APPENDIX B

Cultural Resources

B.1 Cultural Resources Coordination

From: New York State Parks CRIS Application <cris.web@parks.ny.gov>
Sent: Thursday, March 10, 2022 3:39 PM
To: Dawson Gwen <gwen.dawson@bpca.ny.gov>
Cc: Rachleff, Allison <Allison.Rachleff@aecom.com>; Amanda Sutphin (LPC) <asutphin@lpc.nyc.gov>; AbiDargham, Antoine <Antoine.AbiDargham@aecom.com>; brian.koper@fema.dhs.gov; Tiernan, Christine <Christine.Tiernan@aecom.com>; ccooney@akrf.com; Gina Santucci (LPC) <gsantucci@lpc.nyc.gov>; jennifer.dudgeon@bpca.ny.gov; Stehling, Nancy <Nancy.Stehling@aecom.com>; Dencker, Rachel <rachel.dencker@aecom.com>; Ronald.R.Pinzon@usace.army.mil; shudipto.rahman@fema.dhs.gov
Subject: [EXTERNAL] NY SHPO: Submission Consolidated Response JFG8QK5DVW3T Issued for Consultation Project 20PR02168

Submission Consolidated Response Issued

The New York State Historic Preservation Office (SHPO) has issued a submission consolidated response for the following project. The consolidated response may include letters with comments from the reviewers or requests for more information.

> **Consolidated Response Link:** https://cris.parks.ny.gov/?type=CR&id=JFG8QK5DVW3T
>
> **Project Number:** 20PR02168
>
> **Project Type:** Consultation
>
> **Project Name:** South Battery Park City Resiliency Project
>
> **Consolidated Response Token:** JFG8QK5DVW3T
>
> **Submission Number:** 20PR02168.008
>
> **Submission Description:** Submission of FEMA letter clarifying there is no 106 hook (via e-mail 2/15/22)
>
> ***The submission description above is for reference only. Please go to the consolidated response page to view new correspondence or information requests from SHPO.***

New York State Historic Preservation Office
Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189
518-237-8643 | https://parks.ny.gov/shpo
CRIS: https://cris.parks.ny.gov

View and/or Address a Response

Project 20PR02168: South Battery Park City Resiliency Project (JFG8QK5DVW3T)

View Project

Please accept the following information below as the consolidated response from NYS SHPO for the above referenced submission.

Review Responses

Reviewer	Review Type	Response
Olivia Brazee	Technical Services	Thank you for providing this letter. It has been added to the project file.

Information Requests

Process	Status	Reviewer	Review Type	Request Type	Request Entity	Request Item	Request Description
No Request Records							

Attachments

Attachment	Reviewer	Review Type	Type	Name	Description
No Attachment Records					

U.S. Department of Homeland Security
FEMA Region II
26 Federal Plaza
New York, New York 10278

February 1, 2022

Benjamin Jones
Battery Park City Authority
200 Liberty Streee, 24th Floor
New York, NY 10281

RE: FEMA levee accreditation and federal, state, and local permit requirements

Dear Mr. Jones:

Thank you for the Battery Park City Authority (BPCA) question regarding FEMA levee accreditation requirements for the South Battery Park City Resiliency Project, particularly concerning the need to demonstrate compliance with the National Historic Preservation Act (NHPA) Section 106.

Projects that are not FEMA or FEMA-assisted do not need to demonstrate compliance with NHPA Section 106 for the purposes of 44 CFR 65.10 levee certification. However, if the state or local community has such a requirement, FEMA will rely on the certifying engineer to demonstrate that the project is in compliance with these and any other state or local requirements. Please see the following related FEMA guidance and regulations for your reference.

The 2020 FEMA Levee guidance, Section 4.1.11.1 – Permits and Other State and Local Requirements, states:

> *The submittal must adequately address all applicable Federal, State, and local laws regulations and requirements, including, but not limited to, Federal, State, and local floodplain management laws, environmental laws, and permit requirements. This requirement is the responsibility of the NFIP community. This can be verified through communication with the requester. A record of these communications must be kept in the FEMA project file for future reference.*

44 CFR 60.3(a)(2) also has relevant language tied to communities' responsibilities for floodplain management and floodplain development permit reviews, as follows:

Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334;

We appreciate your concerns and commitment to having the most accurate flood hazard information available reflected on the FIRM and in the FIS report. For additional questions, please contact Mike Foley, FEMA Region 2 Risk Analysis Branch Chief, by email (Michael.Foley3@fema.dhs.gov) or phone (212-680-8557).

Regards,

Michael P. Foley

Michael Foley
Risk Analysis Branch Chief
FEMA Region II, Mitigation Division

cc: Kevin McCabe, Chief Resilience Officer, BPCA
Gwen Dawson, Vice President Real Property, BPCA
Mike Seering, Project Manager, AECOM
Michael Moriarty, Director, Mitigation Division, FEMA Region II
Kelli Higgins-Roche, NY State NFIP Coordinator, NYSDEC
Tolga Yilmaz, FEMA Region II RSC Lead, ARC

Wagner Park Pavilion Response

April 27, 2022

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: USACE
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to NY State Parkland that may be involved in or near your project.

We have reviewed the supplemental information for the Wagner Pavilion alternatives analysis, including the “Wagner Pavilion Relocation Feasibility Study” dated for submission March 31st, 2022, and the “Pavilion Studies” presentation, submitted to our office on April 14th, 2022. Based upon our review, we concur with the determination that there are no prudent and feasible alternatives that would avoid demolition of Wagner Pavilion. At this point, we suggest drafting a Letter of Resolution that would stipulate appropriate mitigation for the adverse impact.

If additional information or correspondence is required regarding this project it should be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc: A. Rachleff, A. Sutphin, A. AbiDargham, B. Koper, C. Tiernan, C. Cooney, G. Santucci, J. Dudgeon, N. Stehling, R. Dencker, R. Pinzon, S. Rahman

SOUTH BATTERY PARK CITY RESILIENCY

SHPO- Pavilion Studies

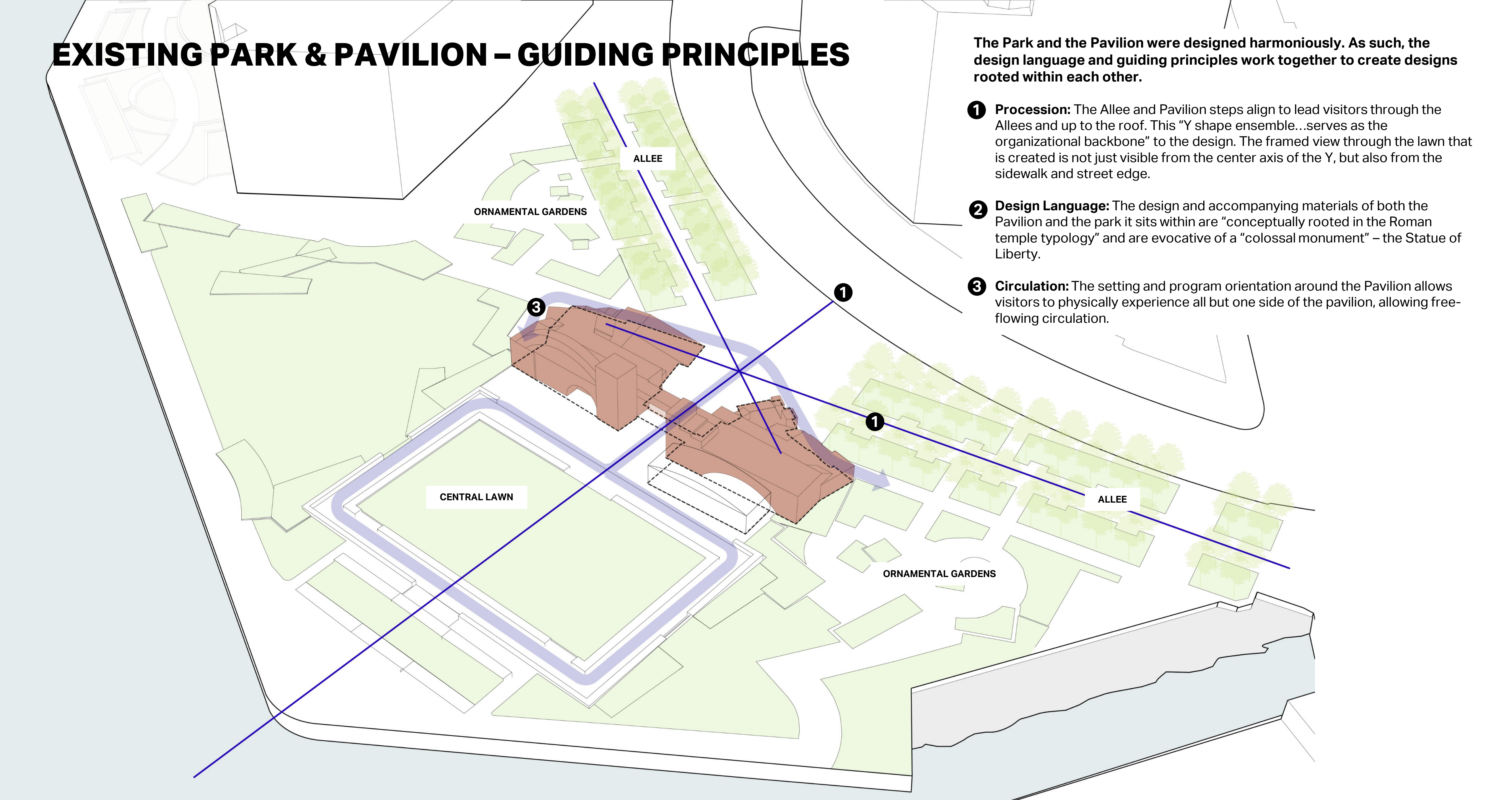
RELATIONSHIP OF PARK AND PAVILION

EXISTING PARK & PAVILION

VIEW FROM WAGNER PARK

VIEW FROM BATTERY PLACE

EXISTING PARK & PAVILION – GUIDING PRINCIPLES



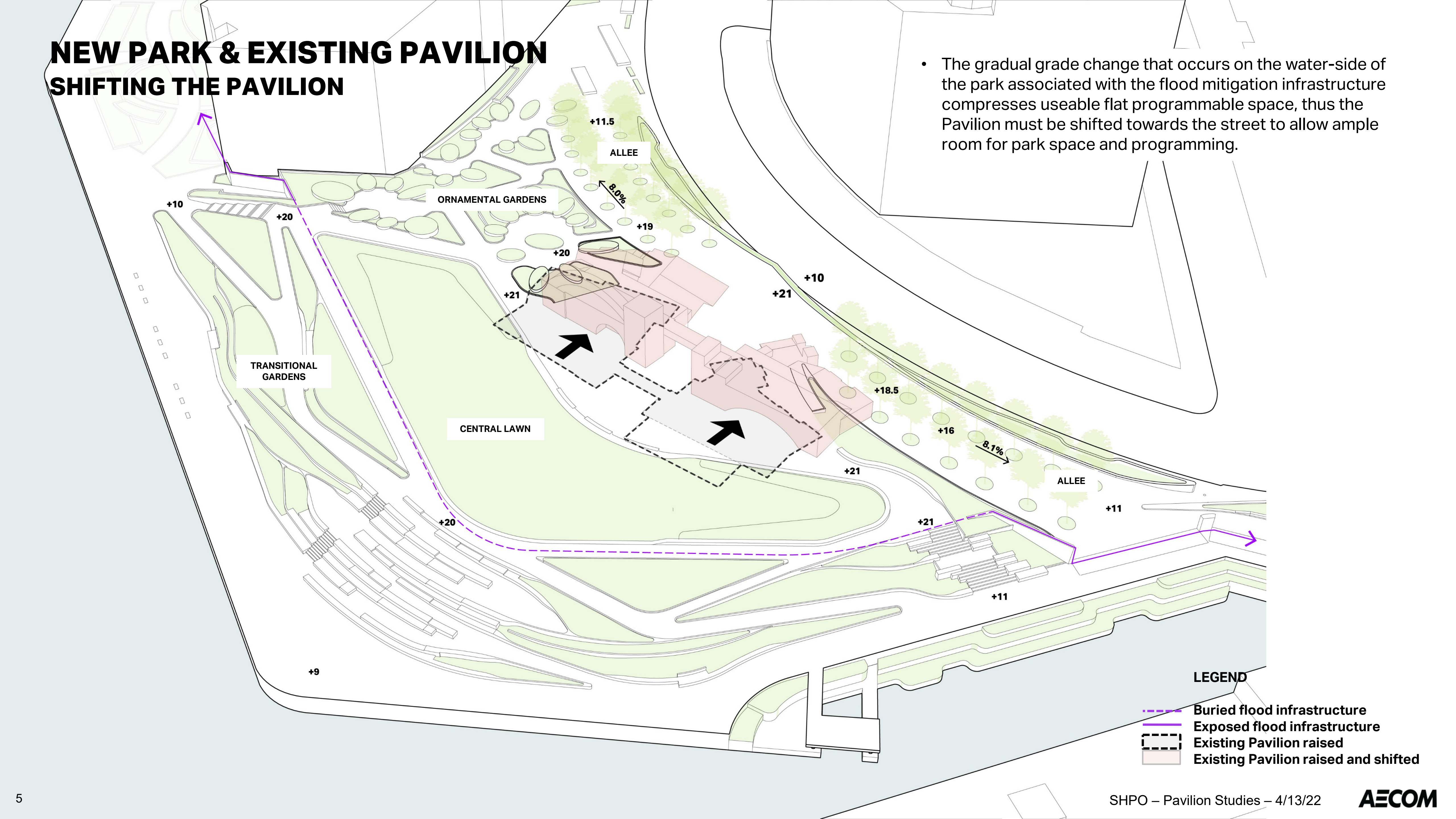
The Park and the Pavilion were designed harmoniously. As such, the design language and guiding principles work together to create designs rooted within each other.

1. **Procession:** The Allee and Pavilion steps align to lead visitors through the Allees and up to the roof. This "Y shape ensemble…serves as the organizational backbone" to the design. The framed view through the lawn that is created is not just visible from the center axis of the Y, but also from the sidewalk and street edge.
2. **Design Language:** The design and accompanying materials of both the Pavilion and the park it sits within are "conceptually rooted in the Roman temple typology" and are evocative of a "colossal monument" – the Statue of Liberty.
3. **Circulation:** The setting and program orientation around the Pavilion allows visitors to physically experience all but one side of the pavilion, allowing free-flowing circulation.

Machado Silvetti. "Wagner Park, from Concept to Construction." *Machado Silvetti*, June 2017, http://www.machado-silvetti.com/PERSPECTIVES/170608_WagnerPark/article.php.

NEW PARK & EXISTING PAVILION
SHIFTING THE PAVILION

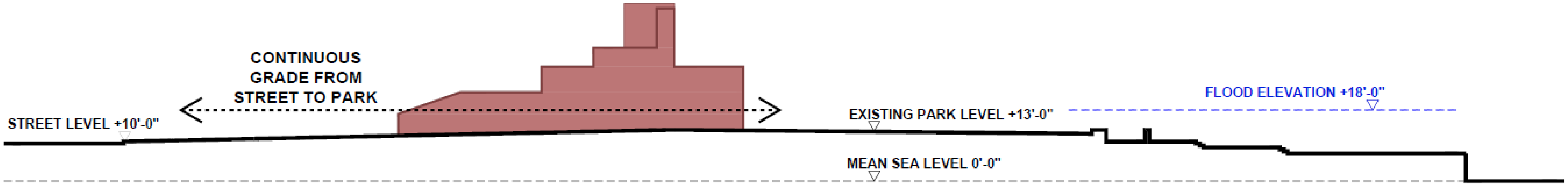
- The gradual grade change that occurs on the water-side of the park associated with the flood mitigation infrastructure compresses useable flat programmable space, thus the Pavilion must be shifted towards the street to allow ample room for park space and programming.



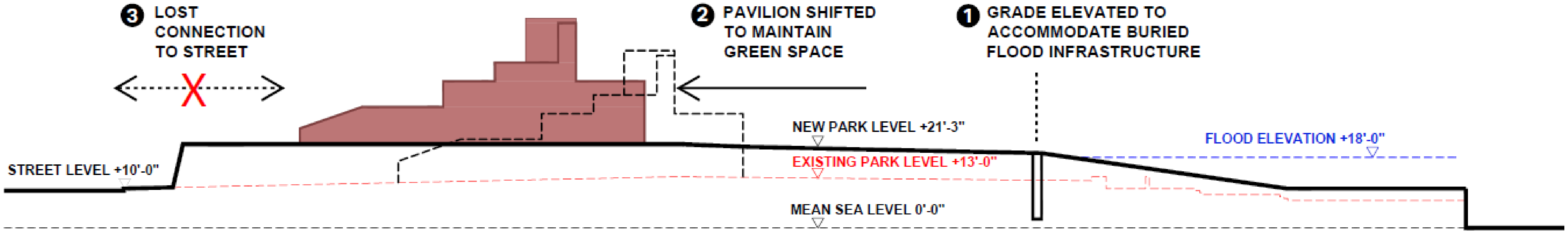
NEW PARK & EXISTING PAVILION
SHIFTING THE PAVILION

- The gradual grade change that occurs on the water-side of the park associated with the flood mitigation infrastructure compresses useable flat programmable space, thus the Pavilion must be shifted towards the street to allow ample room for park space and programming.

EXISTING PAVILION

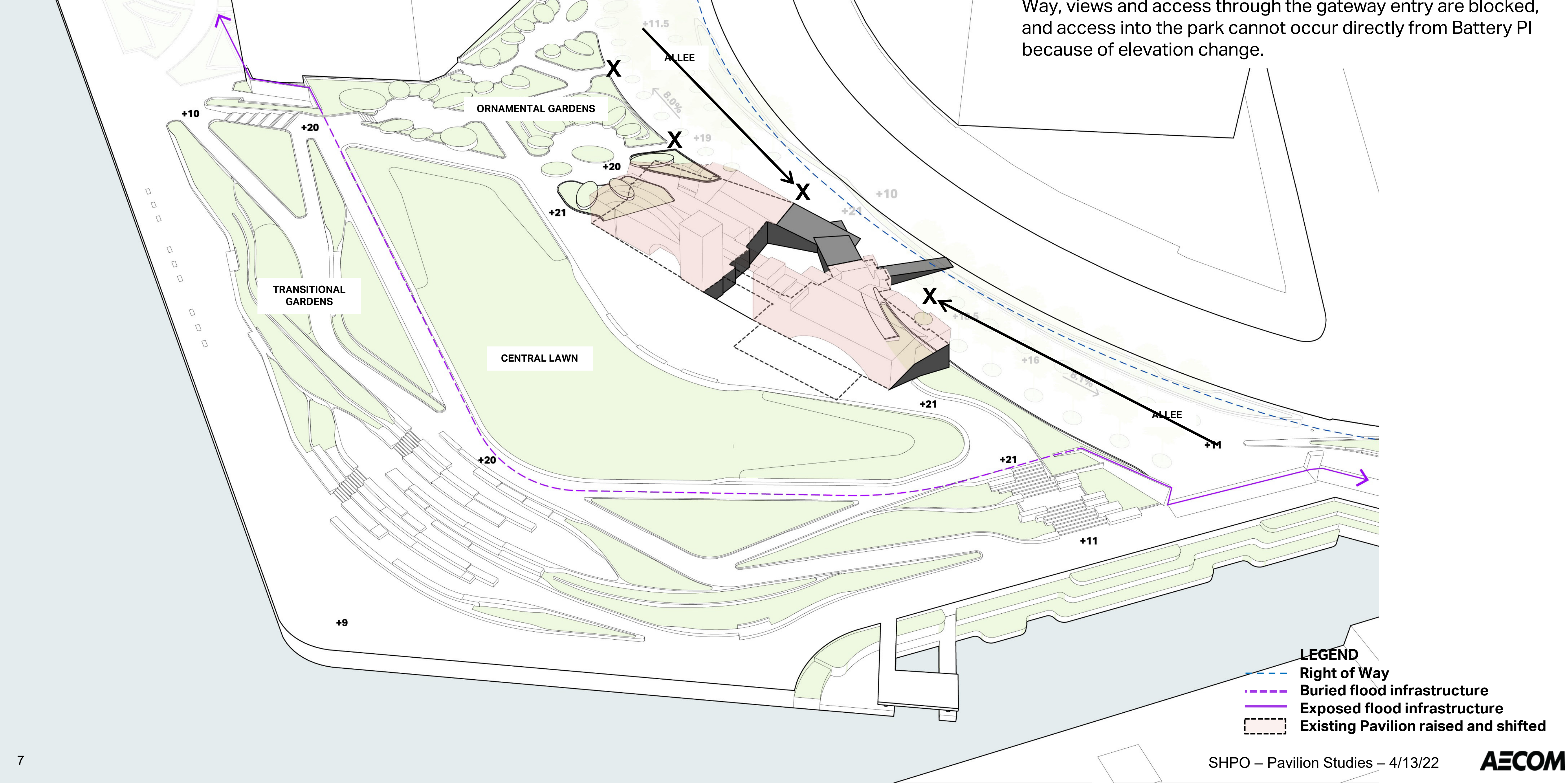


EXISTING PAVILION ELEVATED



NEW PARK & EXISTING PAVILION
STAIR ACCESS

- Pavilion stair access not feasible due to elevated height and space required for stair runs. Stairs infringe upon the Right of Way, views and access through the gateway entry are blocked, and access into the park cannot occur directly from Battery Pl because of elevation change.



AECOM

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES

WHEN THE EXISTING PAVILION IS PLACED INTO THE REDESIGNED AND ELEVATED PARK, MUCH OF THE SPIRIT OF WHAT MADE IT CULTURALLY SIGNIFICANT IS ALTERED OR REMOVED ALTOGETHER.

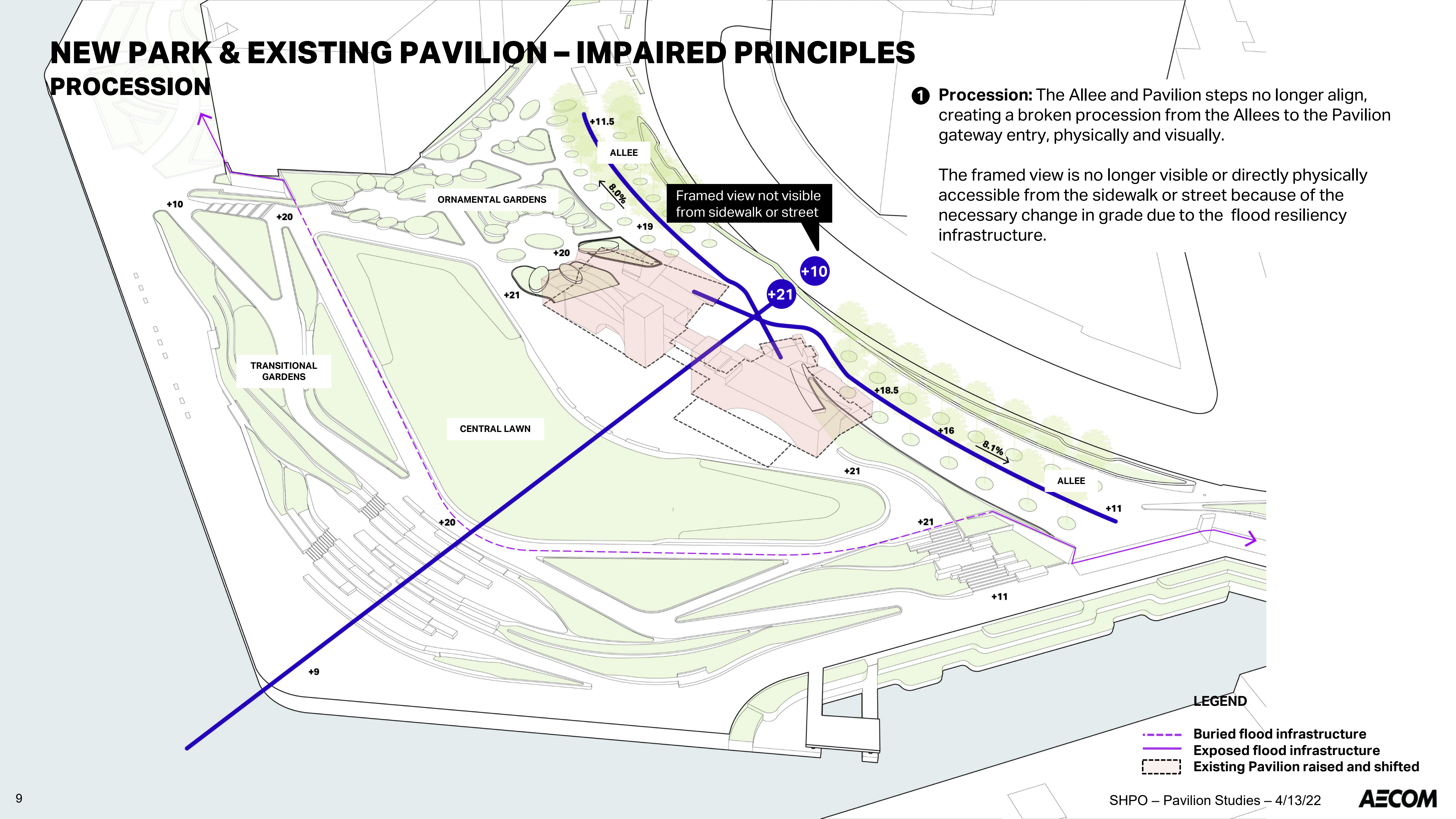
THE RESULT IS A LOSS OF THE INTEGRITY OF THE INTERFACE OF DESIGN THAT IS NO LONGER EFFECTIVE PHYSICALLY, PRACTICALLY, EXPERIENTIALLY, OR AESTHETICALLY.

THE ARCHITECTURE, AND THE PARK ON WHICH IT SITS, LOSE THE CONNECTING ELEMENTS UPON WHICH THE PAVILION WAS ORIGINALLY DESIGNED.

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES
PROCESSION

❶ **Procession:** The Allee and Pavilion steps no longer align, creating a broken procession from the Allees to the Pavilion gateway entry, physically and visually.

The framed view is no longer visible or directly physically accessible from the sidewalk or street because of the necessary change in grade due to the flood resiliency infrastructure.



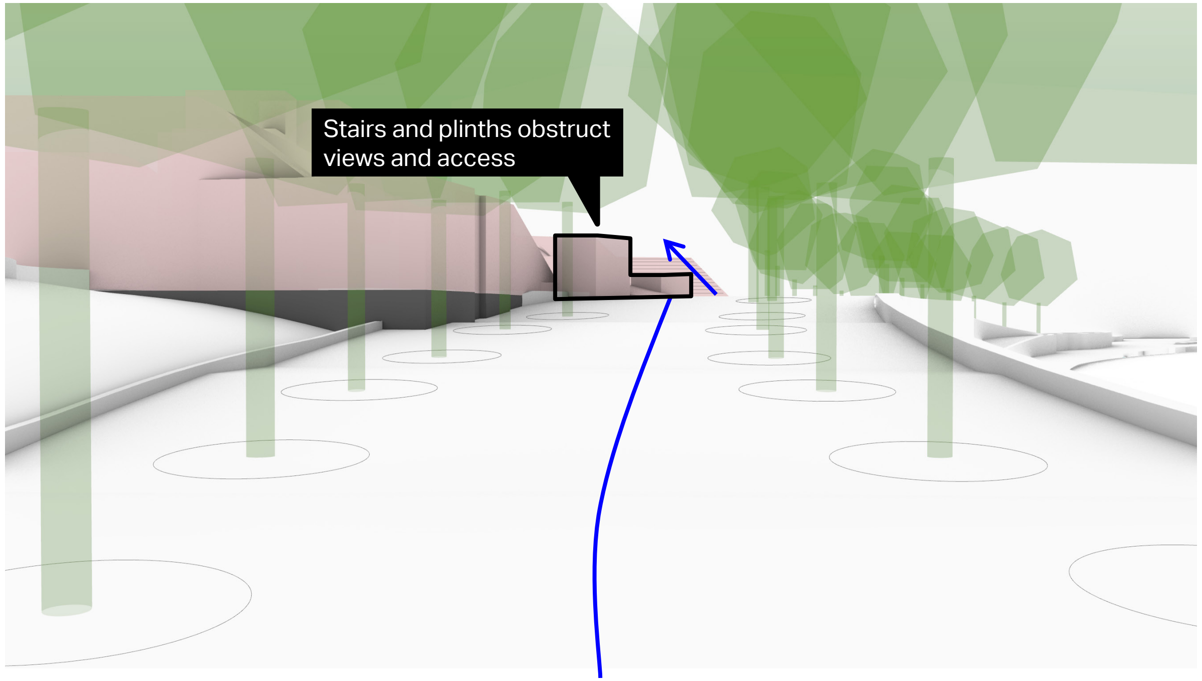
AECOM

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES
PROCESSION

1 **Procession:** The Allee and Pavilion steps no longer align, creating a broken procession from the Allees to the Pavilion gateway entry, physically and visually

LOOKING WEST THROUGH SOUTH ALLEE – EXISTING ALLEE DESIGN

PAVILION STEPS VISIBLE AND ORIENTED STRAIGHT AHEAD



LOOKING WEST THROUGH SOUTH ALLEE – PROPOSED ALLEE DESIGN

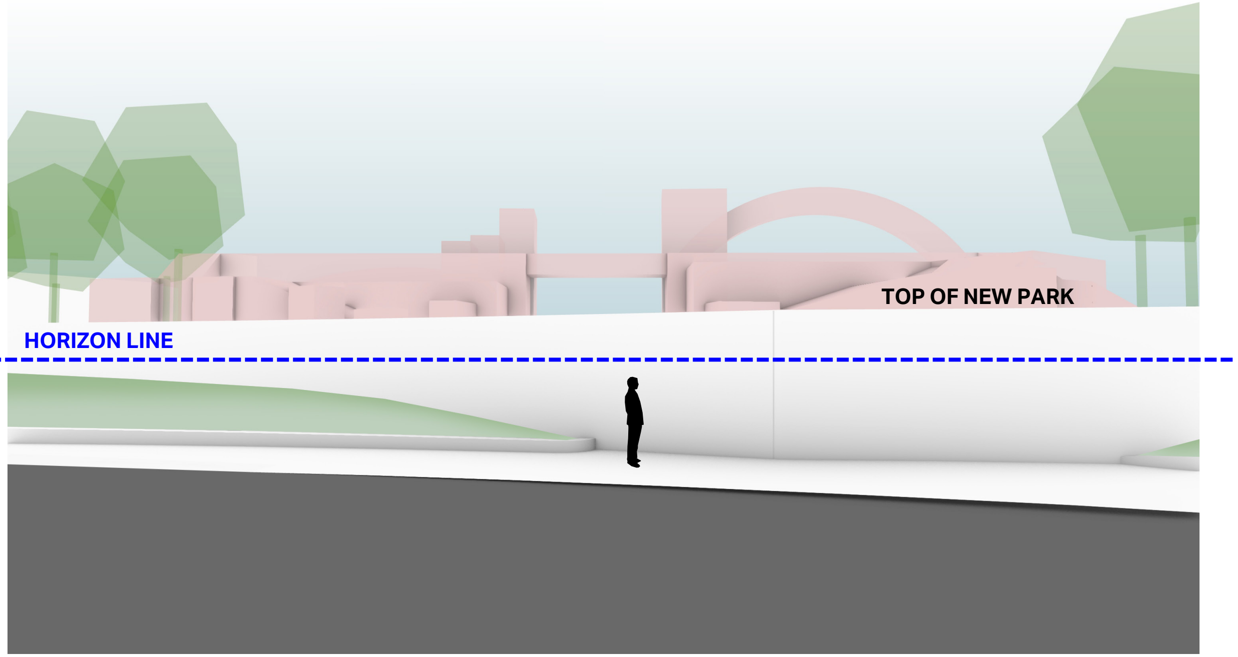
VIEW AND ACCESS TO PAVILION STEPS OBSTRUCTED

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES
PROCESSION

1 **Procession:** The framed view is no longer visible or directly physically accessible from the sidewalk or street because of the necessary change in grade due to the flood resiliency infrastructure.

LOOKING SOUTH FROM BATTERY PL – EXISTING PAVILION

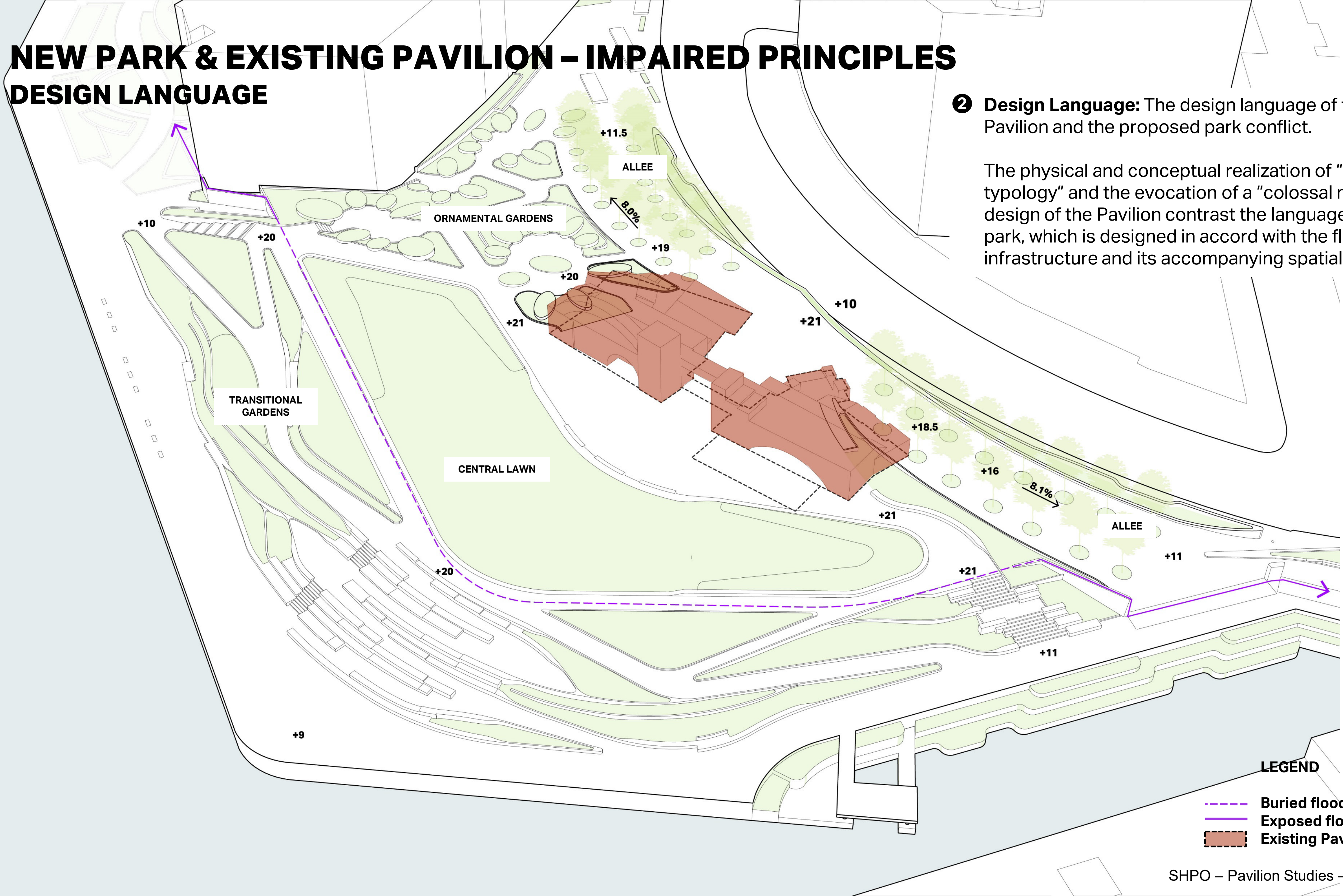
UNOBSTRUCTED VIEW AND ACCESS THROUGH GATEWAY



LOOKING SOUTH FROM BATTERY PL – EXISTING PAVILION IF ELEVATED IN NEW PARK

VIEW AND ACCESS OBSTRUCTED BY ALLEE RETAINING WALL.
PROPOSED RETAINING WALL DESIGN INCLUDES ACCESS TO PARK AND PAVILION SERVICE ROOMS

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES
DESIGN LANGUAGE



❷ **Design Language:** The design language of the existing Pavilion and the proposed park conflict.

The physical and conceptual realization of “Roman temple typology” and the evocation of a “colossal monument” in the design of the Pavilion contrast the language of the proposed park, which is designed in accord with the flood resiliency infrastructure and its accompanying spatial realities.

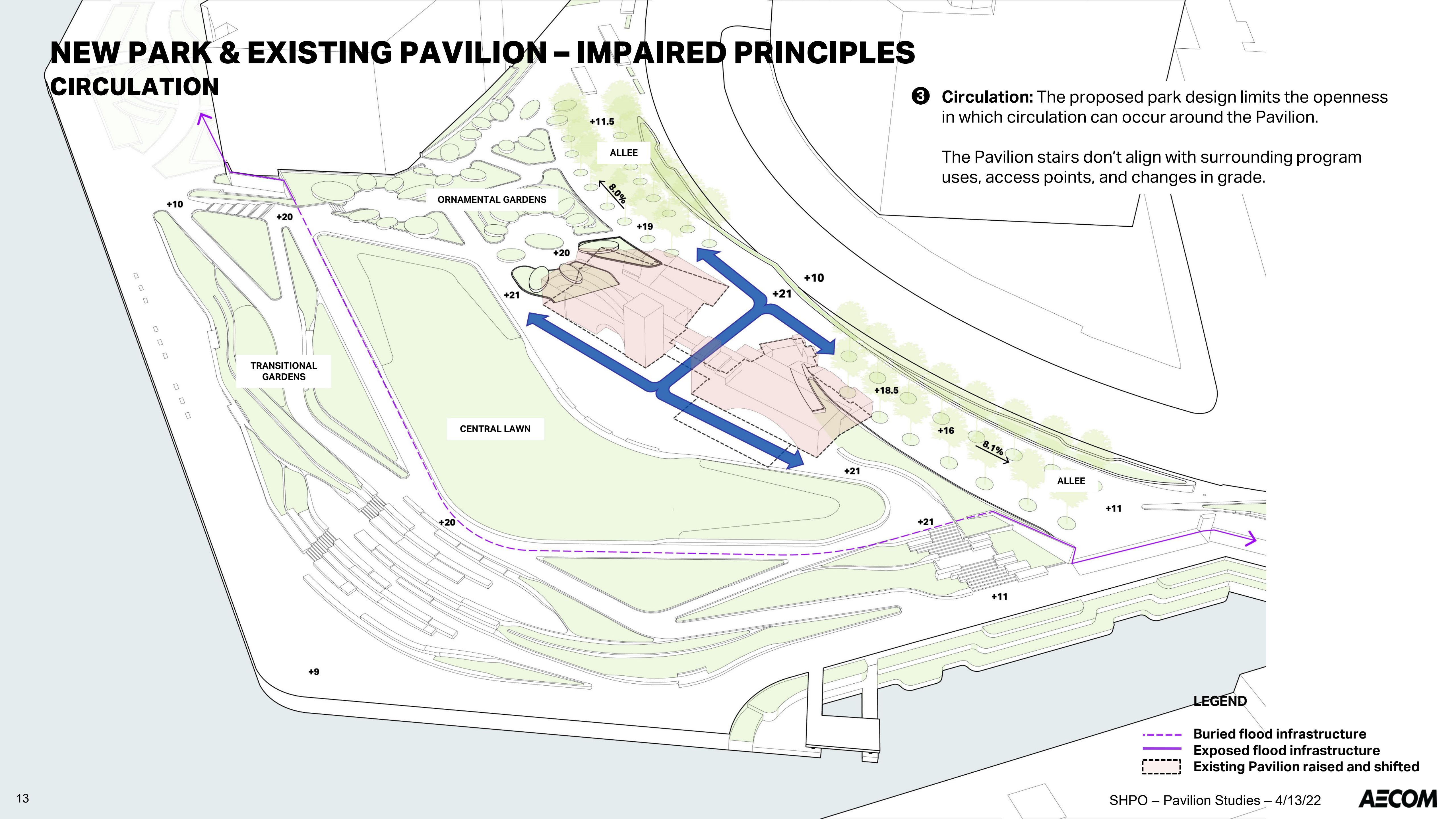
LEGEND

- **Buried flood infrastructure**
- **Exposed flood infrastructure**
- **Existing Pavilion raised and shifted**

NEW PARK & EXISTING PAVILION – IMPAIRED PRINCIPLES
CIRCULATION

❸ **Circulation:** The proposed park design limits the openness in which circulation can occur around the Pavilion.

The Pavilion stairs don't align with surrounding program uses, access points, and changes in grade.

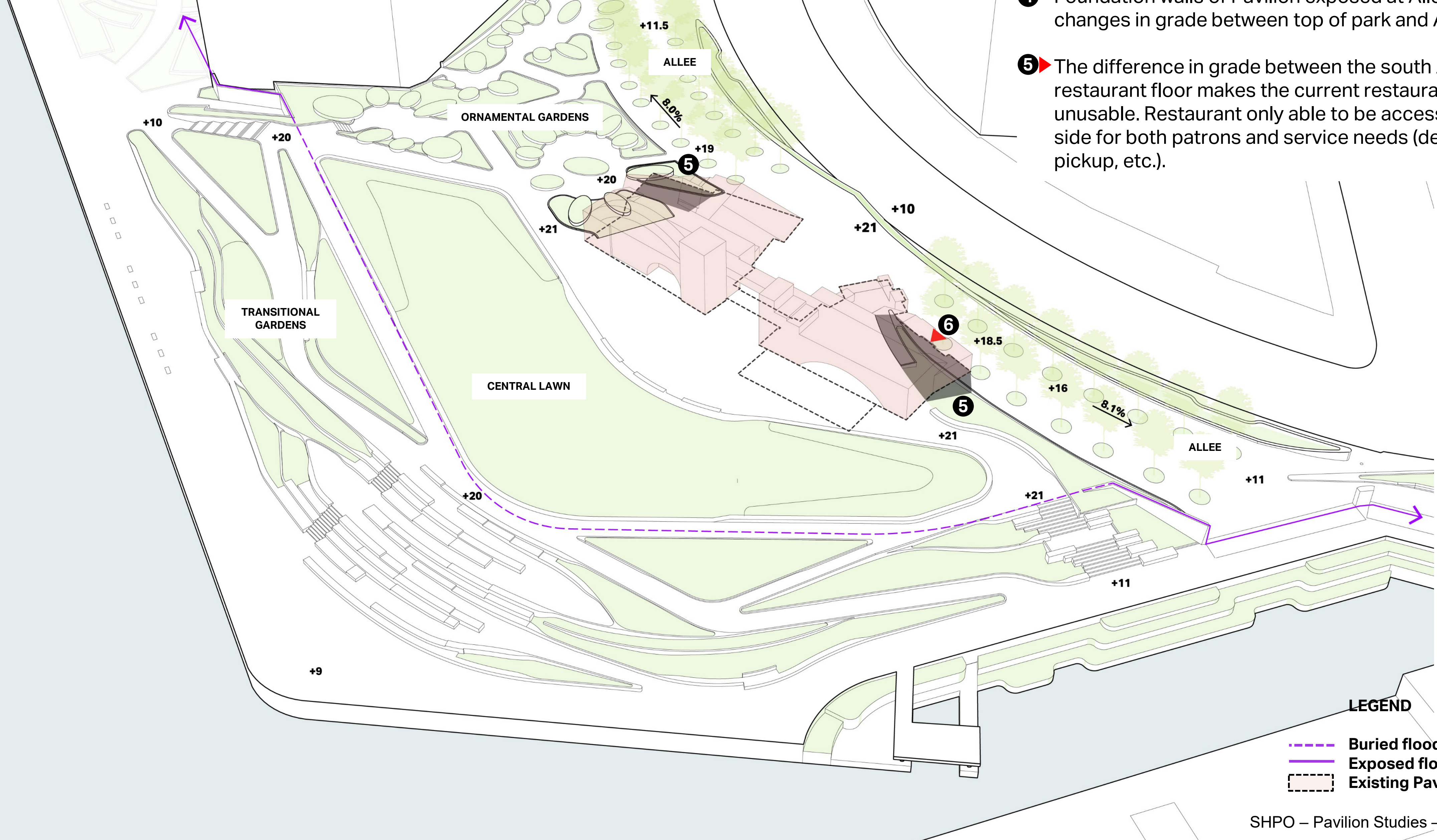


AECOM

NEW PARK & EXISTING PAVILION – SPATIAL OBSTACLES
NEGOTIATING ELEVATIONS

❹ Foundation walls of Pavilion exposed at Allees to make up changes in grade between top of park and Allee slopes.

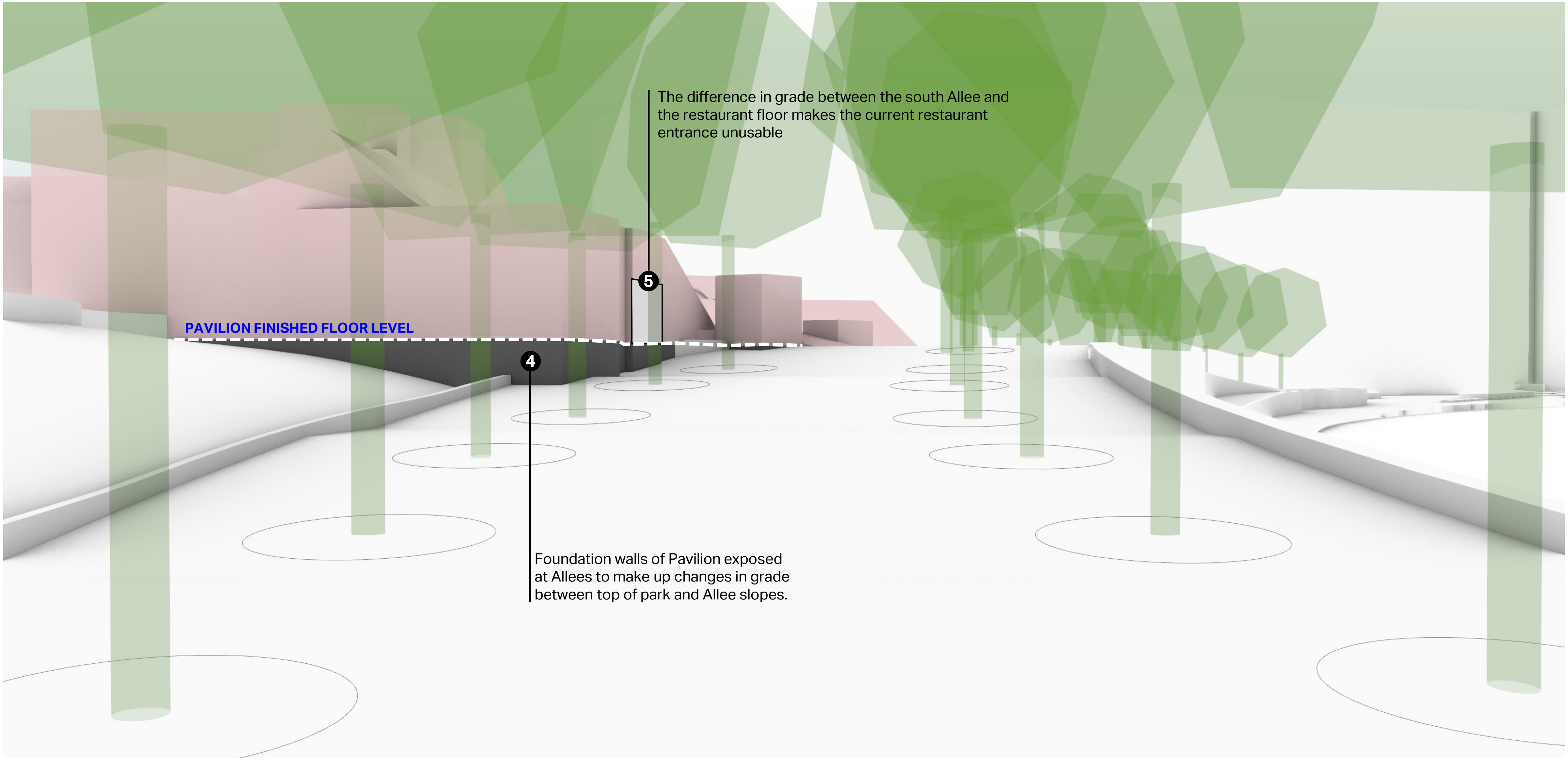
❺▶ The difference in grade between the south Allee and the restaurant floor makes the current restaurant entrance unusable. Restaurant only able to be accessed from the park side for both patrons and service needs (deliveries, trash pickup, etc.).



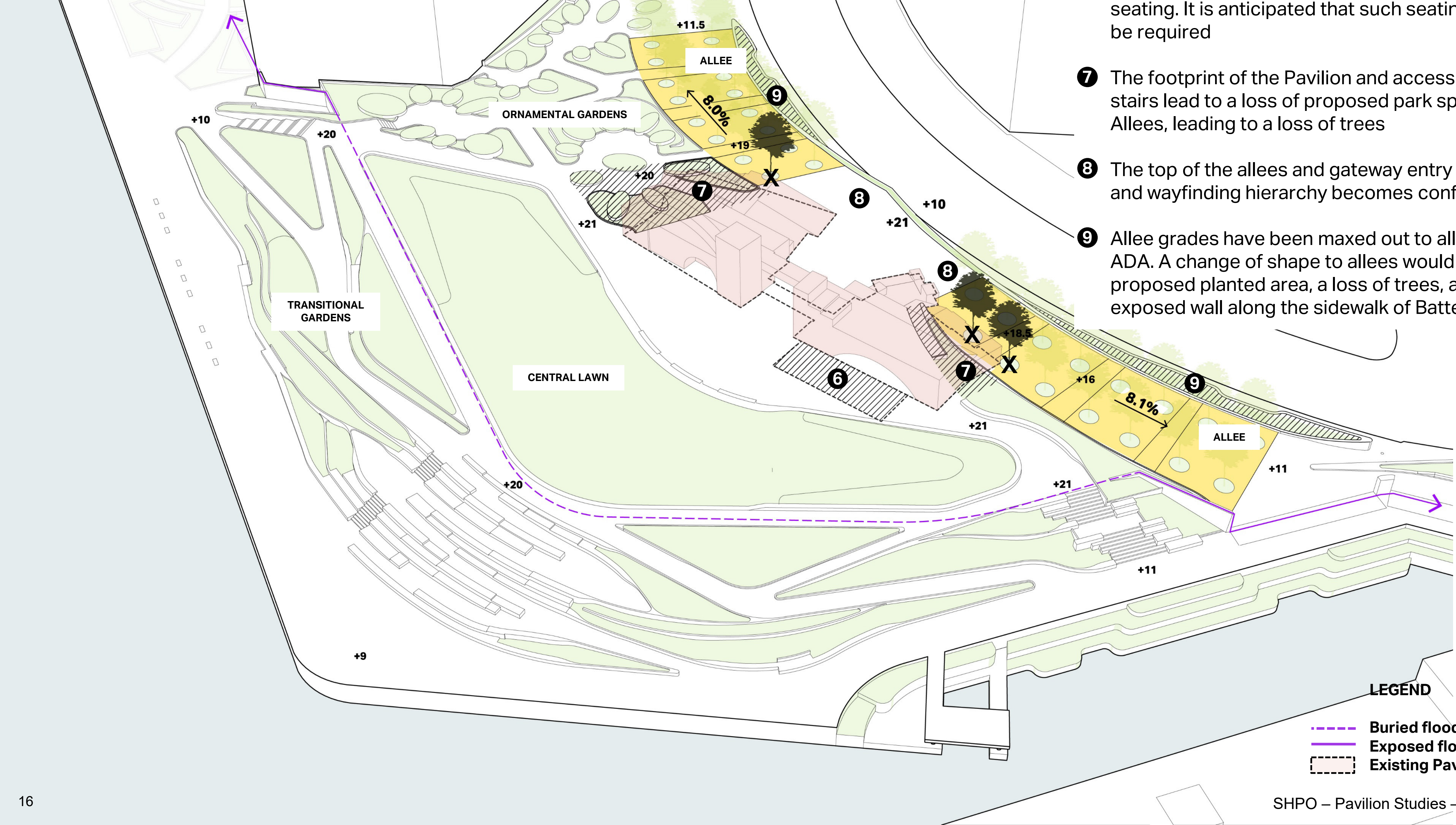
LEGEND

- Buried flood infrastructure
- Exposed flood infrastructure
- Existing Pavilion raised and shifted

NEW PARK & EXISTING PAVILION – SPATIAL OBSTACLES
NEGOTIATING ELEVATIONS



NEW PARK & EXISTING PAVILION – SPATIAL OBSTACLES
LOSS OF PROPOSED PARK SPACE



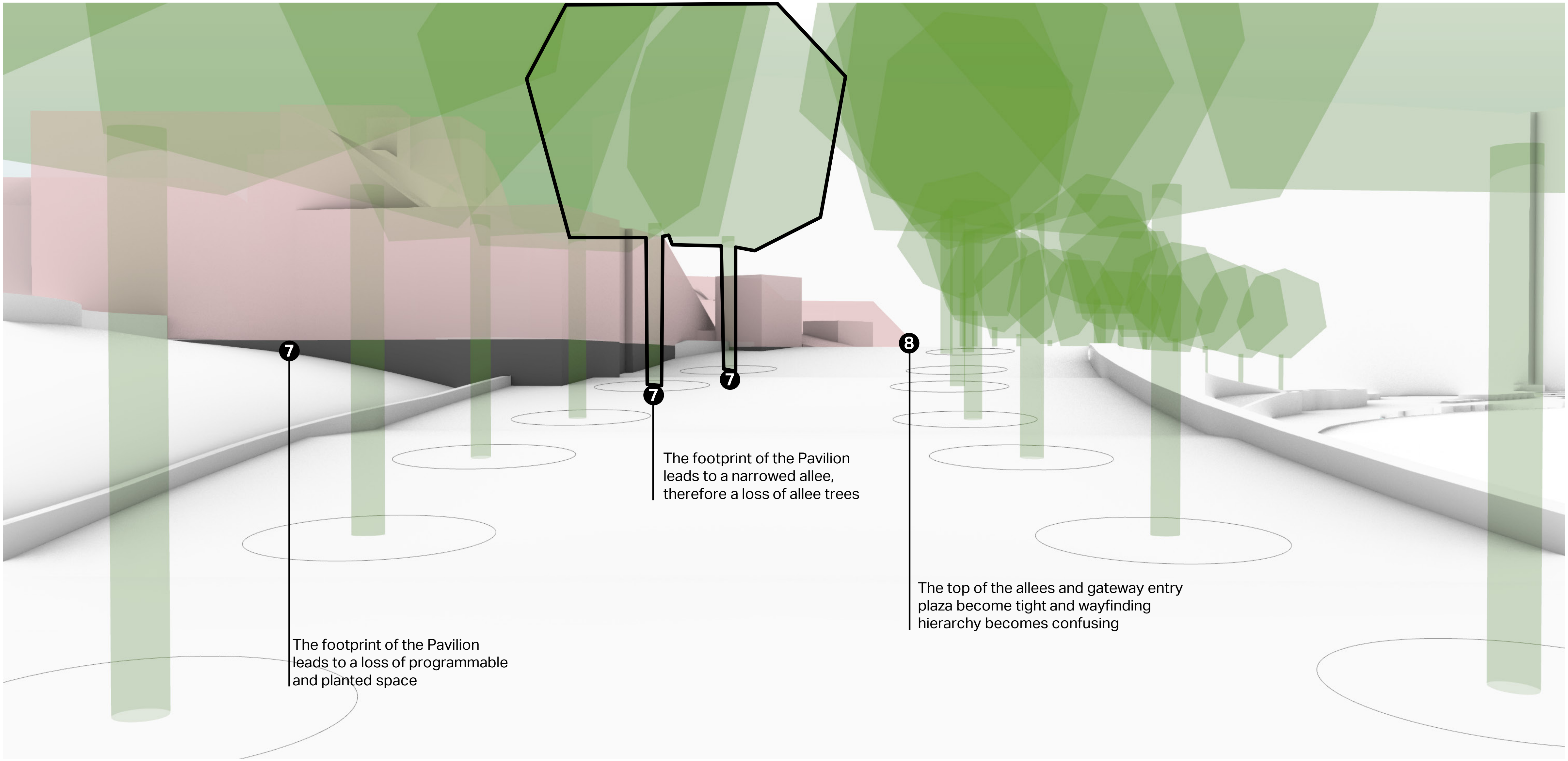
6. Tented outdoor restaurant seating was not part of the original design but has been allowed by BPCA as a temporary auxiliary structure to account for extremely limited indoor seating. It is anticipated that such seating would continue to be required

7. The footprint of the Pavilion and access to its doors and stairs lead to a loss of proposed park space and narrowed Allees, leading to a loss of trees

8. The top of the allees and gateway entry plaza become tight and wayfinding hierarchy becomes confusing

9. Allee grades have been maxed out to allowable slopes, per ADA. A change of shape to allees would lead to loss of proposed planted area, a loss of trees, and additional exposed wall along the sidewalk of Battery Pl.

NEW PARK & EXISTING PAVILION – SPATIAL OBSTACLES



NEW PARK & EXISTING PAVILION
SUMMARY

IMPAIRED PRINCIPLES

- **Procession:** The Allee and Pavilion steps no longer align, creating a broken procession from the Allees to the Pavilion gateway entry, physically and visually. The framed view is no longer visible or directly physically accessible from the sidewalk or street because of the necessary change in grade due to the flood resiliency infrastructure.

- **Design Language:** The design language of the existing Pavilion and the proposed park conflict. The physical and conceptual realization of “Roman temple typology” and the evocation of a “colossal monument” in the design of the Pavilion contrast the language of the proposed park, which is designed in accord with the flood resiliency infrastructure and its accompanying spatial realities.

- **Circulation:** The proposed park design limits the openness in which circulation can occur around the Pavilion. The Pavilion stairs don’t align with surrounding program uses, access points, and changes in grade.

NEW PARK & EXISTING PAVILION
SUMMARY

SPATIAL OBSTACLES

- The gradual grade change that occurs on the water-side of the park associated with the flood mitigation infrastructure compresses useable flat programmable space, thus the Pavilion must be shifted towards the street to allow ample room for park space and programming.
- Pavilion stair access not feasible due to elevated height and space required for stair runs. Stairs infringe upon the Right of Way, views and access through the gateway entry are blocked, and access into the park cannot occur directly from Battery Pl because of elevation change.
- Foundation walls of Pavilion exposed at Allees to make up changes in grade between top of park and Allee slopes.
- The difference in grade between the south Allee and the restaurant floor makes the current restaurant entrance unusable. Restaurant only able to be accessed from the park side for both patrons and service needs (deliveries, trash pickup, etc.).
- Tented outdoor restaurant seating was not part of the original design but has been allowed by BPCA as a temporary auxiliary structure to account for extremely limited indoor seating. It is anticipated that such seating would continue to be required.
- The footprint of the Pavilion and access to its doors and stairs lead to a loss of proposed park space and narrowed Allees, leading to a loss of trees
- The top of the allees and gateway entry plaza become tight and wayfinding hierarchy becomes confusing
- Allee grades have been maxed out to allowable slopes, per ADA. A change of shape to allees would lead to loss of proposed planted area, a loss of trees, and additional exposed wall along the sidewalk of Battery Pl.

EXISTING BUILDING CONDITIONS

EXISTING PARK & PAVILION


VIEW FROM WAGNER PARK


VIEW FROM BATTERY PLACE

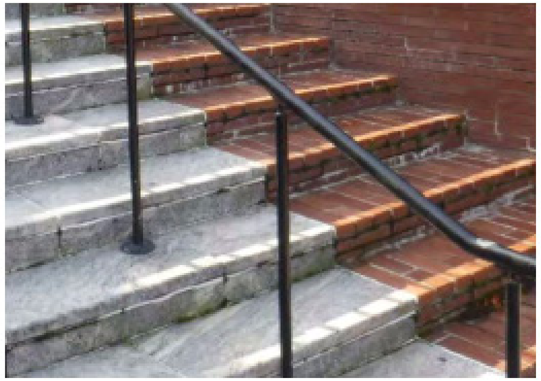
PAVILION EXISTING CONDITIONS

- Built in 1994 – 28 Year Life
- 5,500 SF total building area, designed for specific site
- Structure now 10 Feet below new Design Flood Elevation
- All Mechanical Electrical and Plumbing Systems are obsolete and at the end of their useful life
- Brick veneer façade exhibits significant deterioration, spalling and cracking
- Building not in compliance with current energy codes
- Does not meet current accessibility standards
- Does not meet sustainability goals
- Inefficient building layout and inadequate space for the intended use – leading to need for temporary tent structure in the face of community demands and expectations
- Extensive maintenance necessary for safe use

PAVILION EXISTING CONDITIONS

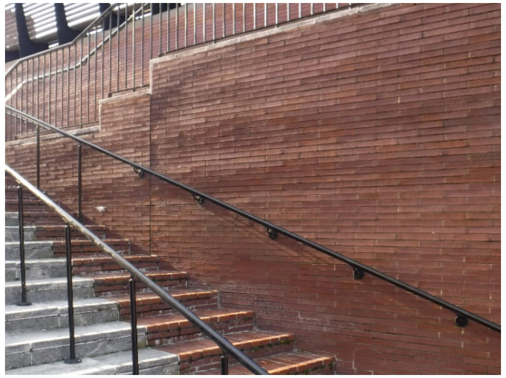
- Building Exterior detailing has weathered severely with moisture barrier failures
- Remediation to address drainage problems at roof and stairs has additional hard and soft costs
- Remediation will change design details and potentially also change materials
- Relocating and elevating building adds cost to any scenario
- Equipment at the end of its useful life and must be replaced

BRICK VENEER DELAMINATION, WIDESPREAD CHRONIC EFFLORESCENCE AND CRACKING



EXTERIOR MASONRY STAIRS AND PAVING IN DISREPAIR AND EXPENSIVE TO MAINTAIN

EXTERIOR NOT RESILIENT IN MARINE ENVIRONMENT AND DIFFICULT/EXPENSIVE TO REMEDIATE



FAÇADE WAVINESS INDICATES INSUFFICIENT BRICK TIES IN SOME LOCATIONS

ELEVATING AND RELOCATING THE WAGNER PARK PAVILION

THIRD PARTY ENGINEERING FIRM– ELEVATION AND RELOCATION WAGNER PARK PAVILION

A team of three firms were retained to perform a feasibility report:

Watts Architects & Engineers

Lead Architects/Engineers

KPFF Engineers

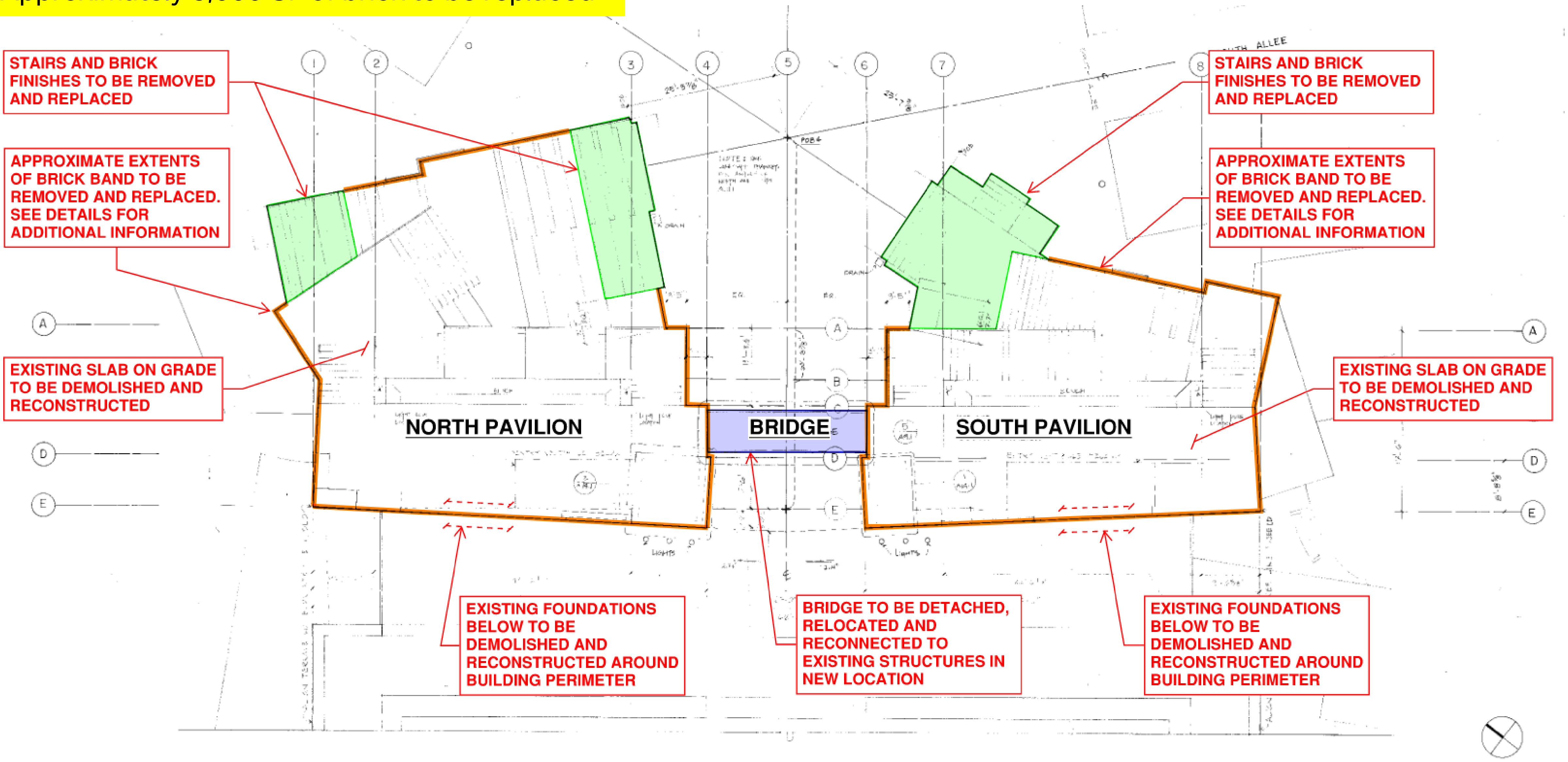
Technical Engineers with building relocation experience

Nicholas Brothers Inc

Structural movers with extensive experience on the east coast (support for cost estimating)

RELOCATION STUDY - STRUCTURAL SCOPE OVERVIEW

Approximately 5,000 SF of brick to be replaced



AECOM

RELOCATION STUDY - OVERLAPPING FOUNDATIONS OF EXISTING AND SHIFTED BUILDING

LEGEND

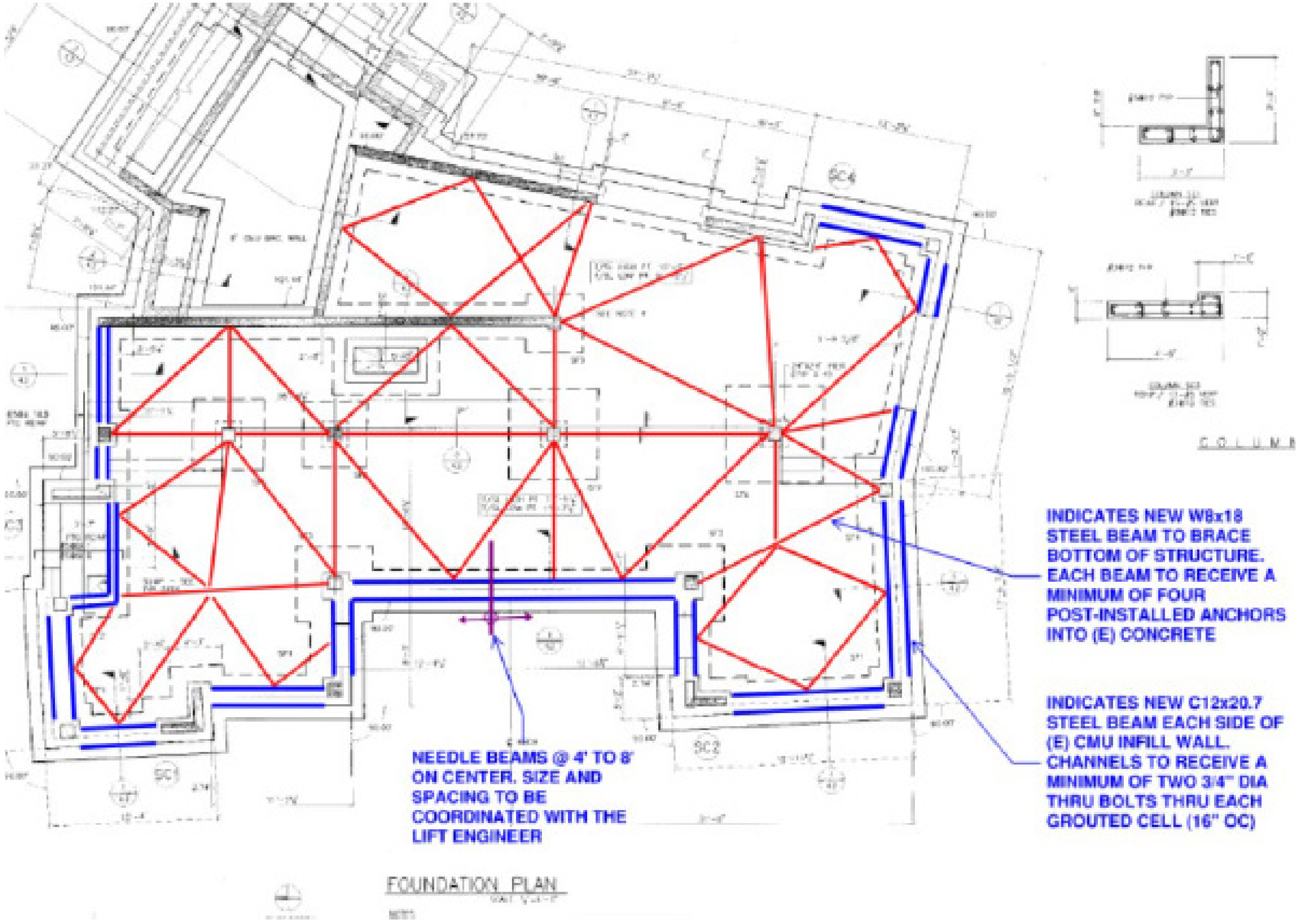
- Existing Pavilion Footprint
- Existing Pavilion Raised and Shifted Footprint

- During the relocation process the contractor will have to ensure optimal weather conditions to prevent substantial lateral movement, will have to keep the building supported while the new foundations are being constructed, and will need to place the building precisely on the new pile supported foundations.

- Based on the anticipated relocation site, the proposed new foundations will overlap with the existing foundations.
  - Because of this, the contractor will also have to demolish the existing foundations while the building is being supported and will then need to construct the new foundations.

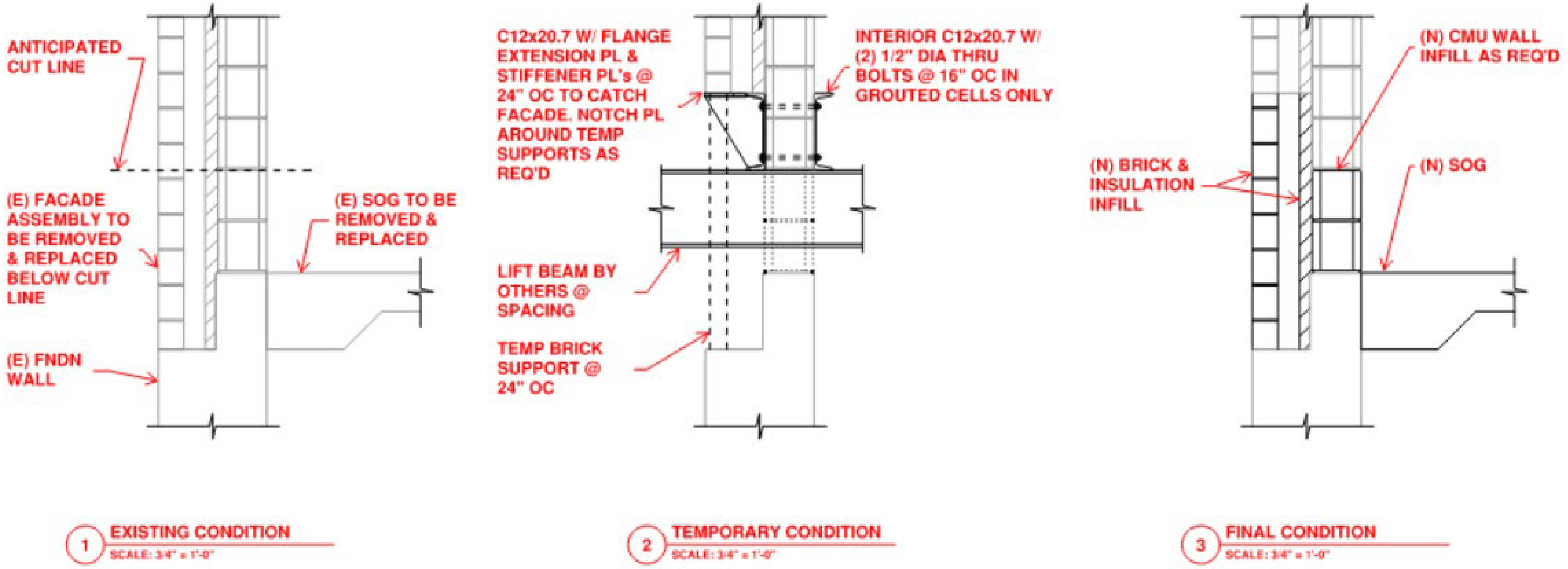
RELOCATION STUDY - RELOCATION STEPS

1. Determine preferred relocation option & location
2. Demolish the existing slab on grade & remove interior partitions and finishes
3. Remove all stairs on grade and the timber bridge spanning between each pavilion.
4. Develop Bracing Plan
5. Add supports at each column and along all exterior walls
6. Move the building with hydraulic lifts and place on temporary foundations
7. Demolish the existing foundations while the building is being supported. This is required due to the proposed new foundations overlapping with the existing foundations.
8. Construct the new foundations
9. Move building segments onto new location
10. Replace 3,200 ft of brick façade removed during relocation
11. Repoint exterior joints, introduce weep holes, reflash or introduce flashing. Replace up to additional 1,500 sf of brick facade
12. Add timber bridge
13. Reconstruct all stairs ~1200 sf
14. Complete renovation of interior finishes and systems



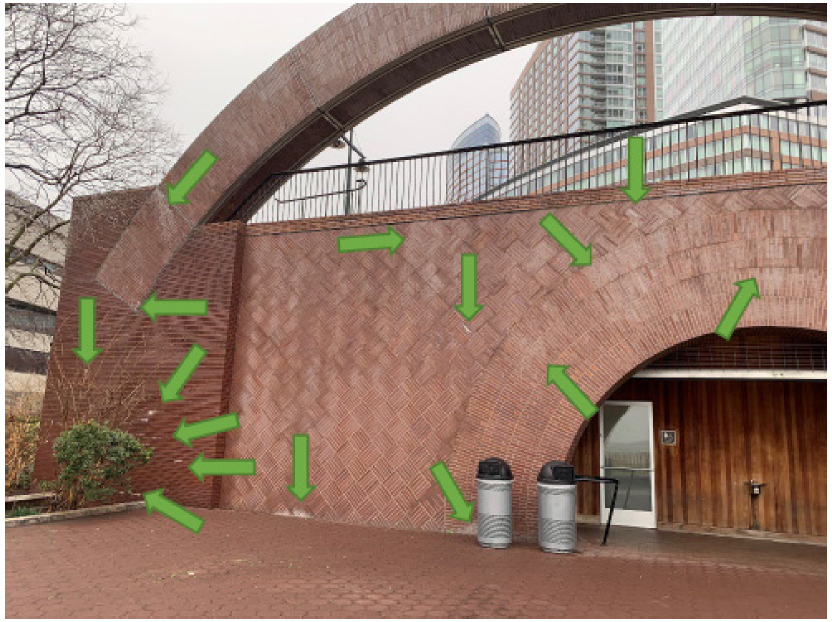
RELOCATION STUDY - ADDITIONAL BRICK TO BE REMOVED

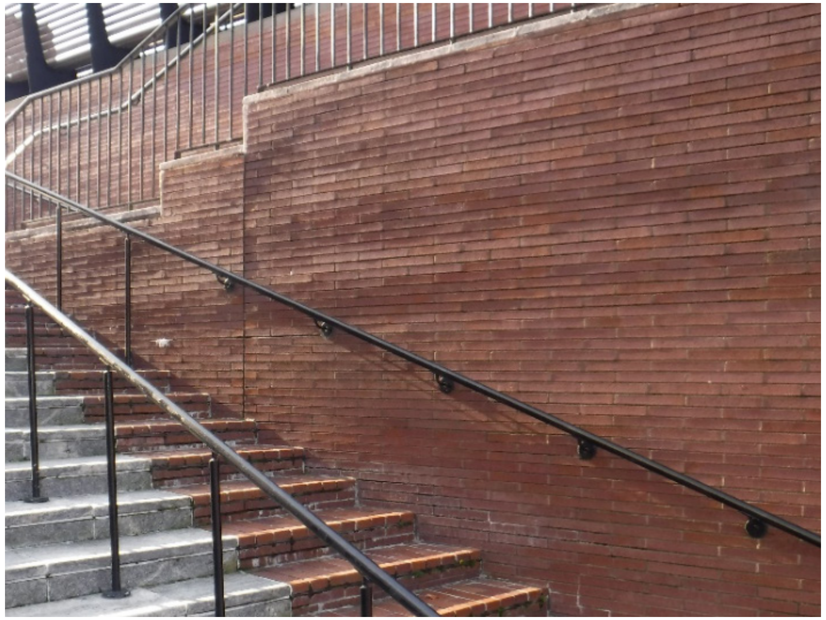
Replacement of 3,200 SF of brick work due to relocation (20% of total)



AECOM

RELOCATION STUDY - ADDITIONAL BRICK TO BE REMOVED





- Selective removal of additional 1,500 sf of brick (15% of total) along façade where damage is observed
- In total, repointing or replacement will require approximately 35% of exterior brick to be disrupted

RELOCATION STUDY - STAIR REPLACEMENT

- All stairs will need to be rebuilt
- 1200 SF of stairs to be replaced

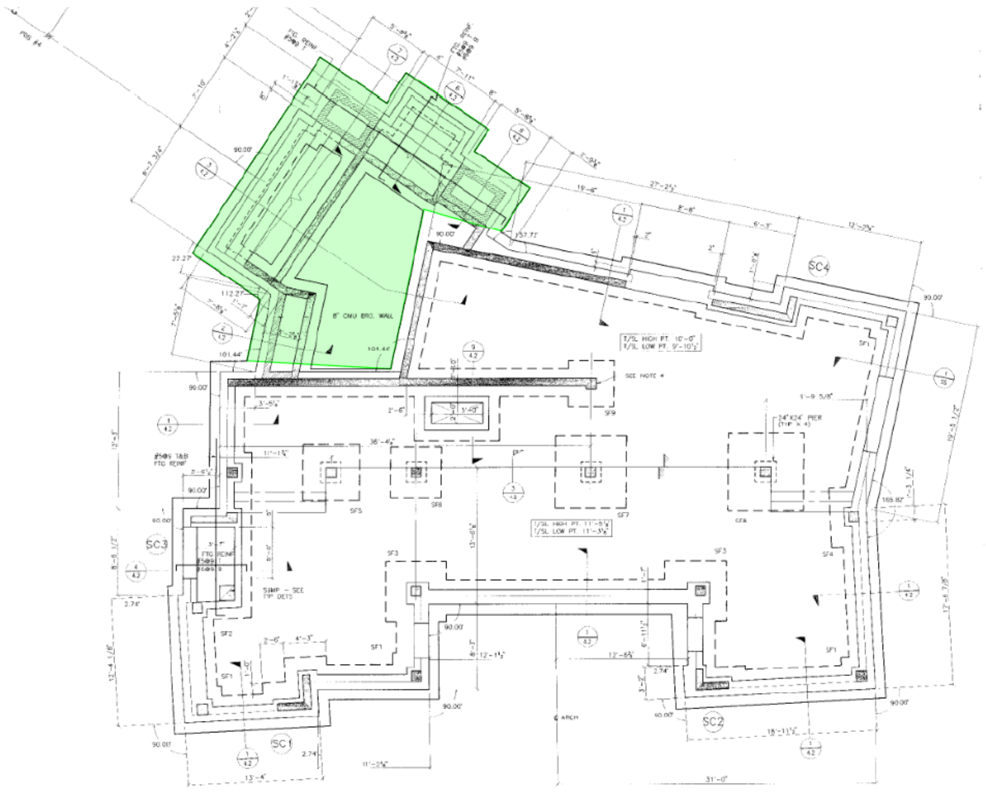


Figure 18 - Stair Removal - South Pavilion

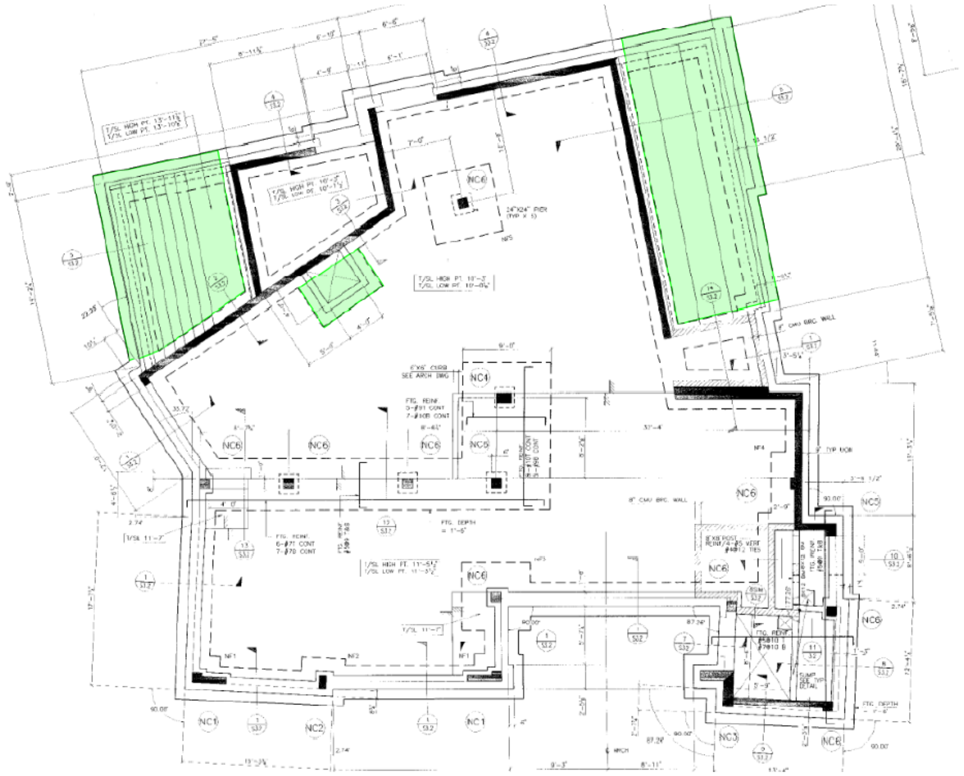
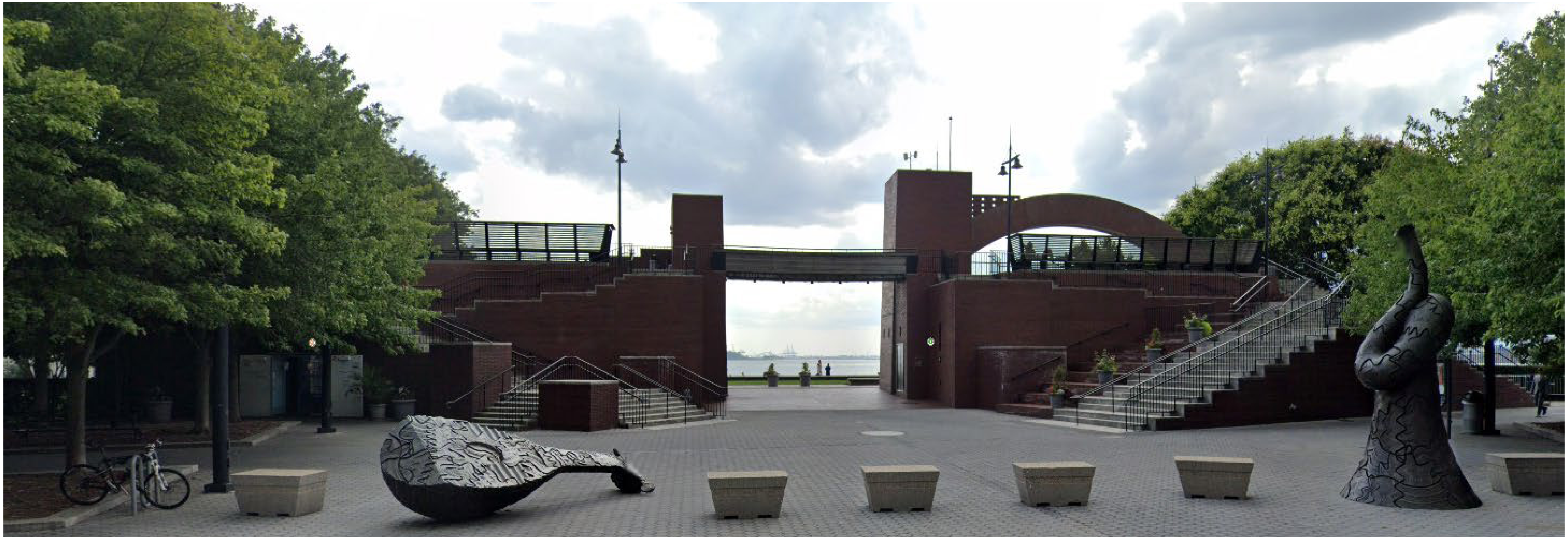


Figure 17 - Stair Removal - North Pavilion

RELOCATION STUDY - POTENTIAL RISKS

- Logistical complexity of moving segments of the building out of way to demolish and construct new foundation and support structure.
- Potential damage to the existing structure
- Unforeseen conditions uncovered when cutting to move the existing building (i.e. deterioration, cracks, corrosion etc.)
- Inconsistent final façade finish



PROPOSED DESIGN GOALS

DESIGN PURPOSE AND GOALS

Purpose

- Provide long-lasting community amenity in context of essential coastal resiliency project

Goals

- Maintain experiential quality with clear procession and framed View of the Statue of Liberty
- Create central gathering place, central lawn, and maximize green space
- Preserve spirit of allees with trees for universal access to Park
- Provide increased program spaces reflective of neighborhood needs, including for a restaurant, community room, and roof terrace
- Create more usable space with a reduced building footprint to maximize usable green space
- Provide a highly sustainable, Net Zero Carbon building

LEGEND

Street level maintenance storage and restaurant kitchen space

SITE COMPARISON

- Comparable footprint moved back on the higher site to maximize park space and usable lawn
- Similar overall height above new park grade
- Back-of-house lower story accessed from the street
- Public top story accessed from the park
- Greater amount of usable square footage, much of which is below grade

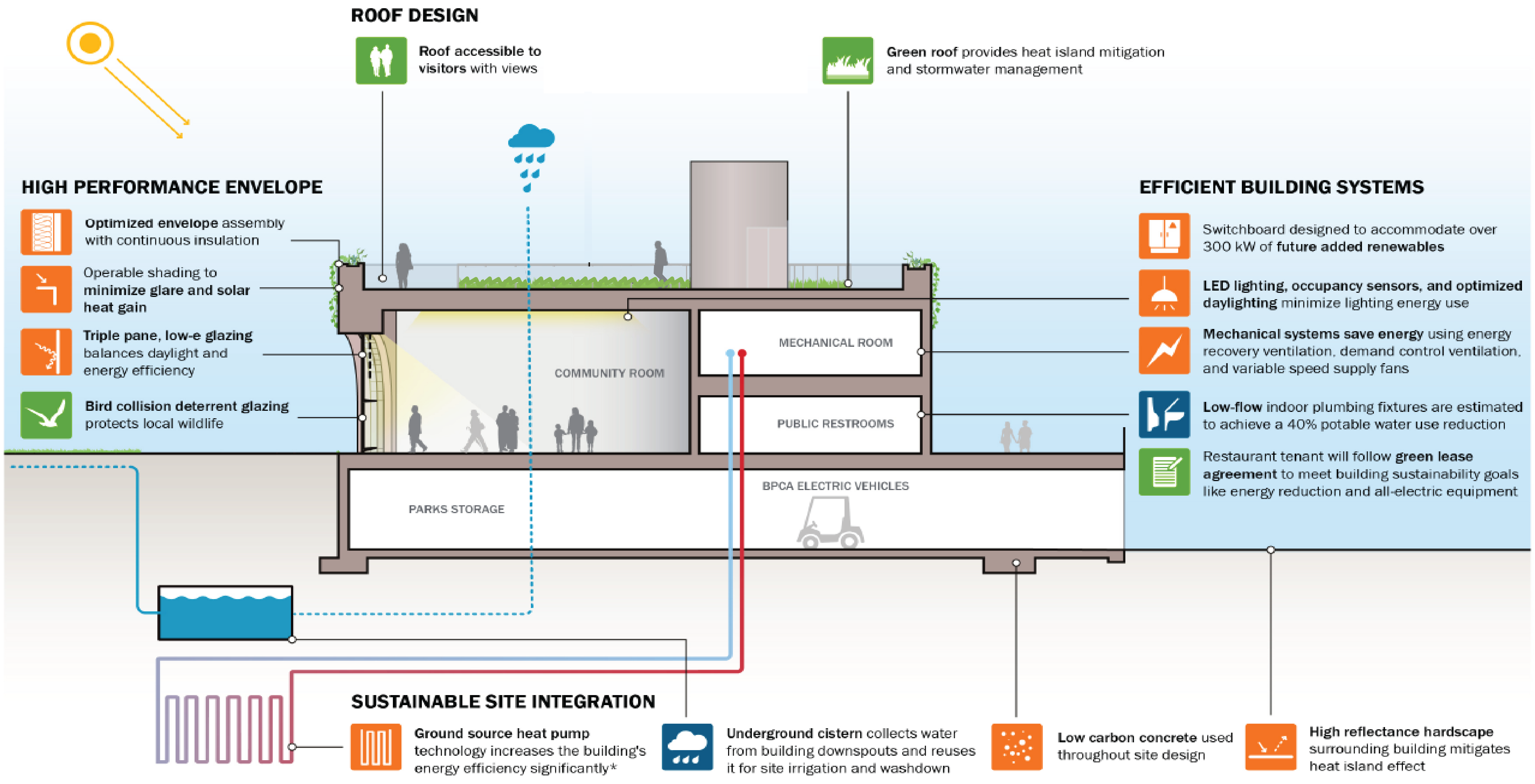
VIEW FROM BATTERY PL

NEW DESIGN

New building and landscape are optimized for a site changed by the essential coastal resiliency project and to provide universal access

New building maintains guiding principles of the original design, including views of the Statue of Liberty, while maximizing green space and usable area

NEW ZERO CARBON PAVILION - SUSTAINABILITY MEASURES



NEW BUILDING - ENERGY ASSUMPTIONS & INTERNATIONAL LIVING FUTURE INSTITUTE (ILFI) ZERO CARBON CERTIFICATION

OPERATIONAL CARBON

- Net zero energy including onsite & offsite measures
- No combustion
- Achieve 25% Energy Use Intensity (EUI) reduction from ASHRAE equivalent building
- Offset all energy with renewable energy

CURRENT DESIGN

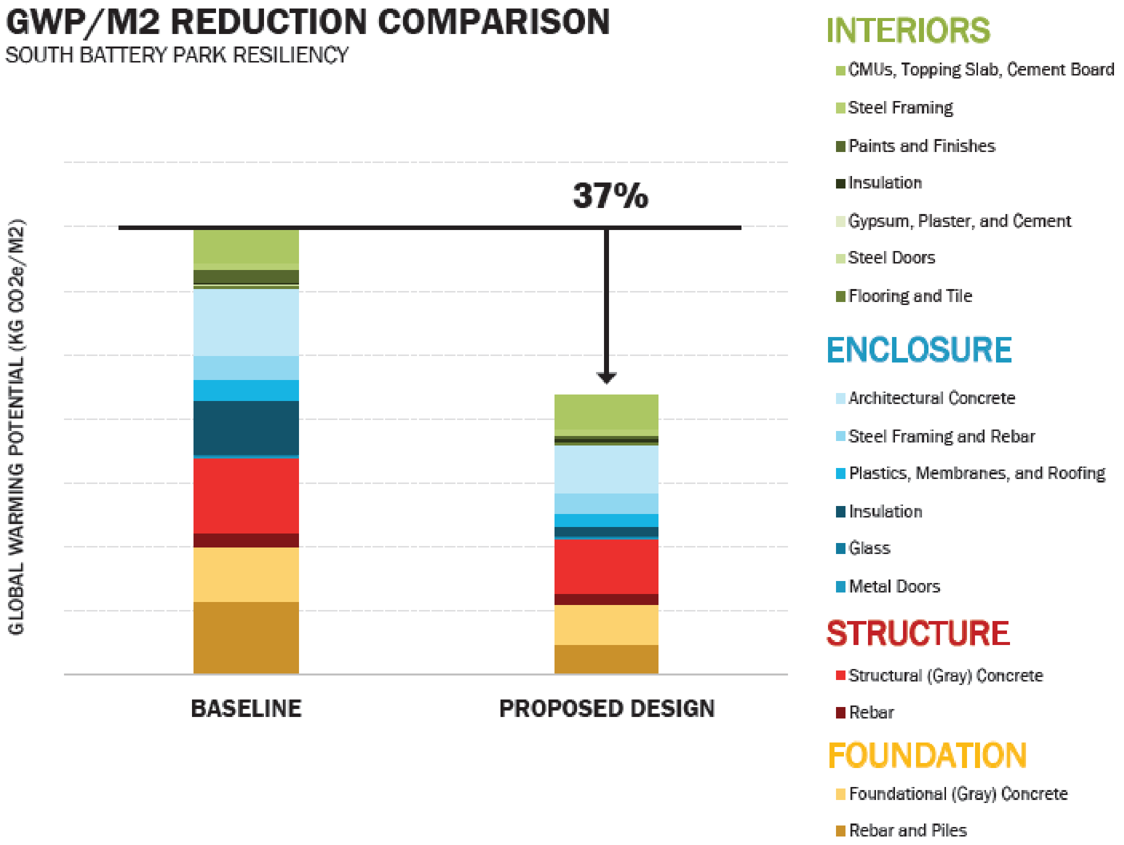
- Exceeding target, anticipating 38% EUI reduction

EMBODIED CARBON

- Embodied carbon of primary foundation, structure, and enclosure must be reduced by 10%
- Project total embodied carbon should be <500 kg CO2e/m2
- Disclose and offset the remainder of embodied carbon

CURRENT DESIGN

- Exceeding target, anticipating 37% Embodied Carbon reduction



ENERGY ASSUMPTIONS & COSTS

ENERGY COST SUMMARY – BASELINE NEW BUILDING

Energy Type	Average Cost
Electric Consumption	$75,761
Gas	$13,599

ENERGY COST SUMMARY– PROPOSED BUILDING

Energy Type	Proposed Cost
Electric Consumption	$50,664
Gas	$0

PROPOSED BUILDING ECONOMIC COST IMPROVEMENT OVER BASELINE NEW BUILDING: 43.30%

PAVILION COMPARISON

EXISTING BUILDING	NEW BUILDING
▪ Does not meet project goals	▪ Meets project goals
▪ Raising and relocating building substantially impairs the original architectural character, including its essential connection to the design language and shared narrative with the existing park	▪ Recreates the original design vision for the site, with a connection to the landscape and new context created by the flood resiliency project
▪ Cost of relocating, elevating and upgrading the structure is significant and will result in an end product that will still be an obsolete building that does not meet the public needs	▪ Provides improved public amenities, public access, and parks operations
▪ Does not comply with latest code requirements including accessibility and seismic requirements	▪ Meets all the current codes including universal access requirements
▪ Does not meet sustainability goals and will prospectively incur high energy costs	▪ Meets the sustainability goals, will be a Net Zero Carbon building, and will exceed all energy efficiency requirements of the latest codes
▪ Will require long-term future repairs which will be costly	▪ Will maintain guiding principles of the original design, including all views to the harbor and the Statue of Liberty
▪ Spatial obstacles impede existing use of the building	▪ New building optimized to accommodate necessary flood risk reduction

AECOM

RELOCATION FEASIBILITY STUDY – COST COMPARISON

COST PER SF TO MOVE EXISTING BUILDING:
$3400

COST PER SF OF NEW BUILDING:
$2000

COST TO MOVE EXISTING BUILDING*: $19M
+
COST TO ADD MAINTENANCE STORAGE: $6M

COST OF NEW BUILDING: $42M**

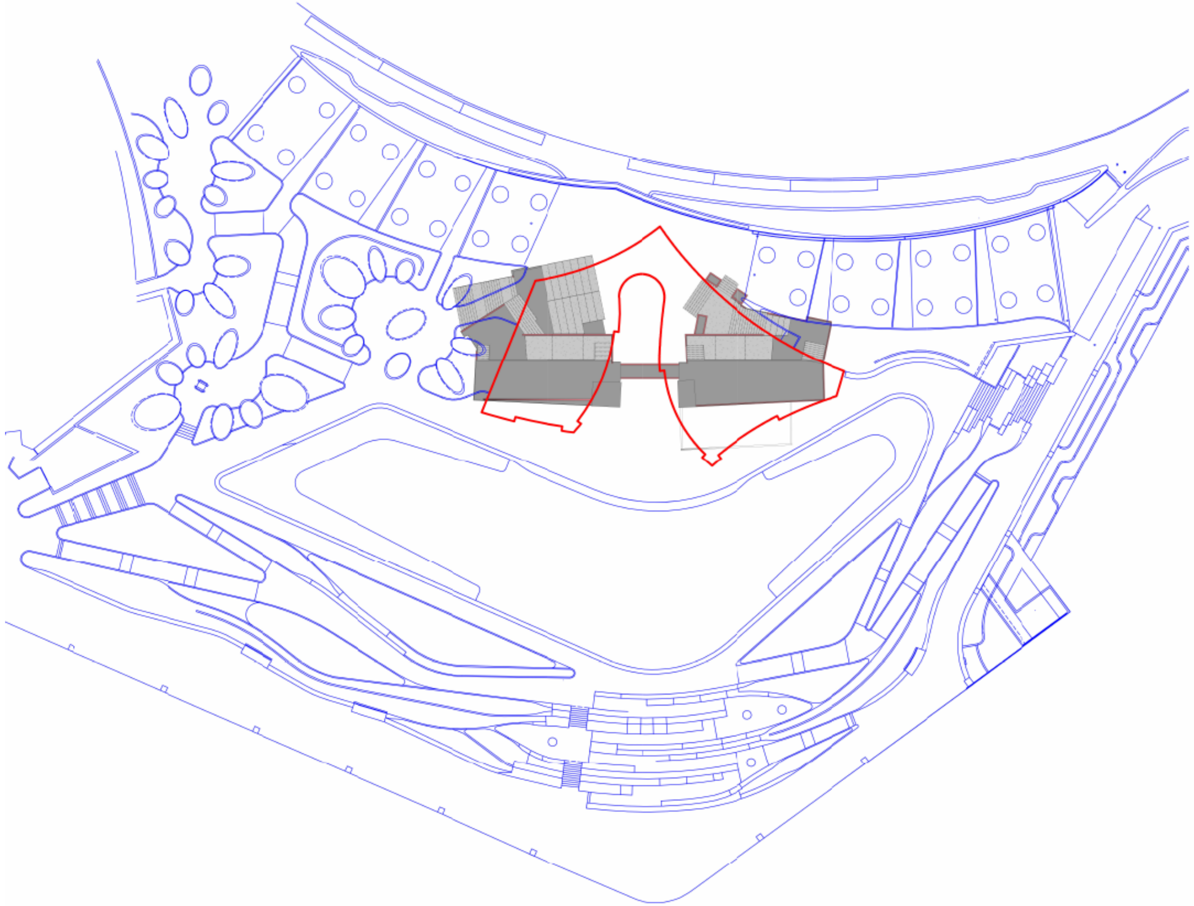
*not including soft costs and insurance, updating of facade and drainage, transport for temporary off-site relocation, sustainability upgrades, community room addition, or expansion of restaurant/kitchen space

** Includes new community room space, additional restaurant seating, and kitchen space

CONCLUSION

Raising the existing pavilion ten feet and moving it back to maintain usable green space will result in the following:

  - **Loss of connection between the design language and guiding principles** of the original Pavilion design
  - **Loss of original relationship** of Pavilion steps to the street level plaza and allees
  - Tight or impossible spatial constraints
  - Restricts public building access and back-of-house options
- A building that still:
  - Is in poor condition and requires major exterior renovation
  - Does not accommodate operational needs or programming objectives
  - Requires significant interior upgrades and new mechanical equipment to meet current codes and sustainability goals
- Costly and risky construction operations to relocate the building
- Will require longer construction duration and closures of the park to the public



THANK YOU

Wagner Pavilion Relocation Feasibility Study

PREPARED FOR

Battery Park City Authority

AT

Wagner Pavilion
20 Battery Place,
New York, NY 10280

PREPARED FOR

Varun Kohli AIA, LEED AP – AVP of Planning & Design
Battery Park City Authority
200 Liberty Street
New York, NY, 10281

SUBMISSION DATE

3/31/2022
4/7/2022 – REV. 1

Submitted by: Edgar Martinez

Watts Architects &Engineers

BUFFALO / SYRACUSE / NEW YORK   watts-ae.com

Watts
Architects
&Engineers

325 Gold Street
Suite 701
Brooklyn, NY 11201

Contact: Edgar Martinez
Project Manager
emartinez@watts-ae.com
646 708 3376

BUFFALO / SYRACUSE / NEW YORK watts-ae.com

THIS DOCUMENT WAS PREPARED IN CONJUCTION WITH

Spiro Kremmidas, PE, SE
Principal - Reporting Center Manager
Spiro.Kremmidas@kpff.com
O 212.973.3748
D 212.401.6340
M 310.365.5404
KPFF Consulting Engineers
299 Broadway, Suite 900
New York, NY 10007
KPFF Project Number: 2200067

Table of Contents

1.0 / Introduction & Executive Summary

The Wagner Pavilion, constructed in 1994, is an existing structure located in Robert F. Wagner Jr. Park at 20 Battery Pl, New York, NY 10280. The existing structure serves as a community center and consists of two buildings (North and South Pavilion) connected with a timber bridge which spans between the two structures. Both buildings are comprised of exterior load bearing concrete walls, concrete beams that support a one-way slab, and a brick veneer finish along the exterior of the building. The two buildings also consist of a concrete slabs on grade, concrete footings, stairs on grade and stairs supported by concrete beams.

Watts Architects & Engineers and KPFF Consulting Engineers have estimated the total cost for the relocation the existing pavilion and bridge to be approximately $18,744,480.

In order to relocate the existing structures, first the stairs will need to be demolished and removed, then openings will be created through the façade and existing structure in order to install temporary bracing/support steel. From there, a grid of additional steel will need to be installed along with a hydraulic jacking system to raise the existing structures from their foundations. This process will result in approximately 3,200sf of brick to be removed and replaced between the facade brick and stair cladding. For the facade specifically, this results in roughly 20% to be removed and replaced. We also recommend an additional 15% of the brick façade, referenced later in this report, to be repaired and/or replaced. Once the building is raised and moved, the moving contractor will hold the building in place until the existing foundations are demolished as they overlap with the anticipated location of the new foundations. All existing concrete will need to be demolished/removed and the soil will need to be replaced and compacted in order to support the new foundations constructed to accept the now relocated existing structure.

The Wagner Pavilion is expected to be raised approximately 12 ft. and moved approximately 70 ft. to the north-east. Such a move comes with many risks, such as necessary additional alterations needed to accommodate the pavilion's new location, unforeseen repairs to the superstructure, additional brick replacement as a result of damage, material delays, etc.

Reference the subsequent sections of this report for a more detailed description of this process along with figures highlighting the approach/methodology as well as cost breakdown at the end of this report. We have outlined a few possible options, as well as our preferred option, in terms of where the existing structure will be cut and the anticipated detailing associated with this approach.

See figures 1 & 2 for an aerial view of the site and outline of the overall scope of structural work associated with the relocation process.

Figure 1 - Project Location

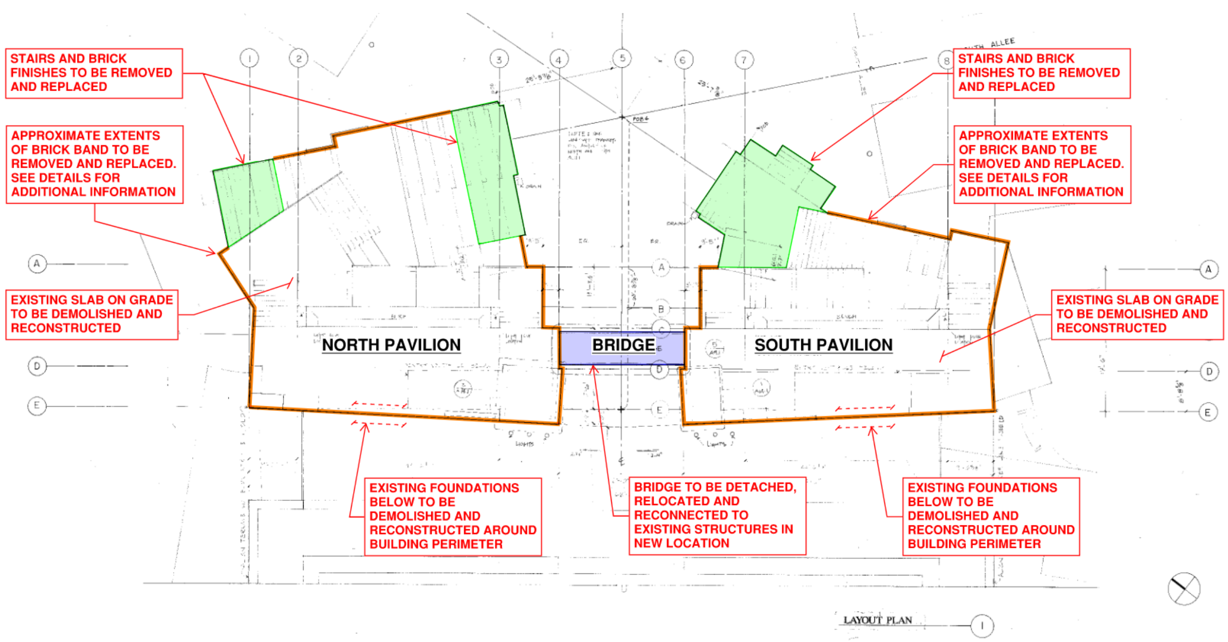


Figure 2 - Site Plan with Structural Scope Overview

1.1 References

Title	Prepared By	Date
Geotechnical Report – *South Battery Park City Resiliency*	Oweis Engineering Inc.	May 11, 2020
South Park – Existing Structural Drawings	Ove Arup & Partners	June 17, 1994

2.0 / Structural

The existing structure located in Robert F. Wagner Park will need to be relocated or replaced. We were tasked with performing a study that determined the best options for relocating the existing structure approximately 70 ft. away and 12 ft. higher. See figure 3 & 4 for reference to existing structure.

Figure 3 - Existing North Pavilion

Figure 4 - Existing South Pavilion

3.0 / Options

For the purposes of this study, we evaluated two options that could be used to relocate the existing structure. In order to relocate the existing building, the timber bridge and both the north and south pavilion would need to be relocated approximately 70 ft. away and lifted 12 ft. higher. During this process, a portion of custom brick will be demolished/removed due to the relocation process and condition of the existing brick work. All options discussed present logistical complications. These complications are presented in table 1, outlining the pros and cons of each option. Both options require the demolition of the existing slab on grade as well as all stairs on grade. The options evaluated to complete this task are presented below.

3.1 Option A

Option A will require the contractor to cut the concrete walls and columns at the approximate slab-on-grade elevation and create support points at each column location and along the perimeter of the exterior walls. See Figure 5 for details. Refer to Table 1 for the pros and cons of Option A.

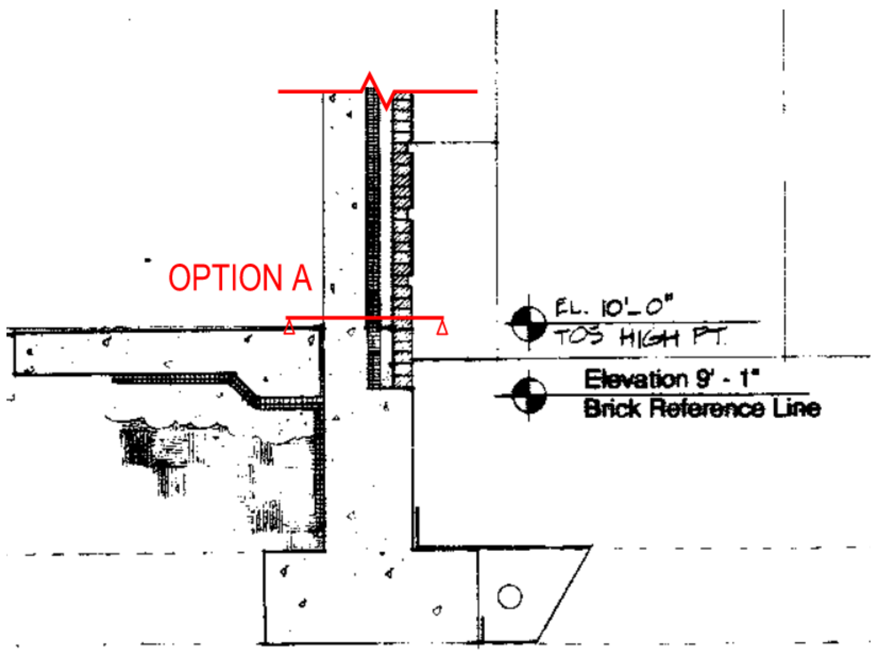


Figure 5 - Option A - Support Location

3.2 Option B

Option B will require the contractor to excavate approximately 3 ft. below the concrete footing, cut the concrete walls and columns at the top of each footing and create support points at each column location and along the perimeter of the exterior walls. See figure 6 for details. Refer to *Table 1* for the pros and cons of Option B.

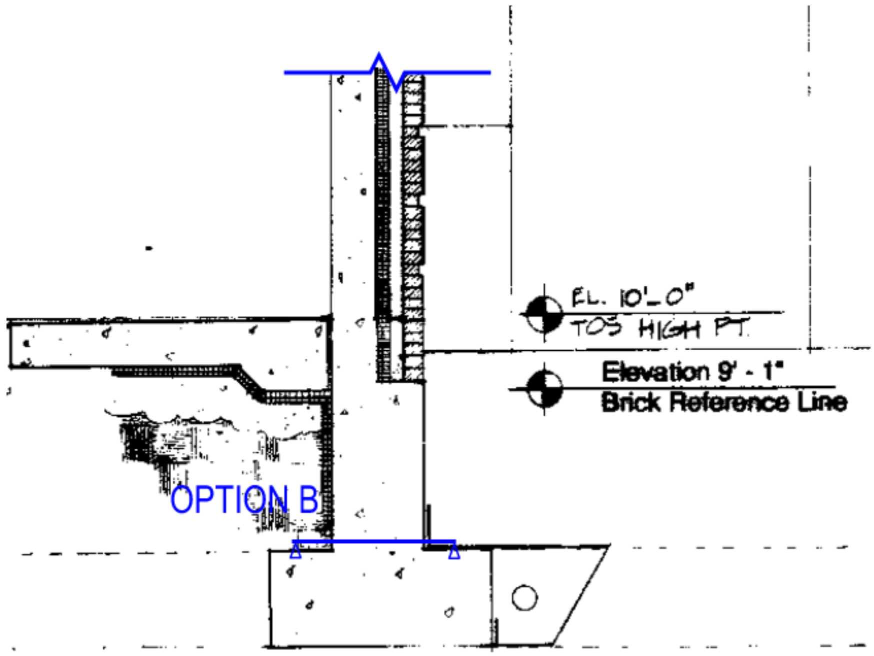


Figure 6 - Option B - Support Location

3.3 Pros & Cons

Table 1 – Pros and Cons

OPTION	PROS	CONS
A	• Less excavation required. • Pumping of ground water not required. • Additional Supports for foundation not required.	• The Contractor would need to support exterior custom brick above. • More custom exterior brick would be removed for moving brackets and steel bracing connections. • More concrete will be needed for new foundations at new location. • Expect losses of exterior brick which would require replacement
B	• No further support is needed to support the existing brick on the concrete ledge. • More brick could potentially be saved.	• The contractor would be required to excavate to the footing, which is below the water table. • The contractor would need to pump water from each area where the building would be supported. • The contractor would need to excavate 3 ft. below foundations, which would undermine the existing foundations and require additional support to maintain structural stability. • It will be more difficult to core through the thicker foundation walls and add more weight to the jacking steel/system compared to Option A.

Watts & KPFF suggests Option-A based on the anticipated construction sequence, estimated costs and discussions on site with the team. This option requires less coring, excavation, de-watering, etc. comparatively. Option A has been used for subsequent sections of this report. We have concluded Option B is not viable.

4.0 / Analysis of Option A

In order to determine the best option to relocate the existing structure, gravity loads were calculated for the existing slab concrete beams and walls. For the purposes of this assessment, it was assumed that the building would be empty, mechanical equipment and architectural elements in the interior of the building would be removed, all slabs on grade and stairs on grade will be removed and the bridge will be removed prior to relocation. Refer to figure Table 2 for the design criteria.

Table 2 – Structural Loads Used

	Load	Notes
Self-Weight	• 150 psf	• The density of normal weight concrete was used to determine the self-weight of the existing slab and framing.
Live Load	• 20 psf	• A live load was used to account for any items that would remain in the building during the relocation process.
Dead Load	• 50 psf	• A superimposed dead load was used to capture all the finishes on top existing slab. (Brick, pavers, etc.)

4.1 Load Map – North Pavilion

Loads at each column and along the exterior bearing walls at each building were calculated using the loads outlined in Table 2 and tributary areas at each framing element. Refer to Figures 7 and 8 as well as Appendix A for a load map at specific locations along the North Pavilion.

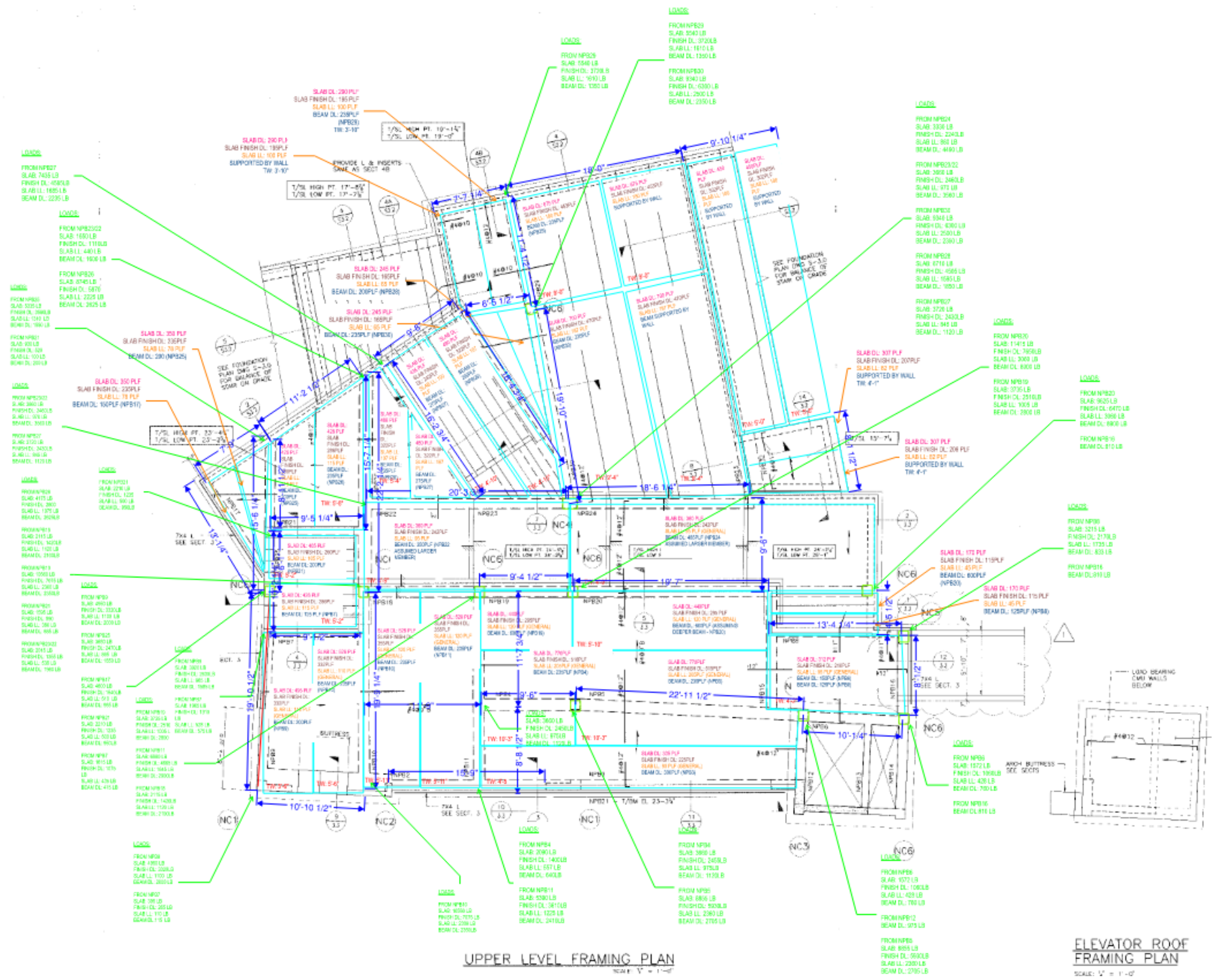


Figure 7 - Load Map - Upper Level

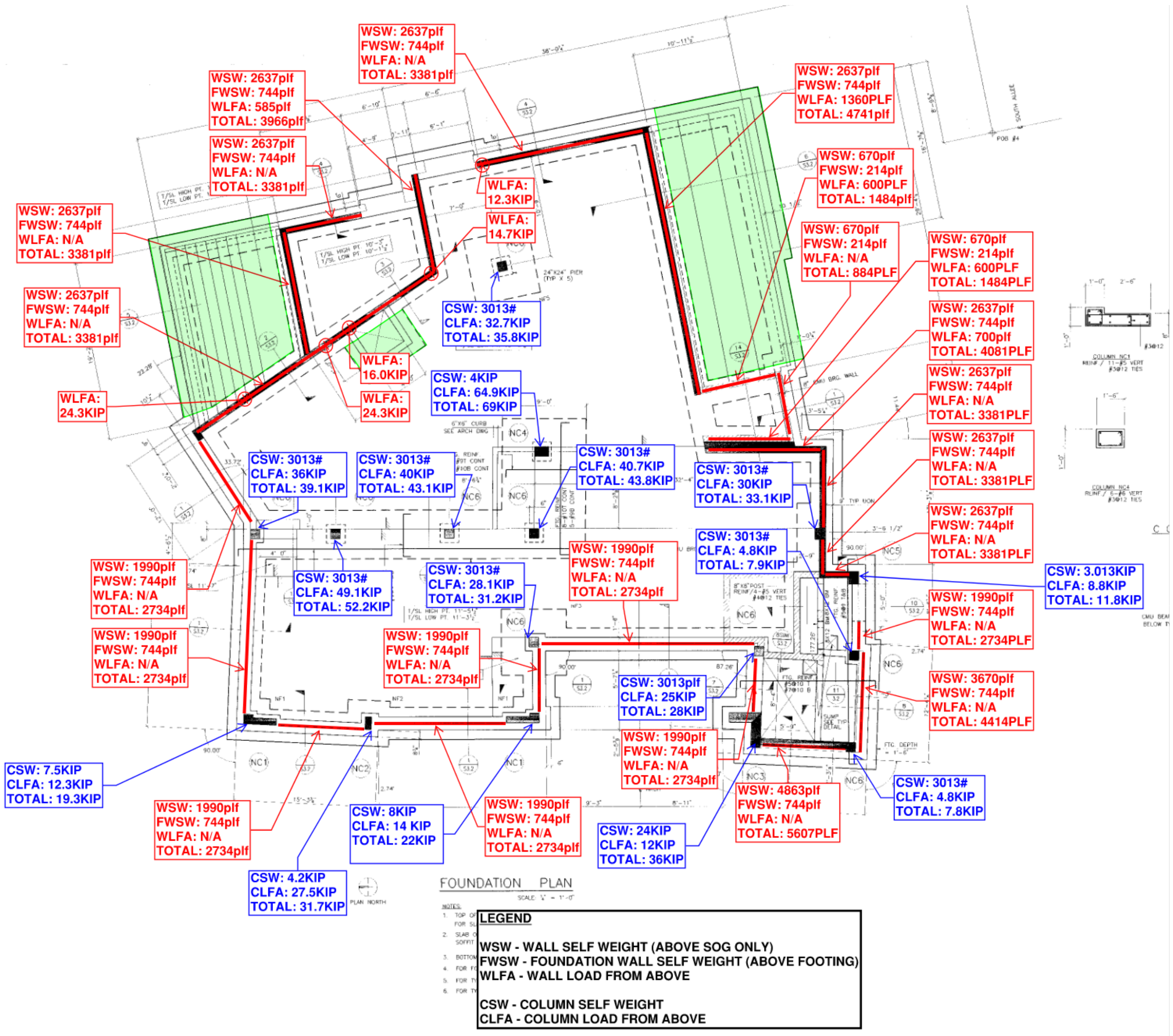


Figure 8 - Load Map – Foundation Level

4.2 Load Map – South Pavilion

Loads at each column and along the exterior bearing walls at each building were calculated using the loads outlined in Table 2, and tributary areas at each framing element. Refer to Figures 9 and 10 as well as Appendix A for a load map at specific locations along the South Pavilion.

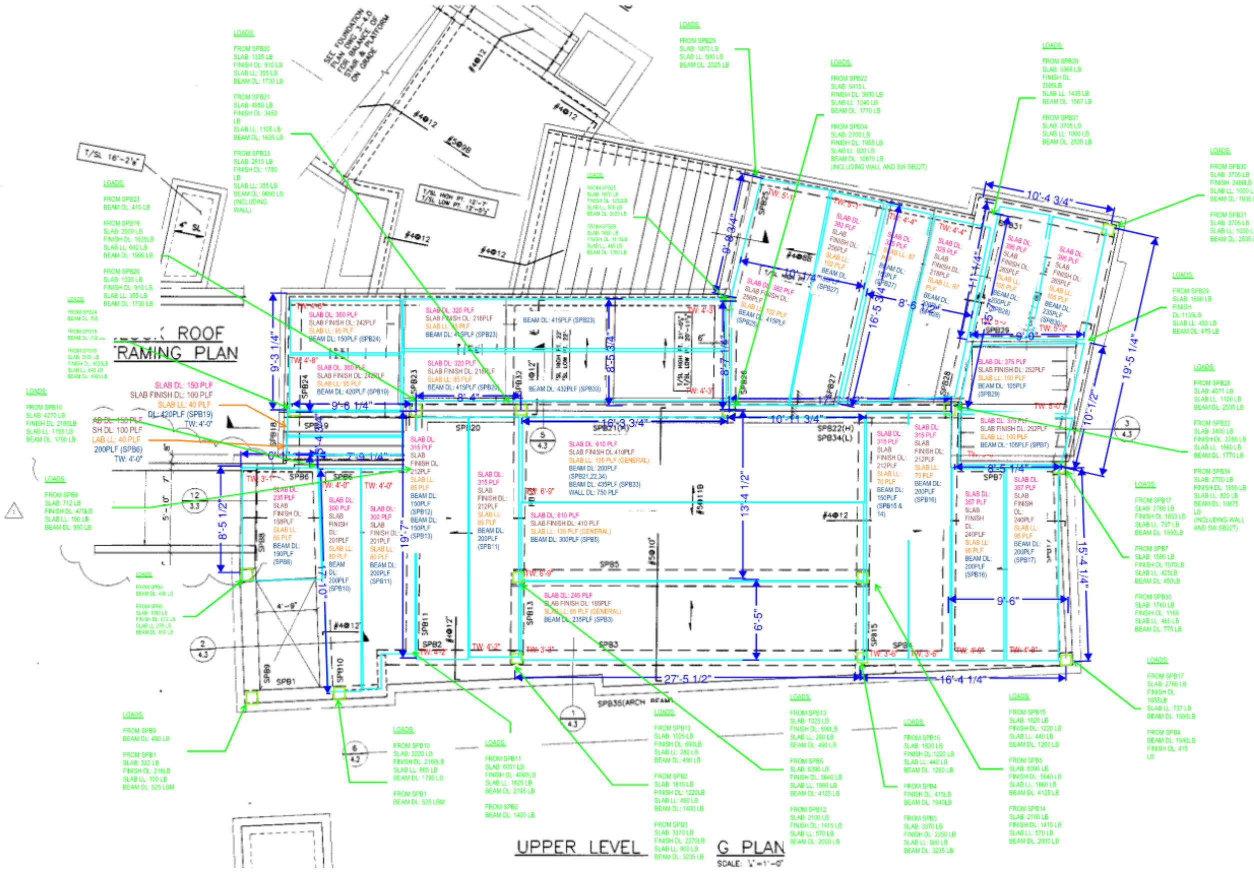


Figure 9 - Load Map - Upper Level

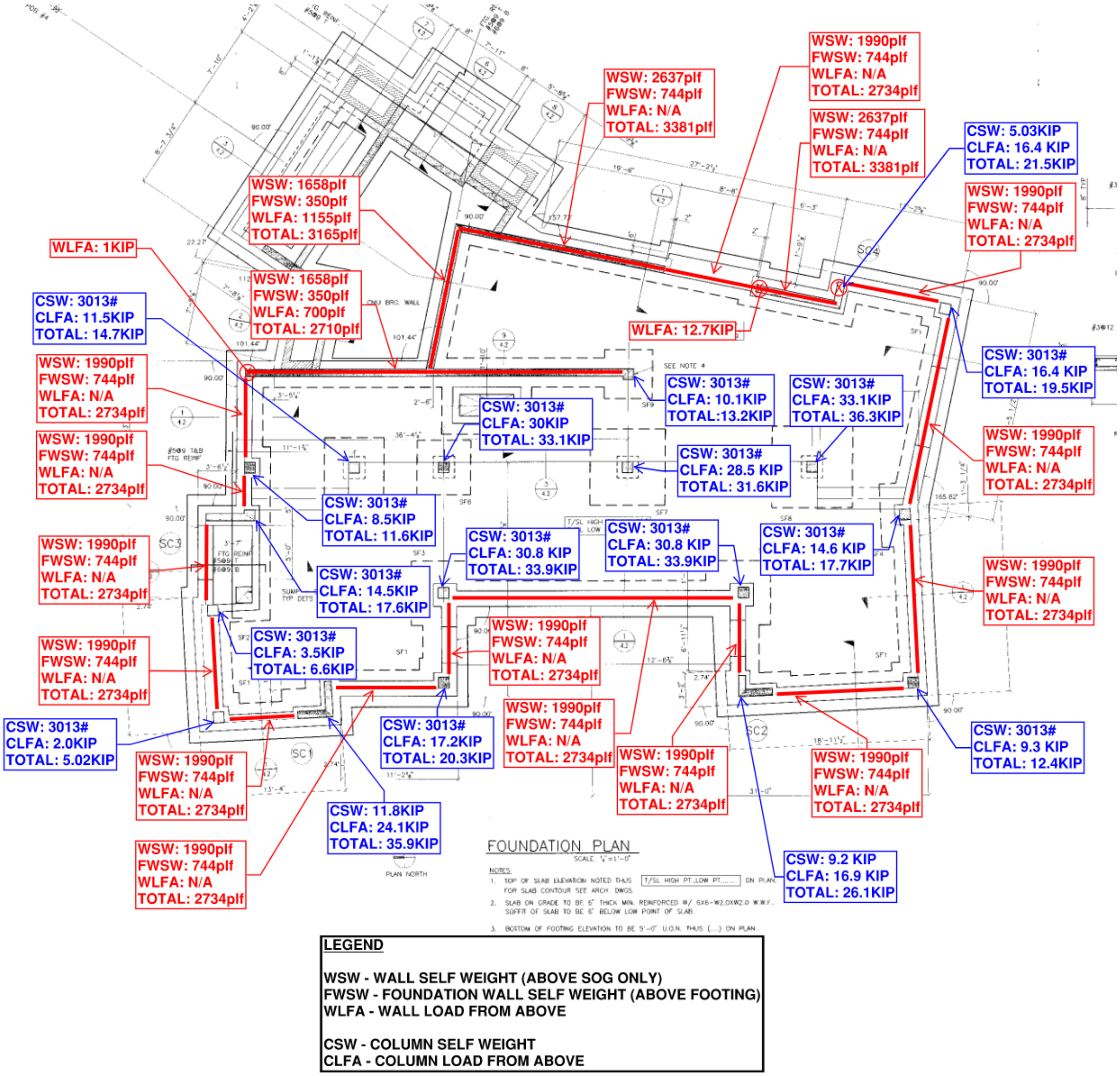


Figure 10 - Load Map - Foundation Level

5.0 / Methodology

Based on the loads outlined in figures 6-9, the pros and cons listed in table 1 and recommendations from the lifting contactor, we are recommending that Option A should be used, should the building be relocated rather than replaced. Option B presented too many logistical challenges and would undermine the existing foundations which could potentially create more problems in the process of relocating both existing structures. In order to move the structures using the criteria outlined in Option A, the contractor will need to ensure all persons, sensitive equipment, etc. shall be removed from the structure. This includes, but is not limited to, the elevator, all mechanical, electrical and plumbing equipment, and interior partition walls. The contractor will then need to demolish the existing slab on grade at each building, brace each concrete wall and column at the foundation level as indicated on plan, and support the brick finish along the exterior concrete walls per the details provided. The contractor will then place supports at each column and along all exterior walls, move the building with hydraulic lifts and place both the north and south pavilion on new foundations at the location specified by the client. The contractor will also need to remove all stairs on grade and the timber bridge spanning between each pavilion. In order to begin this work, the contractor would first need to pour concrete for all wheel runs and jacks prior to relocation. Relocating the building using Option A would require the removal of brick as indicated in the sections below and require the contractor to install supports along the perimeter of the building to support the brick façade. During the relocation process the contractor will have to ensure optimal weather conditions to prevent substantial lateral movement, will have to keep the building supported while the new foundations are being constructed and will need to place the building precisely on the new pile supported foundations. Based on the anticipated relocation site, the proposed new foundations will overlap with the existing foundations. Because of this, the contractor will also have to demolish the existing foundations while the building is being supported and will then be able to construct the new foundations. This could impact the project schedule pending the contractor's intended sequence. After relocation, the contractor will need to install new MEP equipment, a new elevator, repair all existing brick lost in the relocation process, rebuild all interior partitions, rebuild the exterior stairs, and if directed by the owner, perform the recommended additional repair work not associated with the building move.

5.1 Bracing

In order to support each building laterally, the concrete walls and columns need to be braced. Refer to the bracing plan in Figures 11 & 12 and the structural sections provided for the bracing connections into the concrete walls and columns, located in Appendix A. We have assumed an approximate weight of 25plf for the steel bracing shown below.

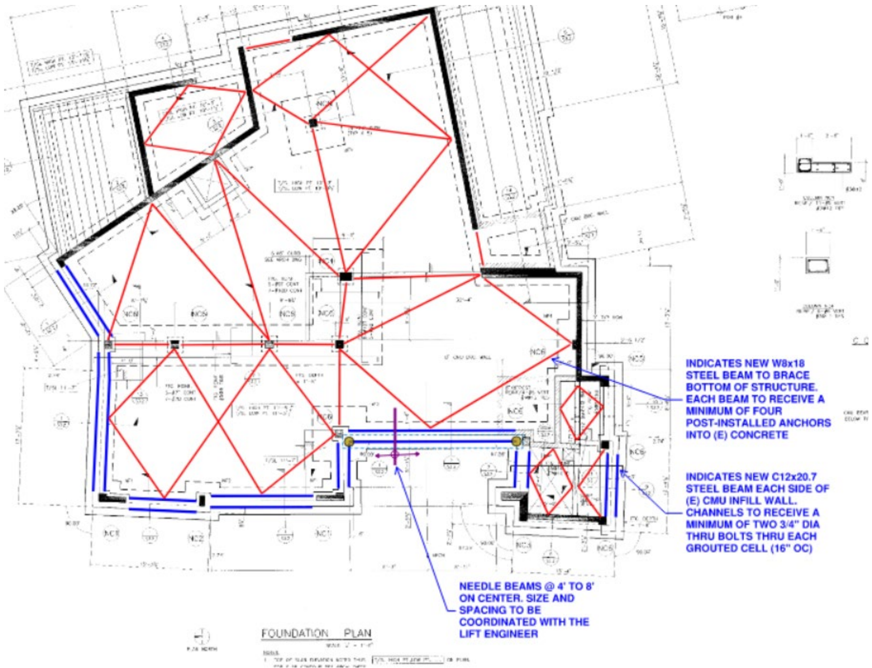


Figure 11 - Bracing Plan - North Pavilion

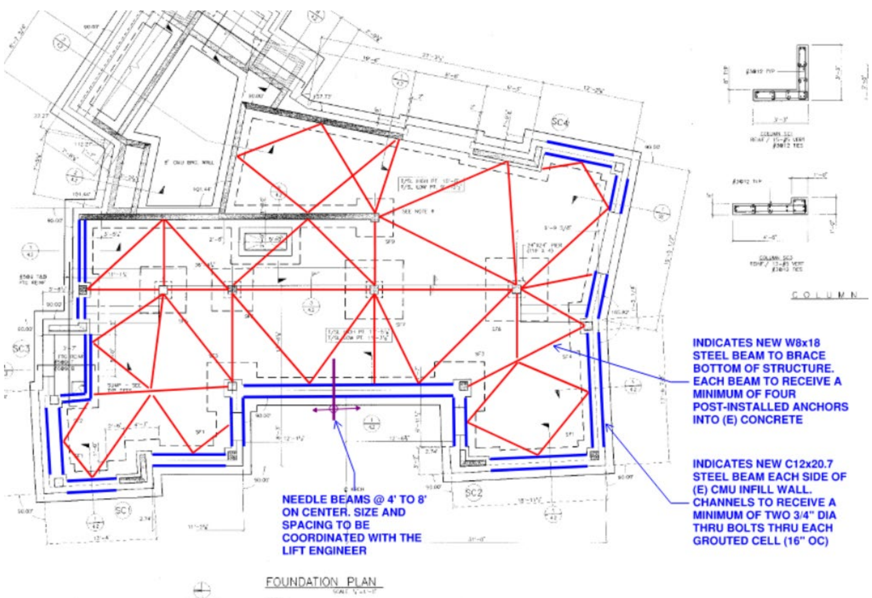


Figure 12 - Bracing Plan - South Pavilion

5.2 Brick Removal

In order to support the concrete walls along the perimeter of the building at grade level, portions of the existing brick finish will need to be removed and replaced. We estimate a total of 3,200sqft of brick would need to be removed in order to relocate the structures. The contractor shall confirm total area of brick needed to be removed to support needle beams.

The brick finish may arch in the process of relocating both pavilions. As a result, more brick may need to be replaced around the perimeter of the building. This total estimate of brick that would need to be replaced does not include the aforementioned areas effected by arching as well as the total amount of brick that would need to be replaced from the demolition of the stairs. Refer to figures 13 & 14 for areas along the building (in green) where brick would need to be replaced. Refer to structural sections provided in Appendix A and figure 14 for brick finish supports.

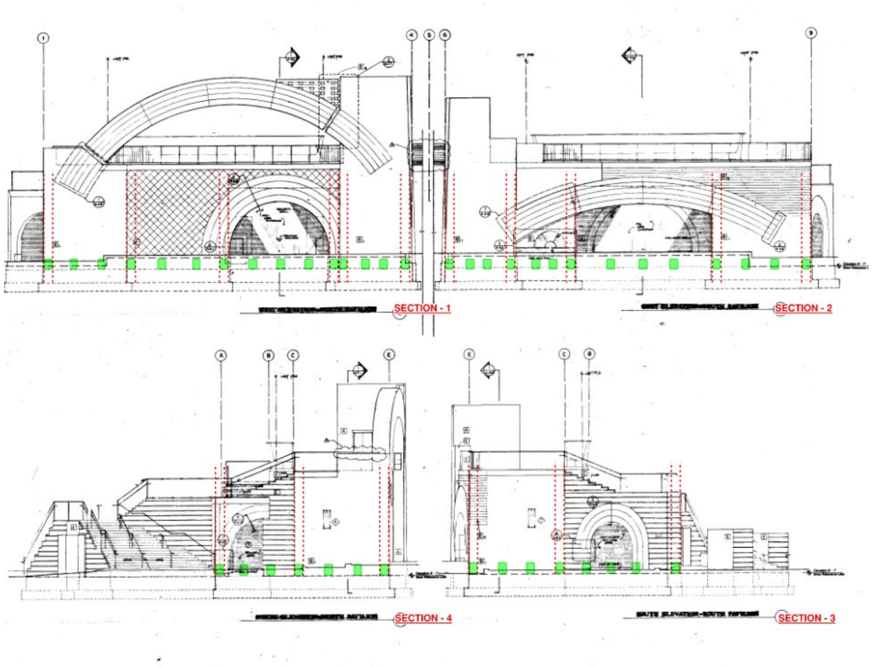


Figure 13 - North & South Elevations - North & South Pavilions

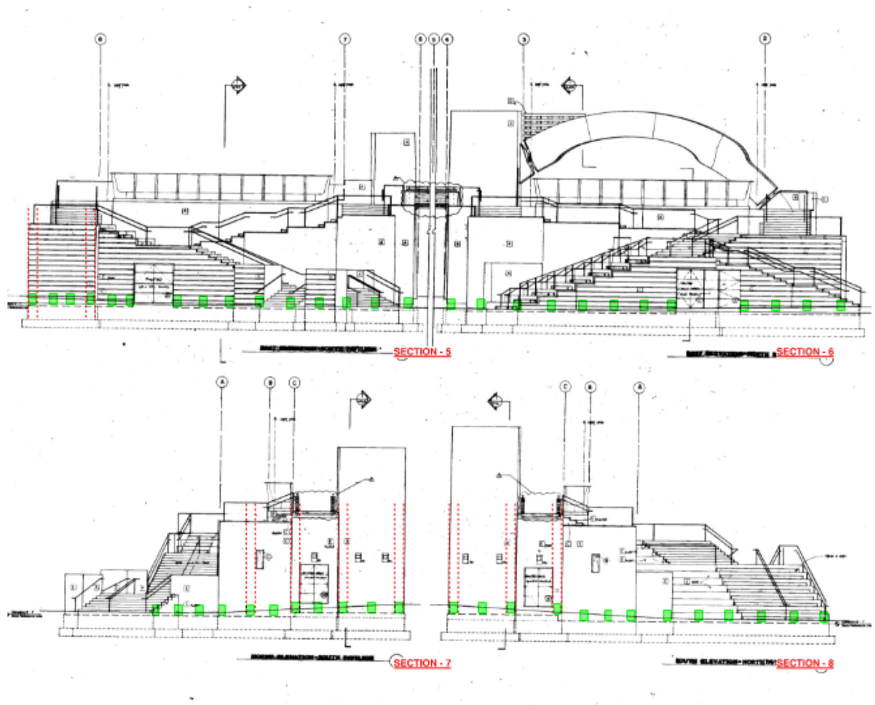


Figure 14 - East & West Elevations - North & South Pavilions

See details on figures 15 and 16 for additional brick to be removed below the anticipated cut line. Areas shown in these figures are the assumed locations of the needle beams penetrating the exterior walls. Exact locations will need to be coordinated with the lift contractor.

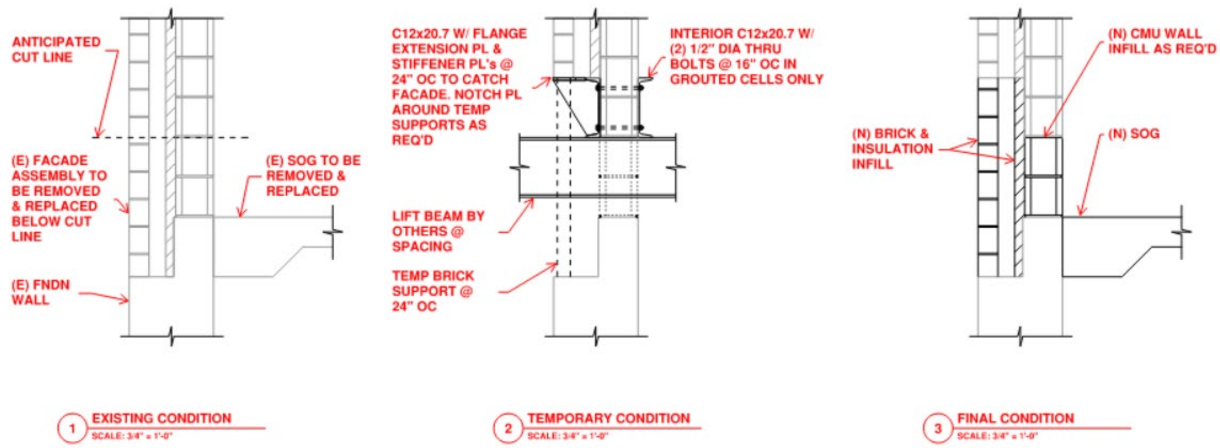


Figure 15 - Brick Support Sections (CMU Walls)

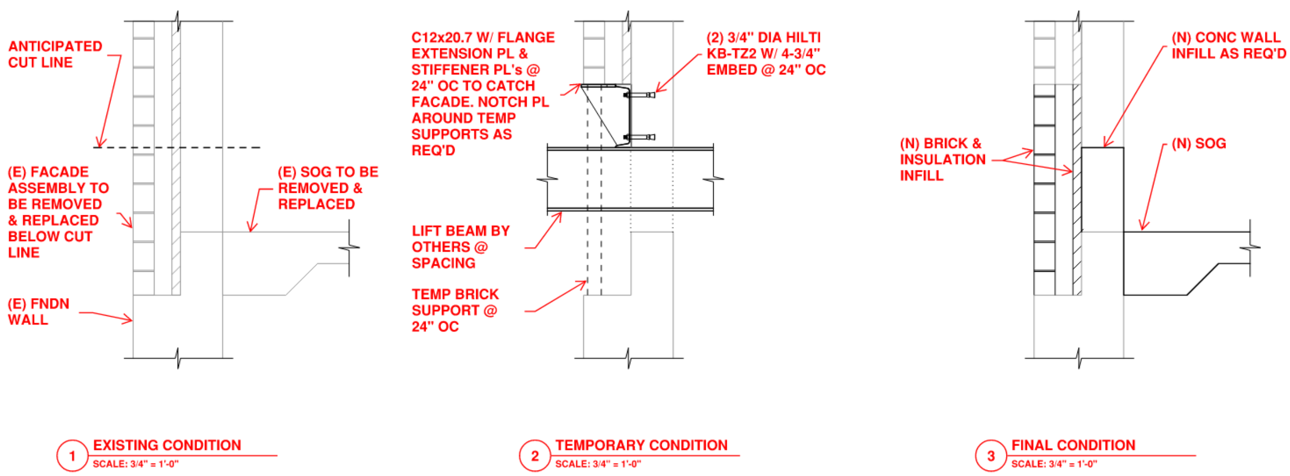


Figure 16 - Brick Support Sections (Concrete Walls)

5.3 Stair Replacement

All stairs that are on grade will need to be demolished and replaced once the two pavilions have been relocated. We estimate that approximately 1,200 SF of stair and brick finish will need to be removed and replaced. Refer to figures 17 & 18 for the areas that would need to be removed.

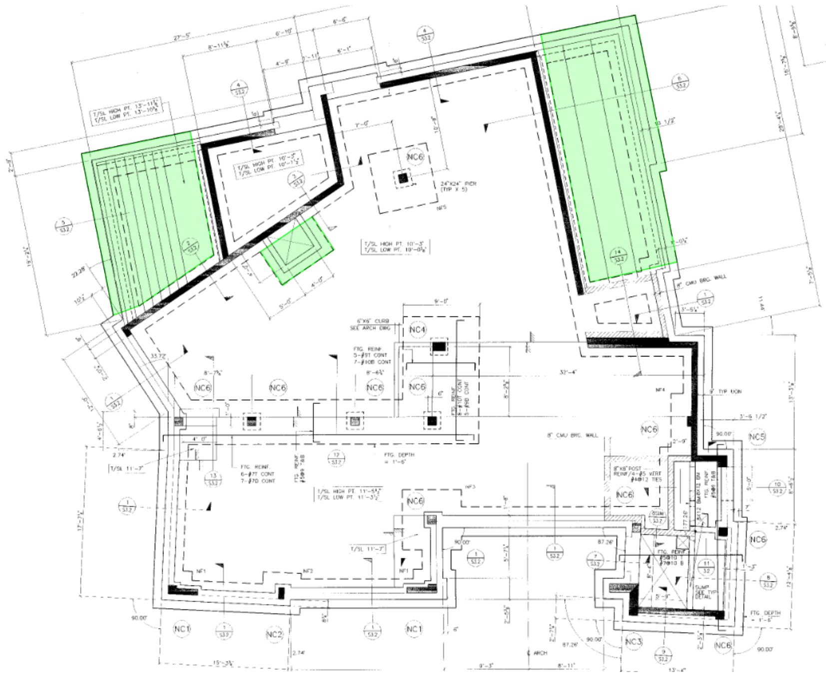


Figure 17 - Stair Removal - North Pavilion

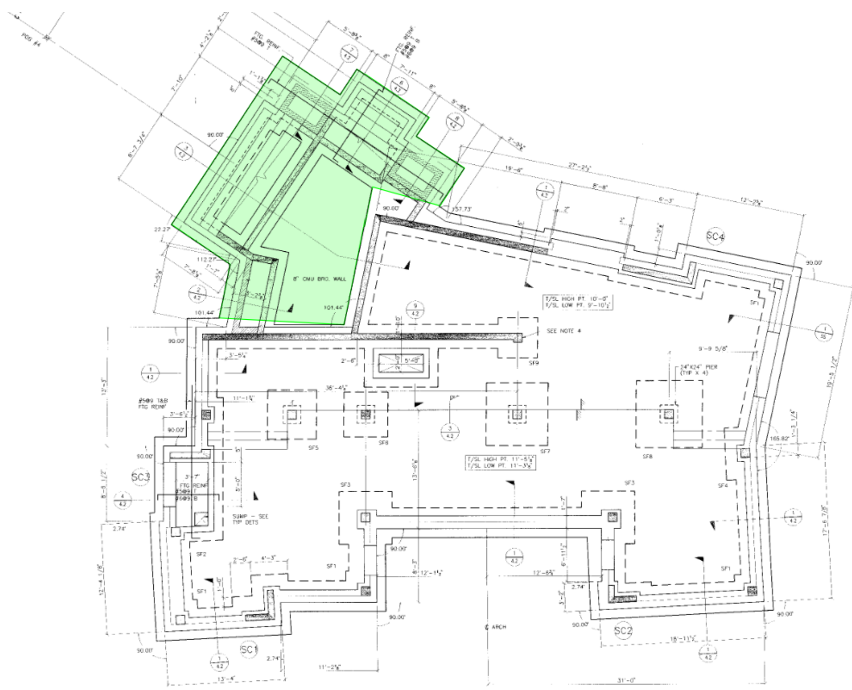


Figure 18 - Stair Removal - South Pavilion

5.4 Bridge Removal

The existing timber bridge will need to be removed in order to relocate both the North and South Pavilion. Based on the existing structural drawings, the bridge is connected at either end by 1/2" thick fabricated closures and 3/4" thru bolts. To remove the bridge, it will first need to be braced by single angles across the top of the timber glulam beams at either side of the bridge. Once this is completed, the thru bolts at either side of the bridge will be removed. After the two pavilions have been relocated, the bridge will be placed at the same supports and fastened with 3/4" thru bolts at each existing location. Refer to figure 20 and Appendix A for bridge bracing diagram.

Figure 19 - Existing Bridge Supports

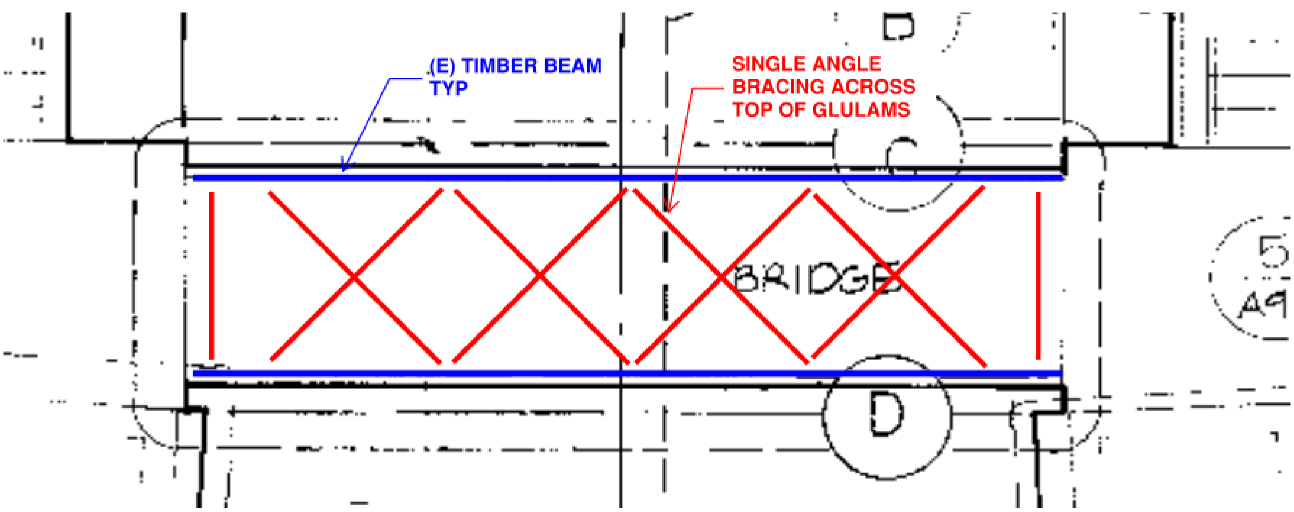


Figure 20 - Bridge Bracing Plan

5.5 New Foundation

New foundations are needed to relocate the existing buildings. Foundations have been selected from recommendation of the geotechnical report provided to Watts & KPFF by Oweis Engineering Inc. An outline of the new foundations, a cross section and cost estimate for the proposed work can be found below.

5.6 Geotechnical Report

A geotechnical report titled South Battery Park City Resiliency dated March 27th, 2020, by Oweis Engineering Inc. was used to select the foundations needed to support the existing structures. Per the geotechnical recommendations, the new foundations have been designed to be pile supported to avoid excessive settlement from poor soil conditions and avoid the need for potential ground improvements outlined in other alternatives.

5.7 Cross Section

Refer to figure 21 for a cross section of the new pile supported foundations. KPFF consulting Engineers has used this cross section to determine the total amount of concrete needed for the foundations at the proposed pavilion locations.

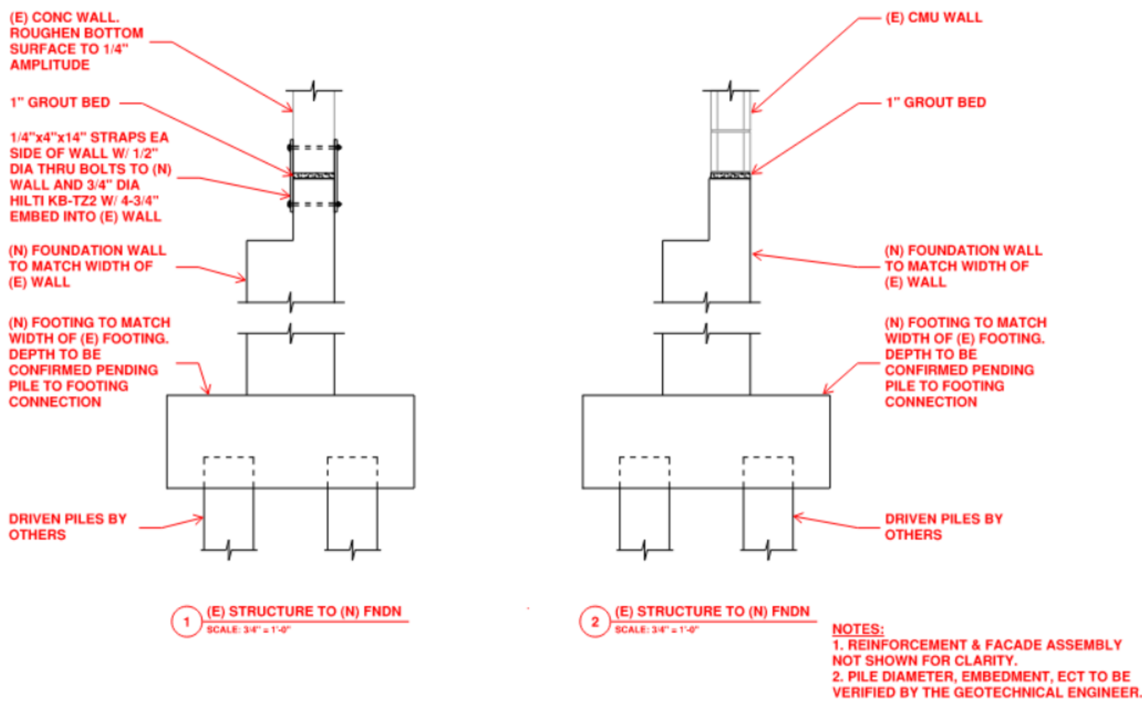


Figure 21 - Foundation Cross Section

6.0 / Additional Recommended Miscellaneous Items (Non-Building Moving Related)

Once moved, much of the structure's components would be replaced with new, and where applicable, current code compliant components. This leaves a number of un-touched components which we believe, after careful review, would warrant repairs or replacement during the relocation process. We suggest the recommendations outlined below be done as an add alternate during the construction document phase of the building move project.

Weathering and staining was observed during site visit on exterior doors. We believe since a large percentage of the pavilion will be new, it's also best to upgrade the doors and frames. This will also help with energy code compliance.

We also observed efflorescence, weathering, and staining throughout the exterior brick, see figure 22 below. The weathering and staining can be categorized as a typical condition for a structure of this age and location. However, the building was not designed to have cavity walls with a drainage plane and therefore the water is finding salts in the atmosphere or in the wall construction itself and is migrating to the surface in the form of efflorescence. Multiple cracks, spalls, and delaminating bricks were also observed throughout. In some areas, we noted a waviness to the façade which would indicate insufficient brick ties at those locations. Brick joints along the rooftop terrace were also observed to be deteriorated and/or missing. Fortunately, after the relocation is complete and the stairs and façade are reconstructed, remedies will have been applied to many of these instances. However, it is our recommendation that in addition to the estimated 3,200sqft of brick to be replaced as a result of the move, we also recommend selective removal of an additional estimated 1,500sqft of bricks along the façade where damage has been observed. We recommend repointing of exterior joints, introduction of weep holes, re-flash or introduce flashing as needed, control and expansion joints be re-sealed, and add or introduce brick ties as needed. If opted to perform this work, a total of approximately 35% of the brick along the façade will be disrupted as a result of repointing and/or replacement.

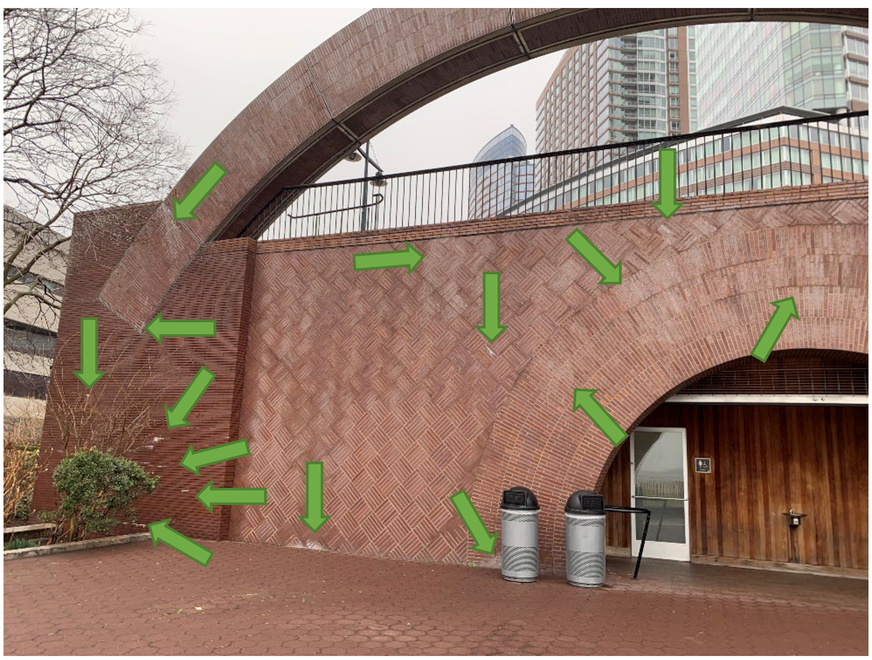


Figure 22 – Examples of efflorescence on North Pavilion, West Elevation

Note, photo was taken on a rainy day, when efflorescence is not as visible

7.0 / Cost Estimate

Table 3 Cost Estimate

Line Item	Total
Building	
Foundation Excavation, including Disposal/Backfill	$ 431,200
Dewatering & Pumping after Excavation	$ 105,000
Piling (45' Long, Mini Piles)	$ 539,000
Demo & Remove existing Foundation & Slab-on-Grade	$ 161,700
New Foundation & Slab-on-Grade (@ New location) – Allowance	$ 540,000
Compacted Structural Fill (Raise Building 12')	$ 323,400
Cut Existing Exterior Wall @ Grade Level for Building Move	$ 168,000
Cutting Holes @ Existing Exterior Wall (for Moving) & Patch	$ 98,700
Interior Demolition (Complete Gut)	$ 346,500
Structural Bracings (for Building Move)	$ 314,500
Install Grid of Steel for Lifting, Hydraulically Raise Existing Building, Move Building to New Location, & Hold-in-Place Until Foundations are Built As Quoted by Nicholas Bros. Inc.	$ 2,300,000
Remove Structural Bracing – Allowance	$ 70,000
New Interior Fit Out (with Mid-Range Finishes)	$ 1,347,500
New Elevator (3 stops) – Allowance	$ 250,000
New Plumbing (27 Fixtures)	$ 431,200
Premium for Kitchen	$ 105,000
New Fire Protection / Sprinkler	$ 144,800
Replace Existing HVAC with New HVAC	$ 539,000
New HVAC Equip. (for Additional Level & Req'd Expansion) – Allowance	$ 321,800
New Electrical	$ 884,900
Special Systems (Fire Alarm, Telecom, Security, PA, etc.)	$ 724,000
Food Service Eqpt (Disconnect, Remove & Reinstall)	$ 140,000
(E) Structure to (N) Foundation Connections	$ 150,000
Total	**$ 10,436,200**
Site & Exterior	
Concrete	$ 1,170,000
Minor Site Demo + Extend Site Utility to New Location	$ 1,400,000
Exterior Stairs & Railing – Demo & Rebuild @ New Location – Allowance	$ 1,050,000
Custom Brick Removal & Replacement	$ 70,000
Repointing of existing Façade (as needed)	$ 35,000
Misc. Other Exterior Demo Not Yet Identified – Allowance	$ 210,000
Total	**$ 3,935,000**
Walkway Bridge	
Temporary Support & Disconnect	$ 105,000
Build Structural Support @ New Location	$ 105,000
Lift & Set @ New Location	$ 350,000

Total	$ 560,000
Additional Recommended Miscellaneous Items (Non-Building Moving Related)	
Additional Recommended Brick Work	$ 405,000
Thermal & Moisture Protection Upgrades (Associated with Brick Work)	$ 179,100
All New Exterior Doors & Frames	$ 105,100
Total	$ 689,200
Subtotal	$ 15,620,400
+ 20% Pre-Design Contingency	$ 3,124,080
Grand Total	$ 18,744,480

7.1 Notes & Assumptions

General Contractor markups have been incorporated into the totals. The markups are as follows:

- 20% for General Conditions + Overhead + Profit
- 15% for GC Contingency
- 5% for Current Volatile Market Conditions

Additionally, the following assumptions have been made:

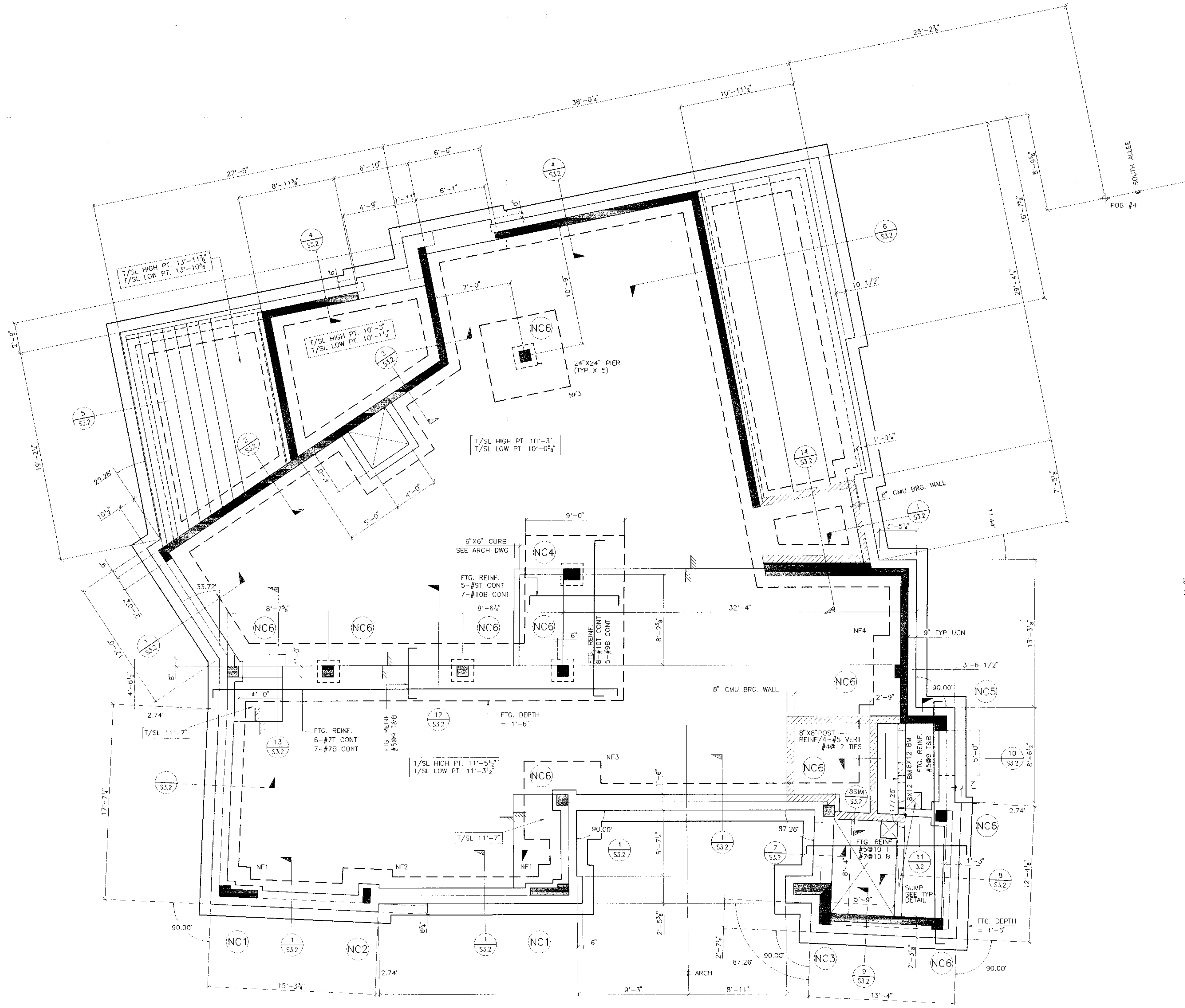
- Concrete tracks and/or temporary surfaces to facilitate moving the structure are included in into the General Conditions Markup.
- This report assumes the as much of the existing structures will be moved intact to new location as possible, any demolition and/or modifications performed will be for the sole benefit of moving the pavilion. All modifications will be remedied/restored/improved once the move is complete. No permanent alterations (new windows, expanded footprint, new interior layout, etc.), unless explicitly stated, have been assumed.
- No Repair & Restoration of the superstructure is assumed.
- No Design Fees have been assumed.
- No Hazardous Materials Testing has been assumed.
- Labor costs and storage costs associated with removal of “loose” or “personal” interior items is not assumed as part of this cost estimate. Costs to be assumed by owner.
- Relocation of Wagner Pavilion is assumed to be part of a larger resiliency project, therefore estimates for Site modifications have been limited to line items specific to the building’s relocation.
- Moving contractor quote includes a $1M Cargo policy, additional coverage shall be at owner’s expense.

7.2 Disclaimer

The statements in this report are based on existing structural drawings and a site visit performed by Watts & KPFF. The preliminary engineering calculations, analysis and design have been performed to determine the adequacy of the structural systems. Assumptions were made based on known standard construction practices of the time for structural component.

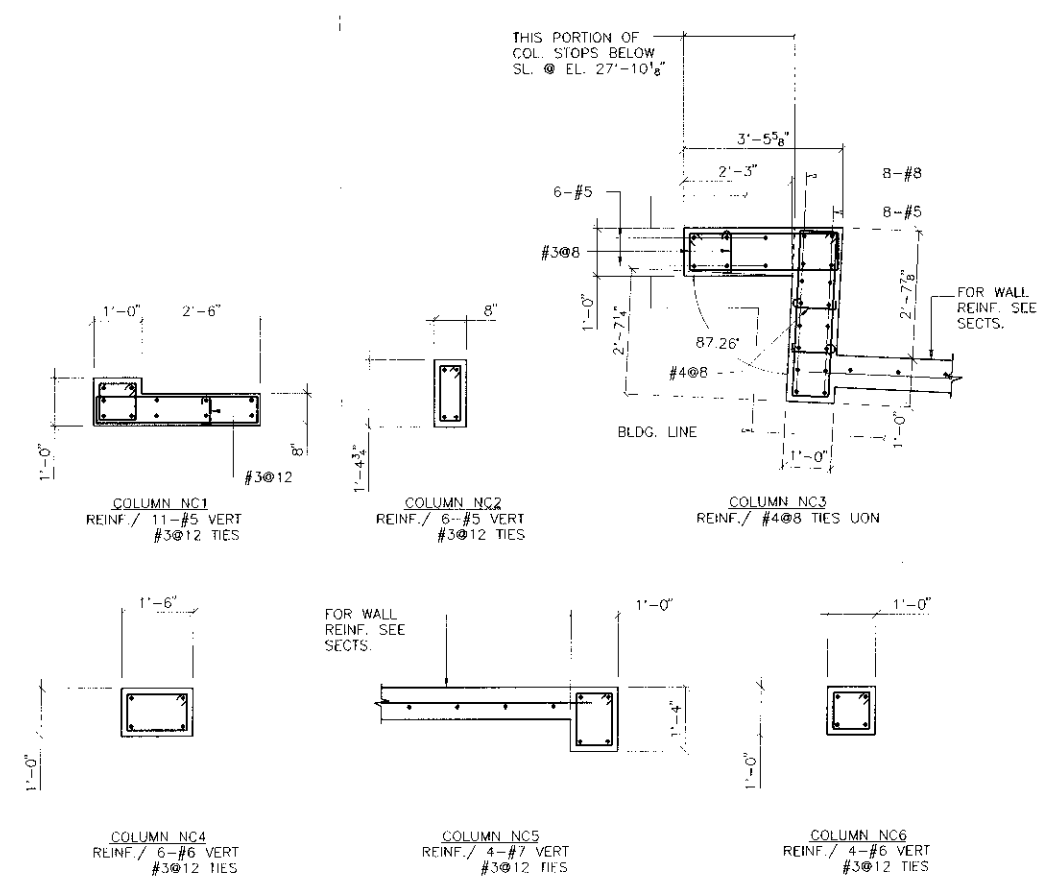
Appendix A: Structural Plans

- S3.0 Foundation Plan North Elevation
- S3.1 Upper Level & Elevator Roof Framing Plans North Pavilion
- S4.0 Foundation Plan South Pavilion
- S4.1 Upper Level & Shaft Roof Framing Plans South Pavilion

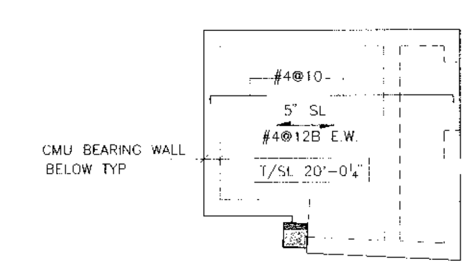


FOOTING SCHEDULE

MARK	SIZE	BOTT REINF LONG WAY	BOTT REINF SHORT WAY	REMARKS
NF1	4'-6"x4'-6"x1'-6"	6-#7	6-#7	
NF2	5'-0"x5'-0"x1'-6"	7-#7	7-#7	
NF3	7'-0"x7'-0"x1'-6"	9-#7	9-#7	
NF4	4'-6"x5'-6"x1'-6"	6-#7	7-#7	
NF5	7'-0"x7'-0"x1'-6"	9-#7	9-#7	



COLUMN DETAILS
SCALE $\frac{1}{2}$"=1'-0"



ELEVATOR MACHINE ROOM ROOF FRAMING PLAN

PLAN NORTH

FOUNDATION PLAN

SCALE: $\frac{1}{4}$" = 1'-0"

NOTES:

1. TOP OF SLAB ELEVATION NOTED THUS [T/SL HIGH PT.,LOW PT.......] ON PLAN. FOR SLAB CONTOUR SEE ARCH. DWGS.
2. SLAB ON GRADE TO BE 6" THICK MIN. REINFORCED W/ 6X6-W2.0XW2.0 W.W.F., SOFFIT OF SLAB TO BE 6" BELOW LOW POINT OF SLAB.
3. BOTTOM OF FOOTING ELEVATION TO BE 5'-0" U.O.N. THUS (....) ON PLAN..
4. FOR FOUNDATION SECTIONS SEE DWG. S-3.2 .
5. FOR TYPICAL FOUNDATION DETAILS SEE DWG. S-5.0 .
6. FOR TYPICAL FOUNDATION NOTES SEE DWG. S-1.0

SOUTH PARK

BATTERY PARK CITY AUTHORITY
One World Financial Center
New York, NY 10281

Hanna/Olin, Ltd.
Landscape Architects
421 Chestnut Street 3rd floor
Philadelphia, PA 19106

Machado & Silvetti Associates, Inc.
Architecture & Urban Design
560 Harrison Avenue
Boston, MA 02118

Lynden B. Miller
Garden Design
1170 Fifth Avenue
New York, NY 10029

Mueser Rutledge
Geotechnical Engineers
708 3rd Avenue
New York, NY 10017

Ove Arup & Partners
Consulting Engineers
Structural Engineers
Building Mechanical
& Electrical Engineers
155 Avenue of the Americas
New York, NY 10013

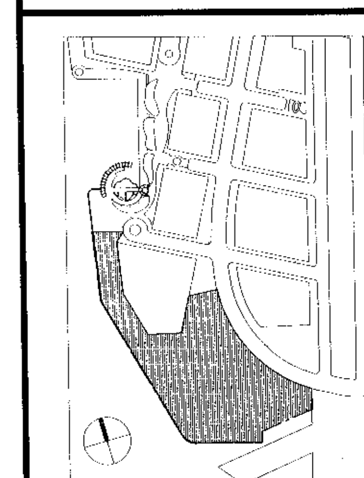
BJLJ Engineers & Architects, PC
Civil Engineers
Site Mechanical Electrical Engineers
393 Jerico Turnpike
Mineola, NY 11501

Raymond W. Searby
Specifications
32 Pearl Street
Oyster Bay, NY 11771

VJ Associates
Cost Estimator
570 Sunrise Highway
West Babylon, NY 11704

Fisher Marantz Renfro Stone
Lighting
126 Fifth Avenue
New York,NY 10011

Northern Designs
Irrigation
P.O. Box 3704
65 Oriole Lane
Milford, CT 06460



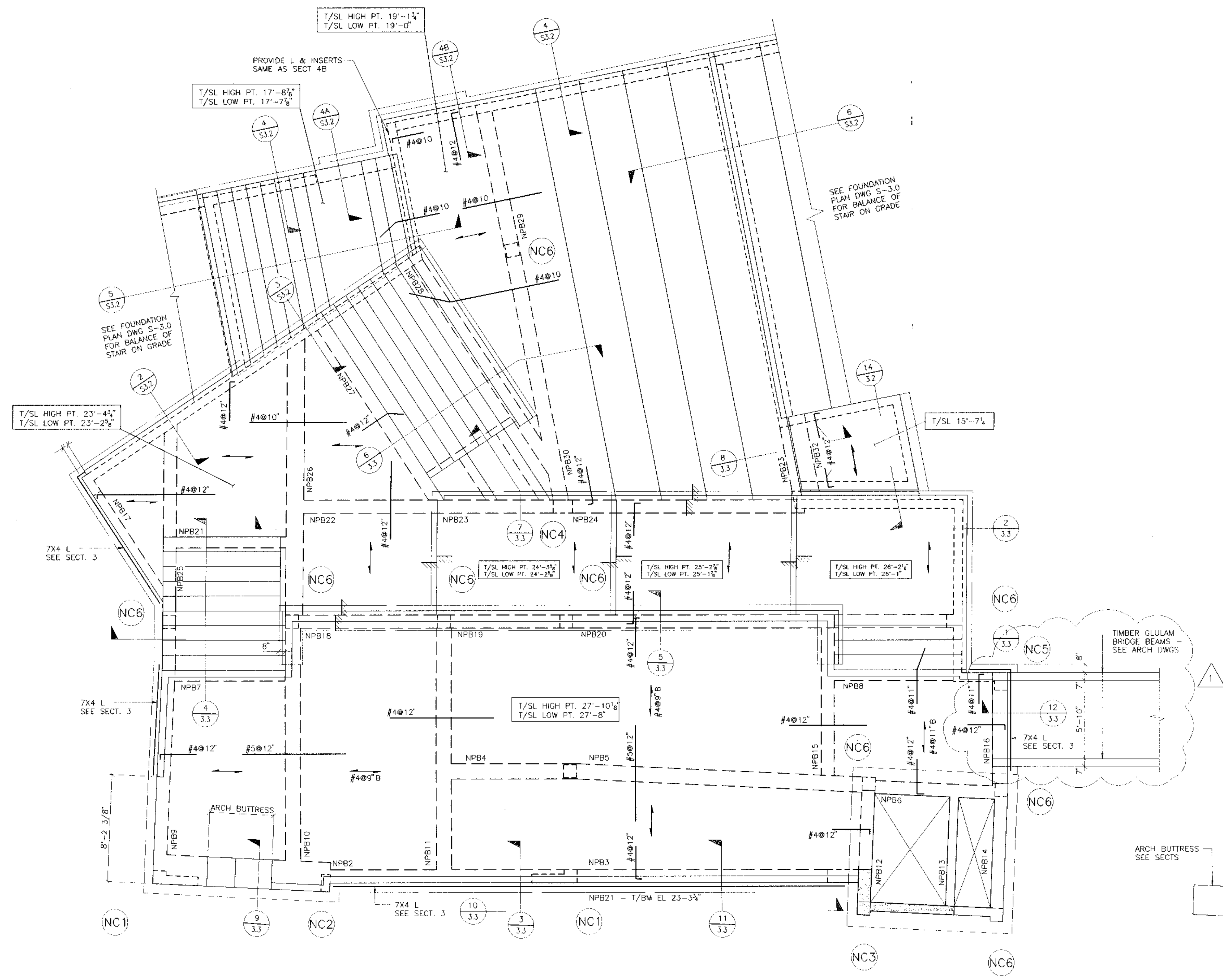
ISSUED FOR CONSTRUCTION	17JUNE1994
ISSUED FOR BID	4/18/94

Sheet Title:

FOUNDATION PLAN NORTH PAVILION

Scale: 1/4" = 1'-0"	Date: 18 APRIL 1994
Drawn By: LG	Sheet No.: S3.0
Checked By: LOH	
Project No.: 30325	

BEAM SCHEDULE							
MARK	SIZE		REINFORCING		STIRRUPS		REMARKS
	WIDTH	DEPTH	BOTT	TOP	SIZE	SPACING EA. END	
NPB1	27¼"	16	8-#7	–	#3⊔X3	12"	SEE SECTION
NPB2	12	16	3-#6	3-#7	#4	12"	–
NPB3	12	16	3-#5	3-#7	#3	12"	–
NPB4	14	16	4-#4	5-#9	#4	9"	–
NPB5	14	16	5-#8	5-#9	#5	9"	–
NPB6	12	12	3-#6	–	#3	12"	–
NPB7	10	12	3-#5	–	#3	12"	–
NPB8	10	12	3-#5	–	#3	12"	–
NPB9	12	16	3-#6	4-#6	#3	12"	STEPPED AT STAIR – SEE 4/3.3
NPB10	14	16	4-#10	–	#4	9"	–
NPB11	14	16	4-#7	–	#3	12"	–
NPB12	12	16	3-#5	–	#3	12"	–
NPB13	8	12	3-#4	–	#3	12"	–
NPB14	12	16	3-#5	4-#5	#3	12"	–
NPB15	12	16	3-#5	–	#3	12"	STEPPED AT STAIR – SIM 6/3.2
NPB16	12	16	3-#5	4-#5	#3	12"	–
NPB17	12	12	3-#5	–	#3	12"	–
NPB18	12	58¾	3-#8	3-#8	#3	12"	–
NPB19	12	47½	3-#8	3-#8	#3	12"	–
NPB20	12	47½/27½	3-#8	3-#9	#3	12"	–
NPB21	12	16	3-#7	–	#3	12"	SEE ELEV 10
NPB22	12	16 / 27¼	3-#8	3-#8	#3	12"	–
NPB23	8	30	2-#8	–	#3	12"	
NPB24	12	27¼/38½	4-#6	3-#8	#3	12"	–
NPB25	12	16	4-#6	4-#6	#3	10"	STEPPED AT STAIR
NPB26	14	16	4-#10	–	#4	9"	–
NPB27	12	16 / 21⅞	4-#8	–	#3	9"	–
NPB28	12	16	4-#8	–	#3	9"	–
NPB29	14	16	4-#4	5-#9	#5	12"	–
NPB30	14	16	4-#9	5-#9	#5	8"	–
NPB31	10	10	2-#4	–	#3	12"	..
NPB32	14	30	3-#7	–	#3	12"	–



UPPER LEVEL FRAMING PLAN

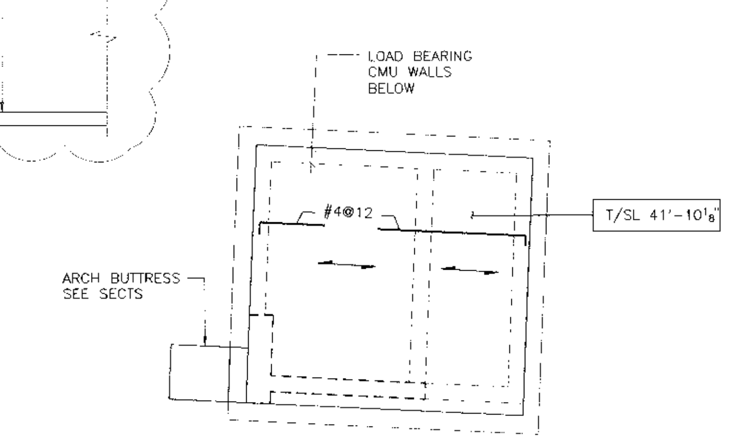
SCALE: ¼" = 1'-0"

NOTES:

1. TOP OF SLAB ELEVATION NOTED THUS [1/SL HIGH PT.,LOW PT.....] ON PLAN. FOR SLAB CONTOUR SEE ARCH. DWGS.
2. SLAB THICKNESS TO BE 5" MIN. UON. SOFFIT OF SLAB TO BE 5" BELOW LOW PT. OF SLAB.
3. MAIN BOTTOM REINF TO BE #4@12 UON. SECONDARY BOTTOM REINF (TEMP REINF) TO BE #3@12" UON.
4. FOR FACE OF BRICK DIMENSIONS SEE ARCH DWGS.
5. FOR SUPERSTRUCTURE SECTIONS SEE DWG S-3.
6. FOR TYPICAL SUPERSTRUCTURE DETAILS SEE DWG S-5.0 .
7. ~~FOR TYPICAL SUPERSTRUCTURE NOTES SEE DWG S-1.0~~ .
8. SEE ELECTRICAL DRAWINGS FOR LOCATION OF LIGHTNING PROTECTION RODS.

LEGEND:

A. INDICATES TOP REINF.
B. INDICATES SPAN DIRECTION OF MAIN BOTTOM REINF



ELEVATOR ROOF FRAMING PLAN

SCALE: ¼" = 1'-0"

SOUTH PARK

BATTERY PARK CITY AUTHORITY
One World Financial Center
New York, NY 10281

Hanna/Olin, Ltd.
Landscape Architects
421 Chestnut Street 3rd floor
Philadelphia, PA 19106

Machado & Silvetti Associates, Inc.
Architecture & Urban Design
560 Harrison Avenue
Boston, MA 02118

Lynden B. Miller
Garden Design
1170 Fifth Avenue
New York, NY 10029

Mueser Rutledge
Geotechnical Engineers
708 3rd Avenue
New York, NY 10017

Ove Arup & Partners
Consulting Engineers
Structural Engineers
Building Mechanical
& Electrical Engineers
155 Avenue of the Americas
New York, NY 10013

BJLJ Engineers & Architects, PC
Civil Engineers
Site Mechanical Electrical Engineers
393 Jerico Turnpike
Mineola, NY 11501

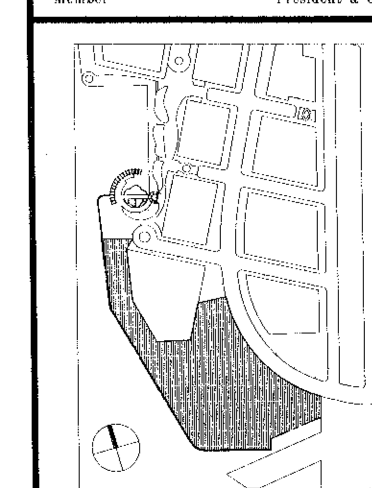
Raymond W. Searby
Specifications
32 Pearl Street
Oyster Bay, NY 11771

VJ Associates
Cost Estimator
570 Sunrise Highway
West Babylon, NY 11704

Fisher Marantz Renfro Stone
Lighting
126 Fifth Avenue
New York,NY 10011

Northern Designs
Irrigation
P.O. Box 3704
65 Oriole Lane
Milford, CT 06460

BATTERY PARK CITY AUTHORITY



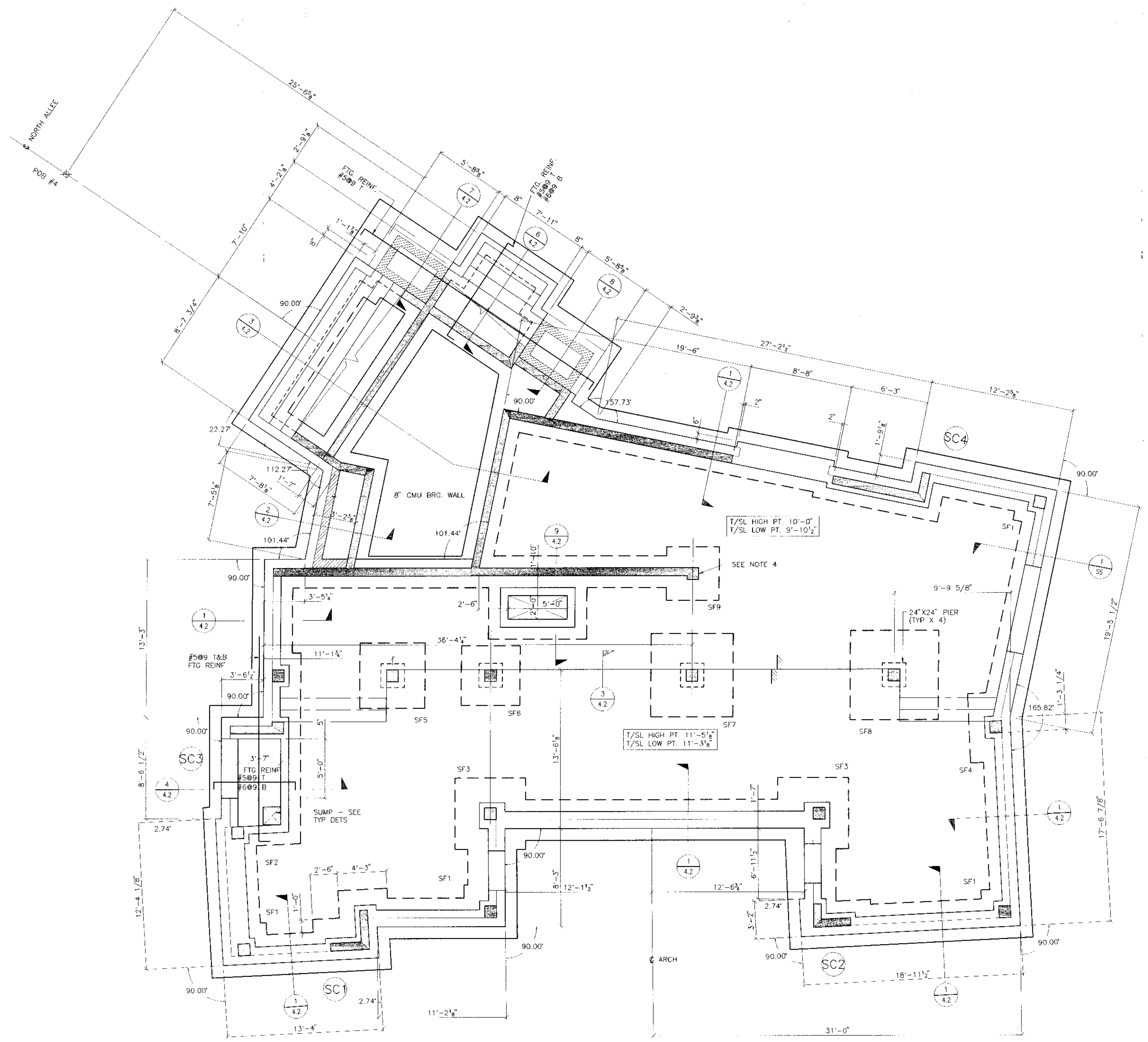
1	ISSUED FOR CONSTRUCTION	17JUNE1994
	ISSUED FOR BID	4/18/94

Sheet Title:

UPPER LEVEL & ELEVATOR ROOF FRAMING PLANS NORTH PAVILION

Scale: 1/4"=1'-0"	Date: 18 APRIL 1994
Drawn By: LG	Sheet No.: S3.1
Checked By: LOH	
Project No.: 30325	

A0183 - BPCA005768



FOUNDATION PLAN

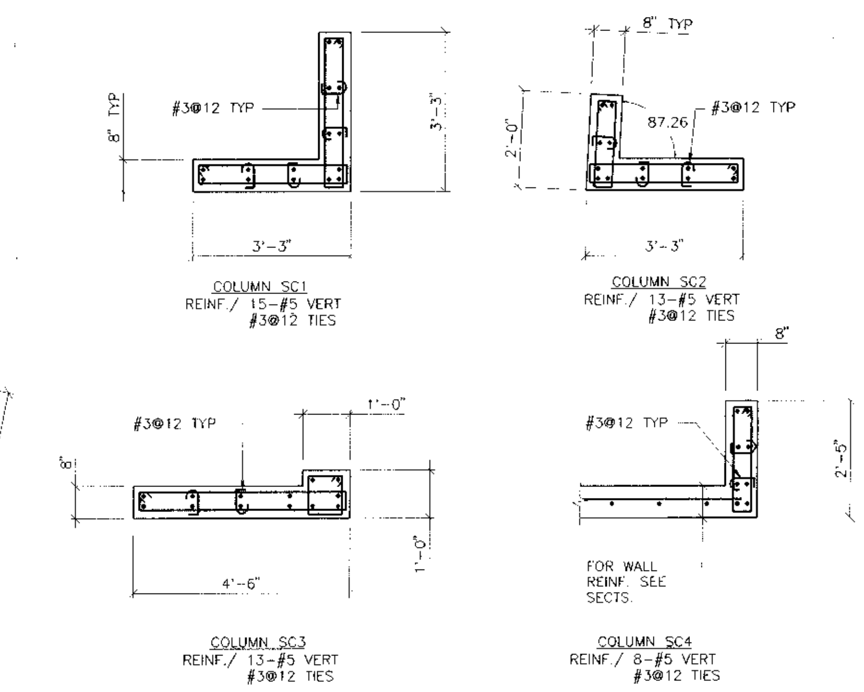
SCALE: ¼"=1'-0"

NOTES:

1. TOP OF SLAB ELEVATION NOTED THUS [T/SL HIGH PT.,LOW PT.......] ON PLAN. FOR SLAB CONTOUR SEE ARCH. DWGS.
2. SLAB ON GRADE TO BE 6" THICK MIN. REINFORCED W/ 6X6-W2.0XW2.0 W.W.F.. SOFFIT OF SLAB TO BE 6" BELOW LOW POINT OF SLAB.
3. BOTTOM OF FOOTING ELEVATION TO BE 5'-0" U.O.N. THUS (....) ON PLAN..
4. DETAILS OF COLUMNS SC1 TO SC4 SHOWN ON THIS DWG.. ALL OTHER COLUMNS TO BE 12"X12" REINF./ 4-#6 VERT. & #3@12 TIES.
5. FOR FOUNDATION SECTIONS SEE DWG.S-4.2 .
6. FOR TYPICAL FOUNDATION DETAILS SEE DWG. S-5.0 .
7. FOR TYPICAL FOUNDATION NOTES SEE DWG. S1.0 .

FOOTING SCHEDULE

MARK	SIZE	BOTT REINF		REMARKS
		LONG WAY	SHORT WAY	
SF1	4'-6"x4'-6"x1'-6"	6-#7	6-#7	
SF2	4'-6"x3'-6"x1'-6"	6-#7	5-#7	
SF3	6'-0"x6'-0"x1'-6"	8-#7	8-#7	
SF4	4'-6"x6'-0"x1'-6"	6-#7	8-#7	
SF5	5'-6"x5'-6"x1'-6"	7-#7	7-#7	
SF6	5'-0"x5'-0"x1'-6"	7-#7	7-#7	
SF7	7'-0"x7'-0"x1'-6"	9-#7	9-#7	
SF8	7'-6"x7'-6"x1'-6"	10-#7	10-#7	
SF9	4'-6"x4'-6"x1'-6"	6-#7	6-#7	



COLUMN DETAILS

SCALE: ½"=1'0"

SOUTH PARK

BATTERY PARK CITY AUTHORITY
One World Financial Center
New York, NY 10281

Hanna/Olin, Ltd.
Landscape Architects
421 Chestnut Street 3rd floor
Philadelphia, PA 19106

Machado & Silvetti Associates, Inc.
Architecture & Urban Design
560 Harrison Avenue
Boston, MA 02118

Lynden B. Miller
Garden Design
1170 Fifth Avenue
New York, NY 10029

Mueser Rutledge
Geotechnical Engineers
708 3rd Avenue
New York, NY 10017

Ove Arup & Partners
Consulting Engineers
Structural Engineers
Building Mechanical
& Electrical Engineers
155 Avenue of the Americas
New York, NY 10013

BJLJ Engineers & Architects, PC
Civil Engineers
Site Mechanical Electrical Engineers
393 Jerico Turnpike
Mineola, NY 11501

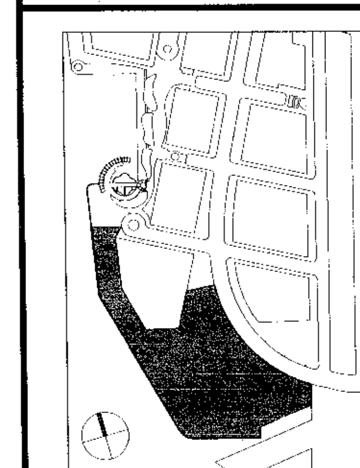
Raymond W. Searby
Specifications
32 Pearl Street
Oyster Bay, NY 11771

VJ Associates
Cost Estimator
570 Sunrise Highway
West Babylon, NY 11704

Fisher Marantz Renfro Stone
Lighting
126 Fifth Avenue
New York,NY 10011

Northern Designs
Irrigation
P.O. Box 3704
65 Oriole Lane
Milford, CT 06460

BATTERY PARK CITY AUTHORITY



ISSUED FOR CONSTRUCTION	17JUNE1994
ISSUED FOR BID	4/18/94

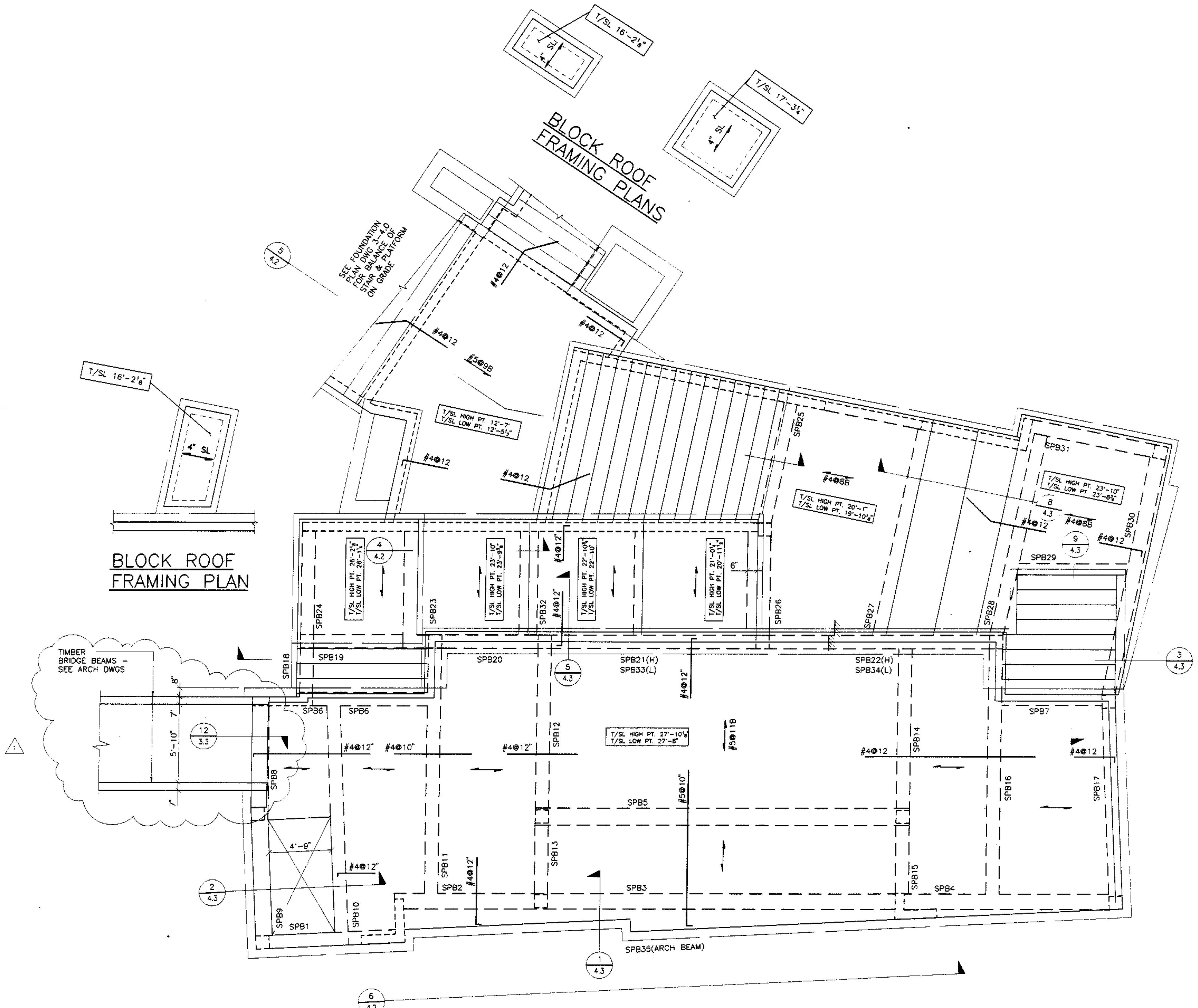
Sheet Title:

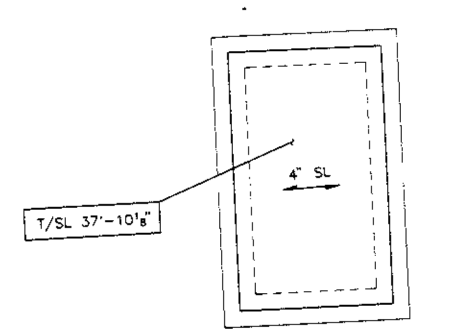
FOUNDATION PLAN
SOUTH PAVILION

Scale: 1/4" = 1'-0"	Date: 18 APRIL 1994
Drawn By: LG	Sheet No.: S4.0
Checked By: LOH	
Project No.: 30325	

BEAM SCHEDULE

MARK	SIZE		REINFORCING		STIRRUPS		REMARKS
	WIDTH	DEPTH	BOTT	TOP	SIZE	SPACING EA. END	
SPB1	12	12	3-#4	-	#3	12"	-
SPB2	14	16	4-#5	4-#6	#3	12"	-
SPB3	14	16	4-#5	5-#6	#3	12"	-
SPB4	14	16	4-#5	5-#6	#3	12"	-
SPB5	16	18	6-#11	-	#4	6"	-
SPB6	12	16	3-#6	-	#3	12"	-
SPB7	10	10	3-#5	-	#3	12"	-
SPB8	15	12	3-#4	3-#4	#3	12"	-
SPB9	15	12	3-#4	3-#4	#3	12"	-
SPB10	12	16	4-#7	-	#3	12"	-
SPB11	12	16	4-#10	-	#4	6"	-
SPB12	12	12	3-#4	3-#4	#3	12"	-
SPB13	12	12	3-#4	3-#4	#3	12"	-
SPB14	12	12	3-#4	3-#4	#3	12"	-
SPB15	12	12	3-#4	3-#4	#3	12"	-
SPB16	12	16	4-#9	-	#4	10"	-
SPB17	12	16	4-#5	-	#3	12"	-
SPB18	12	12 MIN.	3-#4	3-#4	#3	12"	SLOPES W/ STAIR
SPB19	12	12 / 33 1/8	3-#6		#3	12"	T/BM 26'-2 1/8"
SPB20	12	16	3-#4	3-#4	#3	12"	-
SPB21	12	16	3-#5	3-#5	#3	12"	-
SPB22	12	16	3-#5	3-#5	#3	12"	-
SPB23	12	33 1/8	3-#6		#3	12"	T/BM 26'-2 1/8"
SPB24	12	12	3-#4	3-#4	#3	12"	T/BM 26'-2 1/8"
SPB25	12	16	4-#5	3-#5	#4	12"	-
SPB26	18	16	3-#4	3-#5	#3	12"	-
SPB27	12	12	4-#8	-	#4	12"	-
SPB28	12	16	4-#8	-	#4	12"	-
SPB29	10	10	3-#5	-	#3	12"	-
SPB30	14	16	4-#6	-	#3	12"	-
SPB31	12	16	4-#8	-	#4	9"	-
SPB32	18	12	3-#5	-	#3	12"	T/BM 22'-10 3/4"
SPB33	12	34 1/2 / 12	3-#7	-	#3	12"	T/BM 20'-0 1/4"
SPB34	12	16	3-#9	-	#3	10"	T/BM 20'-1"
SPB35	24	24	6-#10	-	#3	12"	ARCH BM





SHAFT ROOF FRAMING PLAN

UPPER LEVEL FRAMING PLAN

SCALE: 1/4"=1'-0"

NOTES:

1. TOP OF SLAB ELEVATION NOTED THUS [T/SL HIGH PT.,LOW PT.....] ON PLAN. FOR SLAB CONTOUR SEE ARCH DWGS.
2. SLAB THICKNESS TO BE 5" MIN. UON. SOFFIT OF SLAB TO BE 5" BELOW LOW PT. OF SLAB.
3. MAIN BOTTOM REINF TO BE #4@12 UON. SECONDARY BOTTOM (TEMP) REINF TO BE #3@12" UON.
4. FOR FACE OF BRICK DIMENSIONS SEE ARCH DWGS..
5. FOR SUPERSTRUCTURE SECTIONS SEE DWG S-4.2 .
6. FOR TYPICAL SUPERSTRUCTURE DETAILS SEE DWG S-5.0 .
7. FOR TYPICAL SUPERSTRUCTURE NOTES SEE DWG S-1.0 .
8. SEE ELECTRICAL DRAWINGS FOR LOCATION OF LIGHTNING PROTECTION RODS.

1

LEGEND:

A. INDICATES TOP REINF.

B. INDICATES SPAN DIRECTION OF MAIN BOTTOM REINF

SOUTH PARK

BATTERY PARK CITY AUTHORITY
One World Financial Center
New York, NY 10281

Hanna/Olin, Ltd.
Landscape Architects
421 Chestnut Street 3rd floor
Philadelphia, PA 19106

Machado & Silvetti Associates, Inc.
Architecture & Urban Design
560 Harrison Avenue
Boston, MA 02118

Lynden B. Miller
Garden Design
1170 Fifth Avenue
New York, NY 10029

Mueser Rutledge
Geotechnical Engineers
708 3rd Avenue
New York, NY 10017

Ove Arup & Partners
Consulting Engineers
Structural Engineers
Building Mechanical
& Electrical Engineers
155 Avenue of the Americas
New York, NY 10013

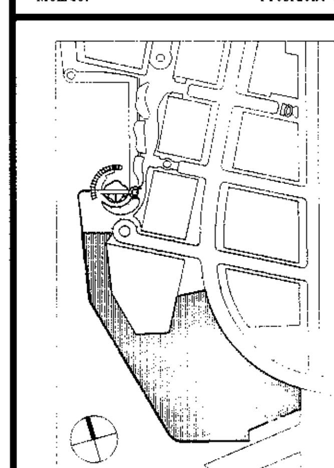
BJLJ Engineers & Architects, PC
Civil Engineers
Site Mechanical Electrical Engineers
393 Jerico Turnpike
Mineola, NY 11501

Raymond W. Searby
Specifications
32 Pearl Street
Oyster Bay, NY 11771

VJ Associates
Cost Estimator
570 Sunrise Highway
West Babylon, NY 11704

Fisher Marantz Renfro Stone
Lighting
126 Fifth Avenue
New York,NY 10011

Northern Designs
Irrigation
P.O. Box 3704
65 Oriole Lane
Milford, CT 06460



1	ISSUED FOR CONSTRUCTION	17JUNE1994
	ISSUED FOR BID	4/18/94

Sheet Title:
UPPER LEVEL & SHAFT ROOF FRAMING PLANS SOUTH PAVILION

Scale: 1/4" = 1'-0"	Date: 18 APRIL 1994
Drawn By: POL	Sheet No.: S4.1
Checked By: LOH	
Project No.: 30325	

NEW YORK STATE OF OPPORTUNITY. | **Parks, Recreation, and Historic Preservation**

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

February 9, 2022

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: FEMA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the Wagner Park Pavilion supplemental alternatives analysis dated January 18th, 2022. Based upon our review, we cannot concur with the determination that demolition is the only feasible option. It appears that the relocated park pavilion could feasibly be sited behind the proposed buried floodwall and associated terrace, without impinging upon the public right-of-way. We recommend that the project team retain a third-party engineering firm with experience in relocating historic structures to prepare a report on the feasibility of elevating and relocating the Wagner Park Pavilion. That report should address the projected costs associated with such a project, for comparison with the projected costs associated with the Preferred Alternative.

We note that the purpose of an alternatives analysis under Section 106 is to identify alternatives that avoid or *minimize* harm to historic resources. Therefore, the likelihood that elevation and relocation would adversely affect the Pavilion does not disqualify this alternative from consideration. We further note that the project has not demonstrated how constructing a new pavilion is the more environmentally responsible alternative. In order to continue our review, please clarify what the federal agency involvement is for this project.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc: A. Rachleff, A. Sutphin, A. AbiDargham, B. Koper, C. Tiernan, C. Cooney, G. Santucci, J. Dudgeon, N. Stehling, R. Dencker, R. Pinzon, S. Rahma

AECOM Imagine it. Delivered.

AECOM
605 Third Avenue
New York, NY 10158
aecom.com

January 18, 2022

Ms. Olivia Brazee
Historic Site Restoration Coordinator
New York State Office of Parks, Recreation and
Historic Preservation
Division for Historic Preservation
Peebles Island, PO Box 189
Waterford, New York 12199-0189

RE: **South Battery Park City Resiliency Project**

Dear Ms. Brazee,

We write on behalf of our client, the Battery Park City Authority, in response to your letter dated October 19, 2021, in which you requested the "opportunity to review more detailed information supporting the conclusion that the Pavilion cannot be rehabilitated, elevated and retrofitted for flood-resiliency, and integrated into the new park design."

As noted in the October 2021 Wagner Park Alternatives Analysis Memorandum, the purpose and specific goals of the South Battery Park City Resiliency (SBPCR) Project are as follows:

- Provide a reliable coastal flood control system to provide risk reduction to property, residents and assets within the vicinity of South Battery Park City in response to the design storm event;
- Protect and preserve to the maximum extent practicable, open space resources and opportunities to view and interact with the Manhattan waterfront, particularly in Wagner Park, Pier A Plaza and The Battery; and,
- Avoid or minimize disruption to existing below and above-ground infrastructure (i.e., water and sewer infrastructure, subways, tunnels, utilities, etc.) from flood events.

Specific objectives of the SBPCR Project are to:

- Provide a reliable coastal flood control system that minimizes risk and the need for operational interventions by relying primarily on passive flood control technology as opposed to mechanical "deployable" flood control technology;
- Construct and operate the project in an environmentally responsible manner;
- Preserve to the greatest extent practicable the character and design aesthetic of the community and its interface with the BPC waterfront and access to coastal viewsheds, particularly views of the harbor and Statue of Liberty; and,
- Utilize cost-effective solutions to maximize capital investment over the lifespan of the SBPCR Project.

The October 2021 Memorandum presented three Alternatives that were considered to achieve the necessary flood protection. Ultimately, it was determined that Alternatives 1 and 2 did not meet the project purpose and need and that a buried floodwall beneath Wagner Park (Alternative 3) would achieve the necessary level of passive protection.

As the Park will be reconstructed at a higher elevation, to address your request as stated above, the Pavilion would either need to be elevated in-place or elevated and relocated inland. Both of these options are infeasible, as explained below.

Evaluation

1. Elevated In-Place Pavilion

In order to meet the 19.8-foot Design Flood Elevation (DFE) above the project datum for the 100-year storm, the existing Pavilion would need to be raised by over 10 feet from its existing elevation. It has been well understood that the Pavilion's significance is intertwined with its intrinsic relationship with the Wagner Park and that the user experience of one without the other is incomplete. Raising the Pavilion in-place to meet the new elevation would markedly hamper the flexibility and usability of the Park's waterside lawn area, as access to the Pavilion would require much of this area to be composed of significantly sloped surfaces, rising from the waterfront Esplanade elevation to the new elevated structure. This would significantly decrease the flat area of the park and reduce its functionality and appeal. This outcome is inconsistent with the Project goal of protecting and preserving open space resources.

Although many of the same factors referenced below in the description of the Elevated Inland Pavilion would also render the Elevated In-Place Pavilion infeasible, the severe limitations on the usability of the Park that would result from the Elevated In-Place Pavilion were concluded to be of sufficient significance and import that consideration of these additional factors was concluded to be unnecessary in order to eliminate this option from further consideration. The resulting determination was that elevating the Pavilion In-Place does not meet the Project's purpose and need or project objectives and is not prudent or feasible.[1]

2. Elevated Inland Pavilion

As described above, elevating the Pavilion in place (whether the existing pavilion or a new pavilion) would limit the usable area of the Park, as much of the area would be comprised of sloped surfaces rising from the relieving platform elevation to the elevation of the new elevated structure. As such, the Project Team considered the possibility of shifting the Pavilion further inland to accommodate the elevation of the Park. This option, if feasible, would have the dual benefits of both lessening the degree of slope required to connect the waterfront Esplanade to the Pavilion and maximizing the area of contiguous waterside lawn and garden space within the Park. For a variety of reasons as identified below, this option was also deemed infeasible.

The Pavilion is made up of two masonry structures connected with an elevated foot bridge. Based on AECOM's considerable experience with elevating structures, and with particular focus on its experience during the aftermath of Superstorm Sandy, elevating small residential, relatively light homes, constructed of wood frame has proven in some cases to be a feasible solution. However, elevating a two-winged masonry structure is extremely complex, possibly dangerous, and carries with it a significant probability of extreme damage to the building, substantial increases in costs, and material delays to the completion of this critical flood-control infrastructure project. As is evident from the issues presented below, elevating the existing Pavilion and moving it inland is plagued with such tremendous safety and cost-based risk that it becomes patently ill-conceived and virtually impossible to consider.

Elevating a structure typically consists of disconnecting it from all utilities and foundations, providing pits and cut outs in its exterior foundation walls, threading steel beams below it, and elevating it on jacks to

[1] Likewise, and for the same reasons, it was concluded that constructing a new elevated Pavilion in alignment with the position of the existing Pavilion would be infeasible.

allow the construction of new foundations below. This is followed by lowering the structure onto the new foundation, reconnecting it to the new foundation and utilities and providing means of egress to the new floor elevations. The Pavilion is a large and heavy masonry two-winged structure which is extremely susceptible to cracking and profound damage during the course of an attempted move. The heavier weight also imposes limitations on equipment and materials that have the capacity to elevate such a structure.

Furthermore, the Pavilion façade has deficiencies that would further complicate and make elevating the structure problematic. The masonry façade is failing with many signs of water infiltration, cracking, and deterioration in many areas with spalled bricks. To ensure the best possible results, elevating the Pavilion and moving it inland would require salvaging all materials, including bricks, from the building and cataloguing them so that they could be put back in the same place. It is reasonable to expect that at least 30% of the brickwork would be damaged during removal. Based on the extent of repairs and upgrades that would be required and the potential to damage a significant amount of existing materials, moving and elevating the building inland could potentially result in much of the original structure needing to be rebuilt. As a result, it is expected that the scenario in which the existing Pavilion would be elevated and moved inland would be cost-prohibitive.

The Elevated Inland Pavilion and the Elevated In-Place Pavilion both have rooftop elevations that are 10 feet higher than the Pavilion rooftop elevation of the Proposed Action. There is not enough space to move the structure to clear the existing foundations and allow for the new foundations to receive the new structure (see Figure 1). Thus, the geometry of the overlapped foundations does not match, and requires removal and replacement of the original foundations, and placement of the new foundations in the overlap area. Removing the original foundations while the Pavilion is raised on temporary supports creates even more risk, complexity, and cost. It extends the time during which the structure is raised on temporary supports, increasing its exposure to possible natural events, human error, and mechanical malfunctions. Based on the above, the cumulative risk associated with this option renders it infeasible.

Aside from the risk factors associated with the actual elevation of the Pavilion, elevating the structure inland would result in a series of unintended and unavoidably negative impacts to the Pavilion and the Park. It would require modifications to the existing allées which would impact accessibility to the Pavilion, and require new allées that meet ADA and universal accessibility requirements. In order to meet ADA requirements, the allées would need to be shortened and kept at the existing street elevation, and stairs that encroach onto the street would have to be constructed. Thus, the new location would result in the staircases impacting the allées, and intruding into the public sidewalk on Battery Place, as shown in Figure 2. The staircases would compromise site access and block the procession from Battery Place to the Park, which is a distinguishing feature of the Wagner Park design.

Accordingly, elevating and moving the Pavilion inland would not meet the Project's purpose and need or project objectives and is therefore not prudent or feasible.

Figure 1: Elevated Inland Pavilion – Foundations Conflict

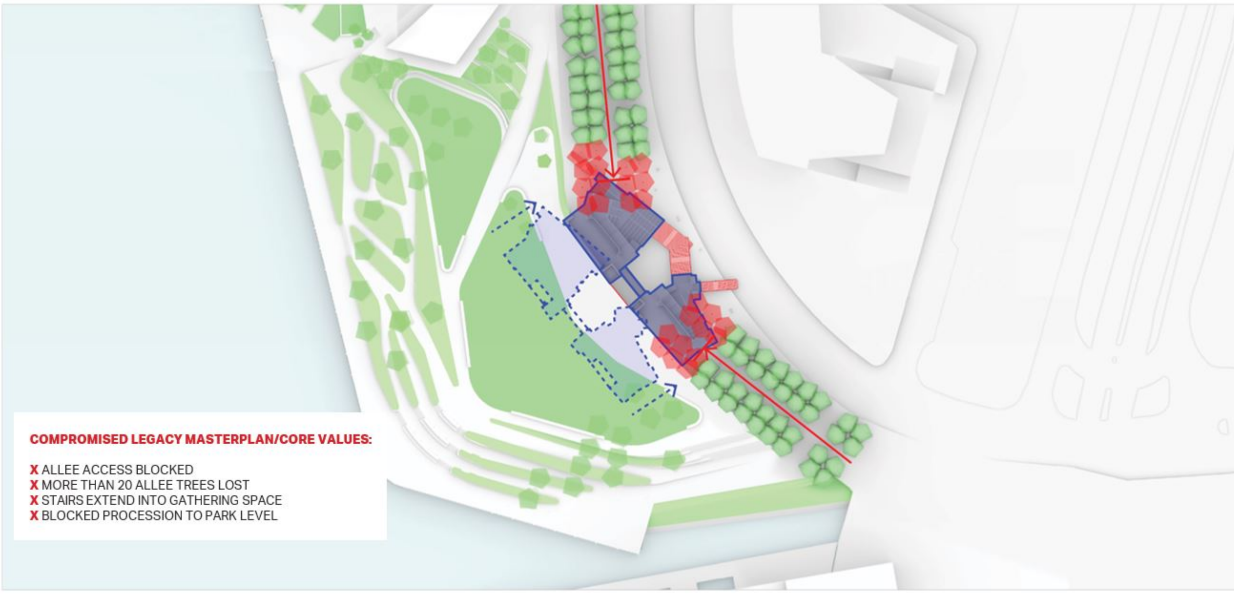
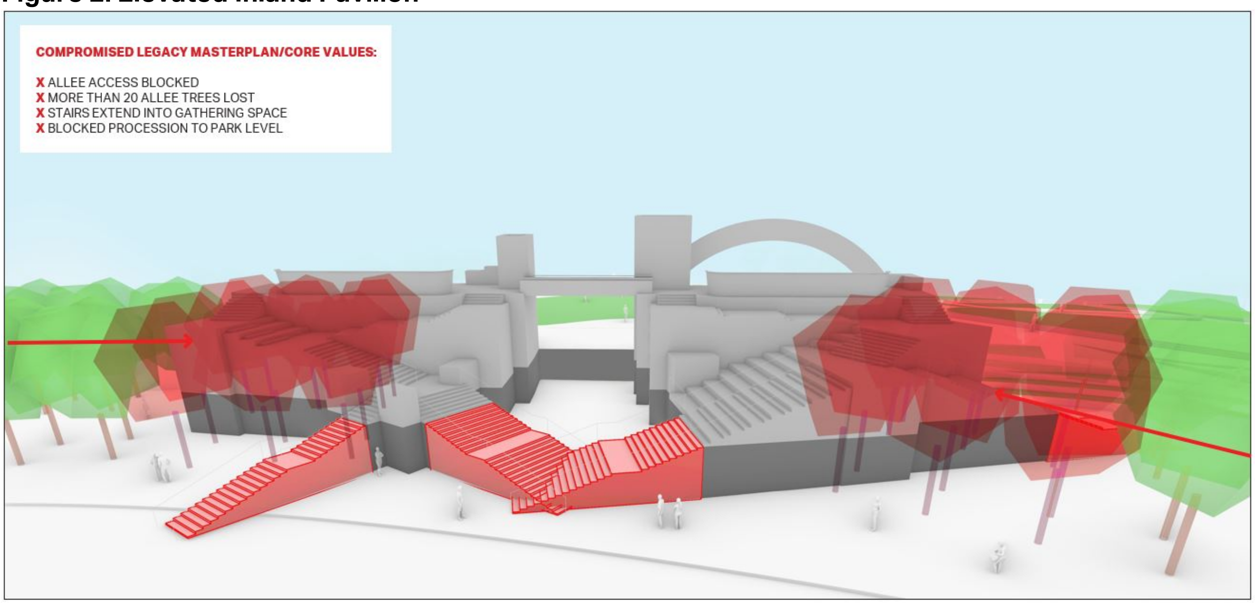


Figure 2: Elevated Inland Pavilion



Impact on Wagner Park

Wagner Park has been determined eligible for listing in the National Register and possesses historic and architectural significance under Criteria A and C, and exceptional significance under Criteria Consideration G, and possesses integrity. The Pavilion is a key historic character-defining feature of the Park.

The Elevated In-Place Pavilion would require that the Park be reconstructed at a significant slope in order to facilitate access to the elevated Pavilion, which would eliminate a significant amount of usable open space. Ultimately, these actions would permanently alter the site-specific relationship of the Pavilion to the surrounding Park, and New York Harbor, which were designed to function together in harmony.

The Elevated Inland Pavilion poses its own set of impediments. The construction of the buried floodwall will require the replacement of the existing Park's central plaza, north and south ornamental gardens and central lawn with the new design, regardless of whether the existing pavilion was moved inland and elevated or the new pavilion constructed in its proposed location. However, relocating the existing Pavilion inland would also directly impact the allées, result in the Pavilion stairs encroaching upon the Battery Place sidewalk, preclude the ability to achieve universal access, and block the procession from Battery Place to the Park, which is a distinguishing feature of the Wagner Park design. Ultimately, these actions would permanently alter the site-specific relationship of the Pavilion to the surrounding Park, and New York Harbor, which were designed to function together in harmony.

In summary, elevating the Pavilion in-place or in a relocated inland location would significantly alter the five key historic character-defining features of Wagner Park, and compromise the Park's seven aspects of integrity as defined by the National Register. Hence, the Park's location, design, setting, materials, workmanship, feeling, and association, would be permanently modified in a historically inappropriate manner. Therefore, both options would adversely affect the characteristics that qualify Wagner Park for inclusion in the National Register.

Conclusion

In consideration of the SBPCR Project's purpose and need (and its associated goals and objectives), retention, elevation and rehabilitation of the pavilion is not a prudent or feasible alternative, nor would it avoid an adverse effect on Wagner Park.

Please feel free to contact me if you have any questions regarding this submission.

Sincerely,

Allison S. Rachleff

Allison S. Rachleff
Sr. Architectural Historian
E-mail: allison.rachleff@aecom.com
Cell: 718-689-4674

Wagner Park Alternatives Analysis Memorandum Package

October 19, 2021

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: FEMA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (NY Environmental Conservation Law Article 8).

We have reviewed the EIS Draft Scoping Document (dated September 2021) and the Wagner Park Alternatives Analysis (dated October 2021) that were submitted to our office on October 5th and 8th, 2021. Based upon our review of the EIS Draft Scoping Document, we offer the following comments:

1. With regard to archeological resources, the document appears acceptable.
2. With regard to architectural resources, we recommend that an additional alternative be studied in the EIS: rehabilitation and elevation/flood-hardening of the park Pavilion.

Based upon our review of the Wagner Park Alternatives Analysis, we offer the following comments:

1. We concur that all three alternatives would have an Adverse Effect on Wagner Park, including the proposed action.
2. We would appreciate the opportunity to review more detailed information supporting the conclusion that the Pavilion cannot be rehabilitated, elevated and retrofitted for flood-resiliency, and integrated into the new park design.
3. We note that rehabilitating the existing Pavilion structure could potentially meet the stated project goal of providing a sustainably designed and carbon-neutral park structure.

If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: A. Rachleff, A. Sutphin, A. AbiDargham, B. Koper, C. Tiernan, C. Cooney, G. Santucci, J. Dudgeon, N. Stehling, R. Dencker, R. Pinzon, S. Rahma

AECOM Imagine it. Delivered.

South Battery Park City Resiliency Project

Wagner Park Alternatives Analysis Memorandum

Battery Park City Authority

AECOM Project Number: 60579231

October *2021*

TABLE OF CONTENTS

TABLES

FIGURES

1.0 Introduction

This Wagner Park Alternatives Analysis, prepared by AECOM in collaboration with AKRF Inc., was conducted to evaluate the alternatives considered for the Wagner Park portion of the South Battery Park City Resiliency (SBPCR) Project. Three alternatives for the flood alignment were evaluated to determine whether there were alternatives that would avoid or minimize adverse effects to Wagner Park and that would meet the purpose and need of the SBPCR Project. The alternatives were also analyzed in accordance with the Criteria of Adverse Effect set forth in 36 CFR 800.5(a)(1) to determine whether the SBPCR Project would directly or indirectly alter characteristics that qualify the National Register-eligible Wagner Park for inclusion in the National Register.

1.1 Background and Description of Proposed Action

During Superstorm Sandy in 2012, coastal surge inundated Lower Manhattan on its western side through low elevation points near Pier A and in other parts of Battery Park City, damaging, destroying and/or negatively impacting significant components of Lower Manhattan's critical and civic infrastructure. In response to the devastating impact of Superstorm Sandy in Lower Manhattan and in anticipation of future severe storm activity related to global climate change, the SBPCR Project has been developed by Battery Park City Authority (BPCA) as an integrated coastal flood risk management project in Lower Manhattan **(Figure 1-1)**. The SBPCR Project represents one of several projects within the overall Lower Manhattan Coastal Resiliency (LMCR) Master Plan.

The SBPCR Project Area (Project Area), the area of direct physical disturbance, extends from First Place and the Museum of Jewish Heritage, through Robert F. Wagner Park (Wagner Park), across Pier A Plaza, and then along the north side of the Battery Bikeway in The Battery to higher ground near the intersection of Battery Place and State Street. The SBPCR Study Area (Study Area), which extends beyond the Project Area, varies by resource but is generally defined as the area within 400 feet of the SBPCR Project improvements, **Figure 1-1**.

The SBPCR Project is being designed to provide independent utility with respect to flood risk reduction within the Project Area for the current 100-year flood, inclusive of increased intensity and frequency of rainfall, coastal surge, and predicted sea level rise. It is one of three (3) resiliency projects being undertaken by BPCA to address flood risk reduction throughout Battery Park City's ninety-two (92) acres. The other two projects are the Battery Park City Ball Fields and Community Center Resiliency Project, and the North/West Battery Park City Resiliency Project (see **Figure 1-2**). The SBPCR Project is also being designed with adaptability for the 2050 100-year storm event when the North/West BPC Resiliency Project is completed, and the SBPCR Project ties into it (see **Figure 1-2**).

The flood alignment is composed of many different integrated features such as flip-up deployable gates (flip-up deployables), glass-topped floodwalls, buried floodwalls underneath terraced slopes, exposed floodwalls, and bermed floodwalls as shown in **Figure 1-3**. The term "flood alignment" is used to differentiate the combination of flood control measures represented by the Project from a traditional freestanding flood wall for risk reduction. In addition, interior drainage improvements are proposed for the SBPCR project, including the isolation of the existing underground sewer manholes and connected chamber, see **Figure 1-1.**

In addition to the Battery Park City projects, New York City's The Battery Coastal Resilience Project, the Financial District and Seaport Climate Resilience Project, the Brooklyn Bridge-Montgomery Coastal Resiliency (BMCR) Project, and the East Side Coastal Resiliency (ESCR) Project will collectively serve to further reduce Lower Manhattan's flooding exposure (see **Figure 1-4)**.

Battery Park City was planned and developed according to a Master Plan adopted in 1979 and is partially situated upon landfill generated by construction of the World Trade Center between the late 1960s and the early 1970s. Wagner Park was collaboratively designed by landscape architecture firm, Hanna/Olin, architecture firm, Machado and Silvetti, and public garden designer, Lynden Miller. It was built between 1994-1996 and offers panoramic views of the New York Harbor and the Statue of Liberty. It includes a pavilion, consisting of two structures connected by a rooftop walkway, two ornamental gardens, an esplanade, a central lawn, and various pieces of public art. The Museum of Jewish Heritage, which opened in Battery Park City in 1997, is located north of Wagner Park.

BPCA has proactively guided the process for the redesign of Wagner Park, retaining as many aspects as possible of the original design intent and site organization for the Park. In addition, BPCA found that four of the original eight principles from the 1979 Master Plan are relevant to the Project Area and are pertinent to an understanding of BPCA's approach to the SBPCR Project design:

- Principle 1: Battery Park City should not be a self-contained new-town-in town, but a part of Lower Manhattan;
- Principle 2: The layout and orientation of Battery Park City should be an extension of Lower Manhattan's system streets and blocks;
- Principle 3: Battery Park City should offer an active and varied set of waterfront amenities; and
- Principle 5: Circulation should reemphasize the ground level.

Figure 1-1: SBPCR Project Area and Study Area

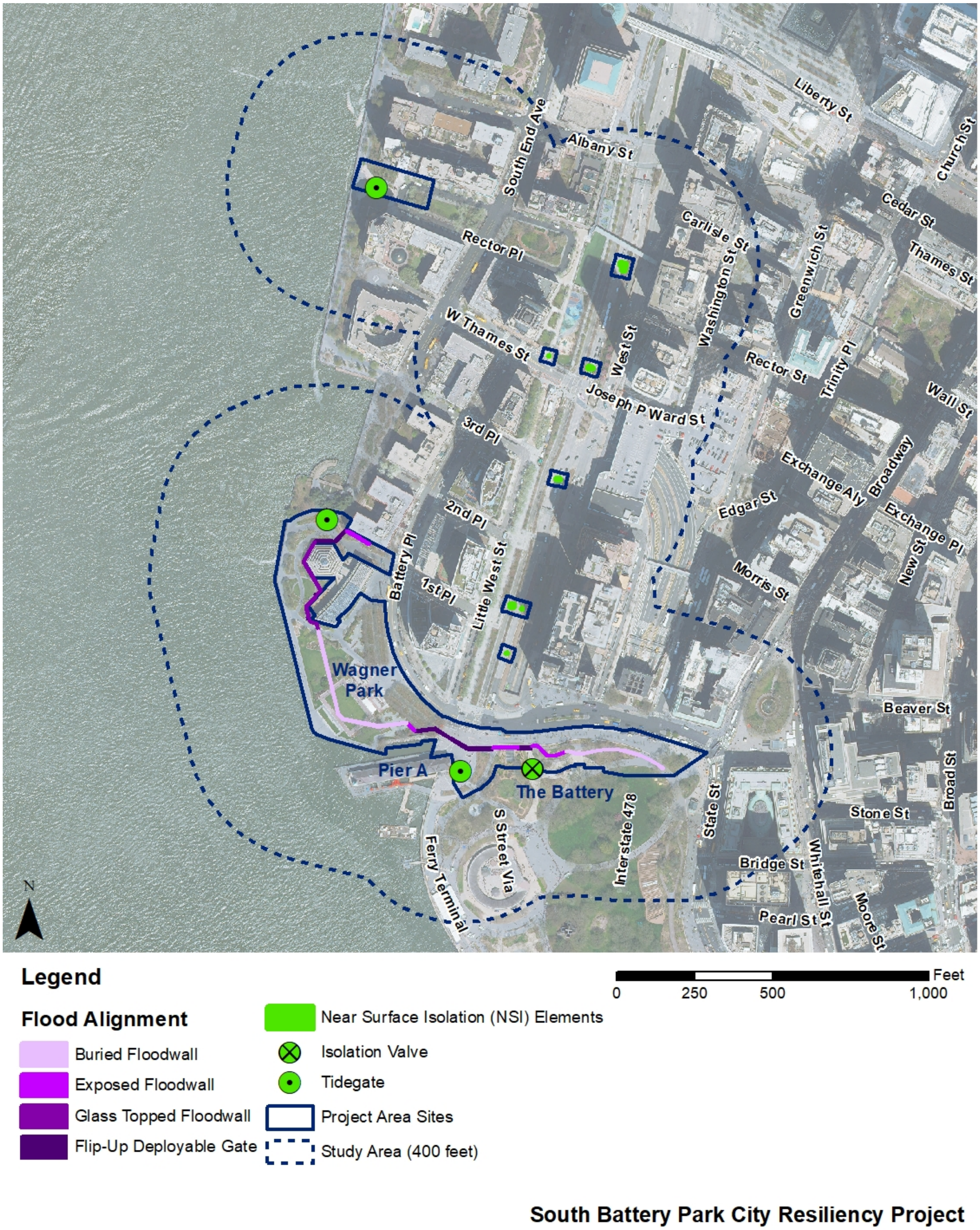


Figure 1-2: Battery Park City Resiliency Projects

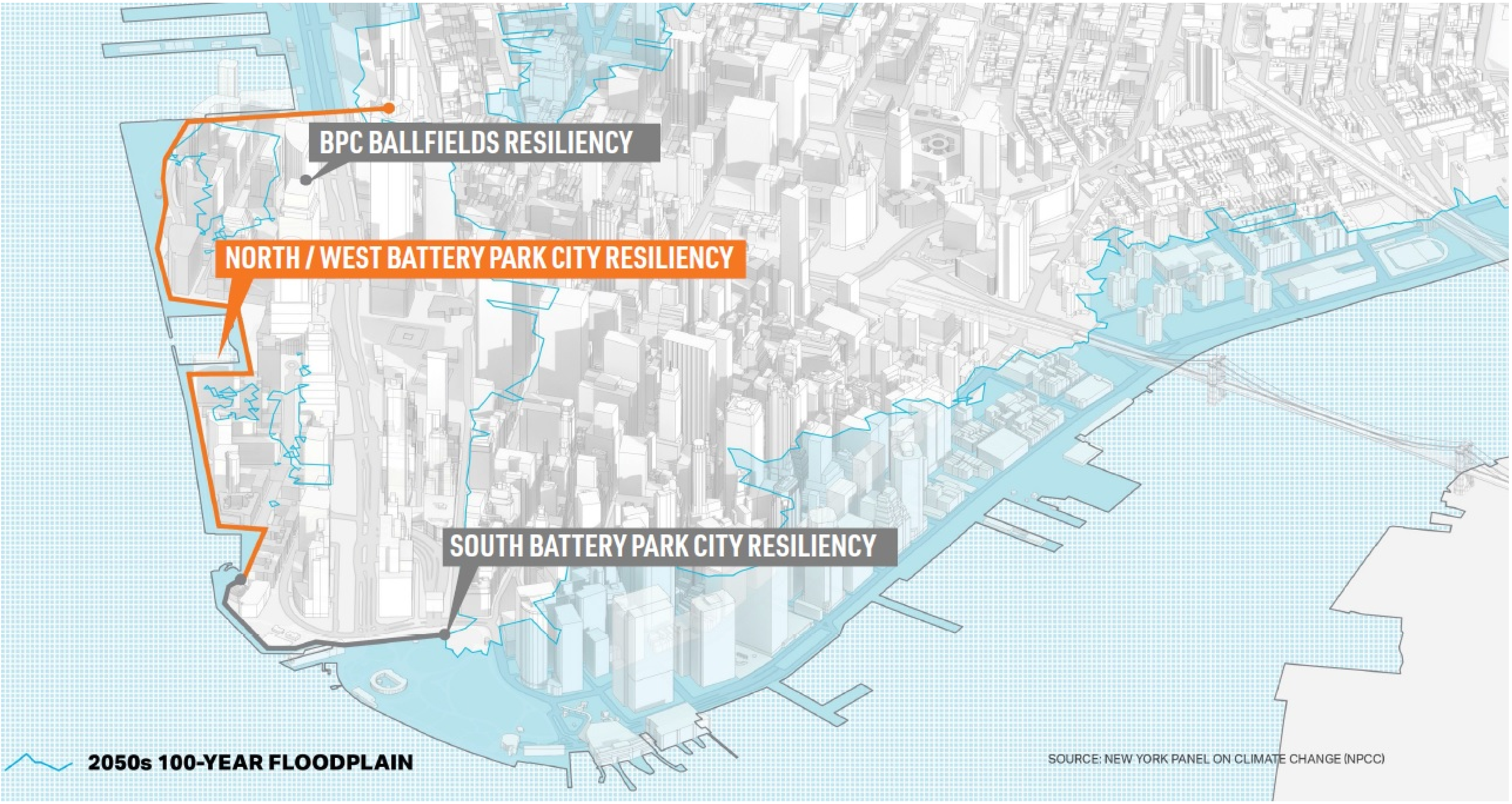


Figure 1-3: SBPCR Project Flood Alignment

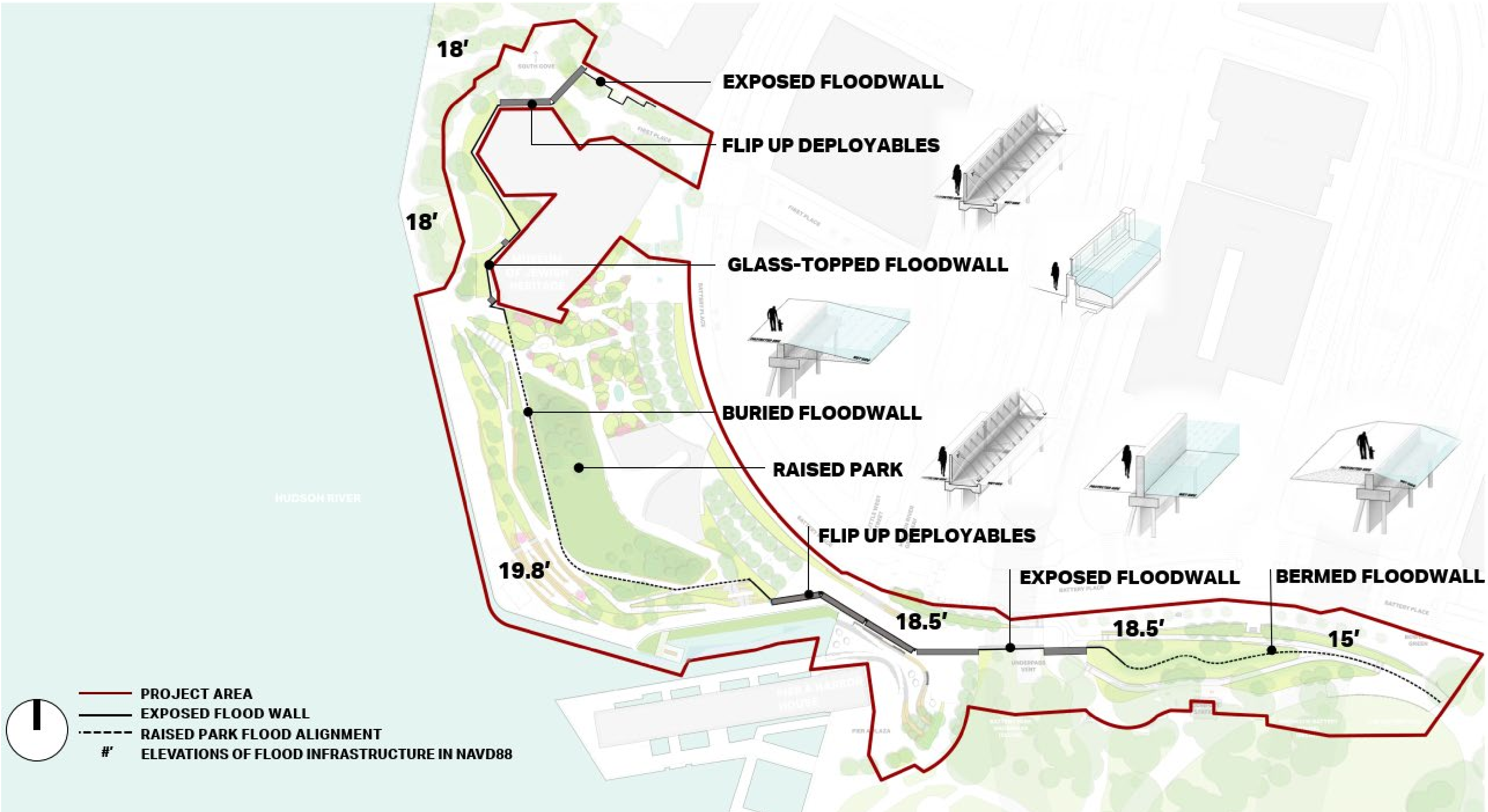
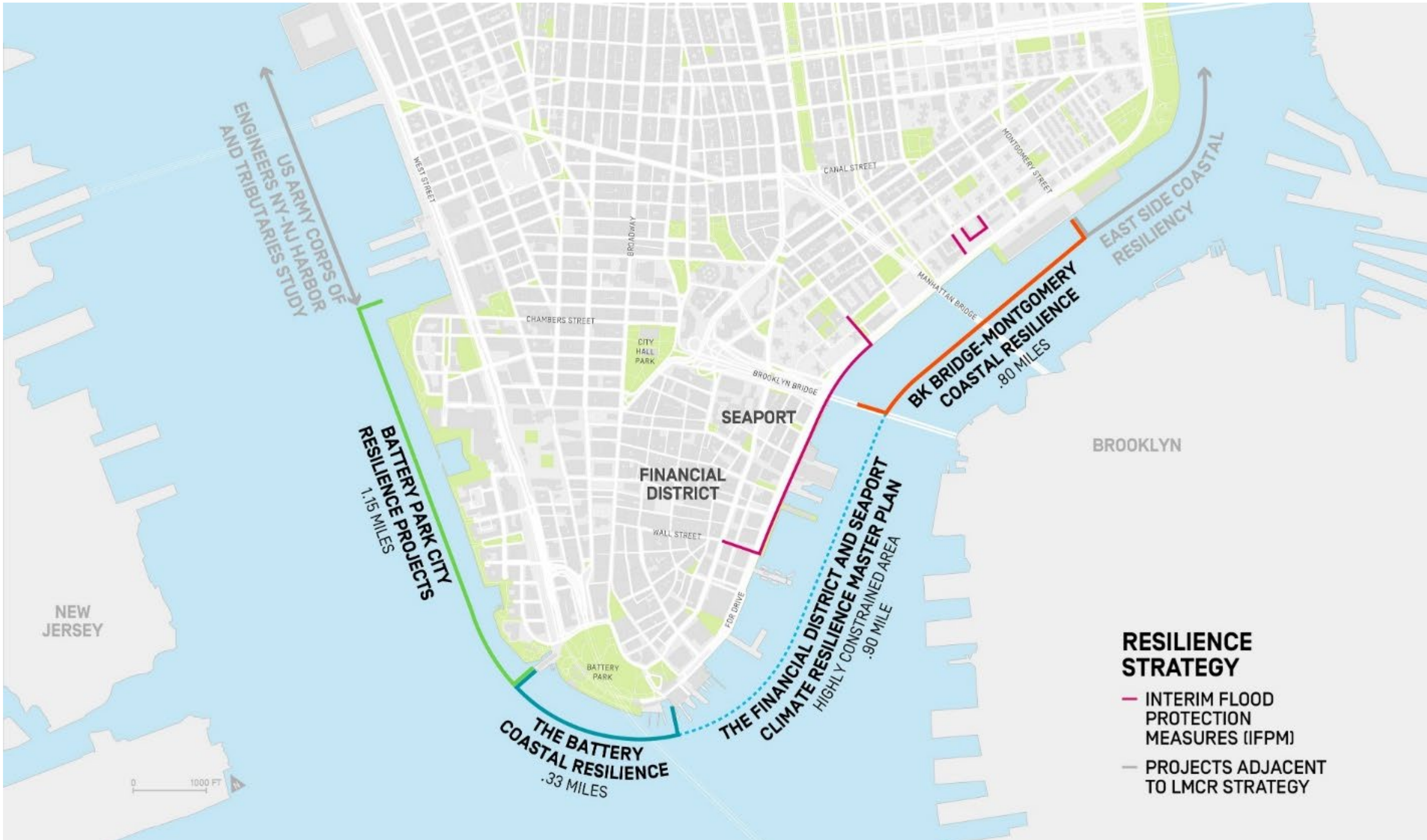


Figure 1-4: Lower Manhattan Resiliency Strategy Projects



1.2 Purpose and Need

During Superstorm Sandy in 2012, storm and coastal surge inundated portions of Lower Manhattan on its western side through areas of northern Battery Park City and Pier A Plaza south of Wagner Park. Water also found its way onto One World Trade Center and the Hugh L. Carey Tunnel (formerly known as the Brooklyn-Battery Tunnel) and impacted much of Lower Manhattan's critical infrastructure.

The SBPCR Project's primary goal is risk reduction in the southern extremes of Battery Park City. However, that goal is only attainable through the inclusion of risk reduction for areas that extend beyond the borders of Battery Park City. This will be accomplished through implementation of integrated flood risk measures, while meeting the design criteria for a 100-year storm event, inclusive of increased intensity and frequency of rainfall, coastal surge and predicted sea level rise. While the SBPCR Project will provide risk reduction for the 100-year storm, it will also provide immediate adaptability to the DFE for the 2050 100-year storm once the North/West Battery Park City Resiliency Project is constructed and a tie-in between the systems is accomplished. The SBPCR Project is expected to be accredited by the Federal Emergency Management Agency (FEMA). Accreditation requires a FEMA review of as-built plans and verification that the flood system meets all pertinent requirements and achieves acceptable risk reduction in practice.

The purpose of the SBPCR Project is to:

- Provide a reliable coastal flood control system to provide risk reduction to property, residents and assets within the vicinity of South Battery Park City in response to the design storm event;
- Protect and preserve to the maximum extent practicable, open space resources and opportunities to view and interact with the Manhattan waterfront, particularly in Wagner Park, Pier A Plaza and The Battery; and,
- Avoid or minimize disruption to existing below and above-ground infrastructure (i.e., water and sewer infrastructure, subways, tunnels, utilities, etc.) from flood events.

Specific objectives of the SBPCR Project are to:

- Provide a reliable coastal flood control system that minimizes risk and the need for operational interventions by relying primarily on passive flood control technology as opposed to mechanical "deployable" flood control technology;
- Construct and operate the project in an environmentally responsible manner;
- Preserve to the greatest extent practicable the character and design aesthetic of the community and its interface with the BPC waterfront and access to coastal viewsheds, particularly views of the harbor and Statue of Liberty; and,
- Utilize cost-effective solutions to maximize capital investment over the lifespan of the SBPCR Project.

1.3 Community and Stakeholder Engagement

The design process for this Project has been driven by consistent collaboration and feedback from residents, community organizations, project partners, and stakeholders. Affected local communities include both Battery Park City and Lower Manhattan; project partners include property owners within the Study Area; and stakeholders include entities with regulatory authority over the Project as a whole or portions thereof. Specific project partners and stakeholders include: United States Army Corps of Engineers (USACE), New York City Department of Parks and Recreation (NYCDPR), New York City Economic Development Corporation (NYCEDC), New York City Public Design Commission (NYCPDC), New York City Department of Transportation (NYCDOT), The Triborough Bridge and Tunnel Authority (TBTA), New York City Fire Department (FDNY), New York State Department of Transportation (NYSDOT), New York City Department of Environmental Protection (NYCDEP), The Battery Park Conservancy, and the Museum of Jewish Heritage (MJH). Community outreach has been performed through a series of public meetings and coordination with Manhattan Community Board 1 (CB1), the New York City community board whose geographic area encompasses several lower Manhattan neighborhoods, including Battery Park City.

Community engagement has focused on informing and educating stakeholders and the public about climate change, related flood risk and the types of measures that would be required to reduce such flood risk in the southern portion of Battery Park City and Lower Manhattan. Concurrently, engagement has focused on design considerations such as: retaining and designing a sense of place that meets BPC's design excellence heritage; examining details of the existing infrastructure and needed flood measures; evaluating significant aspects of Wagner Park, including whether and how those aspects may be retained if appropriate; and incorporating the functionality of publicly requested program elements into the project footprint.

This community engagement process served as an interactive and transparent communication platform for the public, local residents, communities, project partners, and stakeholders, showcasing how the design will meet the rising perils of coastal surge and storm water inundation, while accommodating expanded programming of the park.

Since 2018, BPCA has met with the public to provide opportunities for exchange of information and feedback between the Project Team and the public.

The following BPCA hosted (co-sponsored by Manhattan CB1) public meetings have been held to date:

- November 1, 2018 (Project Kick-Off and Project Team Introduction)
- March 12, 2019 (Engineering Feasibility and Flood Alignment Agreement)
- June 24, 2019 (Wagner Park, Museum of Jewish Heritage, Pier A Plaza, and Battery Park Bike Segment Conceptual Designs)
- January 15, 2020 (Evolution of the Design and Overall Project Design Update)

Manhattan CB1 has hosted the following public meetings, at which BPCA and the Project Team presented:

- October 3, 2019 – Update to CB1 Environmental Protection Committee

- June 15, 2020 – Update to CB1 Environmental Protection Committee
- February 22, 2021- Update to CB1
- April 19, 2021 – Update to CB1
- June 21, 2021 – Update to CB1

Section 3.3.1 of this document provides further information on Wagner Park design collaboration.

2.0 Wagner Park

2.1 SHPO Consultation

On behalf of BPCA on March 26, 2020, AECOM initiated consultation with the State Historic Preservation Office (SHPO) for the SBPCR Project by providing a consultation initiation package that, in part, included a project description and identification of historic architectural resources within the proposed Historic Architectural Area of Potential Effects (APE). As indicated in the letter, Wagner Park, a property that has not been previously evaluated for eligibility under the National Register criteria, opened in 1996. BPCA sought SHPO's input regarding whether, as part of the Project, Wagner Park should be evaluated for exceptional significance under National Register Criteria Consideration G – Properties That Have Achieved Significance in the Past Fifty Years. On April 23, 2020, SHPO agreed with the Historic Architectural APE, and requested information on the history of Battery Park City and Wagner Park.

On January 19, 2021, AKRF, on behalf of BPCA, provided a response to SHPO via SHPO's Cultural Resource Information System (CRIS). The response provided additional information on the history and design of Battery Park City and Wagner Park. On February 23, 2021, SHPO indicated that "Wagner Park is significant under National Register Criterion A in the area of community and urban planning, under Criterion C in the areas of landscape architecture and architecture, and meets the standard for exceptional significance necessary to satisfy National Register Criteria Consideration G for properties less than fifty years old" (Cumming, February 23, 2021).

2.2 Design Overview

Wagner Park is an approximately 3.3-acre park located at the southern end of Battery Park City in the Borough of Manhattan, New York County, New York (see **Figure 2-1**). It is bound to the north by the Museum of Jewish Heritage, the south by the Pier A inlet and Pier A, the east by Battery Place, and the west by the Battery Park City Esplanade, which extends along the entire length of Battery Park City, and flanks the Hudson River from Stuyvesant High School on the north to Battery Park on the south. Wagner Park is comprised of five organizing elements:

- North and south allées
- Central plaza
- Pavilion with north and south structures, connected by a rooftop walkway
- North and south ornamental gardens and lawns
- Central lawn

Figure 2-1: Wagner Park Existing Design

Source: Perkins Eastman, 2017

A design overview of Wagner Park is provided below, followed by a brief physical description.

Built between 1994 and 1996 in the Postmodern style, Wagner Park was one of the last parks to be constructed in Battery Park City, a 92-acre mixed-use community that was built on landfill as described in Section 1.1 of this document. The template for development of the neighborhood was articulated in the 1979 Master Plan. Eight organizing principles defined the 1979 Master Plan. Of those, the four that are the most relevant to the SBPCR Project are summarized in Section 1.1.

The future site of Wagner Park, identified as Battery Place Park in the 1979 Master Plan, was described as follows:

> *"The new park will be the most southerly open space in the project, and it will serve as the entry point for people from the existing park and from Battery Place. The park's size, attractiveness, and views will make it an important resource for Lower Manhattan and the City. The dense planting and landscaping should give the park a quiet and shaded character. It will compliment and enhance historic Pier A…Views from the park will be the best at Battery Park City. Spectacular panoramas of the harbor, Statue of Liberty and the Narrows Bridge will be visible. The Battery Place Park will be the southern terminus of Battery Park City's own waterfront esplanade."*

The concept for the park went through several iterations in the 1980s prior to adoption of the current configuration. In 1992, BPCA, hired landscape architecture firm Hanna/Olin to develop a design for the area. The firm was familiar to BPCA because of their involvement with Cooper, Eckstut Associates in the design of the Battery Park City Esplanade, which was built between the mid-1980s to mid-1990s (Birnbaum, 2012). BPCA also hired the architecture firm Machado & Silvetti, as well as Lynden Miller, the public garden designer. It was intended that these designers would develop a concept that would appropriately acknowledge the location of the park and its significant waterfront views (Birnbaum, 2012).

With Hanna/Olin serving as the prime consultant, the three firms visited the site in order to generate concepts. At the time the firms began their collaboration, the site was just landfill, and described by Olin as "…just a plateau of sand actually, it was just this abandoned wasteland. It was kind of windy and cold and nasty and empty" (Birnbaum, 2012). However, the concepts evolved over time according to Olin:

> *"Two or three things occurred to me while working on it. One was it was like those great harbors where you look out and it's the beginning of journeys, it's the end of journeys. It's the beginning of the open space at Battery Park City but it's the also the end. From the north it is the end of the esplanade. If you come from the south it is how you enter and go north. It's also where Wall Street comes over and looks out at the Hudson River; there is the Statue of Liberty and Ellis Island. We became interested in these visual connections especially to the Statue of Liberty. It means so much, it means so much to so many people around the world. It's framed through the gardens, it's framed through the arches and the overlook and the pavilions, it's framed between the pavilions, we just keep framing it from different places; because that was the point of this place in a way and why a lot of people*

> *want to come here. That was a sort of simple idea that led to a bunch of things" (Birnbaum, 2012).*

The other concept that struck the Project Team was the need to make "great theatre," and create "a place which steps down to the water and looks out to the Statue of Liberty and Ellis Island. We wanted to get everything out of the way. [We wanted] nothing vertical. [We wanted] everything horizontal, we wanted to get everything out of the way" (Birnbaum, 2012).

Machado & Silvetti drew upon their knowledge of ancient Greek and Roman architecture to develop the design for the pavilion. Silvetti recalled the design process in 2017:

> *"The conceptual evolution of Wagner Park can be understood in part as a process of architectural and conceptual abstraction. The process begins with a prototypical Roman temple expressed in plan, dedicated to the Statue of Liberty; through a series of architectural redactions, the temple is abstracted to become the expression of its core iconographic qualities and principles. Imprinted upon the pavilion is the form of a half-buried colossal face. Brick patterns [and the water-facing arches of the pavilion] are used iconographically to "paint" this facial condition – Manhattan's own colossal monument – that looks back at the Statue of Liberty." (Machado Silvetti, June 8, 2017).*

Machado & Silvetti opted to employ materials and construction methods that referenced the past, while critiquing the present. The use of brick in the pavilion alluded to the East River bridges and their masonry pylons and foundations, the shared material language of the park's urban surroundings, and history of Manhattan (Machado Silvetti, June 8, 2017). Machado & Silvetti also specified intricate brickwork patterns for the pavilion as a commentary on historic craftsmanship versus contemporary building practice: "The use of these ancient techniques…was intended to sharply contrast with the poor-quality construction in the area at that time and highlight the potential of a renewed commitment to the historic and future resiliency of expert craft in construction" (Machado Silvetti, June 8, 2017).

BPCA articulated the design philosophy of the park in its formal design statement, likely released around 1995, one year prior to completion of Wagner Park:

> *"The project occupies a small yet very distinctive site, set amid the truly colossal surroundings of the nearby World Trade Center, and the immense natural scale of the Hudson River and New York Harbor. As this is the closest point in Manhattan to the Statue of Liberty, she serves as a focal point of the park's design.*
>
> *[The park] is a successful collaboration among landscape architects, architects and a garden designer, in the best tradition of Battery Park City. As one progresses from the street to the Hudson River's edge, there is a dramatic shift in scale and formal order – from small, tidy and regular to larger and looser; from upland species of plants to maritime ones; from enclosed spaces to wide open vistas and from the familiar and ordinary to the unexpected and extraordinary. Here one finds a park and gardens framing pavilions, and pavilions framing the Statue of Liberty and the dream of freedom it represents, just as the city frames the lives of millions of its residents and visitors"* (BPCA, ca. 1995).

According to the 1995 statement, the park design was based on three primary components, laid out in a Y-shaped architectural ensemble that facilitates access to the Battery Park City Esplanade heading north, and The Battery heading south. The three components include:

- Pair of allées that bring visitors from the sidewalks toward the pavilion buildings at the entrance to the park;
- Pavilion buildings that frame the view of the Statue of Liberty; ground level dedicated to a café, restrooms and maintenance space; balconies with tall-backed wooden benches reminiscent of those found at windy coastal resorts in northern Europe; and
- Central grass lawn framed by brick pathway with benches that steps down toward New York Harbor, flanked by ornamental gardens, and the Battery Park City Esplanade along its western edge, all with a clear view of the harbor (BPCA, ca. 1995).

2.3 Physical Description

As previously noted, the design of Wagner Park is comprised of five organizing elements, each of which is described below.

North and South Allées

West of Battery Place, densely planted rows of maple trees flank central walkways to create the north and south allées. The two allées form a V-shape that converges at the plaza east of the pavilion. The allées consist of multiple parallel rectangular beds that hold two narrowly spaced rows of trees in each, forming a thick canopy overhead. The beds are planted with low ground cover plants and are retained by low, cut granite coping, a material typical to Wagner Park. The narrow breaks between the rectangular beds provide access to and from the central walkway between the trees. The rectangular allée beds also include regularly spaced benches and lampposts aligned on both sides of the central walkway. Luminaires are suspended between the poles above the walkway to illuminate the path.

Central Plaza

The central plaza is a paved open space bordered by the allées on the north and south, Battery Place on the east, and the pavilion on the west. A freestanding sculpture by renowned contemporary artist, Tony Cragg occupies the central plaza. Entitled *Resonating Bodies* (1999), it is composed of two bronze sculptures that resemble giant musical instruments, a lute to the south, and a tuba to the north. It is situated within the plaza and draws visitors towards the pavilion. The central plaza creates a threshold into the core of the park through the gap between the pavilion; this gap frames the park's essential vista between the plaza and the Statue of Liberty to the west in New York Harbor. Two sets of monumental steps connect the plaza to the upper level of the pavilion. The central plaza is sheathed in hexagonal asphalt pavers that are typical of parks owned and managed by the New York City Department of Parks and Recreation (NYC Parks). The pavers also form part of the Battery Park City Esplanade.

Wagner Park Pavilion

The two-story pavilion with asymmetrical north and south structures is situated west of the plaza and is 18 feet above ground. The pavilion site is illuminated by high-mast lampposts. The rooftop walkway that connects the north and south structures has a direct line of sight to the Statue of Liberty. The pavilion is constructed of red-to-brown colored Roman brick laid in decorative patterns. The west facade of the pavilion faces the Hudson River, and feature broad arches.

Access to the rooftop walkway is provided via the plaza on the east side of the pavilion. In this area, a series of broad, complex, U-shaped, monumental staircases with intermediate landings, constructed of brick and stone with metal railings, are appended to the east facades. The rooftop walkway links balconies atop the pavilion. On the balcony, the east and west parapets are constructed of weathered wood planks, similar to the wood benches that outline the perimeter of the central lawn. The surface of the balconies is paved in brick and stone. High-backed, weathered wood benches are situated along the west edge of the balconies to facilitate view of New York Harbor.

North and South Ornamental Gardens and Lawns

The north and south ornamental gardens each have a distinct character, with irregular planting beds forming different scaled spaces and plants featuring “hot” or “cool” color palettes.

The north ornamental garden is the “hot” garden, with a large open central lawn space. It is located west of the north allée. The north side of the garden is bordered by trimmed hedges that divide the garden from the Museum of Jewish Heritage. The south side of the garden is bordered by a V-shaped hedge. Access to the garden is gained from the east side via the north allée, and the west side via the opening between the north and south hedges. The center of the garden includes two clusters of deep and shallow planting beds, bordered by Stony Creek granite blocks. Double-width wood slat benches flank the perimeter of the garden near the hedges. The plantings feature many species of shrubs and trees.

The north lawn is located west of the planting beds, separated by a path paved in hexagonal pavers. The triangular-shaped lawn features a central open space, interspersed with trees. The north, south, and east edges are accented by intersecting deep and shallow Stony Creek granite planters with a variety of hedges, flowers, and ornamental plantings. The planters on the south side of the lawn are separated by a flight of two stone steps that provide access to the central lawn area. The north lawn also includes two freestanding bronze sculptures by renowned contemporary artists: Jim Dine’s *Ape & Cat (At the Dance)* (1996) at the northern apex of the lawn, and *Eyes* (1998) by Louise Bourgeois (1911-2010) on the southern side of the lawn.

The south ornamental garden is the smaller “cool” garden and is located west of the south allée. The north side is bordered by a planting bed with trimmed hedges and the pavilion. The south side is bordered by a planting bed with hedges and the Pier A inlet, and the west side is bordered by the south lawn with trees and planting beds. Three deep and shallow Stony Creek granite planting beds are situated in the garden. The central square planting bed is appended to a circular raised pool, with smooth basalt-like coping. Two interlocking rectilinear planting beds are located north of the central bed. A large rectangular planting bed is situated on the west side of the garden and serves to divide the south garden from the small south lawn. Double-width wood slat benches flank the perimeter of the garden. The benches are interspersed with various species of shrubs, perennials, and trees. The surface of the south garden is sheathed in bluestone pavers that extend between the planting beds.

The south lawn is west of the ornamental garden. The lawn is a small central open area, interspersed with trees along the edges. Deep and shallow granite planting beds are located along the north side of the lawn, and divide the south lawn from the central lawn, which is accessed from the south lawn via two stone steps.

Central Lawn

The central lawn is the primary gathering space of Wagner Park. The lawn is a raised rectangular grass panel with an expansive view of New York Harbor. The lawn is flanked by the pavilion to the east and the esplanade to the west. The gap between the pavilion's north and south structures provides direct access to the lawn from the plaza and provides the visual connection to the harbor and Statue of Liberty beyond.

Long granite seat walls accented by perforated metal cylinders at the north and south ends shape the rectangular frame around the lawn panel. The pathway around the lawn is sheathed in red brick laid in a chevron pattern, with granite around the outer edges; this pathway meets flush to the lawn near the pavilion. At the waterfront, entry to the lawn is gained via two flights of three granite steps, separated by a narrow rectangular lawn panel. The second flight of steps leads to the perimeter pathway that frames the central lawn. Low weathered wood benches frame the lawn on its four sides but include breaks on the east and west sides for access.

2.4 Statement of Significance

On February 23, 2021, SHPO determined that Wagner Park is eligible for listing in the National Register of Historic Places (National Register) with exceptional significance. Specifically, SHPO indicated that the park is significant under National Register Criterion A in the area of community and urban planning, and under Criterion C in the areas of landscape architecture, architecture, and art. SHPO also determined that Wagner Park meets the standard for exceptional significance necessary to satisfy National Register Criterion Consideration G for Properties less than Fifty Years Old.

SHPO summarized that Wagner Park is located within Battery Park City, a 92-acre mixed-use community that was built on landfill created from New York Harbor dredge and the excavation of the World Trade Center site. Stanton Eckstut and Alexander Cooper of Cooper Eckstut, with Hanna/Olin, created the master plan for Battery Park City in 1979. The collaboration on Wagner Park of project lead landscape architect Laurie Olin with Hanna/Olin, horticulturalist Lynden Miller, and architects Machado & Silvetti resulted in a significant work of Postmodern design. When the park opened in 1996, Paul Goldberger wrote in the *New York Times* that the park is "one of the finest public spaces New York has seen in at least a generation."

SHPO also highlighted that the park has a Y-shaped organization which structures spaces and movement towards a primary axis and vista focused upon the Statue of Liberty in New York Harbor. In addition, SHPO contextualized the Postmodern design of Wagner Park, and noted that it:

> "*emphasizes urban contextuality, ecological systems, diversity of site organization and experience, a pluralistic use of design motifs, and playfulness. Wagner Park expresses this design philosophy through its multitude and variety of spaces and circulation systems, its responsiveness to neighborhood character and needs, idiosyncratic cubist-inspired planting beds, native plants, and classically referenced pavilions, among other design characteristics. Wagner Park's original location, Postmodern design, and setting remain intact*" (Cumming, February 23, 2021).

To be determined eligible for listing in the National Register, a property must be significant under National Register criteria, and possess integrity. The National Register defines integrity as the ability of a property to convey its significance, and recognizes seven aspects, or qualities that, in various combinations, define integrity. These include location, design, setting, materials, workmanship, feeling, and association (National Park Service, 1991). In addition to possessing significance under Criteria A and C, and Criteria Consideration G, Wagner Park retains the seven aspects of integrity as a Postmodern-style designed landscape.

3.0 Alternatives and Options Considered for Wagner Park

In 2017, BPCA retained Perkins Eastman/KS Engineers, P.C. to conduct an assessment to evaluate the vulnerability of Wagner Park and the area surrounding the park including Pier A Plaza to the risks associated with climate change. This study looked at ways the park and pavilion could be made more resilient while improving the functionality and efficiencies of the park. The objectives of the plan included providing resiliency against flood risk, enhancing the park for BPC residents, improving maintenance and support facilities, extending the Battery Park City Esplanade, and providing an adequate facility for food and beverage offerings.

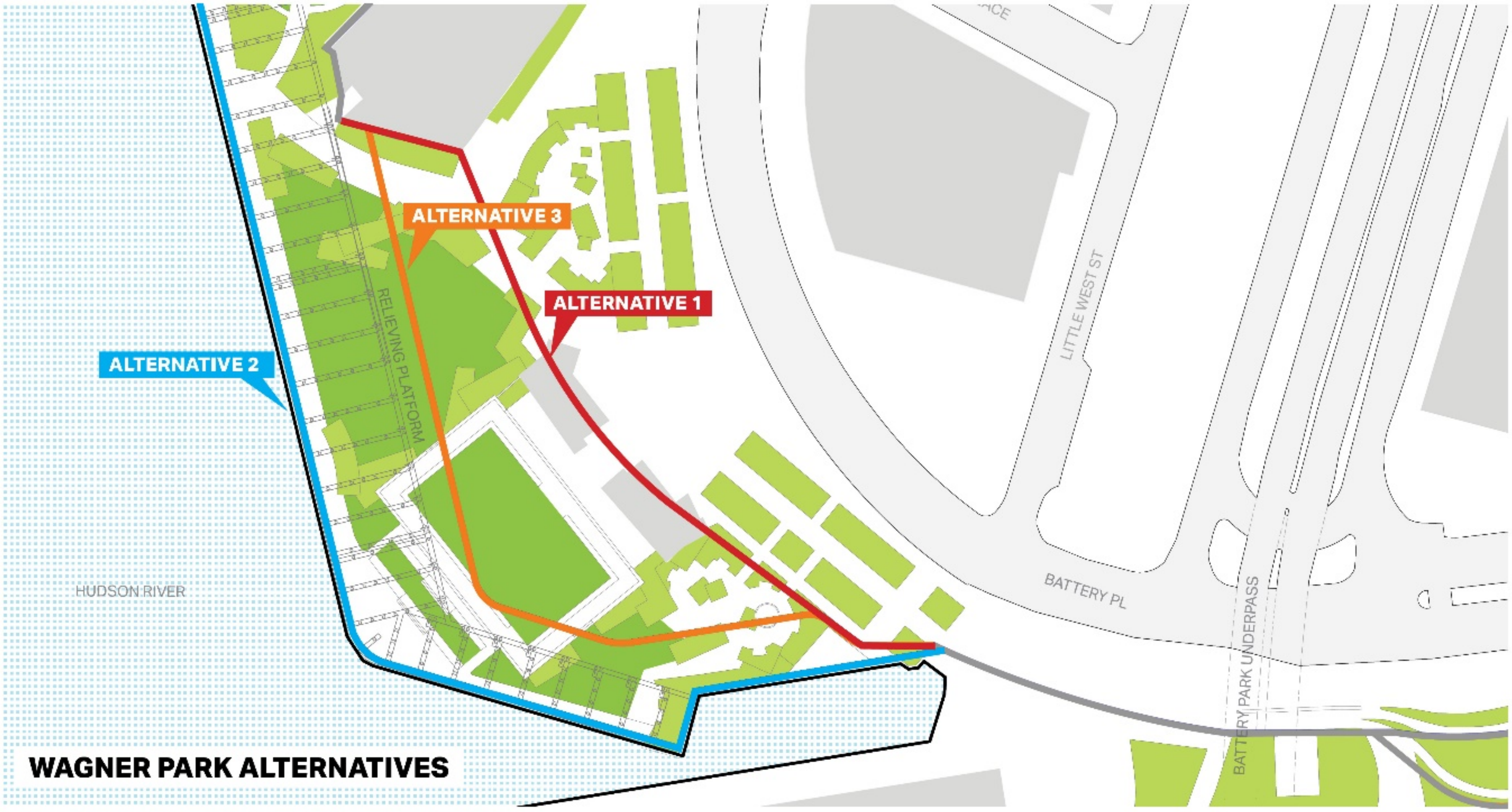
As part of the study, an architectural and engineering assessment of the pavilion, including the interior, exterior, rooftop terrace and a high-level review of the mechanical and electrical (MEP) systems was performed by Perkins Eastman/KS Engineers, P.C. This assessment concluded that the pavilion's MEP systems were obsolete and beyond their useful life and that its façade was failing and would require continual maintenance. Additionally, the report indicated that the pavilion could not serve the intended uses or the objectives set forth in the Wagner Park Assessment to improve maintenance facilities and provide an adequate space for food offerings. Most importantly, the existing pavilion was vulnerable to flooding and could not have served as a flood protection element. Accordingly, the 2017 study recommended a flood alignment that would incorporate a new pavilion structure flanked by flip-up deployables.

In 2018, BPCA retained AECOM to design the SBPCR Project. In addition to re-evaluating the 2017 proposal, AECOM identified two additional alternatives. All three action alternatives are featured in **Figure 3-1**, and include the following:

- Alternative 1 – Inland Alternative
- Alternative 2 – Waterfront Edge Alternative
- Alternative 3 – Buried Floodwall Alternative (Proposed Action)

The sections below evaluate the ability of each alternative to meet the Project's purpose and need. The alternatives are also analyzed in accordance with the Criteria of Adverse Effect set forth in 36 CFR 800.5(a)(1) to determine if they would directly or indirectly alter characteristics that qualify the National Register-eligible Wagner Park for inclusion in the National Register.

Figure 3-1: Wagner Park Flood Alignment Alternatives



3.1 Alternative 1 – Inland Alternative

3.1.1 Description

Under Alternative 1 – Inland Alternative, as proposed in the 2017 study, the flood alignment would be constructed furthest from the waterfront, and closer to Battery Place. The alignment in this location would bisect Wagner Park. The flood alignment would require the installation of two types of flood risk reduction systems: a recommended new pavilion designed to function as a barrier against storm surge, flanked by flip-up deployables stowed below ground in chambers that would measure approximately 26 feet deep and 25 feet wide. The freestanding supportive columns that would support the flip-up deployables would be designed as decorative elements for Wagner Park, and possibly incorporate other park amenities such as lighting or charging stations for mobile devices. The new pavilion would have to be built at a height sufficient to act as a barrier to storm surge. **Figure 3-2** depicts the concept for Alternative 1.[1]

3.1.1 Evaluation

Alternative 1 is not prudent or feasible because it does not meet the Project purpose and need. A new pavilion at the same elevation would not achieve a sufficient DFE to provide the necessary protection. In addition, this alignment runs inland, closer to Battery Place, leaving most of the park on the wet side of the flood risk reduction system. Alternative 1 would therefore leave the majority of Wagner Park unprotected during a storm event. Wagner Park is an important community asset that is frequented and valued by both local residents and visitors alike. Furthermore, this alternative would be a higher risk option, because it relies on deployables, which are subject to mechanical and human error; thus failing to meet this specific project objective.

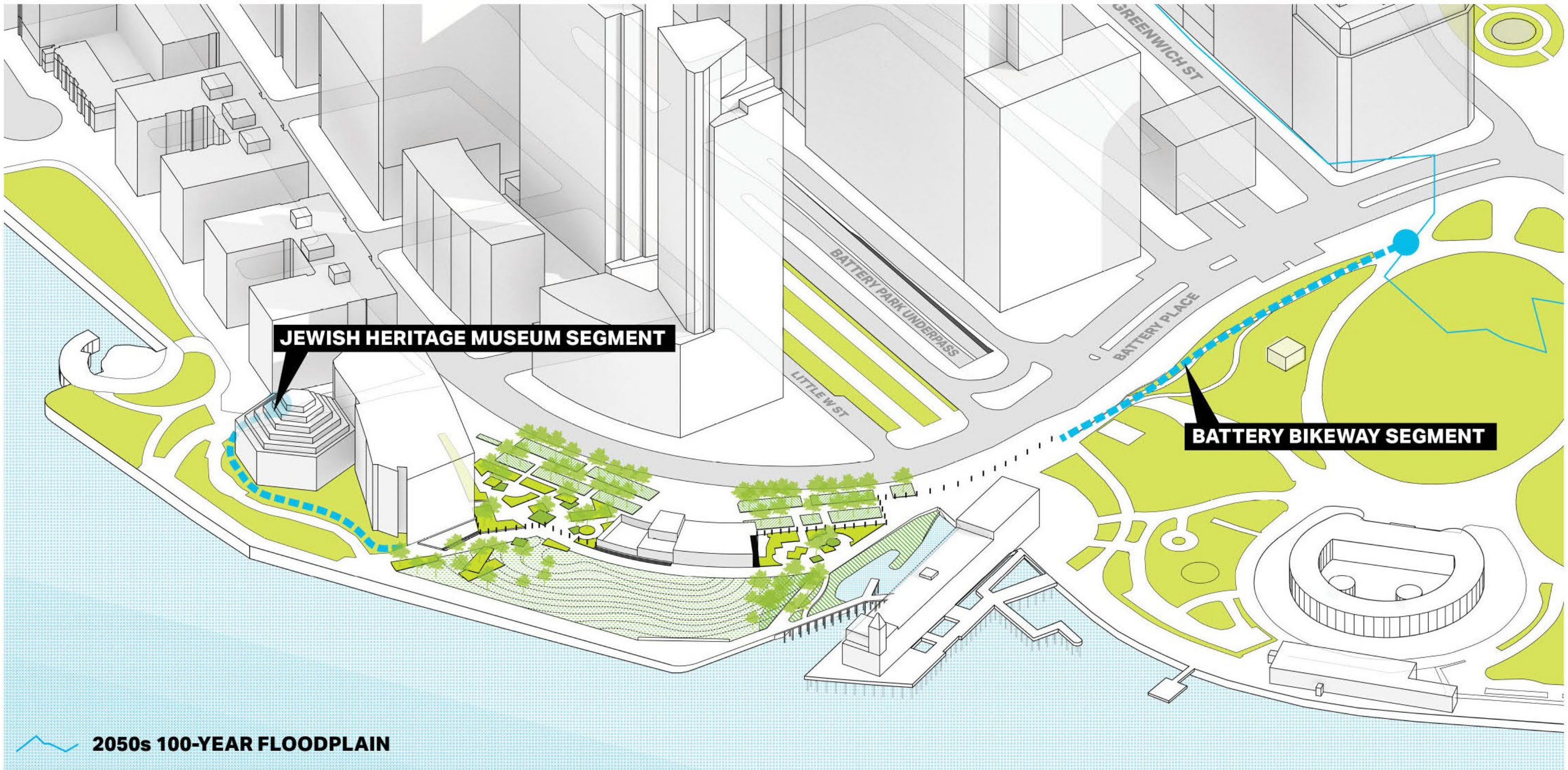
With Wagner Park remaining unprotected from storm events and sea level rise, this alternative has the potential for prolonged periods of inaccessibility due to extensive repairs to and restoration of the park after storm events, as well as considerable costs for recurrent repairs. Therefore, in addition to not achieving the purpose and need, this alternative fails to meet the specific project objective of utilizing cost-effective solutions to maximize investment. For these reasons, Alternative 1 has been eliminated from further consideration.

3.1.2 Impact on Wagner Park

Under Alternative 1, the flood alignment would be constructed inland to meet projected DFEs for coastal surge, leaving the bulk of Wagner Park on the wet side of this flood alignment alternative. As a result, the majority of park would be subject to probable repeated instances of damage by future storm events, resulting in the likely need for certain vulnerable features of the park to be modified or replaced over time. The pavillion could not be hardened against the projected flood risk and would need to be replaced, thus altering the characteristics of the property that qualify it for inclusion in the National Register. For both of these reasons, Alternative 1 would have an Adverse Effect on Wagner Park.

[1] *Project stakeholders suggested that BPCA also consider an inland flood alignment consisting of a linear series of deployables placed either on the water side or the street side of the pavilion; however, neither of these options would meet the purpose and need of the Project, as they would not protect Wagner Park. Furthermore, they would not cure the inadequacy of the space or the need for ongoing maintenance.*

Figure 3-2: Alternative 1 – Preliminary Conceptual Design



3.2 Alternative 2 – Waterfront Edge Alternative

3.2.1 Description

Under Alternative 2, the flood alignment would be constructed on the edge of the waterfront along the Battery Park City Esplanade. The DFE would be 21 feet to 24.5 feet (higher than Alternatives 1 and 3, as there is less land to buffer storm surge). This section of the Project Area has an existing relieving platform, which was constructed on piles when Battery Park City was built, as a support system for the Battery Park City Esplanade. The subsurface relieving platform coincides with a load-restricted zone of 750 pounds per square foot (psf). Two options were considered for flood protection, an exposed floodwall and a flip-up deployable floodwall. In either option, the existing relieving platform would need to be reconstructed to support the additional load. Such reconstruction would also increase the elevation of the relieving platform to protect against future sea level rise.

Exposed Floodwall Option

An exposed floodwall option was considered for the waterfront edge. This option involved constructing an exposed floodwall along the waterfront, creating a permanent visual barrier, obstructing views to the harbor from within Wagner Park, as shown in **Figure 3-3**.

Flip-up Deployable Floodwall Option

A flip-up deployable option was also considered for the waterfront edge. The foundations for the flip-up deployables would be constructed on top of the reconstructed relieving platform. As flip-up deployables are subject to mechanical and human error, this alternative would require a one-way lane for maintenance to allow emergency vehicles to raise the deployables in the event that they could not deploy mechanically. While the flip-up deployables would only be fully visible while deployed during a flood event or during maintenance, they would be supported by permanent square columns that measure approximately 12 feet high and a minimum of 5 foot-wide. These columns would be spaced 40 feet apart to support the deployables along the waterfront edge, as shown in **Figure 3-4**.

3.2.2 Evaluation

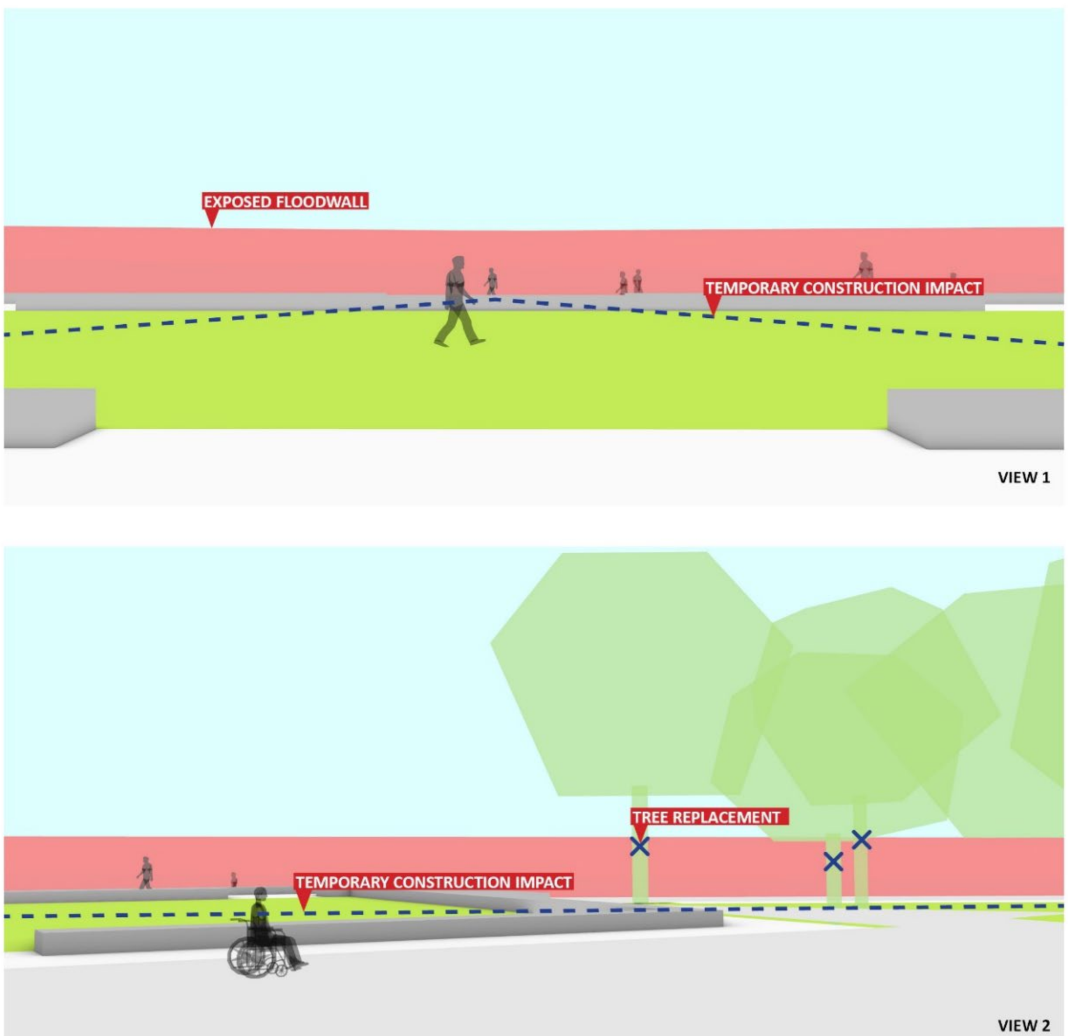
Exposed Floodwall Option

The exposed floodwall option, as depicted in **Figure 3-3**, presents several engineering and other challenges that rendered this option economically and technically infeasible including the following:

- An exposed floodwall at the bulkhead edge would create a large and permanent visual barrier, cutting off views to the harbor and Statue of Liberty from within the park. Furthermore, the exposed floodwall would visually separate Wagner Park, the Pier A inlet, and Pier A Plaza from each other and the water. This would impact the context and connectivity of these open spaces.
- Installation of an exposed floodwall would require reconstruction of the relieving platform and bulkhead.

- Bulkhead reconstruction would require extensive fill below the waterline which would eliminate existing marine habitat beneath the relieving platform; as well as scour protection consisting of stone armor at the toe of slope, further encroaching towards the navigation channel. Both would require disturbance to USACE and New York State Department of Environmental Conservation (NYSDEC) regulated wetlands and open waters.
- Given the grade changes that would result from the elevation of the newly-constructed relieving platform, it would be challenging to connect the flood alignment to neighboring properties, including the Museum of Jewish Heritage to the north, and historic Pier A to the south, in a context-sensitive manner that would allow for a smooth transition from each of those resources to the waterfront.

Figure 3-3: Alternative 2 – Exposed Floodwall Schematic



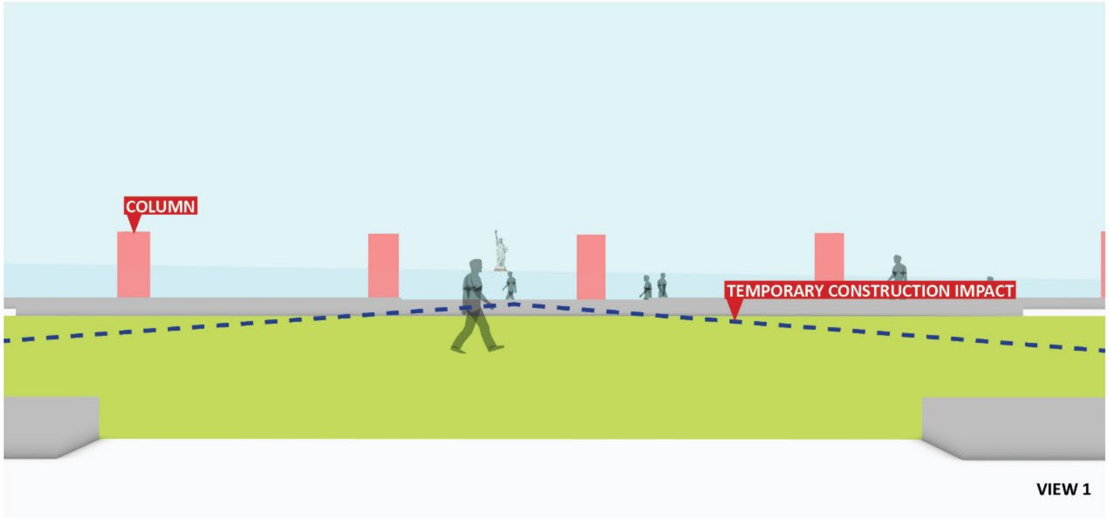
Flip-up Deployable Option

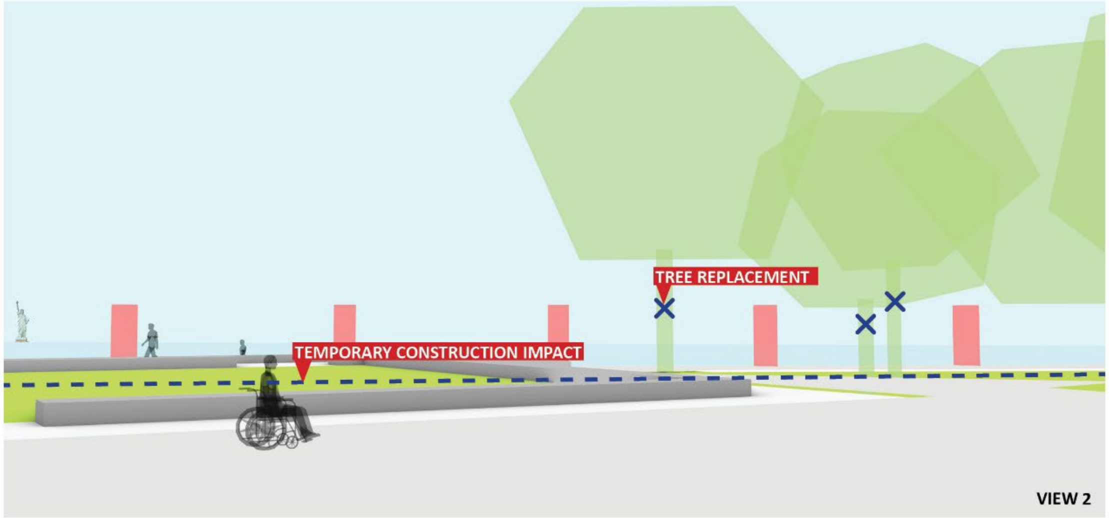
The flip-up deployable option, as depicted in **Figure 3-4,** presents several engineering and other challenges that rendered this option economically and technically infeasible, including the following:

- To provide a continuous watertight system, the relieving platform would need to be modified and sealed. A seepage barrier would likely be required, resulting in fill below the relieving platform that would impact existing marine life, and require fill of USACE and NYSDEC regulated waters.
- Foundations for the flip-up deployables would be constructed on top of the existing relieving platform. However, this additional weight from the deployables would require demolition/reconstruction of the platform.
- Installation of flip-up deployables would require permanent square columns that measure approximately 12 feet high and a minimum of 5 feet-wide, spaced 40 feet apart, which would partially block the park's essential vista out to the Statue of Liberty and New York Harbor.
- This option would bring the flip-up deployables to the waterfront edge, leaving them susceptible to damage from vessel collision.
- This option would be a relatively high risk option, because it relies on deployables, which are subject to mechanical and human error.
- Given the grade changes that would result from the elevation of the newly-constructed relieving platform, it would be challenging to connect the flood alignment to neighboring properties, including the Museum of Jewish Heritage to the north, and historic Pier A to the south, in a context-sensitive manner that would allow for a smooth transition from each of those resources to the waterfront.

For all of the reasons noted above, Alternative 2 has been eliminated from further consideration.

Figure 3-4: Alternative 2 – Flip-up Deployable Schematic





3.2.3 Impact on Wagner Park

Alternative 2 would result in removal and replacement of the relieving platform and bulkhead, and construction of a flip-up deployable or exposed floodwall along the water's edge of Wagner Park. As a result, fully open views toward the Statue of Liberty from the pavilion and the central lawn, key components of the park's layout, would be partially or entirely obstructed by the flood alignment. This would ultimately alter the characteristics of the property that qualify it for inclusion in the National Register. Therefore, Alternative 2 would have an Adverse Effect on Wagner Park.

3.3 Alternative 3 – Buried Floodwall (Proposed Action)

3.3.1 Description

After Alternative 2 was deemed not feasible, the Project Team then considered an alignment set back from the relieving platform outside of its structural zone of influence, but as close as possible to the Battery Park City Esplanade. This approach maximizes the protected area to the extent possible without reconstructing the relieving platform, thereby protecting more of Wagner Park while eliminating the structural issues associated with building above the relieving platform. A passive flood system was proposed that would avoid bisecting (and disrupting) the park with a flood alignment. This passive system would bury the flood wall beneath the park, therefore requiring elevation of the entire park, including the level at which the pavilion currently resides. Based in part on the 2017 study's assessment and conclusions, along with the Project Team's own analysis, the Team concurred that the existing pavilion building was in need of major repair; more importantly, it is below the design flood elevation. Accordingly, the Project Team proposed a new pavilion on the raised park.

Under Alternative 3, a buried floodwall would be constructed beneath the park, see **Figure 3-5**. The DFE would be 19.8 feet, and the HOI would be 7.8 to 9.8 feet. Wagner Park would be raised 10 to 12 feet, thereby maximizing the amount of continuous lawn space, maintaining views to the waterfront, and preserving the elevation of the existing Battery Park City Esplanade. The buried floodwall also allows users to occupy the lawn, garden, and public park as continuous open space, in contrast to a traditional exposed floodwall design that would effectively bisect the space. At the connection between Wagner Park and Pier A Plaza, the flood alignment would be resurfaced and exposed as a short segment of exposed floodwall where it would meet the flip-up deployables being used through Pier A Plaza.

Redesigned key features of Wagner Park would include ornamental gardens, central lawn, performative gardens along the waterfront pedestrian esplanade, and a transitioning naturalized edge with an overlook deck at the Pier A inlet. The edges of Wagner Park would be gently sloped and terraced to allow for universal access to the raised park areas and a new pavilion. Additionally, the planting design on the water side of the park would tolerate salt spray and temporary inundation, reducing maintenance costs and providing ecological benefits. Planting designs in some of the terraced planters that transition down to the esplanade would serve as rain gardens for capturing and filtering precipitation. Alternative 3 is shown in **Figure 3-5**.

To accommodate the buried floodwall, as well as accessibility and functionality issues related to the elevation of the park, the existing pavilion would be replaced with a new park pavilion in a manner that is sensitive to, and in overall harmony with, the elements of the 1995 Wagner Park design:

- Preserves views to the Statue of Liberty;
- Maintains views to the waterfront;
- Maintains a central gathering space; and
- Enhances procession from street to park level.

New design considerations, which were also developed in response to feedback obtained at public meetings held between 2018 to the present (see Section 1.3 for more detail), include:

- Elevating the site to maximize protected area (behind the risk reduction structures);
- Organizing the site around a central lawn, with an uninterrupted view axis to the Statue of Liberty;
- Moving the elevated pavilion closer to Battery Place to maximize continuous lawn area above the DFE;
- Providing universal accessibility across the park and to the pavilion;
- Maintaining restaurant and public toilets in the pavilion at park level;
- Providing new community program and educational room in the pavilion at park level;
- Providing an ample, publicly accessible roof terrace; and
- Adhering to best practice sustainable design.

In addition to the community and stakeholder engagement discussed in Section 1.3, a Design Activities Workshop was held on April 15, 2019 in response to the community's request for another opportunity to provide feedback on Wagner Park's desired programming, design use, and aesthetics. In addition to the April 15th workshop being held in person, BPCA and the Project Team also sent out a digital design activity online survey to capture more input from the community and for those that could not attend the workshop in person. The online survey gave the community additional time to provide feedback.

Battery Park City's Design Heritage Collaboration

Battery Park City has an extensive history of design excellence that extends into the fields of urban planning, urban design, landscape architecture, engineering, architecture, public art, and sustainability. Details of this design history are further described in Section 2.0.

Given that Wagner Park was designed by masters within the fields of landscape architecture (Hanna/Olin), architecture (Machado & Silvetti) and public garden design (Lynden Miller), members of the Project Team met with Charles Birnbaum, President and CEO of the Cultural Landscape Foundation and Laurie Olin early in the project design process (December 10, 2018), to discuss the estimated coastal surge and flood risk levels of the Project Area, the BPC Master Plan of 1979, and the original design influences, intent and process that Olin and Machado utilized for creating Wagner Park.

In November 2019, the Project Team and Mr. Birnbaum met with BPCA to discuss the proposed conceptual design of Wagner Park. The Project Team provided Mr. Birnbaum with a presentation that covered a range of content including: the flood risk drivers for the design criteria; Battery Park City's (BPC) 1979 Master Plan; the conceptual design for Wagner Park; and how the Project Team planned to incorporate aspects from the original design intent; and why the existing historic fabric of Wagner Park could not be preserved. Mr. Birnbaum emphasized the importance of Wagner Park and its legacy and the desirability of retaining as many of its distinguishing characteristics as possible. As detailed herein, every effort has been made to comply with this request.

Incorporating Community Engagement and Design Heritage into the new design of Wagner Park

Throughout the community and stakeholder engagement process, the feedback and input derived from the meetings, workshops and other interactions have significantly informed the design of Wagner Park, including the incorporation of expanded programming, universal access, and material aspects of the original design. Below is a list of site planning design elements and programming that the Project Team has incorporated from the original designer's intent and community input:

- Site planning (orientation of site to harbor, access and arrival connections with Lower Manhattan streets per Master Plan of 1979);
- Site features (central lawn gathering space, formal gardens, pair of allée axis arrival);
- Enhanced procession from street to park;
- Arrival sequencing through allées from Pier A Plaza and Museum of Jewish Heritage;
- Interdependent and integrated relationship between the new building and the park – to serve as backbone of the park;
- Scale of features (pavilion, allées, formal gardens, landscape transitions from tighter and tidy spaces to larger (less formal) looser and open landscape – as part of the original design intent);
- Park pavilion with public roof access and restaurant at park level;
- Arched and vaulted façade design;
- Pavilion to serve as arrival portal to the park;
- Pavilion framing Statue of Liberty and "the dream of freedom it represents" views (see **Figure 3-6**);
- Park provides panoramic views to harbor and Statue of Liberty;
- Access to the waterfront and esplanade;
- Retention of existing programming and use of the park;
- ADA access and compliance (Universal Access); and,
- Retention of existing public art.

While the above list describes the aspects of the original design that have been retained, the following is a list of new design elements for Wagner Park that were incorporated into the design on the basis of community input:

Pavilion / Architecture:

- Smaller building footprint than existing pavilion (additional kitchen and BPCA Parks maintenance and programming support space is placed under (subterranean) the raised pavilion at street level);
- Larger public access roof terrace with green roof;
- Increased number of toilets;
- New community room; and,

- High Performance Sustainable Building design for new pavilion design - Zero Carbon.

Landscape Architecture:

- Retained northern ornamental/formal gardens, but size increased;
- Retained central lawn gathering space and relationship with pavilion;
- Addition of terraced landscape to transition from esplanade elevation to raised central lawn area;
- Performance landscape terraces for capturing storm water and contributing to flood resilience;
- Extended the esplanade for a continuous waterfront pedestrian experience;
- Expanded waterfront access through transitional edge on southern edge of Wagner Park and Pier A inlet; and,
- Existing public art in Wagner Park will be sited in appropriate locations.

Figure 3-5: Alternative 3 – Proposed Buried Floodwall for Wagner Park

Figure 3-6: Alternative 3 – View to Harbor and Statue of Liberty from Proposed Pavilion

3.3.2 Evaluation

Although Alternative 3 requires elevating Wagner Park and constructing a new pavilion closer to Battery Place, it incorporates important aspects of the park's original design intent, and ensures its continued use as a valued and resilient public space into the future. In addition, the buried floodwall within the raised park would: function as a passive flood control system that does not depend upon manpower or mechanical systems for deployment (as do Alternatives 1 and Alternative 2 – *Flip-up Deployable Option*); and would maximize to the extent practicable, the protected open space that lies behind the flood alignment.

In comparison to Alternative 1, Alternative 3 provides more thorough and reliable risk reduction for a larger portion of Wagner Park (and for the Project Area as a whole). It also provides greater continuous access to open space resources than would be provided under Alternative 1 because of the likely need for protracted long-term park repairs after major storms. Futhermore, Alternative 3 is more cost-effective because it eliminates the cost of long-term park repairs and significantly minimizes operations and maintenance costs of the deployable measures compared to Alternative 1.

In comparison to Alternative 2 (*Fixed Floodwall and Flip-Up Deployable Options*), Alternative 3 preserves existing unobstructed views from Wagner Park to the Hudson River and Statue of Liberty (one of the most important design elements of the existing park), eliminates the need to reconstruct the existing bulkhead and relieving platform and eliminates a substantial level of impact to USACE/NYSDEC regulated waters and wetlands. In addition, compared to Alternative 2 (Flip-Up Deployable Option), Alternative 3 minimizes the use of deployable gates, in accordance with specific SBPCR Project objectives.

Therefore, Alternative 3 has been selected because it most completely meets the SBPCR Project's purpose and need, as summarized in Section 1.2 of this document.

3.3.3 Impact on Wagner Park

Although the new design retains elements of the 1995 design statement, including preservation of views to the Statue of Liberty and waterfront, maintenance of a central gathering space, and enhancement of procession from street to park level, the Proposed Action would alter the characteristics of the property that qualify it for inclusion in the National Register. As has been indicated by SHPO, in their Feburary 23, 2021 letter, "…the implied design for Wagner Park illustrated in Figure 3 of the Information Package dated March 26, 2020 [i.e. Alternative 3 – Buried Floodwall (Proposed Action)] would be considered adverse to this historic park." Therefore, the Proposed Action would have an Adverse Effect on Wagner Park.

4.0 Conclusion

In consideration of the SBPCR Project's purpose and need (and its associated goals and objectives) to provide for the resiliency of the Study Area through the implementation of integrated flood risk measures, while meeting the design criteria for a 100-year storm event, there is no prudent or feasible alternative to the Proposed Action that avoids or minimizes the Adverse Effect on Wagner Park. As described above, alternatives to the flood alignment recommended under the Proposed Action were considered. However, neither Alternative 1 (Inland Alternative) nor Alternative 2 (Waterfront Edge Alternative) would meet BPCA's purpose and need and associated project goals and objectives, and are therefore determined to be not feasible as summarized in **Table 4-1**. In addition, both of these alternatives would likewise result in an Adverse Effect on Wagner Park.

Alternative 3 (Buried Floodwall) meets the project purpose and need and achieves the project goals and objectives, and similar to Alternatives 1 and 2, would result in an Adverse Effect on Wagner Park. Therefore, BPCA will consult with SHPO, New York City Landmarks Preservation Commission and other consulting parties to develop appropriate mitigation measures.

Table 4-1: Summary of Wagner Park Alternatives

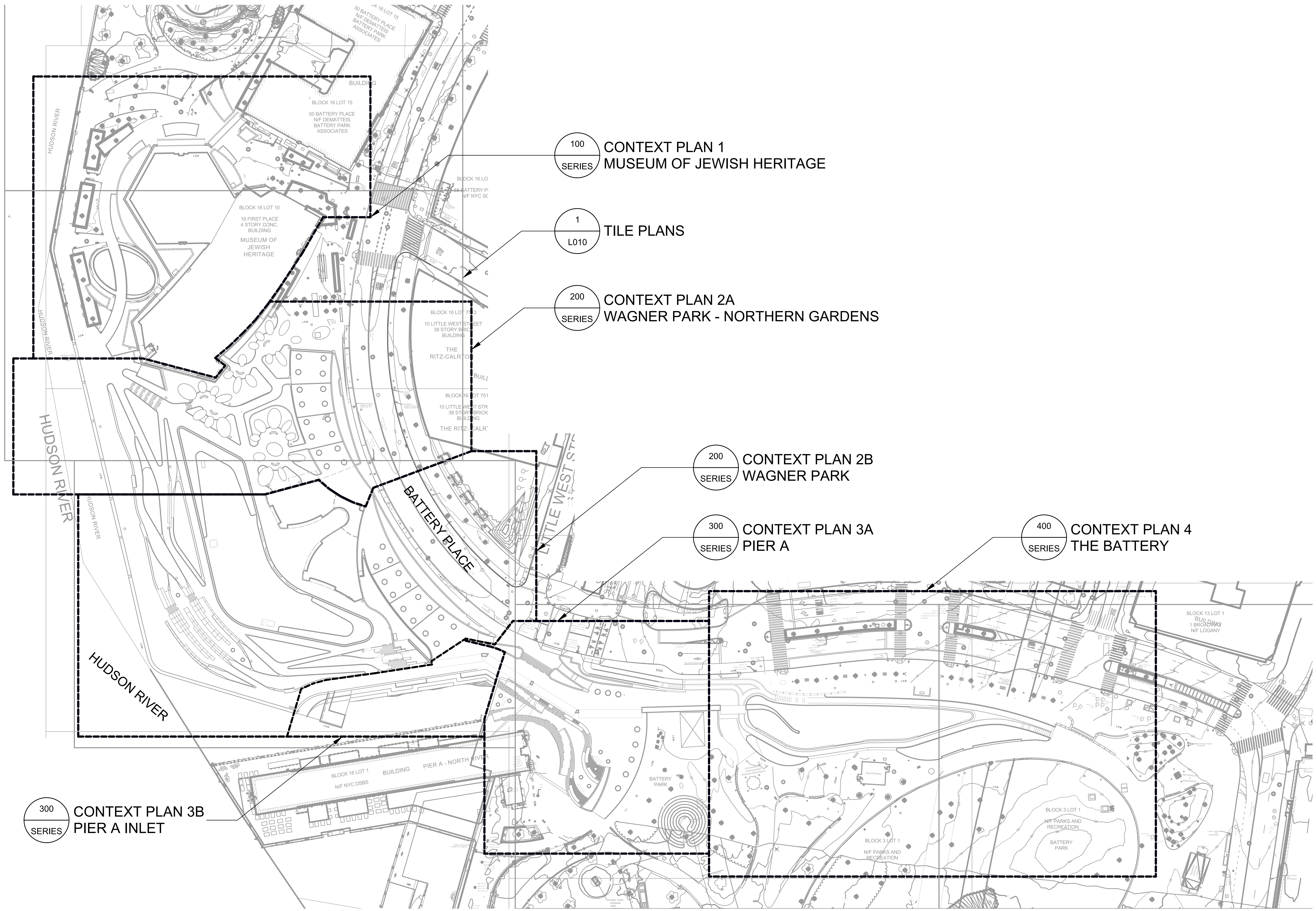
Alternative or Option	Meets Purpose and Need	Meets Project Objectives	Impact on National Register-Eligible Wagner Park
Alternative 1 – Inland Alternative	No	No	Adverse Effect
Alternative 2 – Waterfront Edge Alternative	No	No	Adverse Effect
Alternative 3 – Buried Floodwall Alternative (Proposed Action)	Yes	Yes	Adverse Effect

ANSI D 22" x 34"

KEY PLAN LEGEND

CONTEXT PLANS: USED FOR LANDSCAPE ARCHITECT TO COMMUNICATE CONNECTIVITY OF SITE

N



1 L011 KEY PLAN - CONTEXT PLANS
SCALE: 1:720

Last saved by: LIZANOF(2021-02-25) Last Plotted: 2019-08-15
Filename: C:\PWWORKING\AECOM_DS16_NA\FREDDY LIZANO@AECOM.COM\D0234675_ACM-G-TD_ANSI_D-SBPC-PK4.DWG

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

CONSULTANT

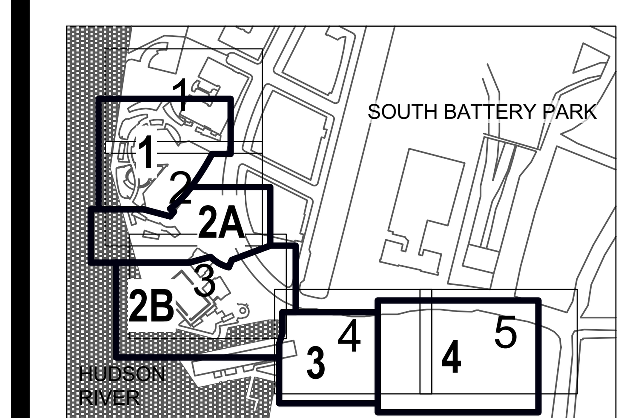
AECOM
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor, New York, NY 10016
212.973.2900 tel www.aecom.com

SUB-CONSULTANT

MAGNUSSON KLEMENCIC ASSOCIATES
1301 Fifth Avenue, Suite 3200
Seattle, WA 98101-2699
206.292.1200 tel 206.292.1201 fax
www.mka.com

SITEWORKS
150 West 28th St.
Suite 605
New York, NY 10001
212.255.8350 siteworkscm.com

KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

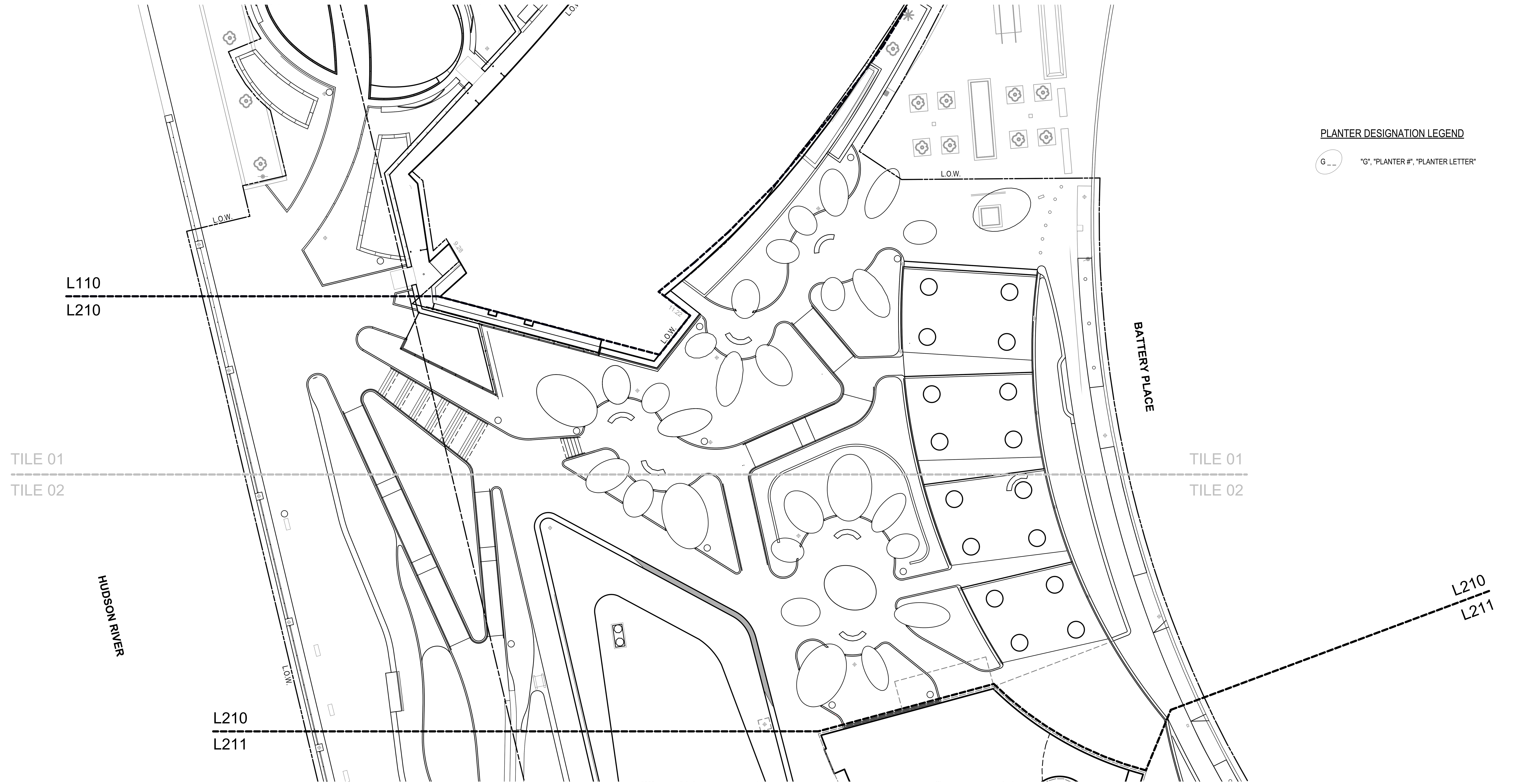
KEY PLAN - CONTEXT PLANS

SHEET NUMBER

L011

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



PLANTER DESIGNATION LEGEND

G_ _ "G", "PLANTER #", "PLANTER LETTER"

1 / L210 **WP LAYOUT PLAN A**
SCALE: 1" = 20'-0"

WAGNER PARK - LAYOUT COORDINATES

STAKE ID	NORTHING	EASTING

TO BE DOCUMENTED

GRAPHIC SCALE: 1" = 20'-0"
20' 10' 0 10' 20' 40' 60'

95% DESIGN DOCUMENTS

Last saved by: LIZANOF(2021-02-25) Last Plotted: 2019-08-15
Filename: C:\PWWORKING\AECOM_DS16_NA\FREDDY.LIZANO@AECOM.COM\D0234675_ACM-G-TD_ANSI_D-SBPC-PK4.DWG

AECOM

PROJECT
SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

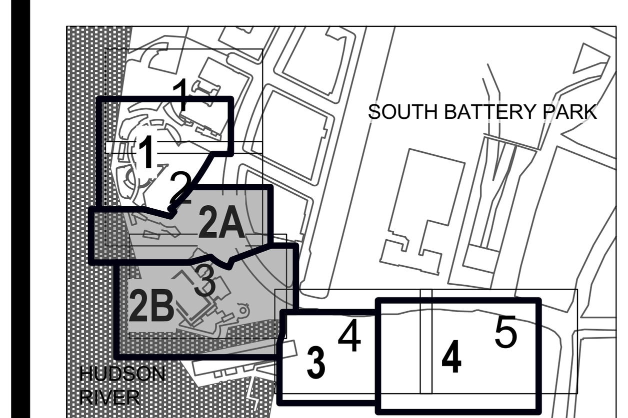
CLIENT
HUGH L. CAREY
BATTERY PARK CITY
AUTHORITY

CONSULTANT
AECOM
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor, New York, NY 10016
212.973.2900 tel www.aecom.com

SUB-CONSULTANT
MAGNUSSON KLEMENCIC ASSOCIATES
1301 Fifth Avenue, Suite 3200
Seattle, WA 98101-2699
206.292.1200 tel 206.292.1201 fax
www.mka.com

SITEWORKS
150 West 28th St.
Suite 605
New York, NY 10001
212.255.8350 siteworkscm.com

KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

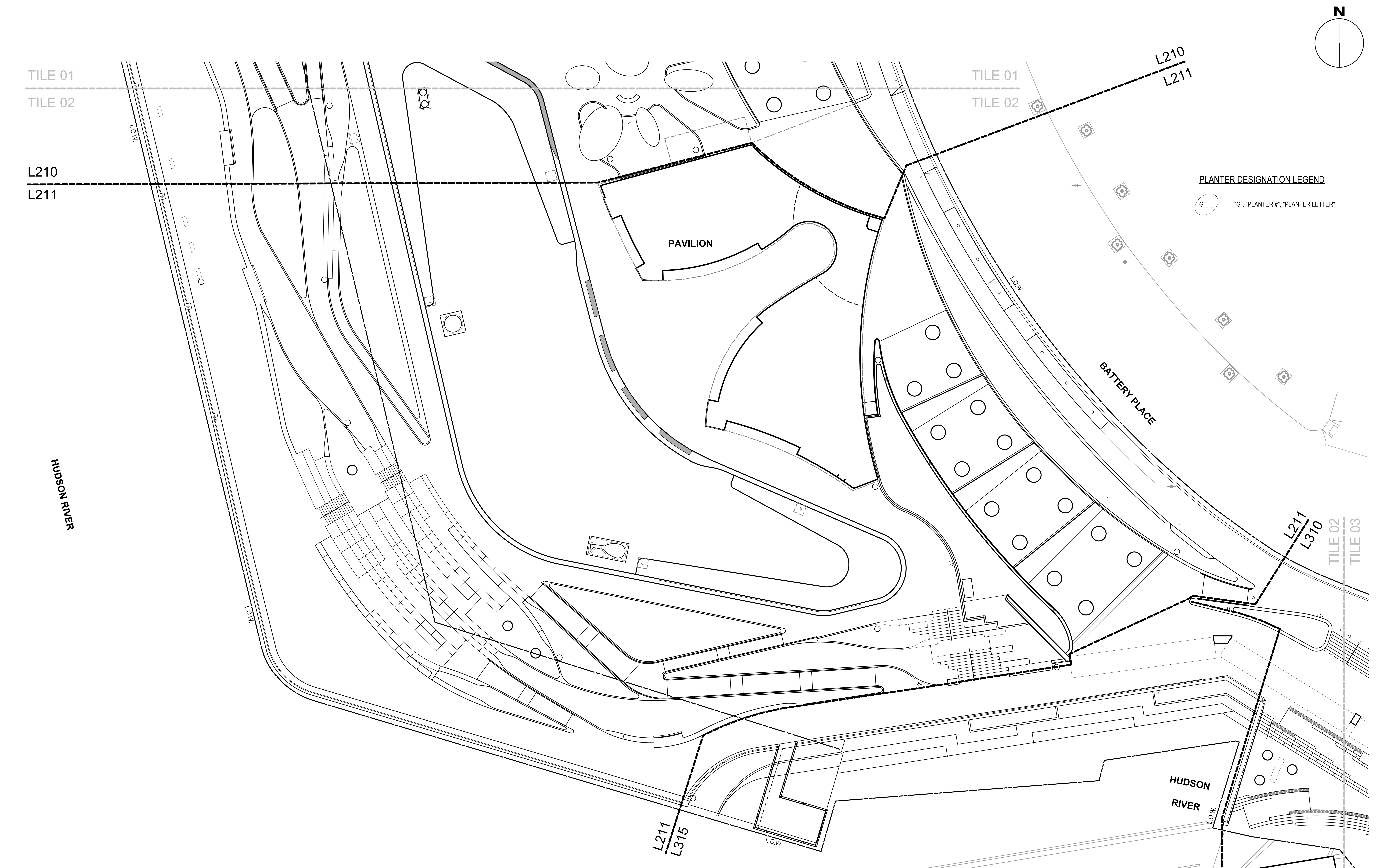
I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
WP LAYOUT PLAN A

SHEET NUMBER
L210

ANSI D 22" x 34"



1
L211
WP LAYOUT PLAN B
SCALE: 1" = 20'-0"

WAGNER PARK - LAYOUT COORDINATES

STAKE ID	NORTHING	EASTING

TO BE DOCUMENTED

GRAPHIC SCALE: 1" = 20'-0"
20' 10' 0 10' 20' 40' 60'

95% DESIGN DOCUMENTS

AECOM

PROJECT
SOUTH BATTERY PARK CITY
RESILIENCY DESIGN
SERVICES

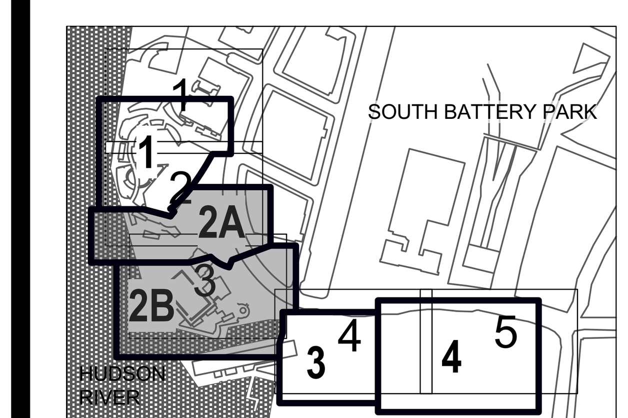
CLIENT
HUGH L. CAREY
BATTERY PARK CITY
AUTHORITY

CONSULTANT
AECOM
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor, New York, NY 10016
212.973.2900 tel www.aecom.com

SUB-CONSULTANT
MAGNUSSON KLEMENCIC ASSOCIATES
1301 Fifth Avenue, Suite 3200
Seattle, WA 98101-2699
206.292.1200 tel 206.292.1201 fax
www.mka.com

SITEWORKS
150 West 28th St.
Suite 605
New York, NY 10001
212.255.8350 siteworkscm.com

KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

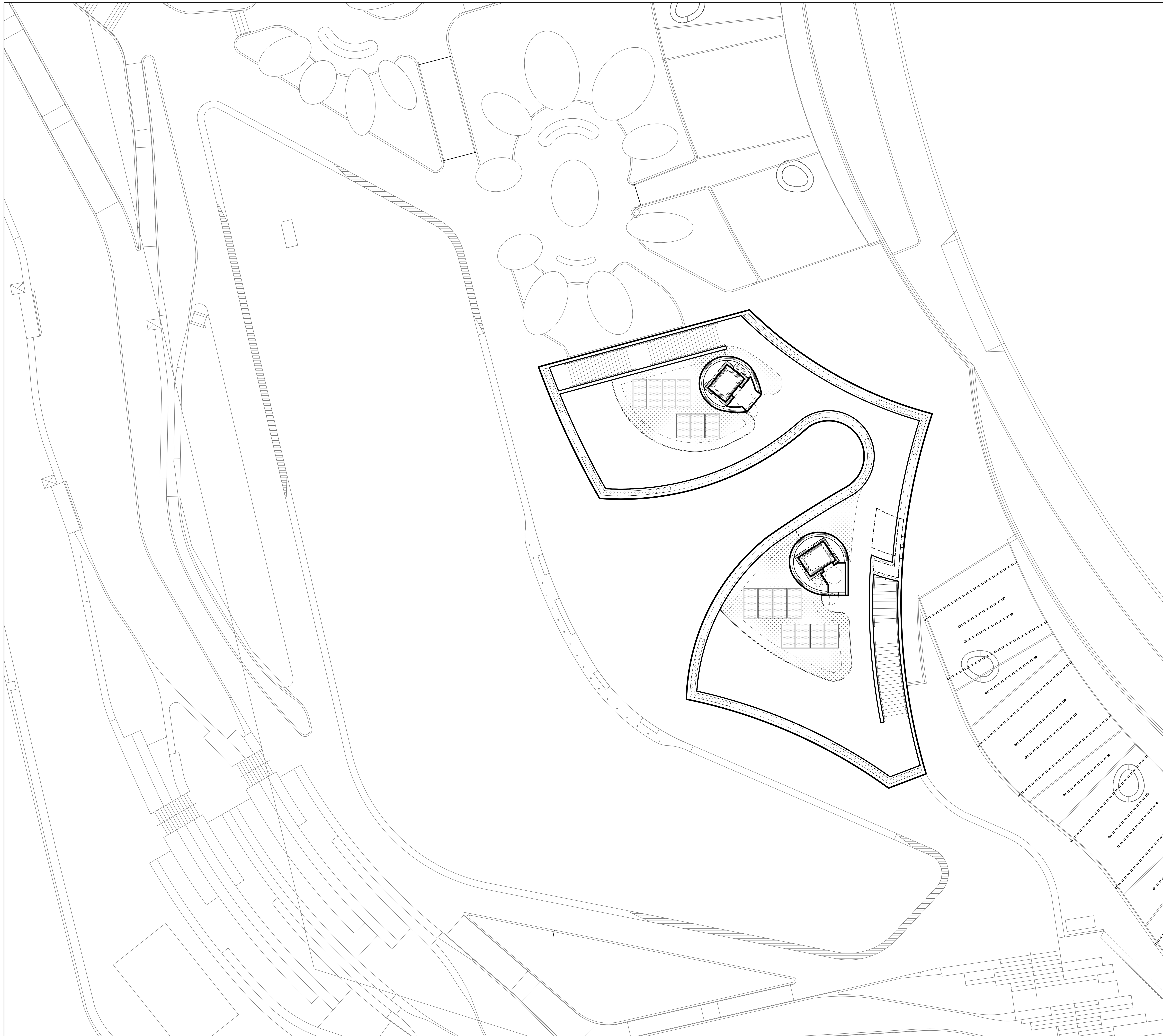
PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
WP LAYOUT PLAN B

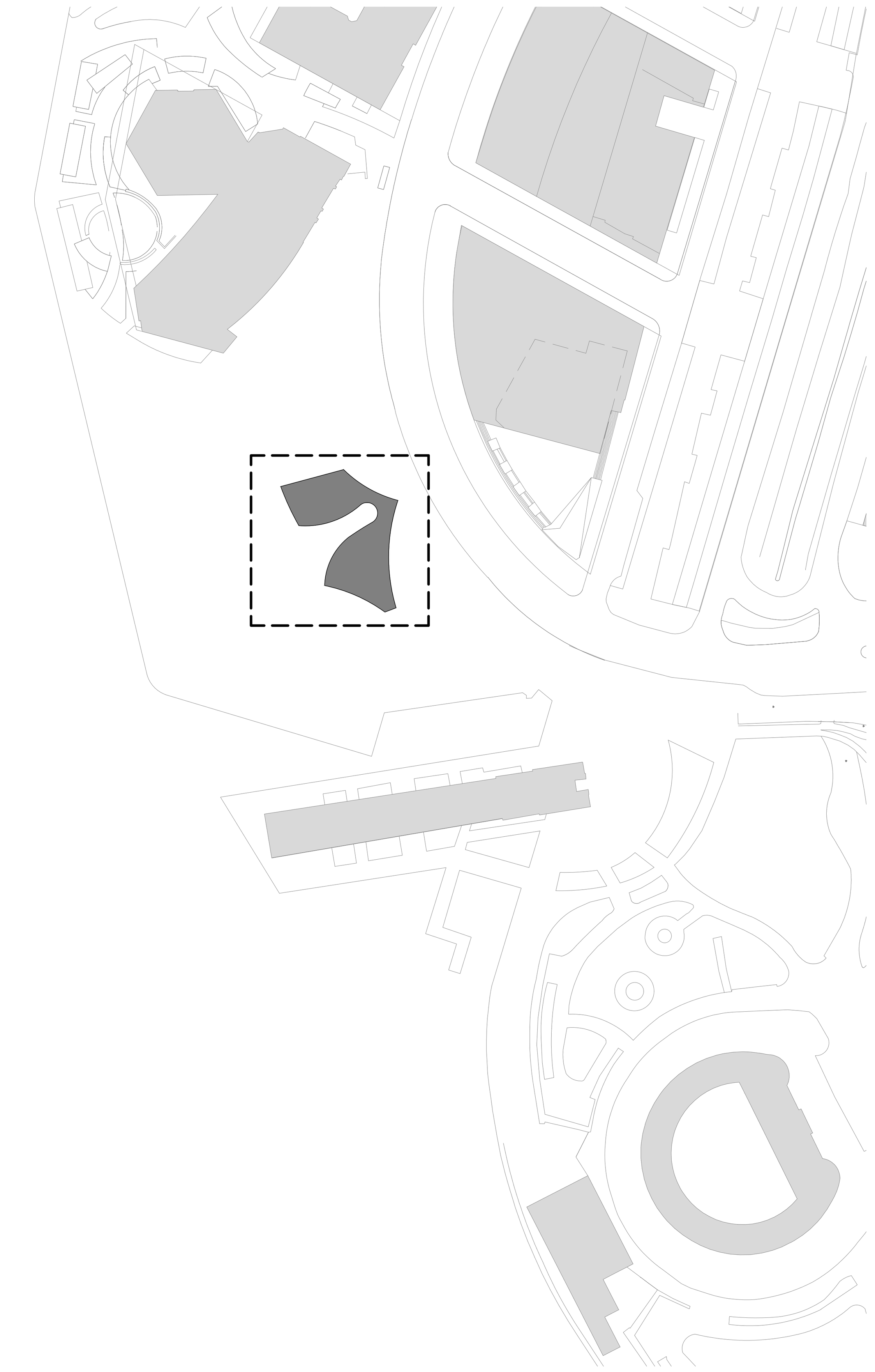
SHEET NUMBER
L211

Last saved by: LIZANOF(2021-02-25) Last Plotted: 2019-08-15
Filename: C:\PWWORKING\AECOM_DS16_NA\FREDDY.LIZANO@AECOM.COM\D0234675_ACM-G-TD_ANSI_D-SBPC-PK4.DWG

ANSI D 22" x 34"



Site Plan 02



City Context Plan 01
1/128" = 1'-0"

GRAPHIC SCALE: 1/16" = 1'-0"
10' 0' 10 20' 30' 40' 50'

DOB APPROVAL STAMP

AECOM

PROJECT
20 BATTERY PLACE
NEW YORK, NEW YORK 10280

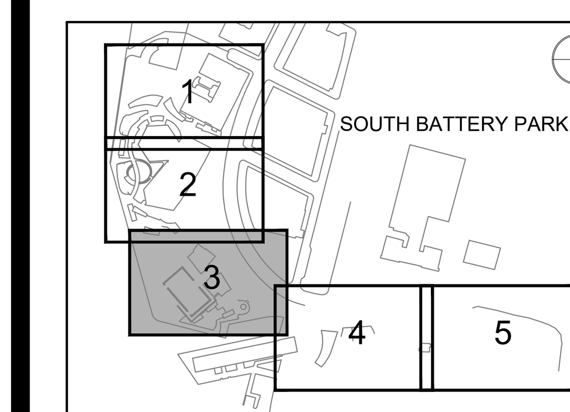
OWNER
HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

ARCHITECT
THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS
W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
CONTEXT AND SITE PLANS

SHEET NUMBER
A-021.00

ANSI D 22" x 34"

N

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN

SOUTH BATTERY PARK

1 2 3 4 5

REGISTRATION

NYC DOB BSCAN

**PRELIMINARY
NOT FOR CONSTRUCTION**

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

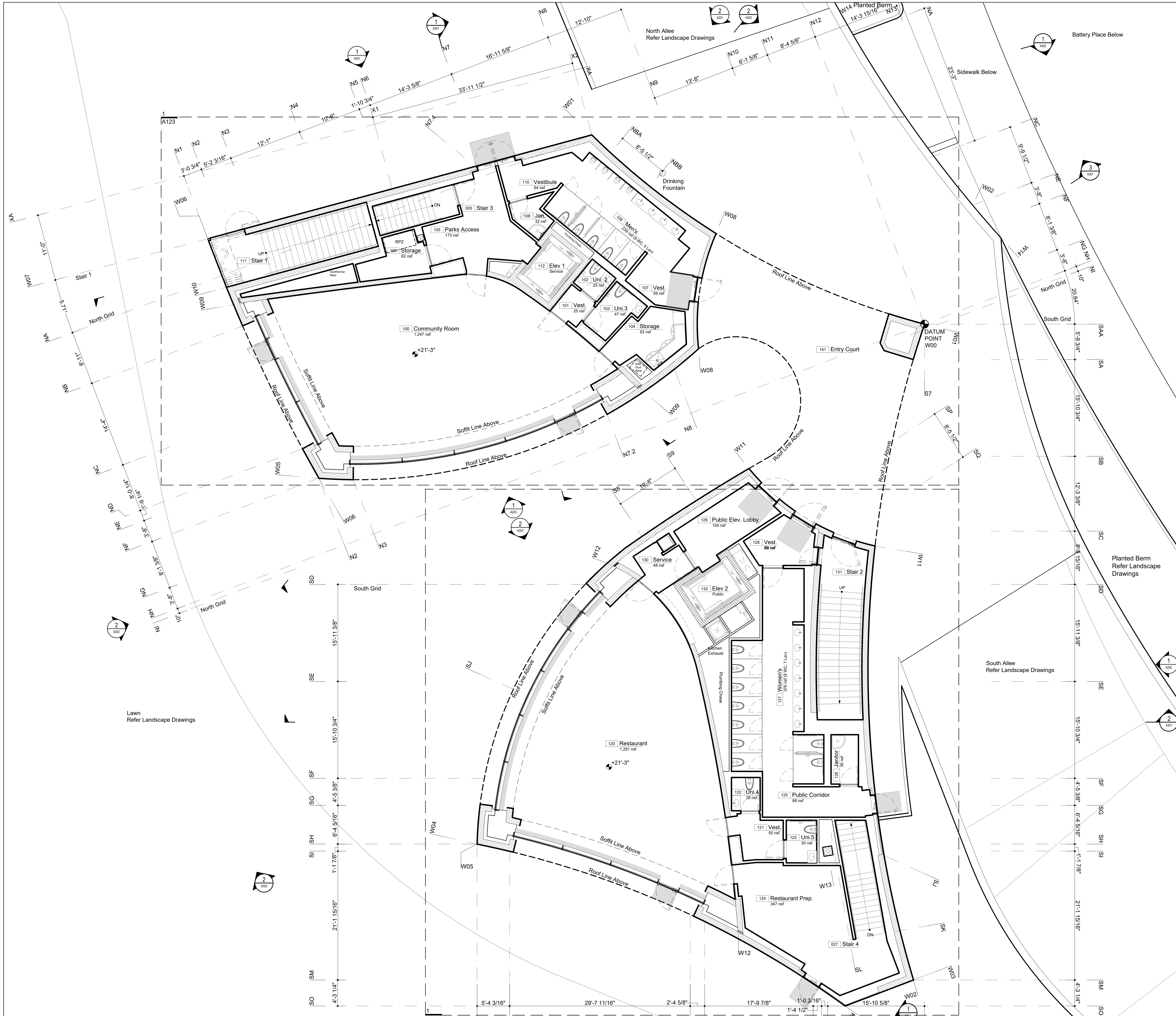
GROUND LEVEL PLAN

SHEET NUMBER

A-101.00

Printed on ___% Post-Consumer Recycled Content Paper

ANSI D 22" x 34"



Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

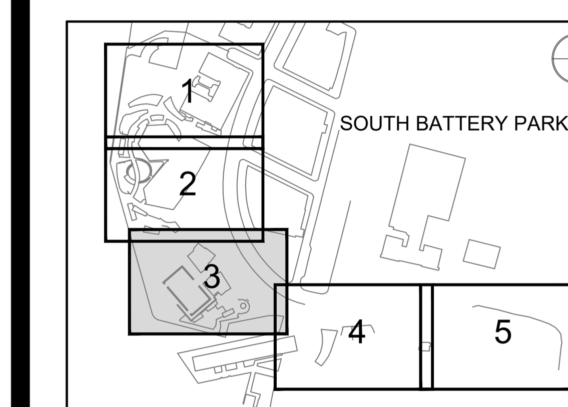
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

FIRST LEVEL PLAN

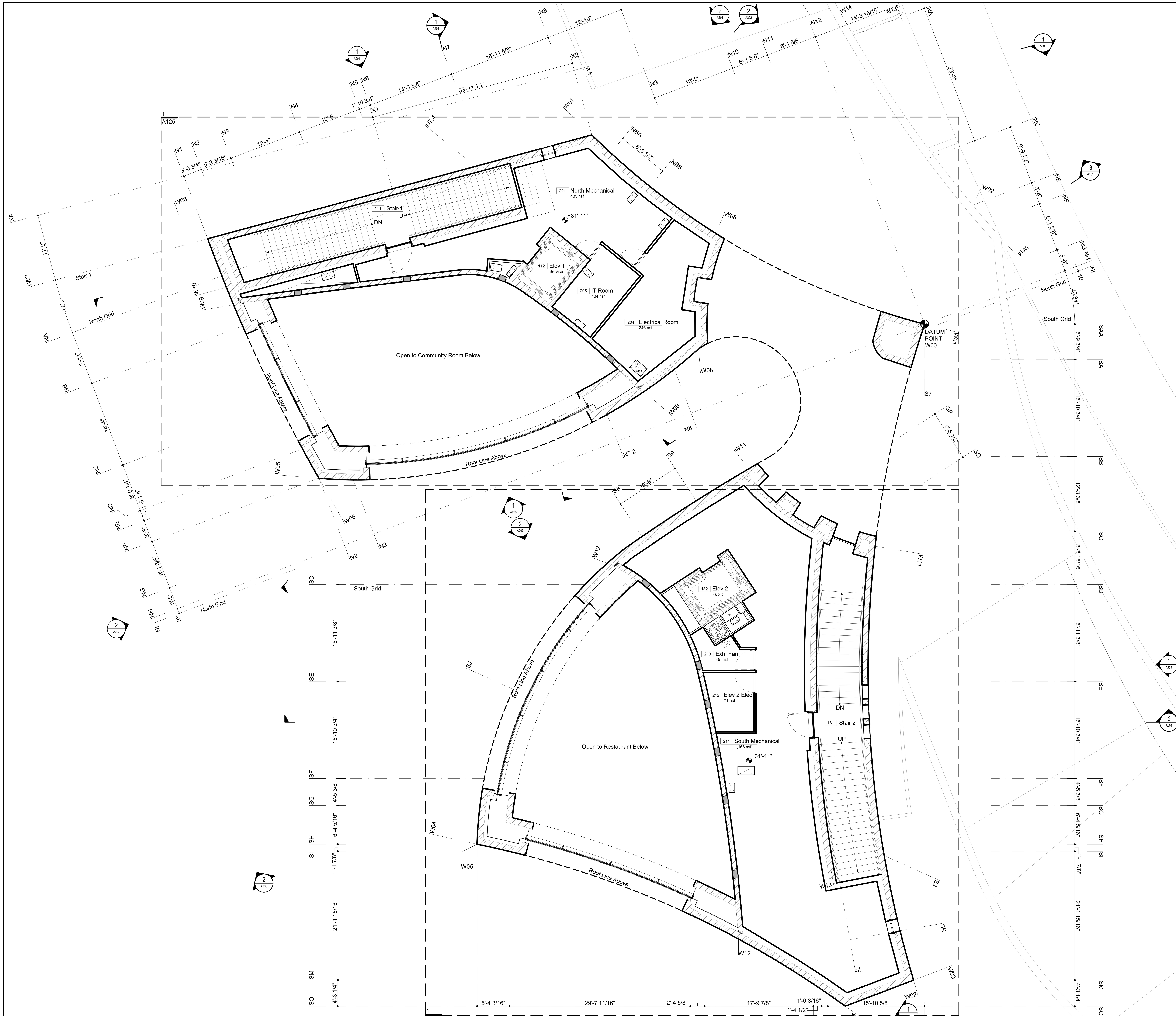
SHEET NUMBER

A-102.00

Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



N

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

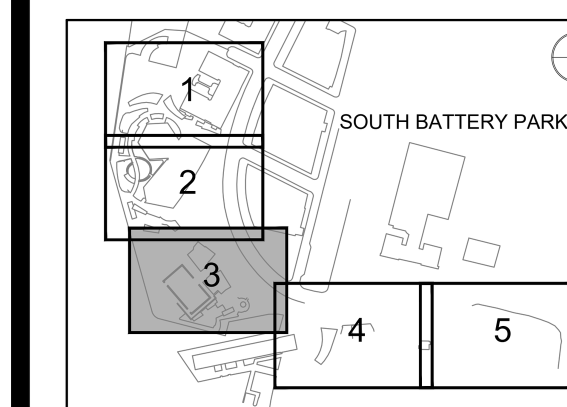
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

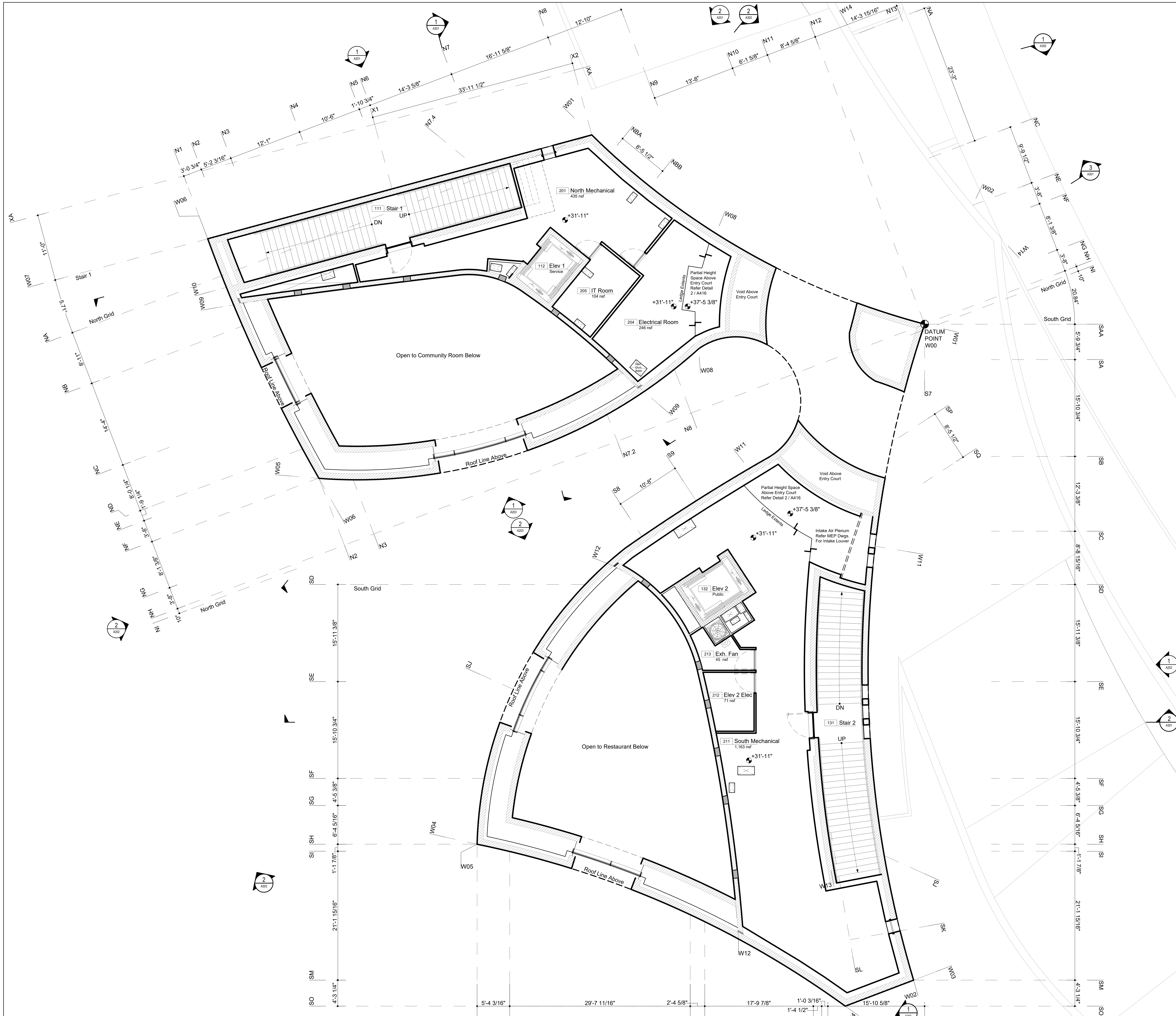
SECOND LEVEL PLAN

SHEET NUMBER

A-103.00

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

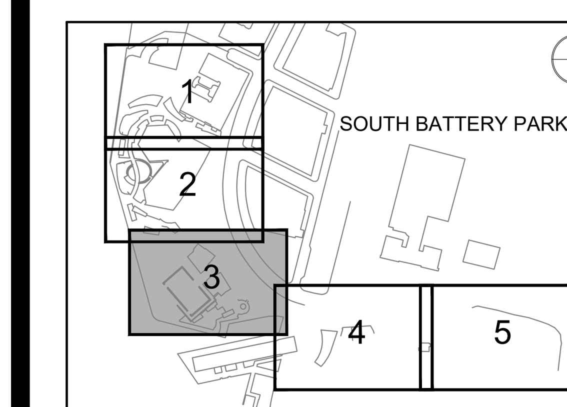
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

UPPER SECOND LVL PLAN

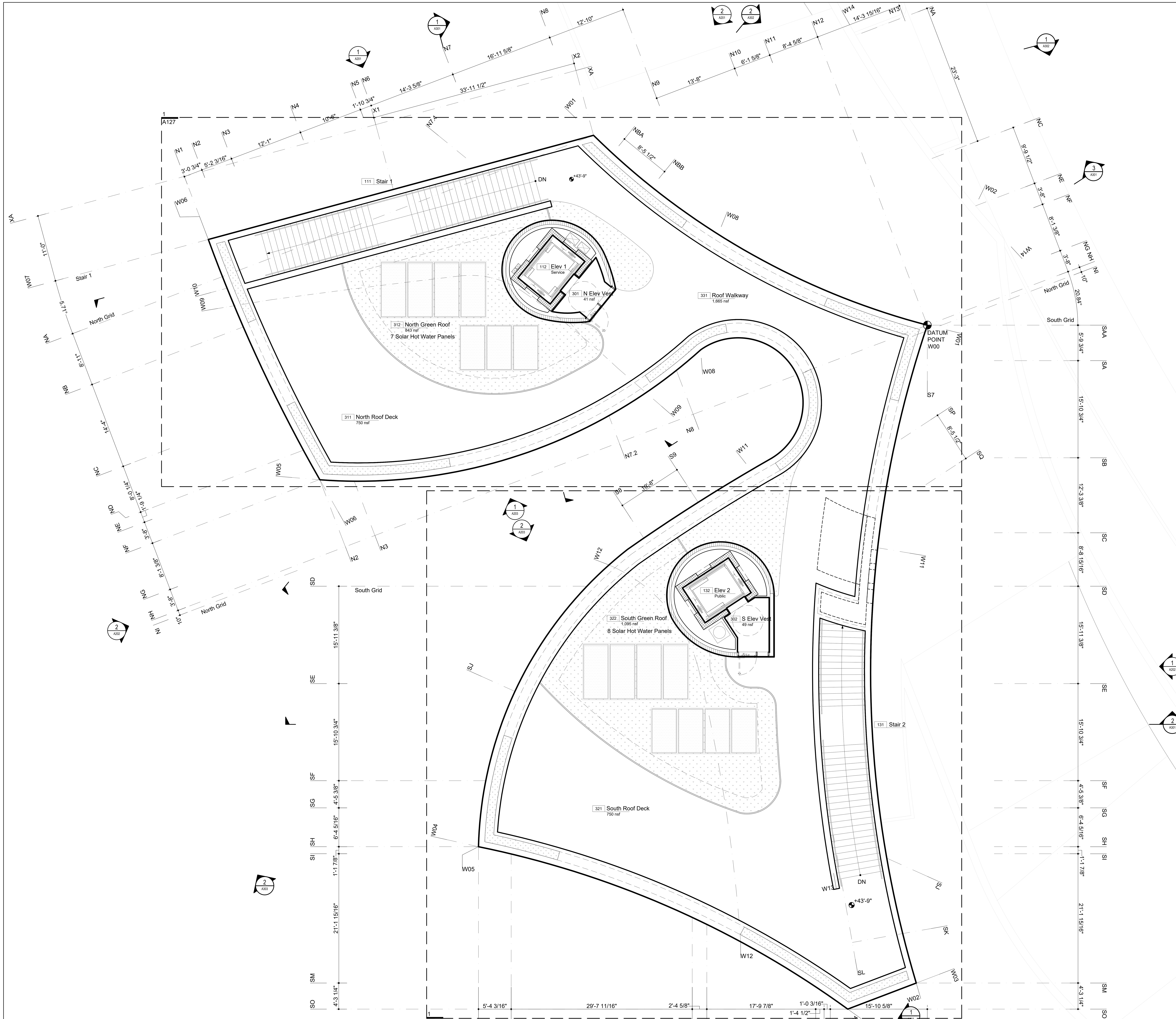
SHEET NUMBER

A-104.00

Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

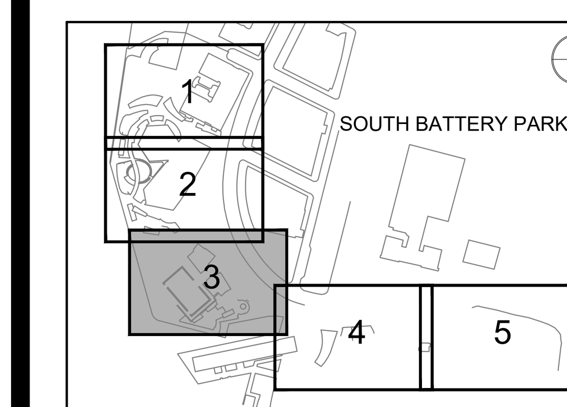
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

ROOF LEVEL PLAN

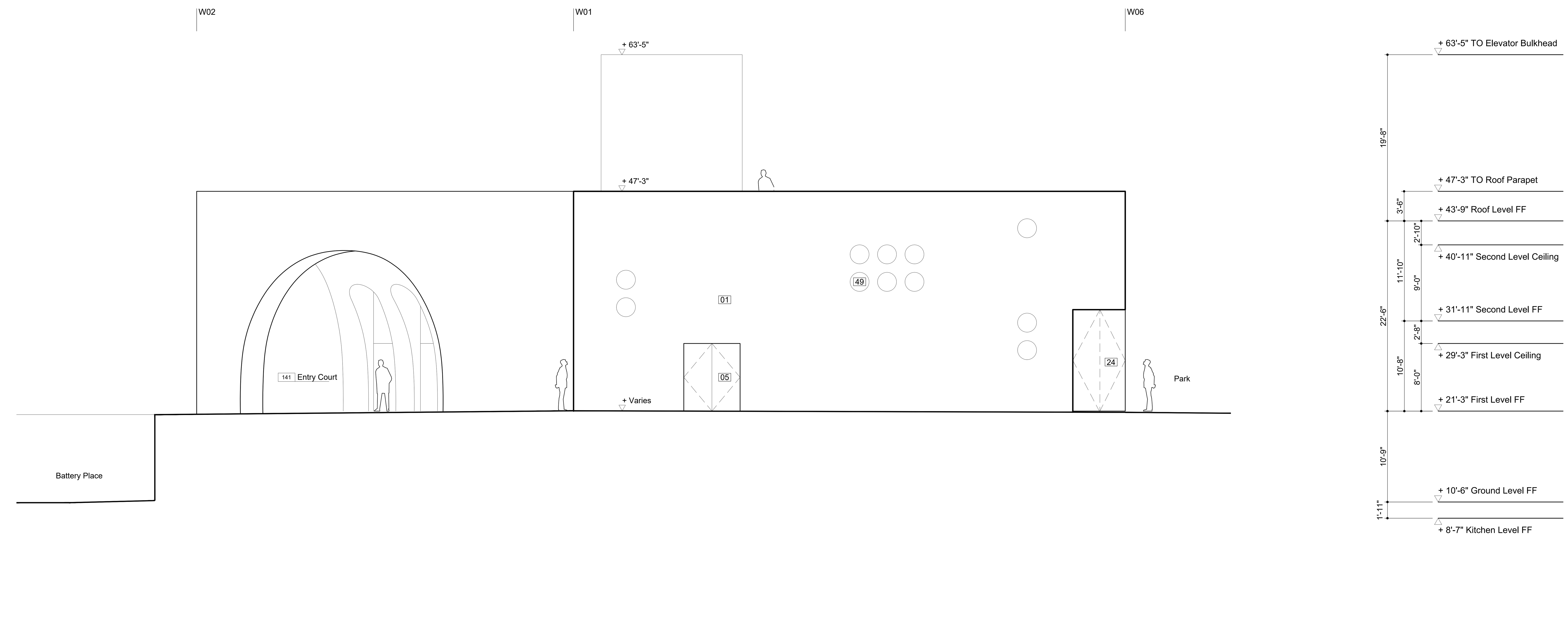
SHEET NUMBER

A-105.00

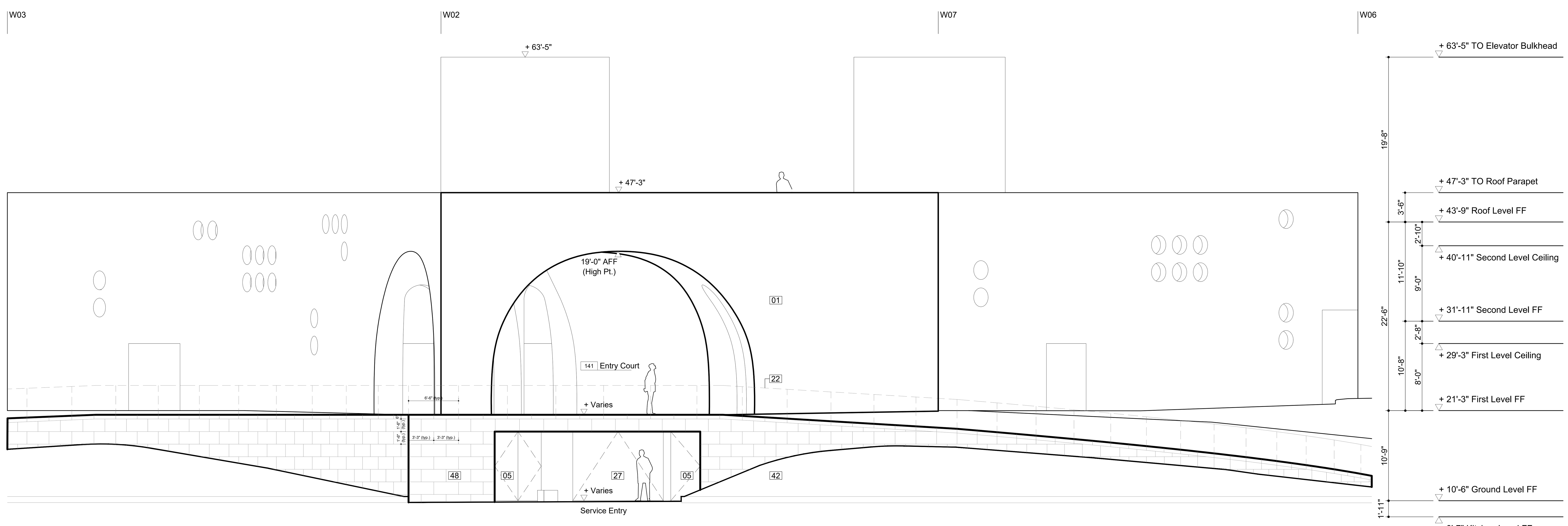
Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Elevation : North 01



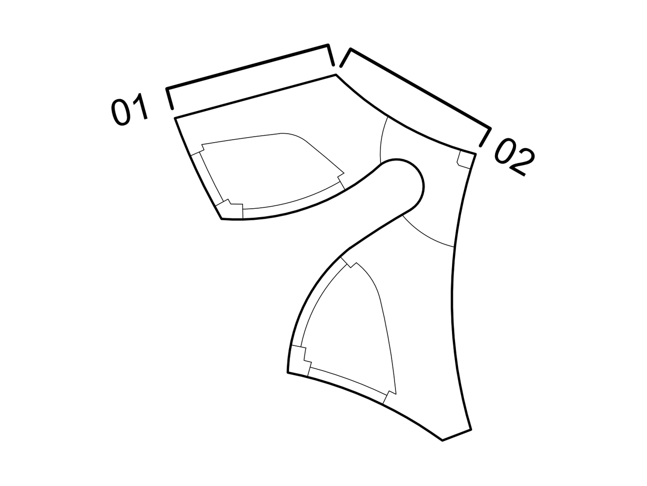
Elevation : North East 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

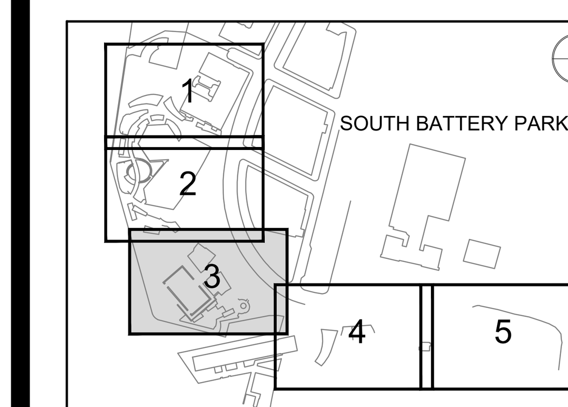
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

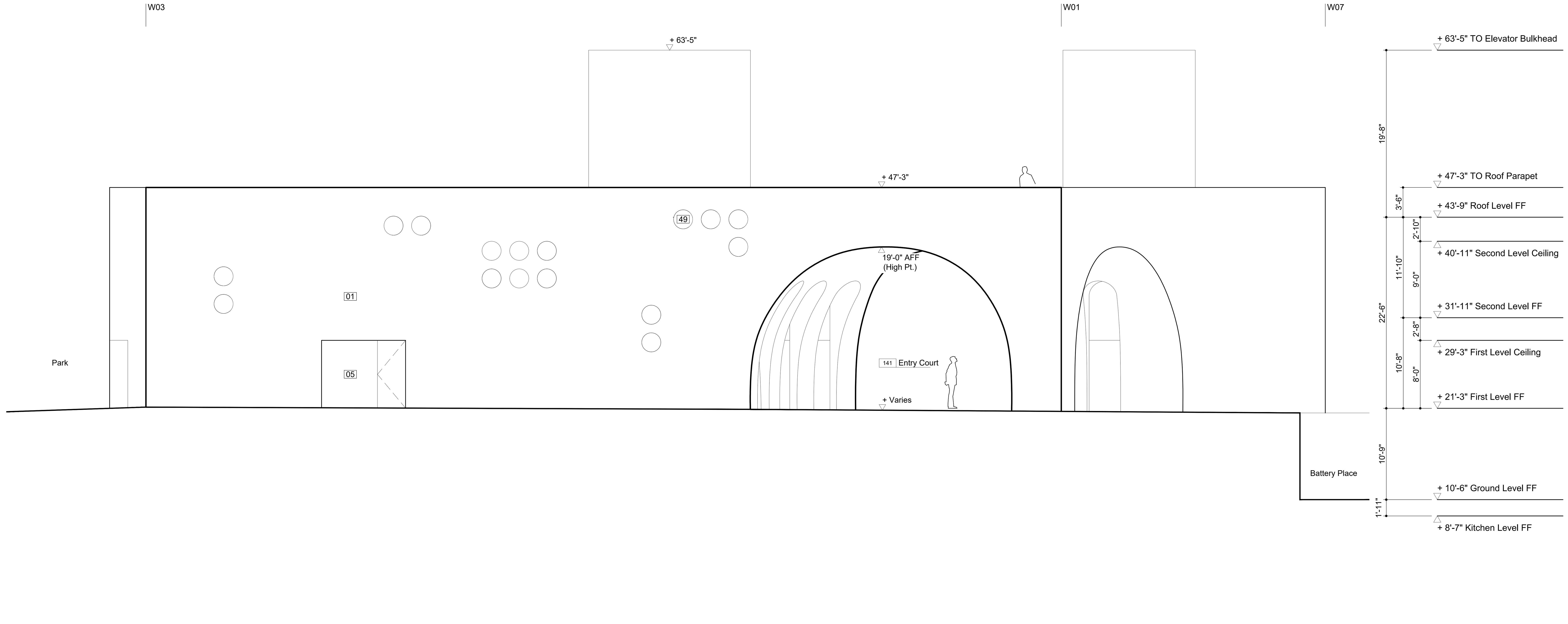
SHEET TITLE

ELEVATION

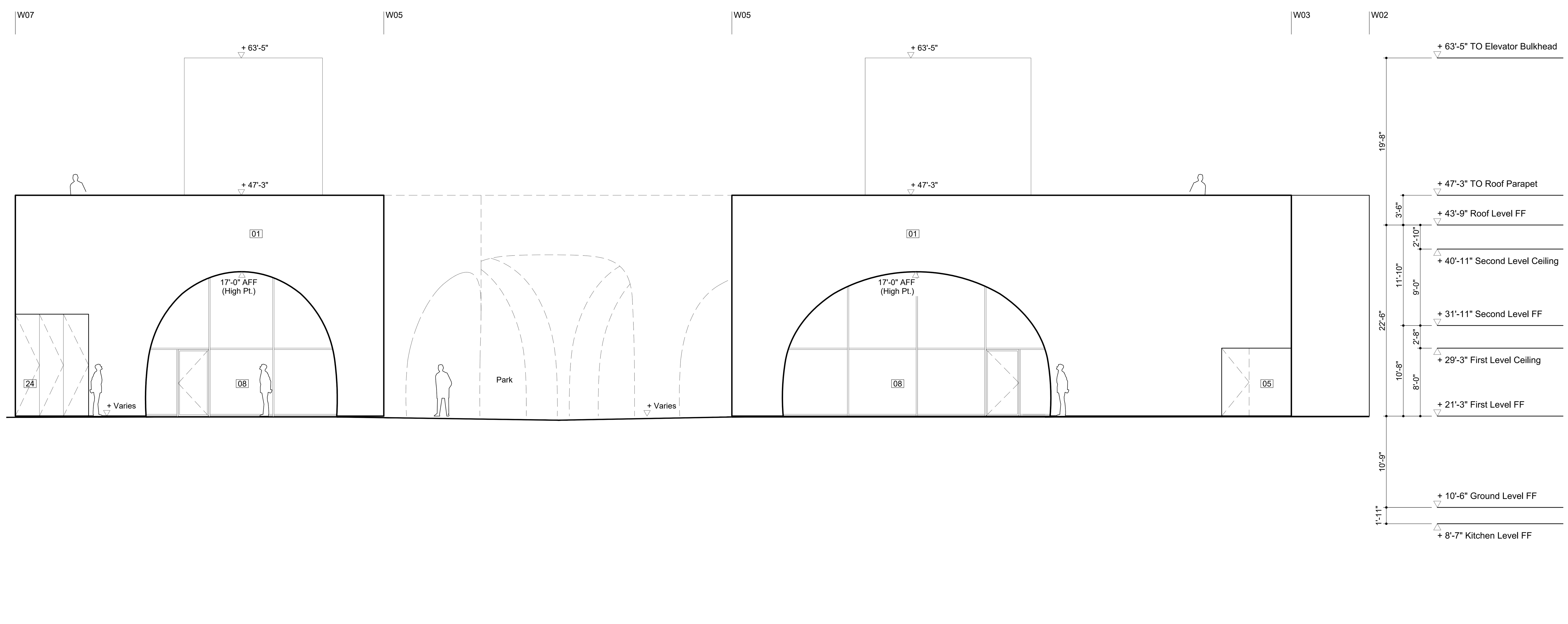
SHEET NUMBER

A-201.00

ANSI D 22" x 34"



Elevation : South East 01



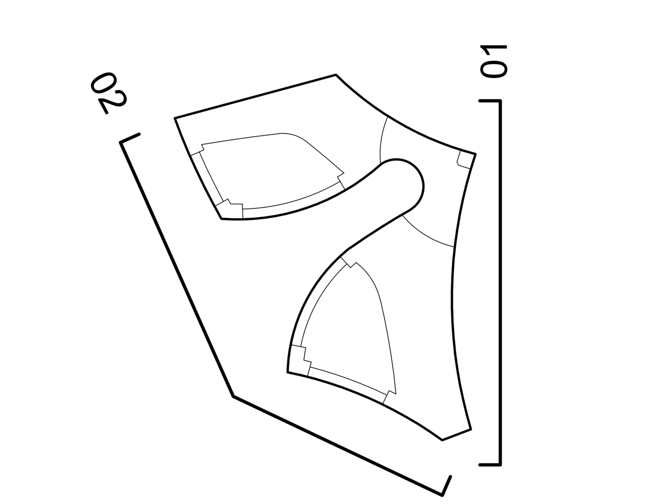
Elevation : West 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

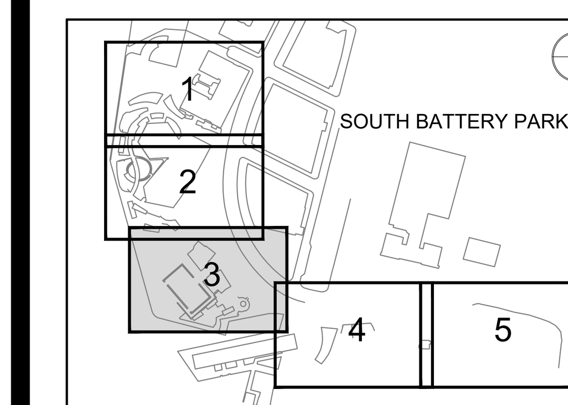
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

ELEVATION

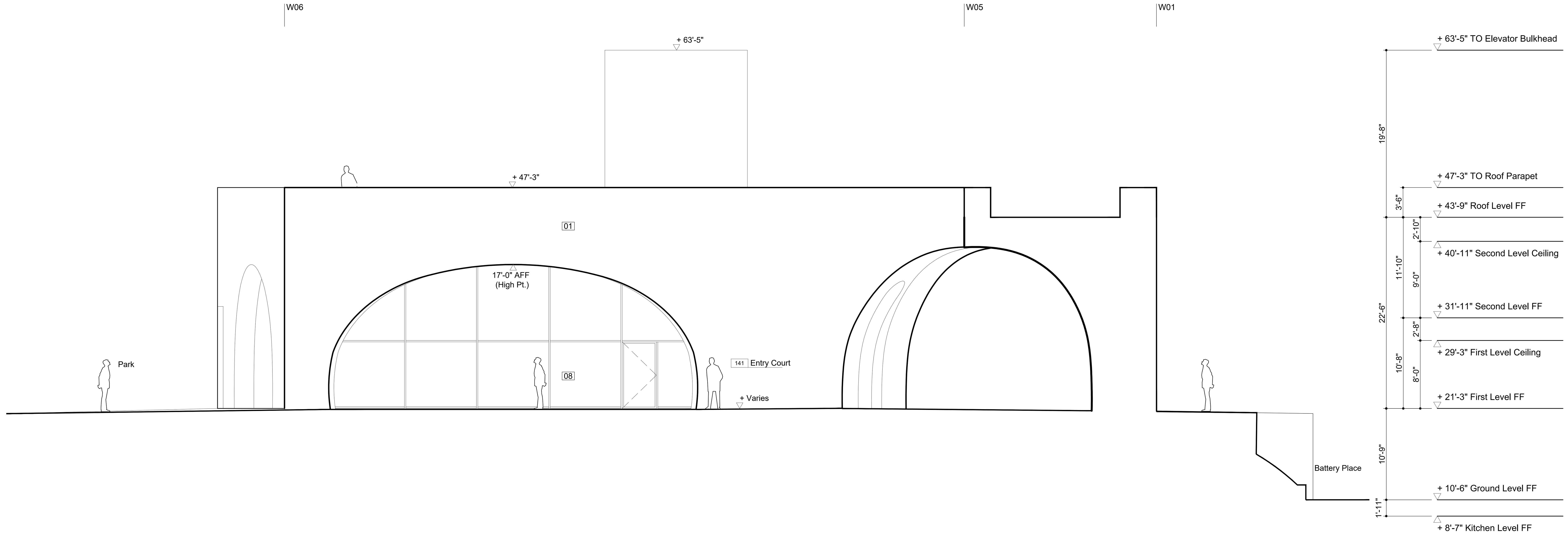
SHEET NUMBER

A-202.00

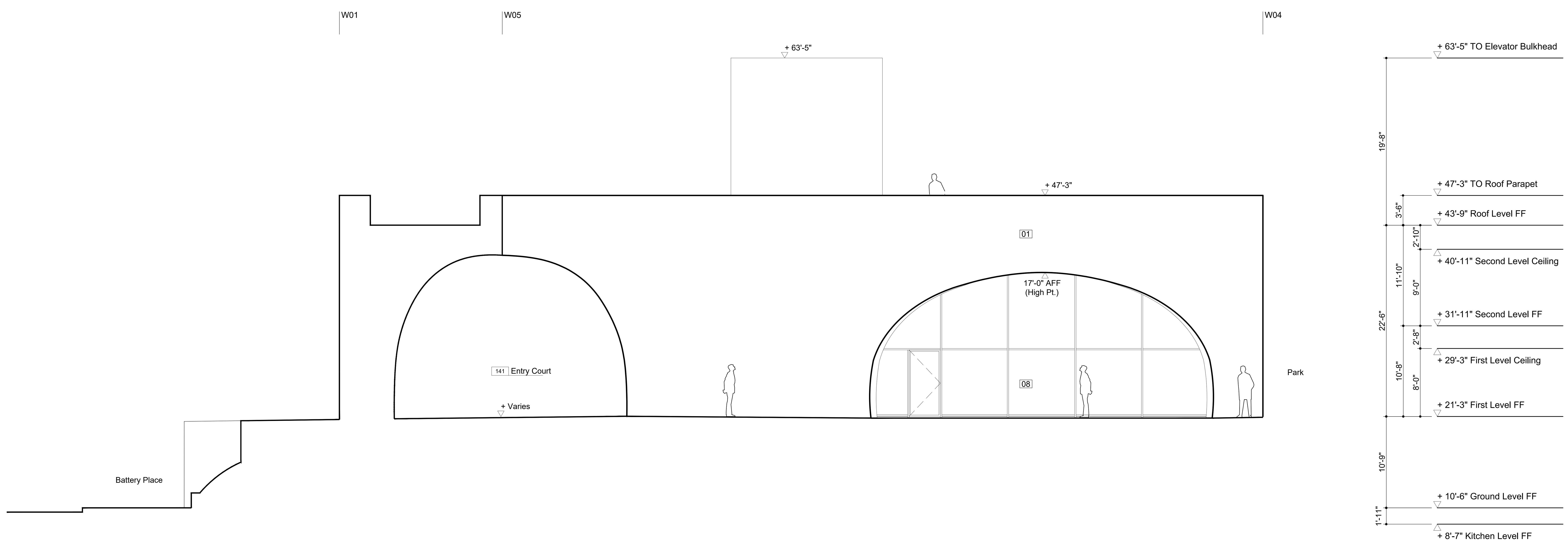
Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Sectional Elevation : Community Room 01



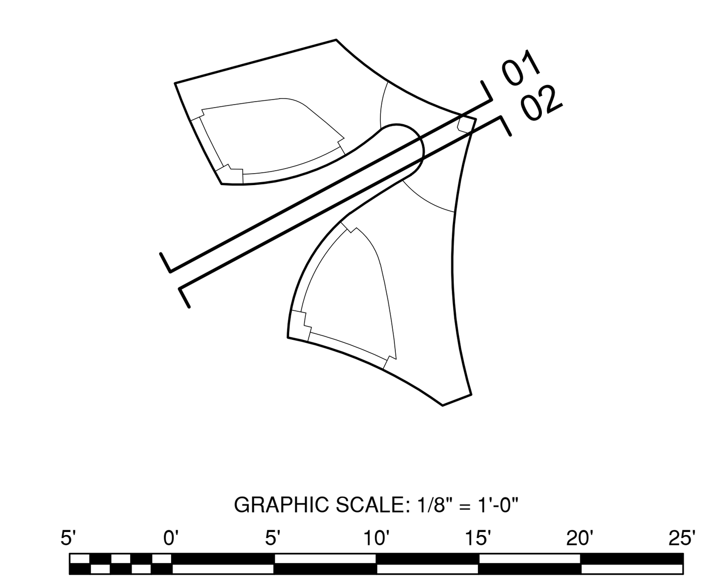
Sectional Elevation : Restaurant 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



DOB APPROVAL STAMP

AECOM

PROJECT
20 BATTERY PLACE
NEW YORK, NEW YORK 10280

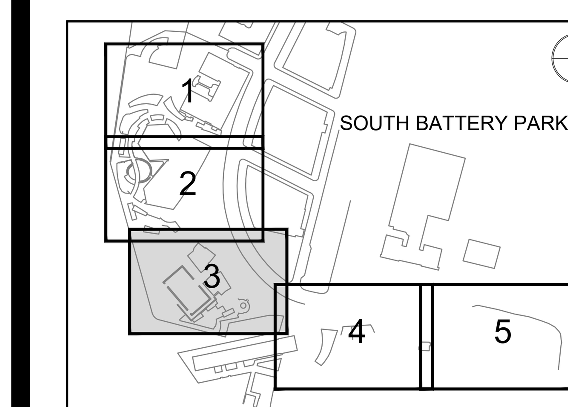
OWNER
HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

ARCHITECT
THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS
W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

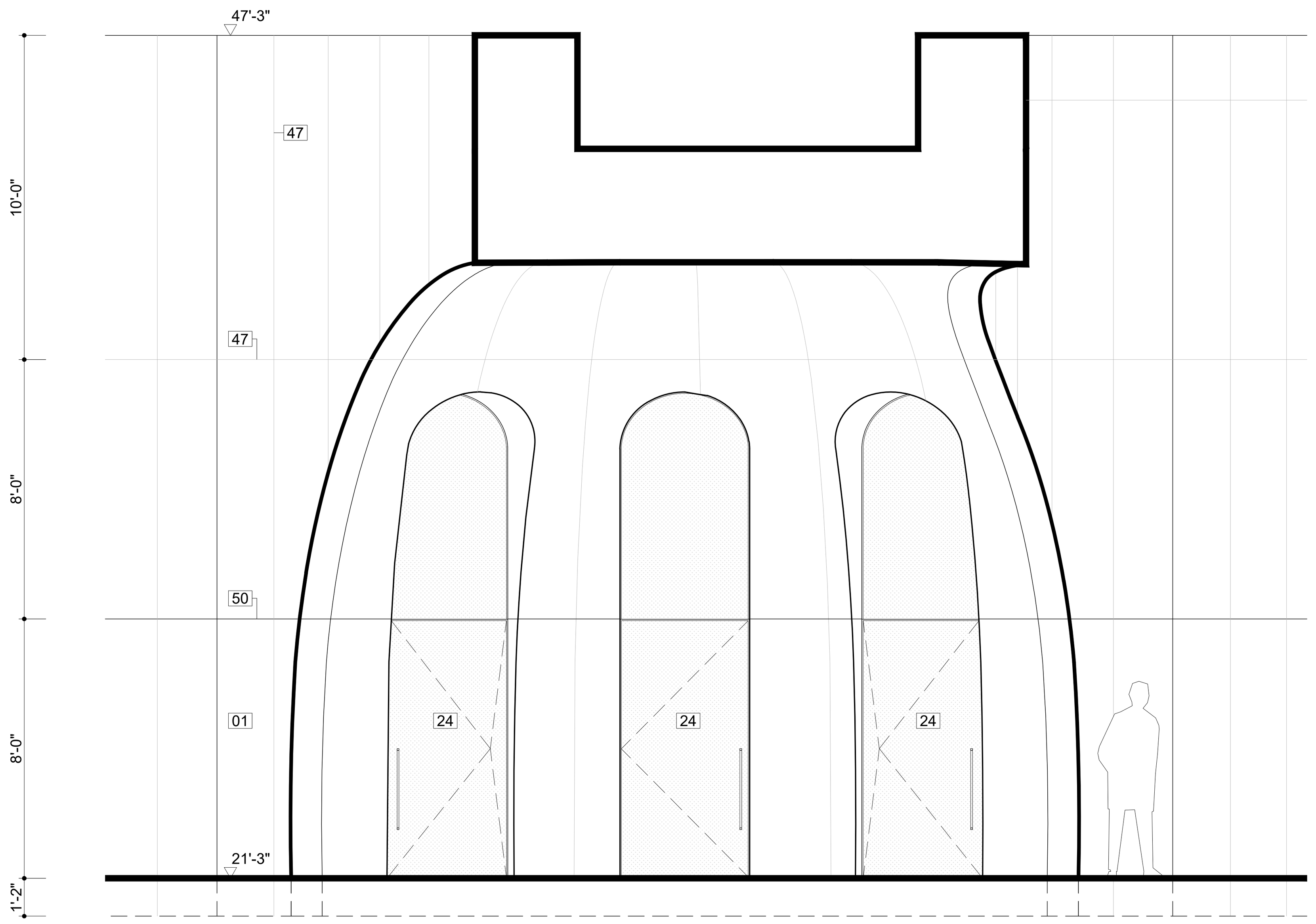
PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
ELEVATION

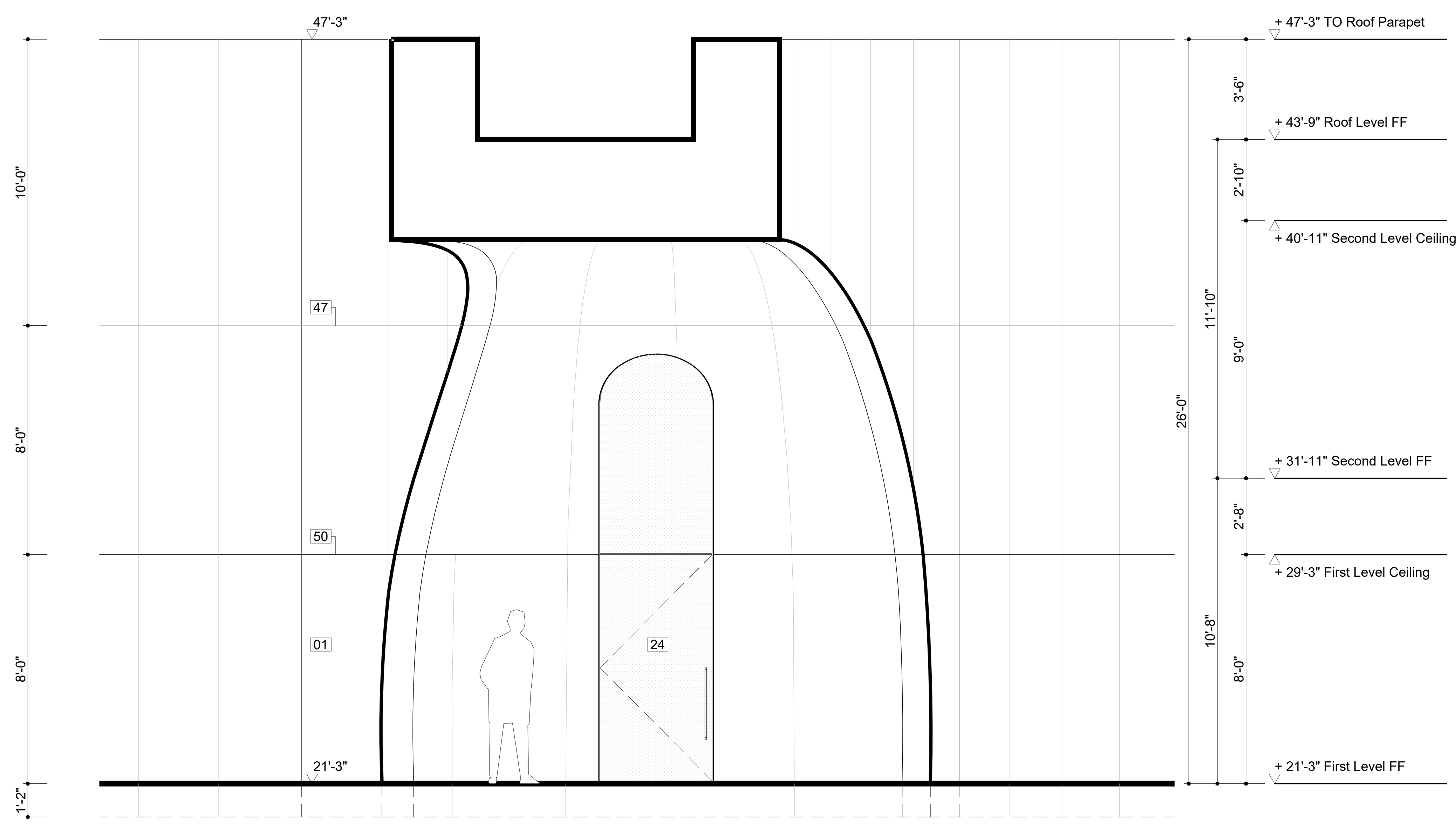
SHEET NUMBER
A-203.00

Printed on ___% Post-Consumer Recycled Content Paper

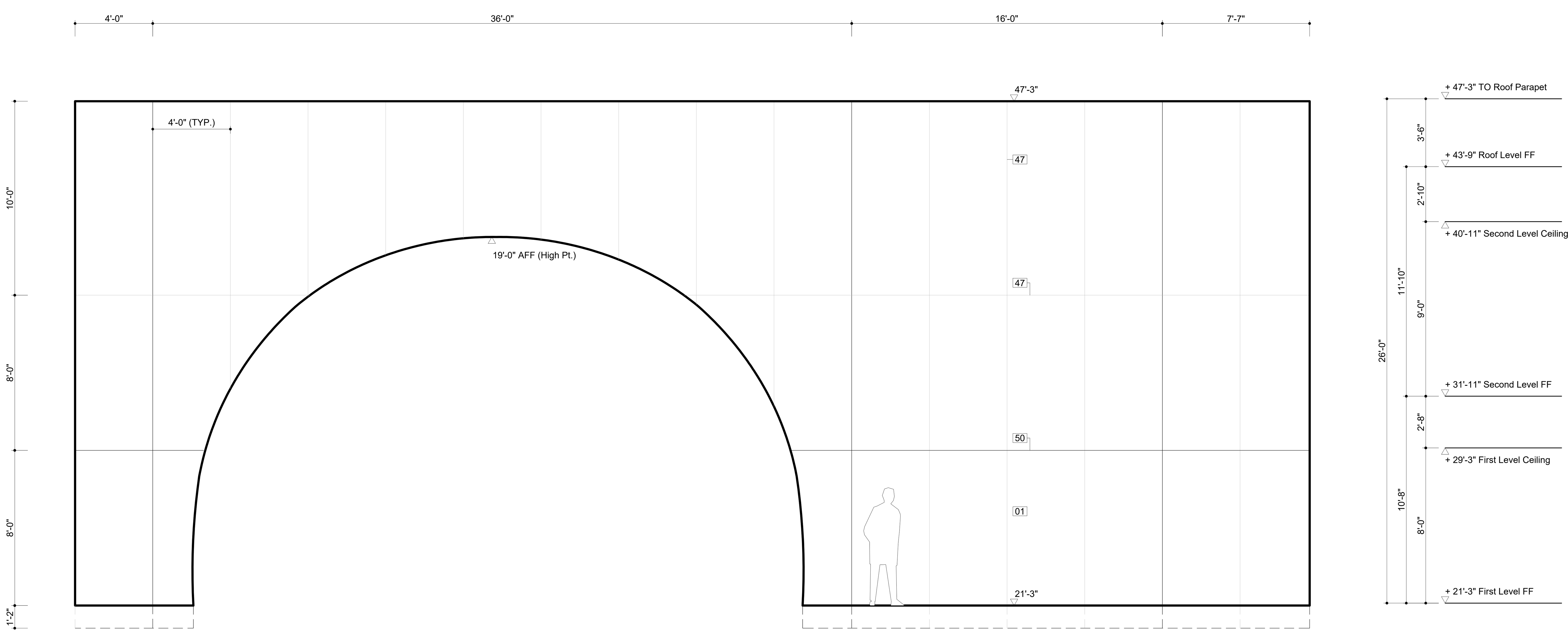
95% DESIGN DOCUMENTS



Elevation : Wall 11 01



Elevation : Wall 08 02



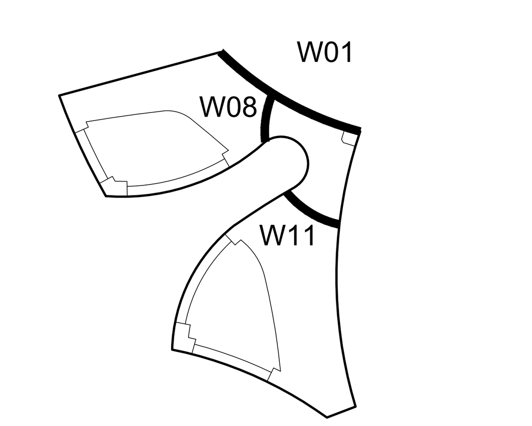
Unfolded Elevation : Wall 01 03

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/4" = 1'-0"

5' 4' 3' 2' 1' 0 5'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

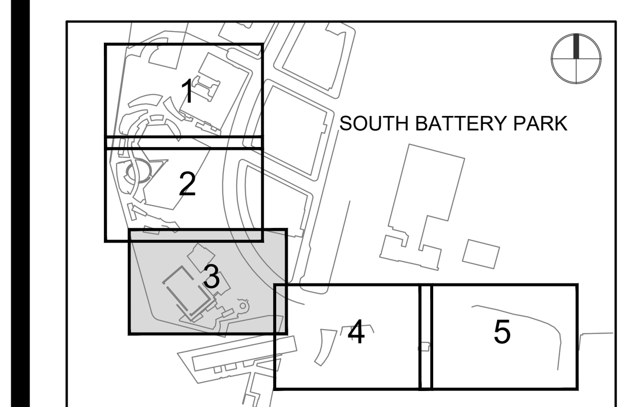
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

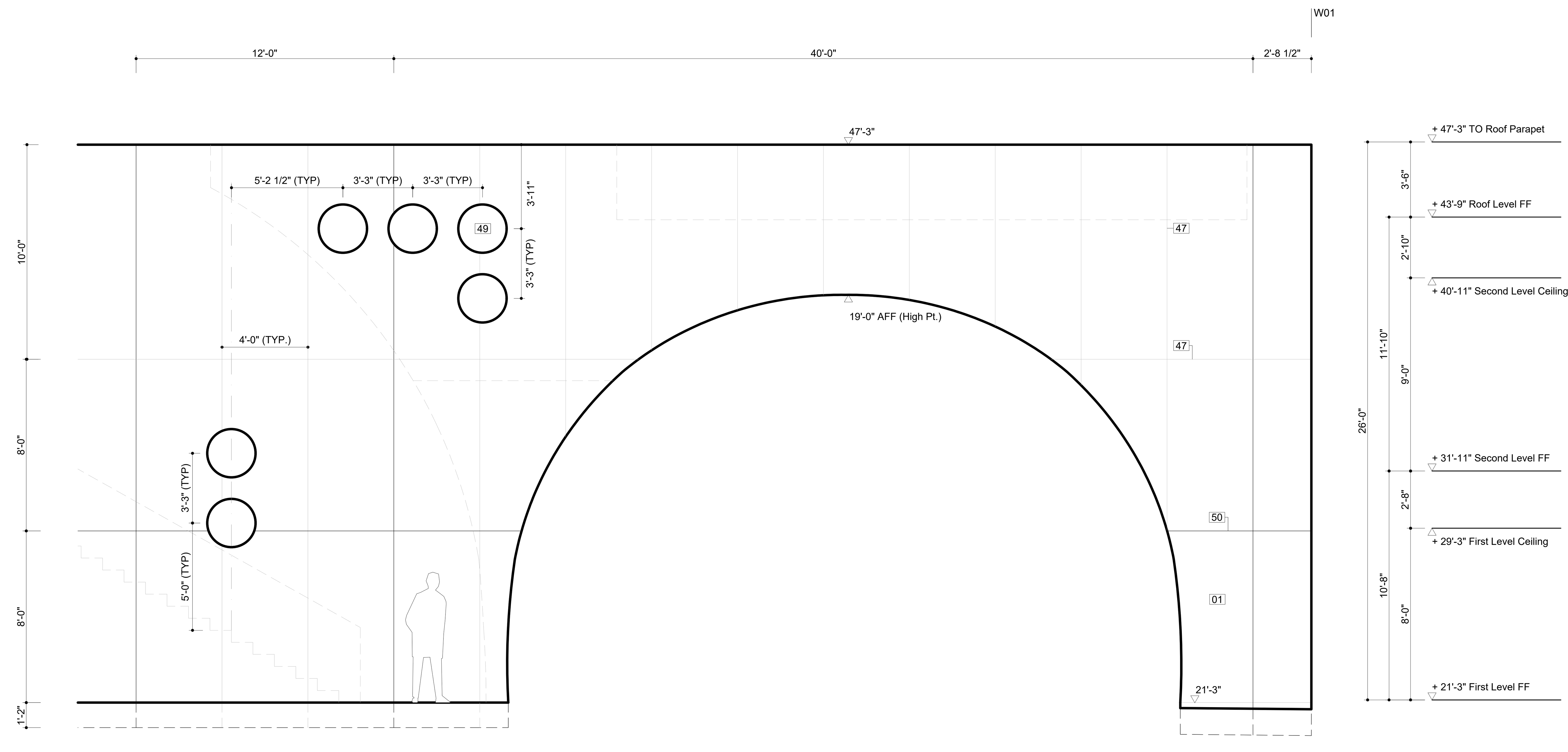
ENLARGED ELEVATION

SHEET NUMBER

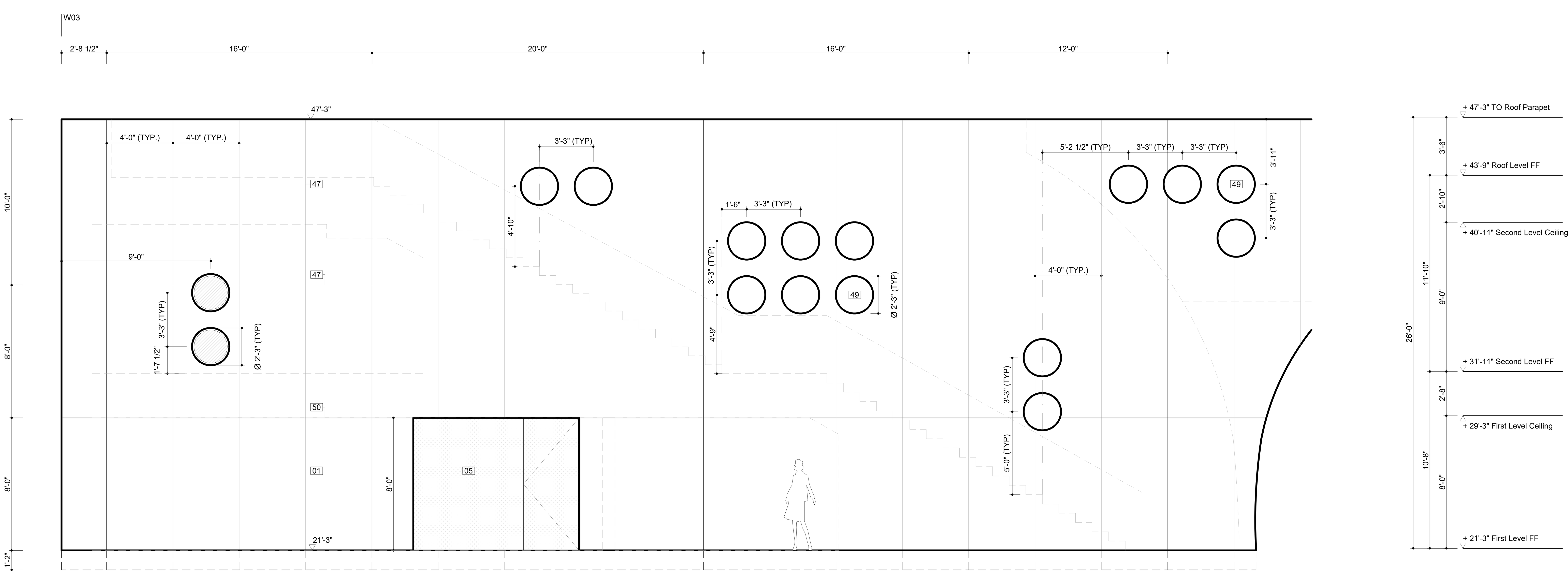
A-211.00

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Unfolded Elevation : Wall 02 01



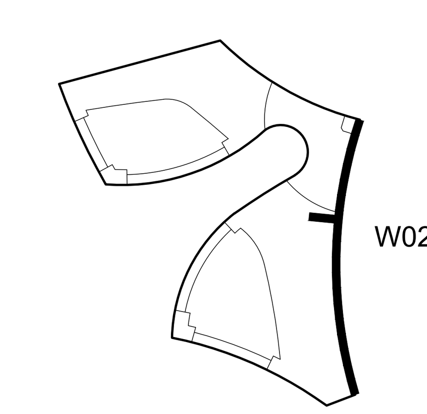
Unfolded Elevation : Wall 02 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/4" = 1'-0"

5' 4' 3' 2' 1' 0 5'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

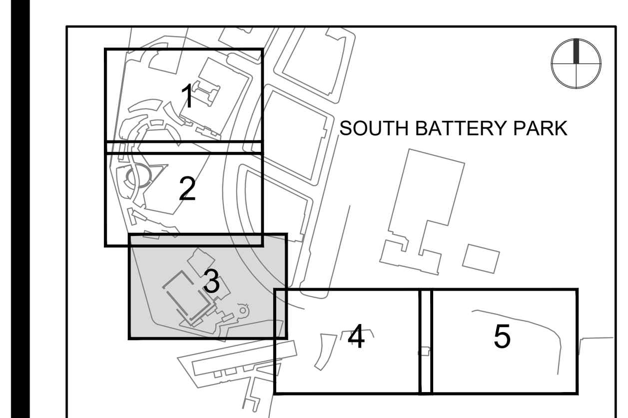
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

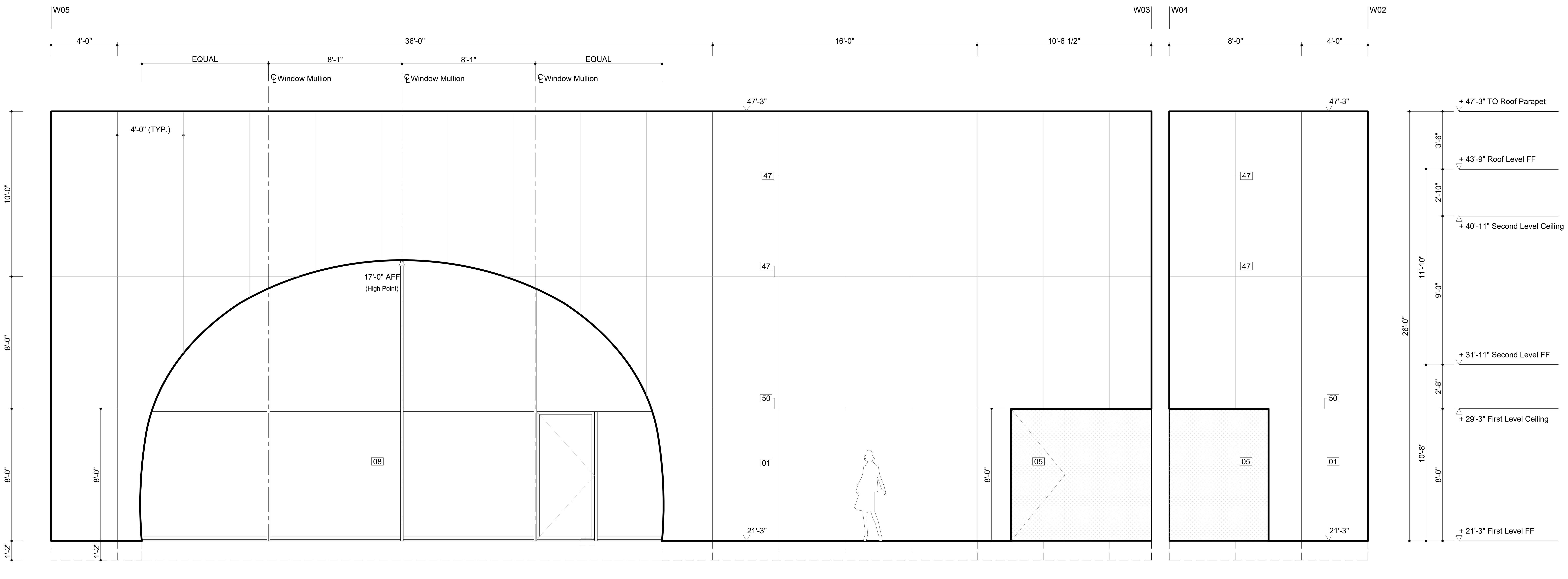
Contract No. 18-2586

SHEET TITLE

ENLARGED ELEVATION

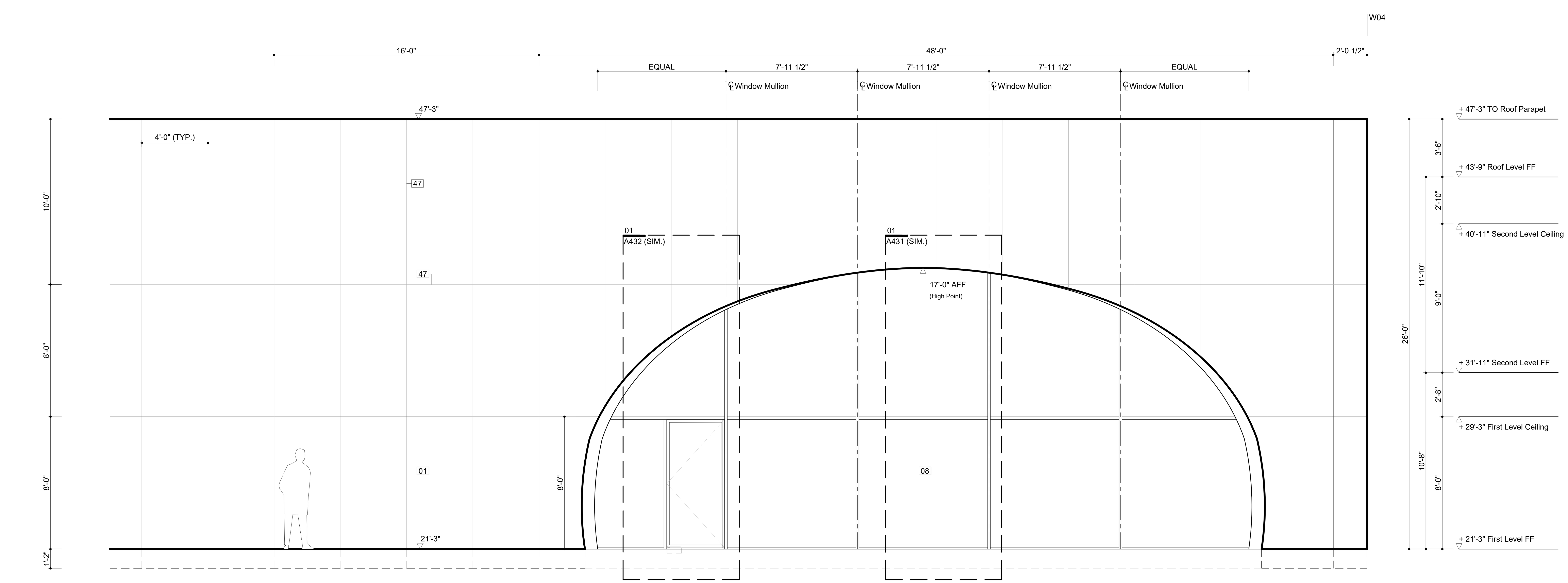
SHEET NUMBER

A-212.00



Unfolded Elevation : Wall 04 02

Elevation : Wall 03 01

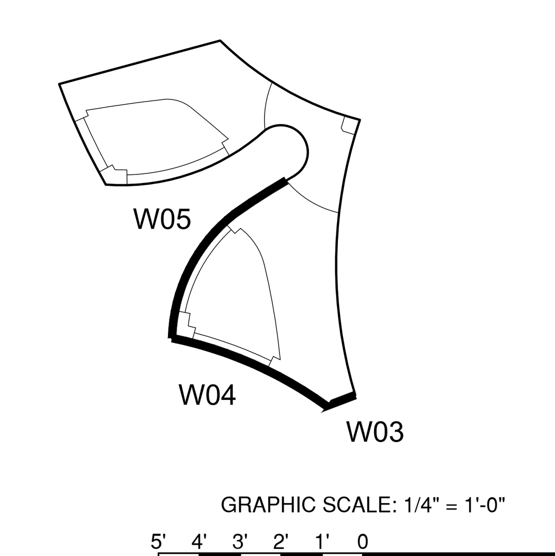


Unfolded Elevation : Wall 05 03

Legend Notes — Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/4" = 1'-0"

DOB APPROVAL STAMP

AECOM

PROJECT
20 BATTERY PLACE
NEW YORK, NEW YORK 10280

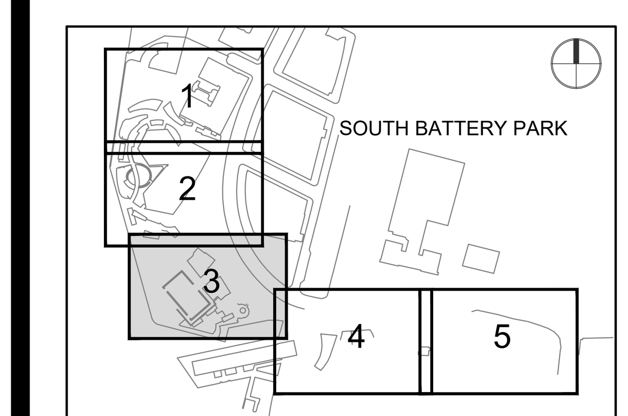
OWNER
HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

ARCHITECT
THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS
W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

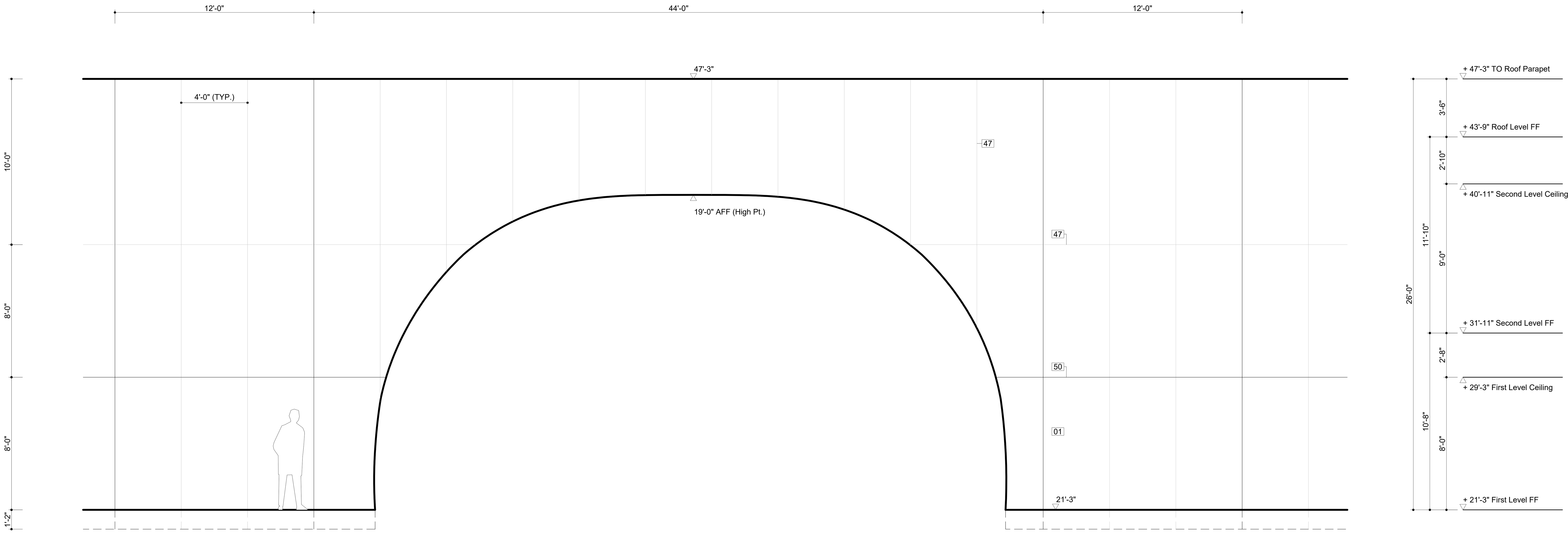
I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

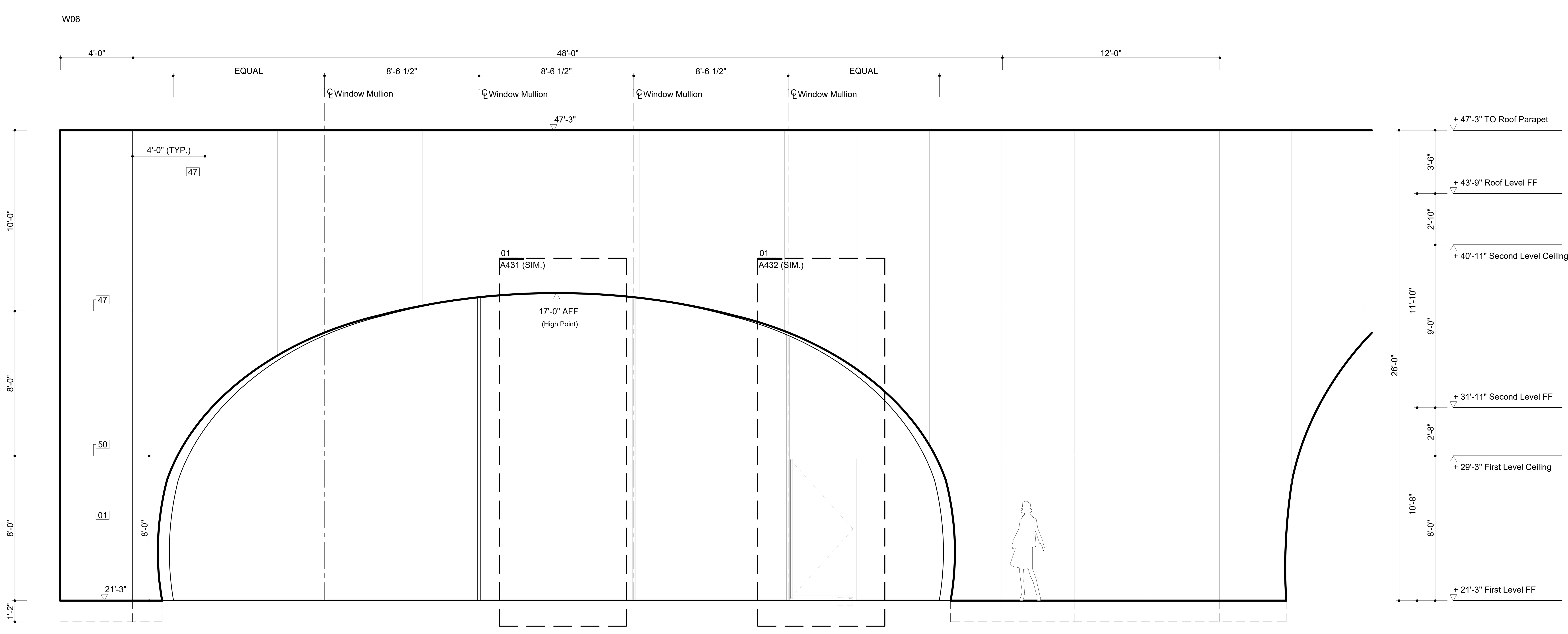
SHEET TITLE
ENLARGED ELEVATION

SHEET NUMBER
A-213.00

ANSI D 22" x 34"



Unfolded Elevation : Wall 05 01



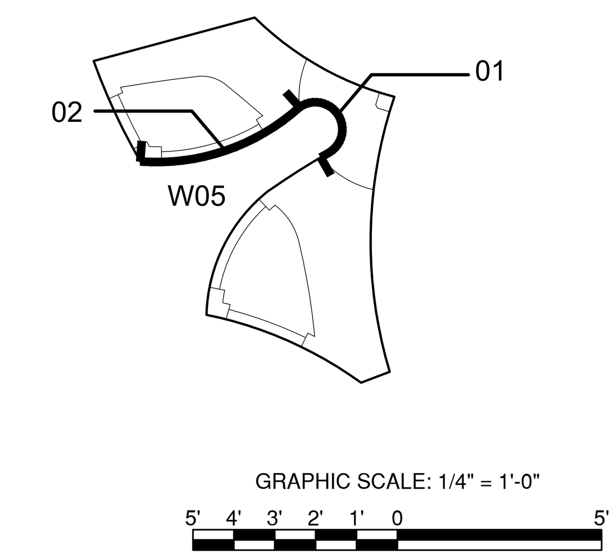
Unfolded Elevation : Wall 05 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

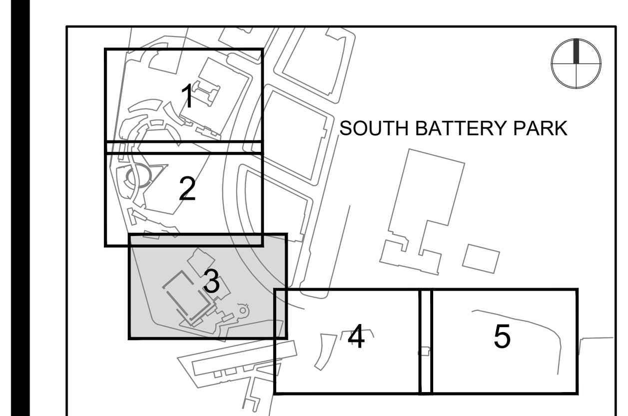
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

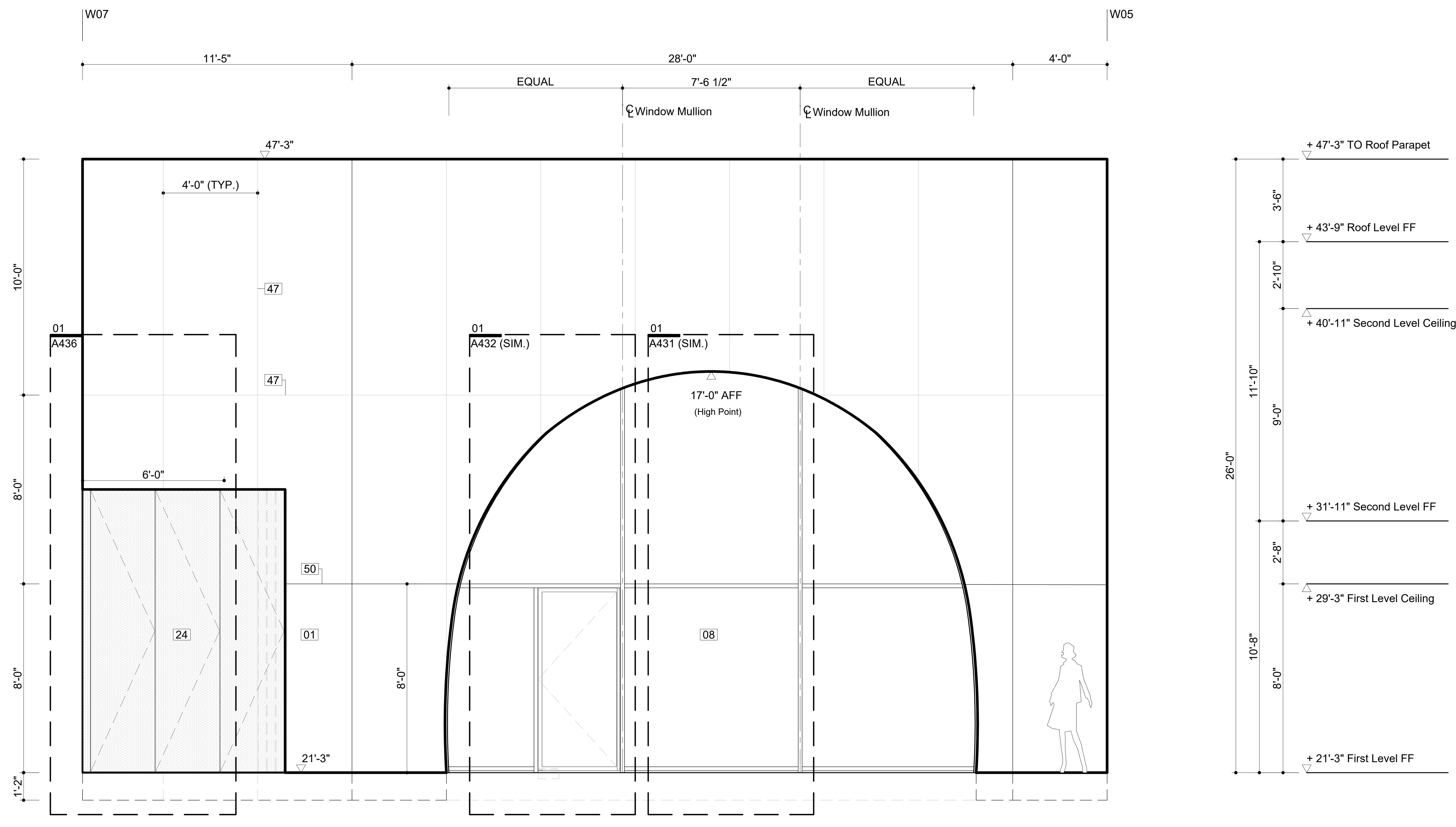
Contract No. 18-2586

SHEET TITLE

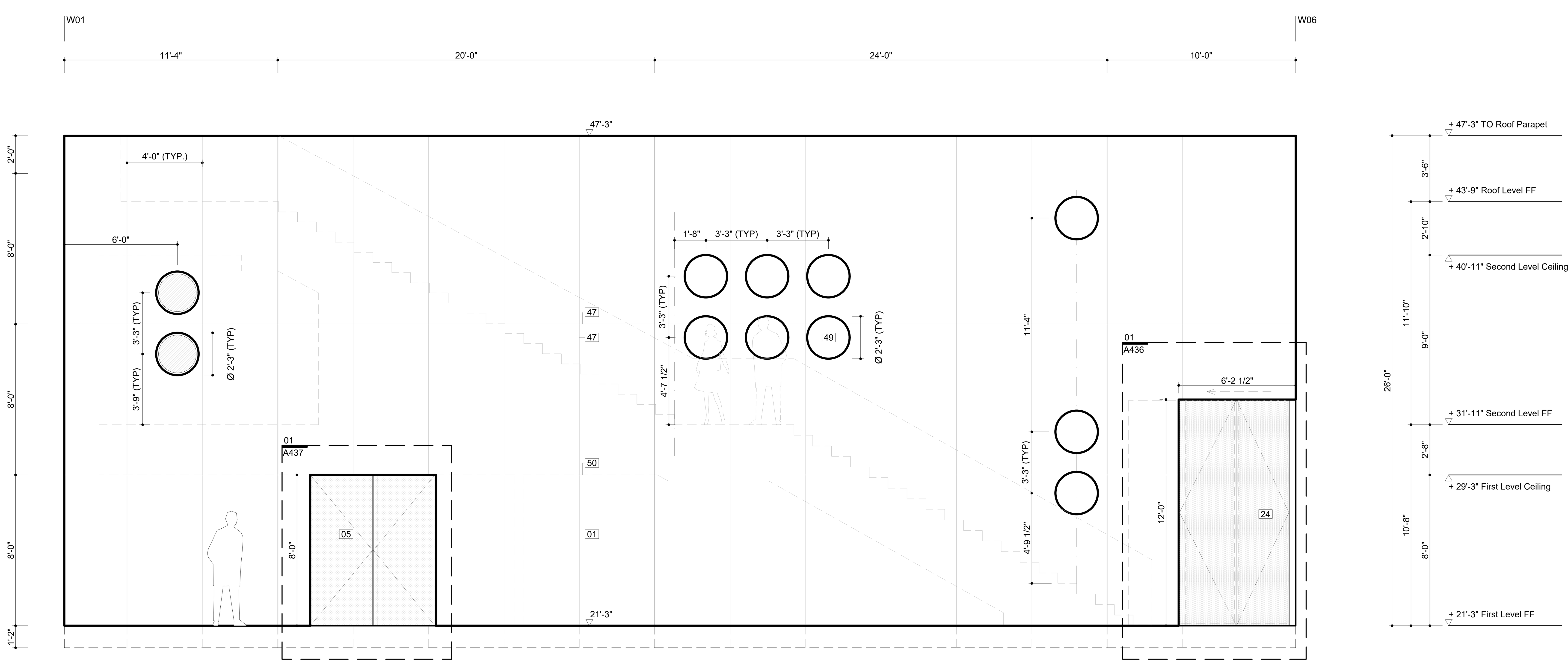
ENLARGED ELEVATION

SHEET NUMBER

A-214.00



Unfolded Elevation : Wall 06 01

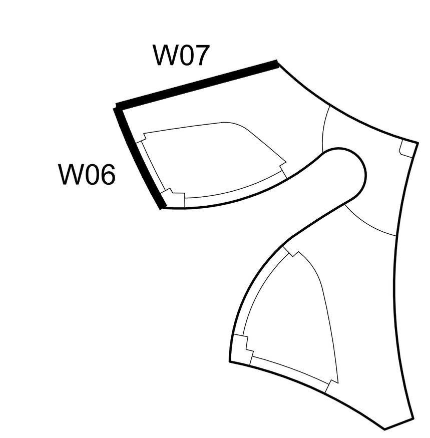


Elevation : Wall 07 02

Legend Notes — Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/4" = 1'-0"

DOB APPROVAL STAMP

95% DESIGN DOCUMENTS

AECOM

PROJECT
20 BATTERY PLACE
NEW YORK, NEW YORK 10280

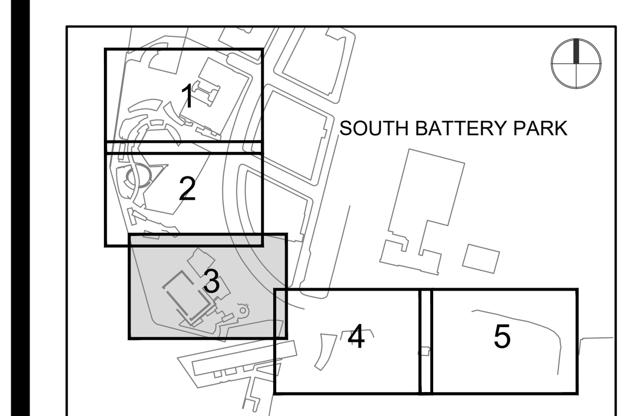
OWNER
HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

ARCHITECT
THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS
W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

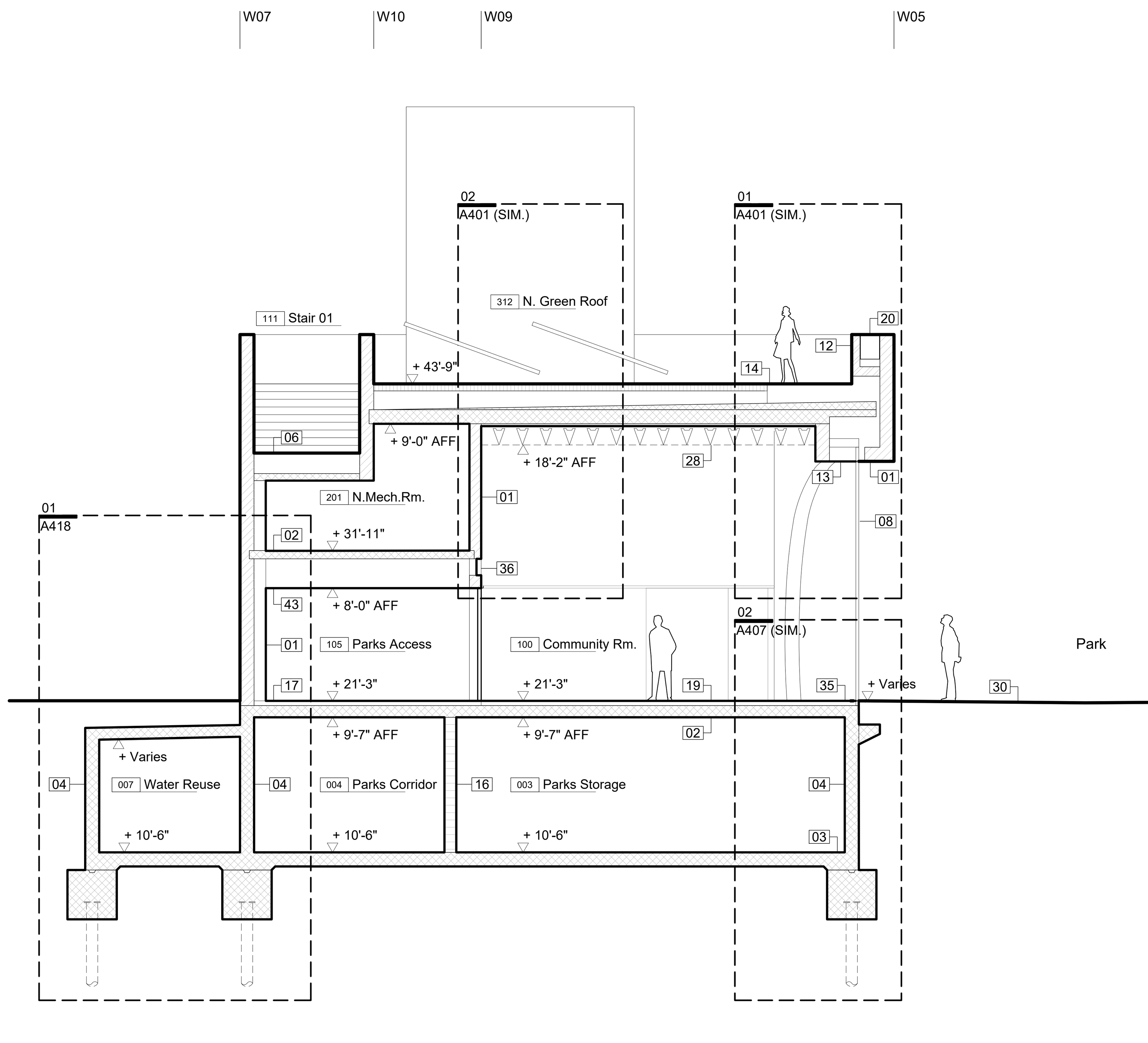
ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

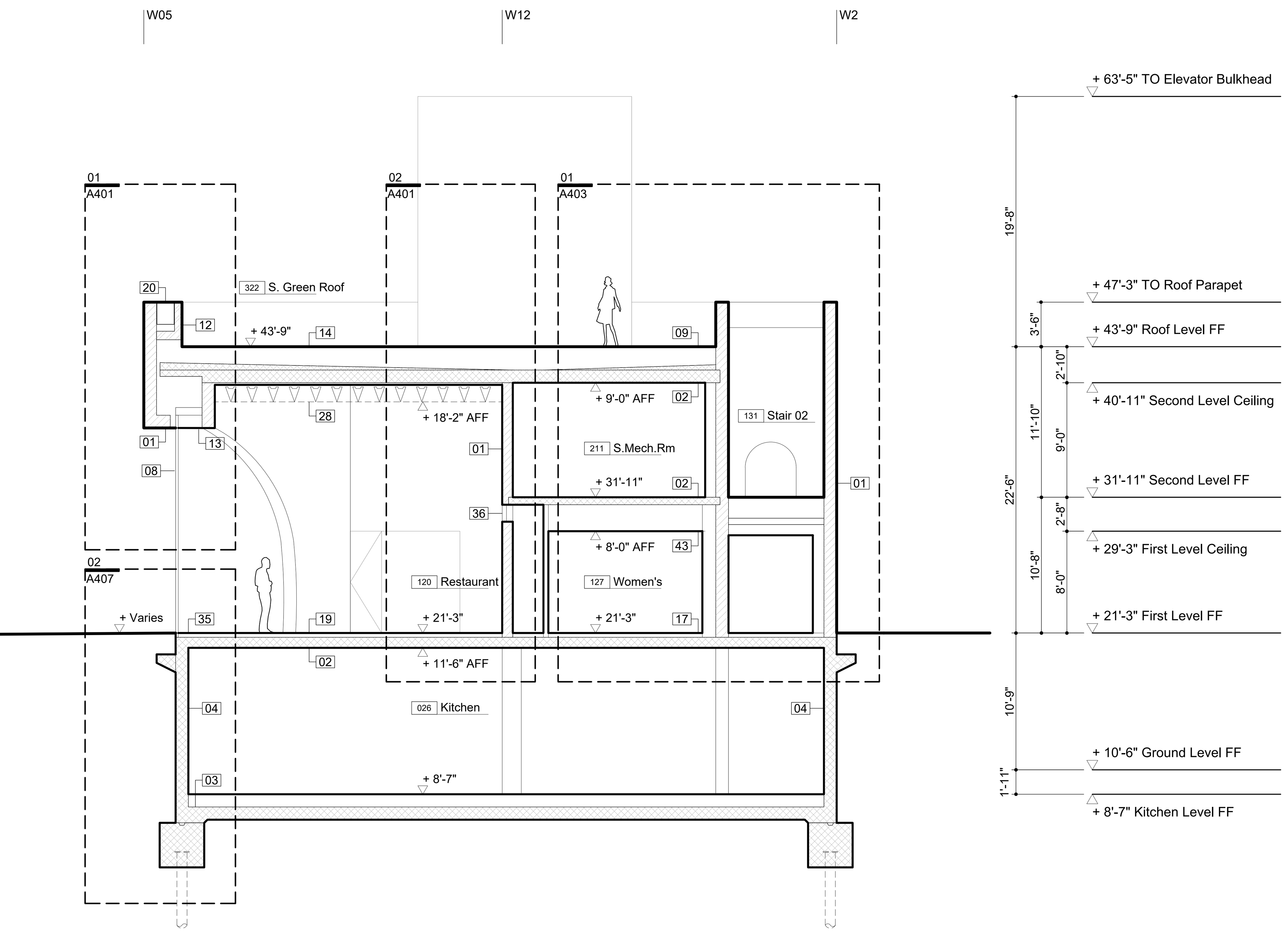
PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
ENLARGED ELEVATION

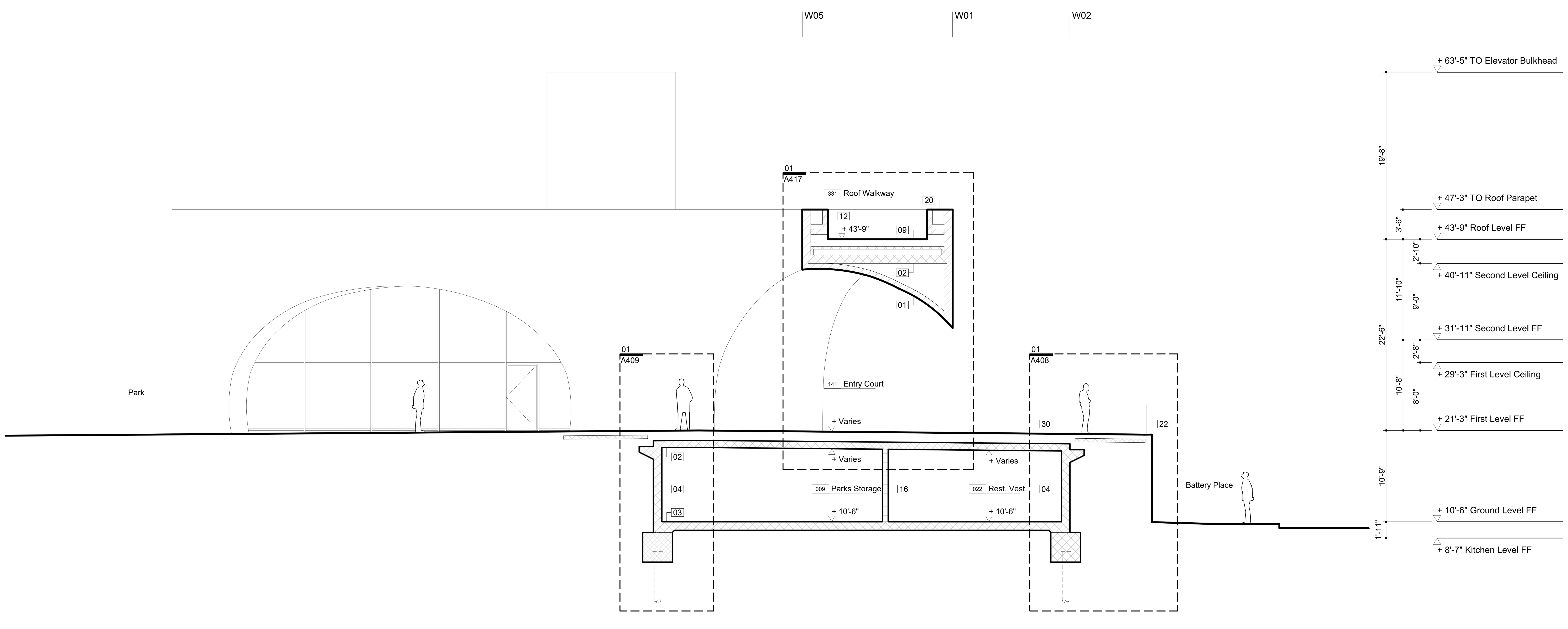
SHEET NUMBER
A-215.00



Section : North Wing 01



Section : South Wing 02



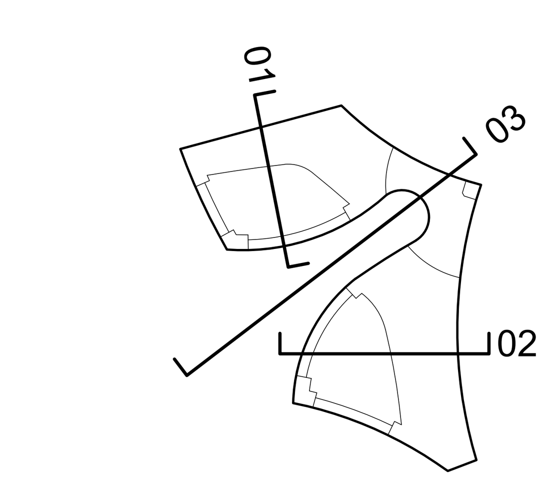
Section : Entry Court 03

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

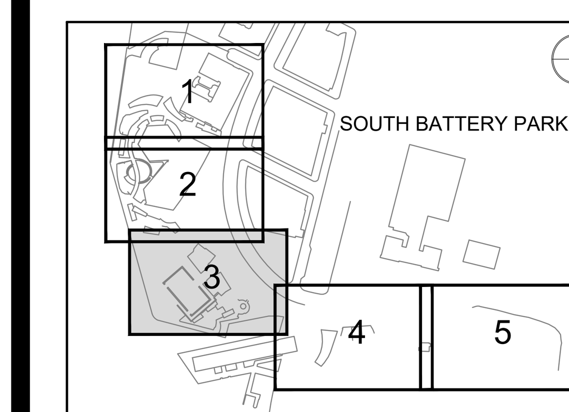
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

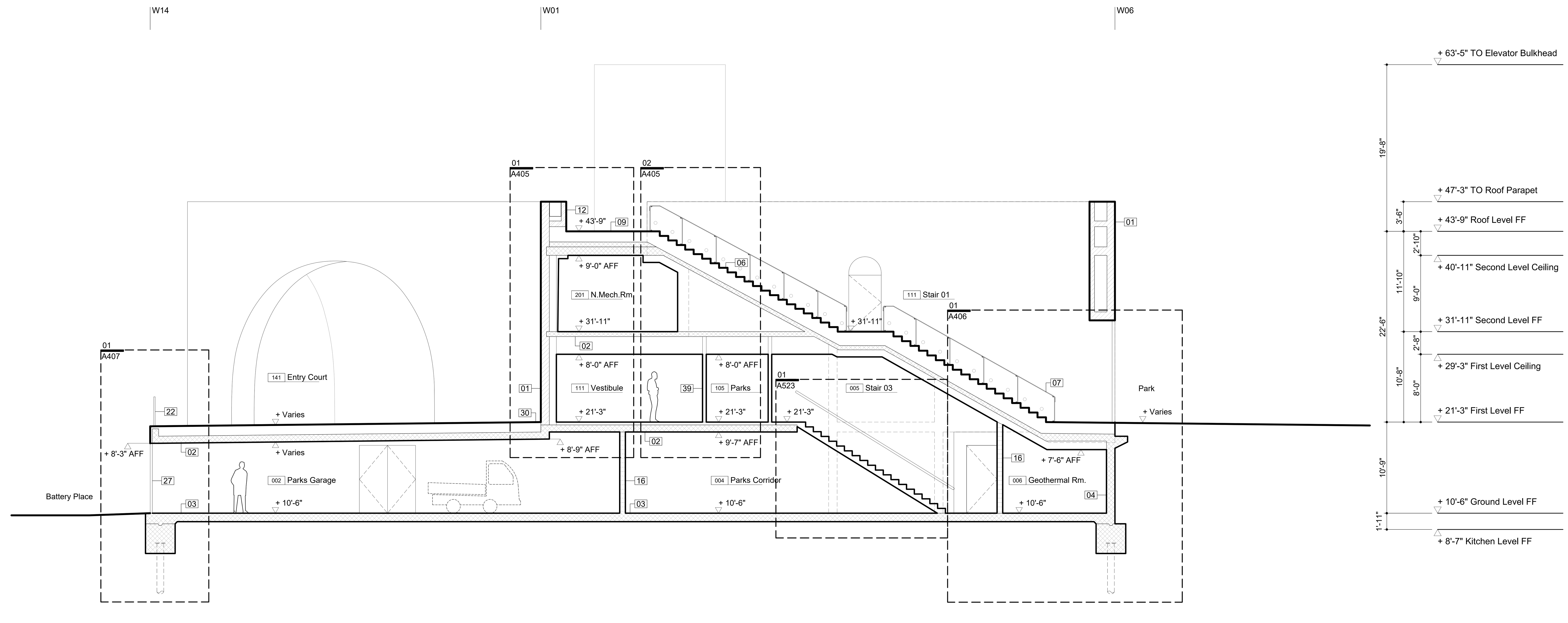
SHEET TITLE

SECTION

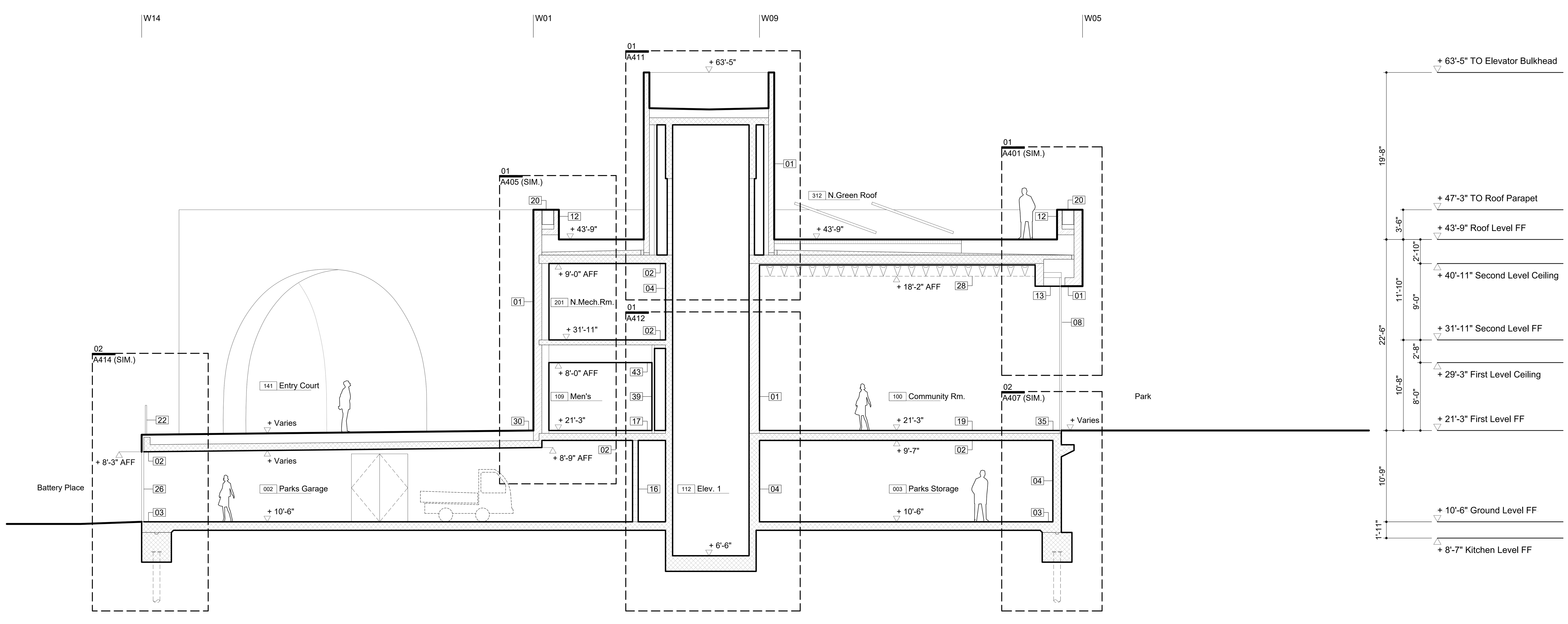
SHEET NUMBER

A-301.00

ANSI D 22" x 34"



Section : North Wing Staircase 01

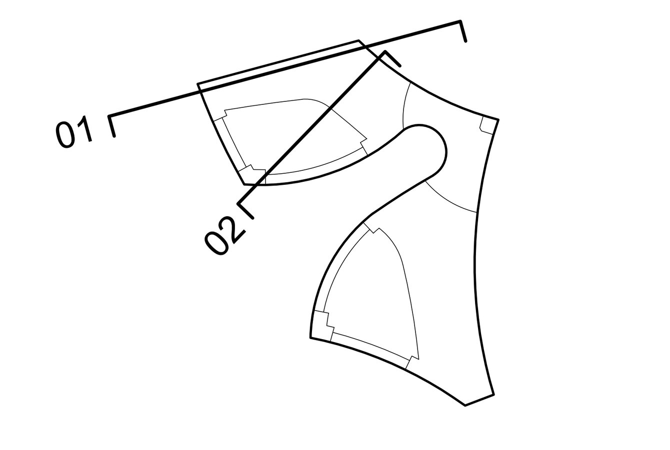


Section : North Wing 02

Legend Notes — Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



GRAPHIC SCALE: 1/8" = 1'-0"

5' 0' 5' 10' 15' 20' 25'

DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

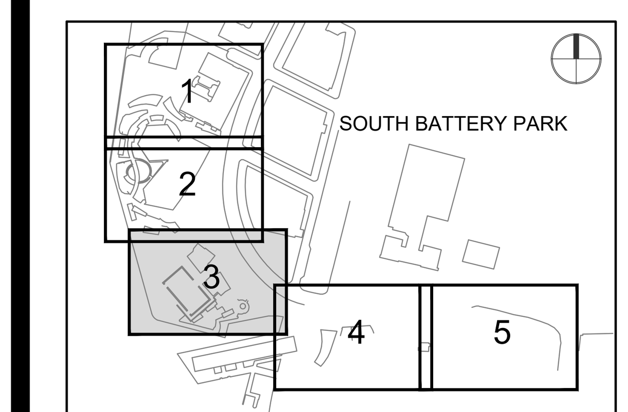
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

SECTION

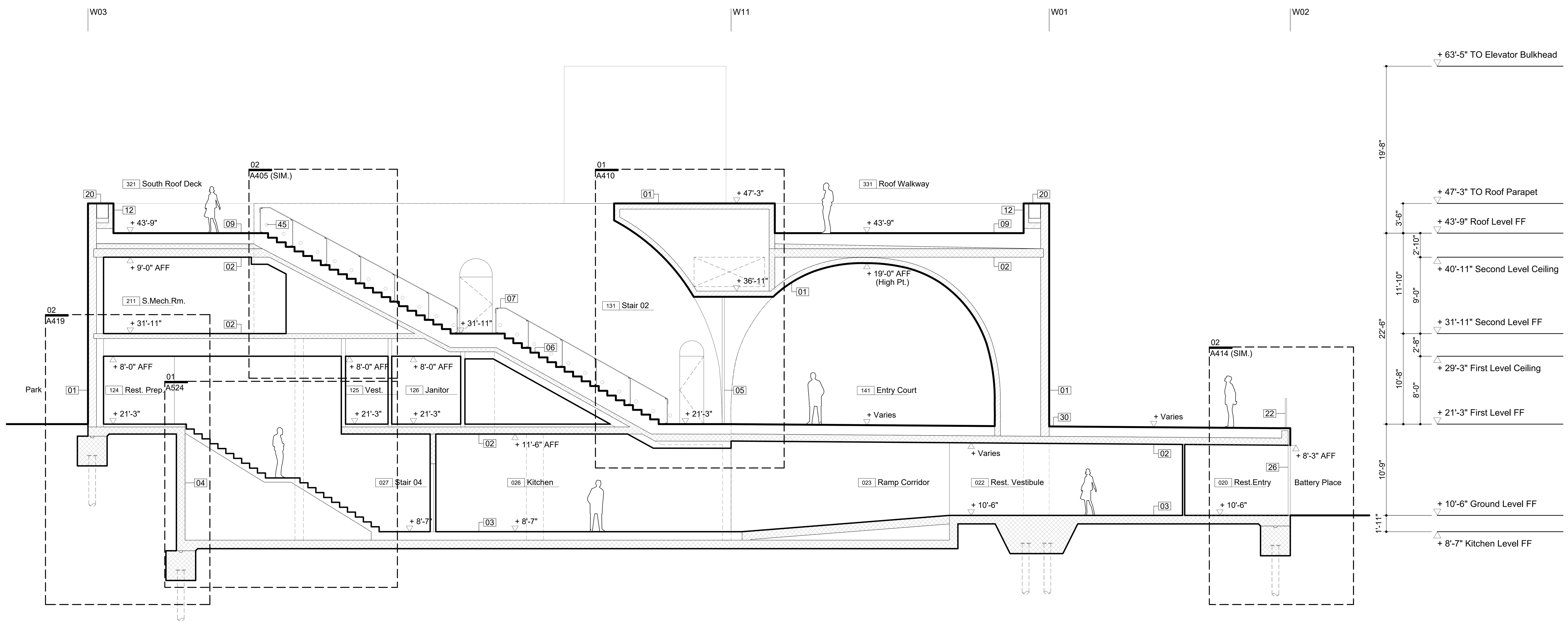
SHEET NUMBER

A-302.00

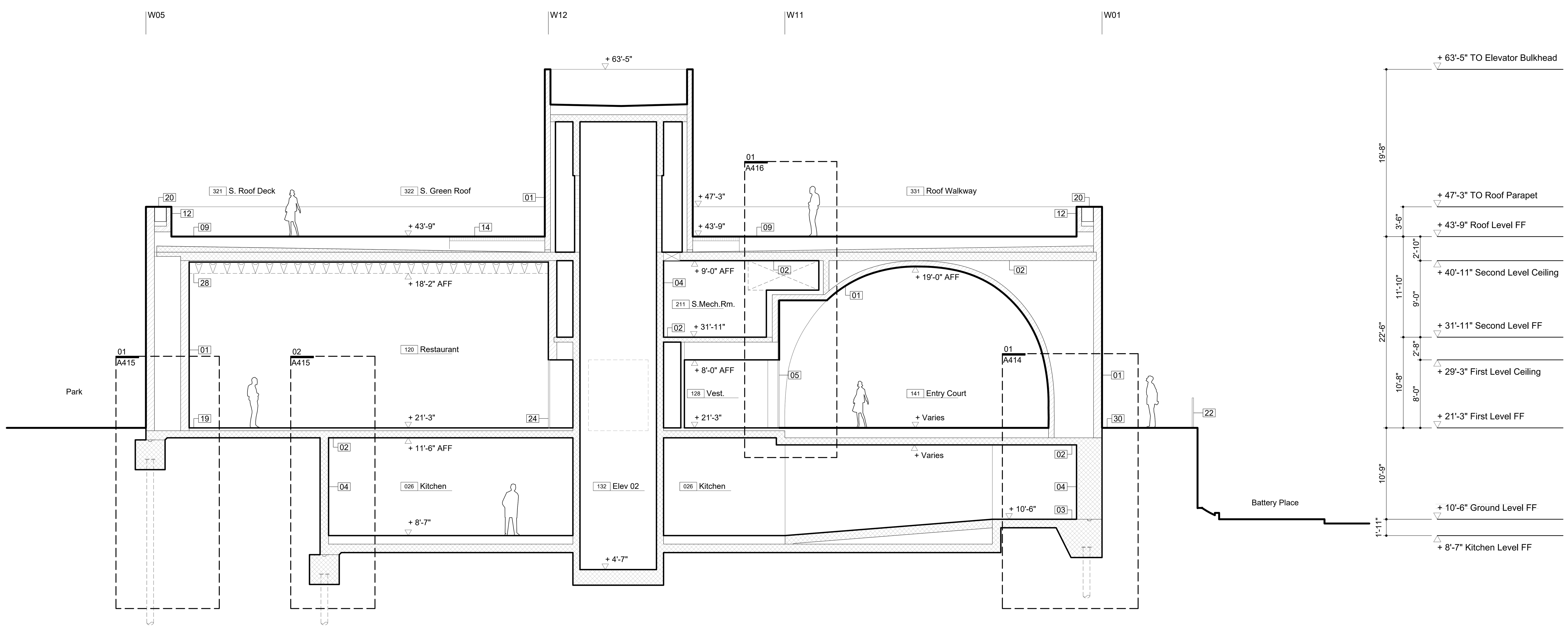
Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

ANSI D 22" x 34"



Section : South Wing Staircase 01



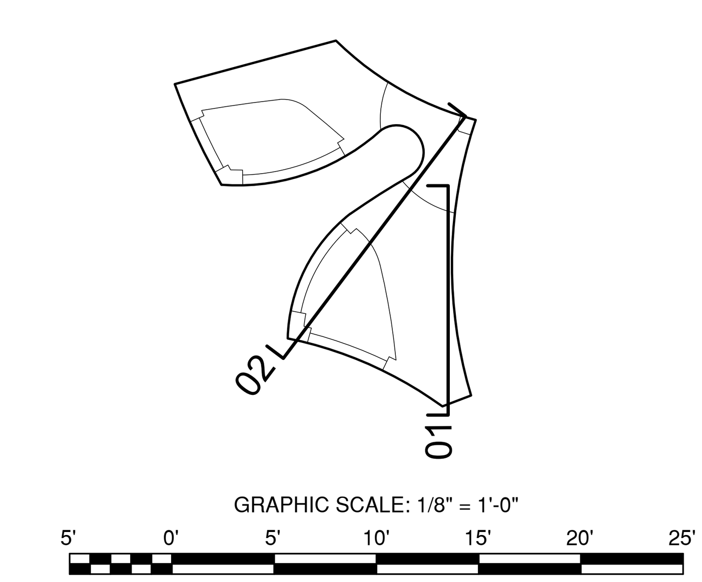
Section : South Wing 02

Legend Notes

Notes For This Sheet Only

01 Architectural CIP Concrete. See Struc. Dwg.
02 CIP Concrete Deck. See Struc. Dwgs.
03 CIP Concrete Slab Over Concrete Mudmat
04 CIP Concrete Wall / Column.See Struc. Dwg.
05 Exterior Metal Panel Cladding System/ Doors
06 Exterior Stair, Precast Conc.Treads & Risers
07 Painted Metal Handrail
08 Painted Metal and Glass Window System Triple IGU with Anti-Birdstrike Treatment
09 Precast Pavers on Adjustable Pedestal Sys.
10 Hot Laminated Asphalt Membrane System With Slab Sloped to Roof Drains
11 Pre-Applied Sheet Membrane WP System
12 Architectural CIP Concrete Parapet
13 Operable Sunshading Device
14 Green Roof Assembly. Ref. Landscape Dwg.
15 Plumbing Fixture
16 Concrete Masonry Unit. Ref. Finish Sched.
17 Custom Perforated Painted Metal Panel
18 Concrete Slab - Traffic Coating
19 Resinous Matrix Terrazzo Flooring
20 Custom-Formed Planter with Drainage and Irrigation Sys. Ref. Landscape Dwg./ Spec.
21 Conversion Varnish Millwork
22 Expanded Metal Mesh Guardrail
23 Exterior Floor-Mounted Drinking Fountain
24 Custom Perf. Ptd. Metal Gate/ Facade Sys.
25 Floor-Mounted Service Sink & Faucet
26 Solar Thermal Panels
27 Painted Metal Bifolding Door
28 Suspended Acoustical Ceiling System With Precast Architectural Concrete Elements
29 Drain, See Plumbing Drawings
30 Exterior Pavers on Bonded Aggregate Base
31 Concrete Filled Metal Pan Stair
32 Sprinkler, See Fire Protection Drawings
33 Light Fixture, See Lighting Drawings
34 Structural Thermal Break, See Struc. Dwgs.
35 Radiant Trench Heater
36 Diffuser in Core Drilled Opening in CIP Conc.
37 Integrated Snow Melt System
38 Above Grade Vapor Barrier & Insulation Sys.
39 Interior Partition, Reference Finish Schedule
40 Hot Laminated Asphalt Membrane System
41 Conc. Deck Sloped to Drain, See Struc. Dwg.
42 Recycled Glass Aggregate Insulation
43 Suspended GWB Ceiling. Ref. Finish Sched.
44 Hydraulic Elevator, See Elevator Spec.
45 Ext. Wall Mounted Light, See Lighting Spec.
46 Ptd. Aluminum Picture Hanging Rail System
47 Formwork Joint, See Arch. Conc. Spec.
48 Exterior Stone Cladding System
49 Core Drilled Penetration in CIP Concrete
50 Pour Joint, See Arch. Conc. Spec.

Key Plan (N.T.S.)



DOB APPROVAL STAMP

AECOM

PROJECT

20 BATTERY PLACE
NEW YORK, NEW YORK 10280

OWNER

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor
New York, New York 10281
212 417 4304

PROJECT MANAGER, STRUCTURAL ENGINEERS

AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor
New York, New York 10016
212 973 2900 www.aecom.com

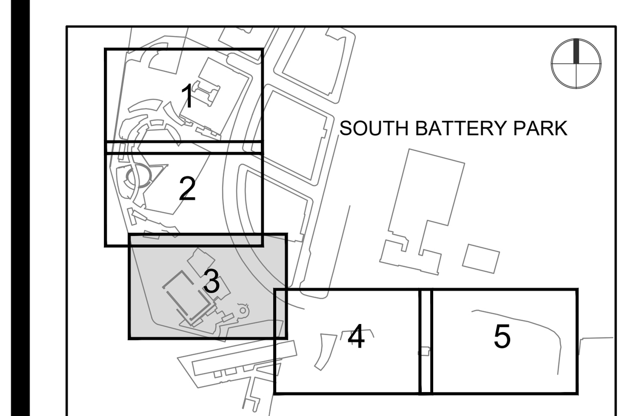
ARCHITECT

THOMAS PHIFER AND PARTNERS
180 Varick Street, Suite 1110
New York, New York 10014
212 337 0334 www.thomasphifer.com

MEP ENGINEERS

W. ALLEN ENGINEERING, PLLC
121 West 27th St, Suite 601
New York, New York 10001
646 398 7825 www.wallenengineering.com

KEY PLAN



REGISTRATION

NYC DOB BSCAN

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	2021-03-12	95% Design Documents

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

SECTION

SHEET NUMBER

A-303.00

Printed on ___% Post-Consumer Recycled Content Paper

95% DESIGN DOCUMENTS

Scoping Document Comments

March 23, 2022

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: BPCA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to NY State Parkland that may be involved in or near your project.

We have reviewed the Draft Environmental Impact Statement (DEIS) dated February 1, 2022 that was provided to our office on March 2nd, 2022. Based upon our review, we offer the following comments:

1. The document contains several conflicting and/or incorrect references to Section 106 and Section 14.09, and several instances of using the wrong statutory language (e.g. "Adverse Impact" vs. "Adverse Effect" and "MOA" vs. "LOR"). Please correct these.
2. The document is unclear on what portion of the project is subject to Section 106 because of the Army Corps of Engineers permit application. A separate APE should be delineated for this project sub-area that is subject to 106, and a separate effects assessment and appropriate consulting parties consultation should be conducted in accordance with the 106 regulations.

If additional information or correspondence is required regarding this project it should be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ If you have any questions, I am best reached via e-mail.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc: A. Rachleff, A. Sutphin, A. AbiDargham, B. Koper, C. Tiernan, C. Cooney, G. Santucci, J. Dudgeon, N. Stehling, R. Dencker, R. Pinzon, S. Rahman

NYC Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 10007
Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: SEQRA-M (BPCA)
Project: South Battery Park City Resiliency Project
Date Received: 9/29/2021

Comments:

REVISED

The LPC is in receipt of the Scope of Work for EIS dated September, 2021. The document appears acceptable for historic and cultural resources.

CC: SHPO

Gina Santucci

10/4/2021

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 34900_FSO_GS_10042021.docx

National Register Eligibility Evaluation of Wagner Park

February 23, 2021

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: FEMA/USACE
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for continuing to consult with New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

We have reviewed the documentation regarding number 1 of our letter dated April 23, 2020 for the historic status of Wagner Park which is within the project's APE and would be impacted by the proposed project. Based upon this review, the SHPO has determined that Wagner Park is eligible for listing in the National Register of Historic Places with exceptional significance. Below is a brief determination of eligibility.

> Robert F. Wagner, Jr. Park is significant under National Register Criterion A in the area of community and urban planning, and under Criterion C in the areas of landscape architecture, architecture and art. SHPO has determined that Wagner Park meets the standard for exceptional significance necessary to satisfy National Register Criterion Consideration G for properties less than fifty years old.
> Wagner Park is located within Battery Park City, a 92-acre mixed-use community that was built on landfill created from New York Harbor dredge and the excavation of the World Trade Center site. Stanton Eckstut and Alexander Cooper of Cooper Eckstut, with Hanna/Olin, created the master plan for Battery Park City in 1979. The collaboration on Wagner Park of project lead landscape architect Laurie Olin with Hanna/Olin, horticulturalist Lynden Miller, and architects Machado and Silvetti Associates resulted in a significant work of postmodern design. When the park opened in 1996, Paul Goldberger wrote in the *New York Times* that the park is "one of the finest public spaces New York has seen in at least a generation."
> Wagner Park is a 3.5-acre park located at the southern end of Battery Park City in Manhattan. It is bound to the north by the Museum of Jewish Heritage, to the south by the Pier A inlet and Pier A, to the east by Battery Place, and to the west by the Battery Park Esplanade, which extends along the entire length of Battery Park City. Wagner Park has a Y-

shaped organization that structures spaces and movement towards a primary axis and vista focused upon the Statue of Liberty in New York Harbor. The park is a designed landscape with several organizing elements including the north and south allées of maple trees, central plaza, north and south pavilions linked by a foot bridge, north and south ornamental gardens and lawns, and a central lawn. A palette of brick, stone, lush vegetation, custom lighting, and sight furnishings unites the landscape.

Postmodernism in landscape design emphasizes urban contextuality, ecological systems, diversity of site organization and experience, a pluralistic use of design motifs, and playfulness. Wagner Park expresses this design philosophy through its multitude and variety of spaces and circulation systems, its responsiveness to neighborhood character and needs, idiosyncratic cubist-inspired planting beds, native plants, and classically referenced pavilions, among other design characteristics. Wagner Park's original location, postmodern design, and setting remain intact.

Since Wagner Park is an historic resource, it is our hope that design measures can be explored to protect this historic park and achieve the needed improvement to the resiliency for this portion of Lower Manhattan. Please note that the implied design for Wagner Park illustrated in Figure 3 of the Information Package dated March 26, 2020 would be considered adverse to this historic park.

We would appreciate any additional correspondence be provided via our Cultural Resource Information System (CRIS) at https://cris.parks.ny.gov/ Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project" at the very bottom of the page. You will need this project number and your email address. If you have any questions, I am best reached via e-mail.

Sincerely,

Beth Cumming
Senior Historic Site Restoration Coordinator
e-mail: beth.cumming@parks.ny.gov

via e-mail only

cc: A. Rachleff, A. Sutphin, A. AbiDargham, B. Koper, C. Tiernan, C. Cooney, G. Santucci, J. Dudgeon, N. Stehling, R. Dencker, R. Pinzon, S. Rahman

Robert F. Wagner, Jr. Park
Battery Park City, New York County, New York

January 19, 2021

Section 1 of this document provides information regarding the recent buildout of Battery Park City and as a result, the premature nature of evaluating the 92 acre Battery Park City development. Section 2 provides information on Wagner Park, including location, description of physical characteristics and organization, design context, design and materials integrity, and provides responses to the questions posed about the park in Item 1 of the New York State Historic Preservation Office (SHPO)'s letter of April 23, 2020.

1. Battery Park City

Battery Park City was planned and developed according to a Master Plan adopted in 1979 prepared by Alexander Cooper Associates, with buildout commencing in 1980 and continuing into the 21st century. Buildout of the 1979 Master Plan has resulted in parcels being developed by different developers-designers yielding buildings, designed spaces, parks, and public art that are less than 50 years old. Battery Park City's first residential development, Gateway Plaza, was completed in the 1980s. Battery Park City's Rector Park, a portion of the Esplanade, and the World Financial Center were built and operational by the end of 1988. A significant amount of new construction, including schools, residential and commercial buildings, parks and public art installations occurred in the 1990s and has continued into this century. Today, Battery Park City contains 30 residential buildings, office and commercial buildings including the Brookfield Place complex (World Financial Center), Goldman Sachs Tower, along with a number of hotels, schools, museums and parks. Battery Park City contains over 40 buildings, as well as designed spaces, parks, and public art built between 1980 and 2013. Approximately 42% of the buildings were built in the 1980's, with the remaining over 50% built in the 1990s and 2000s, including buildings constructed within the first two decades of this century (approximately 35% of the total buildings). With the exception of a portion of the Battery Park City Esplanade and Rector Park which were built in the 1980s, the other parks and open spaces in Battery Park City (including Wagner Park built in 1996) were also built in the 1990s and 2000s (including Rockefeller Park [1992], BPC Ballfields [1996 and renovated in 2003], Teardrop Park [2004], Tear Drop Park South [2010], and West Thames Park [2010]). The continued build out of Battery Park City into the second decade of this century highlights the considerable contemporary vintage of Battery Park City's built places and its ongoing design evolution.

As set forth in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* with respect to Criteria Consideration G: Properties that have Achieved Significance within the Last Fifty Years, "A property that has achieved significance within the past 50 years can be evaluated only when sufficient historical perspective exists to determine that the property is exceptionally important" (*National Register Bulletin* 15, 1991). *National Register Bulletin 22: Guidelines for Evaluating and Nominating Properties that have Achieved Significance within the Past 50 Years* further elaborates:

> The National Register does not include properties important solely for their contemporary impact and visibility, and it is rarely possible to evaluate historical impact, role, or relative value immediately after an event occurs or a building is constructed. The passage of time is necessary in order to apply the adjective "historic" and to ensure adequate perspective. To be a useful tool for public administration, the National Register cannot include properties of only transient value or interest. The passage of time allows our perceptions to be influenced by education, the judgement of previous decades, and the dispassion of distance (*National Register Bulletin 22*, 1979, revisions).

As noted above, Battery Park City contains numerous recently constructed buildings and open spaces, with over half of its buildings and open spaces dating to the 1990s and 2000s, and with the design of Battery Park City continuing to evolve into the second decade of this century. Based on the foregoing, a sufficient passage of time has not yet occurred, nor is there yet sufficient historical perspective, to evaluate Battery Park City under the National Register criteria.

2. Wagner Park

Location

Wagner Park is a 3.5-acre park located at the southern end of Battery Park City in the Borough of Manhattan, New York County, New York (**Figure 1**). It is bound to the north by the Museum of Jewish Heritage, the south by the Pier A inlet and Pier A, the east by Battery Place, and the west by the Esplanade, which extends along the entire length of Battery Park City, and flanks the Hudson River from Stuyvesant High School on the north to Battery Park on the south.

Park Description and Organization

Wagner Park has a Y-shaped organization that structures spaces and movement towards a primary axis and vista focused upon the Statue of Liberty in New York Harbor (**Figure 2**).

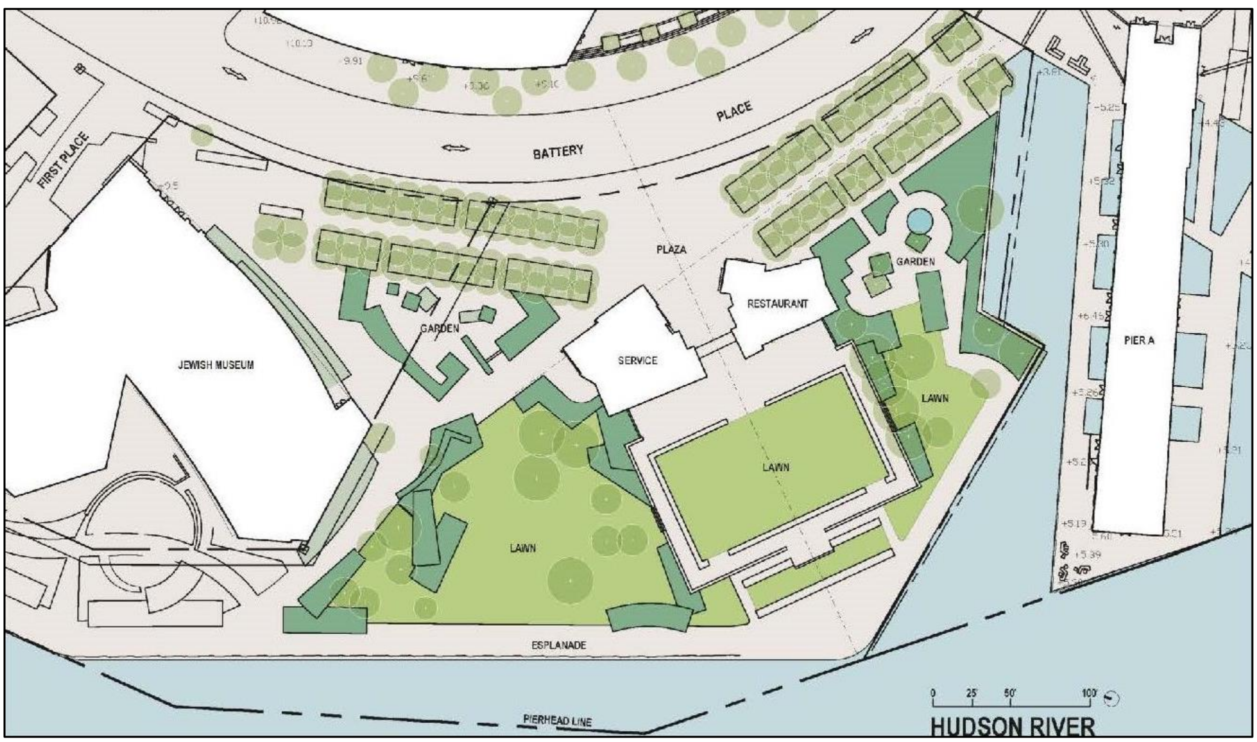


Figure 1 – Wagner Park
Source: Perkins Eastman, 2017

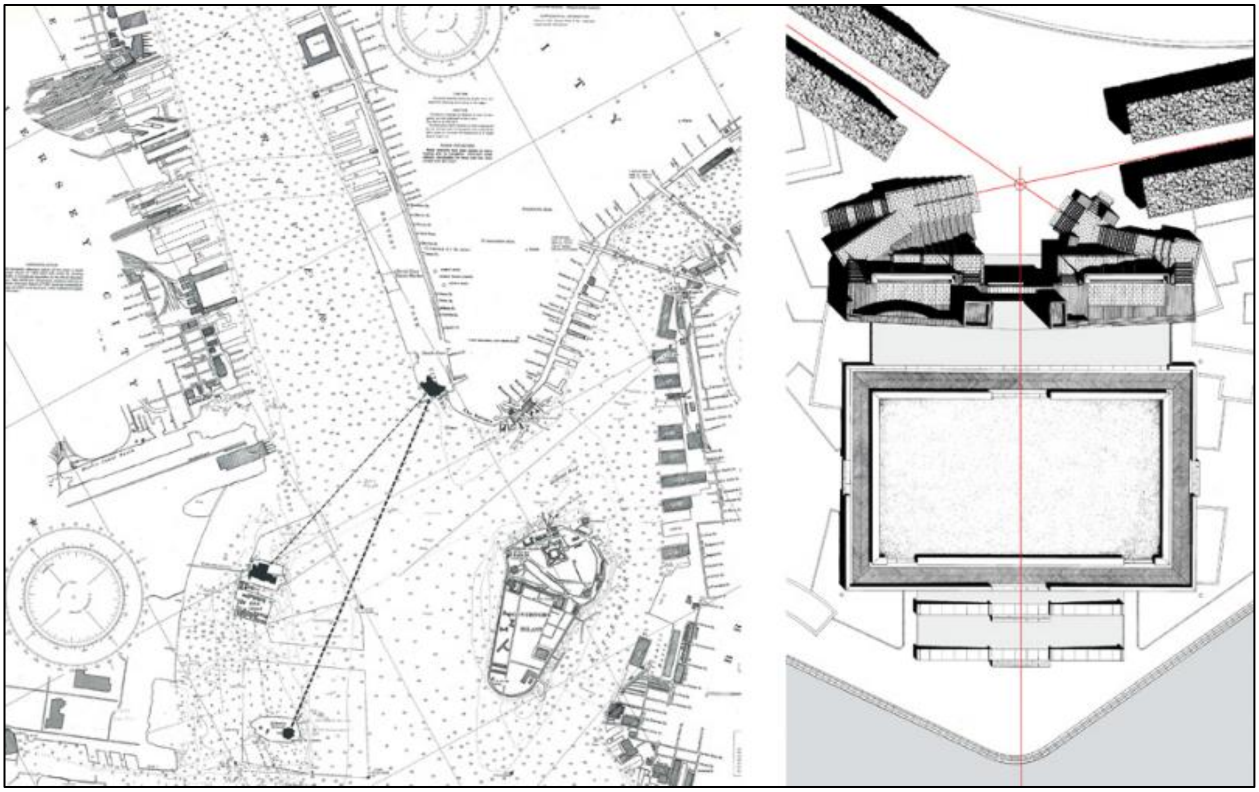


Figure 2 – Park Structure
Source: Machado Silvetti, 2017

Wagner Park is a designed landscape with several organizing elements:

- North and south allées
- Central plaza
- North and south pavilions, linked by a foot bridge
- North and south ornamental gardens and lawns
- Central lawn

A palette of brick, stone, lush vegetation, custom lighting and sight furnishings unites the landscape. Each element of the landscape is described below. Photographs illustrating the landscape conditions are included in the attached appendix.

North and South Allées

West of Battery Place, densely planted rows of maple trees flank central walkways to create the north and south allées. The two allées form a V-shape that converges at the plaza east of the pavilions. The allées consist of multiple parallel rectangular beds that hold two narrowly spaced rows of trees in each, forming a thick canopy overhead. The beds are planted with low ground cover plants and are retained by low, cut granite coping, a material typical to Wagner Park. The narrow breaks between the rectangular beds provide access to and from the central walkway between the trees. The rectangular allée beds also include regularly spaced benches and lampposts aligned on both sides of the central walkway. Luminaires are suspended between the poles above the walkway to illuminate the path.

Central Plaza

The central plaza is a paved open space bordered by the allées on the north and south, Battery Place on the east, and the pavilions on the west. A freestanding sculpture by contemporary artist, Tony Cragg occupies the central plaza. Tony Cragg is a British artist whose work has focused on site-specific installations, the use of unconventional materials, and site sculpture. The sculpture, entitled *Resonating Bodies* (1999), comprises two bronze sculptures that resemble giant musical instruments, a lute to the south, and a tuba to the north. It is situated within the plaza and draws visitors towards the pavilions. The central plaza creates a threshold into the core of the park through the gap between the pavilions; this gap frames the park's essential vista between the plaza and the Statue of Liberty to the west in New York Harbor. Two sets of monumental steps connect the plaza to the upper levels of the pavilions. The central plaza is sheathed hexagonal asphalt pavers that are typical to parks owned and managed by the New York City Department of Parks and Recreation (NYC Parks). The pavers also form part of the Battery Park City Esplanade.

North and South Pavilions

The two-story, asymmetrical pavilions are situated west of the plaza. They consist of two north and south structures, linked by a foot bridge, approximately 18 feet above ground, supported by pylons to the north and south, respectively. The pavilions are illuminated by twin-type lampposts. The foot bridge has a direct line of sight to the Statue of Liberty. The pavilions are constructed of red-to-brown colored Roman brick. The west facades are the principal facades because they face the river. The brick on the west façade of the north pavilion is laid in a basketweave pattern. The façade is dominated by two arches on the ground level and balcony, respectively. The ground level features a broad round arch, defined by four rows of bricks laid in an alternating stretcher/header pattern on each row. The opening provides access to men's and women's restrooms recessed beneath the arch. The walls and ceiling outside the restrooms are sheathed in stained vertical wood boards. The balcony arch is sculptural in naturel. The spring points are embedded within the structure, but the haunches and crown of the arch extend above the balcony. The arch is sheathed in five soldier courses of Roman brick. A perforated brick wall connects the arch to the balcony of the north pavilion, and functions as a spandrel panel. The north façade of the north pavilion also features a half arch and slot window. The arch is similar in style to other arches that punctuate the pavilion.

The south pavilion houses a restaurant. The ground level of the west façade is generally obscured by a vinyl enclosure used by the restaurant. Key details on the façade include a broad arch defined by five solider courses of Roman brick. The arch provides access to a recessed area occupied by the restaurant. The balcony level of the west façade features a stepped roofline with brick laid in running bond. The south façade of the south pavilion also features a brick arched opening and slot window. The arch is similar in style to other arches throughout the pavilion.

Access to the foot bridge that links the north and south pavilions is gained via the plaza on the east side of the pavilion. In this area, a series of broad, complex, U-shaped, monumental staircases with intermediate landings, constructed of brick and stone with metal railings, are appended to the east facade. Opposing towers on the north and south function as the north and south foot bridge pylons. The north pylon houses an electrical panel, accessible via double metal doors on the south side, and the south pylon provides access to the restaurant kitchen via double metal doors on the north side. The foot bridge links balconies atop the pavilion. On the balcony, the east and west parapets of the foot bridge are constructed of weathered wood planks, similar to the wood benches that outline the perimeter of the central lawn. The surface of the balconies is paved in brick and stone. High-backed, weathered wood benches are situated along the west edge of the balconies to facilitate view of New York Harbor. The balcony level is illuminated by double-mast light poles.

North and South Ornamental Gardens and Lawns

The north and south ornamental gardens each have a distinct character, with irregular planting beds forming different scaled spaces and plants featuring “hot” or “cool” color palettes.

The north garden is the “hot” garden, with a large open central lawn space. The north ornamental garden is located west of the north allée. The north side of the garden is bordered by trimmed hedges that divide the garden from the Museum of Jewish Heritage. The south side of the garden is bordered by a V-shaped hedge. Access to the garden is gained from the east side via the north allée, and the west side via the opening between the north and south hedges. Foot traffic is controlled in this area by a rectangular planting bed that bisects the entry and controls pedestrian flow. These access points are paved in hexagonal pavers that are typical to NYC parks. The center of the garden includes two clusters of deep and shallow planting beds, bordered by Stony Creek granite blocks. Double-width wood slat benches flank the perimeter of the garden near the hedges. The plantings feature many species of shrubs and trees with. The surface of the north garden is sheathed in bluestone pavers that extend between the planting beds. The garden is illuminated by NYC Parks Type B lampposts.

A lawn is located west of the planting beds, separated by a path paved in hexagonal pavers. The triangular-shaped lawn features a central open space, interspersed with trees. The north, south, and east edges are accented by intersecting deep and shallow Stony Creek granite planters with a variety of hedges, flowers, and ornamental plantings. The planters on the south side of the lawn are separated by a flight of two stone steps that provide access to the central lawn area. The north lawn also includes two freestanding bronze sculptures by contemporary artists: Jim Dine’s *Ape & Cat (At the Dance)* (1996) at the northern apex of the lawn, and *Eyes* (1998) by Louise Bourgeois (1911-2010) on the southern side of the lawn. Jim Dine is renowned for his pioneering performance art and work in the ground-breaking Pop Art movement. He is a member of the National Academy of Design. Louise Bourgeois was an influential artist known for large sculpture and site installations. She was part of the American Abstract Artists group and taught and exhibited extensively in New York City and abroad.

The south ornamental garden is the smaller “cool” garden and is located west of the south allée. The north side is bordered by a planting bed with trimmed hedges and the pavilions. The south side is bordered by a planting bed with hedges and the Pier A inlet, and the west side is bordered by south lawn with trees and planting beds. Three deep and shallow Stony Creek granite planting beds are situated in the garden. The central square planting bed is appended to a circular raised pool, with smooth basalt-like coping. Two interlocking rectilinear planting beds are located north of the central bed. A large rectangular planting bed is situated on the west side of the garden and serves to divide the south garden from the small south lawn. Double-width wood slat benches flank the perimeter of the garden. The benches are interspersed with various species of shrubs, perennials, and trees. The surface of the south garden is sheathed in bluestone pavers that extend between the planting beds. The access points to the south garden from the east and west are sheathed in hexagonal pavers typical to NYC Parks. The garden is illuminated by Type B lampposts.

The south lawn is west of the ornamental garden. The lawn is a small central open area, interspersed with trees along the edges. Deep and shallow granite planting beds are located along the north side of the lawn, and divide the south lawn from the central lawn, which is accessed from the south lawn via two stone steps.

Central Lawn

The central lawn is the primary gathering space of Wagner Park. The lawn is a raised rectangular space with an expansive view of New York Harbor. The lawn is flanked by the pavilions to the east and the esplanade to the west. The gap between the pavilions provides direct access to the lawn from the plaza and provides the visual connection to the harbor and Statue of Liberty beyond.

Long granite seat walls accented by perforated metal cylinders at the north and south ends shape the rectangular frame around the lawn. The pathway around the lawn is sheathed in red brick laid in a chevron pattern, with granite around the outer edges; this pathway meets flush to the lawn near the pavilions. At the waterfront, entry to the lawn is gained via two flights of three granite steps, separated by a narrow rectangular lawn panel. The second flight of steps leads to the perimeter pathway that frames the central lawn. Metal drainage grates along the pathway are custom designed in two formats: one with a series of thin oval shapes, and the other with a wave pattern. Both grates are stamped with the park name: "Robert F. Wagner Jr. Park" written along the top and bottom. Low weathered wood benches frame the lawn on its four sides but include breaks on the east and west sides for access.

Date blocks are situated on the east and west sides of the park. On the east side of the park, a circular date stone is set into the hexagonal paved plaza between the north and south pavilion buildings. On the west side of the park, a rectangular date stone is set into granite base of the wood bench that surrounds the central lawn. The stones provide detailed information regarding the public officials in office when the design was completed, and in the case of the east stone, identifies the design team, including architects, engineers, and landscape architects involved in the park design.

Design Context

As noted above, Wagner Park is one of a number of parks built in Battery Park City. Certain key landscapes developed within Battery Park City were dubbed a string of "special places" in the 1979 Master Plan (Alexander Cooper Associates, October 1979). These included:

- Rector Park opened in 1985; designed by Innocenti and Webel.
- Winter Garden, Waterfront Plaza, and North Cove opened in 1988 at World Financial Center; garden designed by M. Paul Friedberg & Partners; garden restored by Balmori Associates in 2002.
- South Cove opened in 1988; designed by Child Associates, Stan Eckstut, and artist Mary Miss.
- Nelson A. Rockefeller Park opened in 1992; designed by Carr, Lynch, Hack and Sandell with Oehme van Sweden.
- North and South End Avenues.

Wagner Park, built between 1994 and 1996, was the last of the "special places" to be constructed in Battery Park City, identified as "Battery Place Park" in the 1979 Master Plan (Alexander Cooper Associates, October 1979). The concept for the park went through several iterations prior to adoption of the current configuration. Specifically, in 1985, BPCA commissioned architect Alexander Cooper, co-author of the 1979 Battery Park City Master Plan, and artist Jennifer Bartlett, to devise a design for the 3.5-acre parcel at the southern end of Battery Park City. Cooper and Bartlett envisioned a series of 24 garden rooms surrounded by high hedges. The vision was not well received by community groups who desired an active park. Many design professionals also questioned the quality of the scheme in part because the proposed design did not consider views of New York Harbor. BPCA decided to launch a new approach in the face of opposition in 1991 (Gordon, 2005) This new approach led to the design and creation of Wagner Park in its present form.

Wagner Park Development

BPCA, under the leadership of David Emil, contacted landscape architecture firm Hanna/Olin in 1992 to develop a design for the area designated South Park. The firm was familiar to the BPCA because of their involvement with Cooper, Eckstut Associates in the design of the Battery Park Esplanade, which was built between the mid-1980s to mid-1990s (Birnbaum, 2012). At the suggestion *The New York Times* architecture critic Herbert Muschamp, and Walker Art Center curator, Mildred Friedman, Emil was urged to hire Machado & Silvetti, and Lynden Miller, the public garden designer. It was thought that these designers would develop a concept that would appropriately acknowledge the location of the park and its significant waterfront views and be responsive to concerns voiced about the design of Cooper and Bartlett's South Garden proposal (Birnbaum, 2012).

With Hanna/Olin serving as the prime contractor, the three firms visited the site in order to generate concepts. At the time the firms began their collaboration, the site was just landfill, and described by Olin as "…just a plateau of sand actually, it was just this abandoned wasteland. It was kind of windy and cold and nasty and empty" (Birnbaum, 2012). However, the concepts evolved over time according to Olin:

> *"Two or three things occurred to me while working on it. One was it was like those great harbors where you look out and it's the beginning of journeys, it's the end of journeys. It's the beginning of the open space at Battery Park City but it's the also the end. From the north it is the end of the esplanade. If you come from the south it is how you enter and go north. It's also where Wall Street comes over and looks out at the Hudson River; there is the Statue of Liberty and Ellis Island. We became interested in these visual connections especially to the Statue of Liberty. It means so much, it means so much to so many people around the world. It's framed through the gardens, it's framed through the arches and the overlook and the pavilions, it's framed between the pavilions, we just keep framing it from different places; because that was the point of this place in a way and why a lot of people want to come here. That was a sort of simple idea that led to a bunch of things" (Birnbaum, 2012).*

The other concept that struck the team was the need to make "great theatre," and create "a place which steps down to the water and looks out to the Statue of Liberty and Ellis Island. We wanted to get everything out of the way. [We wanted] nothing vertical. [We wanted] everything horizontal, we wanted to get everything out of the way" (Birnbaum, 2012).

Hence, the visual relationship between the park and the Statue of Liberty across New York Harbor determined the axis that served as the foundation of design. The park organization expanded to include other components laid out in a Y-shaped ensemble:

- Pair of allées that bring visitors from the sidewalks toward the pavilion buildings at the entrance to the park.
- Pavilion buildings that frame the view of the statue; ground level dedicated to a café, restrooms and maintenance space; balconies with tall-backed wooden benches reminiscent of those found at windy coastal resorts in northern Europe.
- Central grass lawn framed by brick pathway with benches that steps down toward New York Harbor, flanked by ornamental gardens, and the Battery Park City Esplanade along its western edge (BPCA, ca. 1996).

Machado & Silvetti drew upon their knowledge of ancient Greek and Roman architecture to develop designs for the pavilions. Silvetti recalled the design process in 2017:

> *"The conceptual evolution of Wagner Park can be understood in part as a process of architectural and conceptual abstraction. The process begins with a prototypical Roman temple expressed in plan, dedicated to the Statue of Liberty; through a series of*

architectural redactions, the temple is abstracted to become the expression of its core iconographic qualities and principles. Imprinted upon the pavilion is the form of a half-buried colossal face. Brick patterns [and the water-facing arches of the pavilion] are used iconographically to "paint" this facial condition – Manhattan's own colossal monument – that looks back at the Statue of Liberty." (Machado Silvetti, June 8, 2017).

Machado & Silvetti opted to employ materials and construction methods that referenced the past, while critiquing the present. The use of brick in the pavilions alluded to the East River bridges and their masonry pylons and foundations, the shared material language of the park's urban surroundings, and history of Manhattan (Machado Silvetti, June 8, 2017). Machado & Silvetti also specified intricate brickwork patterns for the pavilion as a commentary on historic craftsmanship versus contemporary building practice: "The use of these ancient techniques…was intended to sharply contrast with the poor-quality construction in the area at that time and highlight the potential of a renewed commitment to the historic and future resiliency of expert craft in construction" (Machado Silvetti, June 8, 2017).

Wagner Park opened to the public in October 1996. BPCA dedicated the park to the memory of Robert F. Wagner, Jr. (1910-1991), a three-term mayor of New York City (1954-1965), and son of United States Senator Robert F. Wagner, Sr. (1877-1953), who represented New York in Congress from 1927-1949. Over the course of his professional life, Wagner, Jr. was committed to serving the people of New York City, and its millions of residents and visitors (BPCA, ca. 1996).

BPCA articulated the design philosophy of the park in its formal design statement, likely released around 1996:

"The project occupies a small yet very distinctive site, set amid the truly colossal surroundings of the nearby World Trade Center, and the immense natural scale of the Hudson River and New York Harbor. As this is the closes point in Manhattan to the Statue of Liberty, she serves as a focal point of the park's design.

[The park] is a successful collaboration among landscape architects, architects and a garden designer, in the best tradition of Battery Park City. As one progresses from the street to the Hudson River's edge, there is a dramatic shift in scale and formal order – from small, tidy and regular to larger and looser; from upland species of plants to maritime ones; from enclosed spaces to wide open vistas and from the familiar and ordinary to the unexpected and extraordinary. Here one finds a park and gardens framing pavilions, and pavilions framing the Statue of Liberty and the dream of freedom it represents, just as the city frames the lives of millions of its residents and visitors."

In 1999, three years after Wagner Park opened, BPCA leased the south pavilion building to a restaurant, Gigino's at Wagner Park. The restaurant replaced the original café which occupied the concession space since the park opened in 1996. Gigino's continues to occupy the south pavilion through present time. To facilitate operation of its restaurant, Gigino's installed a vinyl enclosure at the base of the south pavilion which obscures architectural details of that structure, but its original design remains intact (*Tribeca Citizen*, December 11, 2015). Other minor changes included compatible updates to plantings; for example, the original lindens in the allées were replaced with red maples, similar in form and other characteristics.

Postmodern Urban Waterfront Park Design

Postmodernism in landscape design emphasizes urban contextuality, ecological systems, diversity of site organization and experience, a pluralistic use of design motifs, and playfulness. Wagner Park expresses this design philosophy through its multitude and variety of spaces and circulation systems, its responsiveness to neighborhood character and needs, idiosyncratic cubist-inspired planting beds, native plants, and classically referenced pavilions, among other design characteristics.

Postmodernism in landscape architecture unfolded in the latter half of the 20th century as a response to the formal and functional design approach that had dominated modernism in architecture and other design professions. Postmodernism embraced a “diversity of viewpoints” and a “desire for plurality” (The Cultural Landscape Foundation, no date). This often translated into a multidisciplinary design process; outreach and engagement with project stakeholders and community members; and an integration of ecological, social, architectural, and cultural references and systems into a design. The ecological and social underpinnings of postmodernism focused attention on providing new park uses for forgotten landscapes—often reclaimed from former industrial sites or urban waterways. As part of a wave of postmodern park development during the 1970s through the early 2000s, many cities embarked on the reclamation of waterfront landscapes that had been abandoned or separated from their urban neighborhood contexts by highway development. Battery Park City—and its related parks built between the 1980s and into the 2000s—is an example of this trend.

The transformation of New York City’s waterfront during this period resulted in the development of multiple piers, esplanades, and parks along the rivers. Hudson River Park was developed in segments according to a plan by the Quennell Rothschild and Signe Nelson team in the late 1980s. The plan—formulated through “extensive public charettes”—proposed an esplanade, punctuated by piers with open spaces and ecological preserves. Plans for the East River Bikeway by Carr Lynch & Sandell/Johansson & Walcavage, resulted in a designed linear treatment of the city’s eastern edge, interspersed with small plazas; construction began in 1991. New designs for Riverside Park and Harlem River Park intended to provide access to the water’s edge, create recreational opportunities, and blend park system coherence with thematic differentiation between parks in different neighborhoods (Bennett, 1999).

Postmodern waterfront urban parks emerged in other cities across the country. For example, Boston transformed the Long Wharf, a historic pier, according to a design by Sasaki, Dawson & Demay between 1974 and 1979. Other examples include Denver and Indianapolis. Confluence Park in Denver reclaimed a blighted former industrial area through the advocacy of community groups, a private foundation, and the city between 1974 and the mid-1990s. Indianapolis developed the Canal Walk from a former commercial waterway between 1992 and 1997 through the implementation of a master plan by Sasaki Associates (The Cultural Landscape Foundation, no date). Linking these parks was a new focus on ecological and social health, community engagement, stylistic and often playful references to the historical past, and close water access for recreational and public space use. The Cultural Landscape Foundation has included in their *What’s Out There* database of designed landscapes a list of those designed in the Postmodernist style. These include 76 designed landscapes located primarily throughout the United States and also in Canada and Israel, including 16 designed landscapes in California and 17 designed landscapes on the east coast of the United States in Trenton, NJ: Washington, DC; Boston, MA: Richmond, VA; Newport, RI; Port Jefferson, NY; and in New York City, Wagner Park, South Cove Park in Battery Park City, and the East River 60th Street Pavilion (The Cultural Landscape Foundation, no date).

Wagner Park Design Team

Wagner Park’s design was conceived by the Philadelphia-based landscape architecture firm, Hanna/Olin, working in cooperation with Boston-based architects, Machado & Silvetti, and New York City-based public garden designer Lynden Miller.

Hanna/Olin was founded in 1976 by Robert Hanna and Laurie Olin, both professors at the University of Pennsylvania’s School of Design. The firm was responsible for multiple award-winning projects across the

United States in the 1990s, including the revitalization of Bryant Park (completed 1991) in New York City and the design National Gallery of Art Sculpture Garden (opened 1997) in Washington, DC, and postmodern designs at the J. Paul Getty Center (1992-1997) in Malibu, California, and Pershing Square (1992-1994) in Los Angeles, California. Hanna left the firm in 1996, the year Wagner Park opened, and the firm became known as Olin Partnership, and is currently known as OLIN (The Cultural Landscape Foundation, no date). Olin's design philosophy and urban design work is rooted in a complex view of "cities as economic and ecological systems" (Martin, 2014).

Laurie Olin, lead landscape architect for the design and founding partner of Hanna/Olin, has had a 40-year career in the profession of landscape architecture. Olin has received multiple awards, including:

- Award in Architecture from the American Academy of Arts and Letters (1998)
- ASLA Architecture Firm Award (2006)
- ASLA Medal (2011)
- National Medal of Arts (2012), the highest lifetime achievement award for artists and designers bestowed by the National Endowment for the Arts (NEA) and the President of the United States
- Thomas Jefferson Medal in Architecture (2013), an award granted by the Thomas Jefferson Foundation at Monticello and the University of Virginia School of Architecture
- Vincent Scully Prize from the National Building Museum (2017) (OLIN, no date [a]).

Laurie Olin is also a Fellow of the American Society of Landscape Architects (FASLA), and a Fellow of the American Academy of Arts and Sciences (O'Malley, no date; Martin, January 2014).

Machado & Silvetti, currently known as Machado Silvetti, was founded by architects Rodolfo Machado and Jorge Silvetti in 1974, and the firm is well known in the field of architecture. In addition to their architectural practice, Machado and Silvetti maintained academic affiliations at Harvard University, Rhode Island School of Design, Brown University Yale University, Rice University, Princeton University, and the University of Virginia. Their work illustrates an interest in deep history, archaeology, classical architecture and urbanism, expressed in other projects at the time such as their competition entry for New York City's Times Square in 1984, and design work for the Getty Villa in Malibu, California between 1997 and 2006. Their theory of *Unprecedented Realism* was defined by architectural historian K. Michael Hayes as "anticipatory architecture [that] shows a world that is and a world that might be… It returns architecture to its properly social and collective vocation by imagining and imaging the presently impossible." Machado noted that "Unprecedented Realism deeply permeate[s] Wagner Park and it, perhaps, is the building in which we got closest to the materialization of these ideas" (Machado Silvetti 2017). The firm has garnered dozens of prestigious awards for its designs, including the Honor Award for Architecture from the American Institute of Architects (AIA), and the American Academy and Institute of Arts and Letters' First Award in Architecture. The firm's projects span the globe, and feature cultural, institutional, and urban designs—from the Denver Art Museum, to the Beirut Roman Baths, to Scully Hall at Princeton University (Machado Silvetti, 2017[a]).

Lynden Miller was trained as a painter and studied horticulture at the New York Botanical Garden. In 1982, she won great acclaim for her restoration and transformation of the Conservatory Garden in Central Park. Subsequently, Miller was asked to undertake multiple public garden designs throughout New York City, including Bryant Park and Wagner Park, both in collaboration with Olin (Public Garden Design, no date). Lynden Miller has been recognized for her contributions to garden design, and received awards from the Garden Club of American and Cleveland Botanical Garden in the 1990s; New York City organizations, including Central Park Conservancy, CIVITAS, and the New York Landmarks Conservancy in the 2010s; and, most recently, the LongHouse Reserve on Long Island in 2019 (Public Garden Design, no date).

Design and Materials Integrity

Wagner Park's original location, postmodern design, and setting remain intact. Its palette of brick, stone, lush vegetation, custom lighting, and sight furnishings, set within a designed landscape, has also been preserved. As described above, some modifications have occurred to the park. In 1999, three years after Wagner Park opened, BPCA leased the south pavilion building to a restaurant which replaced the original café which occupied the concession space since the park opened in 1996; a vinyl enclosure was installed at that time at the base of the south pavilion's west façade which obscures architectural details of that structure. Other minor changes have included compatible updates to plantings.

Wagner Park Critical Design Review and Influence

As requested in SHPO's letter of April 23, 2000, this section addresses questions posed in item 1 of the letter with respect to Wagner Park:

- Did the design of this park influence others?
- What impact has it [Wagner Park] had on landscape design, public park design, waterfront park design?
- How was it received by experts in the landscape design field up its completion?

These are discussed below.

- *How was it received by experts in the landscape design field upon its completion?*

When the park opened, it received numerous positive reviews from the design community. In particular, Paul Goldberger, the Pulitzer Prize-winning architecture critic for *The New York Times,* published a prominent review in the Sunday, November 24, 1996 edition of the newspaper. Goldberger wrote:

> *"Wagner Park is one of the finest public spaces New York has seen in at least a generation…The view to the statue [Statue of Liberty] is what generated the elaborate design of this park, whose oddly shaped site near the tip of Manhattan made almost any simple shape impossible…The lawn is a kind of eye of the storm an oasis in the midst of powerful presences [of the surrounding urban environment]…The structure [pavilions] has a way of conferring comfort even as it first prompts surprise. The brick arches are graceful, the form solid and strong. For the water's edge, the structure's mass and weight give the entire park a more substantial presence beside the skyline, allowing it to hold its own against the city…What is most important is that every aspect of this design emerges from the realities of the park's surroundings – the waterfront, the Statue of Liberty, the rest of Battery Park City and lower Manhattan – and connects to the imperatives of human use" (Goldberger, November 24, 1996).*

Multiple articles in professional design journals also highlighted the technical design excellence of Wagner Park. During the late 1990s and early 2000s, *Landscape Architecture Magazine,* the official magazine of the American Society of Landscape Architects (ASLA), the professional association for landscape architects in the Unites States, featured the park on multiple occasions. In 1997, the magazine described Wagner Park as "a resounding success…risk-taking" (Maynard, January 1997). Subsequently, case studies that focused on Wagner Park's planting design, maintenance, and lighting, and extolled its design details were published. The articles called Wagner Park a "perfect example helpful wayfinding through an understandable structure and hierarchy of lighting" (Woland & Winterbottom, 2000); extoled the "smart modern treatment" of the custom benches (Bennett, 1999); and referenced the technical excellence of the planting design and related substructure (Urban, 2004). The Cultural Landscape Foundation describes that the "collaboration of Laurie Olin with Hanna/Olin, Lynden Miller, and Machado and Silvetti Associates resulted in a significant work of postmodern design" and describes Wagner Park as a "rare East Coast foray into postmodernist design" (Cultural Landscape Foundation, June 1, 2017).

In addition to critical praise, Wagner Park also garnered several awards between the mid-1990s to the early 2000s. In 1997, the Parks Council of New York, currently known as New Yorkers for Parks, bestowed the Philip N. Winslow Design of Public Space Award. The award was named for Philip Winslow (1941-1989), a New York City-based landscape architect who designed the restoration for Bethesda Terrace at Central Park, among many other projects, and served as chair of the New York City Art Commission (present-day Public Design Commission) during the 1980s (Dunlap, July 19, 1989). In 1998, the Honor Award for Urban Design was bestowed upon Wagner Park by the AIA. In addition, the park also garnered the Award for Design from the AIA New England Chapter, and the Brick in Architecture Award from AIA and Brick Industry Association (BIA) (Machado Silvetti, 2017[b]). In 2003, ASLA bestowed a Design Merit Award to Olin Partnership for Wagner Park, proclaiming '[q]uiet and richly landscaped, the 3.5-acre park creates a hospitable environment from which to enjoy views of the Statue of Liberty, Ellis Island, and New York Harbor (ASLA, 2003).

- *Did the design of this park influence others?*
- *What Impact has it had on landscape design, public park design, waterfront park design?*

Research was conducted to determine whether Wagner Park has been the subject of scholarly evaluation with respect to any specific influence or impact its design may have had on other parks, landscape design, public park design, and waterfront park design. Nothing was found beyond what is related in this document. The bibliography represents the scholarly articles and materials that have been uncovered and were used to prepare the documentation for Wagner Park.

While research for this investigation did not uncover references to Wagner Park's direct impact on subsequent urban parks or waterfronts, it did reveal Wagner Park's relevance and interest to practitioners of landscape architecture and park design over many years. The critical reception Wagner Park received upon its unveiling in 1996 and for several years past its construction date, coupled with the awards it received from national, regional, and local professional design and parks advocacy organizations during the same period, attest to its value to the peer community of designers and critics. In addition, practitioners extolled the success of the landscape's design and details in multiple trade articles (as case studies or "lessons learned") for years after the landscape's installation, providing evidence for its continued influence on urban park designers.

References Cited

Alexander Cooper Associates. 1979. *Battery Park City Draft Summary Report and 1979 Master Plan.* Prepared for Battery Park City Authority. October.

American Society of Landscape Architects. 2003. "2003 ASLA Awards." *Landscape Architecture Magazine*, Vol. 93, No 9. Pp. 70-81. September. https://www.jstor.org/stable/44673785 Accessed May 9, 2020.

Artnet. No date a. "Louise Bourgeois." Available at http://www.artnet.com/artists/louise-bourgeois/ Accessed September 3, 2020.

Artnet. No date b. "Jim Dine." Available at http://www.artnet.com/artists/jim-dine/ Accessed September 3, 2020.

Artnet. No date c. “Tony Cragg.” Available at http://www.artnet.com/artists/tony-cragg/ Accessed September 3, 2020.

Battery Park City Authority. Ca. 1996. “Design Statement, Robert F. Wagner, Jr. Park in Battery Park City.”

Battery Park City Authority. 2017. Request for Proposals for South Battery Park City Resiliency Project Design Services. July 14.

Battery Park City. No date. “Battery Park City Parks.” Available at http://bpcparks.org/whats-here/parks/ Accessed July 15, 2019.

Bennett, Paul. 1999. “An Island Unto Itself.” *Landscape Architecture Magazine*, Vol. 89, No. 7. Pp. 68-75, 94-95. July.

Birnbaum, Charles. 2012. “The Cultural Landscape Foundation – Pioneers of American Landscape Design: Laurie Olin Oral History Interview Transcript.” June 1-6. Available at https://www.tclf.org/pioneer/oral-history/laurie-olin Accessed July 15, 2019.

Dunlap, David W. 1989. “Philip Winslow, 48; Landscape Architect Served on Art Panel.” *The New York Times*. July 19.

Fahey, Valerie. 2012. “Battery Park City, 2010 ULI Heritage Award Winner Aids the Rebirth of Lower Manhattan. *Urban Land*. September 12. Available at https://urbanland.uli.org/economy-markets-trends/battery-park-city-2010-uli-heritage-award-winner-aids-the-rebirth-of-lower-manhattan/ Accessed September 3, 2020.

Goldberger, Paul. 1996. “A Small Park Proves that Size Isn’t Everything.” *The New York Times*. November 24.

Gordon, David L.A., 2005. *Battery Park City: Politics and Planning on the New York Waterfront*. New York: Spon Press.

Howett, Catherine and Everett H. Scott. 1989. “Battery Park City.” Landscape Architecture Magazine. May. Vol. 79, No. 4. Pp. 51-57

Machado Silvetti. 2017. “Perspectives: Wagner Park, From Concept to Construction.” June 8. Available at http://www.machado-silvetti.com/PERSPECTIVES/170608_WagnerPark/article.php Accessed July 15, 2019.

Machado Silvetti. 2017(a). “People – Rodolfo Machado, Principal; Jorge Silvetti, Principal.” Available at http://www.machado-silvetti.com/OFFICE/office-people.php Accessed July 15, 2019.

Machado Silvetti. 2017(b). “Robert F. Wagner, Jr. Park.” Available at http://www.machado-silvetti.com/PORTFOLIO/wagner_park/index.php?_sm_au_=iVV6VJP1rL0WftSH Accessed July 15, 2019.

Machado Silvetti. No date. “The Getty Villa – Public Grounds.” http://www.machado-silvetti.com/PORTFOLIO/getty_grounds/index.php Accessed September 3, 2020

Martin, Frank Edgerton. 2014. “Olin Lives Here.” Landscape Architecture Magazine. January. Vol. 104, No. 1. Pp. 78-83

Maynard, Michael. 1997. “A Park with A View.” *Landscape Architecture Magazine,* Vol. 87, No. 1. Pp. 26, 28-31. January.

National Park Service. 1991. *National Register Bulletin 15*: “How to Apply the National Register Criteria for Evaluation.” Washington, D.C.: U.S. Department of the Interior.

National Park Service. 1979, revised 1990, 1996, 1998. *National Register Bulletin 22*: “Guidelines for Evaluating and Nominating Properties that have Achieved Significance within the Past 50 Years.” Washington, D.C.: U.S. Department of the Interior.

OLIN. No date (a). “Laurie Olin, FASLA.” Available at https://www.theolinstudio.com/people#/laurie-olin/ Accessed November 24, 2020.

OLIN. No date (b). “J. Paul Getty Center.” Available at https://www.theolinstudio.com/j-paul-getty-center Accessed September 3, 2020.

O’Malley, Therese. No date. “Laurie Olin.” Available at https://tclf.org/pioneer/laurie-olin
Accessed September 3, 2020.

Public Garden Design. No date. “About Lynden B. Miller.” Available at http://www.publicgardendesign.com/about.html?_sm_au_=iVV6VJP1rL0WftSH Accessed July 15, 2019.

Rogers, Betsy Barlow. 2008. “The Life, Death, and Rebirth of Cleveland, Pittsburgh, and other Great American Cities.” *SiteLINES: A Journal of Place*. Spring. Vol. 3, No. 2. Pp. 3-5

Sherfy, Marcella and W. Ray Luce. 1998. *National Register Bulletin*: “Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Past Fifty Years.” Washington, D.C.: U.S. Department of the Interior, National Park Service.

The Cultural Landscape Foundation. “Landslide 2017; Battery Park City.” https://tclf.org/sites/default/files/microsites/landslide2017/battery-park-city.html

The Cultural Landscape Foundation. “A New Focus on Postmodernist Landscapes.” Available at https://tclf.org/news/features/new-focus-postmodernist-landscapes Accessed January 8, 2021.

The Cultural Landscape Foundation. No date. “Pioneer: Hanna/Olin, 1976-1996.” Available at https://www.tclf.org/pioneer/hannaolin?destination=search-results Accessed July 15, 2019.

The Cultural Landscape Foundation. No date. “Places: What’s Out There.” Available at https://tclf.org/places Accessed January 8, 2021.

The Cultural Landscape Foundation. No Date. “Postmodernist.” Available at https://tclf.org/category/designed-landscape-style/postmodernist Accessed December 2, 2020.

The Cultural Landscape Foundation. June 1, 2017. “Robert F. Wagner Jr. Park, At Risk.” Available at https://tclf.org/robert-f-wagner-jr-park-risk?destination=search-results

Tribeca Citizen. 2015. “In the News: Sweetheart Deal for Gigino At Wagner Park. December 11. Available at https://tribecacitizen.com/2015/12/11/in-the-news-sweetheart-deal-for-gigino-at-wagner-park/ Accessed July 15, 2019.

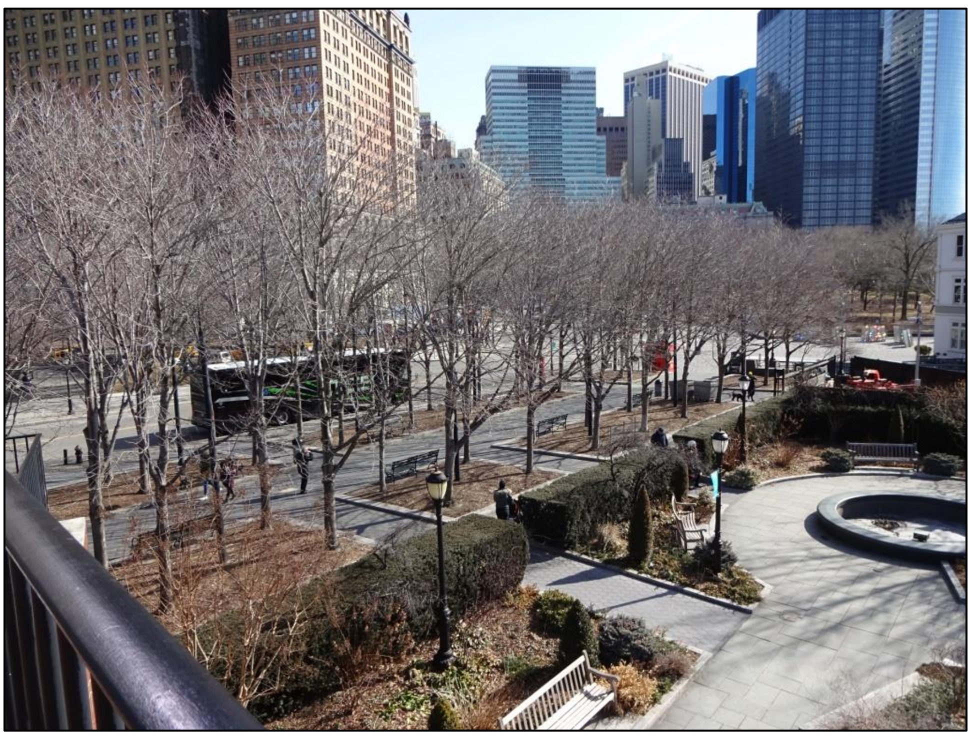
Urban, James. 2004. “Battery Park City’s Invisible Landscape.” *Landscape Architecture Magazine*, Vol. 94, No. 2. Pp. 36, 38-40, 42-43. February.

Woland, Jake and Daniel Winterbottom. “City Lights.” *Landscape Architecture Magazine,* Vol. 90, No. 5. Pp. 82-86, 88-91. May.

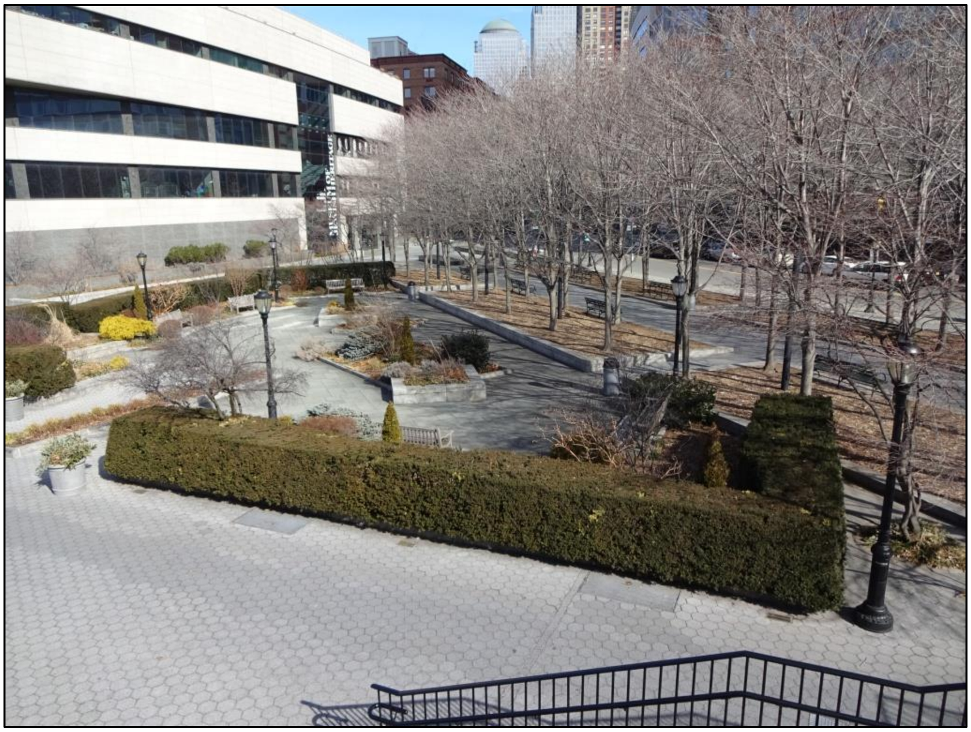
APPENDIX:

PHOTOGRAPHS OF WAGNER PARK

View looking south from the north allée. Note the arch of the north pavilion in the background, and lights suspended above the central walkway between light poles in the rectangular planting beds.



View of the south allée and the south ornamental garden from the south pavilion.



View of the north ornamental garden. Note the hedges and hardscape features.

View of the north lawn. Note the planting beds bordered by Stony Creek granite blocks.

View of the north lawn; note Jim Dine's sculpture *Ape and Cat (At the Dance)* (1996).

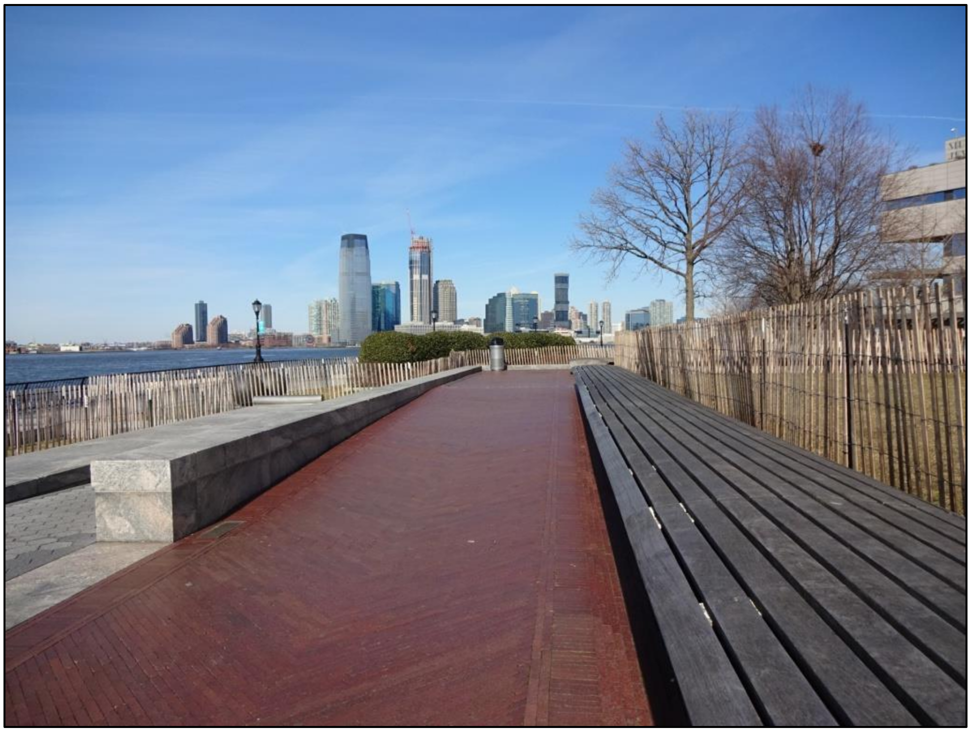
View of the north lawn; note Louise Bourgeois' sculpture, *Eyes* (1998).

View of the south ornamental garden. Note hardscape and landscape features.

View of the south lawn taken from brick pathway that frames central lawn.

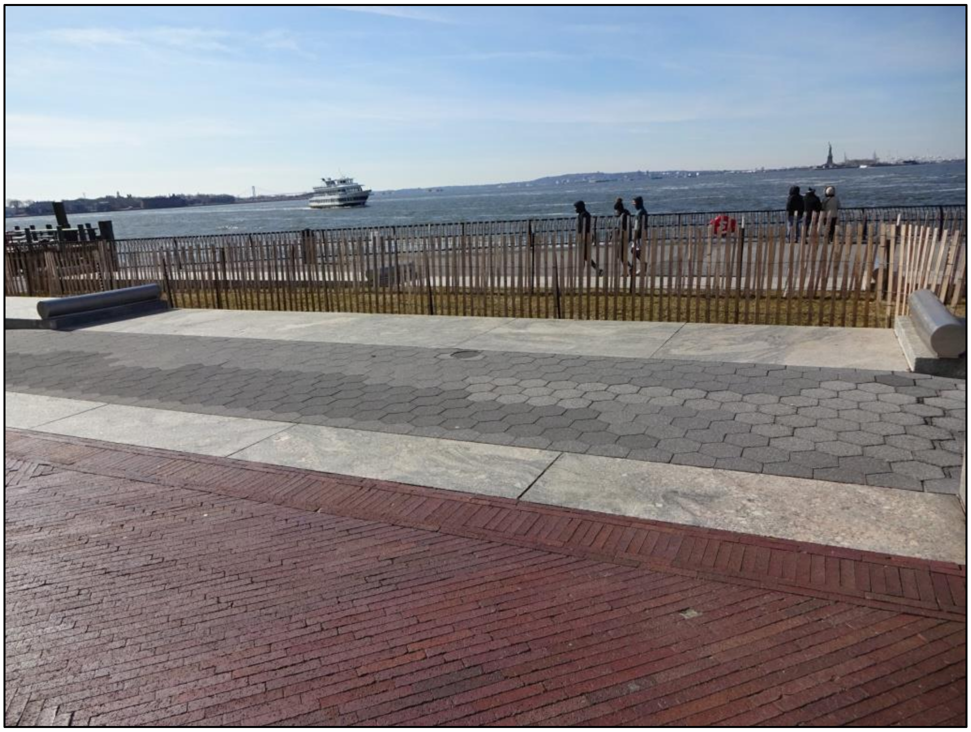
View of the central lawn. Note axial vista toward Statue of Liberty in background.

View of the central lawn, looking south. Note the low wood benches that define the perimeter of the lawn.

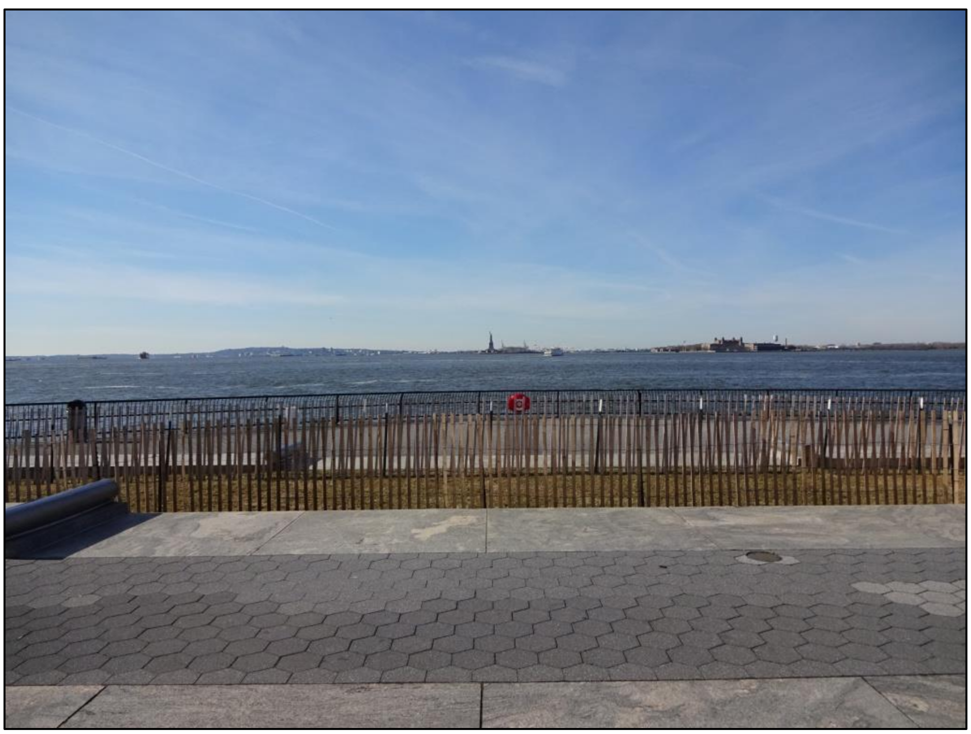


Detailed view of the brick pathway that flanks the central lawn, looking north. Note that brick is laid in a chevron pattern.

Detailed view of the brick pathway that flanks the central lawn, looking north.



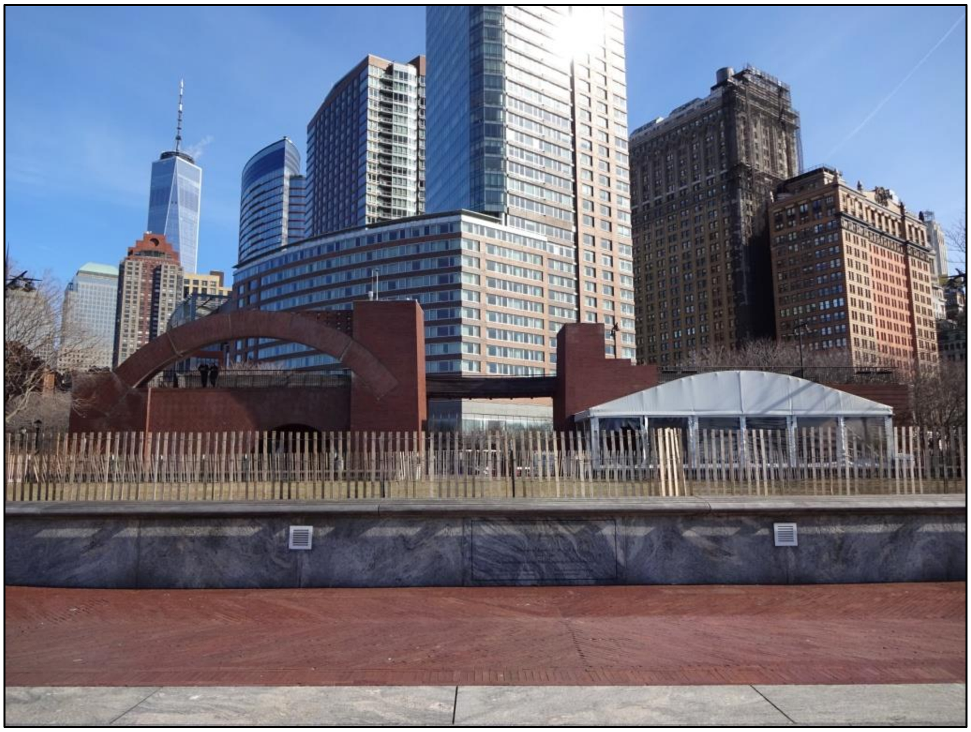
View looking west from the west side of central lawn. Note the red brick and hexagonal pavers that differentiate walkways within the park.



View looking west toward the Statue of Liberty. The Battery Park City Esplanade is located beyond the temporary fence.

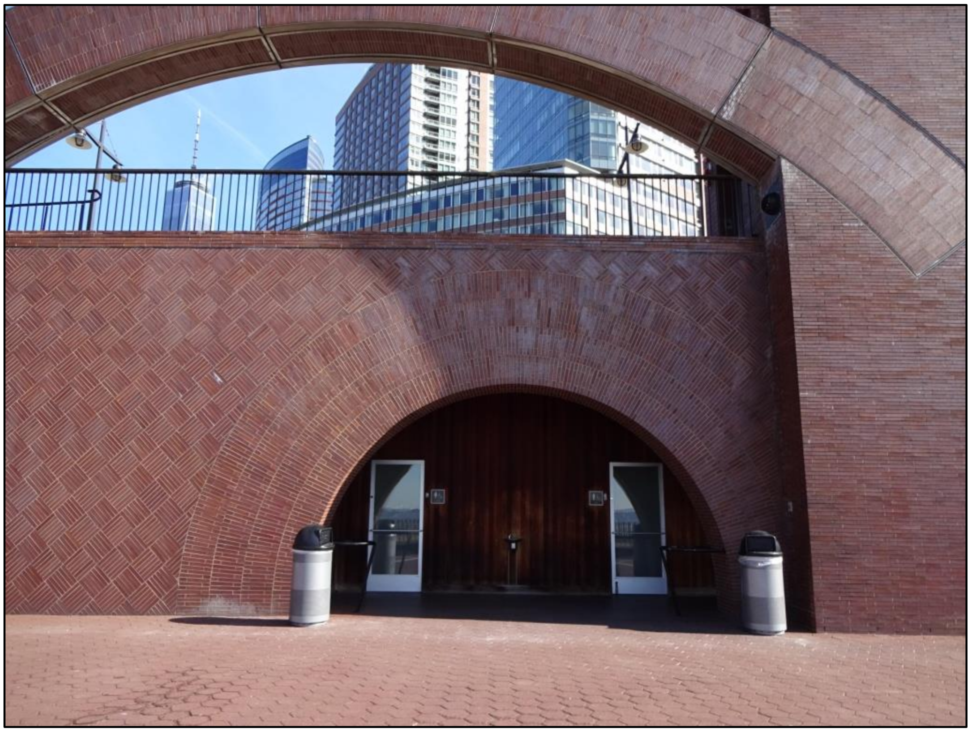
Detailed view of the drainage grates with oval pattern around the central lawn.
Grates are inscribed with park name, “Robert F. Wagner Jr. Park.”

Detailed view of the drainage grates with wave pattern around the central lawn.
Grates are inscribed with park name, “Robert F. Wagner Jr. Park.”

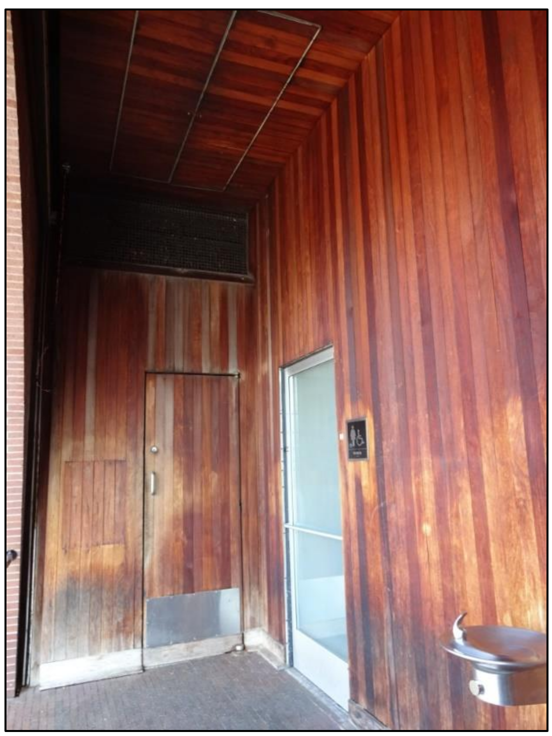


View looking east toward the north and south pavilions and the central lawn. Note the first story of south pavilion is obscured by vinyl enclosure used by restaurant tenant. Note the rectangular date stone set into the granite base of the wood bench, between the rectangular louvered vents.

View looking east toward the north and south pavilions. Note the sculptural north pavilion arch.

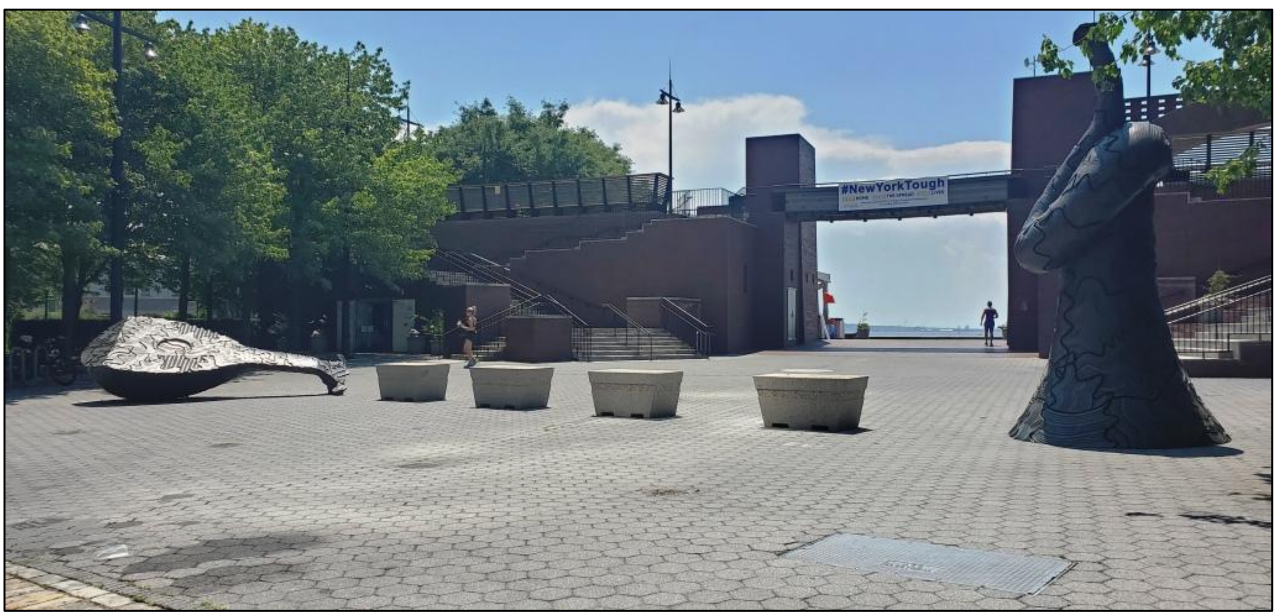


Detailed view of the west façade of the north pavilion. Note round arched entry that provides access to the restrooms and note intricate brick patterns.



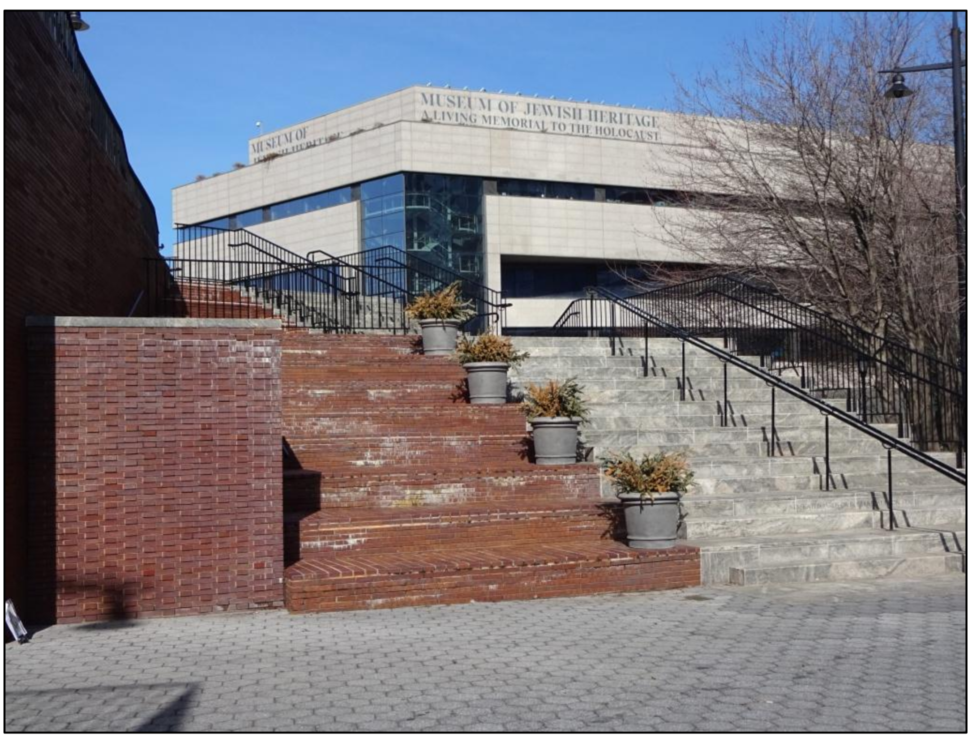
Detailed view of the restroom vestibule on west side of north pavilion.
Note vertical wood board cladding.

View looking west toward the north and south pavilions, and the central plaza. Note the foot bridge that links the pavilions and provides a direct line of sight to the Statue of Liberty in the background.



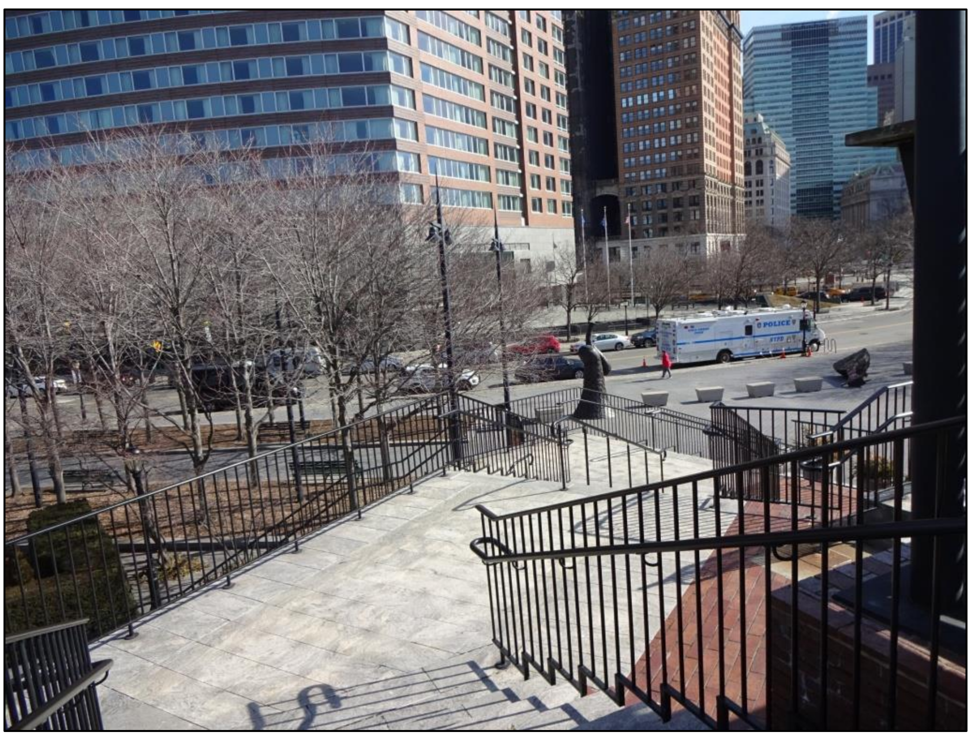
View of central plaza, pavilions, pedestrian bridge, and Tony Cragg's sculpture, *Resonating Bodies* (1999).

View of the north pavilion and associated staircase, and a portion of Tony Cragg's sculpture, *Resonating Bodies* (1999).



Detailed view of the staircase that leads to the north pavilion.

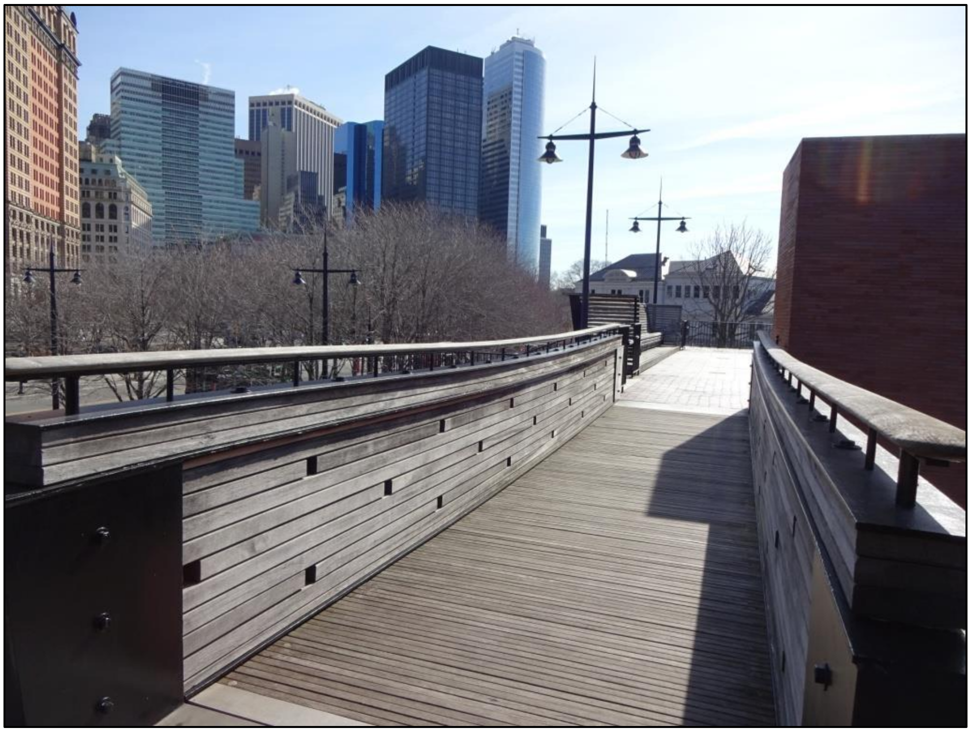
View of the staircase that leads to the south pavilion.



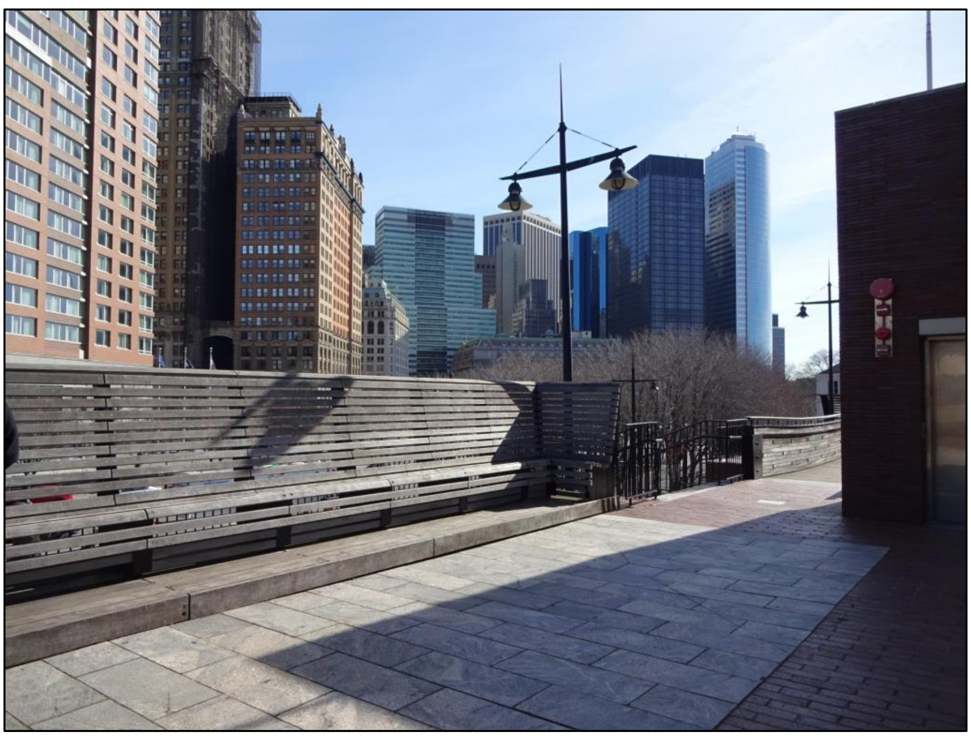
View of the south pavilion staircase. Note two bronze objects that form the *Resonating Bodies* sculpture in the background, between the bollards.


View of the south pavilion staircase.

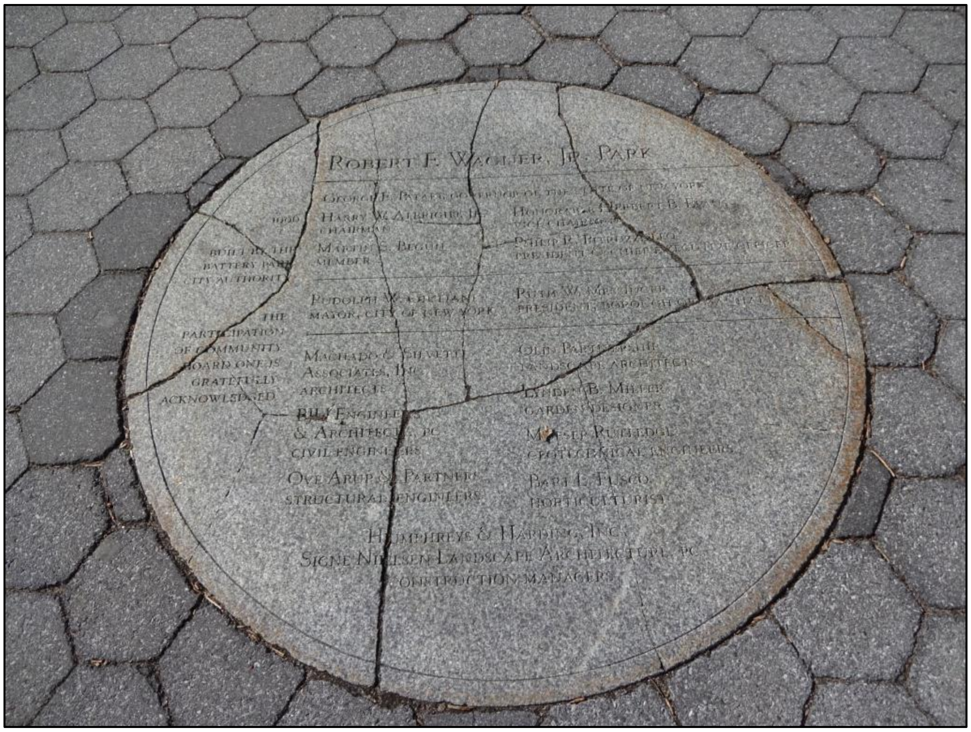
View looking north toward the foot bridge that links the north and south pavilion balconies.



View looking south toward the foot bridge that links the north and south pavilion balconies.



Detailed view of the high-backed wood bench on the north pavilion balcony; these benches are typical for both the north and south pavilion balconies.



View of the circular date stone that identifies the designers and elected officials affiliated with Robert F. Wagner, Jr. Park. Date stone is located in the central plaza east of the north and south pavilions.

Consultation Initiation Correspondence with SHPO and LPC

April 23, 2020

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: BPCA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Ms. Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the consultation initiation letter and supporting documentation that was provided to our office on March 30th, 2020. Based upon our review, we offer the following comments:

1. Working with Charles Birnbaum, President and Chief Executive Officer of The Cultural Landscape Foundation, SHPO recommends that AECOM and BPCA evaluate the Battery Park City development for National Register eligibility with Wagner Park as a possible contributing feature. Please provide a narrative description and historic development context for Battery Park City and provide documentation and analysis of Wagner Park so SHPO can determine whether the overall development meets the National Register Criteria. Key questions for Wagner Park are: did the design of this park influence others? What impact has it had on landscape design, public park design, waterfront park design? How was it received by experts in the landscape design field upon its completion? Please submit the evaluation and recommendations via CRIS.
2. SHPO requests that a Phase IA archaeological background and sensitivity assessment report be prepared for this project. We concur that the First Place, Wagner Park, and Jewish Museum portions of the project area are not archaeologically sensitive.
3. SHPO concurs with the proposed Area of Potential Effect.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at https://cris.parks.ny.gov/ on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project" at the very bottom of the page. You will need this project number and your e-mail address. If you have any questions, I can be reached at (518) 268-2182.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc:
- R. Pinzon, USACE
- S. Rahman, FEMA
- B. Koper, FEMA
- G. Santucci and A. Sutphin, LPC
- J. Dudgeon, BPCA
- A. Rachleff, AECOM
- N. Stehling, AECOM
- R. Dencker, AECOM
- A. AbiDargham, AECOM
- C. Tiernan, AECOM

Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 10007
Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ARCHITECTURE

Project number: (BPCA)
Project: South Battery Park City Resiliency Project
Address: Multiple **BBL:** Multiple
Date Received: 3/30/2020

This document only contains Architecture review findings. If your request also requires Archeology review, the findings from that review will come in a separate document.

[ ] No architectural significance

[X] Designated New York City Landmark or Within Designated Historic District

[X] Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

Comments: The LPC concurs with the recommendations of AECOM in a letter dated March 22, 2020 to the NYSHPO that the project areas as indicated in Table 1 "Historic Architectural Resources in Area of Potential Effect" contain properties listed and/or eligible for Local, State, and National Registers.

Cc: NYSHPO

4/13/2020

SIGNATURE DATE
Timothy Frye,
Director of Special Projects and Strategic Planning

File Name: 34900_FSO_TF_04132020.docx

NYC Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 10007
Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ARCHAEOLOGY

Project number: (BPCA)
Project: South Battery Park City Resiliency Project
Address: **BBL:**
Date Received: 3/30/2020

This document only contains Archaeological review findings. If your request also requires Architecture review, the findings from that review will come in a separate document.

[ ] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[X] May be archaeologically significant; requesting additional materials

Comments: The LPC concurs with the recommendations of AECOM in a letter dated March 22, 2020 to the NYSHPO that the following project areas may contain potentially significant archaeological resources: Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the two proposed locations of the interceptor gate chambers and associated control buildings possess archaeological potential. Therefore, the LPC recommends that an archaeological documentary study be completed to further assess this potential in compliance with the Guidelines for Archaeological Work in New York City, 2018 which may be found here: https://www1.nyc.gov/assets/lpc/downloads/pdf/2018_Guidelines%20for%20Archaeology_Final_high%20res.pdf

Cc: NYSHPO

Amanda Sutphin 4/10/2020

SIGNATURE DATE
Amanda Sutphin, Director of Archaeology

File Name: 34900_FSO_ALS_04102020.docx

NEW YORK STATE OF OPPORTUNITY. | Battery Park City Authority

AECOM

March 26, 2020

Mr. Daniel Mackay
Deputy Commissioner
Division for Historic Preservation
New York State Office of Parks, Recreation & Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

Re: Consultation Initiation for Battery Park City Authority
South Battery Park City Resiliency Project
Borough of Manhattan
New York County, New York

Dear Mr. Mackay,

The Battery Park City Authority (BPCA), as lead agency, is proposing to undertake the South Battery Park City (SBPC) Resiliency Project (the "Project") in the Borough of Manhattan in New York City. The Project's primary goal is to improve the resiliency of a portion of Lower Manhattan through integrated flood risk measures. To accomplish integrated flood design, the Project requires interdisciplinary collaboration between engineers, landscape architects, and architects to develop a design that meets the design criteria for a 100-year storm event in 2050, which also accounts for the increased intensity and frequency of rainfall, coastal surge, and predicted sea level rise. In addition to designing for a future scenario, the flood alignment for this Project will also meet the requirements of Federal Emergency Management Agency (FEMA) certification/accreditation. Construction of the Project is anticipated to proceed in phases, and is scheduled to commence in 2020, with completion by 2022.

The purpose of this letter and attached information package is for AECOM to initiate consultation for this Project on behalf of our client, BPCA. The consultation will be undertaken in accordance with the New York State Environmental Quality Review Act (SEQRA) and the New York City Environmental Quality Review (CEQR). BPCA also intends to prepare an Environmental Assessment in accordance with established policies under both regulations. In addition, because BPCA will be seeking FEMA certification/accreditation, and may be seeking federal permits for in-water work from the U.S. Army Corps of Engineers (USACE), we are seeking your comments in accordance with Section 106 of the National Historic Preservation Act (NHPA). A copy of this letter has also been sent to the New York City Landmarks Preservation Commission (LPC) for review and comment.

Please feel free to contact us if you have any questions regarding this submission.

Sincerely,

Allison S. Rachleff

Allison Rachleff
Sr. Architectural Historian
212-377-8723
allison.rachleff@aecom.com

Nancy A. Stehling

Nancy A. Stehling, RPA
Sr. Archaeologist
212-377-8722
nancy.stehling@aecom.com

cc: G. Santucci and A. Sutphin, LPC
G. Dawson and J. Dudgeon, BPCA
R. Dencker, AECOM
A. AbiDargham, AECOM

Attachment Enclosed

A General Project Description and Project Area Background

During Superstorm Sandy, coastal surge inundated Lower Manhattan on its western side through low elevation points near Pier A and in other parts of Battery Park City, damaging, destroying and/or negatively impacting much of Lower Manhattan's critical and civic infrastructure. In an effort to address the vulnerabilities underscored by this event and the prospects of more extensive future storm and flood damage, the SBPC Resiliency Project has been developed as a highly urban and integrated coastal flood risk management program for Battery Park City and other parts of Lower Manhattan (**Figure 1**). This Project represents one part of the Lower Manhattan Coastal Resiliency (LMCR) Master Plan. The Project Area plays an important role in the overall flood risk reduction for Lower Manhattan because Lower Manhattan's lowest existing contours and elevations for coastal surge inundation are located at the north and south ends of Battery Park City. The SBPC Resiliency Project is one of four projects in Battery Park City designed to extend through, across, and along its 92 acres. The other three projects include the Battery Park City Ball Fields & Community Center Resiliency Project, the North Battery Park City Resiliency Project, and the West Battery Park City Project. In addition to the Battery Park City projects, The Battery Coastal Resilience, the Financial District and Seaport Climate Resilience, and Brooklyn Bridge-Montgomery Coastal Resilience of LMCR will work together to reduce Lower Manhattan's flooding exposure.

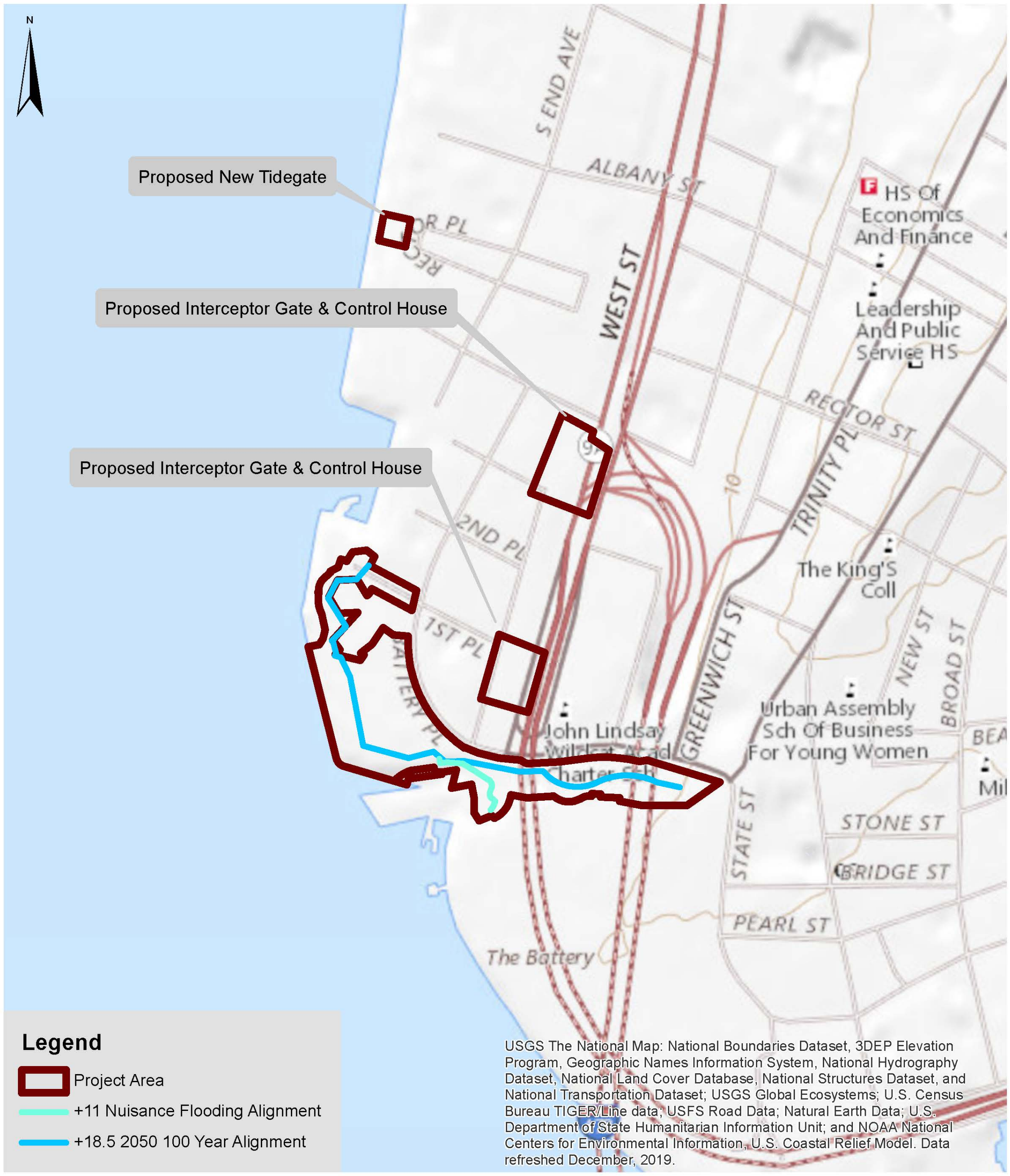
The Project Area boundary for the flood alignment spans from First Place and the Museum of Jewish Heritage, through Robert F. Wagner Park (Wagner Park), across Pier A Plaza, and then along the north side of the Battery Bikeway in Battery Park (The Battery) to higher ground near the intersection of Battery Place and State Street. Existing conditions are shown in **Figure 2**. The Design Flood Elevation (DFE) and Height of Intervention (HOI) varies across the Project's flood alignment. The HOI for a project location is calculated by subtracting the elevation of the existing grade from the proposed DFE, which for this project is the 2050 100-year floodplain. In addition, interior drainage improvements are required for the Project, including the isolation of the existing underground interceptor sewer line at the north and south ends of the project, with interceptor gates controlled by above-grade control houses.

Battery Park City was planned and developed according to a Master Plan adopted in 1979 and is partially situated upon landfill generated by construction of the World Trade Center between the late 1960s and the early 1970s. Wagner Park was collaboratively designed by landscape architecture firm, Hanna/Olin; architecture firm, Machado and Silvetti; and public garden designer, Lynden Miller. It was built between 1994-1996 and offers panoramic views of the New York Harbor and the Statue of Liberty. It includes a pavilion, consisting of two structures connected by a rooftop walkway, two ornamental gardens, an esplanade, a central lawn, and various pieces of public art. The Museum of Jewish Heritage, which opened in Battery Park City in 1997, is located north of Wagner Park.

BPCA has proactively guided the process for the redesign of Wagner Park, retaining as many aspects as possible of the original design intent and site organization for the Park. In addition, BPCA found that four of the original eight principles from the 1979 plan are extremely relevant to the Project Area and are pertinent to an understanding of BPCA's approach to the Project design:

- Principle 1: Battery Park City should not be a self-contained new-town-in town, but a part of Lower Manhattan
- Principle 2: The layout and orientation of Battery Park City should be an extension of Lower Manhattan's system streets and blocks.
- Principle 3: Battery Park City should offer an active and varied set of waterfront amenities.
- Principle 5: Circulation should reemphasize the ground level.

The subsequent sections of this package provide detail about the proposed design of the Project Area.



250 0 250 500 Feet

South Battery Park City Resiliency Project

Project Area and Flood Alignment

AECOM

Figure 1

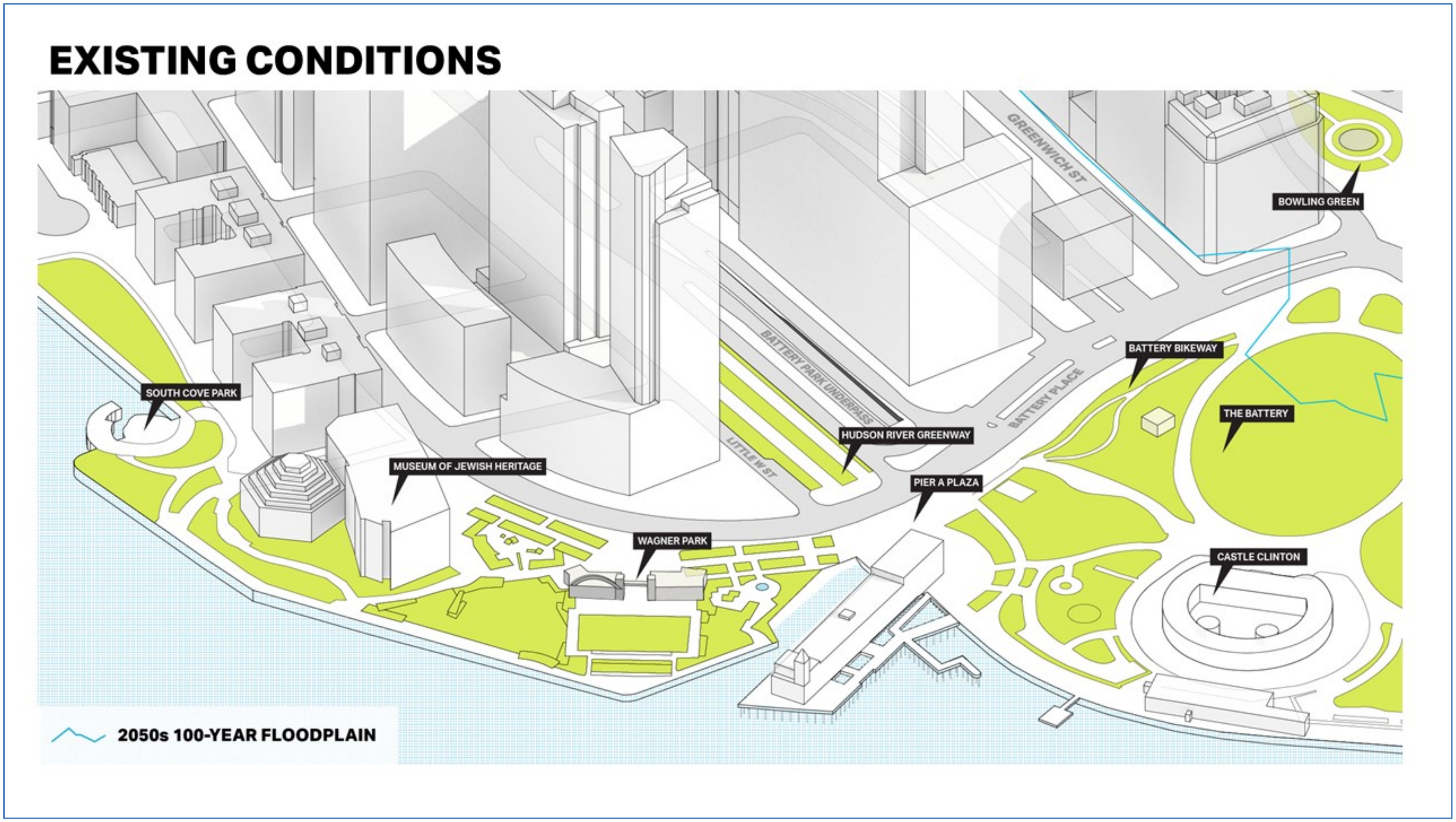

EXISTING CONDITIONS
GREENWICH ST
BOWLING GREEN
BATTERY PARK UNDERPASS
BATTERY BIKEWAY
BATTERY PLACE
THE BATTERY
SOUTH COVE PARK
HUDSON RIVER GREENWAY
LITTLE W ST
MUSEUM OF JEWISH HERITAGE
PIER A PLAZA
WAGNER PARK
CASTLE CLINTON
2050s 100-YEAR FLOODPLAIN

Figure 2

B Key Project Actions

This section describes the key project actions across the five Project Area segments, and associated drainage improvement areas, moving from west to east. Ownership jurisdiction is also identified, including BPCA, New York City Department of Transportation (NYCDOT), New York City Department of Small Business Services (DSBS), New York City Economic Development Corporation (EDC), the New York State Department of Transportation (NYSDOT), and the New York City Department of Environmental Protection (NYCDEP). **Figure 3** illustrates the type of flood alignment infrastructure proposed for each segment and identifies the DFEs. In addition, BPCA maintains a resiliency page on their website. Slide decks and videos from public presentations for this Project can be downloaded at https://bpca.ny.gov/nature-and-sustainability/resiliency/.

B.1 First Place (BPCA and NYCDOT Jurisdiction)

The flood alignment begins on the north side of First Place, where it is tied into a contemporary residential high-rise building at 50 Battery Place. It then extends south fully across First Place as a flip-up deployable gate, which would seal up against permanent columns when deployed (**Figure 3**). The design team does not intend to alter First Place in any significant way beyond the installation of the flip-up deployable gates in the street bed, with columns framing its edges. Grade changes to the street and right-of-way (ROW) would also be avoided. The DFE in this area is 18 feet, and the HOI is 7 feet.

B.1.1 Anticipated Subsurface Disturbance

The flip-up deployable gate across First Place would be installed to lie flat when not in use. It would be supported on a concrete foundation on steel piles and battered steel piles (piles driven at an angle with the vertical to resist a lateral force), extending approximately 40 feet in depth. A sheet pile seepage barrier of approximately 2,320 square feet would be constructed at an estimated depth of 20 feet. The width of First Place would be subject to extensive ground disturbance through the installation of the flip-up deployable gate, its tie-in support columns, and the installation of the seepage barrier. Secant piles extending approximately 40 feet in depth may also be utilized along this section of the flood alignment. Secant pile walls are formed by constructing reinforced concrete piles that interlock.

The subsurface disturbance to First Place west of Battery Place would be taking place within the 20th-Century landfill placed to construct Battery Park City and is not of archaeological concern.

B.2 Museum of Jewish Heritage (BPCA Jurisdiction)

At the south end of First Place, the flood alignment runs west across the north facing landscaped courtyard of the Museum of Jewish Heritage (**Figure 3**). The DFE is 18 feet, and the HOI ranges from 7 to 8 feet. A flip-up deployable is planned for this section of the alignment maintaining visual and physical access to the Museum and connecting to the flip-up deployable gate that spans First Place. Existing landscape planters on the north façade of the Museum would be reconstructed and replaced after the installation of the flip-up deployable gate.

The alignment then extends south along the west side of the Museum. This portion of the flood alignment is composed of free-standing floodwalls that would be integrated into terraced landscape planters. The floodwall would be screened from the existing garden pathways and lawn by rebuilding terraced planters that match the existing aesthetic of the landscape. In order to minimize visual impact and maintain views from the first floor of the building to the Hudson River, the top of the floodwall would be constructed of flood-proof glass, set within a metal frame. The floodwall continues around the western perimeter of the Museum, until the alignment connects with Wagner Park. Flip-up deployable gates would be used to maintain egress at the existing fire exit doors.

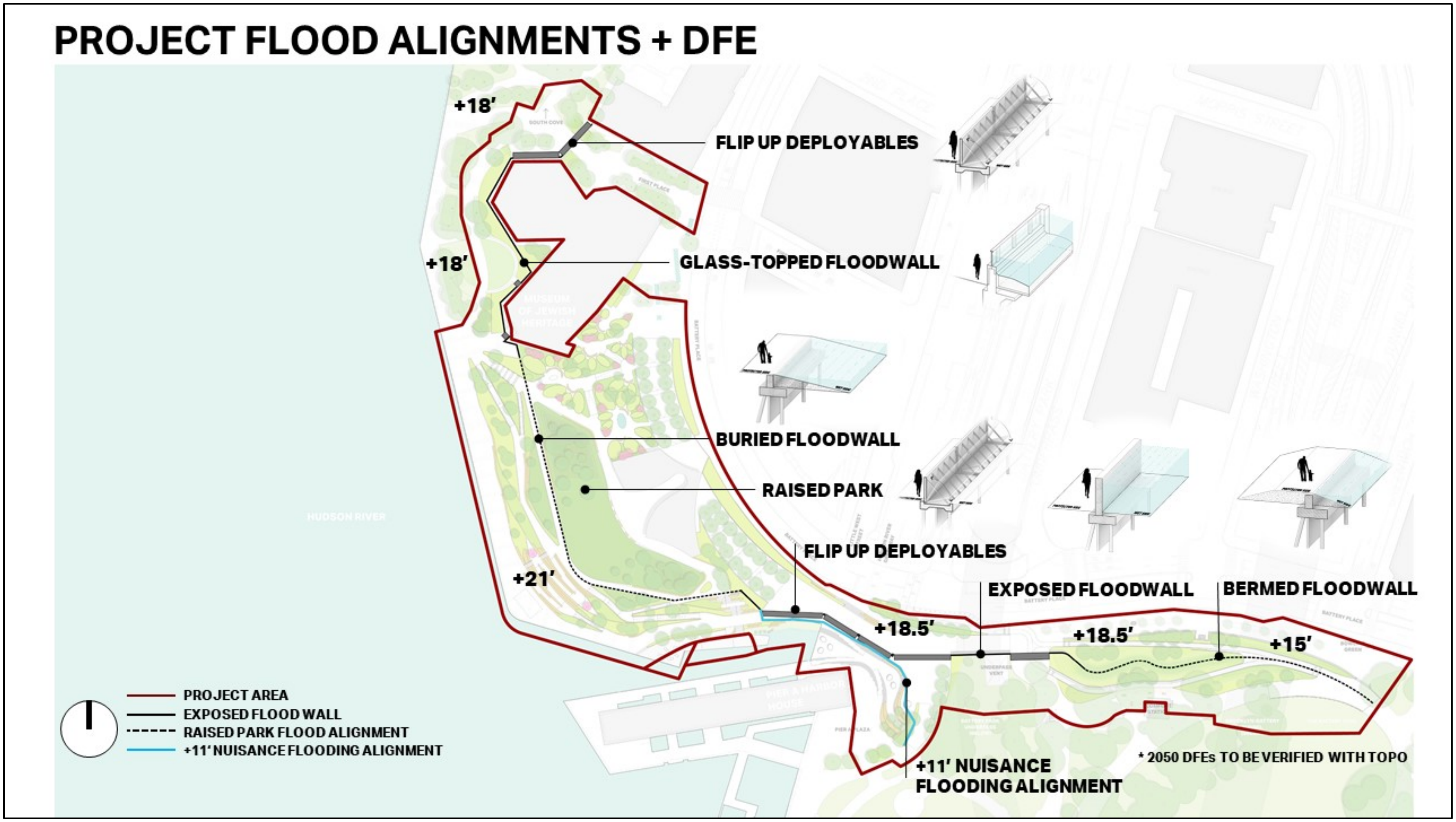

PROJECT FLOOD ALIGNMENTS + DFE
+18'
FLIP UP DEPLOYABLES
+18'
GLASS-TOPPED FLOODWALL
BURIED FLOODWALL
RAISED PARK
HUDSON RIVER
FLIP UP DEPLOYABLES
+21'
EXPOSED FLOODWALL
BERMED FLOODWALL
+18.5'
+18.5'
+15'
PROJECT AREA
EXPOSED FLOOD WALL
RAISED PARK FLOOD ALIGNMENT
+11' NUISANCE FLOODING ALIGNMENT
+11' NUISANCE FLOODING ALIGNMENT
* 2050 DFEs TO BE VERIFIED WITH TOPO

Figure 3

B.2.1 Anticipated Subsurface Disturbance

The flip-up deployable gate across the north façade of the Museum would be tied into the flip-up deployable gate across First Place. This installation would require steel piles and battered steel piles extending approximately 40 feet in depth to support the flip-up deployable gate and its tie-in support column. The free-standing floodwall along the west side of the Museum would be integrated with flip-up deployable gates and their tie-in support columns at the Museum entrances and would also require installation of steel piles and battered steel piles extending approximately 40 feet in depth for support. A sheet pile seepage barrier of approximately 2,320 square feet would be constructed at an estimated depth of 20 feet. Secant piles extending approximately 40 feet in depth may also be utilized along this section of the flood alignment. The subsurface disturbance surrounding the Museum would be taking place within the 20th-Century landfill placed to construct Battery Park City and is not of archaeological concern.

B.3 Wagner Park (BPCA Jurisdiction)

At its point of connection into Wagner Park, the free-standing floodwall associated with the Museum segment would connect to a buried floodwall (**Figure 3**). The DFE for this portion of the flood alignment is 21 feet, and the HOI is 9 to 11 feet. To meet projected DFEs for coastal surge, the park would be elevated 10 to 12 feet, and a buried floodwall would be constructed beneath the raised park, maximizing the amount of protected open space, while maintaining views to the waterfront. The buried flood alignment also allows all users to occupy the lawn, garden, and public park, in contrast to a traditional floodwall design which would bisect the space. At the connection between Wagner Park and Pier A Plaza, the flood alignment would be resurfaced and exposed as a short segment of free-standing wall where it would meet the flip-up deployable gates being used through Pier A Plaza.

Redesigned key features of Wagner Park include ornamental gardens with a water feature, central lawn, performative gardens along the waterfront pedestrian esplanade, and a transitioning naturalized edge with an overlook deck at the Pier A inlet. The edges of Wagner Park would be gently sloped and terraced to allow for universal access to the raised park areas and the new pavilion. Additionally, the planting design on the water side of the park would tolerate salt spray and temporary inundation, reducing maintenance costs and providing ecological benefits. Planting designs in some of the terraced planters that transition down to the esplanade would serve as rain gardens for capturing and filtering precipitation.

In order to accommodate the buried flood wall and the raised park surface, the existing park pavilion would be removed and replaced in a manner that preserves the following inherent organizing principles of the existing Wagner Park:

- Preserves view to Statue of Liberty;
- Maintains views to the waterfront;
- Maintains a central gathering space;
- Maximizes continuous green space; and
- Enhances procession from street to park level.

New design considerations include:

- Elevates the site to maximize protected area;
- Organizes the site around central lawn, with an uninterrupted view axis to Statue of Liberty;
- Moves pavilion closer to Battery Place to maximize continuous park area above the DFE;
- Provides universal accessibility across the park and to the pavilion;

- Maintains restaurant and public toilets in the pavilion at park level;
- Provides new community program and educational space in the pavilion at park level;
- Provides an ample, publicly accessible roof terrace; and
- Meets and exceeds best practice sustainable design.

B.3.1 Anticipated Subsurface Disturbance

The buried floodwall requires the installation of a sheet pile seepage barrier approximately 20 to 30 feet in depth. The free-standing wall at the connection from Wagner Park to Pier A Plaza would be tied into the proposed buried floodwall portion of the flood alignment within the elevated Wagner Park. This would require the installation of steel piles extending approximately 40 feet in depth. The proposed improvements to the Pier A inlet would require the installation of approximately 20 drilled steel piles to a depth of approximately 40 feet to support the overlook deck.

The subsurface disturbances across Wagner Park and the northern edge of the Pier A inlet would be taking place within the 20th-Century landfill placed to construct Battery Park City and are not of archaeological concern.

B.4 Pier A Plaza (BPCA, DSBS and EDC Jurisdiction)

Pier A Plaza is the lowest elevation in the Project Area (**Figure 3**). The flood alignment across Pier A Plaza consists of a short section of free-standing wall and flip-up deployable gates.

The DFE in this area would be 18.5 feet, and the HOI would be approximately 8.5 to 11.5 feet. Flip-up deployable gates, sealing up against new permanent columns when deployed, would be utilized as the flood alignment crosses the newly raised Pier A Plaza. The columns would be designed to complement the materials of Pier A Plaza, and placed to accommodate views to the water, circulation (pedestrian, biking, and vehicular), and the programmed use of the plaza. The existing paving materials of Pier A Plaza would be retained, with new material added for seating and increased planting. The plaza would allow for direct and universal access to the Pier A Harbor House, as well as maintaining the bicycle connection from The Battery to the Hudson River Greenway, outside the plaza. Provision of building-specific protection of the Pier A Harbor House is not part of this project scope.

In order to address the higher vulnerability of portions of Pier A Plaza that would be subject to daily tidal flooding in the future, the northern section of the Plaza would be raised by roughly 5 feet, thereby reducing the required height of the flip-up deployable gates. In addition, the two-level plaza design would allow The Battery Coastal Resilience Project, which encompasses The Battery along the water's edge, to tie into the SBPC Resiliency Project. The Battery Coastal Resilience Project commenced in Fall 2019, with construction anticipated to start in 2021; it would be implemented by EDC on behalf of NYC Parks, and would consist of rebuilding The Battery wharf to a higher elevation. The tie-in point is being designed for future sea level rise and is depicted on **Figure 3** as the nuisance flooding alignment in Pier A Plaza. BPCA and the design team would continue to work with EDC and NYC Parks on the precise location where the two projects would meet. The tie-in point would be an intermediate feature along the length of the SBPC Project and would be lower than the SBPC Resiliency Project flood alignment, which is being designed to meet the 100-year coastal surge event in 2050.

B.4.1 Anticipated Subsurface Disturbance

The flood alignment across Pier A Plaza consists of a short section of free-standing wall and flip-up deployable gates. This would require the installation of approximately 516 linear feet of steel piles and battered steel piles to a depth of about 40 feet across Pier A Plaza to support the flood alignment components. In addition, a seepage barrier would be installed utilizing jet grouting at an estimate depth of 20 feet.

It is noted that the installation of the flood alignment components across Pier A Plaza has the potential to impact 19th Century historic piers, wharves, slips, and landfill retaining structures that were filled during the late-19th Century in association with the construction of the National Register-eligible Hudson River Bulkhead, and further filled during the 20th Century to enable construction of Battery Park City.

B.5 The Battery (NYC Parks Jurisdiction)

As the flood alignment continues east out of Pier A Plaza, it extends into the Battery Bikeway on the north side of The Battery. The flood alignment is comprised of a combination of flip-up deployable gates, exposed floodwall, and buried floodwall beneath a landscaped berm (**Figure 3**). In this segment, the DFE ranges from 18.5 down to 15 feet, and the HOI ranges from 9.5 to 0 feet. This concept reconfigures the existing bikeway and requires the relocation of the Peter Caesar Alberti Marker (1958; rededicated 1985), which is comprised of a cast bronze panel on a granite plinth. In addition, the reconfiguration may potentially require the relocation of the Walloon Settlers Memorial (1924), which is comprised of a limestone stele on a base. Both monuments are currently situated along the south side of the Battery Place sidewalk. All treatment, temporary staging, and/or relocation preferences for up to two monuments would be coordinated with NYC Parks, the design team, and the construction management team for the Project. Monuments would be relocated as close to the current locations as possible to be consistent with the NYC Park's Monuments Plan. Proposed monument locations/relocations have been reviewed and approved (including potential options) by NYC Parks.

Although the grades in this portion of the Project Area are being elevated to meet DFEs, the circulation, landscape architecture, use of the bikeway, and a landscaped public park edge would remain. As the flood alignment continues east towards State Street, which is on naturally higher ground, the DFEs start to descend, affected by existing contours and increased distance from the Hudson River shoreline. Once the flood alignment reaches the high point in the furthest east section of the Project Area, which naturally meets the DFE, it terminates. The design of the flood alignment that transitions from Pier A Plaza through the northern side of The Battery had to account for a range of existing and complex subsurface infrastructure conditions. These include The Battery Park Underpass of the FDR Drive, Brooklyn Battery Tunnel, MTA Subway lines for the 1 Train, the Bowling Green Subway Station for the 4 and the 5 Trains, as well as other various utilities.

NYCDOT is currently performing a feasibility study to inform its resiliency planning to determine its best options for flood measure treatments of the Battery Park Underpass and associated vent systems in the Project Area. AECOM's design team would not be designing flood protection for these structures. The design team would coordinate with NYCDOT efforts on understanding any flood design interdependencies.

B.5.1 Anticipated Subsurface Disturbance

The flood alignment across the northern portion of The Battery from west to east consists of an exposed concrete floodwall over Battery Park Underpass, a flip-up deployable gate, a partially exposed wall, and a buried floodwall beneath a landscaped berm. This would require the installation of approximately 1,065 linear feet of steel piles and approximately 1,065 linear feet of battered steel piles to an estimated depth of 40 feet to support the flip-up deployable gates, partially exposed floodwall and buried floodwall components of the flood alignment. No piles would be driven for the section of exposed concrete floodwall over the Battery Park Underpass. A seepage barrier would be installed utilizing approximately 8,096 cubic feet of jet grouting at an estimated depth of 20 feet.

It is noted that the flood alignment across the northern portion of The Battery traverses multiple infrastructure corridors which have extensively disturbed the soils within their routes. It is also noted that the flood alignment traverses multiple historic battery and bulkhead lines which may retain integrity and could potentially be subject to impacts as a result of the SBPC Resiliency Project actions.

B.6 Interior Drainage Improvements (BPCA, NYSDOT, NYCDOT, and NYCDEP Jurisdiction)

B.6.1 Interceptor Gate Chambers and Buildings

Two interceptor isolation gates in conjunctions with the flood alignment are required to preclude the coastal surge from entering the Project Area (**Figure 4**). The isolation gate arrangements include an underground chamber along the existing combined sewer interceptor, and an above-ground building to house mechanical equipment that controls operation of the underground interceptor gate. The southern gate arrangement underground chamber would be located near the southeast corner of First Place and Little West Street. The northern gate arrangement underground chamber would be located on West Street, between Third Place and West Thames Street. Both underground chambers would be approximately 27 feet deep and have approximate dimensions of 30 feet by 35 feet. The above-ground buildings would be located west of the underground chambers, within approximately 200 feet. The buildings would be 11 feet high, 12 feet wide, and 60 feet long, and oriented north/south. Pedestrian access would be maintained around the buildings.

B.6.1.1 Anticipated Subsurface Disturbance

It is acknowledged that the construction of the existing sewer interceptor line has previously created extensive subsurface disturbance along its route. However, the underground interceptor gate chambers would entail excavation of a 30-foot-by-35-foot area surrounding the existing line to a depth of approximately 27 feet. This may impact previously undisturbed or minimally disturbed soils. In addition, the proposed above-ground control house would be located within 200 feet of the interceptor gate chambers and would need underground connections.

It is noted that the two proposed locations for the interceptor gates and control buildings have the potential to impact the National Register-eligible Hudson River Bulkhead that runs as far north as 59^{th} Street under these areas.

B.6.2 Other Interior Drainage Improvements

Tide gates would be installed at two existing municipal separate storm sewer system (MS4) overflows:

- Newtown Creek Wastewater Treatment Plant Manhattan Side (NCM)-634 (First Place)
- NCM-628 (Rector Street).

A tide gate would also be installed at combined sewer overflow (CSO) NCM-070 (Pier A Plaza). These gates would be located within 250 feet from the existing discharge points, and measure approximately 20-feet-by-20-feet. It is anticipated that the installation of tide gates would not create ground disturbance in undisturbed soils (**Figure 4**).


NCM-628
Proposed New Tide Gate
Proposed Interceptor Gate & Control House
Proposed Interceptor Gate & Control House
NCM-634
NCM-070
Legend
Potential Interceptor Gate with Control House
Potential Isolation Valve
Potential Tide Gate
Project Area
+11 Nuisance Flooding Alignment
+18.5 2050 100 Year Alignment
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
250 0 250 500
Feet
South Battery Park City Resiliency Project
Project Area with Flood Alignments and Interior Drainage Improvements
AECOM

Figure 4

An isolation valve would also be installed at the storm drain that collects runoff from The Battery. This valve would be installed in the vicinity of the Battery Bikeway, approximately 50 feet east of the Battery Park Underpass alignment. This improvement is not anticipated to create new ground disturbance in undisturbed soils (**Figure 4**).

C Historic Architectural Resources

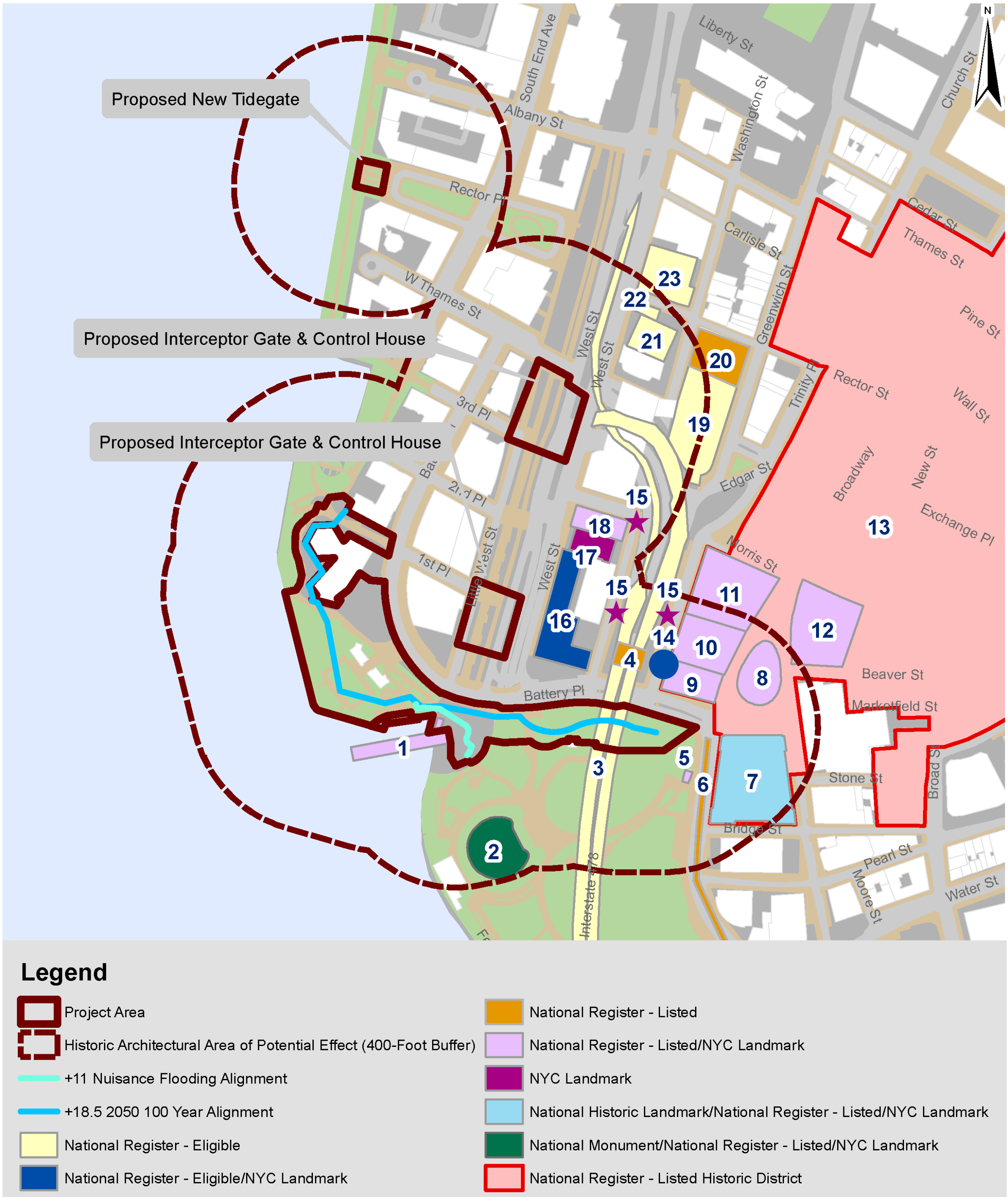
The proposed Historic Architectural Area of Potential Effect (APE) and known historic architectural resources within the APE are described below.

C.1 Proposed Historic Architectural Area of Potential Effect

The proposed Historic Architectural APE includes all areas where the action may cause changes to land or structures and their uses, including the area of ground disturbance caused by the action, and locations from which elements of the undertaking may be visible. The Project Area is characterized as modern and historic parkland with modern and historic buildings and structures, interspersed with historic infrastructure, such as a city pier. The proposed Historic Architectural APE forms a 400-foot buffer around the Project Area and project alignment and is adequate to take into account potential direct and indirect effects. The APE is featured in **Figure 5**. Photographs of the proposed APE are included in **Attachment 1**.

C.2 Known Historic Architectural Resources Within and Adjacent to the SBPC Historic Architectural Area of Potential Effect

Twenty-three known historic architectural resources are situated within and adjacent to the proposed Historic Architectural APE according to research conducted on New York State Historic Preservation Office (SHPO) Cultural Resource Information System (CRIS) website, and LPC's website. These include a variety of National Register-listed and eligible resources, a National Register-listed historic district, a National Monument, and New York City Landmarks. These resources are identified in **Table 1**.



250 0 250 500
Feet

South Battery Park City Resiliency Project

Project Area and 400-Foot Area of Potential Effect

*Note: Resource 13 (Wall Street Historic District) encompasses resources 7-12

AECOM

Figure 5

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
1	90NR00767/ LP-00918	Pier A	Structure	22 Battery Place	1886	National Register-Listed/NYC Landmark	Municipal pier completed in 1886; equipped with two-story building with fireproof portion and watchtower; building has been altered over time; occupied by docks department, police and fire department; significant in areas of architecture and commerce between 1800-1899; recently converted into restaurant.
2	90NR00865/ LP-00029	Castle Clinton National Monument	Structure	Battery Park	1807	National Monument/ National Register-Listed/ NYC Landmark	Constructed as stone fort in 1807 and modified through 1821; converted to Castle Garden in 1823; immigrant reception center in 1855, aquarium in 1896. Closed in 1941 and reopened as a National Monument in 1975; significant in areas of community planning, military, social history; and theater between 1800s-1900s.
3	06101.018925	Brooklyn-Battery Tunnel (present-day Hugh L. Carey Tunnel)	Structure	81 Washington Street	1945-1950	National Register-Eligible	Tunnel constructed between 1940-1950; contributing elements of include the approaches, masonry portals, tunnels, four ventilation/blower buildings, and main service building; possesses historic and engineering significance under Criteria A and C.
4	06101.001319	Brooklyn-Battery Tunnel Vent/ Blower Building	Structure	Battery Place	1945-1950	National Register-Eligible	Monolithic limestone structure with Art Deco elements; designed by Aymar Embury II, an architect who worked closely with Robert Moses on designs for public projects.

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
5	90NR00693/ LP-0829	Battery Park Control House	Structure	State Street and Battery Place	ca. 1900s	National Register-Listed/NYC Landmark	Beaux-Arts style building constructed in 1905 that provides access to New York City Transit 4 and 5 Subway Lines
6	05NR05428	Joralemon Street Tunnel	Structure	Under East River between Manhattan and Brooklyn	1902 to 1908	National Register-Listed	Over 6,000-foot long subway tunnel under East River built between 1902-1908 according to designs of W.B. Parsons; significant under Criterion A for its transportation, community planning/development, and social history importance and Criterion C for its engineering significance; period of significance is 1902-1908.
7	90NR00616/ LP-1022	US Custom House	Building	Bowling Green	1900-1907	National Historic Landmark/National Register-Listed/NYC Landmark/Contributing to Wall Street Historic District	Seven-story Beaux-Arts-style building erected in 1907 by the federal government; includes sculptures of four continents by noted sculptor, Daniel Chester French; building designed by Cass Gilbert; significant in areas of architecture, art, and sculpture; also within Wall Street Historic District.
8	90NR00651/ LP-00548	Bowling Green Fence and Park	Site and Object	Foot of Broadway at Beaver Street	1733; 1771; 1776	National Register-Listed/NYC Landmark/ Contributing resource to Wall Street Historic District	Park in Lower Manhattan first established during the Dutch occupation of New York; iron fence with ornamental features surrounds park; significant in areas of exploration/settlement; politics/government; and history; also within Wall Street Historic District.

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
9	94NR00582/ LP-01926	International Mercantile Marine Company Building	Building	1 Broadway	1882; redesigned 1919-1921	National Register-Listed/NYC Landmark/ Contributing resource to Wall Street Historic District	Neoclassical-style office building designed by Walter B. Chambers who attended the Ecole des Beaux-Arts in Paris; building overlooks and Bowling Green; redesign was undertaken for holding company of steamship lines; 12-story building clad in Indiana limestone with granite water table and copper clad mansard roof; embellished with Classical ornament; features round-arched arcade at base; significant under Criterion C for its design; also within Wall Street Historic District.
10	06101.006989/ LP-01927	Bowling Green Offices	Building	11 Broadway	1895-1898; altered in 1920	National Register-Listed/NYC Landmark/ Contributing resource to Wall Street Historic District	Hellenic Renaissance-style office building designed by W. & G. Audsley for financier Spencer Trask; significant under Criterion C for its design, and Criterion A for its association with commercial history of New York City; also within Wall Street Historic District.
11	06101.001528/ LP-1928/01929	Cunard Building	Building	25 Broadway	1921	National Register-Listed/NYC Landmark/Contributing resource to Wall Street Historic District	Italian Renaissance-style skyscraper building designed by Benjamin Wistar Morris with Carrere & Hastings; included Great Hall that served as ticketing office for Cunard Lines; also within Wall Street Historic District

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
12	06101.006990/ LP-01930	Standard Oil Building	Building	26 Broadway	1921-1928	National Register-Listed/NYC Landmark/Contributing resource to Wall Street Historic District	Neo-Renaissance-style office building designed by Carrere & Hastings with Shreve, Lamb & Blake as associate architects; Building meets Criterion C for its "powerful sculptural massing and arresting silhouette" that "represent the new set-back skyscraper forms that emerged during the 1920s." Also within Wall Street Historic District.
13	06NR05647	Wall Street Historic District	Historic District	Bounded by Cedar Street & Maiden Lane on north; Pearl St on east; Bridge and S. William St on south; and Greenwich St & Trinity Place on west (majority within footprint)	Mid-19th to 20th Century	National Register-Listed Historic District	Commercial district comprised of 66 contributing masonry buildings in a variety of architectural styles ranging from Greek Revival to Art Deco and International Style; significant under Criterion A for its commerce, economics, community planning/development, and politics/government importance, and Criterion C for its design; period of significance is 1656-1956; 1960 and 1967.
14	06101.009461/ LP-01961	Lamppost 8	Object	13-19 Greenwich Street	Late 19th/early 20th Century	National Register-Eligible/NYC Landmark	Cast iron lamppost erected between 19th and 20th centuries; approximately 100 survive Bronx, Brooklyn, Manhattan, and Queens.
15	LP-01961	Historic Street Lampposts	Object	Greenwich Street and Washington Street	Late 19th/early 20th Century	NYC Landmark	Same as above.

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
16	06101.001318/ LP-02056	Whitehall Building	Building	17 Battery Place	1904; 1908	National Register-Eligible/NYC Landmark	Beaux-Arts-style skyscraper designed by Henry Hardenburgh; 1908 addition by Clinton and Russell; eligible under Criterion C for its architectural design.
17	LP-02075	Downtown Athletic Club	Building	19 West Street (aka 18-20 West Street and 28-32 Washington Street)	1929-1930	NYC Landmark	Art Deco-style skyscraper designed by Starrett & Van Vleck.
18	90NR01402/ LP-1999	21 West Street	Building	21 West Street	1929-1931	National Register-Listed/NYC Landmark	Art Deco-style office building constructed ca. 1929-1931; designed by Starrett & Van Vleck; occupies full block of Morris Street between Washington and West streets; originally built as office tower that has been converted to residences; significant under Criteria A and C for its historic (commerce) and architectural importance; period of significance is 1929-1931.
19	06101.013375	Battery Parking Garage	Structure	70 Greenwich Street	1949	National Register-Eligible	Rounded concrete and brick parking garage; first in New York City to be built by public agency, the Triborough Bridge and Tunnel Authority; originally accommodated 1,050 spaces; structure was expanded between 1965-1968, and now accommodates 2,126 spaces.

Table 1
Historic Architectural Resources in Area of Potential Effect

MAP #	NRHP/ SHPO USN/ LPC NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	APPROXIMATE DATE	DESIGNATION STATUS	BRIEF DESCRIPTION
20	02NR01912	19 Rector Street	Building	19 Rector Street	1929-1930	National Register-Listed	Art Deco-style office building constructed in ca. 1929-1930; designed by Lafayette Goldstone with 1955 addition by Alexander Zamshnick; converted into residences; significant under Criteria A and C for its historic (community planning/development) and architectural importance; period of significance is 1929-1930.
21	06101.014511	Former Babbitt Soap Factory	Building	74-80 Washington Street	1882; 1912	National Register-Eligible	Originally constructed by Babbitt Soap Factory; remodeled ca. 1911 by Blum & Blum; eligible under Criterion C as good example of early 20th-Century office building; since eligibility determination, building has been altered and enlarged from 1969 onward; currently functions as a condominium.
22	06101.007218	Frasch Building	Building	56 West Street/33 Rector Street	1921	National Register-Eligible	Classical-style masonry office building converted into residences.
23	06101.007219	Barrett Building	Building	40 Rector Street	1921	National Register-Eligible	Classical-style office building.

D Archaeological Resources

As indicated in Sections A and B, the proposed project actions for the SBPC Resiliency Project include alterations to First Place, Museum of Jewish Heritage, Wagner Park, Pier A Plaza, and the area traversed by the Battery Bikeway in the northern portion of The Battery, namely through installation of flood control barriers, utility relocations, drainage improvements and site enhancements. These actions would create varying levels of ground disturbance, each of which could directly impact potential archaeological resources.

D.1 Proposed Archaeology Area of Potential Effect

Archaeological resources are concerned with direct effects caused by subsurface disturbances to previously undisturbed soils associated with the execution of project actions. The Archaeology Area of Potential Effect (APE) includes two components: the horizontal APE, which is the footprint of proposed ground disturbance; and the vertical APE, which is considered as the depth to which the proposed ground disturbance is anticipated to extend. The Archaeology APE is depicted in **Figure 6**.

The SBPC Resiliency Project Area includes modern landfill, historic landfill, historic shoreline and a small portion of fast land at its extreme inland end. Battery Park City and Wagner Park are located on modern landfill and are of no archaeological interest. However, the Project Areas of Pier A Plaza and the northern portion of The Battery adjacent to Battery Place are composed of historic landfill sequences and associated bulkheads that extended the Manhattan shoreline westward into the Hudson River, the former shoreline and its military defenses (Battery grounds and walls), and a portion of fast land at State Street. While extensive disturbance within the APE portion of The Battery has occurred due to transportation infrastructure improvements across the area (Battery Park Underpass, Brooklyn-Battery Tunnel, IRT Subway Lines), the tenacity of archaeological resources has been demonstrated in recent years with the documentation of intact sections of the 18th-Century battery walls during archaeological excavations for the South Ferry Subway Project. To illustrate the archaeological resources that could be encountered within the APE, as well as the extensive disturbances that have occurred as a result of transportation infrastructure improvements, **Figure 7** is borrowed from the 2010 Geismar report, *The Reconstruction of Battery Park and Perimeter Bikeway Borough of Manhattan, County of New York.* This figure was compiled for the 2010 Geismar report from information courtesy of AKRF and the MTA (AKRF et. al. 2010).

While the Archaeology APE for the current project is the footprint of the entire Project Area, it is anticipated that only those portions of the Project Area that lie within Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the two proposed locations of the interceptor gate chambers and associated control buildings possess archaeological potential.

D.2 Known Archaeological Resources Within the Search Radius Around the Archaeology APE

The Archaeology APE was researched in SHPO's CRIS in compliance with Section 106, SEQRA, and CEQR. The search area for historic archaeological resources was a 0.25-mile-radius, surrounding the Project Area, and the search area for prehistoric archaeological resources was a 0.5-mile-radius surrounding the Project Area. A total of 15 historic archaeological resources lie within a 0.25-mile-radius of the SBPC Resiliency Project Area as shown in **Figure 6.** The sites are identified in **Table 2.**

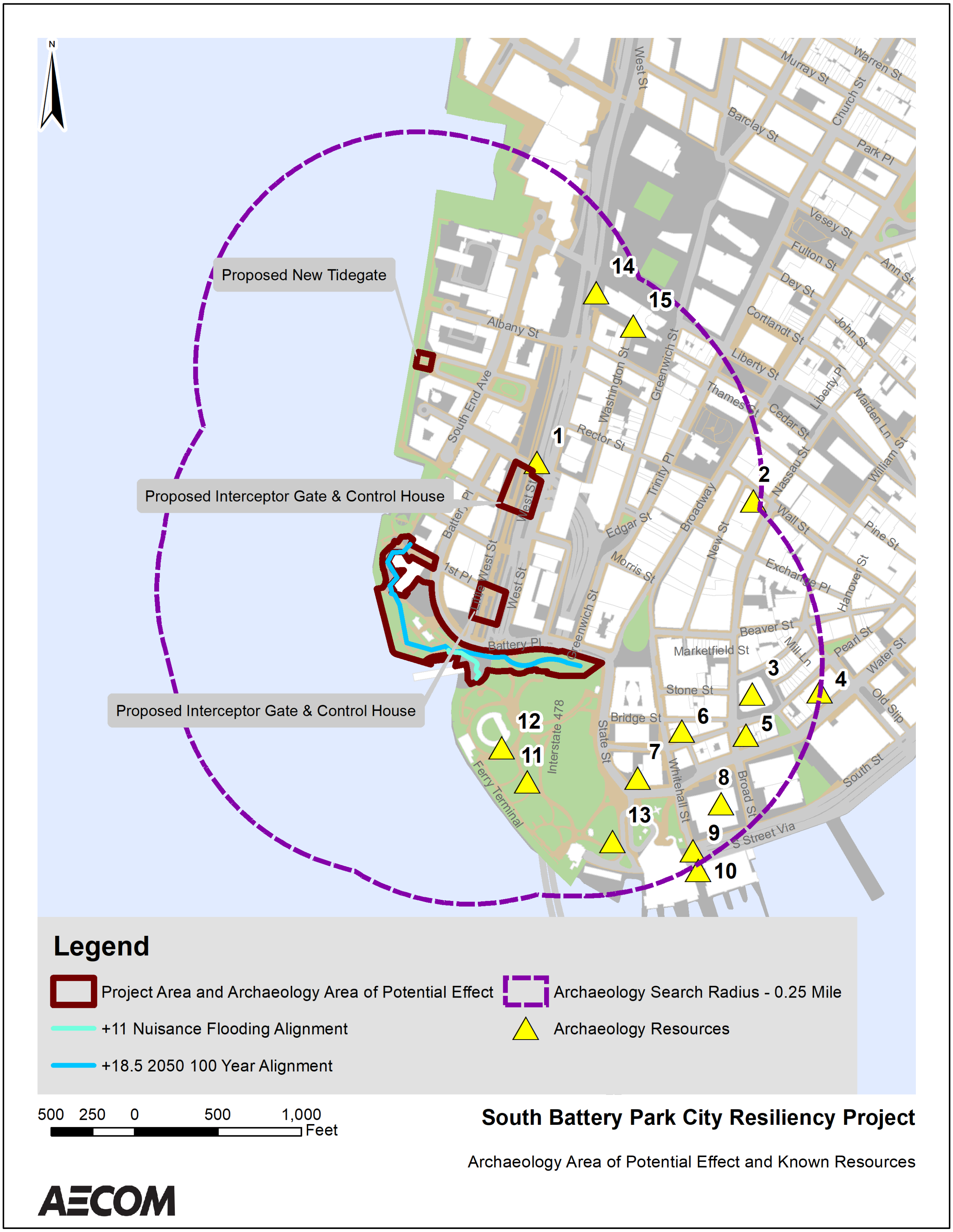

Proposed New Tidegate
Proposed Interceptor Gate & Control House
Proposed Interceptor Gate & Control House
Legend
Project Area and Archaeology Area of Potential Effect
Archaeology Search Radius - 0.25 Mile
+11 Nuisance Flooding Alignment
Archaeology Resources
+18.5 2050 100 Year Alignment
500 250 0 500 1,000 Feet
South Battery Park City Resiliency Project
Archaeology Area of Potential Effect and Known Resources
AECOM

Figure 6

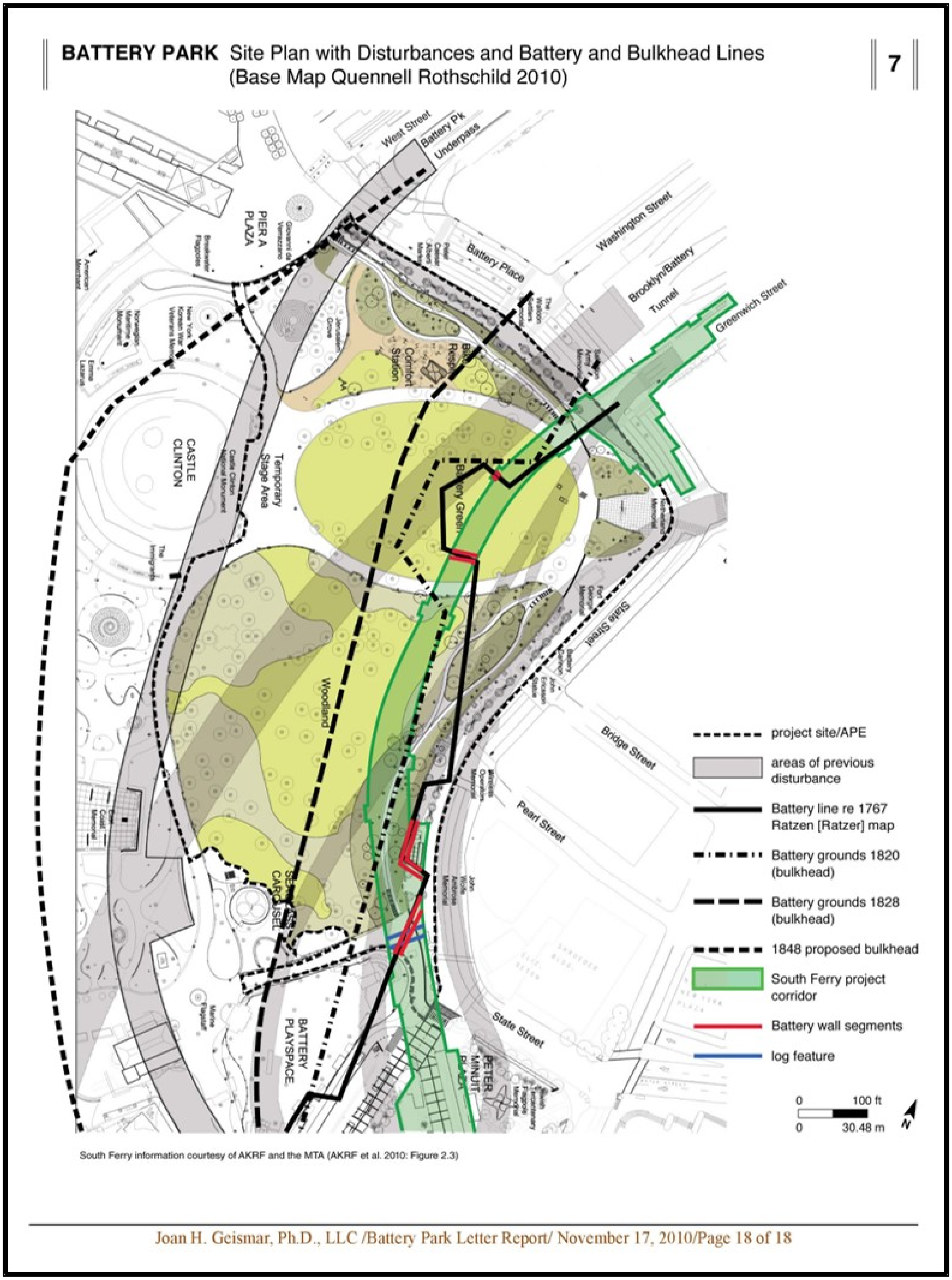


Figure 7 - Historic Resources and Disturbance (from Battery Park Letter Report, Geismar 2010)

Table 2
Known Archaeological Sites Within 0.25-Mile Search Radius of Project Area

SHPO/NYSM SITE NUMBER	MAP REF. #	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	DATE/TIME PERIOD	DESCRIPTION	NATIONAL REGISTER STATUS
06101.08120 NYSM 12322	1	Pier 7 Complex	Structures	South end of West Thames Park, north of West Thames Street	19th Century Historic	Includes portion of ca. 1903 Hudson River bulkhead, ca. 1908 Pier 7 of Baltimore & Ohio RR concrete foundation and shed	Eligible
06101.013876	2	Federal Hall Archaeological Site	Potential Site	26 Wall Street	Historic	2005 Phase IB monitoring report by Hartgen Archeological Associates for the NPS for sub-basement foundation repairs encountered 7 features, none of which were determined to be National Register eligible	Tested areas: Not eligible Potential areas: Undetermined
NYSM #554	3	Stadt Huys Site	Structures	Now 85 Broad Street	17th -19th Century Historic	Site of Dutch State House and English Lovelace Tavern; fast land block	Excavated
NYSM #624	4	7 Hanover Square Site	Structures	Now 7 Hanover Square	18th Century Historic	Part fast land/ part early landfill block of 18th Century residences	Excavated
06101.001272	5	64 Pearl Street Site	17th Century Landfill	64 Pearl Street	Late 17th Century Historic	Artifacts dating to the last quarter of the 17th Century	Excavated
06101.001282	6	Broad Financial Center (Ronson Project Site 33 Whitehall)	17th Century fast land site	Bounded by Pearl, Whitehall and Bridge Streets	17th-19th C Historic Occupations	Four 17th Century structures; 6 features identified; 43,318 artifacts recovered	Excavated
06101.015768	7	18th Century Battery Wall	Structure	South Ferry Corridor in Battery Park	ca. 1730-1789	4 sections of cut sandstone and schist stone wall; mid-18th C artifacts recovered	Eligible
06101.000491	8	Municipal Ferry Pier/Battery Maritime Building Site	Structure	Bounded by Water, Broad, South and Whitehall Streets	1909	Municipal Ferry	Listed, NHL

Table 2
Known Archaeological Sites Within 0.25-Mile Search Radius of Project Area

SHPO/NYSM SITE NUMBER	MAP REF. #	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	DATE/TIME PERIOD	DESCRIPTION	NATIONAL REGISTER STATUS
06101.015598	9	Whitehall Slip Site	Structure	Foot of Whitehall Street at shoreline	18^{th} and 19^{th} Century Historic	Created 1754; filled 1824-1850s. Slip composed of wood timbers and cobbles and contained many historic artifacts	Undetermined
06101.013334	10	Whitehall Ferry	Structure	Off Whitehall Street	18^{th} and 19^{th} Century landfill and cribbing	18^{th} Century landfill; 19^{th} Century construction fill	Undetermined
06101.016196	11	Log Cribbing & Fill	Structure	Battery Park near South Ferry Terminal	17^{th}-19^{th} C Historic Fill	Log cribbing and stone wall sections and associated historic artifacts from 17^{th} to 19^{th} Centuries	Undetermined
06101.000490	12	Form Missing – possibly Castle Clinton		In Battery Park adjacent to Castle Clinton			Listed, NHL
No Number	13	The Battery Playscape	Structure	Southeast portion of Battery Park, west of Peter Minuit Place	Probable section of 18^{th} Century Battery Wall	Artifacts included Dutch yellow brick, 17^{th}-18^{th} Century ceramic sherds	Undetermined
06101.018121 NYSM# 12321	14	Liberty Street Pilings Site	Structure	At the median of the intersection of Liberty and West (Route 9A) Streets	ca. 1857-1903	Large horizontal square cut timbers over large round wooden pilings; no artifacts collected. In former commercial pier area developed before and after Hudson River bulkhead construction. Adjacent to the Liberty Street (Communipaw) Ferry	Eligible
06101.018000	15	WTC Ship	Hudson River-Style Sloop	Bounded by Liberty, West (Route 9A), Cedar, Washington, Albany, and Greenwich Streets	Constructed late-1770s to 1780s; Incorporated as landfill 1790s	Located in former slip of filled Hudson River shoreline commercial pier/wharf area. Built for river trade, possibly in Philadelphia, but shipworm analysis revealed that she plied much warmer waters, probably in the Caribbean	Determined Eligible upon discovery; data recovery excavation completed as mitigation of unavoidable adverse effect

D.3 Previously Conducted Archaeological Surveys Relevant to the Project Area

The Battery has a long development history dating to the 17th Century and the founding of New Amsterdam ca. 1624 by the Dutch, and the subsequent takeover by the English in 1664. The portion of The Battery within the Project Area was created through land reclamation efforts partially due to military or defensive concerns of the early settlers during the 1730s.

Paul R. Huey, Scientist (Archaeology), now *Emeritus*, of the Bureau of Historic Sites, Division of Historic Preservation in the New York State Office of Parks, Recreation and Historic Preservation, compiled a narrative history of New York City's shoreline fortifications through extensive examination of documents and maps (Huey 2006). This compilation provides a comprehensive account of shoreline alterations and military installations that are located partially within or pass through the Archaeology APE for this project.

The South Ferry Terminal project undertaken by the Metropolitan Transportation Authority included archaeological surveys from Phase IA through Data Recovery, or Phase 3 excavations. Beginning in 2003, the Louis Berger Group, Inc. prepared a Phase IA archaeological documentary study for the new South Ferry Terminal site, an 1,800-foot linear study area through The Battery. The Phase IA concluded that the terminal site was sensitive for historic archaeological resources, including 17th and 18th-Century Dutch and British occupation deposits, 17th and 18th-Century Dutch and British military fortifications, and late 19th and early-20th-Century transportation elements, such as elevated railway structures and streetcar lines.

Extensive archaeological investigations for the South Ferry Terminal project continued as the project progressed, which resulted in the archaeological monitoring of more than 80 percent of its project area. A final report of the Phase 1, Phase 2, and Phase 3 Data Recovery investigations was prepared by AKRF, URS Corporation, and Linda Stone in 2012. The archaeological investigations identified four truncated segments of the 18th-Century battery wall that surrounded Fort George (the former site of Fort Amsterdam under Dutch rule), remains of Whitehall Slip, landfill-retaining structures such as log cribbing sections, and landfill deposits (**Figure 7**). It is noted that the segments of the 18th-Century battery walls were encountered as shallow as 4.4 feet below ground surface, and as deep as 8.2 feet below ground surface. Human remains were also encountered during the investigations, which may have been associated with a chapel cemetery that was associated with Fort George. It is also possible that these remains were not *in situ* but incorporated into the landfill by alternate means.

A comprehensive history of the development of Battery Park was compiled by Joan H. Geismar, Ph.D. in 2010 as part of a Phase IA archaeological assessment survey for the *Reconstruction of Battery Park and Perimeter Bikeway* for the NYC Department of Parks and Recreation, in partnership with the Battery Park Conservancy (Geismar 2010). Research for the 2010 Phase IA assessment was focused on three elements of the park's developmental history: military defenses; landfill features; and subsequent construction disturbances. It is noted that the areas of The Battery Bikeway that are being replaced as part of the SBPC Resiliency Project are areas that were built during the last decade, and for which the 2010 and 2011 survey reports were developed.

During 2011, a Phase IB test pit survey for the Battery Bikeway project was conducted by Joan H. Geismar, Ph.D. for discrete areas in Battery Park determined sensitive for archaeological resources through the 2010 Phase IA assessment survey. The vertical APE for the project was 3.5 feet below ground surface, as the project actions were not anticipated to create deep impacts. However, nine trenches were excavated to a maximum depth of 6 feet in discrete portions of the project area where prior disturbance could not be documented. Results of the testing revealed 20th-Century fill deposits likely associated with utility construction. No significant archaeological resources were encountered, and no further testing was recommended for the proposed project area. The letter report concludes with a caveat regarding any future projects with proposed impacts at greater depths than the 2010 bikeway project, and recommends that an archaeological assessment be conducted to identify any structural features and archaeological resources that may be encountered.

E SHPO Consultation Request

BPCA seeks input from SHPO and LPC regarding next steps in the consultation process for historic architectural and archaeological resources.

In terms of historic architectural resources, on November 8, 2019, AECOM consulted with Charles Birnbaum, FASLA, FAAR, and President and Chief Executive Officer of The Cultural Landscape Foundation (TLCF). TLCF has focused awareness about the potential exceptional significance of Wagner Park, and the importance of considering its National Register eligibility as part of this project. As indicated in Section A of this letter, Wagner Park opened in 1996, and would not be identified as a historic architectural resource because it is less than 50 years old, the age criterion to qualify for National Register eligibility consideration. However, after the park opened, it was lauded for its high-quality design by prominent architecture and design professionals. The park also garnered recognition from the design community in the 1990s, including awards bestowed by the American Institute of Architects (AIA), the main professional organization for architects practicing in the United States.

Therefore, BPCA seeks SHPO's input regarding whether, as part of this project, Wagner Park should also be evaluated for exceptional significance under National Register Criteria Consideration G – Properties That Have Achieved Significance in the Past Fifty Years.

PHOTOGRAPHS

View looking north toward Museum of Jewish Heritage. Flood alignment may be erected adjacent to buildings.

View looking toward north lawn in Wagner Park. Lawn is located just south of Museum of Jewish Heritage. Flood alignment may be erected in this area.

View of north lawn in Wagner Park with sculpture.

View of north garden and north allée of red maple trees in Wagner Park. Allée divides the park from the Battery Park City esplanade.

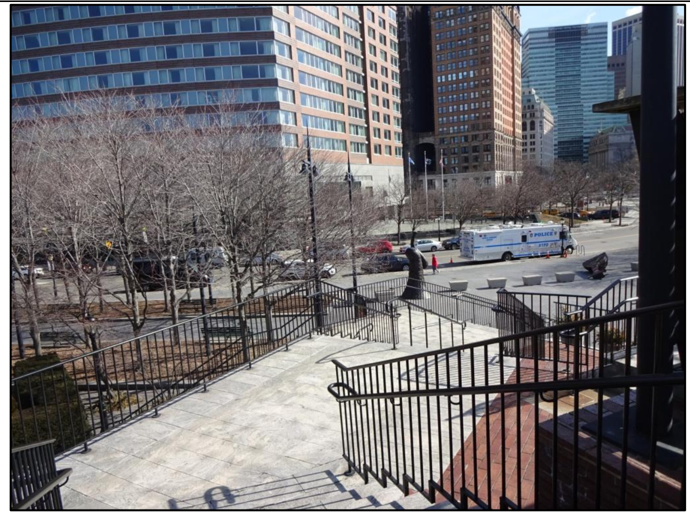
View looking northwest across main lawn in Wagner Park. Area may be impacted by flood alignment.

View looking southwest from Wagner Park pavilion toward lawn. Note Statue of Liberty in New York Harbor; unobstructed view would remain in redesigned park.

View of Wagner Park pavilion looking southwest. Note how pavilion frames view of Statue of Liberty. Framed view would remain in redesigned park.

View of Wagner Park pavilion. Building would be replaced as part of project.

View looking toward south garden of Wagner Park. Area may be impacted by flood alignment.



South allée in Wagner Park taken from staircase of pavilion. Pavilion would be replaced and allée may be impacted by flood alignment.

View of National Register-listed/NYC Landmark Pier A. Pier A Plaza would be improved with both the flood alignment and the nuisance flooding alignment.

View looking north from Pier A Plaza toward the Hudson River Greenway on the north side of Battery Place. Plaza would be improved with both the flood alignment and the nuisance flooding alignment.

View of Pier A Plaza; portion of plaza would be improved with nuisance flooding alignment.

View of Pier A Plaza and allées in Wagner Park. Noted that flood alignment and nuisance flooding alignment would extend from the allées to Pier A Plaza.

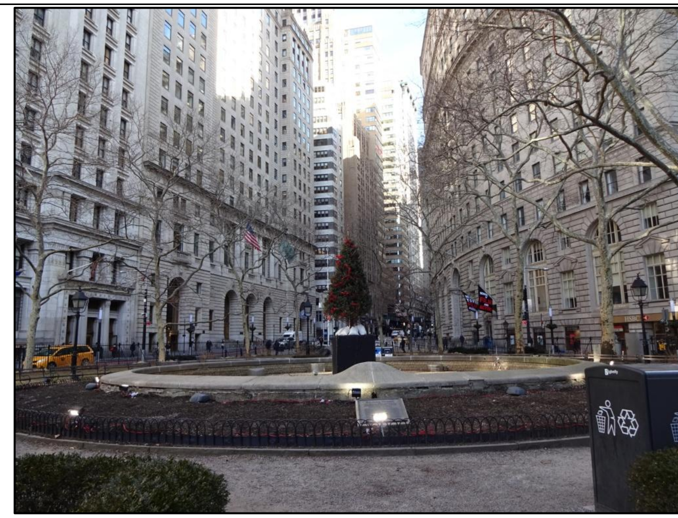
View of Pier A inlet that separates Pier A from Wagner Park. Inlet would be improved.

View looking west in Battery Park toward National Register-listed/NYC Landmark Castle Clinton National Monument.

View looking east toward Battery Bikeway that flanks northern edge of Battery Park. Bikeway is situated in area of proposed flood alignment.

View looking northwest toward National Register-eligible Vent/Blower Building of Brooklyn-Battery Tunnel and National Register-eligible/NYC Landmark Whitehall Building on north side of Battery Place, opposite Battery Park and bikeway.

View looking toward southwest corner of Battery Place and State Street where flood alignment terminates. Note NHL/NYC Landmark U.S. Custom House at 1 Bowling Green (right) and National Register-listed/NYC Landmark 1 Broadway (left).



View looking north toward National Register-listed/NYC Landmark Bowling Green located north of U.S. Custom House.

View looking north toward National Register-listed/NYC Landmark Battery Park Control House which functions as an entrance to the NYC Transit 4 and 5 Subway Lines.

View of Hudson River Greenway Promenade that may be impacted by proposed interceptor gate and control house. Note edge of Whitehall Building on left side of photograph.

View looking southeast across Route 9A toward National Register-listed/NYC Landmark 21 West Street; NYC Landmark Downtown Athletic Club; and National Register-eligible/NYC Landmark Whitehall Building.

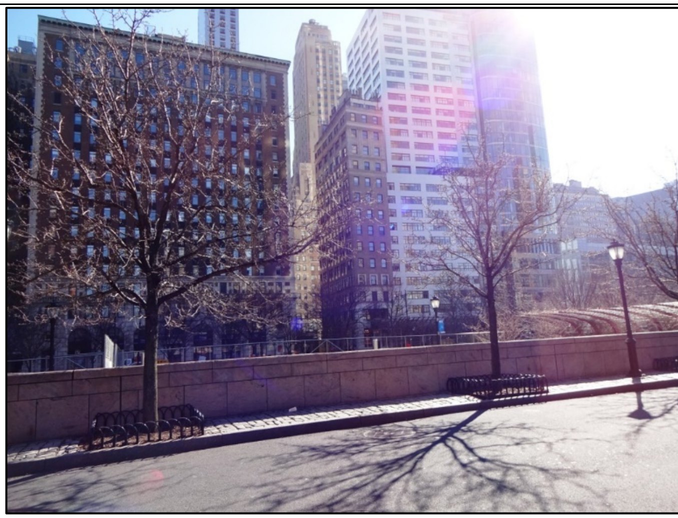
View of Hudson River Greenway Promenade looking south; area may be impacted by proposed interceptor gate and control house.

View looking east from First Place toward Battery Place in Battery Park City; . Area in foreground may undergo drainage improvements. No historic buildings flank First Place.

View looking south from West Thames Street toward Third Place; area may be impacted by proposed interceptor gate and control house.

View looking south from West Thames Street toward Third Place; area may be impacted by proposed interceptor gate and control house.

View of west end of Rector Street; area may be impacted by proposed tide gate; R.M. Fischer's *Rector Gate* sculpture (1989) is in background.



View looking east toward three National Register-eligible buildings, left-to-right, at 40 Rector Street; 74-80 Washington Street, 19 Rector, and 56 West Street/33 Rector Street.

View looking east toward 40 Rector Street (building on the right).

View looking toward National Register-eligible Battery Parking Garage.


View of Battery Parking Garage; note curved facade.

Photographs

View Battery Bikeway area looking east; area is slated for proposed flood alignment. Note historic buildings on north side of Battery Place, including (left to right) NR-eligible/NYC Landmark Whitehall Building, NR-eligible Brooklyn-Battery Tunnel Vent/Blower Building, and NR-listed/NYC Landmark International Mercantile Marine Co. Building.

View of Battery Bikeway and adjacent sidewalk separated by granite wall benches on south side of Battery Place; note historic Whitehall Building on north side of Battery Place. Flood alignment would be erected in this area.

View of Battery Bikeway and adjacent sidewalk that would be altered by project.

View looking east toward the International Mercantile Marine Company Building on north side of Battery Place (left) and NHL/NR-listed/NYC Landmark U.S. Custom House (right). Flood alignment would terminate before this point.

View south side of Battery Place. Flood alignment along Battery Bikeway would end in area with mature trees. Note historic Whitehall Building and Brooklyn-Battery Tunnel Vent/Blower Building on north side of Battery Place (right)

View of International Mercantile Marine Company Building on north side of Battery Place; western portion of building would be across from flood alignment.

View of south side of Battery Place, looking toward the U.S. Custom House (right) and International Mercantile Marine Company Building (left). Battery Bikeway flood alignment would terminate near area with trees at right edge of photograph.

View of south side of Battery Place, and Peter Caesar Alberti Marker (dedicated 1959; rededicated ca. 1985); monument will be relocated to paving median of sidewalk in area currently occupied by trees and benches.


View looking west along Battery Place; area beyond Walloon Settlers Memorial in the vicinity of the granite wall benches may be improved with security improvements comprised of a 40-inch wall.


View looking east from Walloon memorial; security improvements would not take place east of the memorial; note historic Whitehall Building and Brooklyn-Battery Tunnel Blower House at left edge of photograph.

Looking north from The Battery. Subsurface isolation valve may be installed in this area.

View of NR-listed/NYC Landmark Pier A and Pier A Plaza. Plaza area would be improved with 2050 100-year flood alignment and the +11-foot nuisance flooding alignment.

View looking north from Pier A Plaza toward the Hudson River Greenway on the north side of Battery Place. Plaza would be improved as part of project.

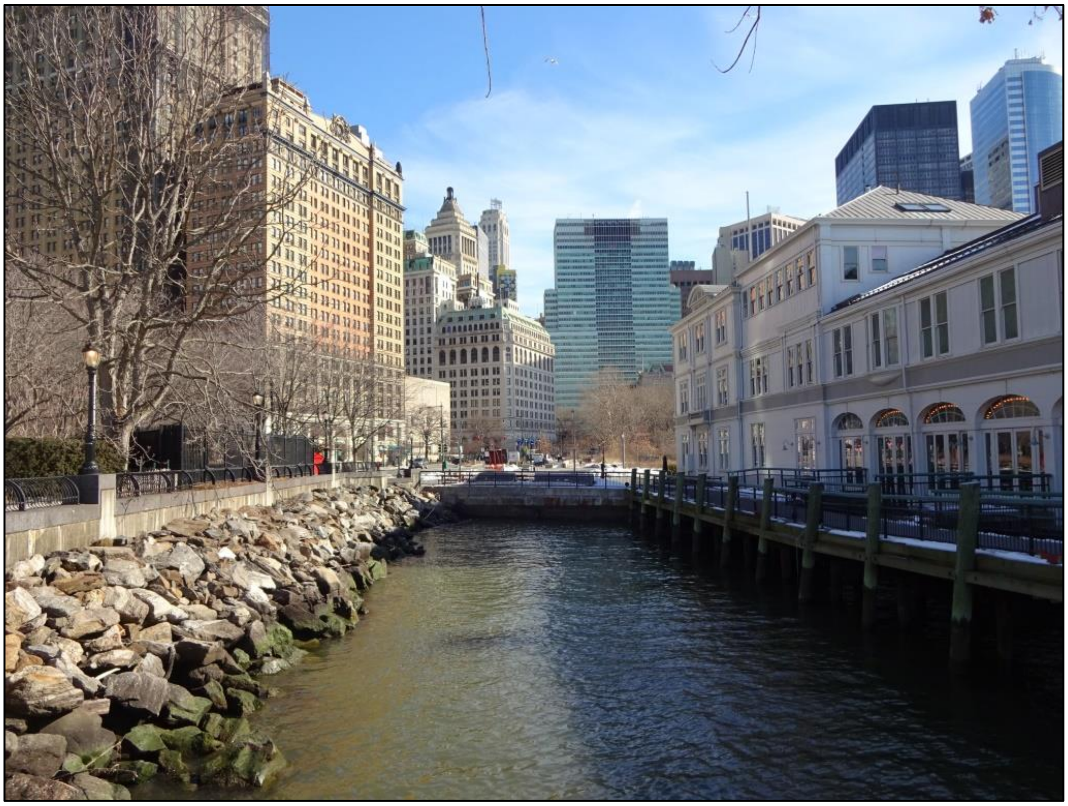
View of Pier A Plaza; portion of plaza would be improved as part of the +11-foot nuisance flooding alignment; subsurface tide gate may also be installed in this area.

View of Pier A Plaza and allées in Wagner Park. Noted that 2050 100-year flood alignment and nuisance flooding alignment would extend from the allées to Pier A Plaza.

View looking west along Battery Place; security improvements, comprised of a 40-inch wall and bollards, may terminate at the exposed flood wall near the Battery Park Underpass vent at the left edge of the photograph.

View of Pier A inlet that separates Pier A from Wagner Park. Area would be improved with a naturalized edge with an overlook deck as part of SBPC Resiliency Project.

View looking southwest toward area along Pier A inlet. Area is within Pier A National Register boundary, and would be excavated during construction for bulkhead improvements.



View looking east along Pier A inlet; edges of inlet are located within the NYC Landmark boundary; bulkhead improvements would occur along the inlet.

View looking west toward the north and south pavilions at Wagner Park. Note the foot bridge that links the pavilions, and provides a direct line of sight to the Statue of Liberty in the background. The 2050 100-year flood alignment would require construction of a new park at a higher elevation.

View of the north ornamental garden and north allée at Wagner Park. Note the hedges and hardscape features. The 2050 100-year flood alignment would require construction of a new park at a higher elevation.

View of the south ornamental garden. Note hardscape and landscape features. The 2050 100-year flood alignment would require construction of a new park at a higher elevation.

View of the central lawn, looking south. Note the low wood benches that define the perimeter of the lawn. The 2050 100-year flood alignment would require construction of a new park at a higher elevation.

View of National Monument/NR-listed/NYC Landmark Castle Clinton from across lawn of Battery Park.

View of NR-listed Bowling Green Fence and Park; NR-listed and NYC Landmark Standard Oil Building (right), NR-listed/NYC Landmark Bowling Green Offices (left) and NR-listed/NYC Landmark
Cunard Building (right). All resources contribute to NR-listed Wall Street Historic District.

View of NR-listed/NYC Landmark Battery Control House, and NHL/NR-listed/NYC Landmark U.S. Custom House (right); NR-listed and NYC Landmark Standard Oil Building in background (curved building).

View looking north toward corner of Washington and Morris streets toward NYC Landmark Historic Street Lamppost.

View looking south toward NYC Landmark Historic Street Lamppost; lamppost is located adjacent to NR-listed/NYC Landmark 21 West Street.

View looking southeast across West Street (Route 9A) toward NR-listed/NYC Landmark 21 West Street; NYC Landmark Downtown Athletic Club; and NR-eligible/NYC Landmark Whitehall Building.

View looking east toward MH#1 along West Street (Route 9A). Note Whitehall Building in background. As part of the Near Surface Isolation (NSI) improvements, the manhole cover would be replaced with a pressure-proofed opening.

View looking northeast toward Whitehall Building; note MH#1 along West Street (Route 9A) in foreground.

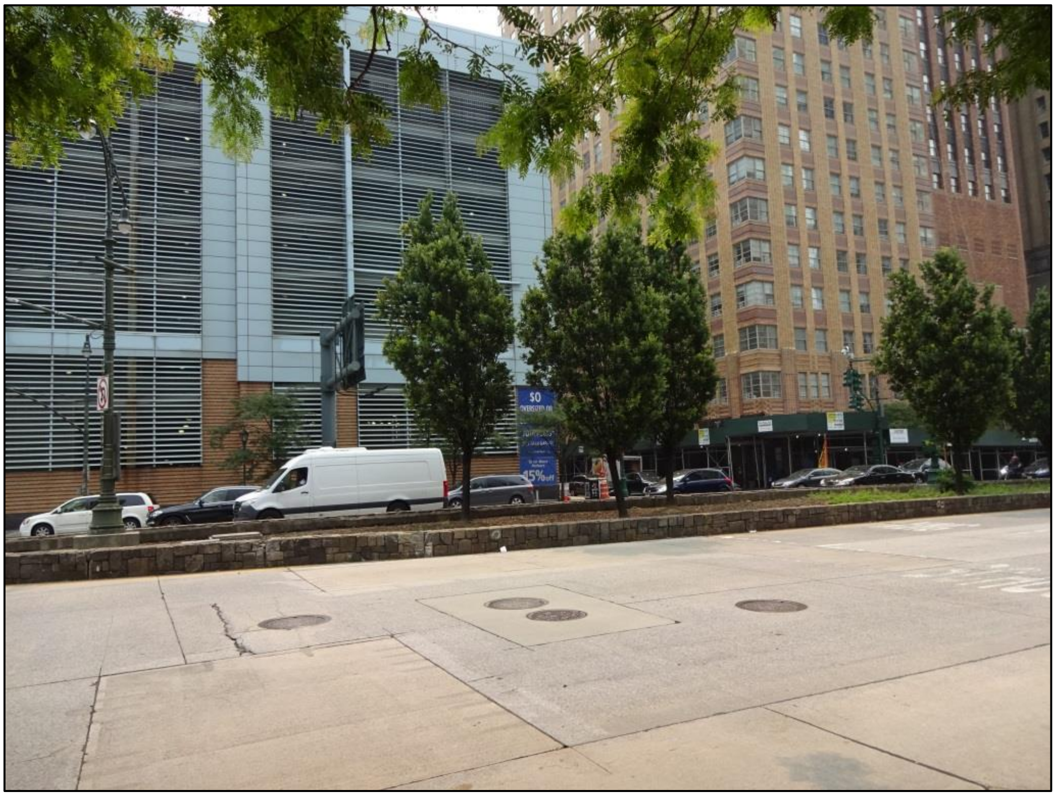
View looking northeast toward Regulator M9; manholes mark the subsurface infrastructure beneath the Hudson River Greenway east of First Place. NSI improvements would be made in this area, including replacement of manhole covers with pressure-proofed openings.

View looking at Regulator M9 manholes along Hudson River Greenway.

View looking east toward Whitehall Building; note Regulator M9 in the foreground.

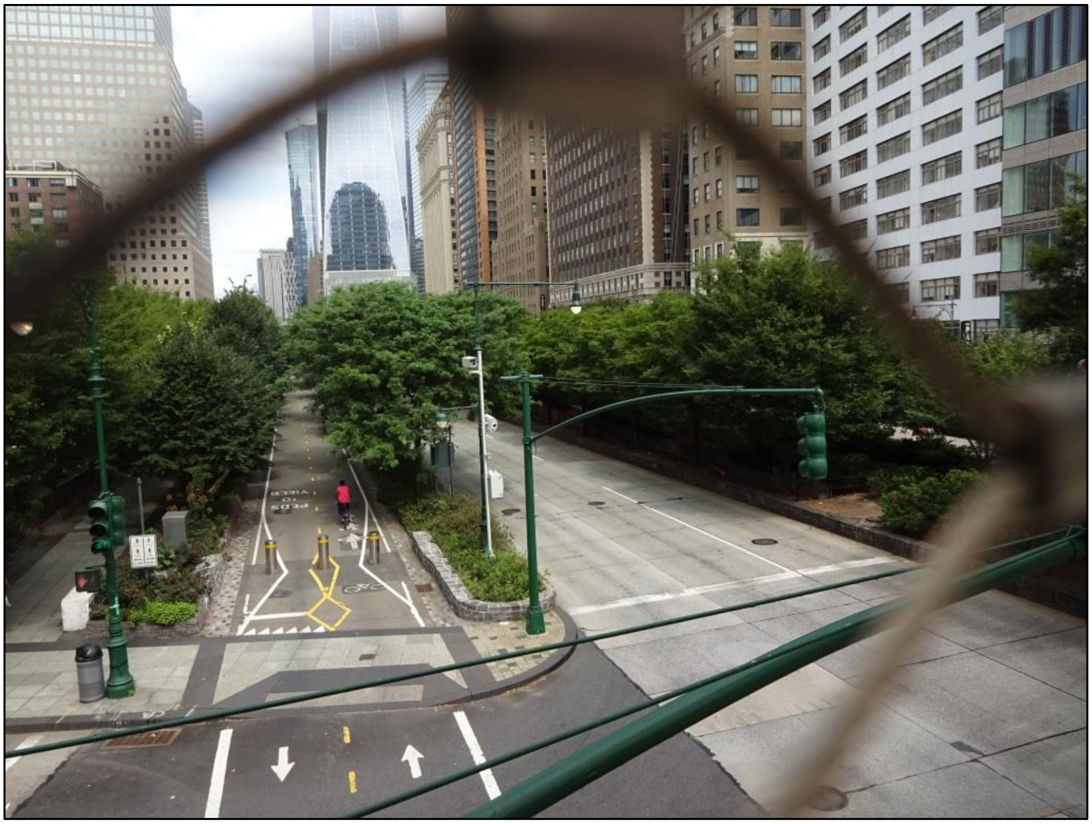

View looking east toward MH#2 along West Street (Route 9A). Note Whitehall Building on east side of Battery Park Underpass. As part of the NSI improvements, the manhole cover would be replaced with a pressure-proofed opening.


View looking east from First Place toward Battery Place. Subsurface tide gate may be installed near the Hudson River. Area in foreground forms part of main project area, while area in background is control house project area. No historic buildings flank First Place.



View looking east toward West Street (Route 9A) and manholes associated with Regulator M8. Note 21 West Street and Downtown Athletic Club at right edge of photograph. NSI improvements would be made in this area, including replacement of manhole covers with pressure-proofed openings.

View looking east toward West Street (Route 9A) from West Thames Street. Note MH#3 west of the intersection on West Street. NSI improvements would be made in this area, including replacement of manhole covers with pressure-proofed openings.



View looking north above intersection of West Thames Street and West Street. MH#3 beyond intersection would be replaced with pressure-proofed opening.

Looking east toward existing sanitary emergency overflow chamber; as part of the NSI improvements, the manhole cover would be replaced with a pressure-proofed opening.

View looking northeast across West Thames Playground from the north side of West Thames Street in vicinity of subsurface infrastructure associated with existing sanitary emergency overflow chamber that would be upgraded along with MH#3. Note historic buildings along West Street (Route 9A).

View looking east from east end of Rector Street and West Thames Playground toward Barrett Building (NR-eligible) (building on the right), and New York Evening Post Building (NR-listed) (building on left).

View of west end of Rector Street; area may be impacted by proposed subsurface tide gate; R.M. Fischer's *Rector Gate* sculpture (1989) is in background.

View looking east toward Regulator M7 along West Street (Route 9A), east of Rector Place with the Barrett Building in background. As part of the NSI improvements, two manhole covers would be replaced with pressure-proofed openings.

View looking east toward across West Street toward New York Evening Post Building (left) and Barrett Building (right); Regulator M7 in foreground.

View looking west of NR-eligible Battery Parking Garage; note curved facade. Building is screened from project actions by intervening buildings.

View looking northeast toward NR-eligible/NYC Landmark (Former) St. George’s Syrian Roman Catholic Church at 103 Washington Street. Building is screened from project actions by intervening buildings.

View looking northeast toward NR-listed/NYC Landmark West Street Building at northeast corner of Albany Street and West Street (Route 9A). Building is far-removed from project actions.

View looking southeast toward NR-eligible/NYC Landmark Lamppost 80 on east side of Washington Street. Lamppost is Bishop's crook-style, and is screened from project actions by intervening buildings.


NYC
Schilling
RESTAURANT & BAR

B.2 Letter of Resolution

(*To be included upon completion*)

B.3 Phase IA Archaeological Survey

January 28, 2022

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: FEMA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Gwen Dawson:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

We have reviewed the report of the Phase IA archaeological investigation (22SR00030). The SHPO concurs with the report recommendations summarized below.

- Archaeological monitoring during construction of the flip up deployable gate at Pier A Plaza.
- Archaeological monitoring during construction of the NSI system between sanitary connection sewer chamber MH #3 and the emergency overflow chamber.

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

Sincerely,

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

via e-mail only

Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 10007
Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: SEQRA-M (BPCA)
Project: South Battery Park City Resiliency Project

Date Received: 2/2/2022

Comments:

LPC is in receipt of the DEIS dated February 1, 2022. The document appears acceptable for architectural resources. Additionally, it is noted that the documentary study's findings are accurately noted in the text.

The LPC is in receipt of the, "Phase IA Archaeological Documentary Study," prepared by AECOM and dated December 2021 which was submitted as an appendix of the DEIS dated February 1, 2022.

The LPC notes that the documentary study has reviewed the specific area of potential effect for the proposed project and, thus, should the plan change the new inground areas that may be impacted by the proposed changes should be submitted to LPC and NYSHPO for further review. However, the LPC concurs with the documentary study that archaeological monitoring should occur within the Pier A plaza and NSI System Interior Drainage areas as identified in the study. A work plan describing this monitoring effort should be submitted to LPC for review before the work begins. Please submit a hard copy and a pdf of just the report to the LPC for the agency archives.

Cc: NYSHPO

Gina Santucci 3/2/2022

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 34900_FSO_ALS_02142022.docx

AECOM Imagine it. Delivered.

South Battery Park City Resiliency Project

Environmental Impact Statement
Draft Phase 1A Archaeological Documentary Study Report

Battery Park City Authority

AECOM Project Number: 60579231

March 2021
Revised January 2022

Table of Contents

Tables

Figures (under separate cover)

Appendix

Executive Summary

Battery Park City Authority (BPCA), the lead agency for the South Battery Park City Resiliency (SBPCR) Project, has prepared a Draft Environmental Impact Statement (DEIS) for this proposed resiliency project in the Battery Park City neighborhood of Lower Manhattan. The DEIS addresses the requirements of the New York State Environmental Quality Review (SEQR) and the City Environmental Quality Review (CEQR) processes. The Proposed Action is subject to SEQR, as mandated in 6 NYCRR Part 617, and will follow the technical guidelines outlined in the *2020 CEQR Technical Manual* ("*CEQR Technical Manual*").

The Project's primary goal is to improve the resiliency of a portion of Lower Manhattan through integrated flood risk measures. This Project represents one part of the Lower Manhattan Coastal Resiliency (LMCR) Master Plan. The Project Area plays an important role in the overall flood risk reduction for Lower Manhattan because Lower Manhattan's lowest existing contours and elevations for coastal surge inundation are located at the north and south ends of Battery Park City.

The Project Area boundary for the flood alignment spans from First Place and the Museum of Jewish Heritage, through Robert F. Wagner Park (Wagner Park), across Pier A Plaza, and then along the north side of the Battery Bikeway in Battery Park (The Battery) to higher ground near the intersection of Battery Place and State Street.

AECOM, on behalf of BPCA, prepared a letter and information package to initiate consultation for the SBPCR Project under Section 106, SEQRA, and the New York City Environmental Quality Review (CEQR) processes. The consultation package was sent to the New York State Office of Parks, Recreation and Historic Preservation (SHPO) and the New York City Landmarks Preservation Commission (LPC) on March 22, 2020 for their review and guidance on next steps in the consultation process.

AECOM opined that the ground disturbing actions associated with Battery Park City, The Museum of Jewish Heritage and Wagner Park would have no effect on archaeological resources because they were constructed on 20th Century landfill with no archaeological potential. AECOM also opined that Pier A Plaza, The Battery, and the interior drainage improvement locations along the Hudson River Greenway/West Street may possess archaeological potential for encountering historic period resources.

Both review agencies concurred with the opinion that the three above mentioned portions of the SBPCR Project Area may possess archaeological potential and requested that a Phase IA archaeological documentary study be prepared to further research the three locations and develop a sensitivity assessment (Appendix A).

At the time of initial SHPO and LPC consultation in March 2020, construction of two interceptor gates and control buildings above Battery Place were the preferred method of addressing interior drainage improvements in this portion of the Project Area, working with the proposed flood alignment. However, in Spring 2021, the NYCDEP informed the BPCA and AECOM that the interceptor gates and control buildings were no longer the preferred solution, and requested the development of an alternate system to preclude coastal surge from entering the Project Area. As a result of this request, the Near Surface

Isolation System (NSI) was developed, which relies on specific improvements/adaptations to the existing subsurface infrastructure in the corridor above Battery Place, and works along with the flood alignment to protect the Project Area (**Figures 4 and 7**).

In compliance with AECOM's initial recommendations and SHPO and LPC concurrence, the Archaeological APE for this Phase IA survey was defined as the footprint of the flood alignment elements and associated project actions that will create subsurface disturbance across areas that have the potential to contain archaeological resources. The archaeology APE has been divided into three sections. These sections are Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the proposed near surface isolation (NSI) interior drainage improvements locations above Battery Place. The three Archaeological APE sections are depicted on **Figures 5, 6 and 7**.

The Archaeological APE is concerned with direct effects to potential archaeological resources in previously undisturbed or minimally disturbed areas where subsurface disturbance is anticipated to occur as a result of project actions. The APE is composed of two parts: the horizontal APE, which is the footprint of anticipated subsurface disturbance, and the vertical APE, which is the depth to which subsurface disturbance is expected to occur. The anticipated depths of disturbance, or vertical APE, for the flood alignment and its associated project actions vary across the APE, which is a critical factor in the development of the sensitivity assessment. Documented prior subsurface disturbance is also a critical factor, as archaeological resources that have been directly impacted by prior actions are not expected to be intact, or retain stratigraphic integrity, or meet the eligibility criteria for listing in the National Register of Historic Places.

The flood alignment and related project actions across each Archaeological APE section have been assessed for archaeological potential. The results of the Phase IA research and conclusions regarding sensitivity are presented by APE section in the technical report. The following brief synopsis of the archaeological potential within the APE is taken from Chapter 6, Conclusions and Recommendations.

Pier A Plaza:

- The nuisance flood alignment area footprint in Pier A Plaza does not possess archaeological potential.
- The Pier A Plaza excavation/bulkhead improvement locations do not possess archaeological potential.
- The proposed tide gate location in Pier A Plaza does not possess archaeological potential.
- The flip-up deployable gate portion of the flood alignment in Pier A Plaza below the line of West Street and near the west boundary of The Battery possesses moderate potential for encountering the 1857 bulkhead wall. Phase IB archaeological monitoring during construction is recommended for this portion of the Project Area.
- The locations of proposed security measures in Pier A Plaza do not possess archaeological potential.

The Battery:

- There is no archaeological potential along the flip-up deployable gate portion of the flood alignment in The Battery.
- There is no archaeological potential along the proposed security measures locations in The Battery.
- There is no archaeological potential along the proposed fixed exposed floodwall over the Battery Park Underpass location in The Battery.
- There is no archaeological potential at the two isolation valve locations in The Battery, as they will be connected to existing mains which have already created subsurface disturbance.
- There is no archaeological potential along the proposed buried floodwall and earthen berm location in The Battery; prior archaeological testing to depths deeper than anticipated depths of current project did not encounter historic bulkhead or other resources.
- In summary, the proposed project actions in The Battery portion of the Archaeological APE would not impact potential archaeological resources. No further archaeological work is necessary in this portion of the APE.

NSI Interior Drainage Improvements:

Key sewer system components within the project area will require intervention to allow isolation of the streets and combined sewers from the surge driven flows.

The NSI System would consist of the installation of a gate within the existing regulator structures, M9, M8, and M7, which would be closed in a flood event to prevent the storm surge rising through the interceptor line from reaching the street level. In addition, four interceptor manholes (MH) along West Street between Battery Place and Albany Street would be pressure-proofed and retrofitted to receive a cover that can be sealed shut and locked during a flood event to resist the pressure resulting from the surge rising through the interceptor line and the piping connecting the manholes to the interceptor. It will also be necessary to pressure-proof and retrofit the existing sanitary emergency overflow chamber that is connected to the existing sanitary connector sewer chamber at MH #3.

It is anticipated that the extent of construction activities necessary to meet these project goals will be limited to the horizontal and vertical footprints of the original installation construction. However, a three-foot buffer surrounding each element is proposed as the construction footprint for the purposes of evaluating archaeological sensitivity.

It is likely that the historic bulkheads (1857 and/or 1871 bulkheads) lie fairly intact beneath the Hudson River Greenway and/or present-day West Street. There is also potential for encountering maritime infrastructure remains such as the substantial bases of piers, wharves, and/or associated buildings that fronted on the earlier bulkheads. The historic bulkheads in this area held the landfill in place and connected the man-made land with the original shore.

Given that the NSI System components are existing infrastructure connected to the South Interceptor Main, most, if not all, of this portion of the Archaeological APE has previously been extensively disturbed, effectively eliminating the potential for encountering intact archaeological resources. One exception to this conclusion may be along the existing connector main between sanitary connection sewer chamber manhole #3 (MH #3) and the sanitary emergency overflow chamber to the west near West Thames Street. The route of the existing connector main would have breached the historic 1857 bulkhead heading west from MH#3 and possibly the 1871 bulkhead at the overflow chamber location when excavated in 2001. Intact portions of each bulkhead would exist to the north and south of the connector main, and the work undertaken to pressure-proof and retrofit the existing sanitary emergency overflow chamber that is connected to the existing sanitary connector sewer chamber at MH #3 may expose these portions of the bulkheads for documentation. Phase IB archaeological monitoring during construction is recommended for this portion of the Project Area.

Preparation of a Phase IB Archaeological Monitoring Plan (Plan) is recommended as the next step in the compliance process for the identification and documentation of archaeological resources. It is anticipated that the Plan would be developed through consultation with BPCA, SHPO, LPC, and other involved state and city agencies. The Plan would identify the sensitive portions of the Archaeological APE to monitor during construction and outline all protocols to be followed.

1 Introduction

Battery Park City Authority (BPCA), the lead agency for the South Battery Park City Resiliency (SBPCR) Project, has prepared a Draft Environmental Impact Statement (DEIS) for this proposed resiliency project in the Battery Park City neighborhood of Lower Manhattan. The DEIS addresses the requirements of the New York State Environmental Quality Review (SEQR) and the City Environmental Quality Review (CEQR) processes. The Proposed Action is subject to SEQR, as mandated in 6 NYCRR Part 617, and will follow the technical guidelines outlined in the 2020 CEQR Technical Manual ("CEQR Technical Manual").

The Project's primary goal is to improve the resiliency of a portion of Lower Manhattan through integrated flood risk measures. This Project represents one part of the Lower Manhattan Coastal Resiliency (LMCR) Master Plan. The Project Area plays an important role in the overall flood risk reduction for Lower Manhattan because Lower Manhattan's lowest existing contours and elevations for coastal surge inundation are located at the north and south ends of Battery Park City.

1.1 Location and Description of Project Area

During Superstorm Sandy, coastal surge inundated Lower Manhattan on its western side through low elevation points near Pier A and in other parts of Battery Park City, damaging, destroying and/or negatively impacting much of Lower Manhattan's critical and civic infrastructure. In an effort to address the vulnerabilities underscored by this event and the prospects of more extensive future storm and flood damage, the SBPCR Project has been developed as an integrated coastal flood risk management program for Battery Park City and other parts of Lower Manhattan (**Figure 1**). This Project represents one part of the Lower Manhattan Coastal Resiliency (LMCR) Master Plan. The Project Area plays an important role in the overall flood risk reduction for Lower Manhattan because Lower Manhattan's lowest existing contours and elevations for coastal surge inundation are located at the north and south ends of Battery Park City.

The Project Area boundary for the flood alignment spans from First Place and the Museum of Jewish Heritage, through Robert F. Wagner Park (Wagner Park), across Pier A Plaza, and then along the north side of the Battery Bikeway in Battery Park (The Battery) to higher ground near the intersection of Battery Place and State Street. Existing conditions are shown in **Figure 2**. The Design Flood Elevation (DFE) and Height of Intervention (HOI) varies across the Project's flood alignment (**Figure 3**). In addition, interior drainage improvements are required at the north and south ends of the project (**Figure 4**).

Battery Park City was planned and developed according to a Master Plan adopted in 1979 and is partially situated upon landfill generated by construction of the World Trade Center between the late 1960s and the early 1970s. Wagner Park was collaboratively designed by landscape architecture firm, Hanna/Olin; architecture firm, Machado and Silvetti; and public garden designer, Lynden Miller. It was built between 1994-1996 and offers panoramic views of the New York Harbor and the Statue of Liberty. It includes a pavilion, consisting of two structures connected by a rooftop walkway, two ornamental gardens, an esplanade, a central lawn, and various pieces of public art. The Museum of Jewish Heritage, which opened in Battery Park City in 1997, is located north of Wagner Park.

1.2 Regulatory Framework

BPCA, as Lead Agency, determined that the proposed SBPCR Project may have a significant impact on the environment and issued a Positive Declaration, requiring the development of an Environmental Impact Statement (EIS). This assessment has been prepared in accordance with SEQRA, Section 14.09 of the New York State Historic Preservation Act, and the CEQR *Technical Manual*.

In addition, because federal permits will be sought from the US Army Corps of Engineers (USACE), the assessment has also been undertaken in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

1.3 Description of Proposed Action

This section describes the key project actions across the five SBPCR Project segments, and associated drainage improvement areas. Ownership jurisdiction is also identified, including BPCA, New York City Department of Transportation (NYCDOT), New York City Department of Small Business Services (DSBS), the New York State Department of Transportation (NYSDOT), and the New York City Department of Environmental Protection (NYCDEP). **Figure 3** provides the type of flood alignment infrastructure proposed for each segment and identifies the DFEs.

1.3.1 First Place (BPCA and NYCDOT Jurisdiction)

The flood alignment begins on the north side of First Place, where it is tied into existing landscape elements along the southern lot boundary of the high-rise building at 50 Battery Place. It then extends south fully across First Place as a flip-up deployable gate, which would seal up against permanent columns when deployed (**Figure 3**). The design team does not intend to alter First Place in any significant way beyond the installation of the flip-up deployable gates in the street bed, with columns framing its edges. Grade changes to the street and right-of-way (ROW) would also be avoided. The DFE in this area is 18-feet, and the HOI is 7-feet.

The subsurface disturbance to First Place west of Battery Place would be taking place within the 20th Century landfill placed to construct Battery Park City and is not of archaeological concern.

1.3.2 Museum of Jewish Heritage (BPCA Jurisdiction)

At the south end of First Place, the flood alignment runs west across the north facing landscaped courtyard of the Museum of Jewish Heritage (**Figure 3**). The DFE is 18-feet, and the HOI ranges from 7 to 8-feet. A flip-up deployable is planned for this section of the alignment maintaining visual and physical access to the Museum and connecting to the flip-up deployable gate that spans First Place.

The alignment then extends south along the west side of the Museum. This portion of the flood alignment is composed of free-standing floodwalls that would be integrated into terraced landscape planters. The top of the floodwall would be constructed of flood-proof glass, set within a metal frame. The floodwall continues around the western perimeter of the Museum, until the alignment connects with Wagner Park. Flip-up deployable gates would be used to maintain egress at the existing fire exit doors.

The subsurface disturbance created by the flood alignment components surrounding the Museum would be taking place within the 20th Century landfill placed to construct Battery Park City and is not of archaeological concern.

1.3.3 Wagner Park (BPCA Jurisdiction)

At its point of connection into Wagner Park, the free-standing floodwall associated with the Museum segment would connect to a buried floodwall (**Figure 3**). The DFE for this portion of the flood alignment is 19.8-feet, and the HOI is 7.8 to 9.8-feet. To meet projected DFEs for coastal surge, the park would be elevated 10 to 12-feet, and a buried floodwall would be constructed beneath the raised park, maximizing the amount of protected open space, while maintaining views to the waterfront. At the connection between Wagner Park and Pier A Plaza, the flood alignment would be resurfaced and exposed as a short segment of free-standing wall where it would meet the flip-up deployable gates being used through Pier A Plaza.

The subsurface disturbances across Wagner Park and the northern edge of the Pier A inlet would be taking place within the 20th Century landfill placed to construct Battery Park City and are not of archaeological concern.

1.3.4 Pier A Plaza (BPCA, DSBS and EDC Jurisdiction)

Pier A Plaza was constructed on landfill. However, the installation of the flood alignment, nuisance flooding alignment and site security components across Pier A Plaza have the potential to impact 19th Century historic piers, wharves, slips, and landfill retaining structures. These historic structures were filled during the 19th Century in association with the construction of the National Register-eligible Hudson River Bulkhead, and further filled during the 20th Century to enable construction of Battery Park City.

Flood Alignment

Pier A Plaza is the lowest elevation in the Project Area (**Figure 3**). The DFE in this area would be 18.5-feet, and the HOI would be approximately 8.5 to 11.5-feet. Flip-up deployable gates, sealing up against new permanent columns when deployed, would be utilized as the flood alignment crosses the newly raised Pier A Plaza. The plaza would allow for direct and universal access to the Pier A Harbor House, as well as maintaining the bicycle connection from The Battery to the Hudson River Greenway, outside the plaza.

The flood alignment across Pier A Plaza consists of a short section of free-standing floodwall and flip-up deployable gates. This would require the installation of approximately 516 linear feet of steel piles and battered steel piles to a depth of about 40-feet across Pier A Plaza to support the flood alignment. In addition, a seepage barrier would be installed utilizing jet grouting at an estimated depth of 20-feet.

Nuisance Flood Alignment

In order to address the greater flood vulnerability of the lower lying portions of Pier A Plaza that would be subject to daily tidal flooding in the future, the northern section of the plaza would be raised by approximately 4-feet, thereby reducing the required height of the flip-up deployables. In addition, the two-level plaza design would allow NYC's Battery Coastal Resilience Project, which traverses The Battery along the water's edge, to tie into the SBPCR Project. The Battery Coastal Resilience Project would be implemented by New York City Economic Development Corporation (NYCEDC) on behalf of NYC Parks, and would consist of rebuilding The Battery wharf to an elevation intended to address tidal flooding impacts associated with projected sea level rise. The tie-in point is being designed for future sea level rise and is depicted on **Figure 3** as the nuisance flooding alignment in Pier A Plaza.

Additional excavation will be required in the footprint of Pier A Plaza in association with the nuisance flooding alignment. An area along the existing bulkhead at Pier A inlet, from the flood alignment on the north to Pier A on the south, will be modified. The design plans call for the excavation and removal of the fill along the bulkhead to approximately 2-feet below existing grade to relieve pressure on the bulkhead and replace the excavated material with lightweight fill. The existing guardrail on the bulkhead will be removed and replaced. For the footprint of Pier A Plaza (to the east of the bulkhead excavation area, to The Battery), the plans indicate there will be general ground disturbance due to new work, such as removal of existing pavement and subgrade, and some specific excavations for light pole footings and stair footings (**Figures 4 and 5**).

Inlet Improvements

Pier A inlet, the body of water between Pier A and the southeast border of Wagner Park, will be modified as part of the SBPCR Project. Portions of the existing seawall on the north side of Pier A inlet will be removed. A new section of retaining wall/seawall will be constructed between Pier A inlet and the proposed flood alignment. The shorelines of the Pier A inlet would be converted into a living shoreline with intertidal, supratidal, and upland plantings, tide pools, the daylighting formerly closed structures, and the creation of a light penetrable deck for wildlife viewing and educational purposes. These actions are not of archaeological concern, as the inlet and its existing rip-rap seawall were constructed in landfill dating to the time of Battery Park City construction. The inlet is not part of the Archaeological APE (**Figures 4 and 5**).

Interior Drainage Upgrades

A tide gate would be installed at combined sewer overflow (CSO) NCM-070 in Pier A Plaza, to the southeast of Pier A (**Figures 4 and 5**). The CSO is an 84-inch line, running roughly north-south. The tide gate would be located within 250-feet from the existing discharge point, and measure approximately 20-feet by 20-feet. It is anticipated that the installation of the tide gate would not create ground disturbance in previously undisturbed soils **(Figures 4 and 5**).

Site Security Measures

To protect against accidental or intentional vehicle breaches of the pedestrian plaza, physical site security measures are planned for the northern perimeter of the Pier A Plaza, adjacent to the flood alignment. A

40-inch-high barrier is proposed along the southern sidewalk of Battery Place running from the end of the southern allée of trees in Wagner Park eastward along the northern line of Pier A Plaza, then continuing to run eastward into The Battery (**Figure 5**). This security barrier is to be supplemented with bollards at stairs and access points as needed. The exposed floodwall above the Battery Park Underpass is also anticipated to serve as a site security measure. Subsurface disturbances to 4-feet below grade are anticipated to facilitate construction of the bollards and 40-inch wall.

1.3.5 The Battery (NYC Parks Jurisdiction)

It is noted that the flood alignment across the northern portion of The Battery traverses multiple infrastructure corridors which have extensively disturbed the soils within their routes. It is also noted that the flood alignment traverses multiple historic battery and bulkhead lines which may retain integrity and could potentially be impacted by SBPCR Project actions.

Flood Alignment

As the flood alignment continues east out of Pier A Plaza, it extends into the Battery Bikeway on the north side of The Battery. In this segment, the DFE ranges from 18.5-feet down to 15-feet, and the HOI ranges from 9.5-feet to 0-feet (Figure 3). The flood alignment is comprised of a combination of flip-up deployable gates, exposed floodwall, and buried floodwall beneath a landscaped berm (**Figure 6**). This concept reconfigures the existing Battery Bikeway and requires the relocation of the Peter Caesar Alberti Marker (1958; rededicated 1985). The monument is currently situated along the south side of the Battery Place sidewalk. This monument would be relocated as close to the current location as possible to be consistent with the NYC Park's Monuments Plan.

Although the grades in this portion of the Project Area are being elevated to meet DFEs, the circulation, landscape architecture, use of the bikeway, and a landscaped public park edge would remain. As the flood alignment continues east towards State Street, which is on naturally higher ground, the DFEs start to descend, affected by existing contours and increased distance from the Hudson River shoreline. Once the flood alignment reaches the high point in the easternmost section of the Project Area, which naturally meets the DFE, it terminates (Figure 3). The design of the flood alignment that transitions from Pier A Plaza through the northern side of The Battery had to account for a range of existing and complex subsurface infrastructure conditions. These include The Battery Park Underpass of the FDR Drive, the Brooklyn Battery Tunnel, MTA subway lines for the #1 train, the Bowling Green Subway Station for the #4/5 subway line, as well as other subsurface utilities.

The flood alignment across the northern portion of The Battery from west to east consists of an exposed concrete floodwall over the Battery Park Underpass, a flip-up deployable gate, a partially exposed wall, and a buried floodwall beneath a landscaped berm (**Figure 6**). This section of flood alignment would require the installation of approximately 1,065 linear feet of steel piles and approximately 1,065 linear feet of battered steel piles to an estimated depth of 40-feet to support the flip-up deployable gates. No piles would be driven for the section of exposed concrete floodwall over the Battery Park Underpass. A seepage barrier would be installed on the west side of the underpass, entailing an excavation of approximately 10-feet below grade. A seepage barrier would be installed on the east side of the underpass entailing an excavation of approximately 15-feet below grade.

Continuing eastward, the flood alignment employs a buried floodwall under a landscaped berm, which will require excavation to at least 4-feet below current grade. The construction of the earthen berm, which will be approximately 60-feet wide extending north and south of the flood alignment, will likely require the disturbance of 2- to 4-feet below current grade for its entire footprint. The reconfigured Battery Bikeway lanes will be 6-feet wide and located on either side of the berm (**Figure 6**). In addition, replacement tree plantings will involve ground disturbance of approximately 3-feet below current grade in various locations along the reconfigured bikeway.

Interior Drainage Upgrades

Two isolation valves would be installed in The Battery. One valve would be installed at the storm drain that collects runoff from The Battery, approximately 50-feet east of the Battery Park Underpass alignment. A sanitary sewer isolation valve would be installed just north of The Battery comfort station. The valves would require an excavation area of approximately 4-feet by 4-feet and be connected to their respective existing mains. These improvements are not anticipated to create new ground disturbance in previously undisturbed soils (**Figures 4 and 6**).

Site Security Measures

Review of the design documents has shown that site security measures are planned for the northern portion of The Battery, continuing the line of bollards and 40-inch high wall proposed for the northern line of Pier A Plaza. As noted above, the bollards and 40-inch wall proceeding eastward from Pier A Plaza continue past the fixed exposed floodwall over the Battery Park Underpass into The Battery. Eastward of the fixed floodwall, additional sections of 40-inch high wall to replace a section of existing Battery wall north of the Battery Bikeway are proposed, as the existing wall does not meet the site security requirements (**Figure 6**). The bollards and the 40-inch wall are anticipated to require subsurface disturbances to 4-feet below grade.

1.3.6 Interior Drainage Improvements (BPCA, NYSDOT, NYCDOT, and NYCDEP Jurisdiction)

Near Surface Isolation System (NSI)

The NSI System is designed to preclude surge from entering the protected area through the drainage system and handle concurrent rainfall. Key sewer system components within the project area would require intervention to allow isolation of the streets and combined sewers from the surge driven flows. The NSI System would involve pressure-proofing and replacing various near-surface sewer system elements connected to the existing South Interceptor main that runs north-south through this portion of the Project Area (**Figure 7**). The NSI System improvements are necessary because the interceptor also serves adjacent areas that will remain unprotected from coastal flooding in the near term.

The NSI System would consist of the installation of a gate within the existing regulator structures, M9, M8, and M7, which would be closed in a flood event to prevent the storm surge rising through the interceptor line from reaching the street level. In addition, four interceptor manholes (MH) along West Street between Battery Place and Albany Street would be pressure-proofed and retrofitted to receive a cover that can be sealed shut and locked during a flood event to resist the pressure resulting from the surge rising through the interceptor line and the piping connecting the manholes to the interceptor. It will also be necessary to pressure-proof and retrofit the existing sanitary emergency overflow chamber that is connected to the existing sanitary connector sewer chamber at MH #3.

Other Interior Drainage Improvements

Tide gates would be installed at two existing municipal separate storm sewer system (MS4) overflows:

- Newtown Creek Wastewater Treatment Plant Manhattan Side (NCM)-634 (First Place)
- NCM-628 (Rector Street).

A tide gate would also be installed at combined sewer overflow (CSO) NCM-070 (Pier A Plaza). This gate is described above in Subchapter 1.3.4. It is anticipated that the installation of tide gates would not create ground disturbance in undisturbed soils (**Figures 4 and 5**).

An isolation valve would also be installed at the storm drain that collects runoff from The Battery. A sanitary sewer isolation valve would be installed north of The Battery comfort station. These valves are described above in Subchapter 1.3.5. These improvements are not anticipated to create new ground disturbance in undisturbed soils (**Figures 4 and 6**).

1.4 Consultation History

AECOM, on behalf of BPCA, prepared a letter and information package to initiate consultation for the SBPCR Project under Section 106, SEQRA, and CEQR. The consultation package was sent to SHPO and LPC on March 22, 2020 for their review and guidance on next steps in the consultation process.

AECOM opined that the ground disturbing actions associated with the key project actions associated with Battery Park City, The Museum of Jewish Heritage and Wagner Park would have no effect on archaeological resources because they were constructed on 20th-century landfill with no archaeological potential. AECOM also opined that Pier A Plaza, The Battery, and interior drainage improvement areas north of Battery Place along the Hudson River Greenway/West Street did possess archaeological potential for historic period resources.

LPC responded on March 30, 2020 as follows: “The LPC concurs with the recommendations of AECOM in a letter dated March 22, 2020 to the NYSHPO that the following project areas may contain potentially significant archaeological resources: Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the two proposed locations of the interceptor gate chambers and associated control buildings possess archaeological potential. Therefore, the LPC recommends that an archaeological documentary study be completed to further assess this potential in compliance with the *Guidelines for Archaeological Work in New York City*, 2018." (**Appendix A**).

SHPO responded on April 23, 2020 as follows: "SHPO requests that a Phase IA archaeological background and sensitivity assessment report be prepared for this project. We concur that the First Place, Wagner Park, and Jewish Museum portions of the project area are not archaeologically sensitive. SHPO concurs with the proposed Area of Potential Effect." (**Appendix A**).

As noted above in the Executive Summary, the NYCDEP requested that an alternative to the interceptor gates and control buildings be developed to work along with the flood alignment to preclude any coastal surge from entering the Project Area. The NSI System was developed to accomplish this project goal and the footprint of the associated excavation is considered the APE for purposes of this assessment. Implementation of the NSI System will create far less subsurface disturbance because it is utilizing existing infrastructure, which has already impacted subsurface soils.

1.5 Phase IA Survey: Archaeological Area of Potential Effect

Archaeological resources are subject to direct effects caused by subsurface disturbances to previously undisturbed, or minimally disturbed soils associated with the execution of project actions. The Archaeological Area of Potential Effect (APE) includes two components: the horizontal APE, which is the footprint of proposed ground disturbance; and the vertical APE, which is considered as the depth to which the proposed ground disturbance is anticipated to extend.

In compliance with AECOM's initial recommendations and concurrence of SHPO and LPC with these recommendations, the Archaeological APE for this Phase IA survey is the footprint of the flood alignment elements and associated project actions that will create subsurface disturbance across areas that have the potential to contain archaeological resources. The archaeology APE has been divided into three sections. These sections are Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the proposed locations for the NSI System interior drainage improvements above Battery Place. The three APE sections are depicted on **Figures 5, 6 and 7**.

1.6 Objectives and General Methodology

The main objectives of the Phase IA archaeological assessment are to determine the potential for encountering intact, potentially National Register-eligible archaeological resources that would be impacted by proposed Project Action, and to determine the extent of prior subsurface disturbances to the Project Area.

The assessment is developed through the review of previously identified archaeological sites on and in the vicinity of the APE to determine if previously unidentified archaeological sites in similar settings could be expected to be encountered within the APE, and through the development of a project site disturbance characterization that takes into account the extent of prior subsurface ground disturbance that has already directly impacted the APE. In general, archaeological resources that have been directly impacted by prior actions are not expected to be intact, or retain stratigraphic integrity, or meet the eligibility criteria for listing in the National Register.

The completion of this Phase IA assessment involved archival, documentary, and cartographic research, a visual inspection of the project corridor, and analysis of all collected information.

2 Environmental Background

2.1 Geology

Manhattan Island lies within the Manhattan Hills subdivision of the New England Upland Physiographic Province. The Manhattan Hills, which include Manhattan and most of Westchester County, are low in elevation and developed on complex ancient rocks (Thompson 1977). More specifically, New York City lies at the extreme southerly tip of the Manhattan Prong, a northeast trending, deeply eroded sequence of metamorphosed rock that widens northeastward into New England (Mergeurian and Sanders 1991:5). The bedrock underlying Manhattan Island includes the Fordham Gneiss, Lowerre Quartzite, Inwood Marble and various schistose rocks formally included in the Manhattan Schist (Merguerian and Sanders 1991:15).

The surface of Manhattan Island was impacted by multiple glaciations including the Kansan, Illinoian, and Wisconsin. These events scoured, covered and eroded the land surface as they advanced and retreated. During the glacial periods, the amount of water that was locked up by the glaciers caused world-wide sea level to drop ca. 400-feet, essentially exposing Manhattan and much of the New York Metropolitan Area as dry land.

Before the final retreat of the Wisconsin ice sheet at the close of the Pleistocene Epoch, ca. 12,500 years before present (BP), the melting ice formed a number of lakes in the East, Hudson, and Hackensack Rivers, created by dams formed of ice and glacial moraines. Much of Manhattan Island was submerged beneath glacial Lake Flushing. Glacial Lake Flushing drained as melting continued and erosion breached the moraine dams. The release of meltwater due to the glacial retreat resulted in the worldwide rise of sea level from ca. 400-feet below current levels during the Late Pleistocene to about 10-feet below current levels between 4,000- and 2,600-years BP during the Holocene Epoch (Raber et al. 1984:10 in HPI 2007:4). This rapid rise of sea level during the Holocene has been named the Flandrian submergence (Mergeurian and Sanders 1991:53).

2.2 Topography

Precontact topography of Manhattan Island would have included high and low hills, many watercourses and their valleys, coves, inlets, coastal and interior swamps, tidal marshes, and rocky coastal and beach areas. The island would have been for the most part forested, with wetland vegetation occurring in marginal areas bordering swampy tracts and marshes. The understory would have included brushy vegetation, bushes, and brambles. The 1865 Viele Map, Sanitary & Topographical Map of the City and Island of New York depicts the original Manhattan shoreline and topographic features of the Project Area prior to landfilling efforts, with the street grid superimposed (**Figure 8**). This map indicates that most of the Project Area is made land.

Historic maps produced by the Department of Docks indicate that the high-water mark (maximum extent of water at high tide) along the original shoreline was located along the eastern side of Greenwich Street in the vicinity of present-day Battery Place, and the low-water mark (level of water extent at low tide) was located approximately midway between Greenwich and Washington Streets. Both the high and low water marks run through the eastern portion of The Battery, confirming that most of the Project Area has been created through landfilling activities (**Figure 21**).

Native American trails have been identified across the island, some connecting Lower Manhattan settlements and then continuing northward toward the settlements in the interior. These trails have been identified and mapped by Reginald Pelham Bolton in his 1920 monograph, *Indian Paths in the Great Metropolis Across the Five Boroughs*. The Native American trails would have followed the high ground, skirted obstructions, and utilized easily fordable locations to cross watercourses. Many of these trails would subsequently be used by European settlers as some of the first roadways on the island.

The fast land or upland Project Area vicinity was not known as a place where permanent Precontact settlements or villages had been established. According to Reginald Pelham Bolton, "The narrow space and the rugged character of the lower part of the Island of Manhattan lent itself but poorly to the support of any considerable population, except in its trading facilities." (Bolton 1922:41). It is likely that the Native American groups that had established settlements on other parts of Manhattan Island utilized the rocky Hudson River shore for the exploitation of the abundant marine resources available, such as shellfish.

"The southern extremity of the Island of Manhattan was known to the natives as Kapsee, which name was applied to the rocky upland and also to the rock islets off its shore. The extreme end of this tract, which was later named " Schreyers Hoek," was a point extending south of Pearl street and Whitehall street, bounded on its shore-line by our present State Street, the curved portion of which has preserved for our observation the outline of the ancient promontory. This point formed on its east side a small cove, somewhat protected from the tides that swirled around the end of the island." (Bolton 1922:51).

2.3 Existing Conditions

The surface of present-day Manhattan Island is characterized by low hills and is surrounded by estuaries and tidal straits. Historic development has altered much of the Precontact topography of the island, as forests were cut, swamps were filled, hills were leveled, streams were culverted or moved, and the shorelines were extended out into the rivers through land making efforts. As noted above, prior to the time of European colonization, most of the Project Area was part of the Hudson River. Intentional bulkheading and land making episodes beginning in the 17th century extended the shoreline by hundreds of feet by the early decades of the 20th century. The landfilling activities associated with the construction of Battery Park City beginning during the 1960s and continuing until the present time has again altered the Hudson River shoreline.

The Project Area is located within a dense urban neighborhood along a highly utilized waterfront, including the Esplanade, Wagner Park, the Museum of Jewish Heritage, playgrounds, a dedicated bicycle path, the Hudson River Promenade, other recreational spaces, historic and contemporary commercial buildings, and the contemporary high-rise residential and commercial buildings comprising 92-acre Battery Park City.

3 Survey Methods and Research Design

The completion of this Phase IA assessment to determine the archaeological potential within the Project Area involved a visual inspection of the project corridor, the synthesis of information derived from previous archaeological survey work completed for the project area and vicinity, additional archival, documentary, and cartographic research, communications with persons knowledgeable about the history of the area, and analysis of all collected information.

3.1 Visual Inspection

The visual inspection of the Project Area was conducted to determine existing conditions. Emphasis was placed on noting evidence of prior subsurface disturbance within the archaeology APE for the project. Project maps and design plans were utilized during the inspection and photographs were taken of existing conditions.

3.2 Synthesis of Previous Work

The Archaeological APE was subsequently researched in the SHPO's CRIS. The search area for historic archaeological resources surrounding the project area was a 0.25-mile-radius, and the search area for prehistoric (Precontact) archaeological resources surrounding the project area was a 0.5-mile-radius.

3.2.1 Previously Identified Sites

According to the CRIS search, a total of 16 historic archaeological sites lie within a 0.25-mile-radius of the SBPCR Project. No Precontact archaeological sites have been documented within a 0.5-mile-radius of the Project Area. The historic site forms were downloaded from the CRIS website for future reference.

The sites are identified and described in Subchapter 5.1 and Table 5-1 lists the sites, their locations relative to the project area, and relevant temporal and cultural attributes.

3.2.2 Previously Conducted Archaeological Surveys

According to the CRIS search, multiple cultural resources surveys have been previously conducted for part of, or in proximity to, the SBPCR Project. Some of the surveys were initially Phase IA archaeological documentary studies concerned with major projects such as the New South Ferry Terminal Project for the MTA and the Reconstruction of Battery Park and the Perimeter Bikeway Project for the NYC Department of Parks and Recreation. Both projects included a portion of the Project Area, and the Phase IA survey results led to additional archaeological survey work. Some of the other previously conducted surveys were concerned with block-specific commercial and residential development projects. Many of the Phase IA studies recommended Phase IB subsurface testing, archaeological monitoring during construction, and soil boring surveys.

All relevant reports were downloaded from the CRIS website or from the LPC archive of archaeological reports for reference. Relevant survey reports completed for portions of the current archaeology APE and its immediate vicinity are summarized in Subchapter 5.2.

3.3 Background Research

The current SBPCR Project Phase IA study is largely focused on the research and results of previously conducted surveys. Additional project specific research was conducted at the following repositories/online resources:

- CRIS search for archaeological resources and survey reports
- LPC archive of archaeological reports
- New York Public Library Digital Archive
- The Library of Congress Online Map Archive
- David Rumsey Online Map Archive
- The New-York Historical Society
- Other Project Specific Online Resources

3.4 Archaeological Sensitivity Evaluation

A major goal of the Phase IA documentary study is to determine the archaeological sensitivity of the APE. As stated in the New York Archaeological Council's (NYAC) *Standards for Cultural Resource Investigations and Curation of Archaeological Collections*, sensitivity assessments should be categorized as low, moderate, or high to reflect "the likelihood that cultural resources are present within the project area" (NYAC 1994:2). The Project Area was basically land underwater until repeated landfilling episodes pushed out the Hudson River shoreline to the extent we see today. However, some of the factors listed below are still relevant when determining the archaeological sensitivity, or potential of the project's three Archaeological APE sections.

According to the NYAC standards, factors to consider during the sensitivity assessment that affect the likelihood that Precontact and historic populations would have occupied a particular area within the APE include:

- The proximity to a permanent potable water source
- The presence of well-drained soils
- The availability of floral and faunal resources for subsistence purposes
- The availability of raw materials

- The documentation of transportation routes
- The density of known Precontact and historic sites documented for the general area
- The extent of documented prior subsurface disturbance within the APE

In consideration of the above listed factors, the Low, Moderate, and High archaeological sensitivity designations may be generally defined as follows:

Low Sensitivity

Areas of low sensitivity include those areas within the APE where the original topography suggests that Precontact sites would not be present (i.e., no potable water source or the presence of tidal marsh or swampy ground); areas where no historic occupation occurred prior to the advent of municipal water and sewer networks; and areas that have seen extensive subsurface disturbances that would preclude the presence of intact archaeological resources.

Moderate Sensitivity

Areas designated as possessing moderate sensitivity are those areas within the APE with topographical features that would suggest Precontact occupation and areas with documented historic activity that have seen some prior subsurface disturbance, but the disturbance was not extensive enough to completely eliminate the possibility for encountering intact archaeological resources.

High Sensitivity

Areas of high sensitivity include those areas within the APE with topographical features that would suggest Precontact occupation and areas with documented historic activity that have seen minimal or no prior subsurface disturbance.

It is noted that areas initially determined to possess a level of archaeological sensitivity based on background literature and cartographic research may in fact be areas proven through additional research to possess no sensitivity based on the extent of documented prior subsurface disturbance.

3.5 Research Design

The primary objective of the Phase IA documentary study is to determine whether potentially National Register-eligible archaeological resources may be located within the project APE.

The goals of the current Phase IA survey are as follows:

- Determine whether the APE was occupied during the precontact and historic periods.
- Chronicle the historic development across the APE.
- Identify categories of potential archaeological resources that may be located within the APE.

- Identify locations of potential archaeological resources that may be located within the APE.
- Document the prior subsurface disturbances that have occurred across the APE and determine whether these disturbances have affected the locations of potential archaeological resources.
- Determine whether additional archaeological work is necessary, either by additional research, Phase IB subsurface testing, or archaeological monitoring during construction.

4 Prehistoric and Historic Contexts

4.1 Prehistoric Context

4.1.1 Introduction

The Precontact period on Manhattan Island and the surrounding area is divided by archaeologists into four basic periods largely based on adaptations to changing environmental conditions reflected in the artifact assemblages associated with each. The basic cultural sequence and chronology for New York State is based on Ritchie (1994 [originally published 1965, revised 1969, 1980]). The basic periods are the Paleo-Indian, the Archaic, the Woodland, and the Contact. The Archaic and Woodland Periods may be further divided chronologically, as shown in Table 4-1. Many archaeologists in the Northeast subscribe to a Transitional Period between the Archaic and Woodland Periods.

Table 4-1: Cultural Sequence and Chronology

Cultural Period	Time Period	Geological Age
Paleo-Indian	Ca. 12,000 - 9,000 BP (Ca. 10,000 - 7,000 BC)	Late Pleistocene
Early Archaic	9,000 - 7,000 BP (7,000 - 5,000 BC)	Early Holocene
Middle Archaic	7,000 - 5,000 BP (5,000 - 3,000 BC)	
Late Archaic	5,000 - 3,000 BP (3,000 - 1,000 BC)	
Early Woodland	3,000 - 1,950 BP (1,000 BC – AD 1)	
Middle Woodland	1,950 - 950 BP (AD 1 - 1000)	
Late Woodland	950 - 450 BP (AD 1000 - 1500)	
Contact	450 - 300 BP (AD 1500-1650)	

The following subsections provide summary information on this chronology organized by the major prehistoric adaptive trends (Paleo-Indian, Archaic, and Woodland) as they pertain to the project vicinity. The Contact period, a period of increasing contact and conflict between the native populations and European settlers, is also briefly summarized below.

4.1.2 Paleo-Indian Period

The Late Pleistocene period in southern New York was characterized by a peri-glacial or boreal environment, dominated by open spruce woodlands and stands of birch, popular, and willow. This was succeeded in the Early Holocene by closed canopy pine-birch-oak forests. Open woodland provided optimal grazing for fauna such as caribou, musk-oxen, mammoth, and horse, while the advent of closed-canopy forest created habitat for deer and small game. Paleo-Indian peoples in the New York City area would also have been able to exploit food sources such as shellfish along the shoreline. Archaeological evidence suggests that Paleo-Indian peoples were highly mobile hunters and gatherers who lived in small groups and did not maintain permanent settlements.

The distinctive artifact of the Paleo-Indian period is the fluted point, a clearly recognizable spear or projectile point type that is usually identified as having a deep flake or scar chipped vertically along the center section from the base. The diagnostic material culture of the Paleo-Indian period consists largely of projectile points, but also includes smaller numbers of knives, scrapers, flakes, choppers, and pounding tools. These tool kits indicate heavy dependence on hunting, probably of large game, and exploitation of local flint resources.

Of the few Paleo-Indian sites that have been identified in New York City, nearly all have been found on Staten Island. The most important Paleo-Indian sites were identified at Port Mobil. There is no evidence for Paleo-Indian occupation of the SBPCR APE, however, the presence of deeply buried sites, while highly unlikely, cannot be categorically ruled out. As mentioned in above sections, the Project Area would have been exposed dry land when sea levels were 400 feet below current levels as a result of glaciation. These dry areas would be available for exploitation by human populations until glacial meltwater brought the sea levels back to approximately 10 feet below current levels and flooded the Project Area.

4.1.3 Archaic Period

The period ca. 9000 BP saw intense rises in temperatures and drying, lowering water tables and shrinking post-glacial lakes, with the expansion of pines and birches at the expense of deciduous species. Another result of this short-term change, and the retreat of the glaciers in general was rising sea levels. The rising sea levels in turn resulted in the inundation of many former coastal environments. The Early and Middle Archaic environment of coastal Manhattan may have been less favorable to specialized hunting than before but offered a variety of marine resources and small game along the new coastal environment, which included swamps and inland waterways, and in mixed forests, especially along forest margins.

Archaic settlements consisted of small, multi-component sites located on tidal inlets, coves, bays, and freshwater inland ponds and streams. Archaic tool kits indicate that a wider variety of food resources were being systematically exploited than during the Paleo-Indian period. The Archaic period tool kits include plant processing implements and fishing related artifacts. Generalized hunter-gatherers characterize the Archaic period, exploiting not only large game but also a wide variety of fauna such as small mammals and birds and riverine resources.

Archaic period sites do not provide evidence that agriculture was practiced. However, technological innovations, such as the emergence of stone bowls (steatite), evidently of Southeastern derivation, were important pre-adaptive features for the development of agriculture during the Woodland period.

4.1.4 Woodland Period

Important developments of the Woodland period include the practice of agriculture and the emergence of larger social units, including the predecessors of historically recognized tribes. In technological terms, the Early Woodland period is marked by the emergence of pottery, however, additional technological advancements that arose during the Woodland period include smoking pipes, the bow and arrow, and a wide variety of chipped and ground stone artifacts.

Woodland period sites across the region indicate that there was an overall shift toward permanently settled villages and full-time agriculture. However, hunting of both large and small game and exploitation of marine resources continued to provide the bulk of the subsistence base during the period. Woodland sites are often found near lakes, streams, and rivers.

4.1.5 Contact Period

The Late Woodland Period ended with the arrival of the first Europeans during the early-16th century. Giovanni de Verrazano, the Italian born explorer who was sailing under the French flag, reached New York Harbor on April 17, 1524. Eighty-five years later, in 1609, Henry Hudson's voyage in search of the Northeast Passage to the Orient took place, whereupon he re-discovered New York Harbor and the river that now bears his name. Almost immediately thereafter Dutch traders in great numbers began flooding into the area in search of furs and other materials.

Once contact had been established with the Europeans, the Native American way of life was forever changed. The Native Americans quickly began to suffer from the effects of European contact in that disease, alcoholism, and warfare began to decimate the populations of native groups. The Native Americans at first continued to occupy the village sites they had established near water sources. However, as the European settlements grew and subsequently required more land, the conflicts with Native Americans escalated. This was especially prevalent during the 1640s when Director-General Kieft ordered many unprovoked attacks on the native groups.

Peter Stuyvesant replaced Kieft as Director-General in 1647 and the relations between the Native American groups and European colonists were somewhat improved. However, the "Peach War" of 1655 renewed the hostilities between the groups and led to increased violence. The Peach War was precipitated when Attorney General van Dyck shot and killed a Native American woman who was picking peaches in his orchard (Federal Writers' Project 1939). The Peach War hostilities ended in 1657.

4.1.6 Precontact Populations on Manhattan Island

Multiple sites have been identified on Manhattan Island, most of which were located across the upper part of the island in Harlem, Kingsbridge, Spuyten Duyvil, Marble Hill, Fort Tryon, and Inwood. Since many of these sites were discovered and reported by avocational archaeologists during the early-20th century, there is limited temporal and cultural affiliation information available.

There is also limited descriptive historical information available regarding the existing Native American settlements at the time of European contact. Reginald Pelham Bolton, an avocational archaeologist working during the early decades of the 20th Century, compiled much available information and wrote the monograph *New York City in Indian Possession for the Museum of the American Indian*, Heye Foundation in 1920. Bolton wrote in 1920 "The paucity of historical information regarding the aborigines who occupied the Island of Manhattan seems remarkable, in view of its being the earliest point of contact between the white and red races in our vicinity." (Bolton 1920:340).

In describing the Native American groups of Manhattan Island and vicinity, Bolton states, "From the fact that all the nearby islands in East River were owned by the Mareckawick group of the Canarsee, it seems probable that the southerly end of Manhattan may also have been occupied by the Indians of Mareckawick (or Brooklyn), which was much nearer and more accessible than the upper part of the island itself, reached only by a long tramp through a forest trail, or a long cruise over tidal waters." (Bolton 1920:342). Bolton continues to explain this rationale, "The Reckgawawanc Chieftaincy had distinct control and occupancy of the upper half of Manhattan and the westerly half of the Borough of the Bronx…There wasn't any important residential station in the middle part of the island – which coincides with the probability of its separate occupancy at each end, if not its complete division between two chieftaincies." (Bolton 1920:343).

There were two existing settlements in Lower Manhattan at the time of European contact located a considerable distance from the Project Area. Both sites were the locations of Precontact villages, first reported during the early-20th Century. The first, NYS Museum site #4059, also known as Shell Point or Werpoes was located north of City Hall Park and is depicted in CRIS as a very large polygon covering several square blocks. The area around this settlement is said to have been marked by extensive shell heaps, which suggests a settlement of some duration. Limited information is available for this site, which is described in the NYS Museum files as a Native American village and multiple shell middens. According to Bolton (1922), the native place name was noted in a grant from the Dutch government to Augustine Heermans in 1651, which described "the land called Werpoes" containing about 50 acres, extending from the north side of the Kolch Hoek, or the Collect Pond and its adjoining ponds. "According to Tooker, this name should have been more correctly written "Werpos", or "the thicket", a designation which describes the known conditions of the locality, the hillsides around the ponds being covered in bygone times with bushes and blackberry brambles." (Bolton 1922:43).

The second village site, NYS Museum site #4060, was identified by Bolton (1922) as Rechtauck or Rechtanck, and as Nechtanc by Grumet (1981). Bolton, in describing the Native American trails of Lower Manhattan, states that from the area of Bowery and Division Street, a branch pathway led to the neighboring village of Rechtauck or Rechtanck, which was situated on Corlears Hook. Bolton further describes a location near Jefferson Street where a brook fed a fresh water pond located on the block bounded by Jefferson, Henry, Clinton, and Madison Streets, which was likely the only source of fresh water in the area. The name of the village signifies "at the sandy town" or "sandy river" (Bolton 1922:57). This suggests that the village was likely located at Corlears Hook atop the sandy bluffs formerly located along the East River. During the Contact Period the site became a refuge for Native Americans from across the area during the brutal wars with the Dutch during the 1640s. However, Native Americans who had taken refuge there were massacred during a nighttime attack by Dutch soldiers on the orders of Governor William Kieft in 1643 (Bolton 1922).

4.2 Historic Context

4.2.1 The Battery

Due to its geographic position at the southern tip of Manhattan Island with easy access to New York Harbor and the Hudson River, The Battery can be considered as the place where the history of New York City began. The area's strategic location was recognized by the initial small group of Dutch settlers, who called it Capske Hook (from Kapsee, a Native American term for rocky ledge). Near this point, the colonists of the Dutch West India Company founded the settlement of New Amsterdam in 1625, as part of the land claimed by the Dutch as New Netherland. As the colony grew and its commerce expanded, piers, wharves, and slips rose along the coastline (http://www.nycgovparks.org/parks/battery-park/history).

The Battery has a long development history dating from the 17th century founding of New Amsterdam by the Dutch and the subsequent takeover by the English in 1664. With its fine promenade along the Hudson River shore and magnificent vista of New York Harbor, The Battery became a popular place for New Yorkers to visit during the early-18th Century. Its ultimate development into a public park was made possible by successive episodes of landfilling and bulkhead construction, pushing the shoreline farther and farther out into the river.

Fort Amsterdam-Fort George

The Dutch constructed Fort Amsterdam on the Hudson River shoreline ca. 1626, which was composed of block houses surrounded by cedar palisades. Under Director Peter Minuit (1626-1631) a guardhouse and barracks for the Dutch West India Company soldiers were added. More changes to the fort occurred under Director Wouter van Twiller (1631-1635), who had the fort rebuilt. When completed, it was primarily an earthworks fortification with stone corners, and measured 300-feet long and 250-feet wide (Schenawolf 2020).

Fort Amsterdam apparently went through various stages of disrepair. In 1643, a visiting Jesuit priest noted that the fort's four bastions were constructed of stone with several cannons, but the walls were simply mounds of earth in bad condition. Despite its condition, the fort was the center of the Dutch settlement, was the administrator's residence, and garrison for the West India Company soldiers. Residents of the settlement took refuge within the fort during conflicts with the Native Americans (Schenawolf 2020). **Figure 9**, known as The Castello Plan, depicts the settlement of New Amsterdam in 1660, including Fort Amsterdam. This map indicates that the Battery has been somewhat filled in below the fort by this time, and the grounds include a windmill.

Between 1652 and 1674, the Dutch and English fought three naval wars, battling for supremacy in shipping and trade, which included control over the colony of New Netherland and its settlement of New

Amsterdam. In 1664, the English sent a fleet under the command of Colonel Richard Nicolls (or Nichols) to seize New Netherland, which surrendered without a fight. The English renamed the colony New York, after James, the Duke of York, who had received a charter to the territory from his brother, King Charles II. The Dutch briefly recaptured New Netherlands in 1673, but the colony was retaken by the English the next year.

In 1674, Fort Amsterdam had been renamed Fort James, after the Duke of York. The fort would undergo several name changes in the succeeding decades, reflecting the changes in the English monarchy, including Fort William (1688), the Queen's Fort (after Queen Anne in 1702), and ultimately, Fort George (1714), following the ascent of King George II to the throne.

The first documented episode of bulkhead construction and filling of the shoreline can be dated to 1693, when English Governor Benjamin Fletcher presented his design and plan to build a platform on which to install a battery below Fort James, incorporating the rocky outcrops in the tidal zone of the Hudson River. By 1694, the common council was ready to comply with the Governor's plan by proposing a tax to pay for the proposed battery and stockade "att the point of Rocks under the Fort." (Huey 2006:10).

Starting at the turn of the 18th Century and for the next fifty years, extensive changes took place to the fort and nearby batteries. Of importance to the current study is the "New Stone Battery" built in 1755 that stretched along the Hudson River shore under Fort George, which was intended to protect New York from attack by the French (Huey 2006). **Figure 10** depicts the plan of the City of New York in 1755. **Figure 11** depicts Fort George.

The rumblings of an American Revolution were beginning during the second half of the 18th Century. The riots that ensued in New York following the Stamp Act in November 1765 led the English to spike the cannon on the Battery and also the guns in the artillery yard. The fear was that the rioters would use the cannon to attack the fort. The English were determined to keep New York City under English control. To that end, the English began to restore the spiked cannon at Fort George and the Battery during April 1766 (Huey 2006) (**Figure 12**).

At the onset of the Revolutionary War (1776-1783), Fort George stood immediately above the "Grand Battery", and Whitehall Battery was immediately to the left of the Grand Battery (Huey 2006:19) (**Figure 13**). In late-1775, just prior to the start of the American Revolution, Fort George and the Grand Battery were captured by Patriot forces. In April 1776, General George Washington, Commander of the American forces, began to send troops to New York City in anticipation of an invasion by the English fleet (Schenawolf 2020). The Battery came under fire from two English ships, the HMS Phoenix and the HMS Rose, on July 12, 1776 as they attempted to run up the Hudson River (Roberts 1988). New York City was recaptured by English forces in 1776 and was held by the English throughout the duration of the Revolutionary War. During the seven-year occupation, the English made Fort George and the Grand Battery their headquarters (Roberts 1988).

At the conclusion of the American Revolution, the English evacuated New York City on November 25, 1783. The Americans were then in control of Fort George. There were no further repairs to the fort, nor did the new American government rename the fort. As the army was drawn down to a fraction of its former size, it was decided that there was no need to retain the fort (Schenawolf 2020).

In 1789, the Common Council approved the funds for "the erection of the Wharf at the Battery." (Huey 2006:20). This construction would require additional landfill and bulkhead construction. The wharf at the battery was to be built out into the Hudson River below the fort and continue along the shoreline to the corner of the Battery at Whitehall Slip (Huey 2006:20). Fort George was torn down by 1790. The debris from its walls and interior buildings was dumped along the Hudson River shore and used as landfill to erect the wharf along the Battery (Schenawolf 2020) (**Figure 14**).

Once Fort George was torn down, the cleared land was designated for the construction of the 1790 Government House. New York City was the capitol of the United States from 1785 to 1790, and the Government House was intended to be the residence for newly elected President George Washington (**Figure 14**). However, before it was completed, the capitol was relocated to Philadelphia (Schenawolf 2020). A 1794 drawing in the collection of the Museum of the City of New York shows a large new building on the site of the former fort, with a single waterside bastion battery mounted with a cannon and a flag flanked on each side by a long quay wall (Huey 2006:20).

During June 1796, a visitor to New York commented "the most agreeable part of the town is in the neighborhood of the battery." He explained further, "when NY was in possession of the English, this battery consisted of two or more tiers of guns, one above the other; but it is now cut down, and affords a most charming walk; and, on a summer's evening, is crowded with people, as it is open to the breezes from the sea, which render it particularly agreeable at that season." (Huey 2006:20). It is interesting to note that The Battery was essentially a park by end of the 18th Century.

Following the relocation of the capitol to Philadelphia, the former fort site, now the Government House, became the state's governor's residence and the home of the American Academy of Arts who leased a portion to the New-York Historical Society. In 1813, the land was sold to the public, and the building was torn down in 1815. The site was developed into residences for wealthy New Yorkers (Schenawolf 2020; www.revolutionarywarjournal.com/fort-george).

New York Custom House

By the turn of the 20th Century, a new location for the New York Custom House was being sought, and the site of former Fort George was chosen. The residents were paid for their land and the demolition of buildings began in 1900. By 1902, the cornerstone of the new building had been laid. The chosen name for the new building was the Alexander Hamilton Custom House, as Hamilton had been the first U.S. Treasurer. The building was designed by renowned architect Cass Gilbert and completed in 1905. The building remained the custom house until 1973, when the service was moved. After twenty years, during which time most of the building was unoccupied, it became the George Gustav Heye Center, previously known as the Museum of the American Indian (Schenawolf 2020).

West Battery-Castle Clinton-Castle Garden

War ravaged Europe at the end of the 18th Century and the newly formed United States was becoming more involved. Due to trading partners with both the British and French, the U.S. was drawn into the dispute. When British ships started confiscating American ships, hostilities arose between the two nations. As relations with Great Britain were becoming increasingly strained prior to the War of 1812 (1812-1815), it became apparent that new fortifications were needed to guard American city harbors. In 1798, cannons were temporarily placed in hastily constructed defenses at the old Battery in Lower Manhattan. Four forts were planned to guard New York Harbor: Castle Williams on Governor's Island; Fort Wood on Bedloe's Island (today's Liberty Island); Fort Gibson on Ellis Island; and on Manhattan near former Fort George, the southwest battery, or West Battery (Schenawolf 2020).

West Battery was built during 1808-1811 to strengthen New York's sea defenses. The circular brownstone fort was built on a manmade island of stone in the Hudson River, approximately 200-feet off the "west head" of the Battery (**Figure 14**). The island fort was connected to The Battery by a wooden causeway and drawbridge (Milman and Weible 1984; 1985). The fort was armed with 28 cannons, 32-pounders which could lob a cannon ball a mile and a half distance. The first commanding officer, General Joseph Bloomfield, established his headquarters of all New York forts at the West Battery. Throughout the War of 1812 (1812-1815), the West Battery never fired a shot upon its enemies (Schenawolf 2020).

West Battery experienced five periods of use serving very different functions from its completion in 1811 until 1946. These periods are briefly discussed below.

Military Installation 1811-1823

The fort was known as the West Battery until 1815, when the name was changed to Castle Clinton, after New York's wartime mayor, Dewitt Clinton. Castle Clinton was ceded to the city in 1823. (http://www.nycgovparks.org/parks/battery-park/history).

Entertainment & Reception Center 1823-1854

Castle Clinton became Castle Garden when it was ceded to the city in 1823 and was transformed into an entertainment and reception center. It continued to function as such until 1854. Physical changes to the building were made to accommodate a theater, galleries, seating, etc. (Millman and Weible 1983; 1984). Physical changes were also continuing at the Battery, as landfilling efforts behind a new bulkhead were ongoing **(Figure 15**).

Immigration Depot 1855-1890

Castle Garden was transformed into an Immigration Center in 1855 and continued in that role until 1890. The landfilling and bulkhead construction project planned in 1848 and begun in 1853 was ongoing during the tenure of the immigration center.

Aquarium 1896-1941

In 1896, the building was turned into the New York Aquarium, which necessitated extensive interior changes such as the installation of multiple tanks. The building continued to house the aquarium until 1941 (Millman and Weible 1983; 1984).

National Monument and National Park Service Site 1946-present

In 1946, the structure was designated as a National Monument. In 1950, the structure was officially placed under the jurisdiction of the National Park Service (NPS). The NPS restored the structure to its original function as a military installation (1811-1823) during the 1960s and 1970s (Millman and Weible 1983; 1984).

20th Century Transportation Improvements

The eastern portion of The Battery was impacted by cut and cover subway tunnel construction beginning in 1904 by the modern IRT #4/5 line running through The Battery along State Street to Brooklyn, and the turn-around loop for IRT #5 trains terminating at the Bowling Green Station (LBG 2003:27).

In 1918, the IRT #1/9 line was configured through The Battery. The IRT #1/9 line ran on the existing (outer) loop constructed in 1904 for the IRT #4/5 line, and an inner loop was built for the IRT #5 trains as the turn-around track (LBG 2003:27).

The primarily north-south Brooklyn Battery Tunnel corridor cut through the middle of The Battery, and the partial cut and cover construction created massive disturbance along its route. The tunnel was begun in 1940 but construction was delayed by shortages caused by World War II (1941-1945). Construction resumed following the end of the war and was completed in 1950.

Another large transportation project that caused extensive impacts to The Battery was the construction of the Battery Park Underpass linking the West Side Highway with the FDR drive. This project, completed ca. 1950, involved cut and cover excavation across the length of The Battery.

Following the completion of the Brooklyn Battery Tunnel and the Battery Park Underpass, the entire Battery was completely re-landscaped and expanded by two acres. Subsequent alterations include the addition of Peter Minuit Plaza in 1955 and the dedication of the East Coast Memorial in 1963 (http://www.nycgovparks.org/parks/battery-park/history).

The most recent transportation project to impact The Battery was the completion of the New South Ferry Terminal alignment. The project was approximately 1,800 feet in length, measured along a line beginning at the intersection of Greenwich Street and Battery Place, running through the eastern portion of The Battery to Peter Minuit Plaza, and terminating immediately north of the Whitehall Ferry Terminal. The construction of the tunnels and station involved mostly cut and cover techniques through The Battery and Peter Minuit Plaza (LBG 2003:1).

4.2.2 Pier A and Pier A Plaza

Pier A is the oldest extant pier in New York City. It is also the only pier to be identified by a letter, as all the piers along the Hudson River to the north and along the East River are identified by a number. Pier A is a National Register-listed cultural resource (90NR00767; June 27, 1975) significant in areas of architecture and commerce between 1800-1899 and was designated a New York City Landmark (LP-00918) on July 12, 1977.

Pier A is located at the northern end of Battery Park at the Hudson River, extends 300-feet into New York Harbor, and features a 70-foot tall clock tower (https://bpca.ny.gov/community/walk-talk-the-history-of-pier-a/). The pier was expanded in 1900 and again in 1919, when a clock was installed in the Pier's tower as a memorial to 116,000 U.S. servicemen who passed away during World War I. The clock, a ship's clock, was donated by philanthropist Daniel G. Reid, a founder of United States Steel. It is said to be the first World War I memorial erected in the United States (https://gothamtogo.com/a-look-back-at-the-renovation-of-historic-pier-a-in-battery-park-city/; NYC LPC 1977).

Pier A was constructed during 1884 to 1886 by the New York City Department of Docks for its headquarters, with use shared by the New York City Police Department harbor patrol until the 1950s when it was taken over by the New York City Fire Department's marine division until 1992 (https://forgotten-ny.com/2014/08/pier-a-battery-park/). Post-1992, the Pier was left vacant in anticipation of its development into a public space. The redevelopment/renovation was delayed for many years, until the Battery Park City Authority took on the project in 2008, and opened it to the public in late 2014 (https://bpca.ny.gov/community/walk-talk-the-history-of-pier-a/).

The restoration of the three-story structure included the addition of a bar, restaurant, visitors center and public promenade, Pier A Plaza. Known today as the Pier A Harbor House, its address is 22 Battery Place, and it was opened to the public in November 2014 (https://gothamtogo.com/a-look-back-at-the-renovation-of-historic-pier-a-in-battery-park-city/).

4.2.3 Battery Park City

During the early 1960s, the decline in shipping activities along the Manhattan shore of the Hudson River and the growing importance of the financial industry in Lower Manhattan led to interest in revitalizing the waterfront. The waterfront piers that had lined the shoreline for decades were in various stages of deterioration. The eventual result of this revitalization goal was the construction of Battery Park City, a 92-acre development that was constructed on land reclaimed from the Hudson River from The Battery to Chambers Street, including Stuyvesant High School north of Chambers Street. In 1968, the Battery Park City Authority (BPCA) was created under the laws of the State of New York for the purpose of developing, constructing, maintaining, and operating the planned development of Battery Park City as a mixed commercial and residential community. A Master Plan for the development was presented in 1969, and the construction proceeded slowly.

The footprint of Battery Park City was created by land reclamation on the Hudson River using over 3 million cubic yards of soil and rock excavated during the construction of the World Trade Center, the New York City Water Tunnel, and certain other construction projects, as well as from sand dredged from New York Harbor off Staten Island (https://urbanareas.net/info/resources/neighborhoods-manhattan/battery-park-city-manhattanhistory/). By 1976, the 92-acre landfill on which Battery Park City rests was completed although the 1970's financial crisis delayed further development until late in 1979 (http://bpcparks.org/about-us/who-we-are/history/).

By the end of the 1970s, BPCA commissioned architects and planners to conceive a new master plan, which was completed in 1979. The 1979 Master Plan emphasized its connection to the waterfront open spaces in this new Manhattan neighborhood and accented the close relationship between the water and the land. The deteriorating piers along the shoreline north of Pier A were removed to facilitate the placement of the landfill and to provide a stable base for the construction of the buildings and parks (Mueser Rutledge Wentworth & Johnston 1971).

By 1980, Battery Park City's first residential development, Gateway Plaza, was under construction. As construction continued throughout the 1980s, Rector Park, a portion of the Esplanade, and the World Financial Center were completed and operational by the end of 1988. The 1990's witnessed an explosion of growth in Battery Park City, as schools, residential buildings, commercial buildings, parks, and public art installations filled in the once vacant landfill. Today, Battery Park City is home to over 13,000 residents and thousands more workers each day (http://bpcparks.org/about-us/who-we-are/history/).

Wagner Park, the approximately 3.3-acre parcel at the southern end of Battery Park City was built between 1994 and 1996. The concept for the park went through several iterations prior to adoption of the current configuration. The Museum of Jewish Heritage, which opened in Battery Park City in 1997, is located north of Wagner Park.

4.2.4 West Side Highway

The elevated West Side Highway was constructed on pillars over West Street and 12th Avenue and connected downtown Manhattan with the Henry Hudson Parkway uptown as part of the system of freeways created by New York's master builder Robert Moses. New York's West Side Highway was the first elevated highway to be built, with construction beginning in the 1920s. It was originally named the Julius Miller Highway for Manhattan's borough president at the time it opened (https://forgotten-ny.com/2015/08/west-side-highway/). It was also the first elevated highway to collapse. It was in such deteriorated condition that it had to be closed permanently in the 1970s (http://www.preservenet.com/freeways/FreewaysWestSide.html).

The stretch of highway between Canal St. and 72nd St. was built between 1929 and 1936, connecting at 72nd St. with Moses's Henry Hudson Parkway. Beginning in 1938, the highway was extended south of Canal St. to connect with the Battery, but construction of this stretch was interrupted by World War II (1941-1945) and was not completed until 1948. Finally, in 1950, the highway was connected with the new Brooklyn Battery Tunnel (http://www.preservenet.com/freeways/FreewaysWestSide.html).

In December 1973, a cement truck traveling to repair another part of the West Side Highway caused a 60-foot section of northbound roadway near Gansevoort St. to collapse. The highway was closed between the Battery and 57th St. while engineers determined whether this section could be repaired. The New York City Department of Transportation decided that the repair cost was too high and began planning the demolition of the elevated West Side Highway. Demolition of the elevated structure began in 1977 and was completed in 1989 (http://www.preservenet.com/freeways/FreewaysWestSide.html.

Before demolition was completed, a proposal for a new West Side Highway sunk under parkland along the same route, called Westway, was defeated primarily due to environmental concerns (https://forgotten-ny.com/2015/08/west-side-highway/).

In 1986, the city hired Volmer Associates to develop alternatives for the West Side Highway Replacement Project. Their four alternatives each involved improving the existing roadway and adding a park along the Hudson River. This project simply improved the existing West St., which had been the street under the elevated West Side Highway, by adding 19-foot wide landscaped medians, a bicycle path and landscaped park along the river, and urban design elements that emphasize the continuity of this street and park, such as decorative streetlights and granite paving details (http://www.preservenet.com/freeways/FreewaysWestSide.html).

4.2.5 Hudson River Park

By the 1980s, Manhattan's Hudson River waterfront was largely a derelict landscape of barbed wire, crumbling piers, parking lots and decaying warehouses. Following the sharp declines in maritime commerce in Manhattan and the defeat of the Westway plan to replace the West Side Highway, New Yorkers were presented with an opportunity to reimagine the city's post-industrial waterfront (https://hudsonriverpark.org/the-park/waterfront-transformation/). Today, there is a park, pedestrian promenade, and bicycle path along the Hudson River on Manhattan's west side on land that was once under the elevated West Side Highway.

Hudson River Park was created in 1998 by a New York State law as a partnership between New York State and New York City. The same law created the Hudson River Park Trust as a New York State public benefit corporation to design, construct, operate and maintain the 4-mile-long Park, with Board Members appointed by the Governor, Mayor and Manhattan Borough President. The Park runs from the Battery to West 59th Street (https://hudsonriverpark.org/visit/plan-your-visit/).

The park was built starting in the 1990s in conjunction with the construction of the surface-level West Side Highway. Work was completed over several stages through the 2010s. Along its 4-mile corridor, Hudson River Park connects many other recreational sites and landmarks (https://www.google.com/search?q=history+of+hudson+river+park).

5 Results of Survey

5.1 Previously Identified Sites

According to the CRIS search, a total of 16 historic archaeological sites lie within the 0.25-mile search radius around the Project Area. No previously identified prehistoric sites are located within the 0.5-mile search radius. As depicted in CRIS, the entire project area lies within an Area of Archaeological Sensitivity. **Table 5-1** presents the known archaeological sites.

Multiple sites were identified in the 18th Century landfill of the present-day Battery. These include the ca. 1755 18th Century Battery Wall, which was encountered in four locations within The Battery, along the New South Ferry Terminal Project alignment. Four sections of cut sandstone and schist stone wall were encountered, the shallowest at depths ranging from 4.4 feet to 8.2 feet below the present ground surface. Mid-18th Century artifacts were recovered in association. These remains have been determined National Register-eligible. Near the South Ferry Terminal location, a log cribbing and fill structure was identified during the archaeological work associated with the project. The fill associated with the cribbing yielded historic artifacts dating from the 17th to 19th centuries. The National Register status of this feature remains undetermined.

The archaeological survey for The Battery Playscape project identified a section of cut stone wall in the southeast portion of The Battery, west of Peter Minuit Place. This feature is likely another section of the 18th Century Battery Wall. Artifacts recovered in association included Dutch yellow brick and 17th - 18th Century ceramic sherds.

Sites that were excavated in land created through 17th Century landfill activities include 7 Hanover Square and the 64 Pearl Street. The 7 Hanover Square Site is unique in New York City in terms of its use of 17th Century landfill and building construction. The homes fronting Pearl Street were constructed during the late-17th Century on what was then the East River shoreline. The stone foundations served the dual purpose of anchoring the landfill and supporting the structures. These foundation walls were encountered during the excavation of the site and it was possible to identify the owners of the structures through the background research on the water lot grants purchased. The excavation yielded thousands of artifacts dating from the late-17th, 18th and 19th Century from multiple features and deposits encountered.

The 64 Pearl Street site is located on the Fraunces Tavern block across Pearl Street from the excavated fast-land Stadt Huys site, discussed below. The 1980 basement excavations yielded artifacts dating to the last quarter of the 17th Century.

Previously identified sites within the search radius include 18th and 19th Century infrastructure remains. The Whitehall Slip Site, located at the foot of Whitehall Street at the East River shoreline, dates to 1754 and was filled between 1824 and the 1850s. The slip was constructed of wooden timbers and cobbles and archaeological investigations yielded 18th and 19th Century artifacts. The Whitehall Ferry structure site was located off Whitehall Street and was constructed on cribbing and 18th Century landfill. Later 19th Century construction fill was also encountered. In the northern portion of the SBPCR project area, the Pier 7

Complex was identified at the southern end of West Thames Park, north of West Thames Street. This 19th - 20th Century complex includes a portion of the ca. 1903 Hudson River bulkhead and the ca. 1908 Baltimore & Ohio Railroad Pier 7 concrete foundation and shed. This site has been determined National Register-eligible.

The Hudson River Bulkhead, running from The Battery to 59th Street along the former Hudson River shoreline, is a National Register-eligible resource. Conceived in 1871 when the Department of Docks was established, this predominantly masonry-constructed bulkhead was completed in stages from 1871 to ca. 1960. Most of the construction occurred post-1880, and modifications and repairs have been made to portions of the bulkhead since that time, some of which have affected its integrity. Within the Project Area, south of Harrison Street, intact sections of the bulkhead were buried ca. 1970 behind fill used to create Battery Park City. As such, this portion of the buried bulkhead is an archaeological resource.

Sites that were excavated on fast land include the Stadt Huys Site, now 85 Broad Street, and the Broad Financial Center Site, now 33 Whitehall Street. The excavations on these two sites were mitigation strategies for the respective properties. Today, high-rise buildings occupy the blocks.

The Stadt Huys Site (NYSM #554, bounded by Broad Street, Pearl Street, Coenties Slip and South William Street was the site of the first State House (ca. 1640) under Dutch occupation, and of the adjacent Lovelace Tavern (ca. 1670) under English occupation. Multiple stone foundation wall sections, features and associated deposits dating from the 17th Century through the 19th Century were excavated, yielding hundreds of thousands of artifacts. The project de-mapped one block of Stone Street between Broad Street and Coenties Slip, and this former street alignment is memorialized in the alignment of the present-day 85 Broad Street building lobby.

The Broad Financial Center Site (06101.001282), bounded by Whitehall Street, Pearl Street and Bridge Street was the location of Augustine Heermann's warehouse and several houses during the 17th Century, including that of Dr. Hans Kierstede. The excavations identified foundation walls, the cobblestone warehouse floor and several features in the backyard areas of the former houses dating from the 17th Century through the 19th Century. Four 17th Century structures and six features were identified, and 43,318 artifacts were recovered.

Archaeological sites have also been designated by SHPO that are associated with National Register-listed structures / National Historic Landmarks. These sites include Federal Hall at 26 Wall Street (Site 06101.013876) and Castle Clinton, in Battery Park (Site 06101.000490).

The Liberty Street Pilings Site (06101.018121; NYSM #12321) is located at the median of the intersection of Liberty Street and West Street (Route 9A). The site is in a former commercial pier area that was developed before and after the construction of the Hudson River Bulkhead, adjacent to the former Liberty Street (Communipaw) Ferry Terminal. The site consists of large horizontally oriented square-cut wooden timbers over large round wooden pilings that were driven vertically into mud to support an unidentified former structure. The site is dated ca. 1857-1903.

The WTC Ship (06101.018000) was located on the blocks bounded by Liberty, West (Route 9A), Cedar, Washington, Albany, and Greenwich Streets. This resource was first discovered during archaeological monitoring activities associated with the excavations for the proposed underground WTC Vehicular Security Center covering Blocks 54 and 56, adjacent to the south side of the WTC site. Curved timbers of the hull of what proved to be the stern of a buried ship were uncovered in 2010. Shortly after discovery, the SHPO determined the remains to be eligible for listing in the National Register of Historic Places. Data recovery excavation and removal of the remains was completed in 2010 as mitigation of unavoidable adverse effect to this resource. Remnants of the bow were uncovered in the eastern portion of the project site in 2011. These remains were also documented and removed in 2011.

Subsequent research and analysis have revealed the ship to be a Hudson River Style Sloop, most likely constructed during the late 1770s to 1780s. The ship was incorporated as landfill during the 1790s, located in a former slip of the filled in former Hudson River shoreline commercial pier/wharf area. Built for river trade, possibly in Philadelphia, but shipworm analysis revealed that she plied much warmer waters, probably the Caribbean.

Table 5-1: Known Archaeological Sites Within 0.25-Mile Search Radius of Project Area

SHPO/NYSM SITE NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	DATE/TIME PERIOD	DESCRIPTION	NATIONAL REGISTER STATUS
06101.08120 NYSM 12322	Pier 7 Complex	Structures	South end of West Thames Park, north of West Thames Street	19th Century Historic	Includes portion of ca. 1903 Hudson River bulkhead, ca. 1908 Pier 7 of Baltimore & Ohio RR concrete foundation and shed	Eligible
06101.013876	Federal Hall Archaeological Site	Potential Site	26 Wall Street	Historic	2005 Phase IB monitoring report by Hartgen Archeological Associates for the NPS for sub-basement foundation repairs encountered 7 features, none of which were determined to be National Register eligible	Tested areas: Not eligible Potential areas: Undetermined
NYSM #554	Stadt Huys Site	Structures	Now 85 Broad Street	17th -19th Century Historic	Site of Dutch State House and English Lovelace Tavern; fast land block	Excavated
NYSM #624	7 Hanover Square Site	Structures	Now 7 Hanover Square	18th Century Historic	Part fast land/ part early landfill block of 18th Century residences	Excavated
06101.001272	64 Pearl Street Site	17th Century Landfill	64 Pearl Street	Late 17th Century Historic	Artifacts dating to the last quarter of the 17th Century	Excavated
06101.001282	Broad Financial Center (Ronson Project Site 33 Whitehall)	17th Century fast land site	Bounded by Pearl, Whitehall and Bridge Streets	17th-19th C Historic Occupations	Four 17th Century structures; 6 features identified; 43,318 artifacts recovered	Excavated

SHPO/NYSM SITE NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	DATE/TIME PERIOD	DESCRIPTION	NATIONAL REGISTER STATUS
06101.015768	18th Century Battery Wall	Structure	South Ferry Corridor in Battery Park	Ca. 1730-1789	4 sections of cut sandstone and schist stone wall; mid-18th C artifacts recovered	Eligible
06101.000491	Municipal Ferry Pier/Battery Maritime Building Site	Structure	Bounded by Water, Broad, South and Whitehall Streets	1909	Municipal Ferry	Listed, NHL
06101.015598	Whitehall Slip Site	Structure	Foot of Whitehall Street at shoreline	18th and 19th Century Historic	Created 1754; filled 1824-1850s. Slip composed of wood timbers and cobbles and contained many historic artifacts	Undetermined
06101.013334	Whitehall Ferry	Structure	Off Whitehall Street	18th and 19th Century landfill and cribbing	18th Century landfill; 19th Century construction fill	Undetermined
06101.016196	Log Cribbing & Fill	Structure	Battery Park near South Ferry Terminal	17th-19th C Historic Fill	Log cribbing and stone wall sections and associated historic artifacts from 17th to 19th Centuries	Undetermined
06101.000490	Form Missing – possibly Castle Clinton		In Battery Park adjacent to Castle Clinton			Listed, NHL
No Number	The Battery Playscape	Structure	Southeast portion of Battery Park, west of Peter Minuit Place	Probable section of 18th Century Battery Wall	Artifacts included Dutch yellow brick, 17th-18th Century ceramic sherds	Undetermined
06101.018121 NYSM# 12321	Liberty Street Pilings Site	Structure	At the median of the intersection of Liberty and West (Route 9A) Streets	Ca. 1857-1903	Large horizontal square cut timbers over large round wooden pilings; no artifacts collected. In former	Eligible

SHPO/NYSM SITE NUMBER	RESOURCE NAME	RESOURCE TYPE	LOCATION/ ADDRESS	DATE/TIME PERIOD	DESCRIPTION	NATIONAL REGISTER STATUS
					commercial pier area developed before and after Hudson River bulkhead construction. Adjacent to the Liberty Street (Communipaw) Ferry	
06101.018000	WTC Ship	Hudson River Style Sloop	Bounded by Liberty, West (Route 9A), Cedar, Washington, Albany, and Greenwich Streets	Constructed late-1770s to 1780s; Incorporated as landfill 1790s	Located in former slip of filled former Hudson River shoreline commercial pier/wharf area. Built for river trade, possibly in Philadelphia, but shipworm analysis revealed that she plied much warmer waters, probably the Caribbean	Determined Eligible upon discovery; data recovery excavation completed as mitigation of unavoidable adverse effect
06101.009182	Hudson River Bulkhead	Buried Structure	From The Battery to 59th Street	1871-ca.1960	Three types of construction: quarry-faced ashlar granite walls; pre-cast or cast-in-place concrete walls; and timber cribwork. Masonry bulkheads vary in foundation systems that reflect all the evolutionary stages of about 50 years of Dept. of Docks work. Intact sections south of Harrison Street were buried ca.1970 behind fill used to create Battery Park City.	Eligible

5.2 Previously Conducted Surveys

The Battery has a long development history dating to the 17th Century and the founding of New Amsterdam ca. 1625 by the Dutch, and the subsequent takeover by the English in 1664. The project area portion of The Battery was created through land reclamation efforts partially due to military or defensive concerns of the early settlers. Paul R. Huey, Scientist (Archaeology), now *Emeritus*, of the Bureau of Historic Sites, Division of Historic Preservation in the NYS Office of Parks, Recreation and Historic Preservation, compiled a narrative history of New York City's shoreline fortifications through extensive examination of documents and maps (Huey 2006). This compilation provides a comprehensive account of shoreline alterations and military installations that are located partially within or pass through the Archaeological APE for the SBPCR Project.

The New South Ferry Terminal Project included archaeological surveys from Phase IA through Data Recovery, or Phase 3 excavations. Beginning in 2003, the Louis Berger Group, Inc. prepared a Phase IA archaeological documentary study for the new South Ferry Terminal site, an 1,800-foot linear study area through The Battery. The Phase IA concluded that the terminal site was sensitive for historic archaeological resources, including 17th and 18th Century Dutch and British occupation deposits, 17th and 18th Century Dutch and British military fortifications, and late-19th and early-20th Century transportation elements, such as elevated railway structures and streetcar lines.

The 2003 Phase IA study noted that during the excavation for the Brooklyn-Battery Tunnel, volunteers from the New-York Historical Society identified 19th Century historic artifacts recovered from the fill of Battery Park. A catalogue of the recovered artifacts was found on the Society's Luce Center web page, and a search of the Society's museum records provided a summary of the artifacts from The Battery. During the Brooklyn-Battery Tunnel construction in 1948 through 1950, New-York Historical Society members recovered several intact bottles, 31 ceramic fragments, several bottle-glass, metal, and clay-pipe fragments, and a complete jackknife. Additional artifacts found in The Battery include: the tip to a piling for a pier/wharf between Greenwich and Washington streets, uncovered in 1947; a copper coin, dating to 1734, found in The Battery in 1911; and a cannonball imbedded in cinders, found during subway excavations (Louis Berger Group 2003:31). These artifacts are all housed at the New-York Historical Society.

Extensive archaeological investigations for the New South Ferry Terminal project continued as the project progressed, which resulted in the archaeological monitoring and testing of more than 80 percent of the project area. A final report of the Phase 1, Phase 2, and Phase 3 Data Recovery investigations was prepared by AKRF, URS Corporation, and Linda Stone in 2012. The archaeological investigations identified four truncated segments of the 18th Century battery wall that surrounded Fort George (the site of Fort Amsterdam under Dutch rule), remains of Whitehall Slip, landfill retaining structures such as log cribbing sections, and landfill deposits. It is noted that the segments of the 18th Century battery walls were encountered as shallow as 4.4 feet below ground surface. Human remains were also encountered during the investigations, which may have been associated with a chapel cemetery that was located within Fort George. It is equally possible that these remains were not *in situ* but incorporated into the landfill by alternate means.

A comprehensive history of the development of The Battery was compiled by Joan H. Geismar, Ph.D. in 2010 as part of a Phase IA archaeological assessment survey for the *Reconstruction of Battery Park and Perimeter Bikeway* for the NYC Department of Parks and Recreation, in partnership with the Battery Park Conservancy (Geismar 2010). Research for the Phase IA assessment was focused on three elements of the park's developmental history: military defenses; landfill features; and subsequent construction disturbances. The results of the Phase IA indicated that despite the extensive disturbance that has occurred across this portion of The Battery due to subway tunnel construction and transportation infrastructure projects, archaeological potential for encountering evidence of colonial fortifications and stone bulkheads related to land making episodes persists for areas in which no disturbance has been documented. The Phase IA recommended that an archaeological monitoring plan be developed for those portions of the Battery Bikeway project area that will create ground disturbance to depths greater than 3.5 feet below present ground surface.

During 2011, a Phase IB test pit survey for the Battery Bikeway project was conducted by Joan H. Geismar, Ph.D. for discrete areas in The Battery determined sensitive for archaeological resources through the 2010 Phase IA assessment survey. The vertical APE for the project was 3.5 feet below ground surface, as the project actions were not anticipated to create deep impacts. However, nine trenches were excavated to a maximum depth of 6 feet in discrete portions of the Battery Bikeway project area where prior disturbance could not be documented. Results of the testing revealed 20th Century fill deposits likely associated with utility construction. No significant archaeological resources were encountered in the tested areas, and no further testing was recommended for the proposed project area. The letter report concludes with a caveat regarding any future project impacts at greater depths than the Battery Bikeway project and recommends that an archaeological assessment should be made of any structural features that may be encountered.

During 2018, AKRF, Inc. conducted Phase IB subsurface testing for the Battery Playscape Project at the southern end of The Battery, adjacent to Peter Minuit Plaza. The project involved the rebuilding of the existing playground and comfort station originally constructed during the 1950s. The report, *The Battery Playscape Block 3, Part of Lot 1, Lower Manhattan, New York County, New York, Phase IB Archaeological Survey* was prepared for the Lower Manhattan Development Corporation. The site was determined sensitive for the presence of the Battery Wall, historic landfill, and landfill retaining structures. The testing involved the excavation of nine backhoe trenches to depths of six to seven feet below ground surface across the existing playground area.

Three of the nine trenches excavated encountered large semi-dressed stones likely associated with the Battery Wall. However, in two of the trenches, these stones were disarticulated, as they had been impacted by later construction. They were encountered at 2.5 feet (Trench 1) and 2.5-3.5 feet (Trench 3) below ground surface. In Trench 9 an intact section of dressed stone foundation was encountered at six feet below ground surface. Further investigation of this wall section was halted by ground water infiltration and slumping of the trench walls. However, the location of this wall section in relation to those sections documented during the New South Ferry Terminal Project, strongly suggests that this feature was part of the 18th Century Battery Wall.

The Phase IB report recommended that an archaeological monitoring plan be developed for use during the construction. The plan was to include provision and outline procedure for Data Recovery excavations, should significant resources be encountered.

Phase IA surveys were conducted in proximity to the Project Area during the late 1980s. In 1987, Joan H. Geismar, Ph.D. conducted a documentary study for the proposed Exchange Project at 10 Battery Place, Manhattan. The study was prepared for EEA, Inc. for review by the NYC Public Development Corporation. The project block is the site of the blower building for the Brooklyn-Battery Tunnel, bounded by Battery Place, Greenwich Street, Washington Street, and Morris Street. The proposed project actions included the installation of caissons and piles for foundation construction. The APE for the study included two, 25-foot by 110-foot strips of land on either side of the existing blower building, where foundation construction was proposed.

The research revealed that the project block was land underwater until filling began during the last decade of the 18th Century and continued until ca. 1821. The project block was partially impacted by the construction of the Ninth Avenue elevated railway from South Ferry to Greenwich Street during the 1860s, the IRT subway tunnel ca. 1918, and the approach, exit and blower building of the Brooklyn-Battery Tunnel in 1947. It was also revealed that in 1947, an unrecorded wharf cribbing structure was encountered during excavations for the blower building. The five soil borings conducted were inconclusive for archaeological strata. It is noted that the fill that was brought in to create this block during the late-18th and early-19th centuries was used in the 20th Century to extend The Battery and LaGuardia Airport (Geismar 1987:4).

The Exchange Project APE was determined sensitive for encountering stone retaining walls, wharves, piers, and possibly, shell middens. Archaeological monitoring during foundation construction was recommended. It is not known whether this monitoring was carried out.

5.3 Summary of Development History of the APE

5.3.1 The Battery

The SBPCR Project portion of The Battery was created through land reclamation efforts partially due to military or defense concerns of the early settlement of New York beginning during the 1730s. Paul R. Huey, Scientist (Archaeology), now Emeritus, of the Bureau of Historic Sites, Division of Historic Preservation, in the New York State Office of Parks, Recreation and Historic Preservation compiled a narrative history of New York City's shoreline fortifications through extensive examination of documents and maps (Huey 2006). This compilation provides a comprehensive account of shoreline alterations and military installations within the present-day Battery. One section of the Archaeological APE for the SBPCR Project lies across the northern portion of The Battery, adjacent to Battery Place.

Huey traces fortifications back to 1693, when English Governor Benjamin Fletcher reported to the assembly that he has "designed a platform on which I propose to mount a battery for the defence of this city, which is indeed for the safety of the Province…I have…guns for one tier; I have wrote for more." (Huey 2006:10). Later that year, Governor Fletcher wrote to the Committee of Trade asking for more artillery and explaining his "design to make a Platforme on the Out most Rocks under the Fort and Erect a battery thereon." The Governor's plan included cutting 86 cords of 12-foot-long stockade posts for the construction of the battery (Huey 2006:10).

By 1694, the common council was ready to comply with the Governor's plan by proposing a tax to pay for the proposed battery and stockade "at the point of Rocks under the Fort." (Huey 2006:10). The plans incorporated natural features such as a "Flat Rock" near the fort. The plan was to extend the area waterward of the fort to create additional land upon which to erect the stockade and battery.

The phrase "rocks under the fort" likely was a reference to the Kapsee (also known as Capsee or Copsey) rocks, which according to Bolton (1922), was the name applied to the rocky upland and also the rocky islets off its shore. The designation Kapsee is of Native American origin and was probably applied to the rocks in the tideway of Manhattan island (Bolton 1922:220). The Lynn maps of 1728, 1730, and 1731 all depict the rocky islets in the Hudson River, immediately west of the battery and bulkhead (**Figure 16**).

Under English rule, the fort was strengthened, and the surrounding bulkhead pushed further out into the Hudson River. By 1756, 92 cannons were installed in the fort. The walls and bastions were all constructed of stone and mortar (Schenawolf 2020).

The following description of mid-18th Century Fort George was taken from pages 12 and 13 of the *1861 New York During the Revolution,* by the Mercantile Library Association: "Fort George embraced three bastions with connecting curtains, extending from Whitehall slip on the south east, to the line of the present Battery place on the north-west. The fort, a rectangular stone work, strengthened with bastions at angles, was elevated on an artificial mound, about fourteen feet in height, which had been thrown up "at an enormous expense;" and its gateway, which fronted "the Bowling Green," was defended by a raveling or covert-port which had been thrown out in front of the fort, toward the city." (Schenawolf 2020) (**Figures 11 through 14**).

Of particular relevance to the current study is the "New Stone Battery" built in 1755 that stretched along the Hudson River shore under Fort George, which was intended to protect New York from attack by the French. The construction of this new battery required a substantial new bulkhead and landfill that pushed the shoreline farther out into the Hudson River. By 1756, 92 cannons were installed in the fort (**Figure 10**). The walls and bastions were all constructed of stone and mortar (Schenawolf 2020).

Regarding the recently constructed New Stone Battery, a visitor reported in 1759, "Along the front of the headland they have constructed on outcrops of rock a wall 12-feet-thick, forming a retrenchment and low rampart to the citadel, in which there are 90 cannon, from 12 to 24 pounders, deployed as a battery. The gun platforms are all large flagstones." (Huey 2006:17). The battery wall incorporated three bastions, with "Flat Rock" located north of the middle bastion (Huey 2006:18) (**Figure 13**). Several sections of this battery wall were identified during the archaeological monitoring and testing conducted in 2003-2006 for the New South Ferry Terminal project and the Battery Playscape project completed in 2018.

There was concern about the conditions of the ordnance at Fort George and the battery, according to the Montresor journals in the collections of the New-York Historical Society. It was reported on April 19, 1766 "The Inhabitants by the Assistance of the ordnance Smith continue drilling the Cannon on the Battery which are scarce worth their trouble in their present situation. The Guns are mostly old and honeycomb, the carriages so rotten as scarce to be able to support the weight of metal, the Platforms so totally out of order as to admit the Trucks of the Carriages nearly to their axles. And the checks of the Embrasures choke 'em on every occasion, as the Log work is decayed and ill tired." (Huey 2006:18) (**Figure 12**).

The low rampart wall landward of the new stone battery was apparently held in place by wooden facing. In 1768 there was a report of a boy falling from the rampart to the rocks below, as the sod atop the rampart gave way. There were additional accidents reported on the ramparts "the wooden facing of which being now decayed the earth is apt to give way." (Huey 2006: 18).

The English did take measures to improve the condition of Fort George and the battery by 1775. "On February 15, 1775, Lieutenant Governor Cadwallader Colden presents to the assembly accounts for repairs at Fort George and the battery." On September 15, 1775, the common council releases to Governor Tryon an area "at the lower end of Pearl Street for the Purpose of Enlarging the Battery." (Huey 2006:19) (**Figures 11, 12 and 13**).

At the onset of the Revolutionary War (1776-1783), Fort George stood immediately above the "Grand Battery", and Whitehall Battery was immediately to the left of the Grand Battery (Huey 2006:19). The pre-Revolutionary War Grand Battery was established in 1766 as a large outerwork of Fort George. The Battery was constructed of stone and could accommodate 100 cannons, and it extended from the west side of Fort George completely around the southern tip of Manhattan Island (**Figure 13**). Both Fort George and the Grand Battery were taken over by the Patriot forces at the start of the Revolutionary War. At this time, extensive fortifications were erected throughout the city, which included improvements on the battery below Fort George, and the Fort's defenses (Schenawolf 2020). When General Washington arrived in New York City in 1776 the battery was armed with thirteen 32-pounders, one 24-pounder, three 18-pounders, two 2-pounders, one brass mortar and three iron mortars (Roberts 1988).

New York City was recaptured by English forces in the fall of 1776 and held by them until the English evacuation of New York City in 1783. The English made Fort George and the Grand Battery their headquarters for the duration of their occupation (Roberts 1988).

When the English evacuated New York City on November 25, 1783, control of the fort and the battery returned to the Patriot forces. The fort and the Grand Battery were abandoned as fortifications in 1783 (Roberts 1988). In 1789, the Common Council approved the funds for "the erection of the Wharf at the Battery." (Huey 2006:20).

By 1790, the Common Council decided to apply to the legislature for funds "to affect the complete removal of the Earth & Stone & leveling the Ground at the Fort & Battery so as to accommodate the Building to be erected there for the use of the Government and also to continue the Wharf or Bulkhead, in the river, to the corner of the Battery at Whitehall Slip." (Huey 2006:20). The remains of the walls and interior buildings of the former Fort George were used as landfill to extend the shoreline further out into the Hudson River and expand the area of the battery. The 1796 Maverick *Plan of the City of New York* reveals that the fort, once facing Bowling Green is no longer standing. (**Figure 17**).

Following the demolition of the fort and leveling of the ground it stood upon, part of the area became a promenade while a large executive mansion was raised on the location. The 1811 Bridges Map, also known as The Commissioner's Map, depicts a large building on the site of the former fort (**Figure 18**). In 1813 the land was sold to the public and the building was demolished in 1815 (**Figure 19**).

At the turn of the 20th Century, the site was chosen for the construction of a new custom house. The building was completed in 1905 and stands to this day. The building remained the custom house until 1973, when the service was moved. At present the building houses the George Gustav Heye Center, formerly known as the Museum of the American Indian.

5.3.2 19th Century Landfill and the West Battery

West Battery was built during 1808-1811 to strengthen New York's sea defenses and is depicted on **Figures 14, 15, 18 and 19**. The circular brownstone fort, mounting 28 guns was built on a manmade island of stone in the Hudson River, approximately 200-feet off the "west head" of The Battery. The island fort was connected to The Battery by a wooden causeway and drawbridge (Milman and Weible 1984; 1985). This fort was known as the West Battery until 1815, when the name was changed to Castle Clinton, after New York's wartime mayor, Dewitt Clinton (**Figure 14**). Castle Clinton was ceded to the city in 1823, and its name was then changed to Castle Garden (**Figure 15**).

Figure 15 was first created for the 2010 *Phase IA Archaeological Assessment/Letter Report on The Reconstruction of Battery Park and Perimeter Bikeway* by Joan H. Geismar as 2010 Report Figure 5. This figure depicts the expansion of The Battery and the locations for the 1820, 1828 and 1848 bulkheads.

West Battery experienced five periods of very different function from 1811 until 1946, and continuing landfilling operations were increasing the overall acreage of The Battery during that same time frame.

Military Installation 1808-1823

During the period 1808 to 1811, a stone island was constructed atop rocks in the Hudson River 200 feet off the west side of the existing Battery. West Battery was connected to the mainland by a wooden causeway and drawbridge. By 1820, The Battery had been enlarged further by landfilling behind a new bulkhead to an area covering about 7-acres (**Figures 14 and 15**).

Documents associated with the park's proposed extension in 1848 indicate that the 1820s expansion had added a little over 3 acres and created 1,620 feet of shoreline.

Entertainment & Reception Center 1823-1854

By 1828, landfilling operations and the construction of a new bulkhead had enlarged The Battery grounds by approximately 3-acres; the Castle covered approximately 2-acres. The 10-acre Battery had a 1,620-foot waterfront, and the Castle was still connected to the mainland by causeway (**Figure 15**).

In 1848, a plan to again enlarge The Battery through landfill and bulkhead construction was proposed. The plan proposed to incorporate Castle Garden into The Battery grounds and would essentially double the size of The Battery by adding 11 acres of newly created land and extend the waterfront to 2,120 feet (**Figure 20**). In 1848, the footprint of Castle Garden covered one acre to the edge of the extant wharf, as noted on the Ewen 1848 map. The massive landfilling and bulkhead construction project got underway in 1853 (http://www.nycgovparks.org/parks/battery-park/history).

The 1848 enlargement was estimated to require 70,000 cubic yards of riprap wall, 1,280 cubic yards of parapet wall, 2,120 lineal "measure" of granite coping, and 212 granite posts (Board of Assistant Aldermen 1853a: 70-71 in Geismar 2010). This description suggests what the earlier bulkheads, such as those shown on the earlier maps, would be like. They were likely of substantial masonry construction, in order to function as landfill retaining structures. This suggests that the fill-retaining features that created the Battery Grounds were far more substantial than the log cribbing and sunken "blocks" or rafts associated with the 18th and early-19th Century land reclamation efforts. These have been documented archaeologically along the East River and elsewhere along the Hudson shore in the 1980s (e.g., Geismar 1983, 1986).

The mid-19th Century documents also estimate that 435,000 cubic yards of fill were needed for the enlargement. The fill was said to be available from demolished buildings and excavation sites in the "lower part of the city" and also from sewer construction, Russ pavement (blocks of granite set in stone and cement), street rubbish, and coal ashes (Board of Assistant Aldermen 1853a:68-78 in Geismar 2010).

At about the same time that the 1848 Battery expansion was proposed, increasing development and congestion in the area prompted the widening of Battery Place (once known as Kennedy Lane after Archibald Kennedy, a wealthy local landowner), a move that encroached on the northern part of the park (Board of Assistant Aldermen 1853b:142 in Geismar 2010).

Immigration Depot 1855-1890

The 1848 plan to add 11 acres to The Battery and incorporate Castle Garden was on-going at the time of the transition of the Castle from an entertainment and reception center to the immigration depot and was eventually completed in 1872. http://www.nycgovparks.org/parks/battery-park/history

Aquarium 1896-1941

During the tenure of the aquarium, more landfill was extended out into the Hudson River in order to completely surround the counterguard of the old fort (Grand Battery) with a grassy, tree-lined park (Millman and Weible 1983; 1984).

National Monument and National Park Service Site 1946-present

The NPS restored the Castle Garden structure to its period of military use as the West Battery. Today it lies in The Battery, at the southern end of the 92-acre development of Battery Park City.

5.3.3 Pier A Plaza

Pier A is a New York City Landmark, the oldest surviving pier in New York City and is listed on the National Register of Historic Places (**Figures 22 and 23**). Its Victorian-era pier building was constructed shortly after the Brooklyn Bridge (1884-1886) and was once one of the city's proudest points of entry. For decades the building sat in a ruinous state until it was recently renovated by the Battery Park City Authority for new and improved use (https://www.rogersarchitects.com/pier-a-plaza/).

Rogers Partners' work for Pier A Plaza in tandem with BPCA's renovation of Pier A resolved special access and circulation needs located at the nexus of bike routes, pedestrian promenades, and tourist activities. Site planning restored one of the last remaining waterfront sites on the Hudson River through careful consideration of resilience-oriented design measures, pedestrian circulation and flexibility for intensive programming. Pier A Plaza integrates robust planting, comfortable shaded seating, and distinctive paving that celebrates the history of this evolving shoreline (https://www.rogersarchitects.com/pier-a-plaza/).

The future Pier A Plaza location portion of the Archaeological APE was still underwater in 1848 (**Figure 20**). By 1873, West Street has been completed and runs south across Battery Place and ends at Castle Garden, as depicted on the Department of Docks map (**Figure 21**). The area of present-day Pier A Plaza has begun to emerge through the landfilling efforts associated with the laying out of West Street and the expansion of The Battery grounds. The section of the West Street corridor south of Battery Place depicted on this map is the future location of Pier A Plaza (**Figure 21**).

Further review of the 1873 Department of Docks map reveals that the 1857 bulkhead line runs across the eastern portion of present-day Pier A Plaza. It also indicates the location of the 1871 bulkhead line along the shoreline on the western boundary of present-day Pier A Plaza (**Figure 21**).

The current SBPCR Project's nuisance flood alignment lies across the 1857 bulkhead. The proposed tide gate in Pier A Plaza is in proximity to the 1857 bulkhead line and lies immediately east of the 1871 bulkhead line (**Figure 21**). The SBPCR Project actions of Pier A Plaza excavations/bulkhead improvements are in proximity to the 1871 bulkhead line.

The current Phase IA research included the review of the two-volume Mueser Rutledge Wentworth & Johnston study, the *Site Investigation and Preliminary Studies for Land Creation for Battery Park City* completed during 1971-1972 for the BPCA. Pier A is depicted on the existing conditions map and has an L-shaped masonry breakwater attached to its southern face, labeled "Heliport Pad". In addition, a "Sunken Tug Boat" is noted inboard of the breakwater, south of Pier A (**Figure 24**).

The 1971-1972 site investigation report noted that there has been prior work done along the 1871 bulkhead in Pier A Plaza. "A concrete and masonry gravity wall on a rock fill mound comprises the bulkhead from south of Pier A to 80 feet north of Pier No. 1, where a masonry wall, supported on a low-level relieving platform starts and extends north through the area. The platform is supported on timber piles. During 1947, a low-level concrete relieving platform and bulkhead wall, supported on timber piles, was added to the existing gravity wall south of Pier A. The area between the two bulkhead walls was filled and paved. This construction was part of the rehabilitation of Battery Park and was planned and designed by the Department of Parks." (Mueser Rutledge Wentworth & Johnston 1971:19).

The 1971-1972 site investigation also noted that utility installations were planned in present-day Pier A Plaza in tandem with the build out of Battery Park City. "An 84-inch reinforced concrete sewer pipe is planned to be constructed in Area 1 [the current SBPCR project area] approximately 80 feet east and parallel to the bulkhead line. This is part of the sewer diversion project for Area 1 designed by TAMS-Gibb & Hill. As presently planned, this sewer is to exit at the southern tip of Area 1 [present-day Pier A Plaza]." (Mueser Rutledge Wentworth & Johnston 1971:19).

5.3.4 Hudson River Piers and Bulkhead Lines

The East River was the main port of entry into New Amsterdam / New York City from its initial 17th Century settlement up until the mid-19th Century. The East River offered a gently sloping shoreline that was sheltered from strong winds, and had an average channel depth of 50 feet, which was more than adequate for 17th through 18th Century ocean going vessels. As steam replaced sail and ships gradually grew larger during the 19th Century, the center of commerce shifted to the Hudson River. By the 20th Century, the vast majority of Manhattan's shipborne trade entered the City via the Hudson River (HPI 2007:10).

Cartographic review conducted for this study confirms that during the 17th and 18th centuries, commerce centered on shipping was focused along the East River shoreline. The Hudson River shoreline in the vicinity of the SBPCR Project was utilized for fortifications including the fort, bastions, and bulkheads. The 18th Century map depictions such as Maerschalk 1754 (**Figure 10**), Montresor 1766 (**Figure 12**), and Ratzer 1776 (**Figure 13**) confirm this distinction between the Hudson and East River shorelines. The 19th Century saw the emergence of the Hudson River shoreline as the center of maritime commerce for New York City. Eventually, the western shoreline of Manhattan was covered with commercial piers from The Battery northward to Spuyten Duyvil.

The 1817 Poppleton *Plan of the city of New-York* depicts a north-south oriented pier past the end of Washington Street, which at this time terminates at Marketfield Place (later Battery Place) (**Figure 19**). The pier extends into the Hudson River south of Marketfield Place. Between this pier and the bulkhead just outboard of Greenwich Street, a water route is labeled "Brunswick Steam Boat Line". North of Marketfield Street, the bulkhead line is along the west side of Washington Street. As seen on **Figure 19**, the current SBPCR Project Archaeological APE for The Battery portion of the flood alignment crosses the location of this north-south pier.

There are eight additional piers off Washington Street extending into the Hudson River between Marketfield Street and Rector Street. As seen on **Figure 19**, the current SBPCR Project Archaeological APE for the locations of the elements comprising the NSI System interior drainage improvements system are still underwater, lying in the Hudson River, beyond the extent of these piers and the apparent pierhead line.

The 1824 Hooker *Hooker's new pocket plan of the city of New York* map depicts all piers extending into the Hudson River off Washington Street. By this time, Washington Street has been laid out to Marketfield Street and ends at the newly extended portion of The Battery grounds (**Figure 14**). The bulkhead line at this time is along the west side of Washington Street. There is no Pier 1 depicted, and the north-south oriented pier seen on the 1817 Poppleton map has been incorporated into the newly expanded Battery grounds. Eight additional piers are depicted north to Rector Street and all are labeled as to owner or lessee.

The 1848 Ewen *Proposed Enlargement of the Present Battery* map (**Figure 20**) shows that the proposed enlargement incorporates Castle Garden into the Battery grounds. West Street has been laid out to Battery Place, and the piers extend into the Hudson River from the new bulkhead along the west side of West Street. As seen on this figure, the locations of the elements comprising the NSI System interior drainage improvements are in areas out in the water, amidst existing piers. The future Pier A Plaza location is still underwater.

The 1873 Department of Docks map (**Figure 21**) shows the original grants of lands underwater, the high and low water marks in this portion of Lower Manhattan, and the succession of bulkhead and pierhead lines out into the Hudson River. The high-water line is depicted as running along the east side of Greenwich Street and through the east portion of The Battery below Battery Place. The low water mark is shown approximately midway between Greenwich and Washington Streets, and runs through the eastern portion of The Battery below Battery Place, to the west of the high-water line.

By 1873, West Street has been completed and runs south across Battery Place and ends at Castle Garden. The section of the corridor south of Battery Place is the future location of Pier A Plaza.

There are multiple piers depicted off West Street from below Battery Place to Rector Street, and the 1873 Department of Docks map (**Figure 21**) shows the existing and proposed pier numbers from 1 through 9. This map also provides the dimensions of the piers, including the extent of proposed extensions. It is seen that Wagner Park and the Museum of Jewish Heritage portions of the SBPCR Project lie within the location of five existing and proposed piers. These locations are not part of the Archaeological APE for this Phase IA study.

The bulkhead line of 1857 is depicted as running along the west side of the West Street corridor. It is labeled as the “Harbor Commissioner’s Bulk Head Line Established As Per Act 1857” and runs through the east side of what will become Pier A Plaza, and part of the Archaeological APE. Below Battery Place this bulkhead line turns at a 90-degree angle to the west and forms the southern boundary of the platform off the south face of Pier 1. The SBPCR Project’s nuisance flood alignment lies across the 1857 bulkhead, which is also a part of the Archaeological APE. The proposed tide gate in Pier A Plaza is in proximity to the 1857 bulkhead line. In addition, the locations of the elements comprising the NSI System interior drainage improvements are in proximity to the 1857 bulkhead line and are part of the Archaeological APE (**Figure 21**).

The 1871 bulkhead is also depicted outboard of the 1857 bulkhead line and is labeled “Bulk Head Line Established by the Department of Docks 1871.” This bulkhead line is adjacent on the west to the locations of the elements comprising the NSI System interior drainage improvements, which are part of the Archaeological APE. The SBPCR Project actions of Pier A Plaza excavations/bulkhead improvements are in proximity to the 1871 bulkhead line. The nuisance flood alignment of the SBPCR project lies immediately east of the 1871 bulkhead line (**Figure 21**).

The 1873 pierhead line is depicted outboard of the 1871 bulkhead line. Outboard of the 1873 pierhead line, the “Exterior Line of Grants Under Water as per Act of the Legislature 1871” is depicted (**Figure 21**).

The 1891 Bromley Atlas of the City of New York depicts Pier A for the first time (**Figure 22**). This pier is situated at an angle to the 1871 bulkhead line, west of The Battery grounds, and is labeled “Dock Dept”. Between the bulkhead line and The Battery is an open area that is known today as Pier A Plaza. Most of the present-day plaza within the SBPCR project boundary, which is part of the Archaeological APE, is shown as existing land; the extreme southern tip of this area, including part of the nuisance flood area within the Archaeological APE is still underwater in 1891.

The flood alignment corridor across the northern portion of The Battery appears as existing land, with few changes to the interior pathways depicted on the 1873 Department of Docks map (**Figure 21**). This corridor is part of the Archaeological APE.

The elements comprising the NSI System interior drainage improvements are located amid piers and pier platforms off West Street. The 1857 bulkhead line lies in proximity to the NSI element locations (**Figure 22**). There are nine piers shown off the 1857 bulkhead line. It appears that the 1871 bulkhead line has not been uniformly adopted north of Pier 1. The piers are numbered and labeled with the names of the owners/lessees.

The 1930 Bromley *Atlas of the City of New York* (**Figure 23**) depicts five existing piers in the Hudson River north of Pier A to Rector Street. Four piers have apparently been demolished since 1891. Pier 1 is located off present-day Pier A Plaza and is labeled “Iron Steamboat Co”. Pier A is labeled “Dock Dept and Harbor Police”. The masonry breakwater to the south of Pier A has been extended to form a sort of cove or protected area. To the south, beyond the breakwater, a “Fire Boat Station” is depicted along the bulkhead. Between the bulkhead line and The Battery grounds is present-day Pier A Plaza. Most of the present-day plaza within the SBPCR Project boundary, which is part of the Archaeological APE, is shown as existing land. The extreme southern tip of this area, including part of the nuisance flood area within the Archaeological APE is still underwater in 1930, lying within the protected area within the breakwater.

The flood alignment corridor portion of the Archaeological APE across the northern portion of The Battery appears as existing land, with few changes to the interior pathways depicted since 1891.

The locations of the elements comprising the NSI System interior drainage improvements in the segment of the Archaeological APE to the north of Battery Place are located primarily within Marginal/West Street in 1930. The 1857 bulkhead line is not depicted.

The development of Battery Park City has created a completely new shoreline along the Hudson River. The 19th Century piers are gone, and the bulkhead is now located along the former U.S. Pierhead Line of 1941. Today, Battery Park City is a 92-acre developed space along the Hudson River shoreline that includes residential and commercial buildings, roadways, art works, and public parks. The development history of Battery Park City is discussed above under Subchapter 4.2.3.

It is noted that the landfill used to create the footprint of Battery Park City was placed in the water out to the U.S. Pierhead line of 1941, which became the new bulkhead line when the development was completed. The extant piers between the bulkhead and pier line at the time of construction were demolished, likely down to the mudline to facilitate the placement of the landfill.

Multiple geotechnical studies were conducted during the 1960s and 1970s to identify existing conditions on the upland, shoreline and underwater portions of the planned development footprint of Battery Park City. Portions of the current SBPCR Project Area were included in these studies. One such study was completed by Mueser Rutledge Wentworth and Johnston (Mueser Rutledge) during 1971-1972 for the BPCA. Consisting of two volumes, the *Site Investigation and Preliminary Studies for Land Creation for Battery Park City* was reviewed for this study.

The Mueser Rutledge study divided the Battery Park City project area into five smaller areas for study. The portion of the overall project area included in the current SBPCR Project is Mueser Rutledge's 16-acre Area 1. Area 1 covers the shoreline from Pier A northward to the landfill area created from the excavations for the World Trade Center.

According to Volume 1, "At the start of the investigations, there were 11 existing piers and a landfill within the project area. The landfill had been placed by the Port of New York Authority under an agreement with the City of New York, and the fill is enclosed by a cellular steel sheet pile cofferdam on the north, west, and south sides and by the existing bulkhead on the U.S. Bulkhead Line at the east side. The western face of the cofferdam is located approximately 100 feet inboard of the U.S. Pierhead Line. The PATH tubes pass through the site beneath the river bottom at a point opposite the World Trade Center buildings." (Mueser Rutledge 1972:1). The referenced landfill was from the excavation of the World Trade Center Site during the 1960s and covered 24.7-acres.

A map of existing conditions at Area 1 created during the Mueser Rutledge study reveals that in 1971, in addition to Pier A, there were three extant piers located off (then) Marginal Street within the current Project Area (**Figure 24**). The map indicates that the U.S. Bulkhead Line of 1941 lies outboard of Marginal Street, and that the U.S. Pierhead Line of 1941 will be the new bulkhead line when the Battery Park City landfill is completed.

Pier No. 1 has a small platform attached to the southern face; Pier No. 2 has a rectangular platform running to Pier No. 3 to the north; and Pier No. 3 has a very narrow platform on its north face that ends at the World Trade Center landfill area (**Figure 24**). According to the 1971 study text, "the intervening slip spaces have been maintained by dredging to lower elevations." (Mueser Rutledge 1971:20).

Pier A is depicted on the existing conditions map and has an L-shaped masonry breakwater attached to its southern face, labeled “Heliport Pad”. In addition, a “Sunken Tug Boat” is noted inboard of the breakwater, south of Pier A (**Figure 24**).

“Piers A and Nos. 1, 2 and 3, remaining within Area 1 before the start of the site construction work, incorporated various types of construction. Piers A and 1, which are the oldest, dating to 1886 and 1876, respectively, are founded on masonry piers extending to rock. Piers No. 2 and 3, built in 1925 and 1931, respectively, are supported on timber piles. The deck, piers and arches of Pier 1 are being demolished and removed under site preparation contract BPCA 71-7.” (Mueser Rutledge 1971:19).

It is noted that the three extant piers in the SBPCR Project Area in 1971 had already replaced all the historic piers noted on the historic maps reviewed for this study.

According to the background text of the 1971 Mueser Rutledge study, “It was recommended to BPCA, that, except where otherwise dictated by considerations of safety and hazards to navigation, the piers be demolished in phase with the anticipated site preparation contracts.” (Mueser Rutledge 1971:9).

The narrative is continued in a section of the study under Data on Pier Conditions. “In Area 1, at the present time, demolition of Piers 1, 2, and 3 decks is in progress. This work is part of Contract BPCA 71-7 for ‘Bulkhead Construction, Landfill and Related Work, South 16 acres’. The demolition and removal of the pier sheds and bulkhead sheds for Piers 2 and 3 was done previously under Contract BPCA 70-5D.” (Mueser Rutledge 1971: Section 10.9, P.7).

5.4 Prior Archaeological Testing in The Battery

As mentioned in above sections, a subsurface testing survey was conducted by Joan H. Geismar, Ph.D. in The Battery during 2011 in association with the *Reconstruction of Battery Park and the Perimeter Bikeway* project prepared for the New York City Department of Parks and Recreation. This subsurface testing survey included a portion of the SBPCR Project Archaeological APE. A figure showing the locations of the subsurface tests was taken from the 2011 Geismar report, and the georeferenced SBPCR Project boundary was superimposed (**Figure 25**). The figure from the 2011 report also includes the locations of the 1755 battery wall segments that were encountered during the 2003-2006 archaeological work for the New South Ferry Terminal project, also discussed above.

The 2011 survey consisted of the excavation of nine test pits that were actually test trenches that ranged in depth from 3.0 to 6.2 feet and in length from 4.7 to 27.5 feet. The testing was accomplished through a combination of hand and machine excavation. In cases where subsurface utilities were suspected to be present, the excavation was by hand to avoid impacts to the lines.

In general, the soils encountered were determined to be more recent fill introduced above landfill. The strata were compacted, often mottled, stony soils with some ash as well as sand. Generally, construction debris such as brick fragments, some oyster shell, and some modern debris were found intermixed throughout the tests. No significant archaeological deposits or features were identified in any of the nine tests.

Two of the test trenches were located within the Archaeological APE for the SBPCR Project and one was located adjacent to the SBPCR Project boundary on the south. All three locations were placed along the projected line of the 1828 bulkhead taken from the Ewen 1827-1830 maps (**Figure 15**). No remnants of this bulkhead were encountered.

Test Pit (TP 6) was located in the SBPCR Project Archaeological APE, near the middle of the proposed buried flood wall within the proposed berm area, approximately 26-feet north of the existing comfort station (**Figure 25**). This test trench measured 7.5-feet long, 5-feet wide, and 5.2-feet deep and was excavated by hand and by machine. The strata encountered were as follows: stony topsoil; stony fill; ash and brick layer; and fill with brick and stones. An asphalt layer was encountered at approximately 4.5-feet below the existing ground surface. Cultural material recovered consisted of one partially glazed whole brick.

TP 7 was located approximately 15-feet to the north of TP 6, south of Battery Place and within the SBPCR Project Archaeological APE (**Figure 25**). This trench measured 4.7-feet long, 2-feet wide, 3-feet deep, and was machine excavated. Its location within the SBPCR Project Archaeological APE is to the north of the proposed buried flood wall within the proposed berm area. Soils encountered consisted of mixed fill throughout. A 4-inch diameter cast iron pipe was noted.

TP 5 was located off the southeast corner of the existing comfort station, approximately 20-feet south of the SBPCR Project Archaeological APE and project boundary (**Figure 25**). This trench measured 6-feet long, 2 to 2.4-feet wide, 5-feet deep, and was hand and machine excavated. The strata encountered were as follows: topsoil; fill; ash layer at 3-feet below existing ground surface; and fill. The strata were identified as mixed, or 20th Century fill containing brick fragments, Belgian blocks, ash, and modern debris.

5.5 Prior Disturbance Summary

By the end of the first decade of the 20th Century, The Battery and Battery Place had seen significant changes to its landscape, most of which were related to transportation improvements. Historic atlas maps of the period document transportation facilities in and bordering the park: The Ninth Avenue El; the street-level trolley lines; the IRT 4/5 line, which ran in a loop under State Street and the park; and the express line to Brooklyn. At the northern edge of the park, at Battery Place and Greenwich Street, the Battery Place elevated railway station was located (LBG 2003:43).

The Battery was extensively impacted during the 1950s by cut and cover excavations for the Brooklyn-Battery Tunnel and the Battery Park Underpass. The eastern portion of the park was most recently impacted by the completion of the New South Ferry Terminal Project during the 2000s.

Street-level trolley lines have been documented on Battery Place and State Street, in proximity to The Battery. The 1941 maps of The Battery indicate that the streetcar tracks were removed while the underground yokes, ducts, and appurtenances were abandoned in place (LBG 2003:51). However, remains of these resources are not anticipated to be encountered within the SBPCR Project Phase IA Archaeological APE.

5.5.1 The Ninth Avenue Elevated Railway

In 1867, an experimental elevated cable-driven railway was constructed on Greenwich Street. The Ninth Avenue Elevated Railway (Ninth Avenue El) originally began its run at Greenwich Street and Battery Place, but in February of 1876, the line was extended southward through Battery Park to South Ferry. Running along the eastern border of The Battery at State Street, stops were constructed at Battery Place (at the foot of Greenwich Street), at Battery Park (opposite Bridge Street) and at South Ferry. The Ninth Avenue El serviced passengers across New York City until its eventual closing in 1940, followed by the dismantling of the tracks in 1941 (LBG 2003:22-24).

According to the plans housed at the NYCT's archives, the footings that supported the elevated line consist of a 7x7-foot structure, composed of 9 ½ -feet of brick at the top, followed by 6 inches of blue slate stone at the base, creating a 10-foot-high structure (LBG 2003:55). The design of the elevated railway footings and their locations are well documented from the archived drawings and were encountered during the 1904 excavation for the IRT #4 and #5 subway tunnel (LBG 2003:28). It is possible that these footings remain intact in the northeastern portion of The Battery near Battery Place.

5.5.2 IRT # 4/5 Subway Line and Bowling Green Station; IRT #1/9 Subway Line

During the first decade of the 20th Century, transportation improvements were initiated when the Interborough Rapid Transit Company (IRT) opened their subway line on October 24, 1904. Initially, the line ran from City Hall northward to 145th Street on the Upper West Side. This line was extended southward from City Hall to South Ferry under a second contract on July 10, 1905. This extension is represented by the modern IRT #4/5 line running through The Battery along State Street to Brooklyn, and the turn-around loop for IRT #5 trains terminating at the Bowling Green Station (LBG 2003:27).

Along the east side of the park along State Street, the IRT line was constructed underneath the Ninth Avenue El supports. **Figure 25**, which was originally created for the 2010 Geismar Phase IA assessment, depicts this subway corridor. This method for constructing the subway under the existing elevated structures was a common approach applied in other places in the city. In some locations, the foundations for the elevated railway were completely exposed as the surrounding soil was excavated to create room for the subway line. In 1918, the IRT #1/9 line was configured through The Battery. The IRT #1/9 line ran on the existing (outer) loop constructed in 1904 for the IRT #4/5 line, and an inner loop was built for the IRT #5 trains as the turn-around track. The IRT #1/9 line ran down Greenwich Street and into the South Ferry Station, following the path of the Ninth Avenue El across The Battery (LBG 2003:27).

5.5.3 Brooklyn Battery Tunnel (Hugh L. Carey Tunnel)

The Brooklyn Battery Tunnel was first proposed in 1929, when city planners first became concerned about the increasing traffic on the Williamsburg, Manhattan, and Brooklyn Bridges. Construction was delayed due to a variety of economic and political reasons, notably the Great Depression of the 1930s. In 1940, construction began, was again delayed in 1943 due to World War II-related steel and iron shortages. Following the end of the war in 1945, construction resumed, and the tunnel was opened in 1950 (Howe 2017).

The tunnel is composed of two parallel cast iron tubes, 31-feet in diameter, 15-feet apart, and 9,117-feet long between portals. The tunnel exhibits a maximum roadway depth of 115-feet below mean high water (Howe 2017). The top of the tunnel structure lies approximately 5-feet below current grade in The Battery portion of the Archaeological APE.

Challenges associated with ventilation of the tunnel were solved by the construction of four ventilation/blower buildings. The buildings are equipped with dozens of giant fans responsible for removing vehicle emissions and pumping fresh air in every 90 seconds (Howe 2017). One of the buildings is located within The Battery, one is located across Battery Place between Greenwich and Washington Streets, one is near the tunnel portal in Brooklyn, and one is on Governor’s Island.

The primarily north-south Brooklyn Battery Tunnel corridor cuts through the middle of The Battery, and the partial cut and cover construction created massive disturbance along its route (**Figure 25**). However, it is possible that only minimal disturbance has occurred in the areas within the park to the east and west of the tunnel corridor.

When the tunnel construction began in 1940, the Ninth Avenue El was still in operation, but by 1941 the elevated railway had been dismantled. Locations of the footings for the elevated railway supports were plotted on the plans drawn by the Triborough Bridge and Tunnel Authority (TBTA) during the construction of the Brooklyn-Battery Tunnel (LBG 2003:43).

5.5.4 Battery Park Underpass

Another transportation project that caused extensive impacts to The Battery was the construction of the Battery Park Underpass linking West Street, now the West Side Highway, with South Street, now the FDR drive. This project, conducted ca. 1950, involved cut and cover excavation across the length of the park (**Figure 25**). Following this construction, the paths and green spaces within The Battery were revamped as paths were realigned and several monuments were moved. In 1952, Peter Minuit Plaza was created where the South Ferry elevated railway station had previously been located (LBG 2003:27).

5.5.5 IRT #1/9 New South Ferry Terminal Project

The most recent transportation project to impact The Battery was the completion of the New South Ferry Terminal alignment. The project was approximately 1,800 feet in length, measured along a line beginning at the intersection of Greenwich Street and Battery Place, through the eastern portion of The Battery to Peter Minuit Plaza, and terminating immediately north of the Whitehall Ferry Terminal (**Figure 25**). The construction of the tunnels and station involved mostly cut and cover techniques through The Battery and Peter Minuit Plaza (LBG 2003:1).

To the north of the SBPCR Project, the existing IRT #1/9 tracks were lowered to accommodate the new track grade. At Battery Place, a wide opening was constructed several hundred feet east of the Brooklyn-Battery Tunnel to transition the new IRT #1/9 track corridor west of the existing tracks. The tracks were enclosed in two concrete tunnels each approximately 18-feet-wide, with inverts ranging from 30 feet below grade to 50 feet below grade. The tunnels pass under the existing IRT #1/9 loop track and the IRT #4/5 Brooklyn-bound tunnel in the eastern portion of The Battery. East of Greenwich Street along Battery Place, a new fan plant was built within the Battery Place roadbed (LBG 2003:1). The area excavated for the construction of the new Terminal Station, tracks, and fan plant totaled 2.25 acres (LBG 2003:1).

5.5.6 Underground Utility Lines

According to the research conducted by the Louis Berger Group for the Phase IA study of the New South Ferry Terminal project, numerous utilities run through Battery Park, including electrical, sewer, water, gas, telephone, and a U.S. Treasury mail tube. The Treasury tube ran across the northeast corner of the park to the old U.S. Custom House at Bowling Green (LBG 2003:51).

Figure 26 was created for the current Phase IA study. It depicts the large-diameter mains that exist within the Project Area and cross all three sections of the Archaeological APE. It also depicts existing infrastructure associated with the sewer, storm water and combined sewer mains.

Pier A Plaza has been impacted by the 84-inch diameter CSO outfall pipe and the existing CSO outfall point in the bulkhead. The CSO main continues northward above Battery Place (Figure 26).

The existing CS Interceptor main runs through the extreme western edge of The Battery near the eastern boundary of Pier A Plaza. This large main also continues northward above Battery Place (Figure 26).

An existing Separated Stormwater Sewer main runs through The Battery. The proposed tide gate located within a pathway in the Battery will connect with this line to the south of the flood alignment and just southwest of the proposed berm area around the proposed buried flood wall (Figure 6).

These large diameter mains have likely created substantial subsurface disturbance along their corridors within all three portions of the SBPCR Project Archaeological APE. In addition, individual service connections to connect flanking buildings north of Battery Place with the large mains have created additional subsurface disturbance.

6 Conclusions and Recommendations

The Archaeological APE for the SBPCR Project is composed of three portions of the overall project area: Pier A Plaza (**Figure 5**), the flood alignment along the northern portion of The Battery (**Figure 6**), and the NSI System interior drainage improvement locations north of Battery Place (**Figure 7**). As discussed above in Chapter 1, the APE is concerned with direct effects to potential archaeological resources in previously undisturbed or minimally disturbed areas where subsurface disturbance is anticipated to occur as a result of project actions. The APE is composed of two parts: the horizontal APE, which is the footprint of anticipated subsurface disturbance, and the vertical APE, which is the depth to which subsurface disturbance is expected to occur.

The sensitivity assessment is conducted to determine the potential for encountering potentially National Register-eligible archaeological resources in the APE. In accordance with the New York Archaeological Council's (NYAC) *Standards for Cultural Resource Investigations and Curation of Archaeological Collections* (NYAC 1994), archaeological potential should be measured as low, moderate, or high.

6.1 Conclusions

6.1.1 Pier A Plaza Sensitivity Assessment

The SBPCR Project flood alignment is depicted on **Figure 3**. The Archaeological APE in Pier A Plaza is shown on **Figure 5**. Proposed actions that will incur subsurface disturbance in Pier A Plaza are: the flood alignment consisting of a short section of fixed wall leaving Wagner Park; flip-up deployable gates supported on deep piles; the nuisance flood alignment which entails excavation and bulkhead improvements; interior drainage improvements including the installation of a tide gate; and the construction of security measures in the form of a combination of bollards and 40-inch high walls along the northern boundary of the plaza.

Nuisance Flood Alignment

The current SBPCR Project's nuisance flood alignment lies across the depicted location of the 1857 bulkhead. Most of the proposed work associated with the nuisance flood alignment involves raising the level of Pier A Plaza in a terraced manner. The existing paving and pavement flags that depict the lines of historic piers will be removed and the substrate will likely be graded. Since the plaza will be terraced to accommodate the nuisance flooding elevation, the lines of the historic piers will be marked by using medallions with text inset into hexagonal paving stones. It is anticipated that the depth of disturbance will be approximately 2-feet across the plaza, with deeper excavation in discrete locations for lighting supports and stair supports. The addition of fill is not of archaeological concern. The minimal grading work will likely be within 2 feet of the existing plaza surface and is also not an archaeological concern. It is highly probable that Pier A Plaza has been disturbed to at least 2 feet below current grade when renovations were made within the past decade. In addition, intact archaeological resources below Pier A Plaza would likely be located at depths greater than 2 feet below grade.

The nuisance flood alignment area footprint in Pier A Plaza does not possess archaeological potential.

Excavation and Bulkhead Improvements

Excavation and bulkhead improvements are proposed in association with the implementation of the nuisance flood alignment (**Figure 5**). The proposed Pier A Plaza excavations/bulkhead improvements are in proximity to the 1871 bulkhead line. The proposed project actions include excavation in association with the existing bulkhead wall, and replacement of approximately two feet of fill.

The bulkhead consists of a concrete and masonry gravity wall on a rock fill mound that extends from south of Pier A to approximately 80-feet north of former Pier No. 1, where a masonry wall, supported on a low-level relieving platform begins, and extends north. The platform is supported on timber piles. According to the 1971-1972 Mueser Rutledge study, "During 1947, a low-level concrete relieving platform and bulkhead wall, supported on timber piles, was added outboard of the existing gravity wall south of Pier A. The area between the two bulkhead walls was filled and paved. This construction was part of the rehabilitation of Battery Park and was planned and designed by the Department of Parks." (Mueser Rutledge 1971:19).

It is unlikely that any intact archaeological resources would be impacted by this action, as the disturbance is minimal and will occur in previously disturbed landfill deposits. In addition, the 19th Century bulkhead along the Pier A Plaza shoreline has already been disturbed and/or modified.

The Pier A Plaza excavation/bulkhead improvement locations do not possess archaeological potential.

Interior Drainage Improvements

There is an 84-inch diameter CSO sewer pipe running north to south through the western portion of Pier A Plaza. This main is shown on **Figure 26**. This main connects to the CSO NC-070 outfall point at the bulkhead line on the west side of Pier A Plaza, south of Pier A. A new tide gate is proposed for the area off the southeast corner of Pier A in the plaza, to be connected to this CSO main. The proposed tide gate in Pier A Plaza is in proximity to the 1857 bulkhead line and lies immediately east of the 1871 bulkhead line (**Figure 21**).

The installation of this main likely dates to the 1970s, as: "An 84-inch reinforced concrete sewer pipe is planned to be constructed in Area 1, approximately 80-feet east and parallel to the Present Bulkhead Line. As presently planned, this sewer is to exit at the southern tip of Area 1." (Mueser Rutledge 1971:19). This line is the CSO outfall pipe depicted on **Figure 26**. The excavation trench for this large diameter main was likely over 10-feet deep and of unknown width. Accordingly, the excavation required for the proposed tide gate will not be impacting undisturbed soils or intact landfill deposits.

The proposed tide gate location in Pier A Plaza does not possess archaeological potential.

Flip-Up Deployable Gates

The flood alignment across the northern portion of Pier A Plaza consists of flip-up deployable gates that will rest on deep piles. The alignment will be constructed across landfill deposits dating to the 19th Century. However, the latest landfill episode, planned in 1848 to double the size of the Battery and incorporate Castle Garden, would have required the installation of a substantial masonry bulkhead to contain the fill deposits (**Figure 15**). This landfill retaining bulkhead is likely the 1857 bulkhead depicted on the 1873 Department of Docks map (**Figure 21**) and may well be intact in the extreme northeastern portion of Pier A Plaza, in proximity to the west boundary of The Battery.

It has been determined that the flood alignment in Pier A Plaza crosses both the 1857 bulkhead and the 1871 bulkhead. It is likely that the 1871 bulkhead was impacted or replaced in this area during the 1940s when a relieving platform was added outboard of the bulkhead, according to the 1971-1972 Mueser Rutledge study for the creation of Battery Park City. The 1857 bulkhead may lie fairly intact below Pier A Plaza and would likely be impacted by the installation of the flip-up deployable gates and the deep piles upon which the gates will be supported.

The flip-up deployable gate portion of the flood alignment in Pier A Plaza below the line of West Street and near the west boundary of The Battery possesses moderate potential for encountering the 1857 bulkhead wall.

Security Measures

Security measures are planned across the northern portion of Pier A Plaza. A combination of bollards and a 40-inch-high wall is proposed along the southern sidewalk of Battery Place, running from the end of the allée of trees in Wagner Park southward, then eastward along the northern line of Pier A Plaza. Subsurface disturbances to 4 feet below grade are anticipated to facilitate construction of the bollards and 40-inch wall.

The installation of the security measures will entail excavation along the Battery Place/Pier A Plaza boundary. The corridor is on landfill that has been previously impacted and the anticipated 4-foot depth of disturbance is not of archaeological concern. Intact portions of deeply buried archaeological resources such as landfill retaining bulkheads would not be anticipated at such shallow depth in this portion of the project area.

The locations of proposed security measures in Pier A Plaza do not possess archaeological potential.

6.1.2 Historic Piers Sensitivity Assessment

It has been determined through review of the Mueser Rutledge study that the multiple piers noted on the historic maps consulted for this study had been replaced by the three extant piers by 1971, as shown on **Figure 24**. It was also noted that these three piers were demolished in order to create a suitable base for the landfill required by the Battery Park City buildout.

For example, "Pier No. 1 will be almost entirely removed to the bottom of its foundations in all schemes because its location and masonry construction will interfere with construction of the new bulkhead and foundations for future buildings." (Mueser Rutledge 1971:22).

There is no potential for encountering intact remains of the historic piers in the Project Area in the Pier A Plaza section of the Archaeological APE.

6.1.3 The Battery Sensitivity Assessment

The Archaeological APE across the northern portion of The Battery is shown on **Figure 6**. The proposed actions from west to east include installation of flip-up deployable gates, sections of 40-inch-high security walls, a fixed exposed floodwall including flanking seepage barrier installation, construction of a buried floodwall, and the creation of a berm atop the buried floodwall.

As detailed in Subchapter 5.5, and depicted on **Figure 25**, there have been multiple areas of substantial subsurface disturbance along the flood alignment. The construction of the Ninth Avenue Elevated Railway, IRT #4/5 subway line, the IRT #1/9 subway line, the New South Ferry Terminal project updates to the IRT #1/9 line, the Brooklyn Battery Tunnel, and the Battery Park Underpass have all created substantial areas of disturbance. Many of the projects involved cut and cover construction, suggesting that the areas of disturbance associated with these projects covered a wider area than the finished footprints of the projects.

Flip-Up Deployable Gates

The proposed flip-up deployable gates in the far western portion of The Battery grounds will entail the installation of piles for subsurface support. These piles may be installed as deep as 40 feet. However, this area has been disturbed since it was created by landfilling episodes during the 19th Century. This section of the flood alignment is in proximity to the Battery Park Underpass and was likely disturbed during its construction c. 1950.

There is no archaeological potential along the flip-up deployable gate portion of the flood alignment in The Battery.

Security Measures

Security measures are planned for the northern portion of The Battery, continuing the line of bollards and 40-inch-high wall proposed for the northern line of Pier A Plaza **(Figure 6**). As noted above in Subchapter 1.3.5, the bollards and 40-inch wall proceed eastward from Pier A Plaza toward the fixed floodwall over the Battery Park Underpass. Eastward of the fixed floodwall there may be additional sections of 40-inch-high wall to replace a section of existing Battery wall north of the proposed buried floodwall and berm. Project engineers indicate that subsurface disturbances to 4 feet below grade are anticipated to facilitate construction of the security measures.

The security measure elements will be constructed in landfill that has been previously impacted several times, and the anticipated 4 foot depth of disturbance is not of archaeological concern. Intact portions of deeply buried archaeological resources such as landfill retaining bulkheads would not be anticipated at such shallow depth in this portion of the project area. In addition, the depths of the test trenches excavated in 2011 by Joan H. Geismar, Ph.D. exceeded the anticipated 4-foot depth of the 40-inch-high security wall. No significant archaeological resources were encountered during the 2011 testing.

There is no archaeological potential in the locations of the proposed security measures in The Battery.

Fixed Floodwall

A fixed exposed floodwall is proposed to cross the Battery Park Underpass. No piles will be utilized over the underpass. However, a seepage barrier would be installed on the west side of the fixed exposed floodwall, entailing an excavation of approximately 10 feet below grade. A seepage barrier would also be installed on the east side of the fixed exposed floodwall, entailing an excavation of approximately 15 feet below grade.

This area of the Battery Park Underpass, including the locations for the seepage barriers, has been severely impacted during the 20th Century by the initial cut and cover construction of the underpass and does not possess archaeological potential.

There is no archaeological potential along the proposed fixed floodwall over the Battery Park Underpass location in The Battery.

Buried Floodwall and Berm

The flood alignment continues eastward across The Battery as a bermed floodwall. A section of buried floodwall will be installed below the earthen berm. It is anticipated that the depth of disturbance associated with the buried floodwall will be 4 feet. Actions to construct the earthen berm around the buried floodwall are anticipated to involve subsurface disturbance from 2 to 4 feet below the existing ground surface.

The subsurface archaeological testing conducted in 2011 by Joan H. Geismar, Ph.D. included a portion of the SBPCR Project Archaeological APE. The testing in the SBPCR APE ranged in depth from 3 to 5.2 feet below existing ground surface and yielded a mix of fill deposits and ash. The tests were located along a documented 1828 bulkhead in order to locate that resource, if present (**Figure 25**). No evidence of that bulkhead or other significant archaeological resources was encountered.

In the locations of the 2011 tests, the depth of the test trenches was deeper than the anticipated depths of disturbance for the SBPCR Project actions involving the buried floodwall and earthen berm construction. It is unlikely that additional subsurface testing along the flood alignment in The Battery would yield significant archaeological resources.

There is no archaeological potential along the proposed buried floodwall and berm location in The Battery.

Interior Drainage Improvements

Two isolation valves would be installed in The Battery. The first would be located on the storm drain that collects runoff from The Battery, approximately 50 feet east of the Battery Park Underpass alignment. A sanitary sewer isolation valve would be installed just north of The Battery comfort station. The valves would require an excavation area of approximately 4 feet by 4 feet and be connected to existing mains.

Neither the tidegates nor the isolation valves would create ground disturbance in undisturbed soils. There is no archaeological potential at the valve locations in The Battery.

6.1.4 NSI System Interior Drainage Improvement Locations Sensitivity Assessment

The Archaeological APE for the interior drainage improvement locations associated with the NSI System north of Battery Place is shown on **Figure 7**. Implementation of the NSI System will require pressure-proofing and retrofitting of multiple existing infrastructure elements associated with the 84-inch South Interceptor Sewer Main. The NSI System locations north of Battery Place lie in proximity to and within the Hudson River Greenway and present-day West Street (Route 9A) (**Figure 7**). This transportation corridor has been impacted by the 20th Century construction of the elevated West Side Highway, the demolition of the elevated West Side Highway, and the transformation of the West Side Highway to a street level corridor.

Large diameter utility mains run northward from Battery Place, as discussed in Subchapter 5.5.6 and depicted on **Figure 26**. There are undoubtedly multiple smaller utility lines within these locations, such as individual service connections to buildings, and electric, water, gas, telephone, and telecommunications lines. It is unlikely that such utility lines would have impacted deeply buried archaeological resources such as historic bulkheads.

The historic 1857 bulkhead was depicted on an 1873 Department of Docks map (**Figure 21**) as running through or adjacent to several of the existing infrastructure elements that comprise the NSI System. The 1871 bulkhead was shown to be located outboard to the west.

It is possible that the historic bulkheads lie fairly intact beneath the NSI System interior drainage improvements segment of the SBPCR Project Archaeological APE. There is also potential for encountering maritime infrastructure remains such as the substantial bases of piers, wharves, and/or associated buildings that fronted on the earlier bulkheads that held the landfill in place.

Given that the NSI components are existing infrastructure connected to the South Interceptor Main, most, if not all, of this portion of the Archaeological APE has previously been extensively disturbed, effectively eliminating the potential for encountering intact archaeological resources. One exception to this conclusion may be along the existing connector main between sanitary connection sewer chamber manhole #3 (MH #3) and the sanitary emergency overflow chamber to the west near West Thames Street. The route of the existing connector main would have breached the historic 1857 bulkhead heading west from MH#3, and possibly the 1871 bulkhead at the overflow chamber location when excavated and installed in 2001. Intact portions of each bulkhead would exist to the north and south of the connector main, and project actions requiring excavation in this portion of the Archaeological APE may expose these portions of the bulkheads for documentation.

In addition, the sanitary emergency overflow chamber is in proximity to the previously identified National Register-eligible Pier 7 Complex archaeological site (06101.08120; NYSM 12322). This site, at the southern end of West Thames Park, and just north of West Thames Street, was identified as part of the 1903 Hudson River bulkhead and c. 1908 Pier 7 concrete foundation and shed of the Baltimore & Ohio Railroad (Lenardi 2002).

6.2 Recommendations

6.2.1 Pier A Plaza

The flip up deployable gate portion of the flood alignment in Pier A Plaza below the line of West Street and near the west boundary of The Battery possesses moderate potential for encountering the 1857 bulkhead wall.

A Phase IB archaeological survey consisting of archaeological monitoring during construction is recommended for this portion of the Project Area.

6.2.2 The Battery

The proposed project actions in The Battery portion of the Archaeological APE will not impact potential archaeological resources. No further archaeological work is necessary in this portion of the APE.

6.2.3 NSI System Interior Drainage Improvements Locations

There is low to moderate archaeological potential for encountering intact portions of the 1857 and 1871 bulkheads to the north and south of the connector main between MH#3 in West Street and the sanitary emergency overflow chamber to the west of the Hudson Greenway. The Pier 7 Complex was documented in proximity to the sanitary emergency overflow chamber location. Project actions associated with the NSI System requiring excavation in this portion of the Archaeological APE may expose these portions of the bulkheads and the Pier 7 Complex for documentation.

A Phase IB archaeological survey consisting of archaeological monitoring during construction is recommended for this portion of the Project Area.

6.3 Next Steps

The Phase IA documentary study has concluded that there are two discrete areas of low to moderate and moderate potential archaeological sensitivity across portions of the APE that may be impacted by the completion of the SBPCR Project.

The flip-up deployable gate portion of the flood alignment in Pier A Plaza below the line of West Street and near the west boundary of The Battery possesses moderate potential for encountering the 1857 bulkhead wall (Figure 5).

Project work associated with the NSI system along the existing connector main between sanitary connection sewer chamber manhole #3 (MH #3) and the sanitary emergency overflow chamber to the west near West Thames Street has the potential to impact archaeological resources (Figure 7). There is low to moderate potential that intact portions of each bulkhead would exist to the north and south of the connector main, as well as the previously identified Pier 7 Complex which was documented in proximity to the sanitary emergency overflow chamber. Project actions requiring excavation in this portion of the Archaeological APE may expose portions of these resources for documentation.

As the SBPCR Project lies within highly utilized public spaces, in order to minimize traffic disruptions and closures of public space, preparation of a Phase IB Archaeological Monitoring Plan (Plan) in consultation with BPCA, SHPO and LPC, is recommended.

Archaeological monitoring is an accepted Phase IB strategy for projects conducted in urban settings. For example, an Archaeological Monitoring Plan was developed through consultation with SHPO and LPC for the Brooklyn Bridge-Montgomery Coastal Resilience Project in November 2020.

7 References

7.1 Books and Reports

AKRF, Inc.

2018 *The Battery Playscape Block 3, Part of Lot 1, Lower Manhattan, New York County, New York, Phase IB Archaeological Survey Report.* Prepared for: The Lower Manhattan Development Corporation. November 2018.

2013 *World Trade Center Memorial and Development Plan: Data Recovery and Analysis of the WTC Ship Blocks 54, Lot 1 and Block 56, Lots 15, 20, and 21, New York, New York.* Prepared for: The Lower Manhattan Development Corporation. Prepared by: AKRF, Inc.

AKRF, Inc. et al

2010 *Revised Draft Report South Ferry Terminal Project.* Prepared for: MTA and Capitol Construction. Prepared by: AKRF, URS Corporation, and Linda Stone, RPA.

AKRF, Inc. and URS Corporation

2010 *Mitigation Report Fulton Street Transit Center Project, Unanticipated Discovery of Brick Feature Beneath the Corbin Building, 192 John Street, New York, New York.* Prepared for: MTA, FTA.

Bolton, Reginald Pelham

1922 *Indian Paths in the Great Metropolis*. Museum of the American Indian, Heye Foundation, New York.

1920 *New York City in Indian Possession.* Museum of the American Indian, Heye Foundation, New York.

City Environmental Quality Review (CEQR)

2014 *CEQR Technical Manual.* City of New York, Mayor's Office of Environmental Coordination.

Federal Writer's Project

1939 *The WPA Guide to New York City*. Reprinted 1982. Pantheon Books, New York.

Geismar, Joan H., Ph.D.

2011 *The Reconstruction of Battery Park and Perimeter Bikeway, Borough of Manhattan, County of New York, Test Pit Letter Report.* Prepared for: NYC Department of Parks and Recreation in Partnership with The Battery Park Conservancy through Quennell Rothschild & Partners, LLP.

2010 *The Reconstruction of Battery Park and Perimeter Bikeway, Borough of Manhattan, County of New York, IA Archaeological Assessment/Letter Report.* Prepared for: NYC Department of Parks and Recreation in Partnership with The Battery Park Conservancy through Quennell Rothschild & Partners, LLP.

1987 *Stage IA Archaeological Evaluation of the Exchange Project, 10 Battery Place, New York City*. Prepared for: EEA, Inc.

1986 *17 State Street, An Archaeological Evaluation, Phase I Documentation. CEQR 85-215M.* Prepared for: 17 Vista Associates through Webster & Sheffield.

Greenhouse Consultants Inc.
1985 *The Excavation of Augustine Heermans' Warehouse and Associated Dutch West India Company Deposits. Volumes A through D. (The Broad Financial Center at 33 Whitehall Street Site).* Prepared for: Fox & Fowle Architects, P.C. Prepared by: Joel W. Grossman, Ph.D. et al.

Grumet, Robert S.
1981 *Native American Place Names in New York City.* Museum of the City of New York, New York.

Howe, Kathy
2017 *Resource Evaluation and Determination of Eligibility, Brooklyn Battery Tunnel, 81 Washington Street, New York, NY.* Prepared by Kathy Howe, SHPO, April 20, 2017.

Huey, Paul R.
2006 *Narrative Notes from a Field Trip to Visit Excavations at the Battery, New York City*. Bureau of Historic Sites, New York State Office of Parks, Recreation and Historic Preservation, Peebles Island, Waterford, New York.

Lenardi, Michael J.
2011 *A Cultural Resource Survey Report, Archaeological Monitoring, Treatment, and Data Recovery of the New York City Hudson River Bulkhead and World Trade Center Site at Two Locations: Utility Trench at Southern End of West Thames Park and BIN 2-24549-0/Liberty Street Bridge Median at the Intersection of Liberty Street and NY Route 9A from West Thames Street to Chambers Street New York City (MCD #06101), New York County, New York. OPRHP Project Review 04PR00904.* Prepared by Michael J. Lenardi, New York State Museum Cultural Resource Survey Program.

Louis Berger & Associates, Inc.
2000 *Archaeological Test Pit Excavation, Whitehall Ferry Terminal Project, New York, New York.* Site Form 06101.013334 – Whitehall Ferry 18th-19th Century Landfill and Cribbing Site.

The Louis Berger Group, Inc.
2004 *Archaeological Resource Management Plan South Ferry Terminal Project, Lower Manhattan, New York, New York.* Prepared for: New York City Transit.

2003 *Proposed New South Ferry Terminal, Lower Manhattan, New York, New York, Phase IA Archaeological Assessment.* Prepared for: New York City Transit.

Merguerian, Charles and John E. Sanders
1991 *Section of Geological Sciences, 1990-91 Field Trips, Trip 16: Geology of Manhattan and the Bronx.* The New York Academy of Sciences, April 21, 1991.

Morin, Edward
2007 *Site Form 06101.016196 – Log Cribbing and Fill*. Found during monitoring of New South Ferry Terminal Project by Linda Stone, RPA for Dewberry under contract to MTA. Form prepared by Edward Morin, RPA of URS Corporation.

Moscow, Henry
1990 *The Street Book, An Encyclopedia of Manhattan's Street Names and Their Origins.* Fordham University Press, New York. Originally published 1978.

Mueser Rutledge Wentworth & Johnston
1972 *Site Investigation and Preliminary Studies for Land Creation for Battery Park City, Volume I.* Prepared for Battery Park City Authority.

New York Archaeological Council (NYAC)
1994 *Standards for Cultural Resources Investigations and the Curation of Archaeological Collections.*

NYC Landmarks Preservation Commission
2018 *Guidelines for Archaeological Work in New York City.* Amanda Sutphin, H. Arthur Bankoff, Jessica Striebel MacLean, and Carol S. Weed, authors.

Parker, Arthur Caswell
1922 The Archaeological History of New York. *New York State Museum Bulletin Nos. 235-238.* Albany, New York

Pickman, Arnold and Nan A. Rothschild
1981 *64 Pearl Street – An Excavation in 17th Century Landfill.* Prepared for: The New York Landmarks Conservancy.

Raber, Michael S.
1997 *NYS OPRHP Building-Structure Inventory Form, New York City's Hudson River Bulkhead from Battery Place to West 59th Street.* Prepared by Raber & Associates and AKRF, Inc. for the Hudson River Park Conservancy. February 20, 1997.

Roberts, Robert B.
1988 *Encyclopedia of Historic Forts: The Military, Pioneer, and Trading Posts of the United States.* MacMillan Publishing Company, London and New York.

Rothschild, Nan A. and Arnold Pickman
1990 *The Archaeological Evaluation of the Seven Hanover Square Block: A Final Report.*

Small, Edwin W.
1939 Wharf Building of a Century and More Ago. *The Regional Review.* Vol. III No. 6. Edwin W. Small, Superintendent, Salem Maritime National Historic Site, Massachusetts. December 1939.

Stone, Linda
2005 *Site Form 06101.015598 – Whitehall Slip Site.* Found during testing for South Ferry Subway Station, part of New South Ferry Terminal Project, by Linda Stone, RPA for Dewberry under contract to MTA.

7.2 Maps

Anderson, John A.
1796 *Plan of New York City*. Also known as "The Maverick Plan." Peter Maverick, Cartographer and Engraver. T. and J. Swords, New York. Retrieved from: https://digitalcollections.nypl.org/items/68da22a0-90bd-0135-d0b0-6f7e7adcc92d

Bridges, William (Also known as the Commissioner's Map)

1811 *Map of the city of New York and island of Manhattan, as laid out by the commissioners appointed by the legislature, April 3d, 1807.* New York: unknown. Retrieved from: https://digitalcollections.nypl.org/items/510d47d9-7a92-a3d9-e040-e00a18064a99

Bromley, George

1930 "Plate 1, Part of Section 1" and "Plate 2, Part of Section 1." *Land Book of the Borough of Manhattan, City of New York: Desk and Library Edition.* G.W. Bromley & Company, New York. Retrieved "Plate 1" from: https://digitalcollections.nypl.org/items/edc140d0-2178-0132-3559-58d385a7b928

1891 "Plate 1 [Map bounded by Liberty St., Maiden Lane, East River, Hudson River]." *Atlas of the City of New York, Manhattan Island, From Actual Surveys and Official Plans.* G.W. Bromley & Company, Philadelphia. Retrieved from: https://digitalcollections.nypl.org/items/a1ebc562-2b9f-5f02-e040-e00a18064811

Buckhout, I.C.

1860 *Maps of the Wharves and Piers from The Battery to 61st Street on the Hudson River and from The Battery to 41st Street on the East River, New York, Plates 16, 17 & 18.* I.C. Buckhout, City Surveyor, New York.

Colton, J.H.

1836 *Topographical Map of the City and County of New York and the Adjacent Country*. New York: J.H. Colton and Co. Retrieved from: https://www.davidrumsey.com/maps2268.html

Cortelyou, Jacques

1660 The Castello Plan (*Afbeeldinge van de Stadt Amsterdam in Nieuw Neederlandt*). Retrieved from: https://digitalcollections.nypl.org/items/510d47d9-7c0b-a3d9-e040-e00a18064a99

Department of Docks

1873 *High and Low Water Marks and the Original City Grants of Lands Under Water Made to Various Parties from 1686 to 1873, Extending from Battery to Fifty-First Street, Hudson, and East Rivers, New York City.*New York City Department of Docks, New York. Retrieved from: https://digitalcollections.nypl.org/items/5fd48a6d-072a-65e7-e040-e00a18060adf

Ewen, Daniel

1848 *Proposed Enlargement of the Present Battery.* Surveyed by Daniel Ewen, City Surveyor. September 1848. McSpeedon & Baker, New York.

Hooker, William

1824 *Hooker's new pocket plan of the city of New York*. William Hooker, New York. Retrieved from: https://digitalcollections.nypl.org/items/510d47dc-3b35-a3d9-e040-e00a18064a99

Lyne, James

1728 *"A Plan of New York City: From an Actual Survey."* Redrawn by G. Hayward, 1853. In Manual of the Common Council of the City of New York. DT Valentine, New York [1853]. Retrieved from: https://digitalcollections.nypl.org/items/510d47e0-d805-a3d9-e040-e00a18064a99

Maerschalck, Francis W.
1755 *A Plan of the City of New York from an actual Survey Anno Domini—MDCCLV*. Gerardus Duyckinck, New York.

Montresor, John
1766 *A plan of the city of New-York and its environs to Greenwich on the north or Hudson's River.* Retrieved from http://hdl.loc.gov/loc.gmd/g3804n.ar110401

Poppleton, Thomas H.
1817 *Plan of the city of New-York: the greater part from actual survey made expressly for the purpose (the rest from authentic documents)* Retrieved from: https://digitalcollections.nypl.org/items/510d47da-eeaa-a3d9-e040-e00a18064a99

Ratzer, Bernard
1776 *Plan of the City of New York in North America: surveyed in the years 1766 & 1767, B. Ratzer, lieut. In his Majesty's 60th or Royal American Regt.; Thos. Kitchin, sculpt., engraver to his Late Royal Highness, the Duke of York &c.* Jeffreys and Faden, London.

Sauthier, Claude Joseph
1773 *A Plan of Fort George at the City of New York.* Library of Congress Online Catalog: http://hdl.loc.gov/loc.gmd/g3804n.ar113900

Smith, Edward
1855 *Maps of the Wharves and Piers of the Hudson & East Rivers from The Battery to 13th Street, New York: Pier Line 21-40; Pier Line 41-19.* Edward Smith, City Surveyor, New York.

U.S. Army Corps of Engineers
1890 *Pierhead and bulkhead lines for the East Shore of the Hudson River and the North and West Shores of the East River Extending from East 81st Street to The Battery.*

Viele, Egbert Ludovicus
1865 *Sanitary & Topographical Map of the City and Island of New York*. Ferd. Mayer & Co., New York.

7.3 Online Resources

https://marvelarchitects.com/work/pier-a-plaza/85

https://www.rogersarchitects.com/pier-a-plaza/

www.nycsubway.org:IRT_East_Side_Line

www.nycgovparks.org/parks/battery-park

http://hdl.loc.gov/loc.gmd/g3804n.ar113900

North American Forts - Fort George (http://www.northamericanforts.com/East/nycity.html#george) http://bpcparks.org/about-us/who-we-are/history/

https://urbanareas.net/info/resources/neighborhoods-manhattan/battery-park-city-manhattanhistory/

http://www.preservenet.com/freeways/FreewaysWestSide.html

https://forgotten-ny.com/2015/08/west-side-highway/

https://hudsonriverpark.org/the-park/waterfront-transformation/historic-hudson-river-park-bulkhead/

https://hudsonriverpark.org/the-park/waterfront-transformation/

https://hudsonriverpark.org/visit/plan-your-visit/

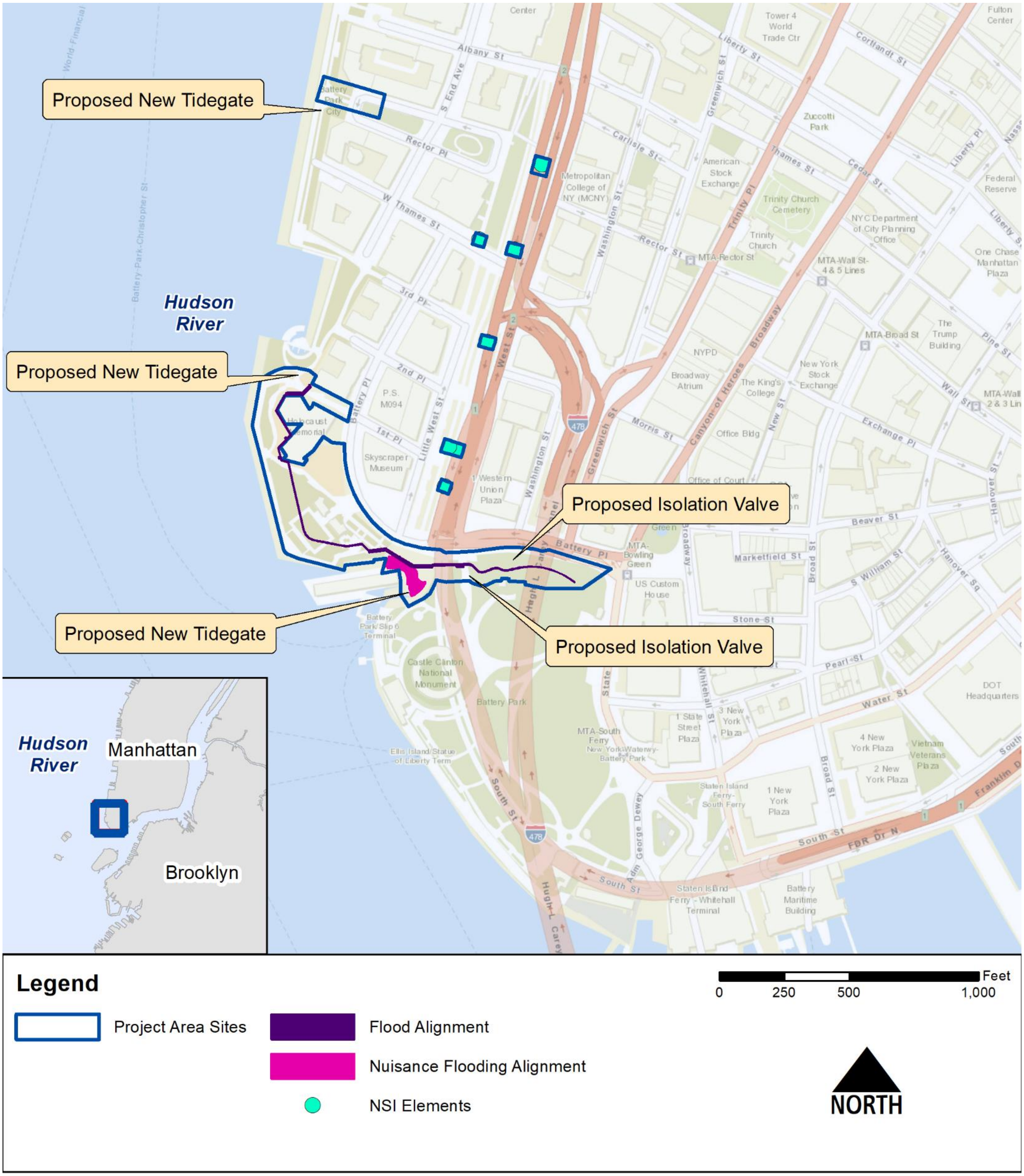
8 List of Preparers

Nancy A. Stehling, RPA, Principal Investigator, Primary Author: Over 40 years of experience in cultural resource management, including archival research, field survey, laboratory work, artifact analysis, and report preparation. Includes 20 years with AECOM (Earth Tech and TAMS). State University of New York, Potsdam, 1977, BA, Anthropology, BA, Geology; Rensselaer Polytechnic Institute, 1980, MS, Public Archaeology.

Michele Besson, Archaeologist, GIS and Graphics Preparation: Twenty years of experience in cultural resource management in New York City, the Northeast and Mid-Atlantic regions. Includes 20 years with AECOM (Earth Tech and TAMS). Experience includes archival research, field work, analysis of historic artifacts, and report preparation. Brooklyn College, City University of New York, 1999, BA, Anthropology and Archaeology.

Daniel Arnold, Transportation and Environmental Planner, GIS and Graphics Analyst: Has 4 years of experience with AECOM as a transportation and environmental planner in New York and North Carolina, working primarily on NEPA, SEQRA, and CEQR projects. Wheaton College, Illinois, 2008, BA; University of North Carolina-Chapel Hill, 2016, MA, City and Regional Planning.

FIGURES 1-26

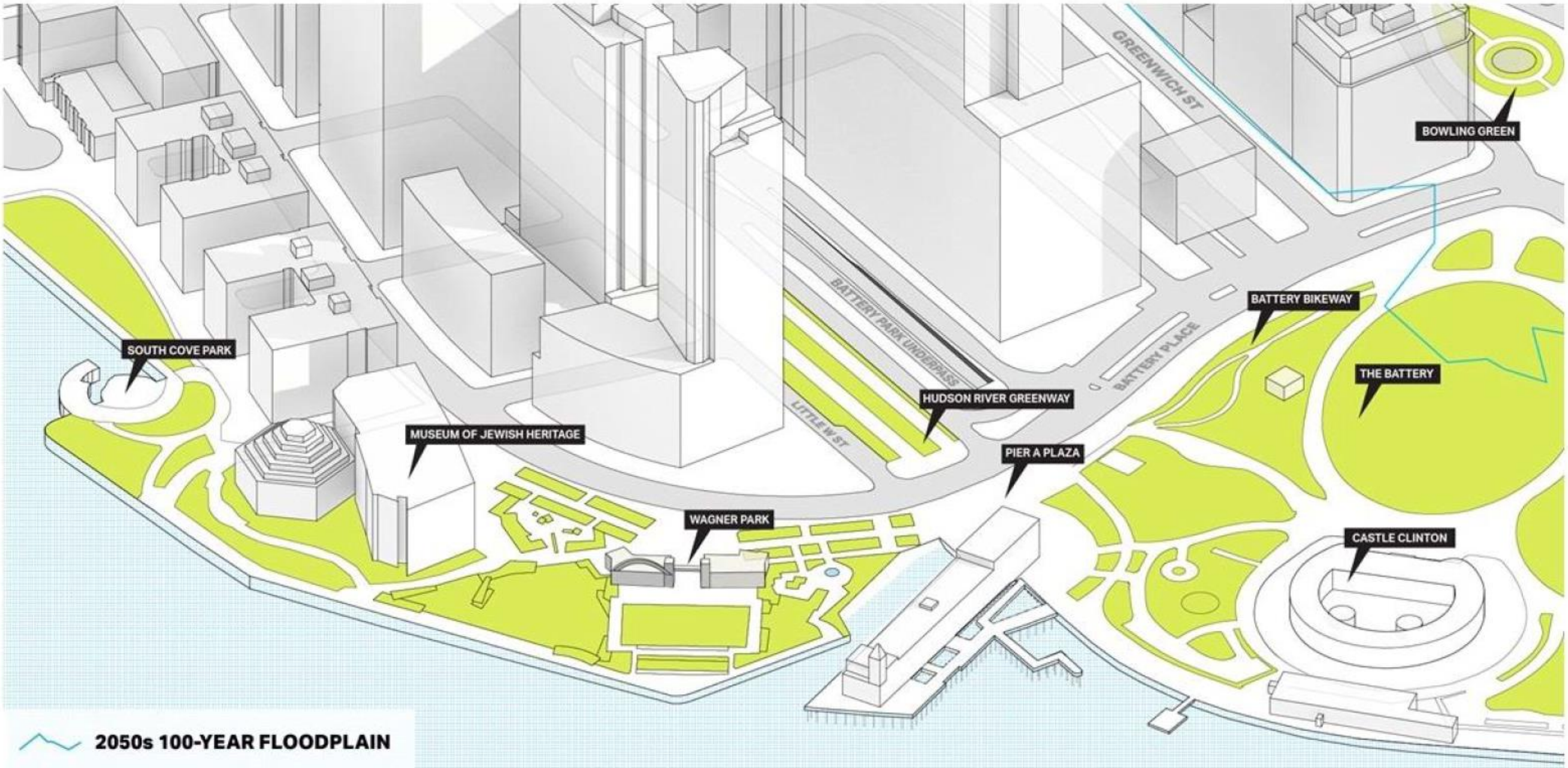


South Battery Park City Resiliency Project

Phase IA Archaeological Study

Project Location

Figure 1

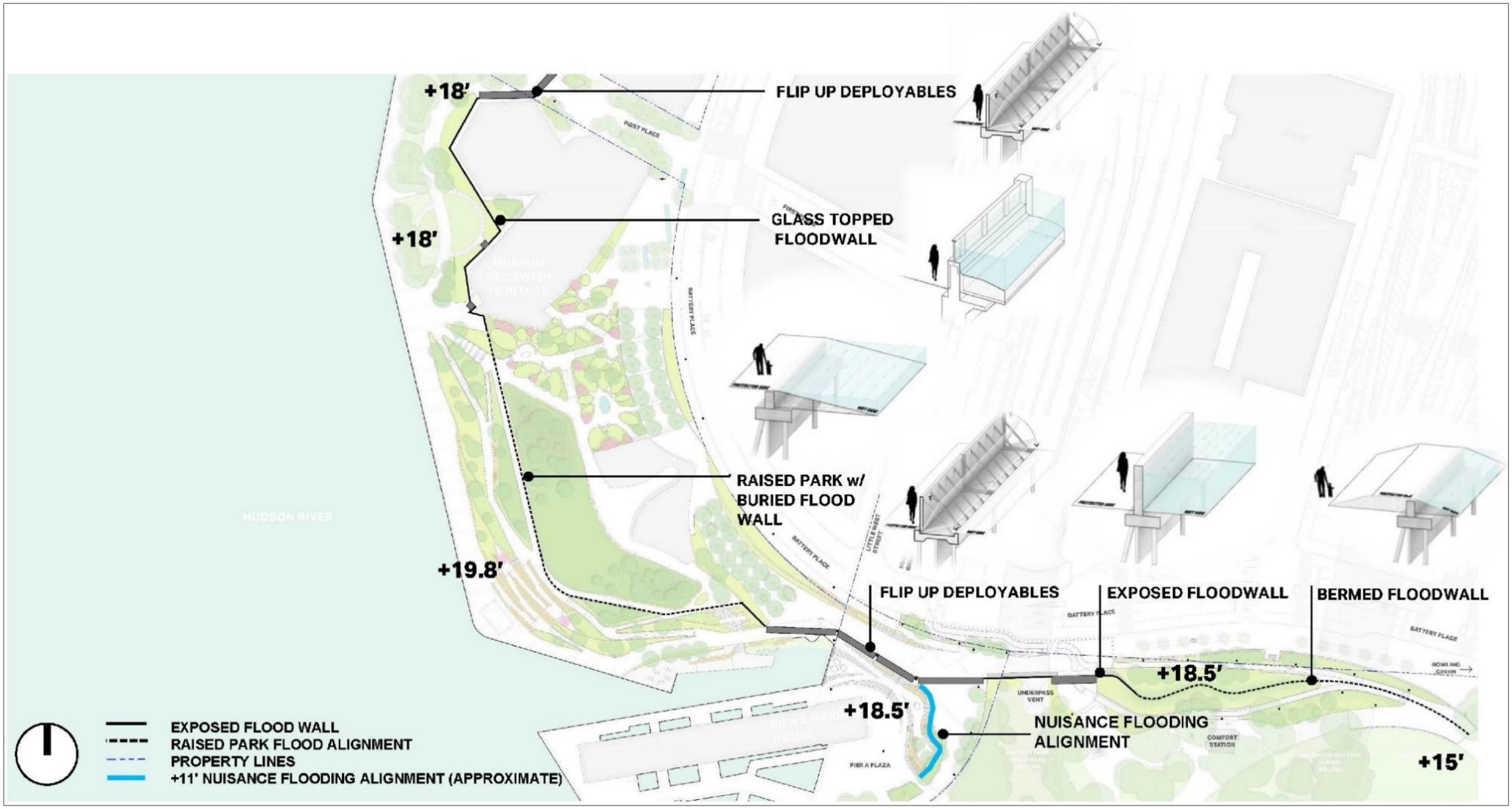


South Battery Park City Resiliency Project

Existing Conditions

Phase IA Archaeological Study

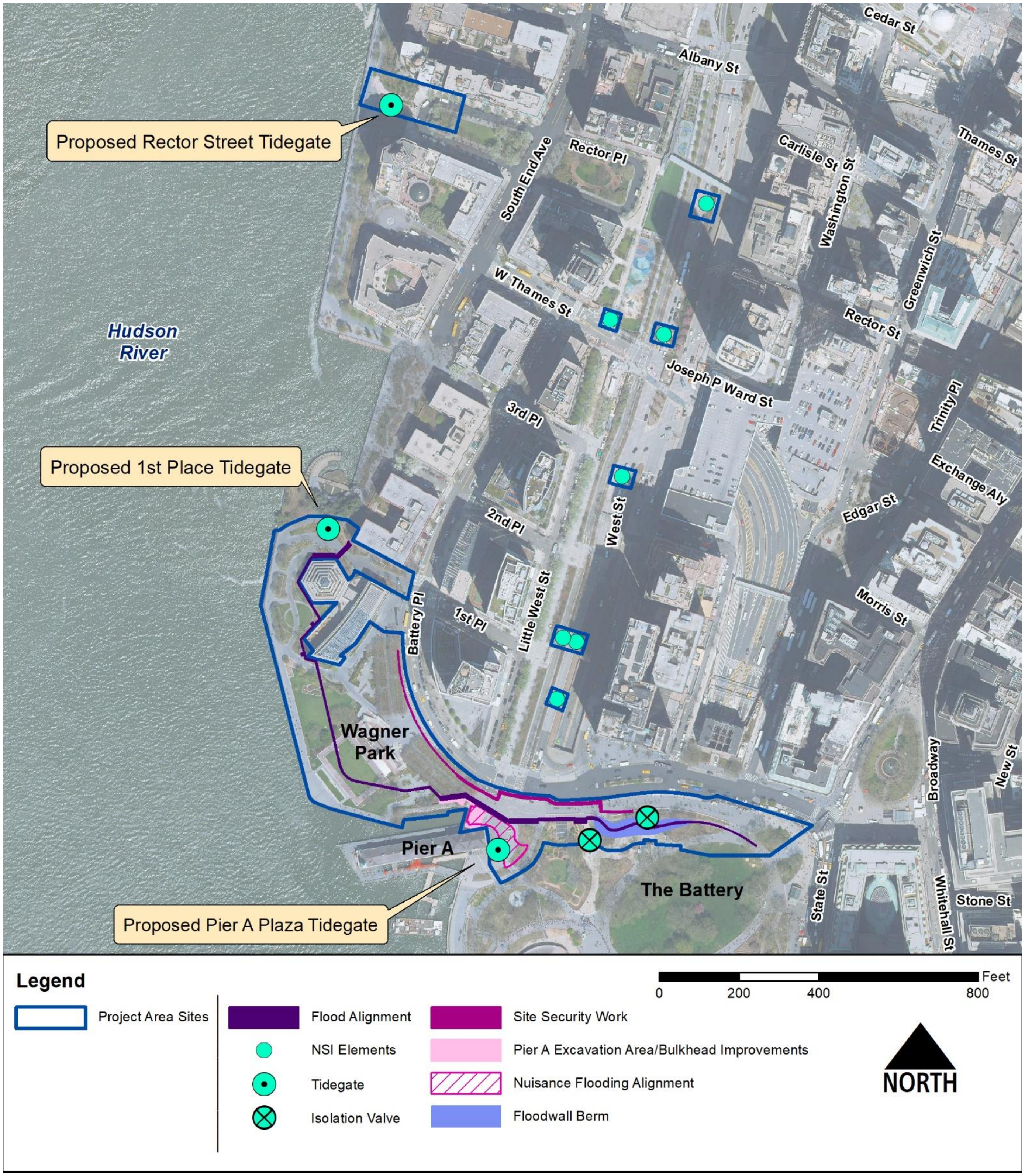
Figure 2



South Battery Park City Resiliency Project **Project Flood Alignments + DFE**

Phase IA Archaeological Study

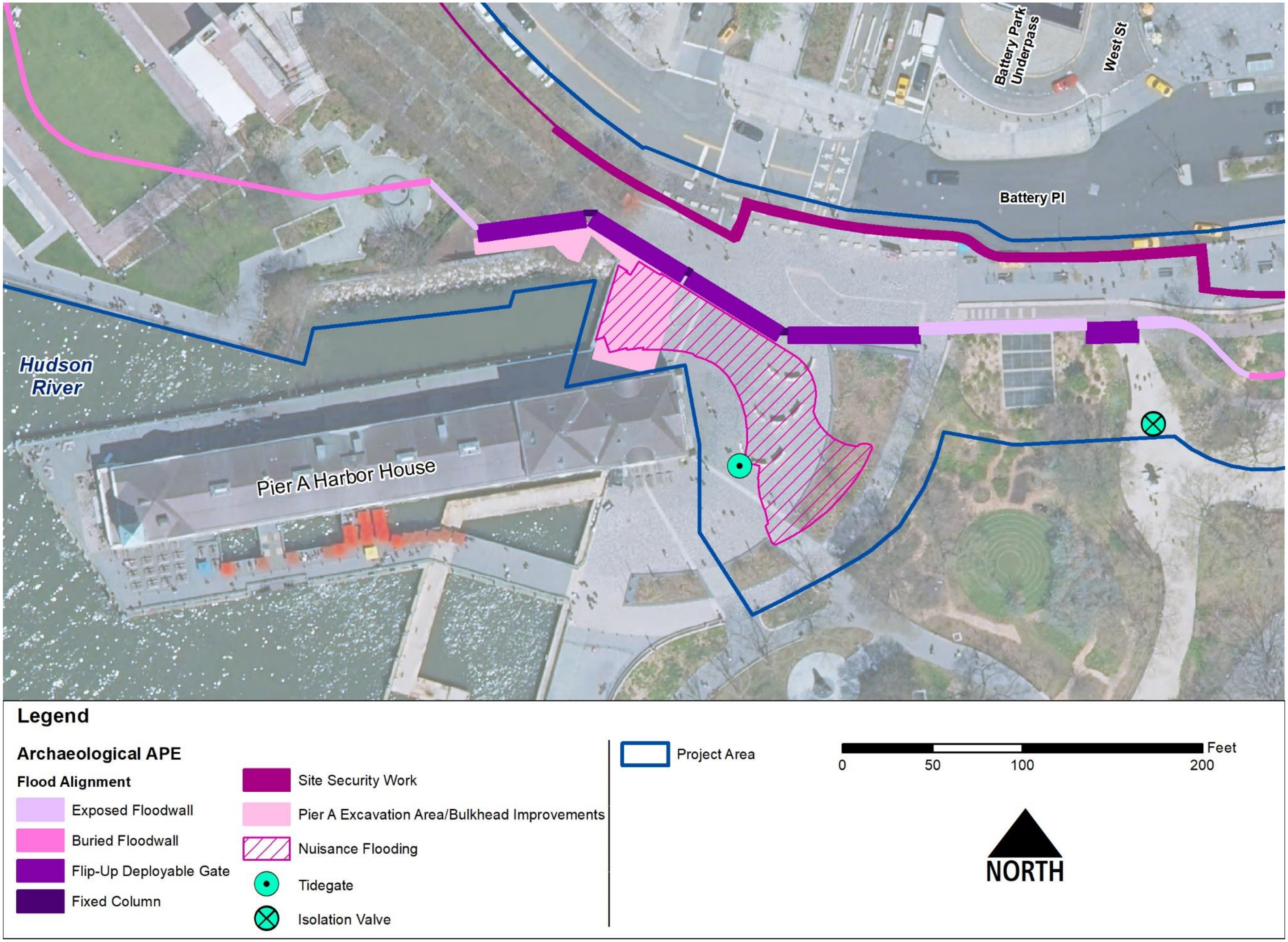
Figure 3



South Battery Park City Resiliency Project **Project Area**

Phase IA Archaeological Study

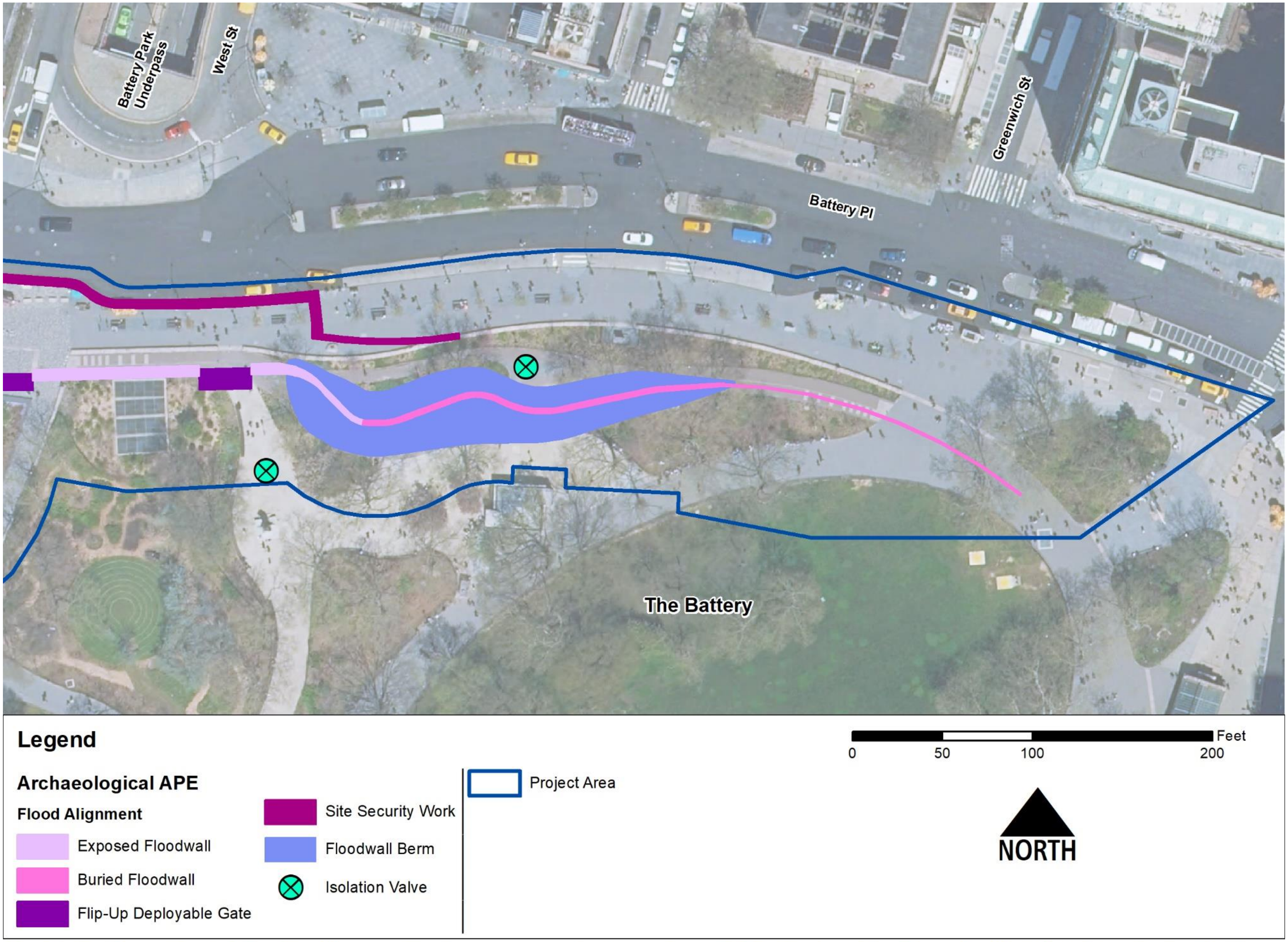
Figure 4



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Archaeology APE: Project Actions in the Vicinity of Pier A Plaza

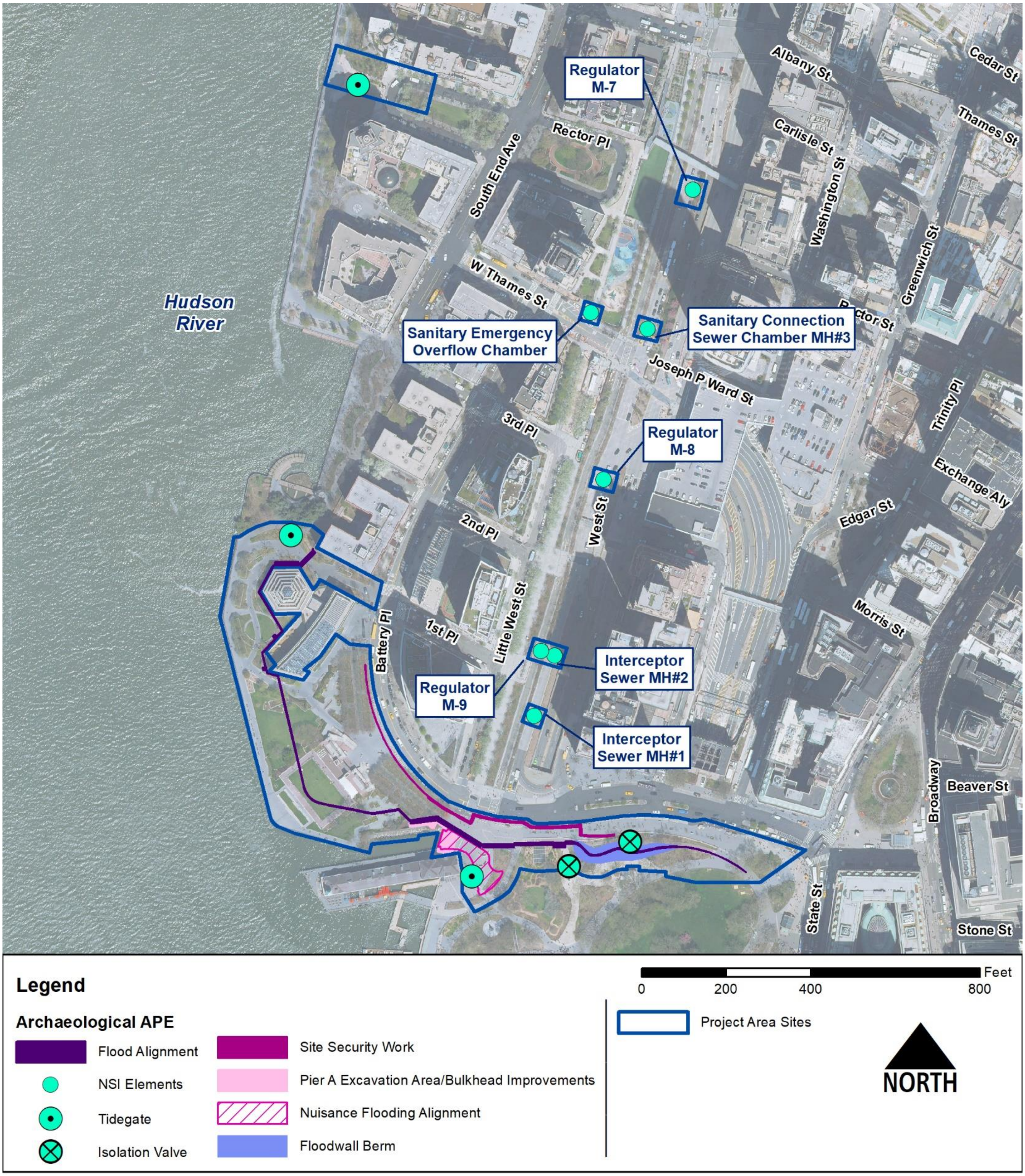
Figure 5



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Archaeology APE: Project Actions in the Vicinity of The Battery

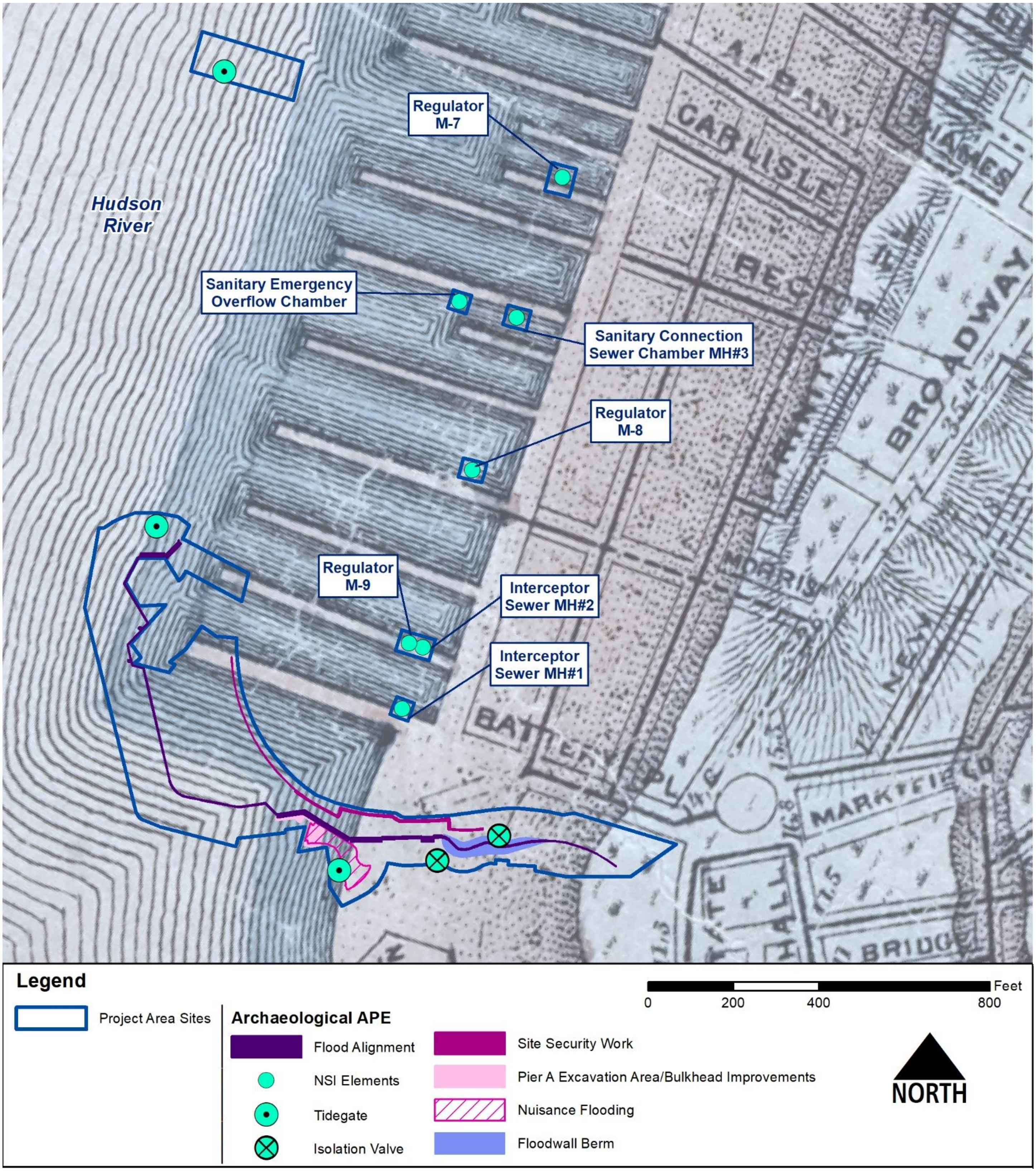
Figure 6



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Archaeology APE: NSI Project Actions

Figure 7



South Battery Park City Resiliency Project

Sanitary & Topographical Map of the City and Island of New York

Phase IA Archaeological Study

Source: Viele 1865

Figure 8

South Battery Park City Resiliency Project
Phase IA Archaeological Study

The Castello Plan
Source: Cortelyou 1660

Figure 9

Legend

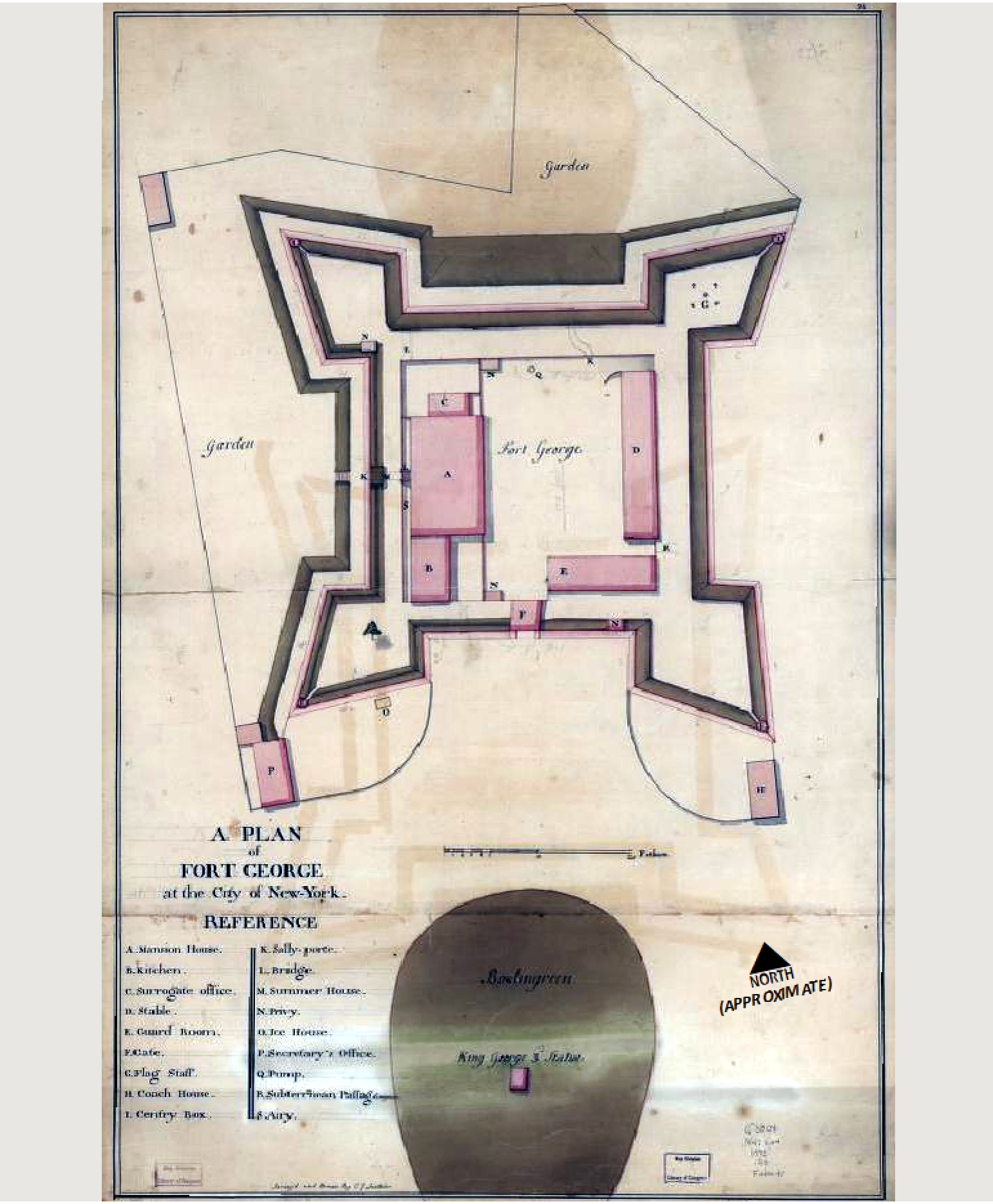
A. The Fort

NORTH
(APPROXIMATE)

South Battery Park City Resiliency Project
Phase IA Archaeological Study

Plan of the city of New York
Source: Maerschalk 1755

FIgure 10



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Fort George at the City of New York
Source: Sauthier 1773

Figure 11

Legend

A. Fort George B. Batteries C. Military Hospital

NORTH (APPROXIMATE)

South Battery Park City Resiliency Project
Phase IA Archaeological Study

A Plan of the City of New York & its Environs
Source: Montresor 1766

Figure 12

Legend

a. Fort George

9. The Lower Barracks

NORTH
(APPROXIMATE)

South Battery Park City Resiliency Project
Phase IA Archaeological Study

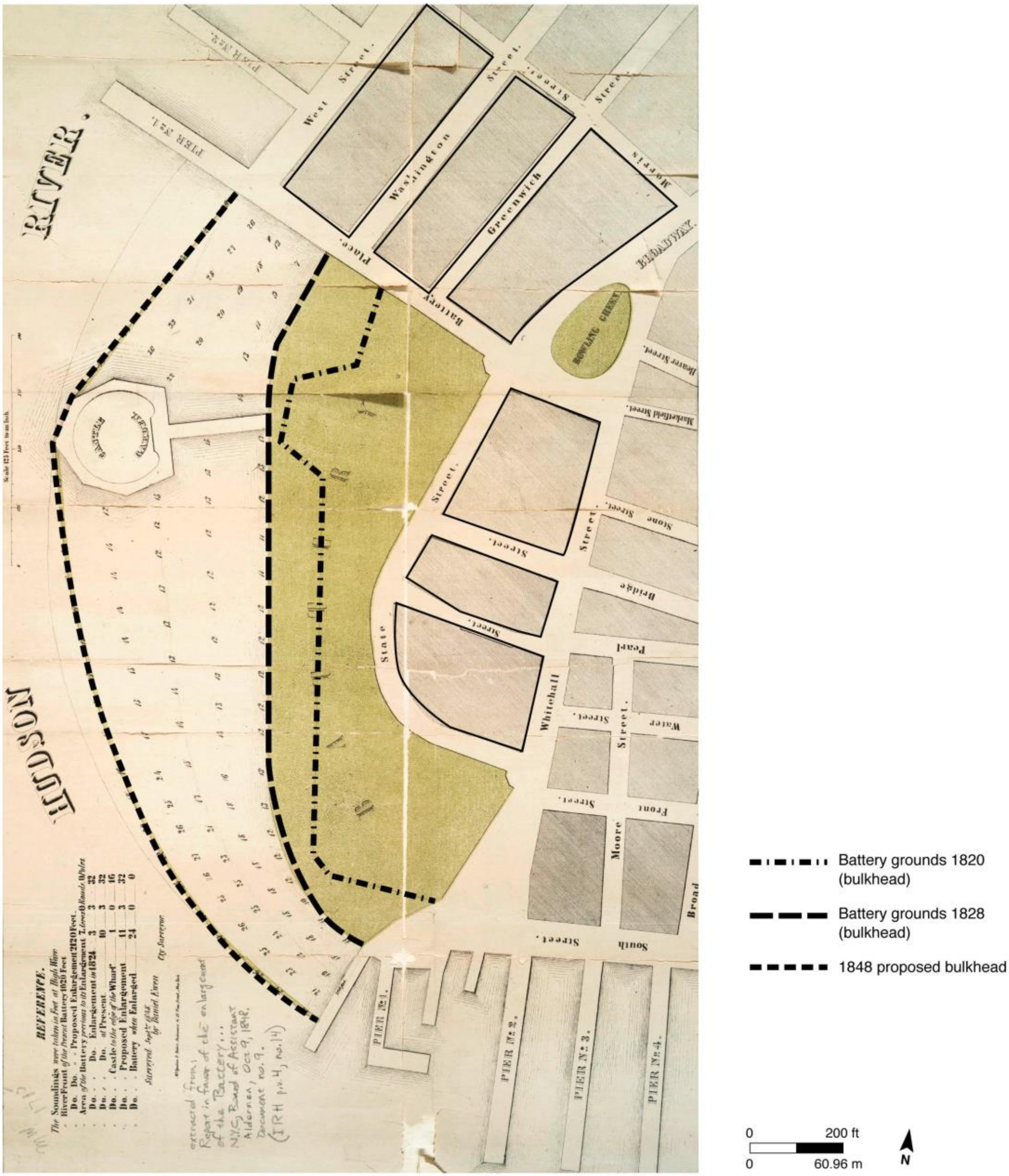
Plan of the city of New York in North America
Surveyed in 1766 & 1767
Source: Ratzer 1776

Figure 13

South Battery Park City Resiliency Project
Phase IA Archaeological Study

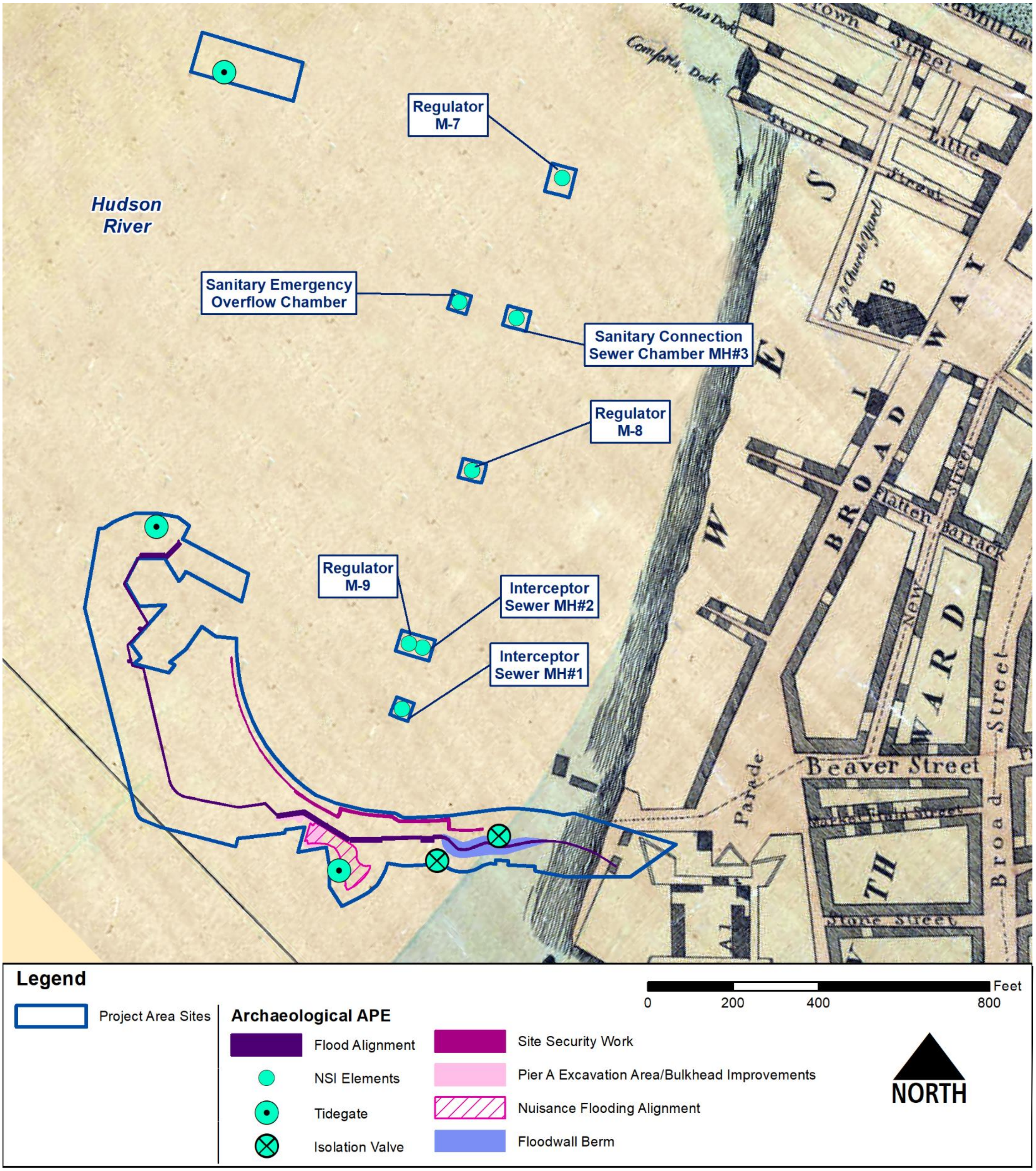
Hooker's New Pocket Plan of the City of New York
Source: Hooker 1824

Figure 14



South Battery Park Resiliency Project **Bulkhead Alignments 1820 to 1848, on Ewen 1848**

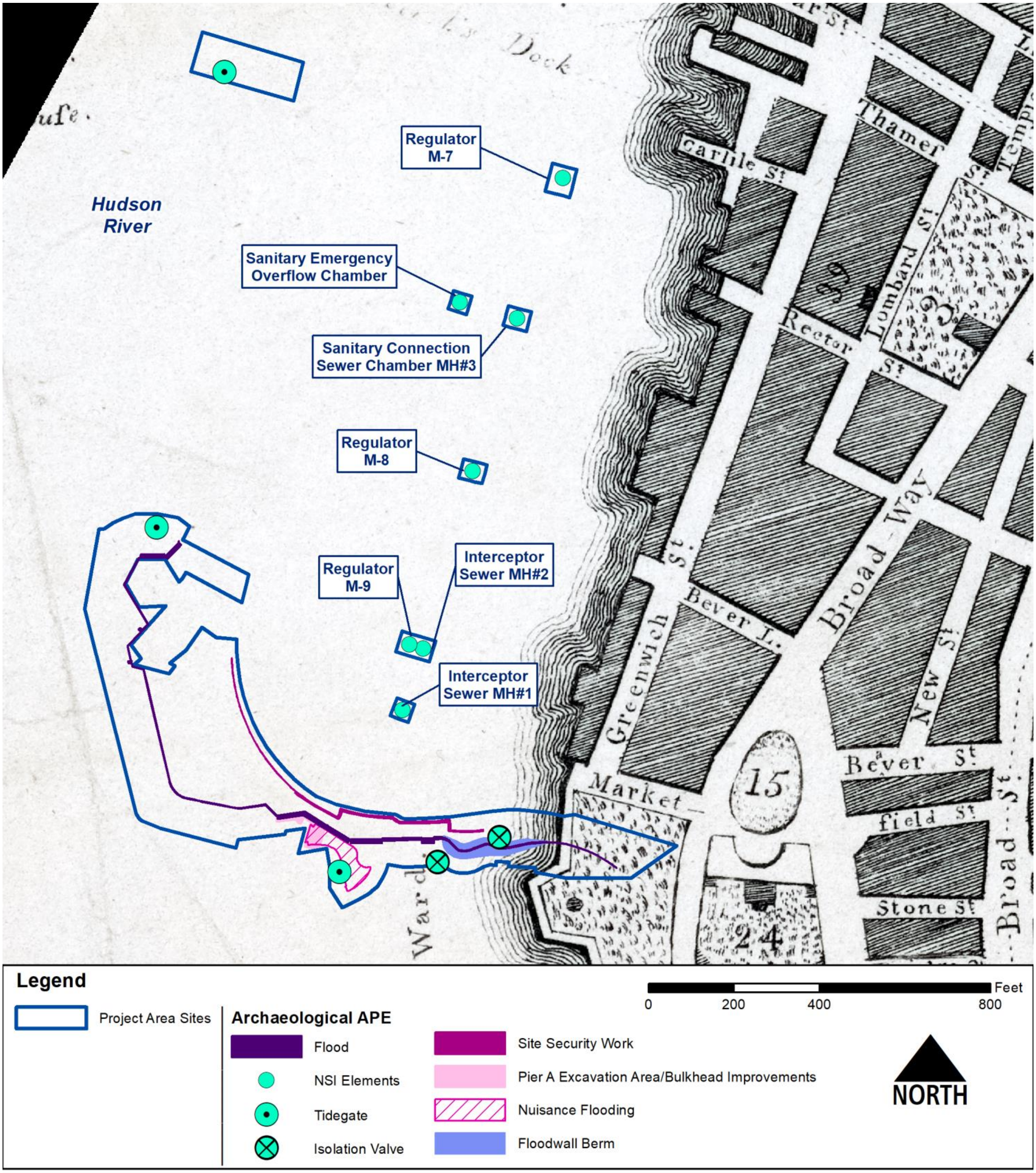
Phase IA Archaeological Study **Source: Geismar 2010**



South Battery Park City Resiliency Project
Phase IA Archaeological Study

A Plan of the City of New York
Source: Lyne 1728

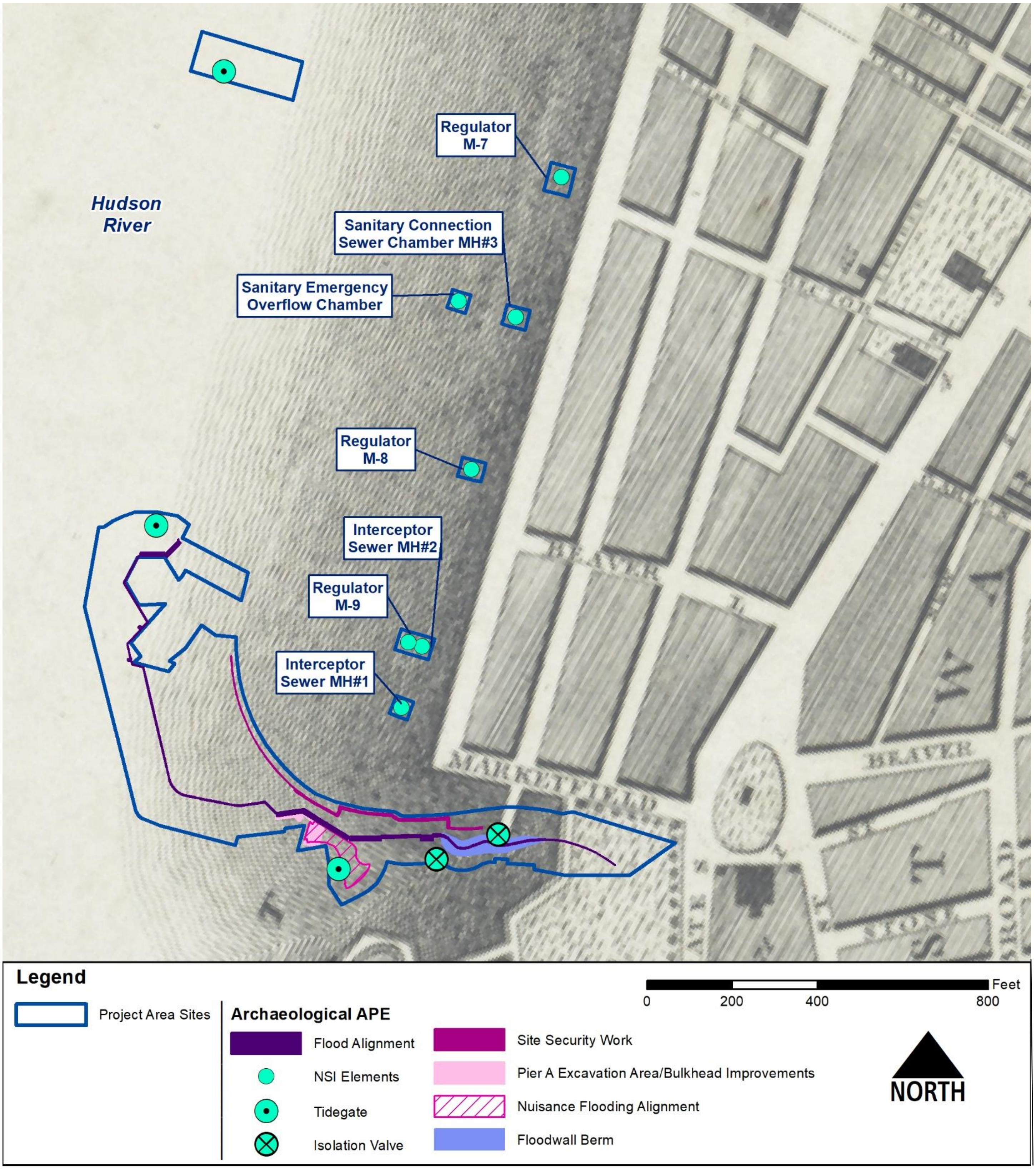
Figure 16



South Battery Park City Resiliency Project
Phase IA Archaeological Study

A Plan of the City of New York
Source: Maverick 1796

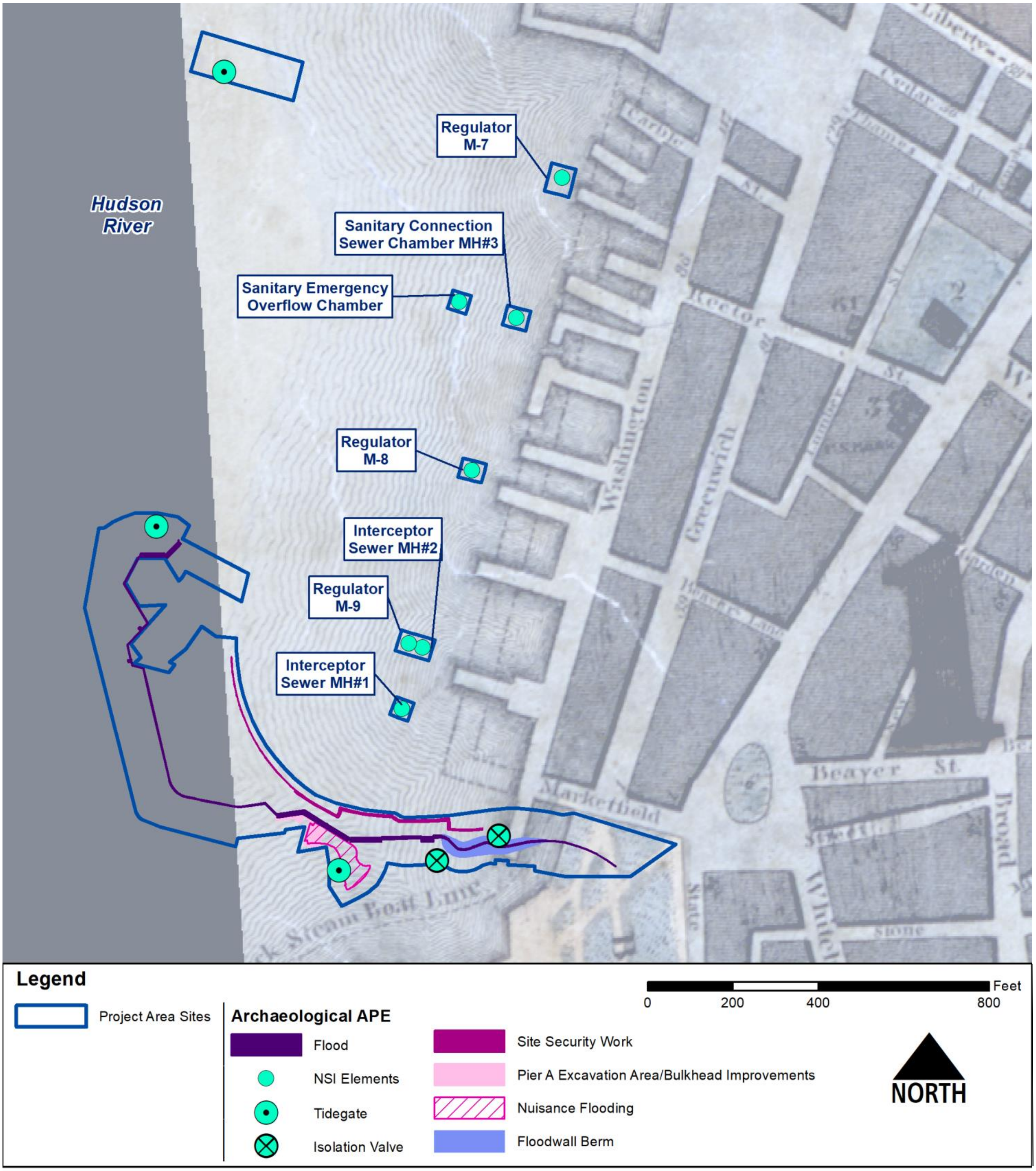
Figure 17



South Battery Park City Resiliency Project
Phase IA Archaeological Study

The Commissioner's Map
Source: Bridges 1811

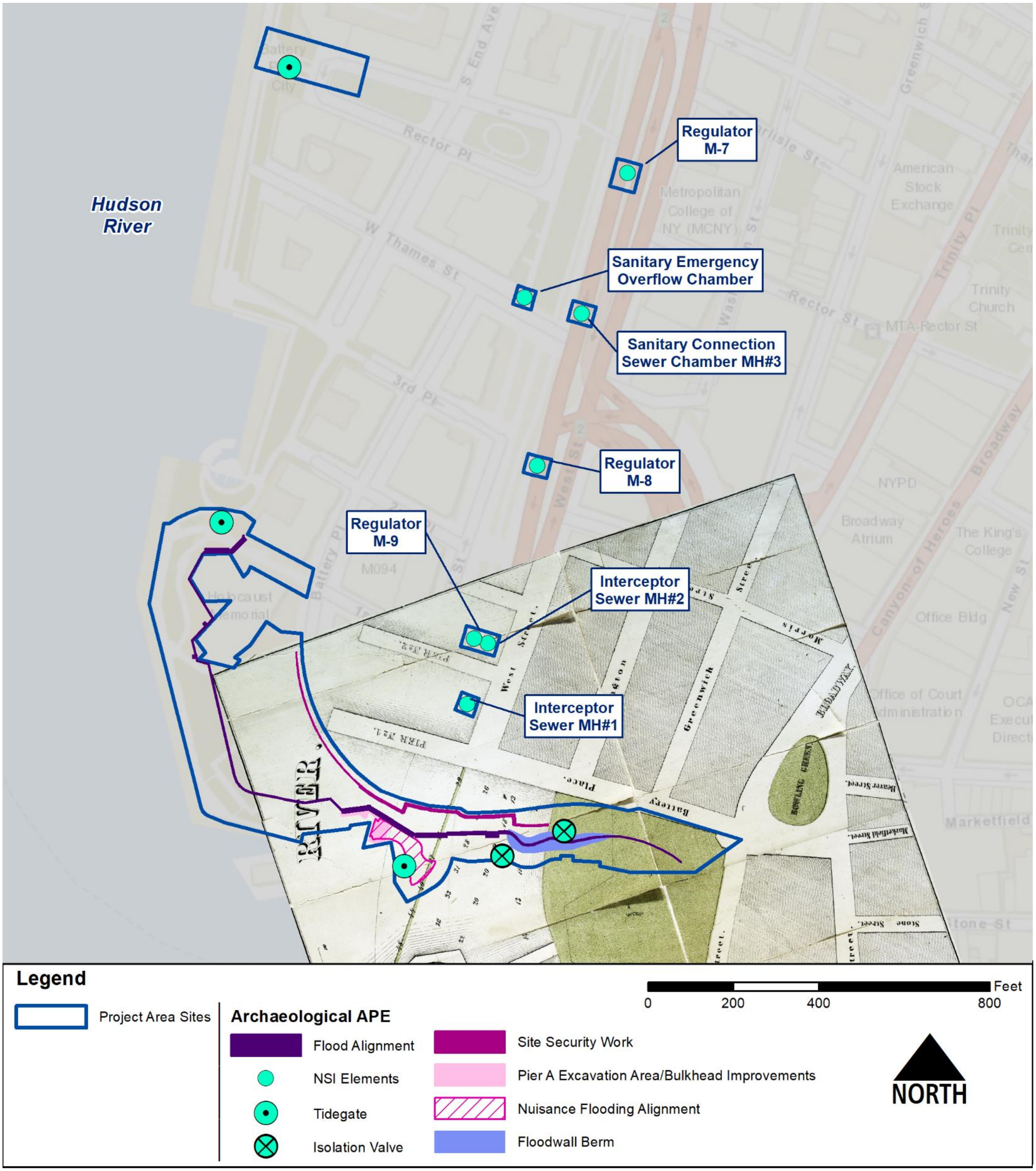
Figure 18



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Plan of the City of New York
Source: Poppleton 1817

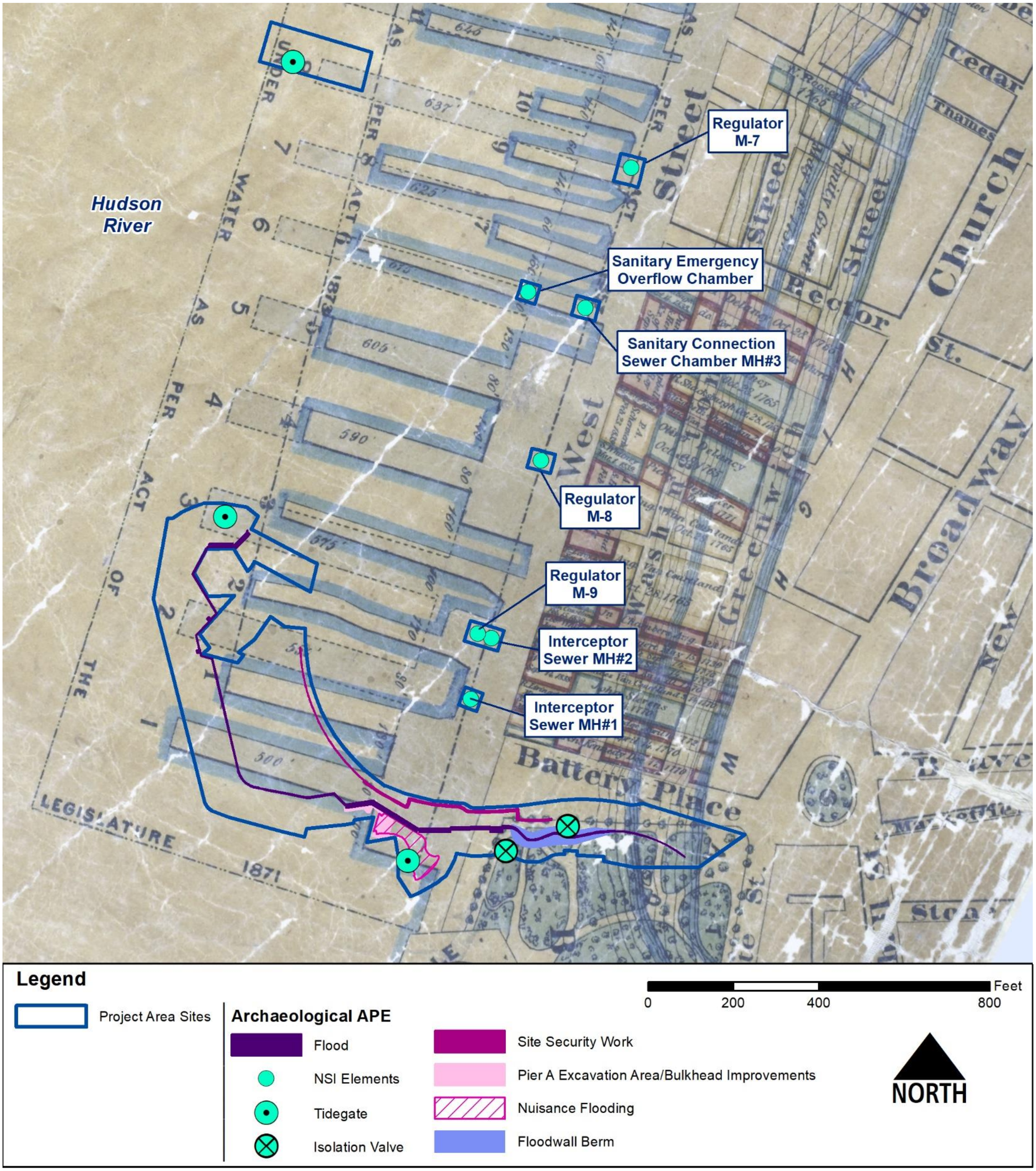
Figure 19



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Proposed Enlargement of the Present Battery
Source: Ewen 1848

Figure 20



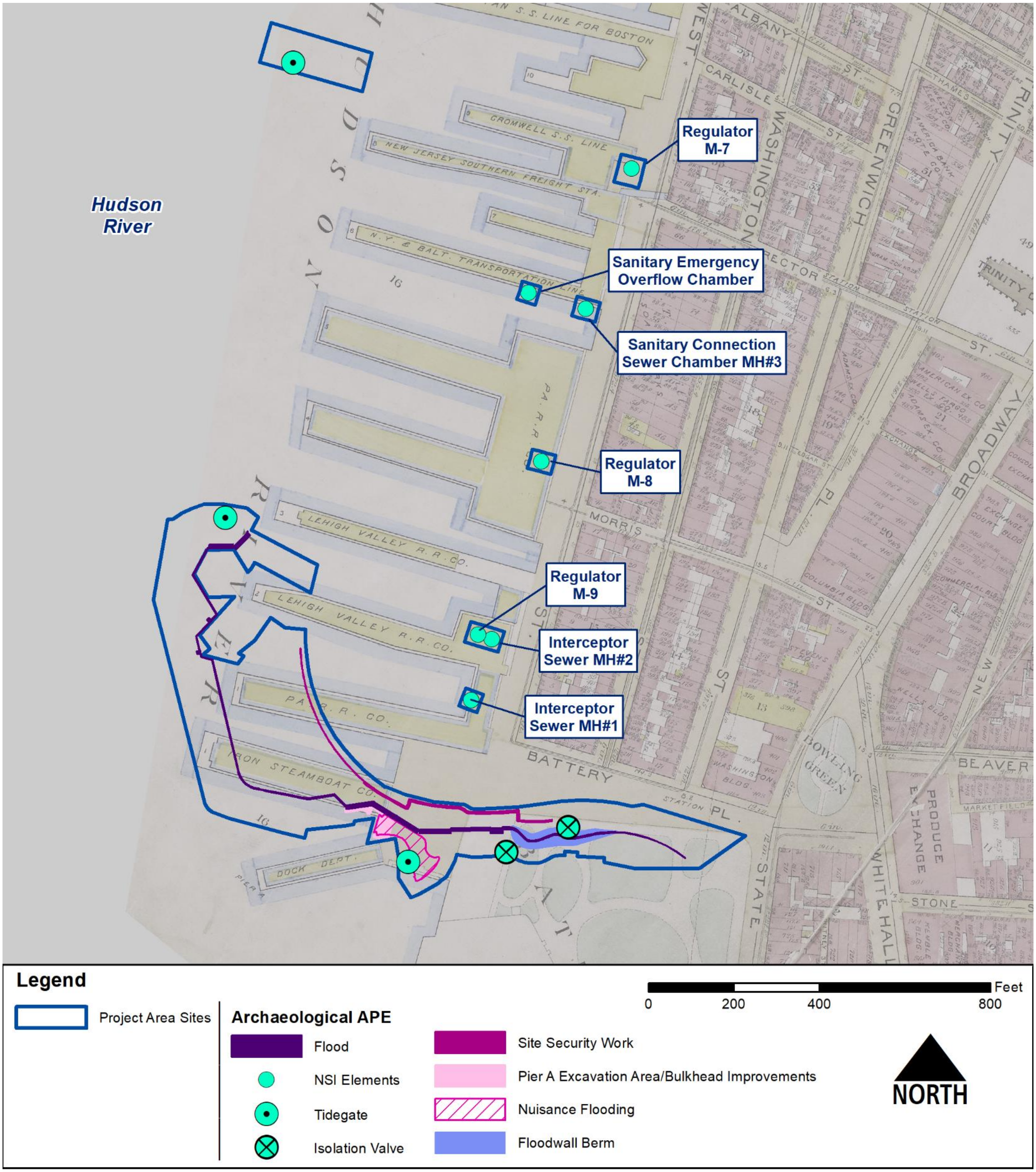
South Battery Park City Resiliency Project

Phase IA Archaeological Study

High and Lower Water Marks and the Original City Grants of Lands Under Water

Source: Department of Docks 1873

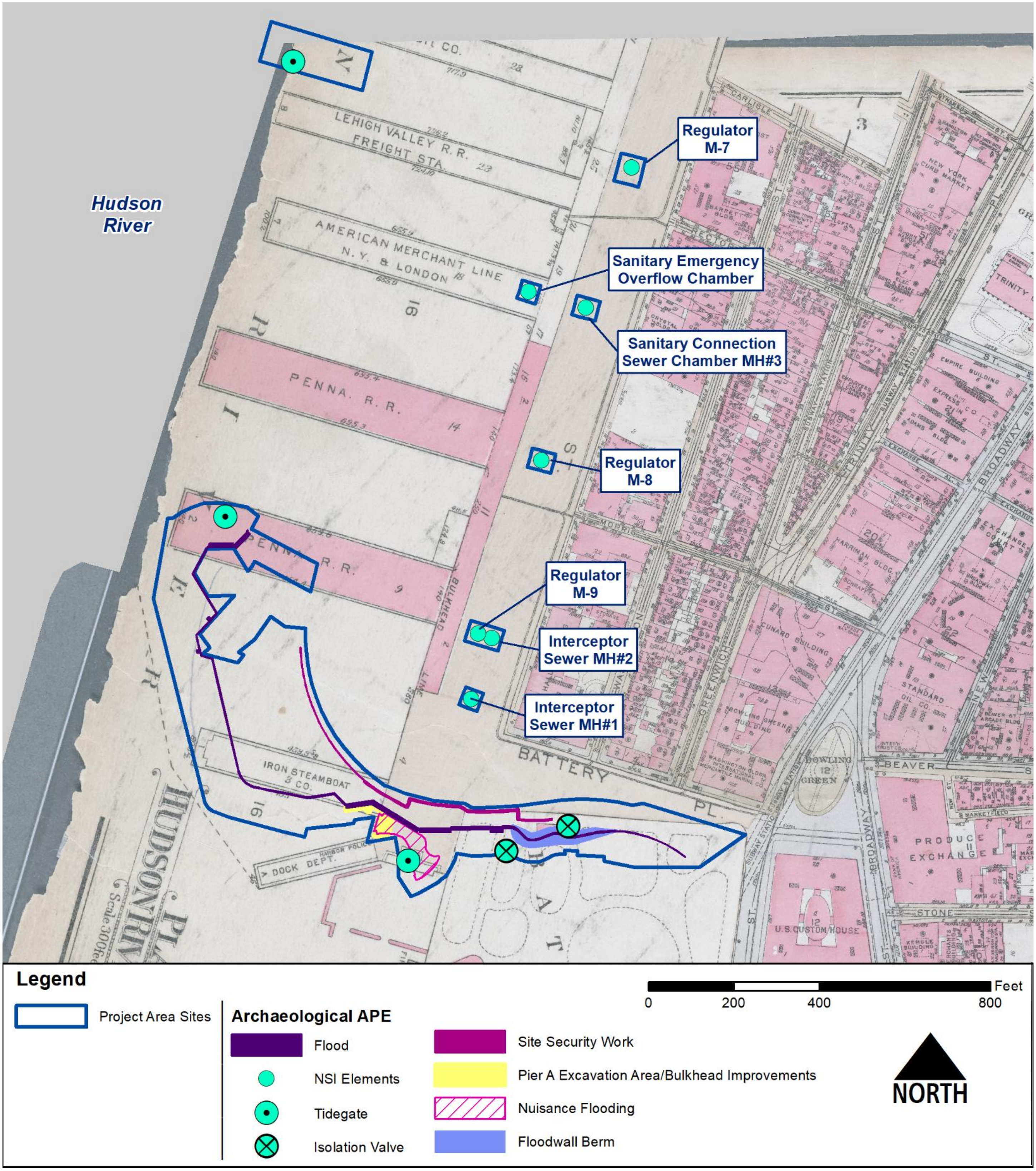
Figure 21



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Atlas of the City of New York
Source: Bromley 1891

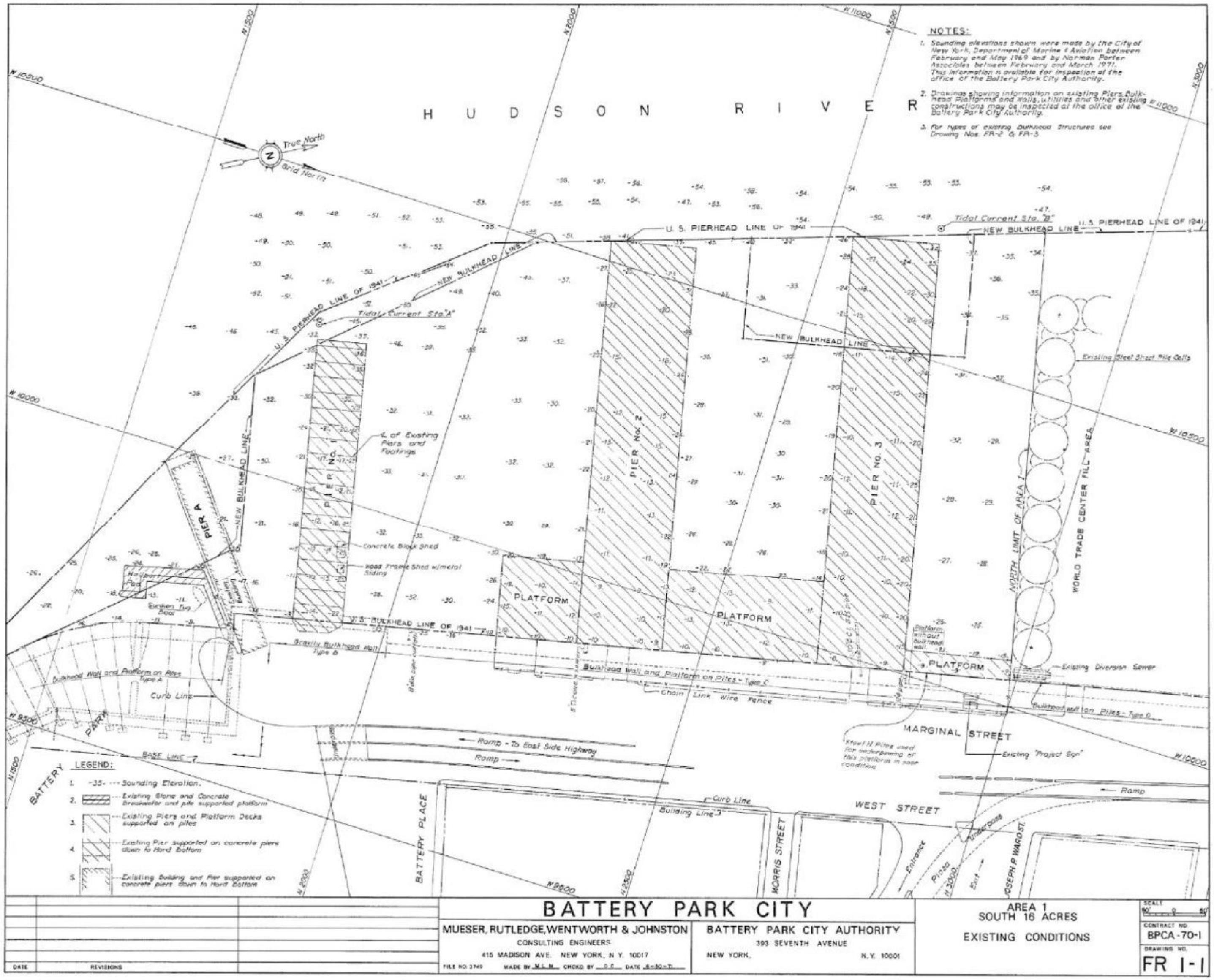
Figure 22



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Atlas of the City of New York
Source: Bromley 1930

Figure 23



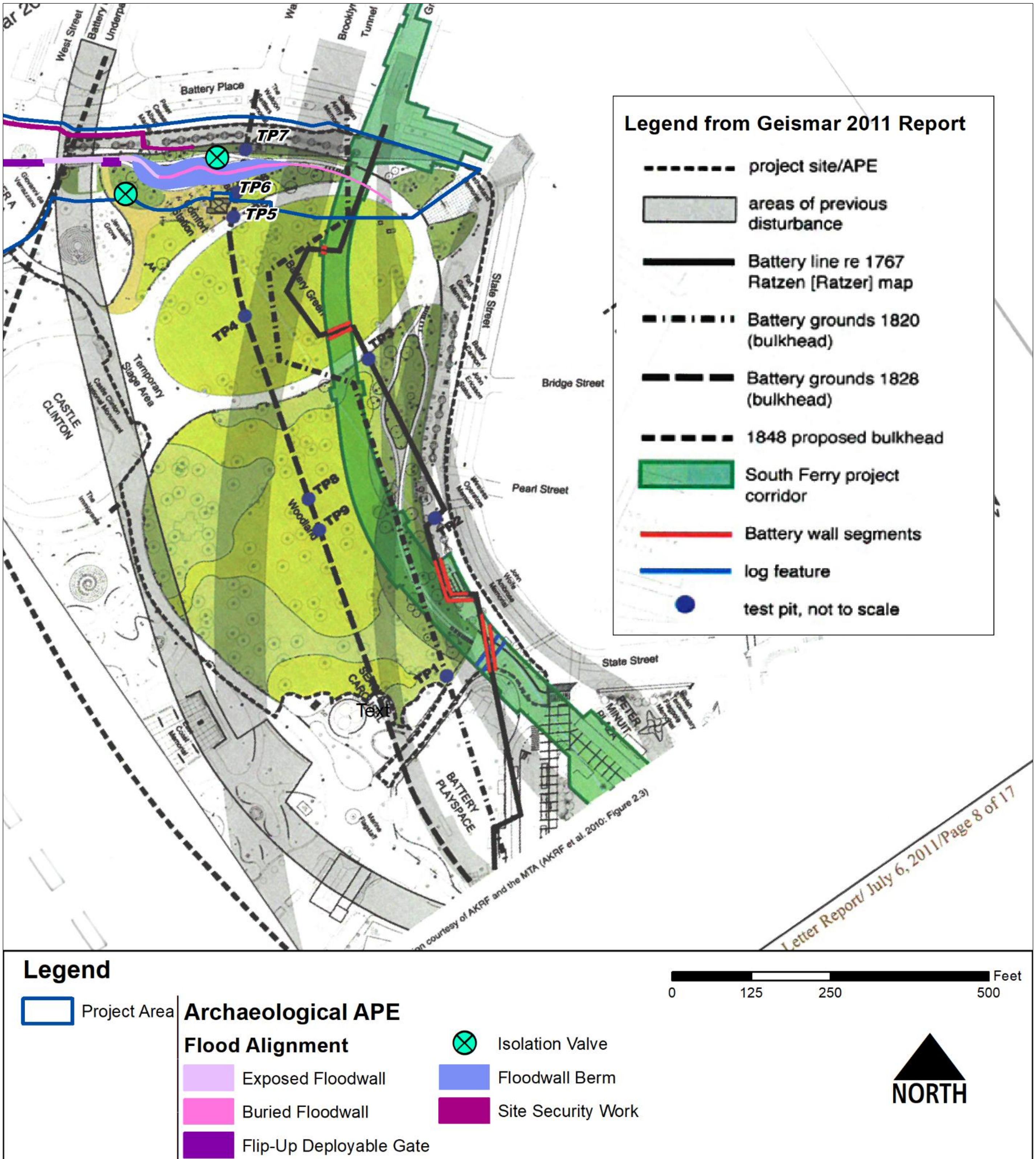
South Battery Park City Resiliency Project

Phase IA Archaeological Study

Existing Conditions at Waterfront in 1971

Source: Mueser Rutledge Wentworth & Johnston 1971

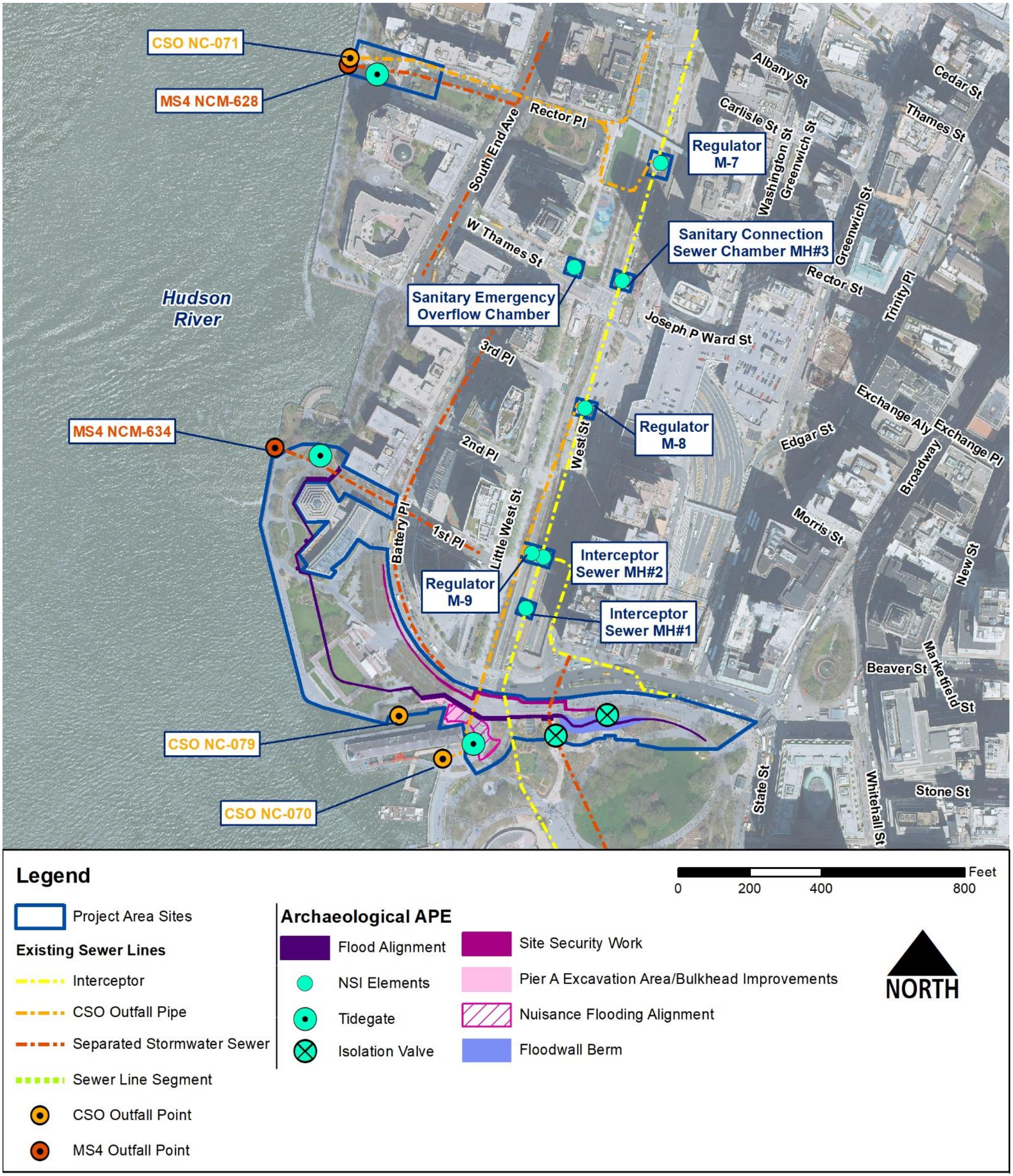
Figure 24



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Historic Disturbance and Features in the Vicinity of the Battery
Source: Geismar 2011

Figure 25



South Battery Park City Resiliency Project
Phase IA Archaeological Study

Existing Sewer Lines
Source: AECOM 2020

Figure 26

APPENDIX A

Agency Correspondence

This page intentionally left blank

NYC Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 10007
Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ARCHAEOLOGY

Project number: (BPCA)
Project: South Battery Park City Resiliency Project
Address: **BBL:**
Date Received: 3/30/2020

This document only contains Archaeological review findings. If your request also requires Architecture review, the findings from that review will come in a separate document.

[ ] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[X] May be archaeologically significant; requesting additional materials

Comments: The LPC concurs with the recommendations of AECOM in a letter dated March 22, 2020 to the NYSHPO that the following project areas may contain potentially significant archaeological resources: Pier A Plaza, the northern portion of The Battery adjacent to Battery Place, and the two proposed locations of the interceptor gate chambers and associated control buildings possess archaeological potential. Therefore, the LPC recommends that an archaeological documentary study be completed to further assess this potential in compliance with the Guidelines for Archaeological Work in New York City, 2018 which may be found here: https://www1.nyc.gov/assets/lpc/downloads/pdf/2018_Guidelines%20for%20Archaeology_Final_high%20res.pdf

Cc: NYSHPO

Amanda Sutphin

4/10/2020

SIGNATURE DATE
Amanda Sutphin, Director of Archaeology

File Name: 34900_FSO_ALS_04102020.docx

April 23, 2020

Gwen Dawson
Vice President of Real Property
Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281

Re: BPCA
South Battery Park City Resiliency Project
Borough of Manhattan, New York County, NY
20PR02168

Dear Ms. Dawson:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the consultation initiation letter and supporting documentation that was provided to our office on March 30th, 2020. Based upon our review, we offer the following comments:

1. Working with Charles Birnbaum, President and Chief Executive Officer of The Cultural Landscape Foundation, SHPO recommends that AECOM and BPCA evaluate the Battery Park City development for National Register eligibility with Wagner Park as a possible contributing feature. Please provide a narrative description and historic development context for Battery Park City and provide documentation and analysis of Wagner Park so SHPO can determine whether the overall development meets the National Register Criteria. Key questions for Wagner Park are: did the design of this park influence others? What impact has it had on landscape design, public park design, waterfront park design? How was it received by experts in the landscape design field upon its completion? Please submit the evaluation and recommendations via CRIS.
2. SHPO requests that a Phase IA archaeological background and sensitivity assessment report be prepared for this project. We concur that the First Place, Wagner Park, and Jewish Museum portions of the project area are not archaeologically sensitive.
3. SHPO concurs with the proposed Area of Potential Effect.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at https://cris.parks.ny.gov/ on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project" at the very bottom of the page. You will need this project number and your e-mail address. If you have any questions, I can be reached at (518) 268-2182.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov　　　　　via e-mail only

cc:
- R. Pinzon, USACE
- S. Rahman, FEMA
- B. Koper, FEMA
- G. Santucci and A. Sutphin, LPC
- J. Dudgeon, BPCA
- A. Rachleff, AECOM
- N. Stehling, AECOM
- R. Dencker, AECOM
- A. AbiDargham, AECOM
- C. Tiernan, AECOM