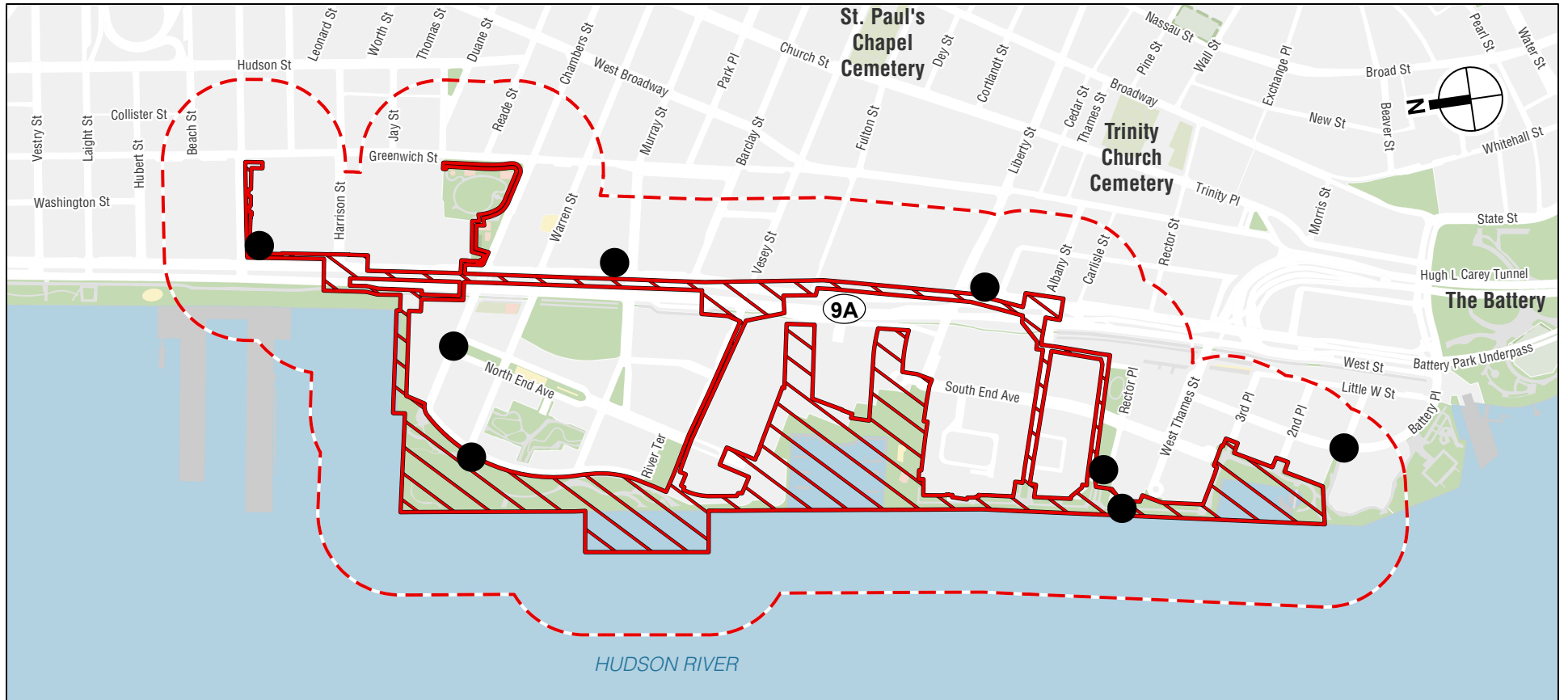
If the worst-case results show exceedances, the next level of annual and/or short-term period activities would be considered in the modeling in order to determine the duration and magnitude of potential impacts.

Noise and Vibration

Construction noise will be assessed using the prediction methods outlined in the Federal Highway Administration's (FHWA) Highway Construction Noise Handbook and codified in the FHWA Roadway Construction Noise Model (RCNM). The *CEQR Technical Manual* guidelines utilize the same construction equipment reference noise levels as the FHWA RCNM. These references include maximum noise emission levels (L_{max}) and equipment usage factors, which are then used to predict L_{eq(1)} noise levels at a given distance. The construction noise assessment will also include a monitoring program to document baseline noise levels at the closest noise-sensitive receptors. As set forth in Chapter 22 of the *CEQR Technical Manual*, an assessment of noise from construction activities is warranted for the following reasons:

- The duration of the Proposed Project is expected to last longer than two years; and,
- Several noise-sensitive receptors are located near the proposed construction activities.

The Proposed Project is scheduled to take place during a time span of over two years for all stages of construction. Additionally, all of the major tasks are expected to occur in proximity to sensitive receptors. Therefore, a quantitative construction noise assessment will be conducted in accordance with the *CEQR Technical Manual*, Chapters 19 and 22, as well as the Rules of New York City Chapter 28. Existing ambient noise levels will be measured to serve as a baseline for predicted noise levels during construction. **Figure 28** shows the preliminary proposed noise survey locations, which may be adjusted to provide additional coverage of noise-sensitive land uses that may experience construction noise. In accordance with *CEQR Technical Manual* Chapter 19, Section 410, operational noise criteria of 3-5 dBA over the No Action noise level will be applied as a screening threshold for construction noise at noise-sensitive receptors. If construction of the Proposed Project would not result in any exceedances of the screening thresholds at a given receptor, then that receptor would not have the potential to experience a construction noise impact. At receptors where noise level increments due to construction would exceed these thresholds, the duration and intensity of the predicted construction noise will be considered further in order to identify the potential significance of the predicted construction noise impacts, as is consistent with the guidance in the *CEQR Technical Manual* Chapter 22, Section 310. This evaluation will also consider nighttime period



-  Project Area
-  Study Area (400-foot perimeter)
-  Construction Noise Measurement Locations

Construction Noise Analysis Proposed Measurement Locations

and construction activities that may be necessary between 6:00 PM and 7:00 AM, which will be examined separately, as necessary given the particular sensitivity of residential receptors to noise during this period.

4.7.11 Alternatives

The purpose of the SEQR EIS Alternatives analysis is to examine reasonable and feasible options that avoid or reduce project-related significant adverse impacts, while achieving the goals and objectives. The alternatives are usually defined once the full extent of the Proposed Project's impacts have been identified. However, the alternatives analyzed must include a No Action Alternative, as required by Section 617, as well as a No Unmitigated Impact Alternative, if unmitigated impacts are identified as part of the DEIS analysis. Two additional alternatives have been identified for analysis, the Inboard Alignment Flood Protection Alternative (Alternative A) and the Outboard Alignment Flood Protection Alternative (Alternative B), described further below.

- **No Action Alternative**

The DEIS will analyze projected changes in future conditions through the 2027 analysis year assuming the proposed flood barrier system is not installed with conditions under the proposed project.

- **Inboard Alignment Flood Protection Alternative**

As described above, the Inboard Alignment's (Alternative A) design objective was to provide flood protection along the most upland location from the water's edge (see **Figure 12**). The DEIS will include a description of this alternative and an initial assessment of its impacts and benefits as compared with the Proposed Project to determine whether this alternative warrants a detailed analysis; if so, such detailed analysis will be presented in the DEIS.

- **Outboard Alignment Flood Protection Alternative**

As described above, the Outboard Alignment (Alternative B) would provide flood protection nearer the water's edge and increases modifications to existing open spaces (see **Figure 12**). The DEIS will include a description of this alternative and an initial assessment of its impacts and benefits as compared with the Proposed Project to determine whether this alternative warrants a detailed analysis; if so, such detailed analysis will be presented in the DEIS.

- **No Unmitigated Impact Alternative**

The No Unmitigated Impact Alternative analysis will examine alternatives that may eliminate unmitigated significant adverse impacts that are identified through the DEIS impact analyses.

This analysis will compare the impacts of these alternatives with the impacts under the Proposed Project and the attainment of the goals and objectives identified in the Project's purpose and need.

4.7.12 Unavoidable Adverse Impacts

This section will describe those impacts, if any, that could not be avoided and could not be practicably mitigated.

4.7.13 Growth Inducing Aspects of the Proposed Project

This section will focus on whether the Proposed Project has the potential to induce new development within the surrounding area.

4.7.14 Irreversible and Irretrievable Commitments of Resources

This section will focus on those resources, such as energy and construction materials, that would be irretrievably committed if the Proposed Project is built.

4.7.15 Mitigation

If the Proposed Project would result in a significant adverse impact to any of the above referenced resources, measures will be identified and assessed to minimize the impacts. If any impacts can't be mitigated, they will be identified as unavoidable adverse impacts. All proposed mitigation measures will be discussed in the DEIS.

5 Additional DEIS Contents

The SEQR regulations (6 NYCRR 617.9) establish the elements that must be contained in a DEIS. In addition to those discussed above, the following elements will be included in the DEIS.

5.1 List of Preparers

A list of the authors responsible for the preparation of the DEIS document and analysis will be included in this section.

5.2 References

The complete list of the reference documents used to prepare the technical sections and perform the analysis will be included in this section.

5.3 List of Acronyms

A list of acronyms referenced in the DEIS will be included in this section.

5.4 Appendices

Appendices will include all technical reports, project related correspondence and relevant forms and other documentation as appropriate.