

Lower Manhattan Coastal Resiliency

November 18th, 2024

NYC Mayor's Office of Climate &
Environmental Justice

Battery
Park City
Authority



NYC Parks

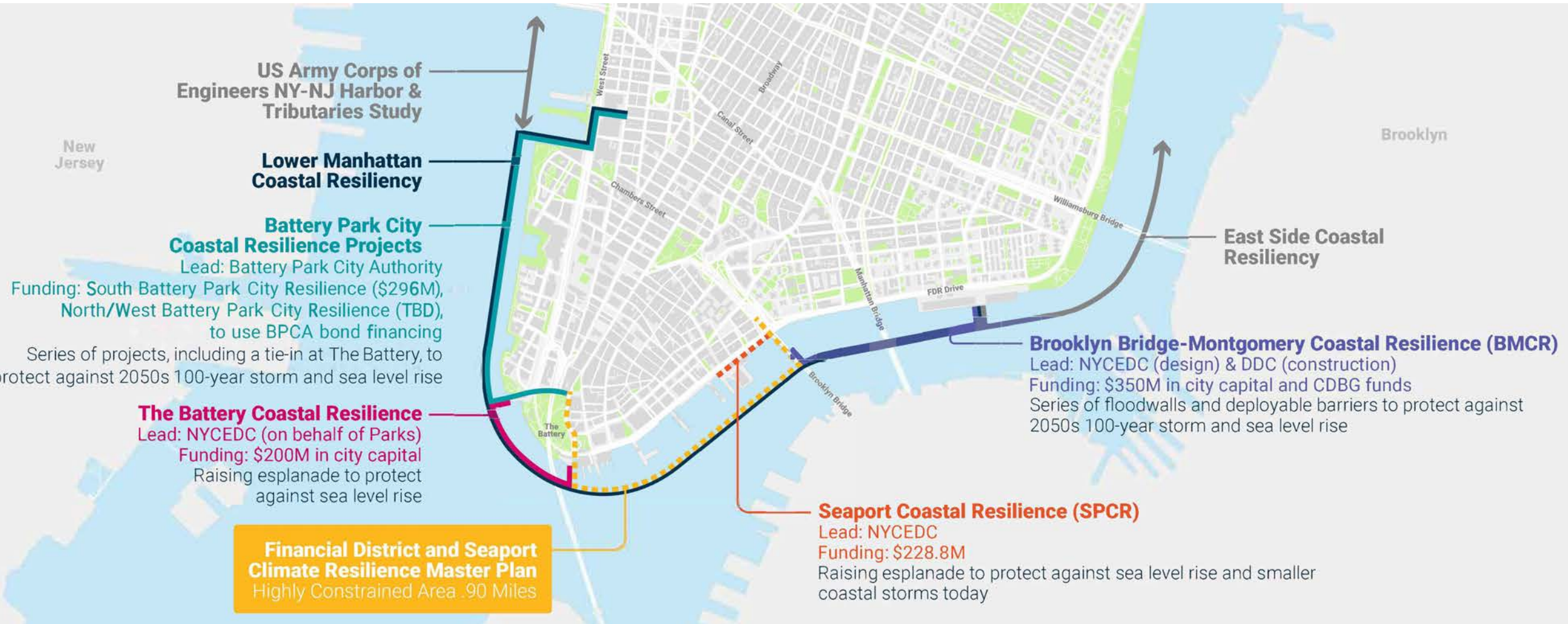
NYC
/EDC

NYC
DDC Department of
Design and
Construction

Agenda


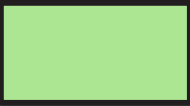



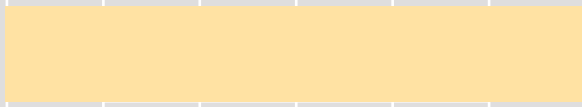
- Overall LMCR Update
- Project Updates
 - Battery Coastal Resilience
 - BPCA Projects
 - Fidi/Seaport Master Plan
 - Seaport Coastal Resilience
 - BMCR

In Lower Manhattan, the City, State, and Federal governments have committed over \$2.7B in capital investments for climate adaptation projects. **The Financial District and Seaport Climate Resilience Master Plan will fill a missing link in Lower Manhattan’s comprehensive flood defense infrastructure.**



Project Timelines

(Est. Dates as of November 2024)

Project	100% Design	Procurement	Construction Start	Construction Complete						
					'24	'25	'26	'27	'28	'29
Brooklyn Bridge–Montgomery Coastal Resilience	Complete	Complete	Underway	Fall 2026						
South Battery Park City Resiliency	Complete	Complete	Underway	Fall/Winter 2025						
The Battery Coastal Resilience	Complete	Complete	Underway	Summer 2026						
North/West Battery Park City Resiliency	Early 2025	Complete	Mid/Late 2025	Fall/Winter 2030						
Seaport Coastal Resilience	Early 2026	Late 2025	Early 2026	Early 2028						
FiDi-Seaport Master Plan	Underway	TBD	TBD	TBD						

LMCR – Battery Coastal Resilience

CB1 - 11/18/2024



LMCR – Battery Coastal Resilience

EDC Managing Project on Behalf of Parks

Design

- 100% Design complete – June 2023
- Verified Envision Platinum Award (program to lower carbon footprint for large infrastructure projects) - December 2023

Construction

- Phase 1 – January 2024 to July 2025
- Phase 2 – August 2025 to June 2026



Conceptual Rendering

Construction Updates

Phase 1 Completed Work

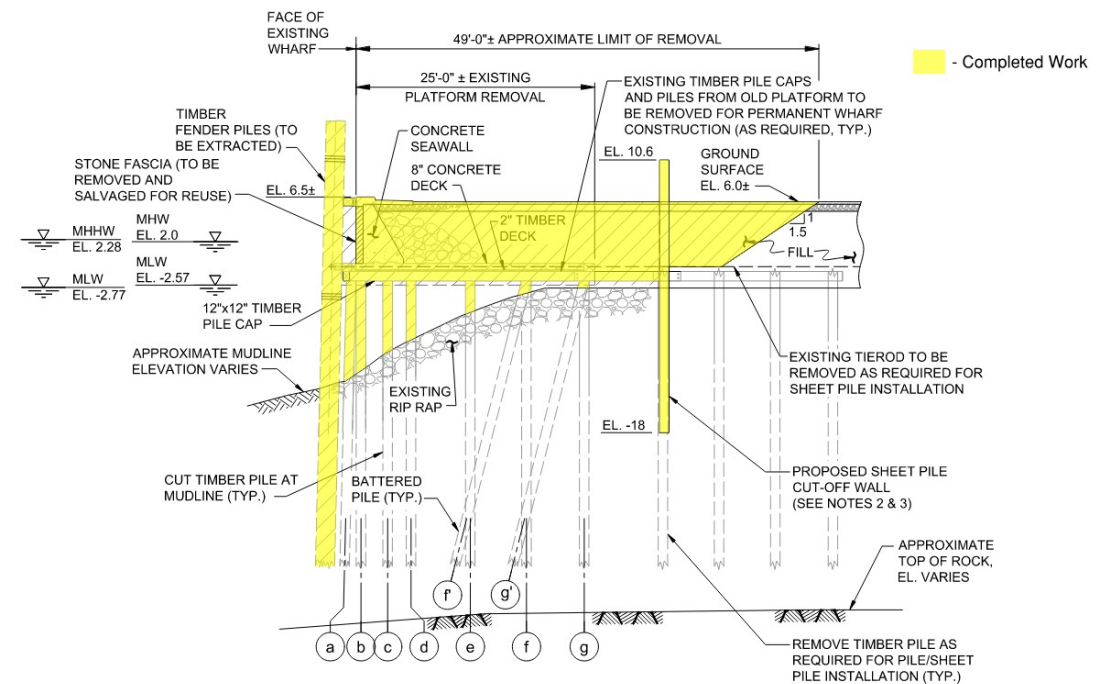
- Construction Kicked off – February 2024
- NPS West Security Tent Demolition – Complete March 2024
- Hardscape Salvage – Complete March 2024
- Sheet Pile Install – Complete May 2024
- Existing Wharf Demolition – Complete June 2024
- Test Piles – Complete June 2024
- Sitewide Mass Excavation – Complete November 2024

Phase 1 Ongoing Work

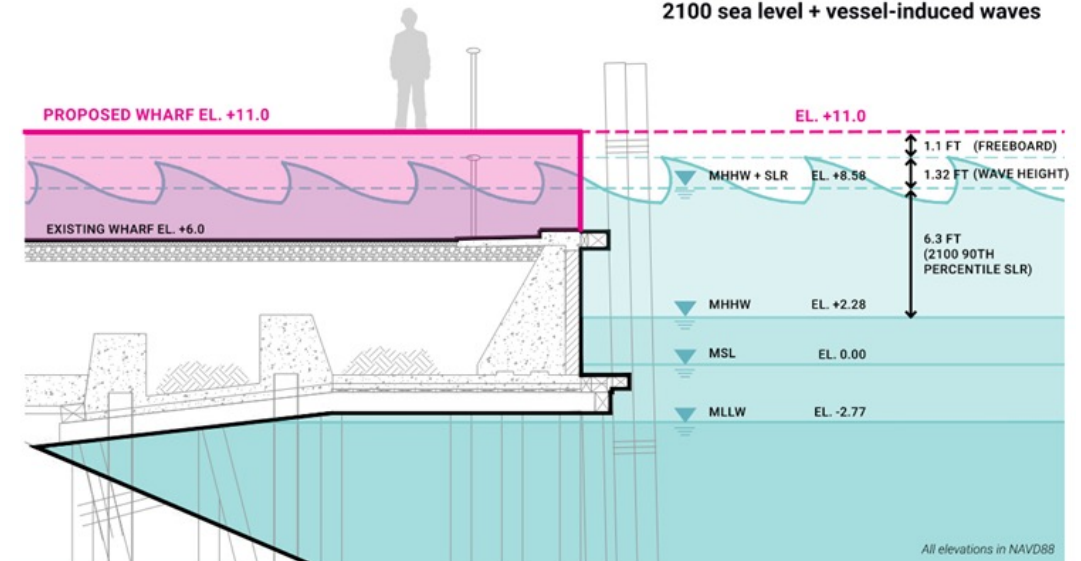
- Production Pile Installation
- Upland Lightweight Fill Program
- Drainage Improvements
- Upland Concrete Foundation Installation

Phase 1 Upcoming Milestones

- Precast Pile Cap and Beam Installation – December 2024
- Upland Hardscape and Stonework Installation – December 2024
- Completion of Phase 1, Transition to Phase 2 – July 2025

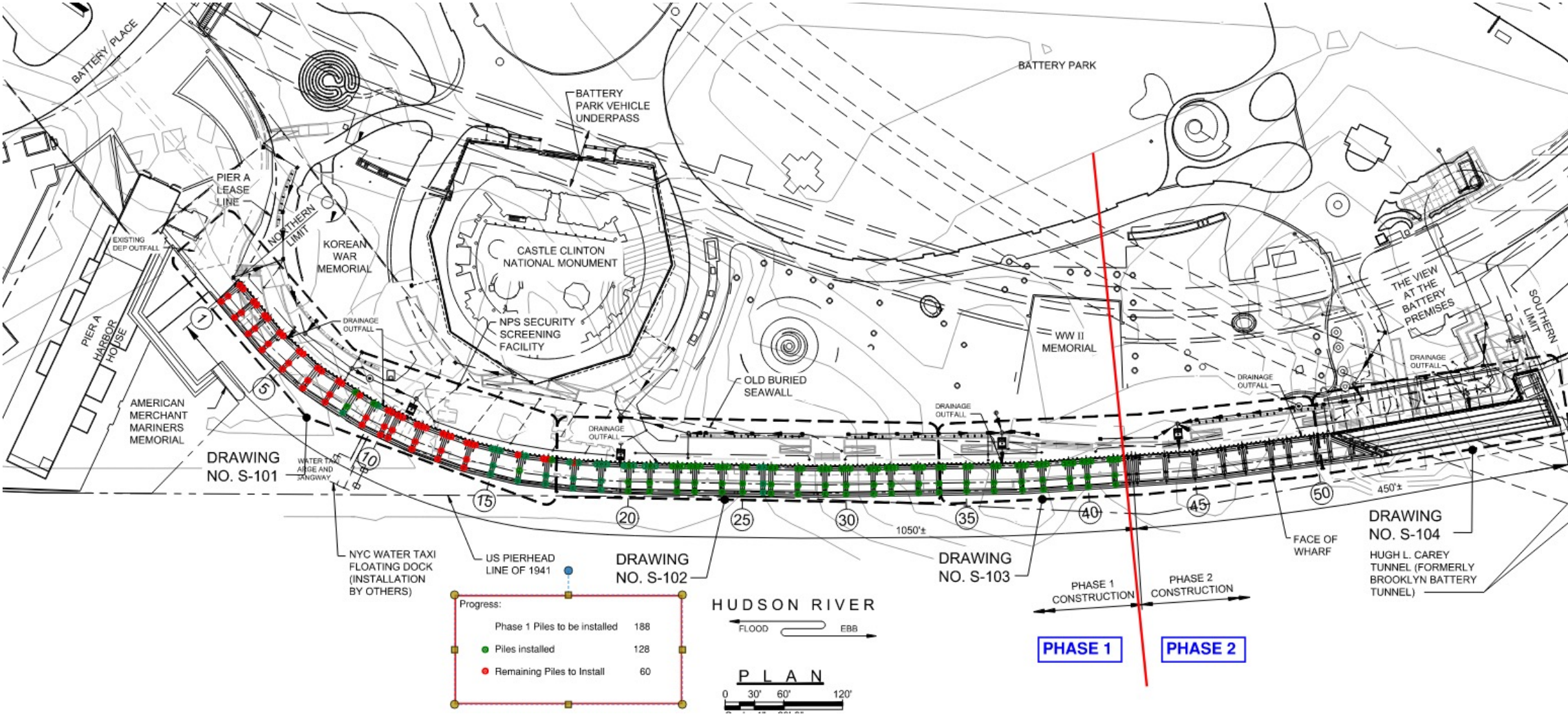


Wharf design elevation considers 2100 sea level + vessel-induced waves

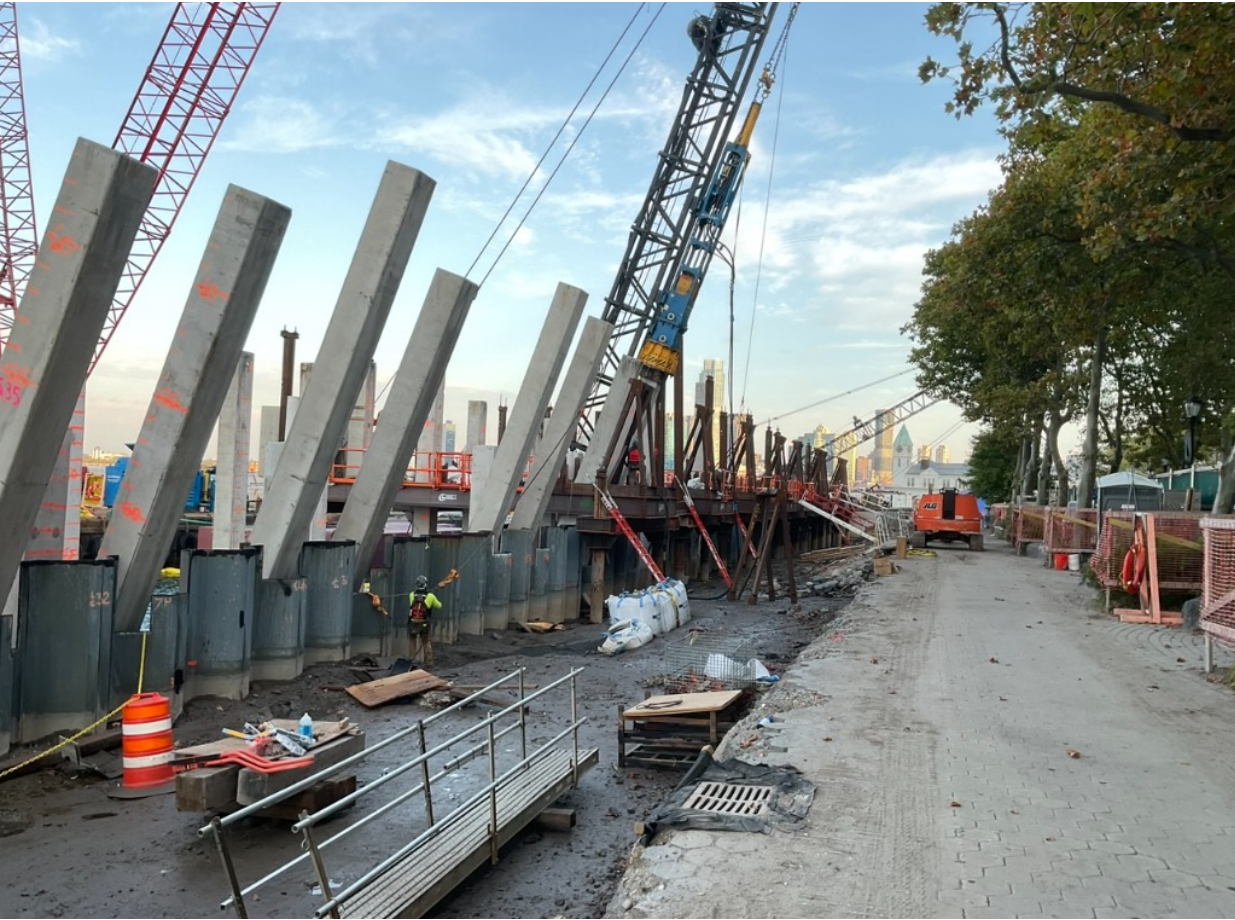


All elevations in NAVD88

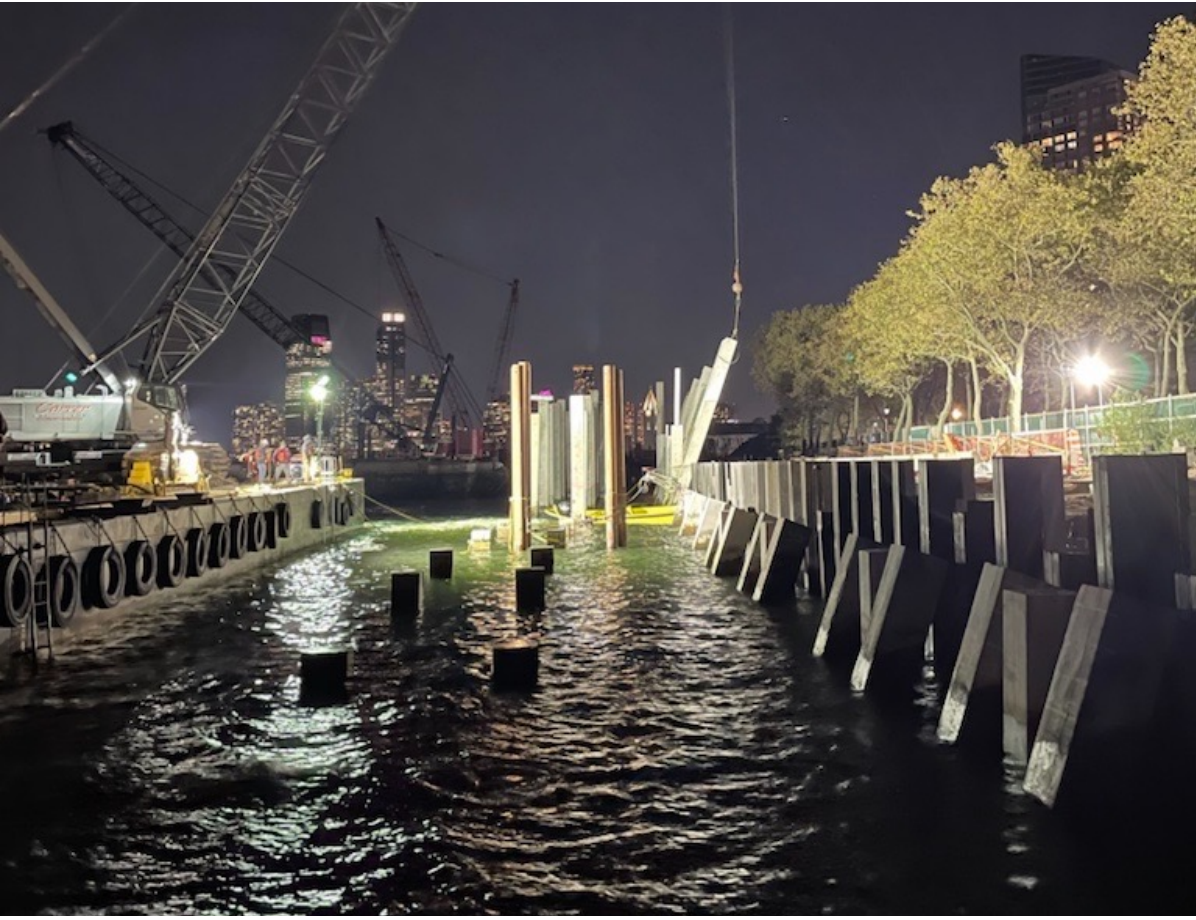
Progress: Pile Driving



Progress Photos: Pile Driving



June 2024 - Present – Pile Drive Installation



October 2024 – Cutting of Piles to Grade (Night Shift)

Progress Photos: Drainage Installation



August 2024 – Storm Drainage Structure & Pipe Installation



September 2024 – Storm Drainage Backfill and Compaction

Progress Photos: Site Footings and Lightweight Fill Placement



October 2024 – Concrete Benchwall Construction



November 2024 – Lightweight Fill Placement

Current Progress: Aerial Imagery



September, 2024

Former Face of Wharf



November, 2024

Stage 3: LMCR - Battery Phase 1 Construction

Jan 2024 to July 2025 (19 Months)

OPEN TO THE PUBLIC

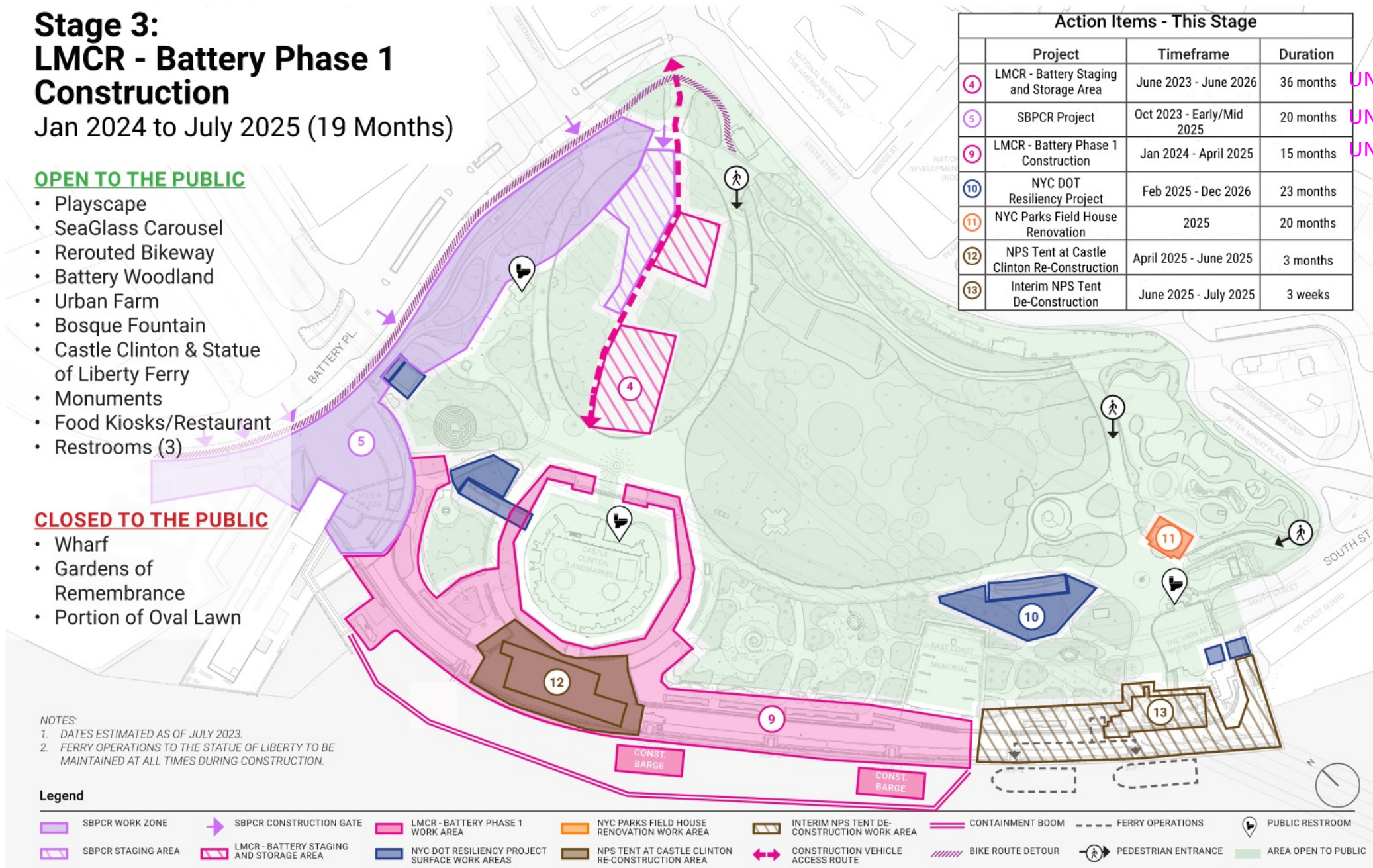
- Playscape
- SeaGlass Carousel
- Rerouted Bikeway
- Battery Woodland
- Urban Farm
- Bosque Fountain
- Castle Clinton & Statue of Liberty Ferry
- Monuments
- Food Kiosks/Restaurant
- Restrooms (3)

CLOSED TO THE PUBLIC

- Wharf
- Gardens of Remembrance
- Portion of Oval Lawn

Action Items - This Stage			
	Project	Timeframe	Duration
4	LMCR - Battery Staging and Storage Area	June 2023 - June 2026	36 months
5	SBPCR Project	Oct 2023 - Early/Mid 2025	20 months
9	LMCR - Battery Phase 1 Construction	Jan 2024 - April 2025	15 months
10	NYC DOT Resiliency Project	Feb 2025 - Dec 2026	23 months
11	NYC Parks Field House Renovation	2025	20 months
12	NPS Tent at Castle Clinton Re-Construction	April 2025 - June 2025	3 months
13	Interim NPS Tent De-Construction	June 2025 - July 2025	3 weeks

UNDERWAY
UNDERWAY
UNDERWAY



NOTES:

1. DATES ESTIMATED AS OF JULY 2023.
2. FERRY OPERATIONS TO THE STATUE OF LIBERTY TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

Legend

- SBPCR WORK ZONE
- SBPCR STAGING AREA
- SBPCR CONSTRUCTION GATE
- LMCR - BATTERY STAGING AND STORAGE AREA
- LMCR - BATTERY PHASE 1 WORK AREA
- NYC DOT RESILIENCY PROJECT SURFACE WORK AREAS
- NYC PARKS FIELD HOUSE RENOVATION WORK AREA
- NPS TENT AT CASTLE CLINTON RE-CONSTRUCTION AREA
- INTERIM NPS TENT DE-CONSTRUCTION WORK AREA
- CONSTRUCTION VEHICLE ACCESS ROUTE
- CONTAINMENT BOOM
- BIKE ROUTE DETOUR
- FERRY OPERATIONS
- PEDESTRIAN ENTRANCE
- PUBLIC RESTROOM
- AREA OPEN TO PUBLIC

Stage 4: LMCR - Battery Phase 2 Construction

July 2025 to June 2026 (11 months)

OPEN TO THE PUBLIC

- Playscape
- SeaGlass Carousel
- Rerouted Bikeway
- Battery Woodland
- Urban Farm
- Bosque Fountain
- Castle Clinton & Statue of Liberty Ferry
- Monuments
- Food Kiosks
- Restrooms (3)

CLOSED TO THE PUBLIC

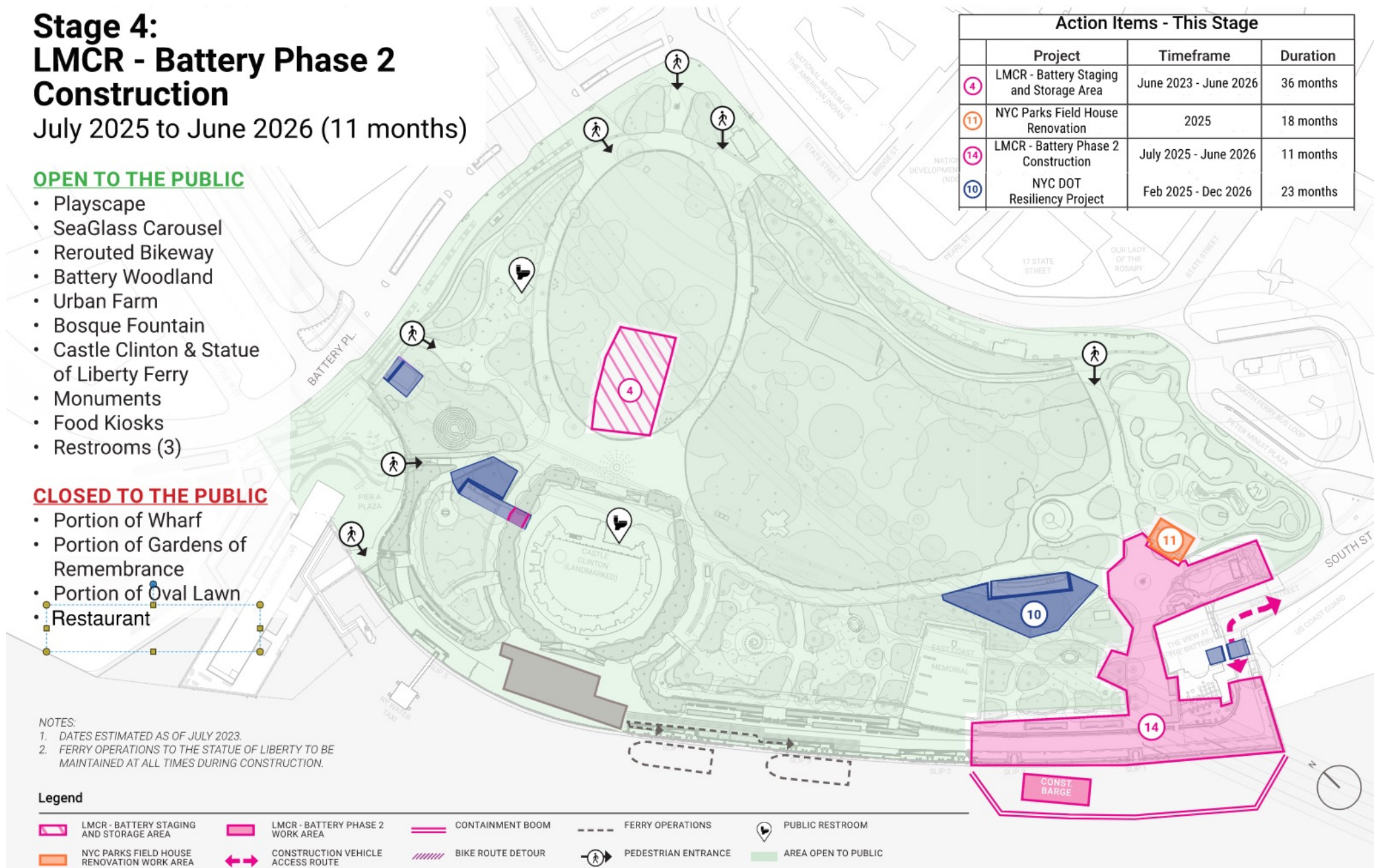
- Portion of Wharf
- Portion of Gardens of Remembrance
- Portion of Oval Lawn
- Restaurant

NOTES:
 1. DATES ESTIMATED AS OF JULY 2023.
 2. FERRY OPERATIONS TO THE STATUE OF LIBERTY TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

Legend

- LMCR - BATTERY STAGING AND STORAGE AREA
- NYC PARKS FIELD HOUSE RENOVATION WORK AREA
- LMCR - BATTERY PHASE 2 WORK AREA
- CONSTRUCTION VEHICLE ACCESS ROUTE
- CONTAINMENT BOOM
- BIKE ROUTE DETOUR
- FERRY OPERATIONS
- PEDESTRIAN ENTRANCE
- PUBLIC RESTROOM
- AREA OPEN TO PUBLIC

Action Items - This Stage			
	Project	Timeframe	Duration
4	LMCR - Battery Staging and Storage Area	June 2023 - June 2026	36 months
11	NYC Parks Field House Renovation	2025	18 months
14	LMCR - Battery Phase 2 Construction	July 2025 - June 2026	11 months
10	NYC DOT Resiliency Project	Feb 2025 - Dec 2026	23 months



Samples, Mockups and More!



Bulkhead Fascia



Upland Benchwalls



Upper Fascia

Community Outreach & Updates

Construction Notices

Lower Manhattan Coastal Resiliency Battery Coastal Resilience

Construction Notification | Date Issued: 05/09/2024

Project Summary

The Battery Coastal Resilience Project will rebuild and elevate the Battery wharf to reduce risk from future tidal flooding and low level coastal storms, while maintaining the character and uses of the promenade and the rest of the park. The Battery Coastal Resilience Project is one of several projects, which together are known as the Lower Manhattan Coastal Resiliency (LMCR) Project.

Questions?

Kyle Beyer - Construction Community Liaison

info@batterycoastalresilience.com

<https://www.nyc.gov/site/lmcr/progress/battery-coastal-resilience.page>

Newsletters

Battery Coastal Resilience News

September 2024

www.nyc.gov/site/lmcr/progress/battery-coastal-resilience.page



Image: Aerial image of The Battery (photo taken by The Battery Conservancy).



**Battery Park
City Authority**

Battery Park City Resiliency Projects



LMCR Quarterly Update

NOVEMBER 18, 2024

South Battery Park City Resiliency Project Construction Progress

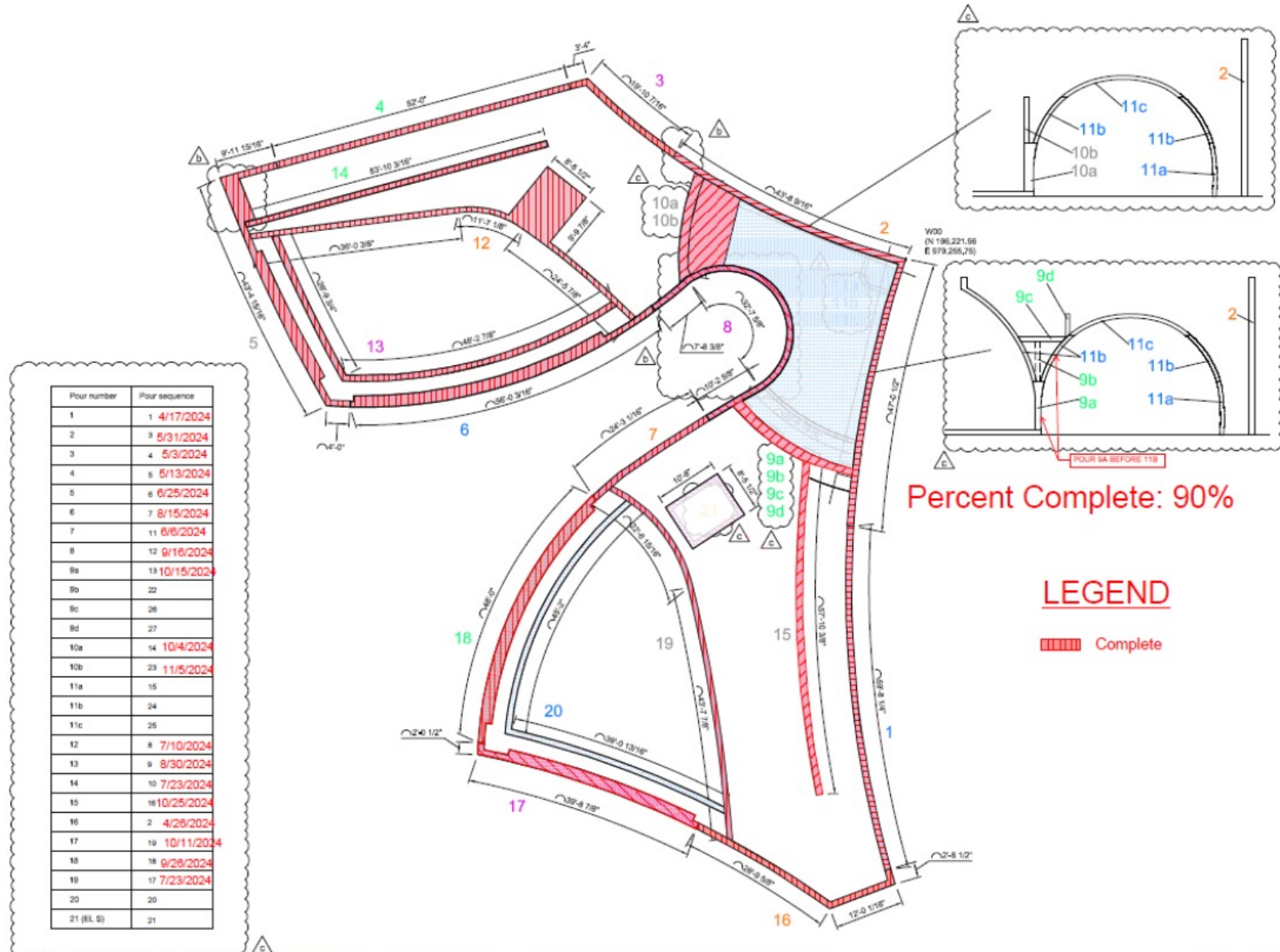
Wall and Footing Concrete South of MJH in Progress



Site Electrical Work at Wagner Park Progress



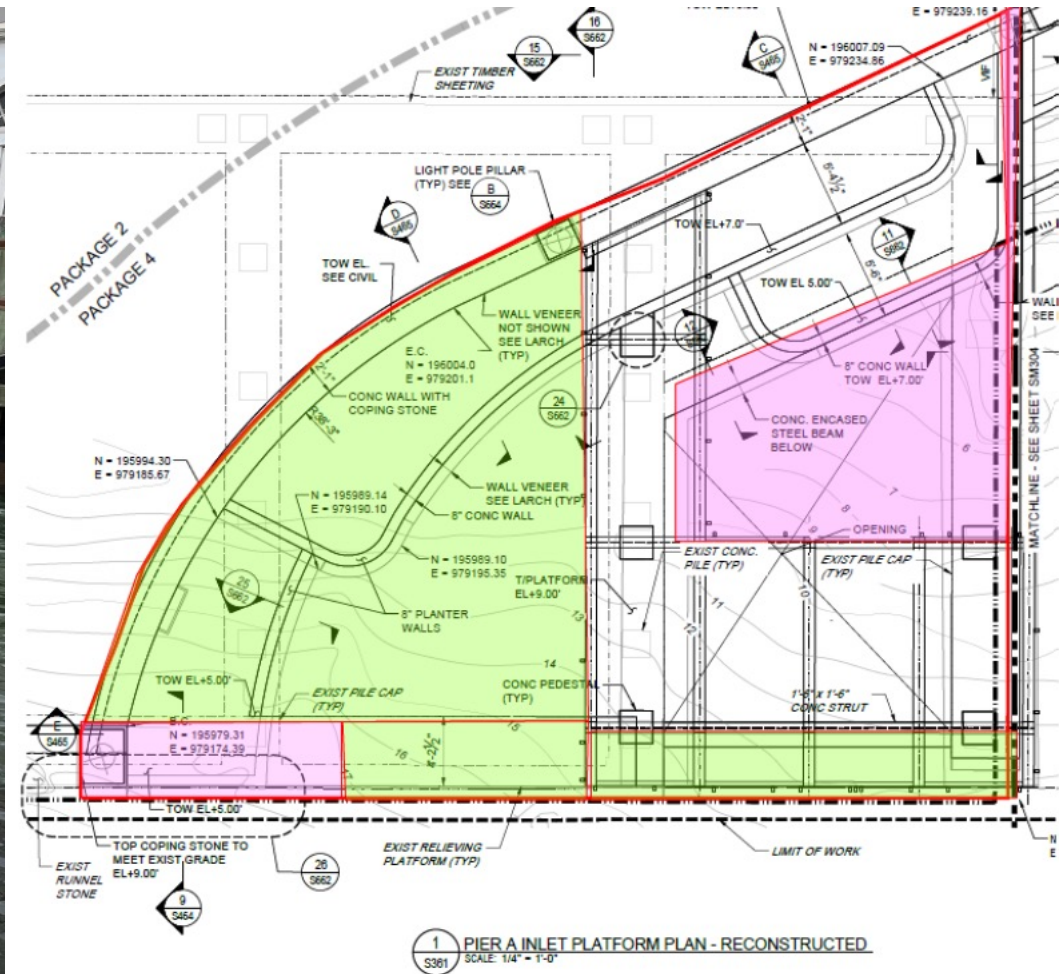
Pavilion Concrete Installation Progress



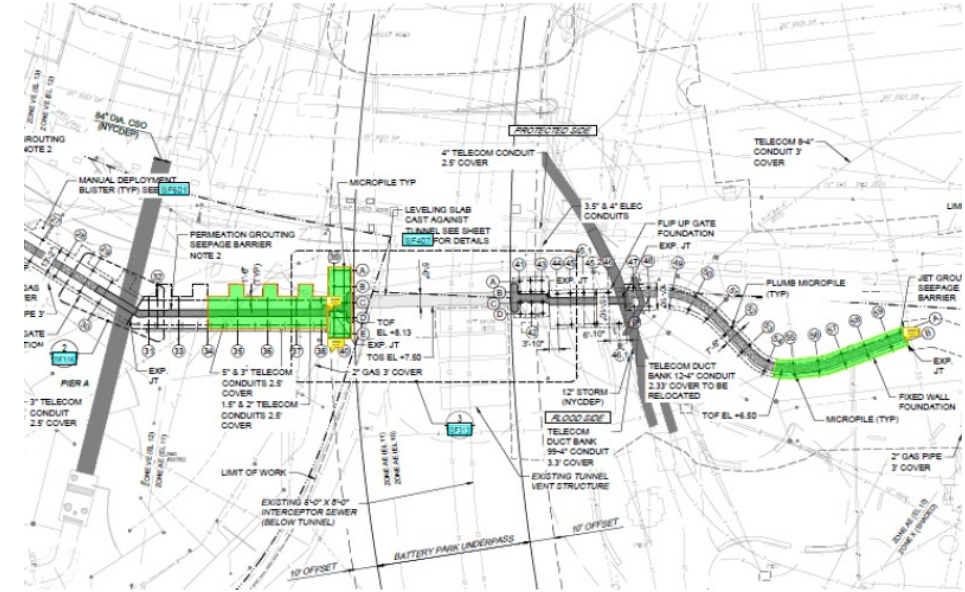
South Site Wall Foundation Formwork Progress



Pier A Inlet Deck Progress



Pile Cap and Stud Welding Progress



U/L	PILE SCHEDULE			PILE SCHEDULE			PILE SCHEDULE			PILE SCHEDULE			
NO	EASTING	FILE NUMBER	NORTHING	EASTING	FILE NUMBER	NORTHING	EASTING	FILE NUMBER	NORTHING	EASTING	FILE NUMBER	NORTHING	EASTING
86	979439.18	34A	195985.48	979529.87	41A	195993.33	979656.79	47A	195990.66	979703.14	57A	195963.45	979787.91
90	979433.85	34B	195975.32	979529.87	41B	195988.84	979656.52	47B	195982.82	979703.29	57B	195959.28	979788.46
70	979447.05	35A	195985.48	979541.87	41C	195984.34	979657.04	48A	195990.77	979703.49	58A	195966.94	979797.28
05	979441.73	36B	195975.32	979541.87	41D	195979.84	979657.17	48B	195982.98	979703.43	58B	195962.76	979798.83
52	979452.21	36A	195985.48	979533.87	42A	195993.46	979661.29	49A	195990.25	979715.19	59A	195970.43	979806.65
86	979446.88	36B	195975.32	979553.87	42B	195988.96	979661.41	49B	195983.19	979717.79	59B	195966.25	979808.20
22	979462.43	37A	195985.48	979665.87	42C	195984.46	979661.54	50A	195987.00	979726.46			
86	979457.10	37B	195975.32	979665.87	42D	195979.97	979661.67	50B	195981.66	979726.72			
92	979472.64	38A	195985.48	979575.78	43A	195993.59	979665.79	51A	195981.33	979736.48			
26	979467.31	38B	195975.32	979575.79	43B	195989.09	979665.91	51B	195977.78	979731.15			

20% pile cap excavation has been completed

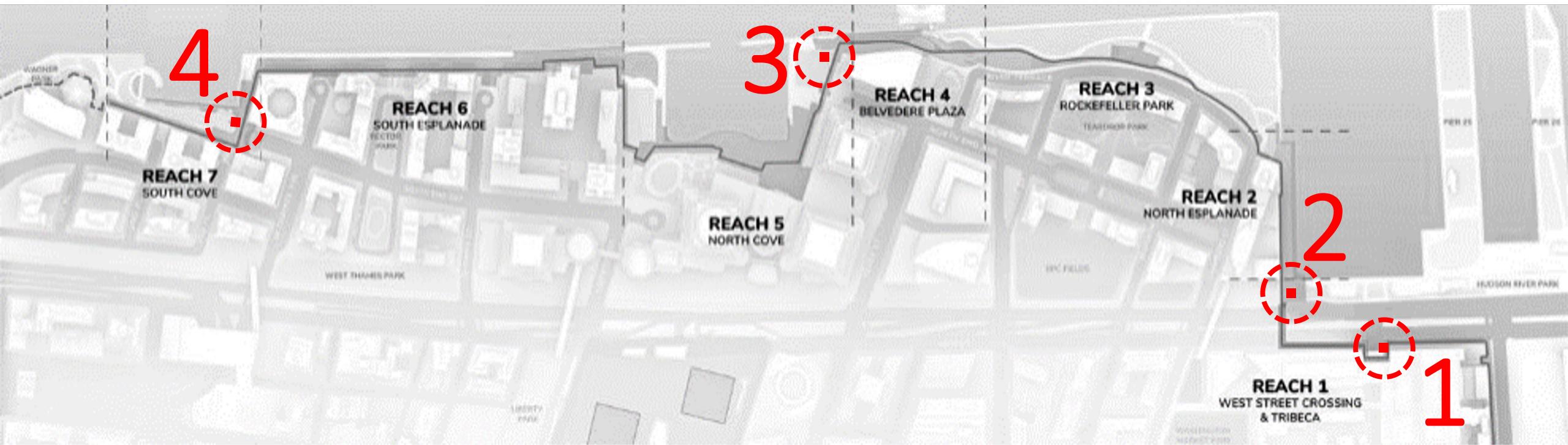
**North/West Battery Park City Resiliency
Project
Pile Testing**

Test Pile Locations

Drilling Durations:

- Reach 1 (2 locations): Ten 13" micropiles ~1 week
- Reach 5: Two 36" drilled shafts ~2 weeks
- Reach 7: Five 13" micropiles ~1 week

- Each of the locations will be protected with construction fencing, noise blankets, silt fence and catch basin protection
- Vibration, survey, noise and air monitoring will be performed at each location

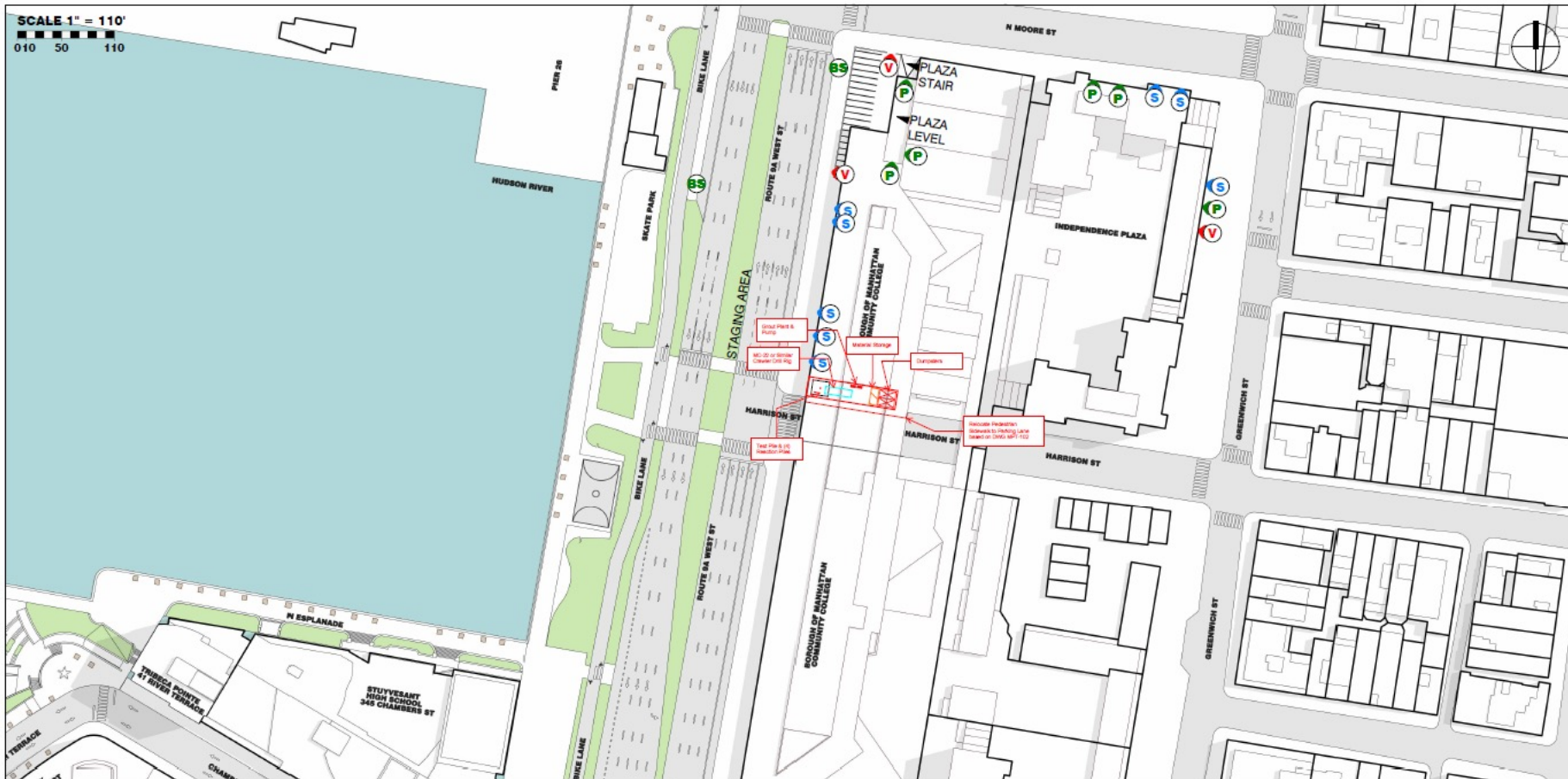


Purpose of Testing

- Confirmation of geotechnical and engineering assumptions for lateral and load-bearing capacity
- Opportunity to **analyze quarry stone** underneath and behind the existing relieving platforms;
- Confirmation of **pile installation procedures** and **identification of potential constructability issues**
- Confirmation that micropiles and drilled shafts **meet the required standards** and **achieve site-specific performance**
- Early **identification of potential problems**, if any, reducing the risk of delays and failures during construction.
- Opportunity to **adjust and/or optimize design** based on findings. **Potential for cost savings and schedule improvements** associated with pile spacing and length optimization.



Test Pile Locations- Reach 1/ Route 9A (Location 1)



Pile Mobilization: Mid November

Pile work performed: Late November for one week

Restoration of site: Late December (7 weeks total)

Pile Work performed:

- Mini-piles (4 reaction piles and 1 test pile)
- 13" in diameter each
- Approximately 80-90 feet deep

NOTES

REACH 1 - Mini Piles (Harrison Street)

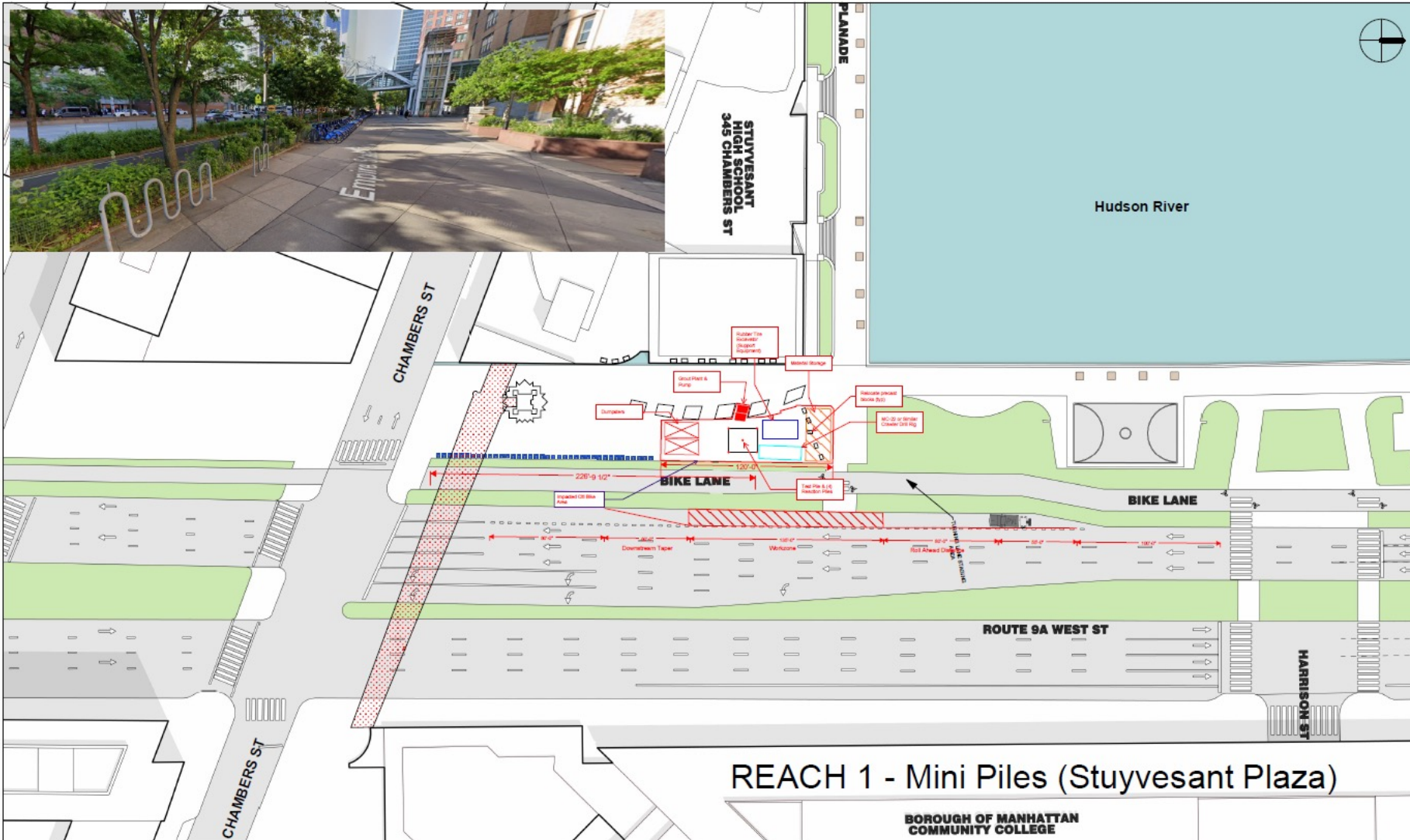
LEGEND

- (P) PEDESTRIAN EGRESS
- (S) SERVICE EGRESS
- (V) VEHICLE EGRESS
- (BS) BUS STOP
- ALIGNMENT WALL

KEY PLAN - REACH 1



Test Pile Locations- Reach 1/ Route 9A (Location 2)



Borings and Test Pits: Late October-Late November

Pile Mobilization: Late November

Pile work performed: Early December for one week

Restoration of site: Early January (7 weeks total)

Pile Work performed:

- Mini-piles (4 reaction piles and 1 test pile)
- 13" in diameter each
- Approximately 80-90 feet deep

Test Pile Locations- Reach 7/ South Cove (Location 4)



Pile Mobilization: Early December

Pile work performed: Mid December for one week

Restoration of site: Mid January (7 weeks total)

Pile Work performed:

- Mini-piles (4 reaction piles and 1 test pile)
- 13" in diameter each
- Approximately 75 feet deep

NOTES

REACH 7 - MINI PILES

LEGEND

- P PEDESTRIAN EGRESS
- S SERVICE EGRESS
- V VEHICLE EGRESS
- BS BUS STOP
- ALIGNMENT WALL

KEY PLAN - REACH 7



Test Pile Locations- Reach 5/ Belvedere Plaza (Location 3)



Drilled Shaft Mobilization:
Early December

Shaft work performed: Mid December for 10 days

Restoration of site: Late January (8 weeks total)

Shaft Work performed:

- 2 drilled shafts
- 36" in diameter each
- Approximately 75 feet deep

NOTES
REACH 5 - DRILLED SHAFTS

LEGEND	
	PEDESTRIAN EGRESS
	SERVICE EGRESS
	VEHICLE EGRESS
	BUS STOP
	ALIGNMENT WALL

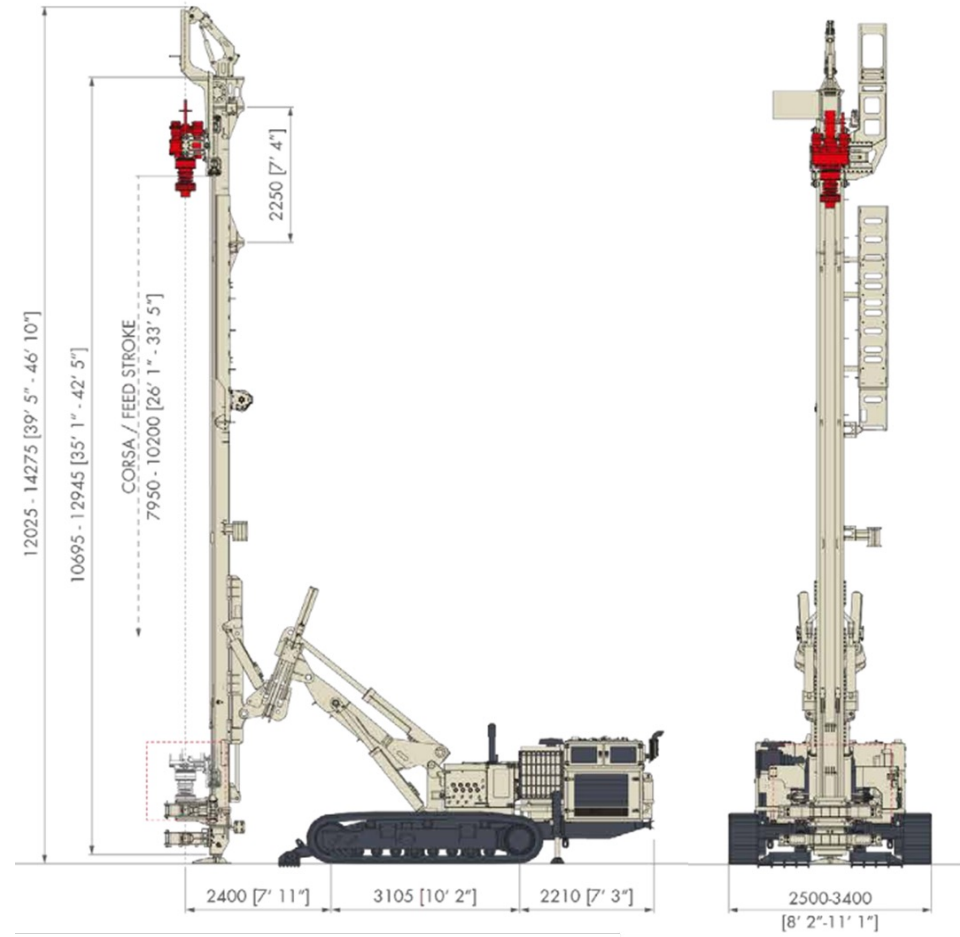


Upcoming Public Outreach

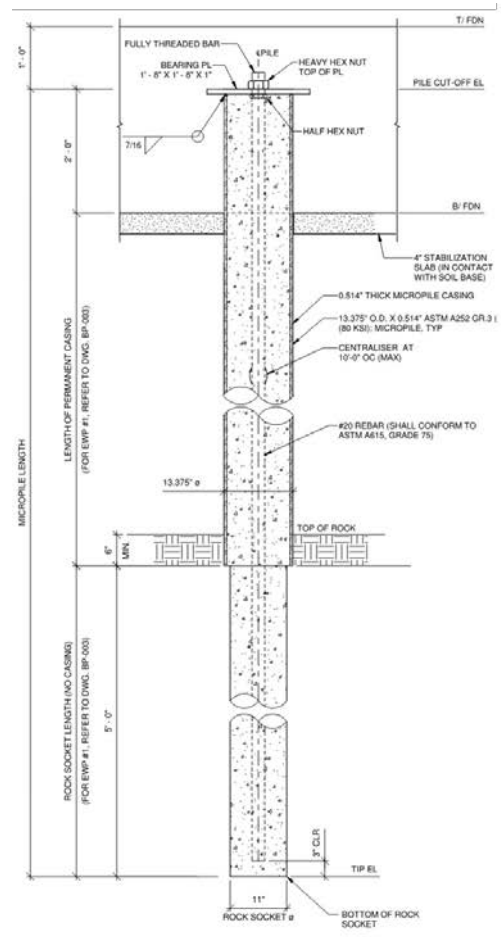
- November 2024: LMCR Quarterly Update
- January 2025: Post-FEIS Summary/Review
- February 2025: LMCR Quarterly Update
- March 2025: Interim Open Space Opportunities Discussion
- April 2025: Pre-Construction Site Walks

APPENDIX

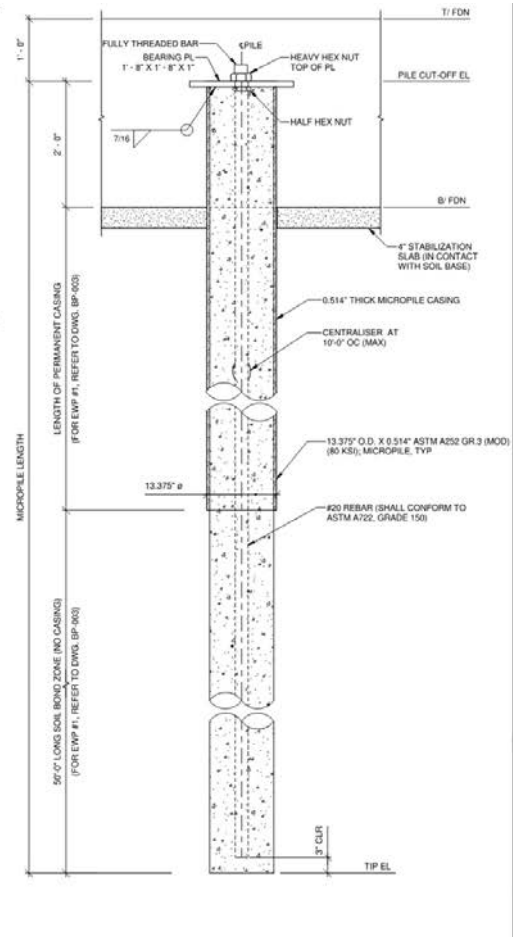
Micropile Installation - 13"



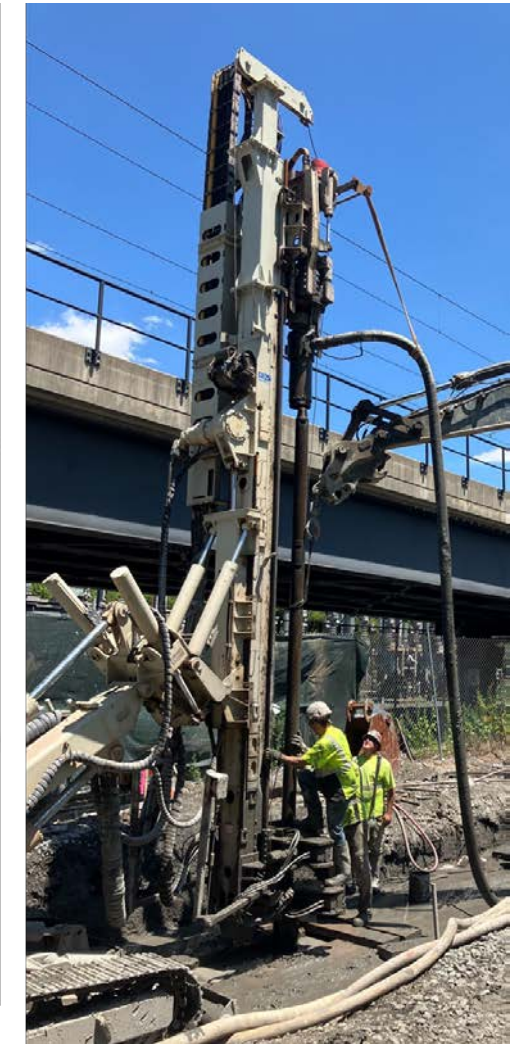
MC-28 HYDRAULIC CRAWLER DRILL
NOT TO SCALE



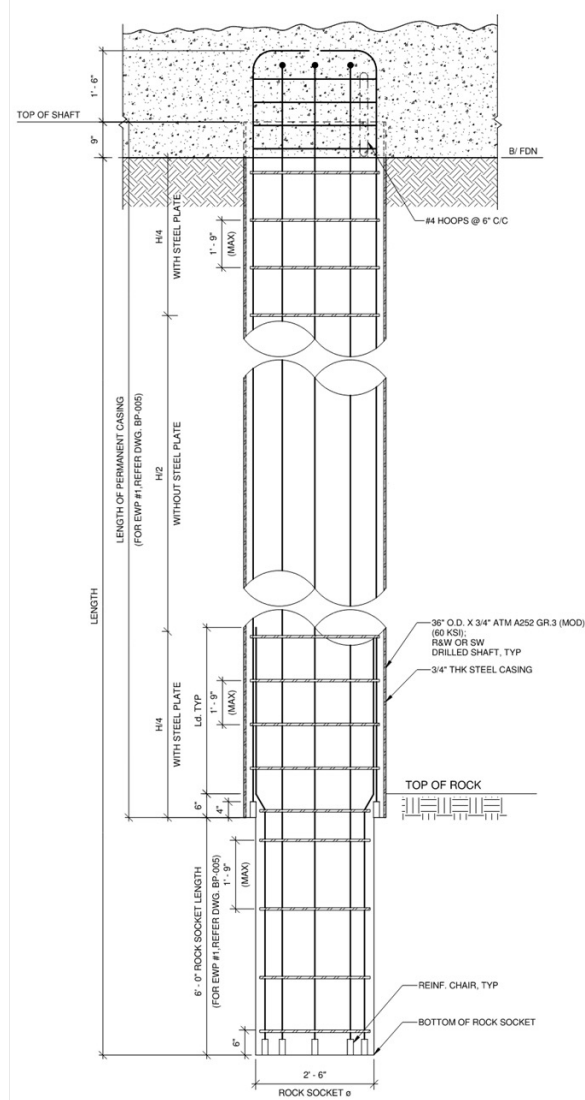
MICROPILE WITH ROCK SOCKET DETAIL



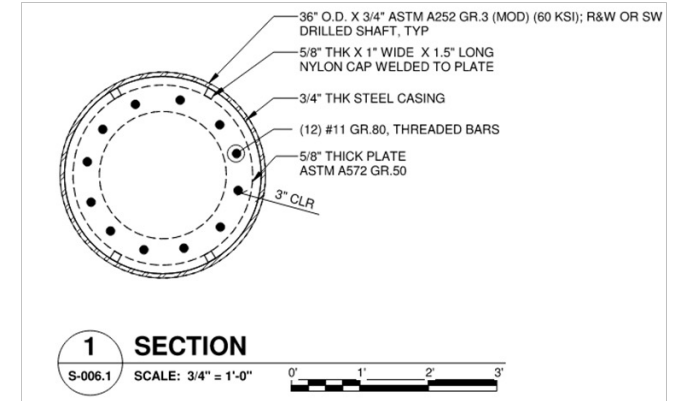
MICROPILE WITH SOIL BOND DETAIL



Drilled Shaft Installation- 36"



TYPICAL 36" Ø DRILLED SHAFT SECTION





FiDi and Seaport

Climate
Resilience
Plan



CB1 LMCR Quarterly
November 18, 2024



What are the goals for today's update?

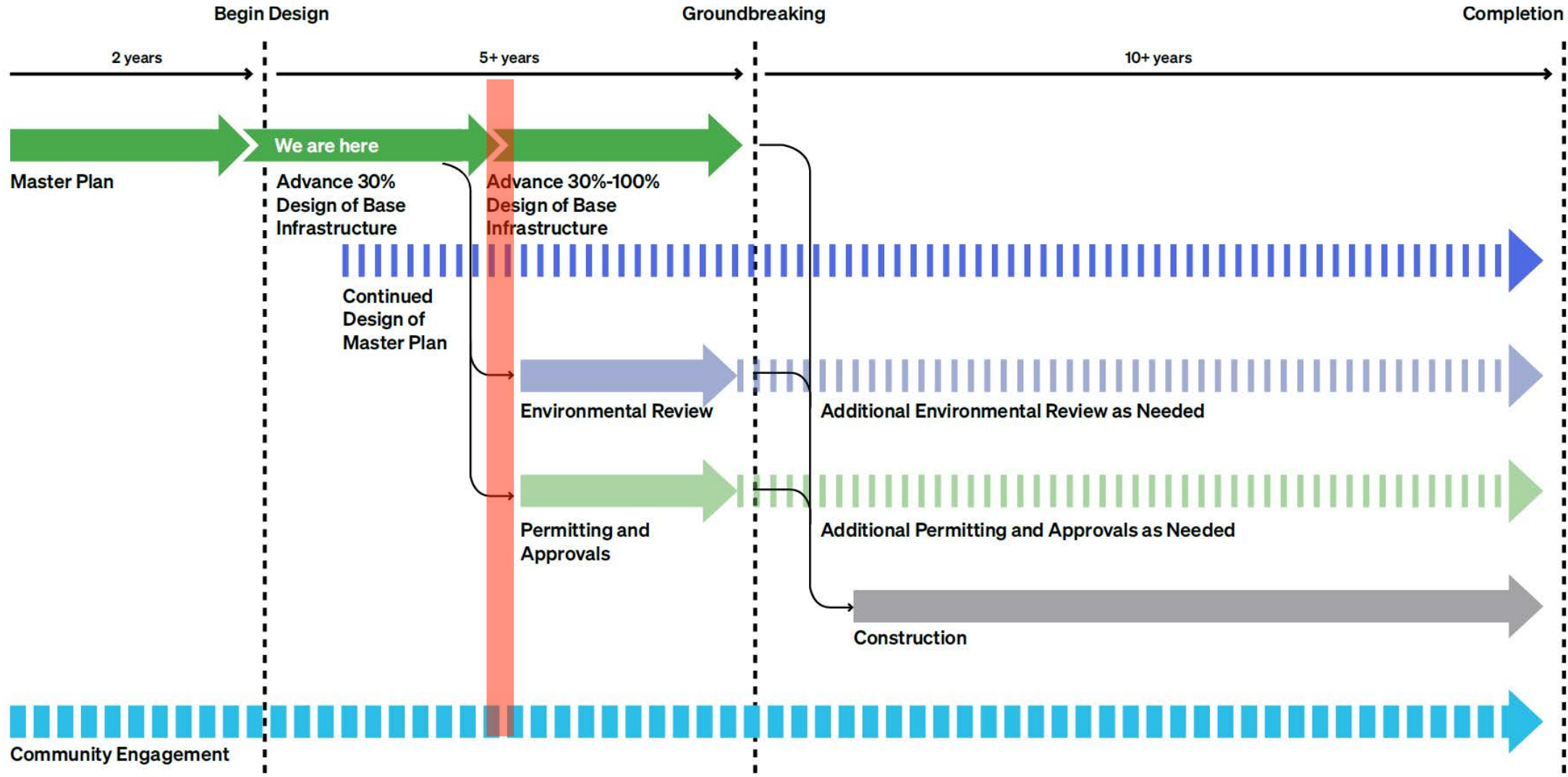
Tonight we will...

- Provide an update on **where we are in the overall project timeline**
- Discuss **Federal Funding** Scenarios
- Discuss the path to implementation, including how we're thinking about the project's **costs**

We plan to host a southern tie-in workshop to discuss the alignment analysis.

**Where are we in the overall
project timeline?**

Our goal is to move the FiDi-Seaport Project from a conceptual vision to an **actionable capital project**.



In the upcoming year, we will be advancing the base infrastructure from schematic to preliminary in preparation for environmental review.

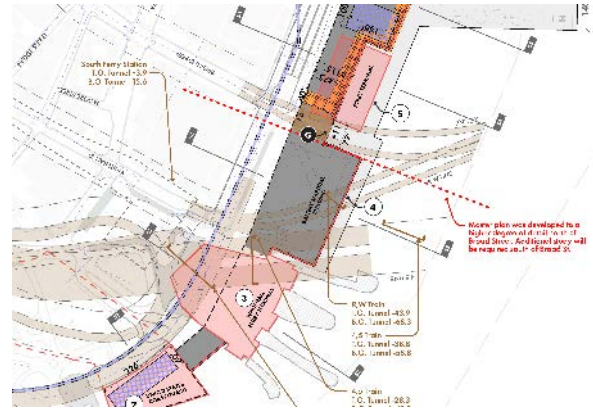
Phase VI Summer 2023 – Summer 2024



- Advance technical studies and engineering for flood protection infrastructure while further studying access, program, and green spaces

15-20% “schematic” design for base infrastructure and updated concept design for all other elements

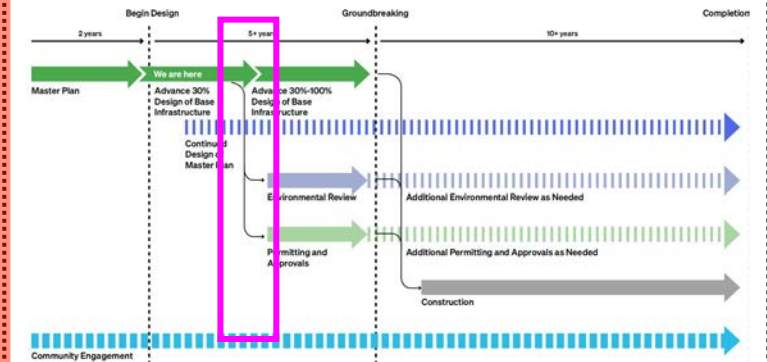
Phase VII Fall 2024 – Fall 2025



- Advance technical studies and engineering for flood protection infrastructure while further studying access, program, and green spaces

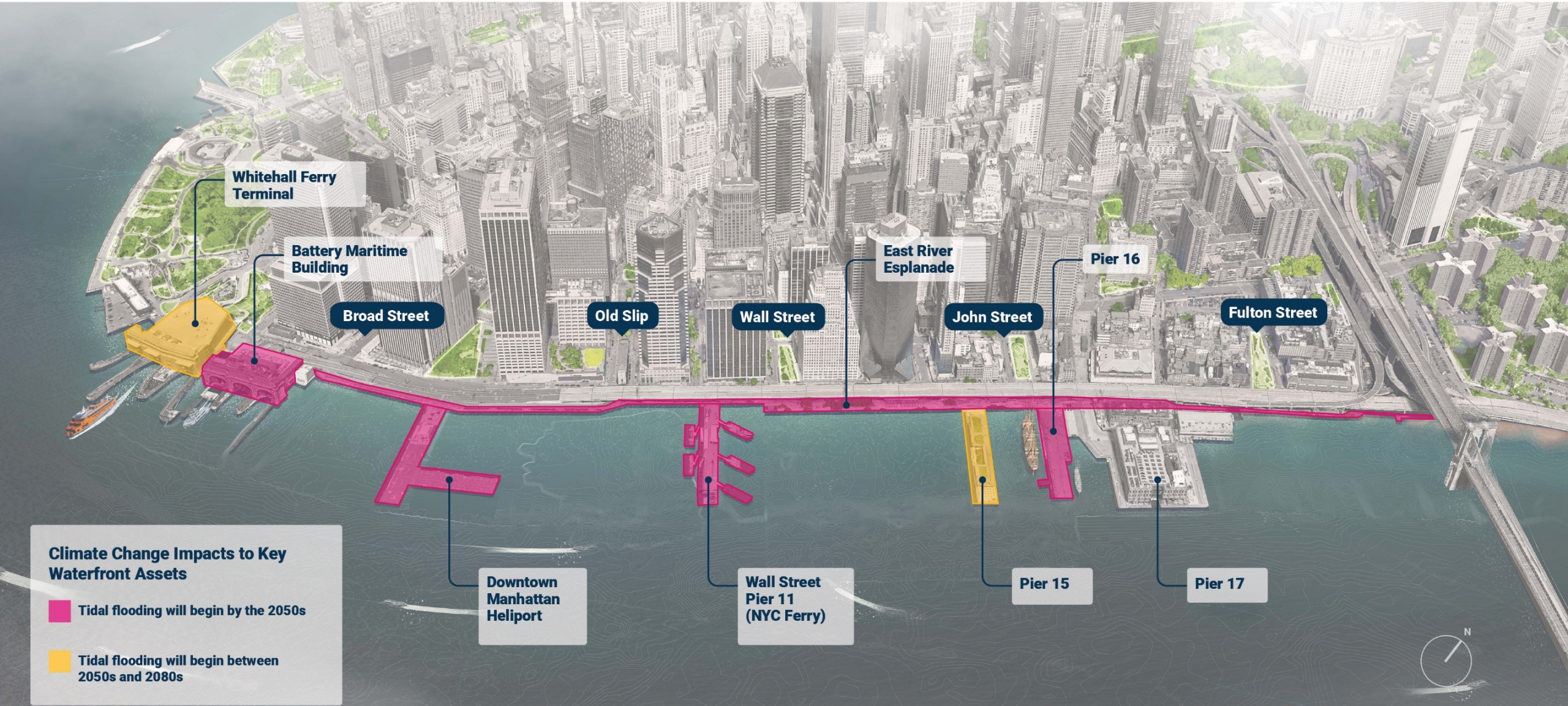
30% “preliminary” design for base infrastructure and 10% concept design for all other elements

Environmental Review and Permitting 2025-2027

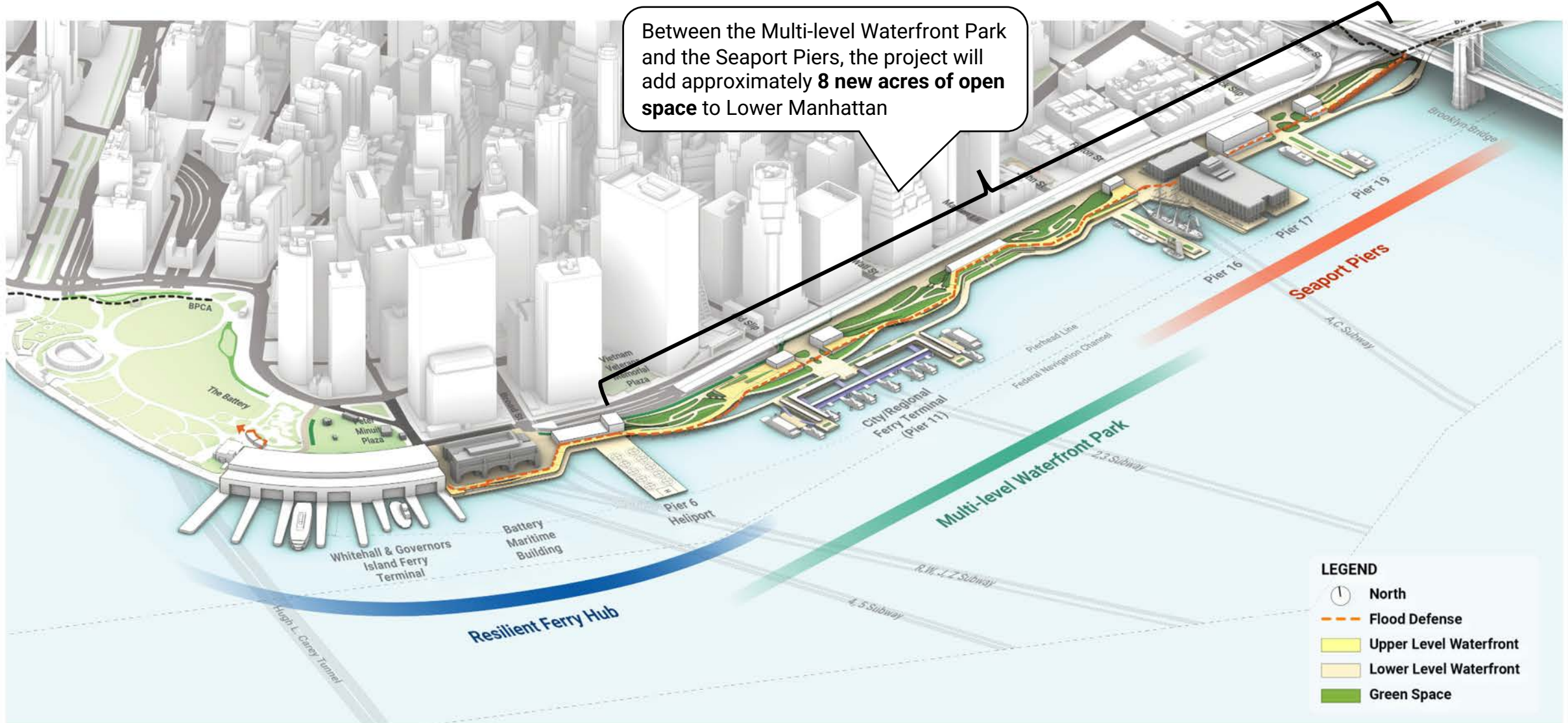


In FY 26, we need the City to fund environmental review so that the approvals process can begin to better position the project for Army Corps Civil Works Funding

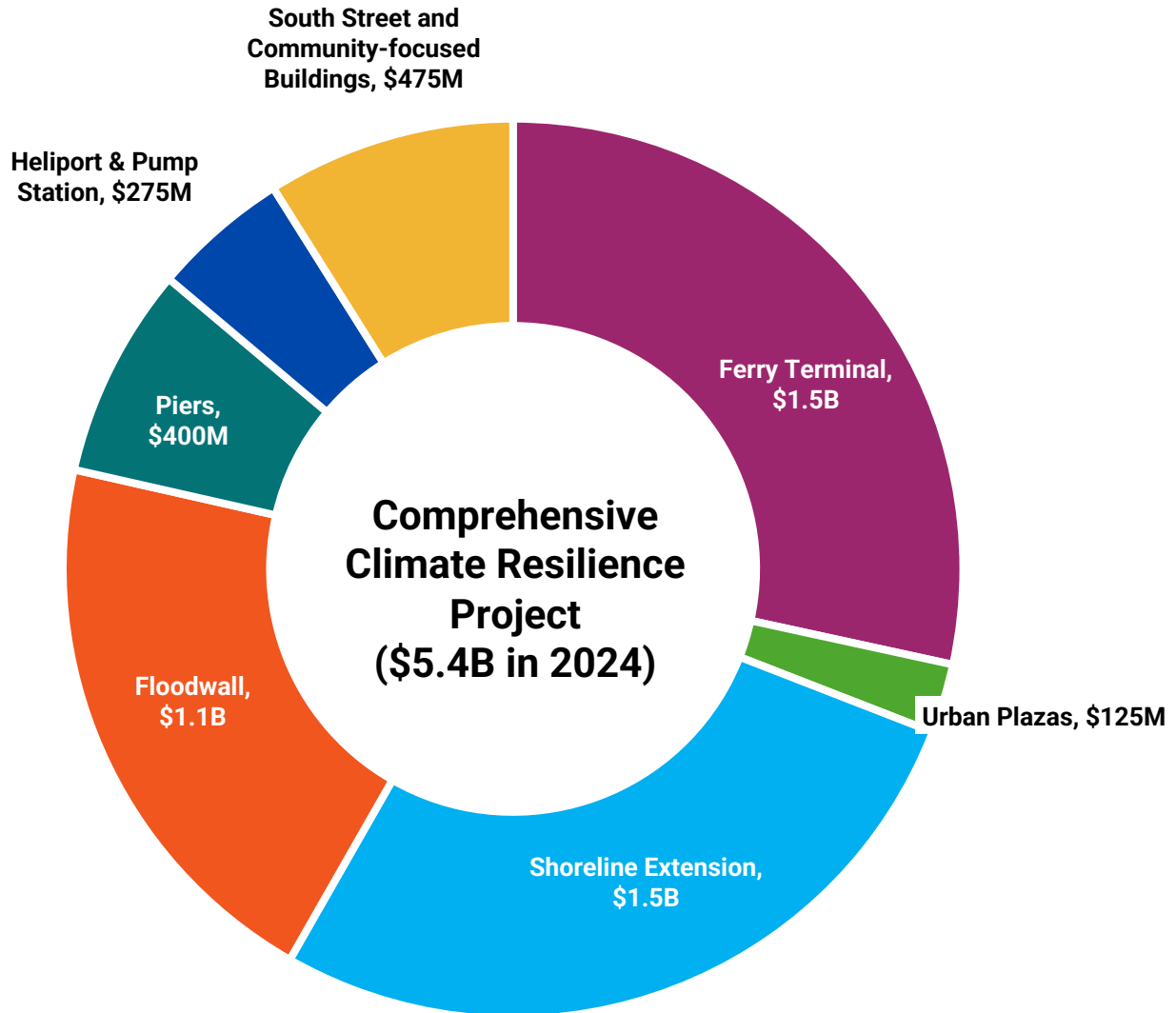
The waterfront could start flooding daily by the 2050s, which would impact our **ferries**, **infrastructure**, **subways**, and **jobs**.



The shoreline extension allows for the **addition of new waterfront open space.**



Each component of the project needs to be constructed to provide comprehensive flood defense for Lower Manhattan.



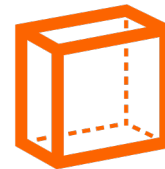
Ferry Terminal

Construction of a combined, resilient ferry terminal that will serve the Staten Island and Governors Island Ferries.



Shoreline Extension

Construction of coastal protection with passive daily tidal defense through 2100.

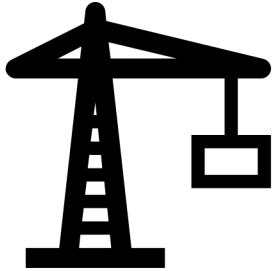


Floodwall

Construction of coastal protection with active coastal storm defense through 2100.

How much does the project cost?

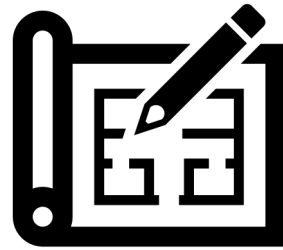
Funding sources must cover a megaproject **budget's various cost components**, usually grouped into broader categories.



Hard Costs

Tangible & direct expenses typically associated with physical construction.

Ex: materials, labor, equipment, and demolition.



Soft Costs

Expenses not directly tied to physical construction but necessary for project completion.

Ex: design & legal fees, insurance, and environmental assessments.

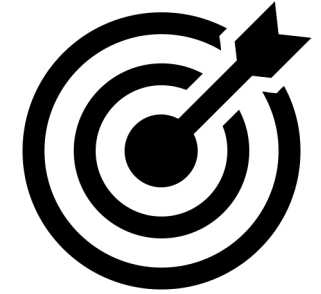


Operations & Maintenance

Expenses related to managing assets & infrastructure to ensure efficiency & safety.

Ex: equipment costs, facility repairs, and staffing.

Federal grants do not cover these expenses.

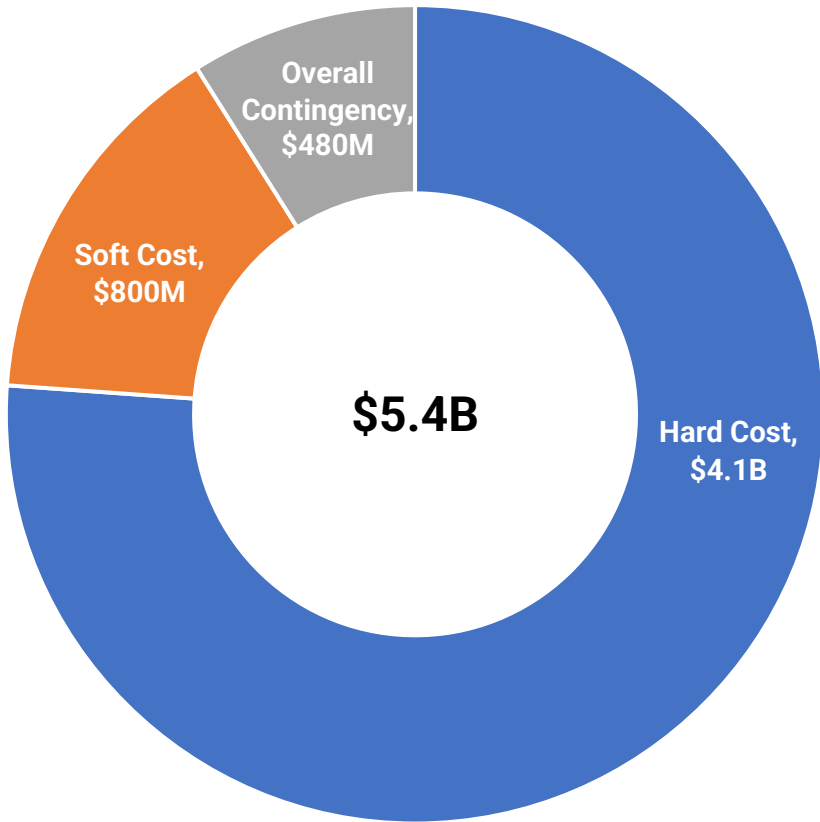


Contingency

Funding set aside to account for unforeseen circumstances.

Typically, a % of total cost and varies on the stage of design.

The estimated capital cost of the FiDi-Seaport Climate Resilience Project is **\$5.4B in 2024 dollars.**

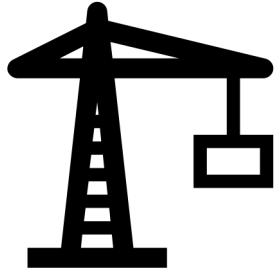


Project Cost (2024\$)
by major cost category

Potential Construction Period Escalation Total Project Cost

Potential Construction Period	Escalation	Total Project Cost
Baseline	-	\$5.4B
2027-2038	+2.9B	\$8.2B
2030-2041	+4.1B	\$9.5B
2035-2046	+\$6.8B	\$12.2B

One of the largest cost drivers for hard cost is **escalation**, which is **the increase in costs over time** due to factors such as inflation, changes in market conditions, and unforeseen events.

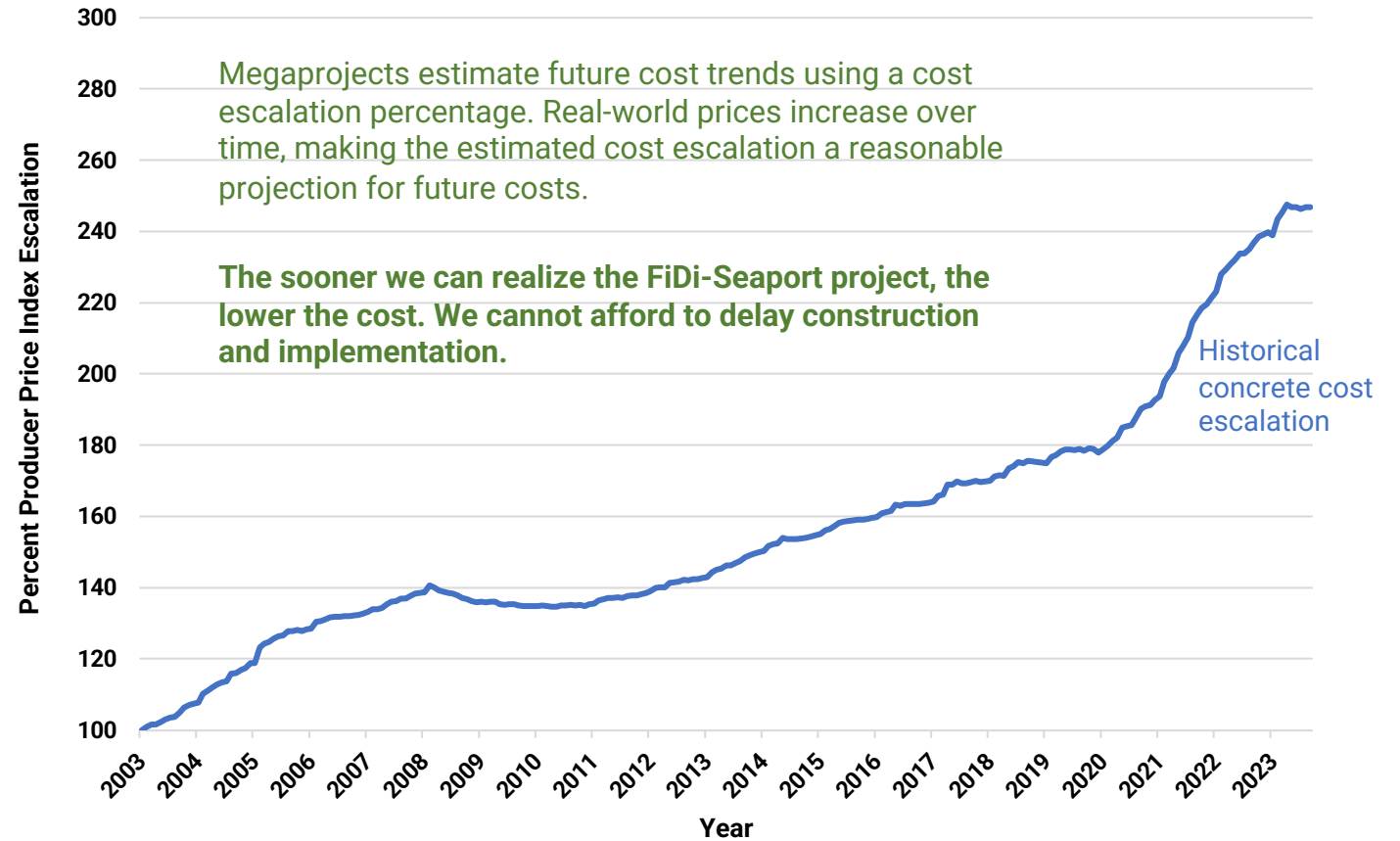


Hard Costs

Tangible & direct expenses typically associated with physical construction.

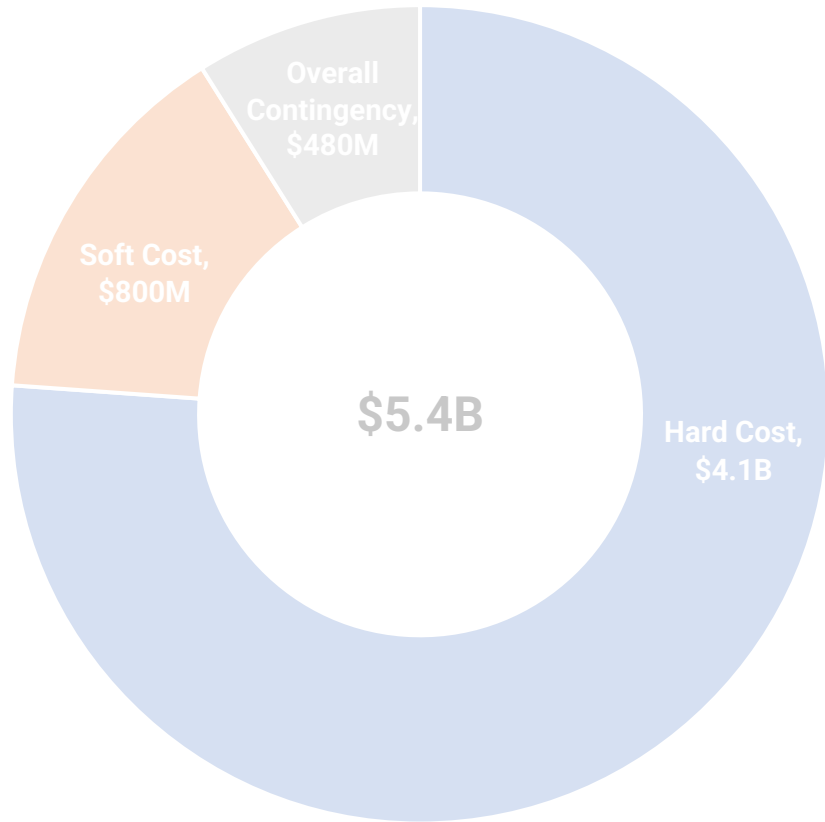
Ex: materials, labor, equipment, and demolition.

Cost Escalation Example: Historical Concrete Prices



Data source: U.S. Bureau of Labor Statistics (via FRED)

When factoring in escalation, the estimated costs increase dramatically, leading to a higher investment needed to complete the project.



Potential Construction Period	Escalation	Total Project Cost
Baseline	-	\$5.4B
2027-2038	+2.9B	\$8.2B
2030-2041	+4.1B	\$9.5B
2035-2046	+\$6.8B	\$12.2B




The longer we wait to implement this project, the more expensive and challenging it becomes.

To **implement a megaproject**, we need to consider the following principles:



How is this project going to be funded?

We have identified multiple **Federal funding programs** to pay for most of the project.

Federal Agency	Priorities	Identified Funding Mechanisms
 <p>US Army Corps of Engineers®</p>	<p>USACE funds infrastructure for coastal flood defense including...</p> <ul style="list-style-type: none"> • Floodwalls and deployable features. • Relocating impacted infrastructure in-kind. 	<p>Water Resources Development Act (WRDA)</p> <ul style="list-style-type: none"> • Project would receive congressional authorization and appropriations under WRDA. • 2-year funding cycle, upcoming 2026.
	<p>USDOT funds Transportation & Mobility Related Projects that...</p> <ul style="list-style-type: none"> • Have a significant local or regional impact. • Help meet climate sustainability goals, including electrification. 	<p>Capital Investment Grant (CIG)</p> <ul style="list-style-type: none"> • Competitive grant that funds investments in new and expanded public transit. • Total Appropriation (FY22-FY26): \$15B <p>PROTECT Discretionary Program</p> <ul style="list-style-type: none"> • Funds projects that improve the resilience of transportation systems to natural hazards. • Total Appropriation (FY22-FY26): \$7.5B
	<p>FEMA funds hazard mitigation design, planning, and capital projects with a...</p> <ul style="list-style-type: none"> • Focus on reducing risk to NFIP policy holders and repetitive loss properties. 	<p>Hazard Mitigation Grant Program (HMGP)</p> <ul style="list-style-type: none"> • HMGP assists communities in rebuilding in a better, stronger, and safer way to become more resilient overall. • Only available after a presidentially declared disaster. <p>Building Resilient Infrastructure & Communities (BRIC)</p> <ul style="list-style-type: none"> • Competitive grant for design of flood protection projects. • \$50M max grant award for national competition.

We are working on an alternative approach to Army Corps project delivery.

- **Goal is to save time and money compared to Traditional Delivery for both the Federal government and non-Federal partners.**
- The Assistant Secretary of the Army Civil Works (ASA(CW)) directed USACE to establish a pilot program with the **goal of demonstrating the viability of new delivery methods that significantly reduce the cost and time of project delivery.**

Split Delivery

- Divide responsibility for specific reaches to implement project using both USACE and non-federal partner capabilities.
- **Authority: Section 221 – Work In-Kind (see [ER 1165-2-208](#)).**
- Example: Fargo-Moorhead FRM

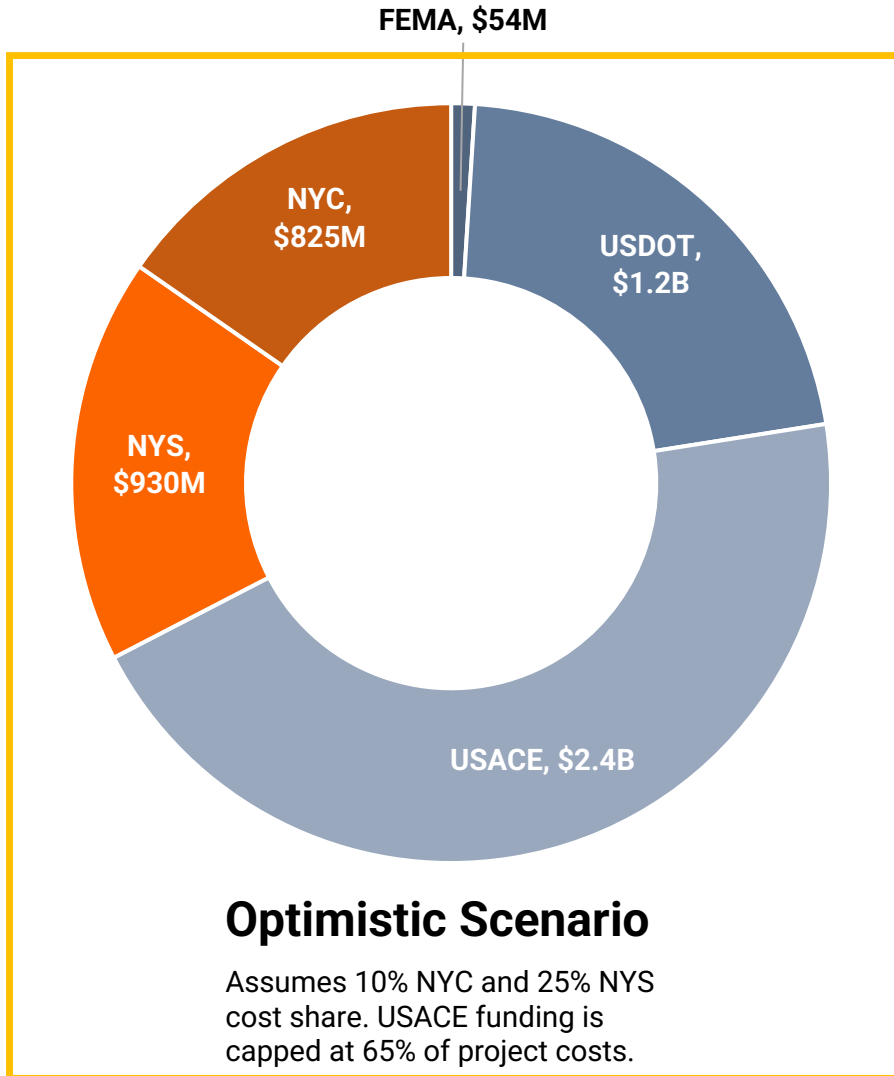
Non-Federal Feasibility Study

- **Authority: Section 203 – Non-Federal Implementation Pilot Program (see [implementation guidance](#) and [report](#))**
- NYC has been working with Denver and other pilot projects to improve Section 203 and 204 through Congressional WRDA (Water Resource Development Act) WRDA bills are drafted every two years.
- WRDA2024 is currently under reconciliation between house and senate versions. We are already looking towards WRDA2026

Non-Federal Implementation

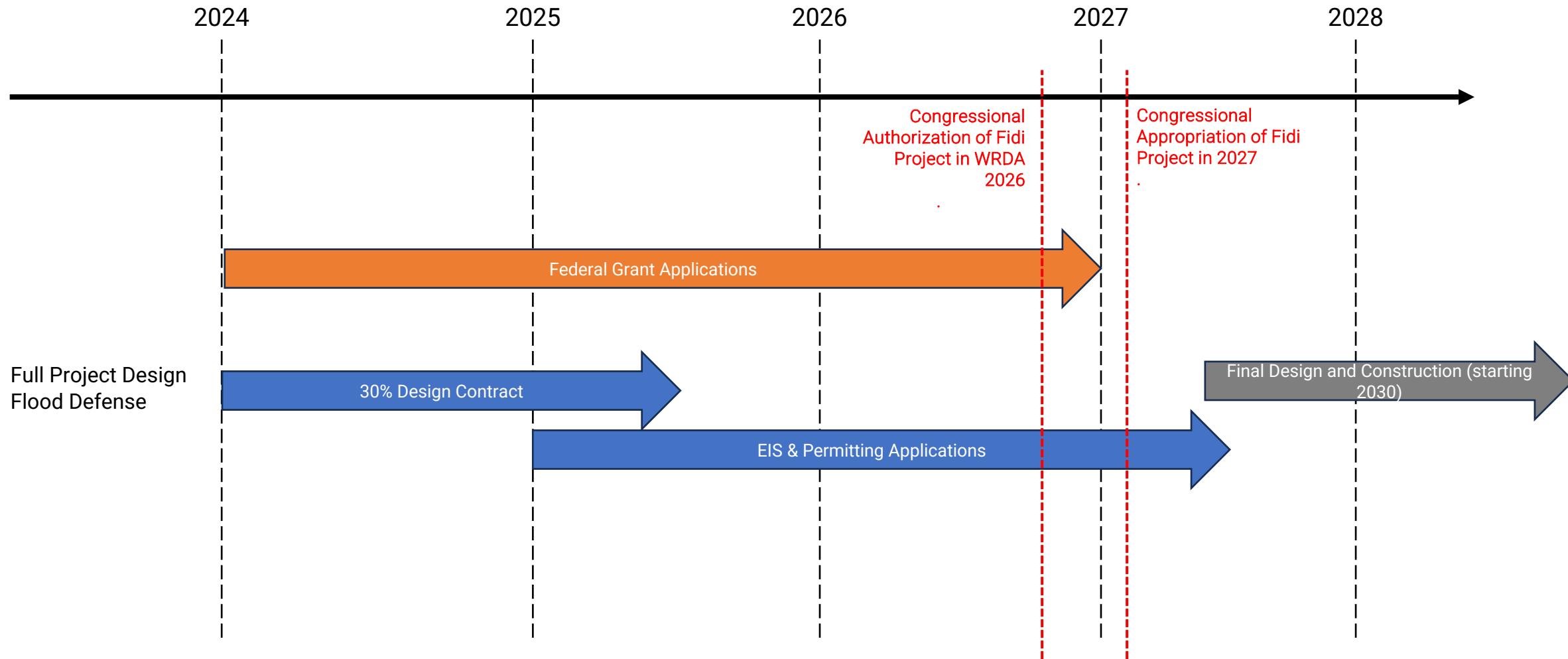
- Non-federal partner has full project management and control for construction or a separable element of the project.
- USACE transfers appropriated funds to non-federal partner to cover Federal share of construction.
- **Authority: Section 204** (Denver South Platte River and Tributaries Project)
 - Sponsor led
 - Reimbursable Agreement – reimbursements during construction to support progress/milestone payments
- Example: Denver, CO South Platte River

NYC aims to work together with the Army Corps to implement the rest of the project. Army Corps projects require agreements with non-federal partners, including a typical 10-35% local cost-share.



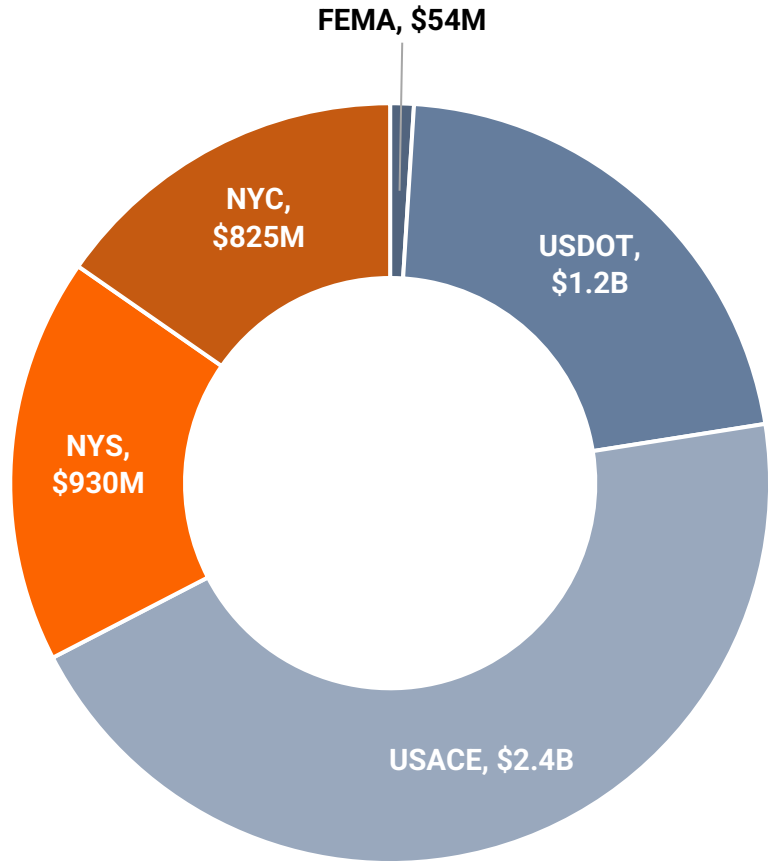
- Federal
- State
- Local

We must proceed to Environmental Review in order to be eligible for up to \$3.6B in Federal Funding:

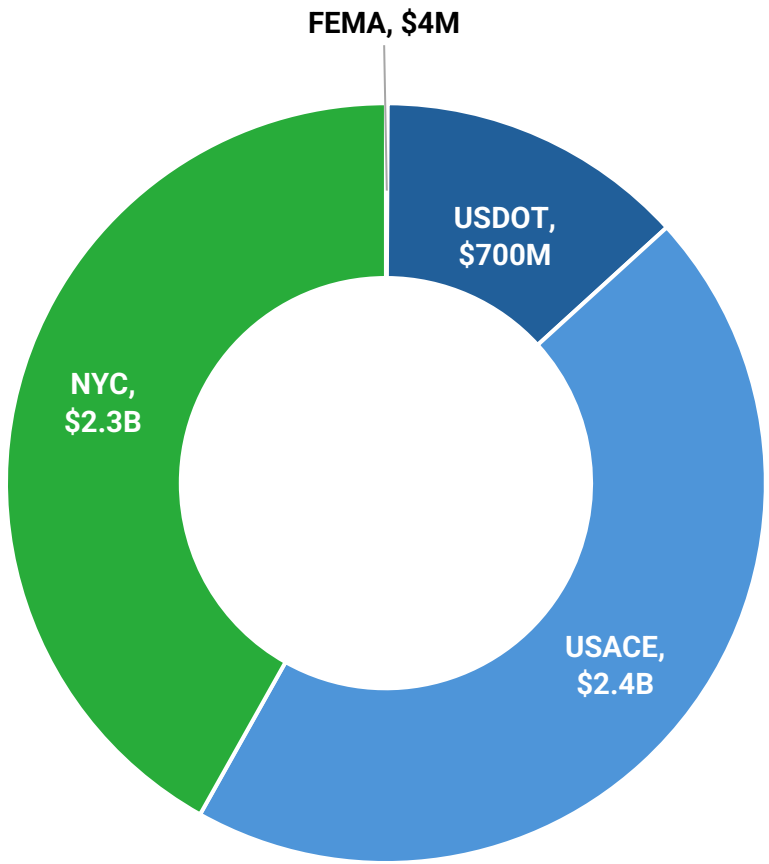


Full Project Design
Flood Defense

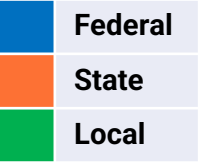
The required Federal funding for this project is sizable, and the remaining NYC responsibility is between \$830M to \$2.3B.



Optimistic Scenario



Conservative Scenario



While the investment to realize the FiDi-Seaport Project is significant, **the cost of inaction** is higher.

If the FiDi-Seaport Project is not implemented, the cumulative costs of flooding will cause a total of...

\$20.3B

in direct and indirect damages to the New York City metropolitan statistical area.

\$3.3B



Direct Physical Damages

Cost to replace and repair buildings, contents, and inventories.

\$8.4B



Direct Economic Impact

Lost business value due to closure.

\$6.7B



Direct Social Impact

Value of human impacts including mental stress and relocation costs.

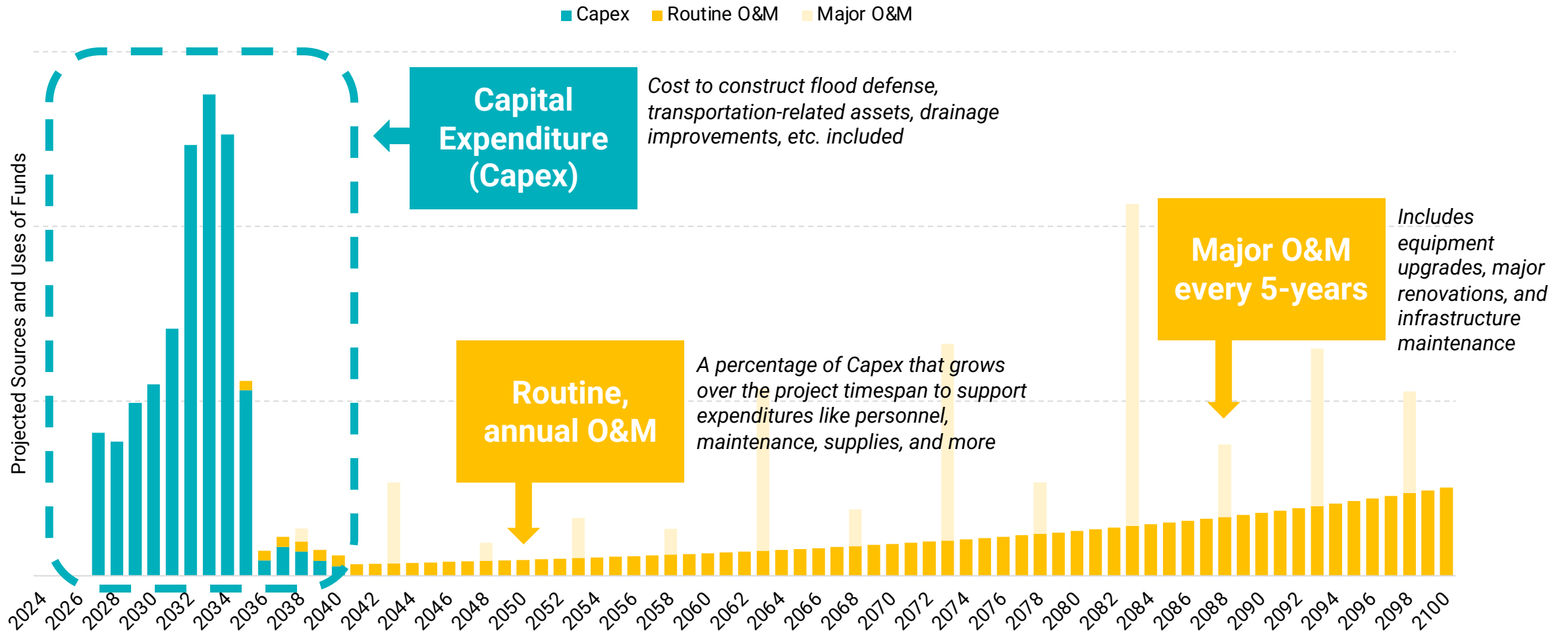
\$1.9B



Indirect and Induced Economic Impacts

Losses in the supply chain and overall reductions in spending.

Resilience is not a one-time investment, it needs to be sustained and renewed to provide long term protection. We need to find sources for both the capex and the O&M.



We need your help to realize FiDi-Seaport; together we can make Lower Manhattan resilient.

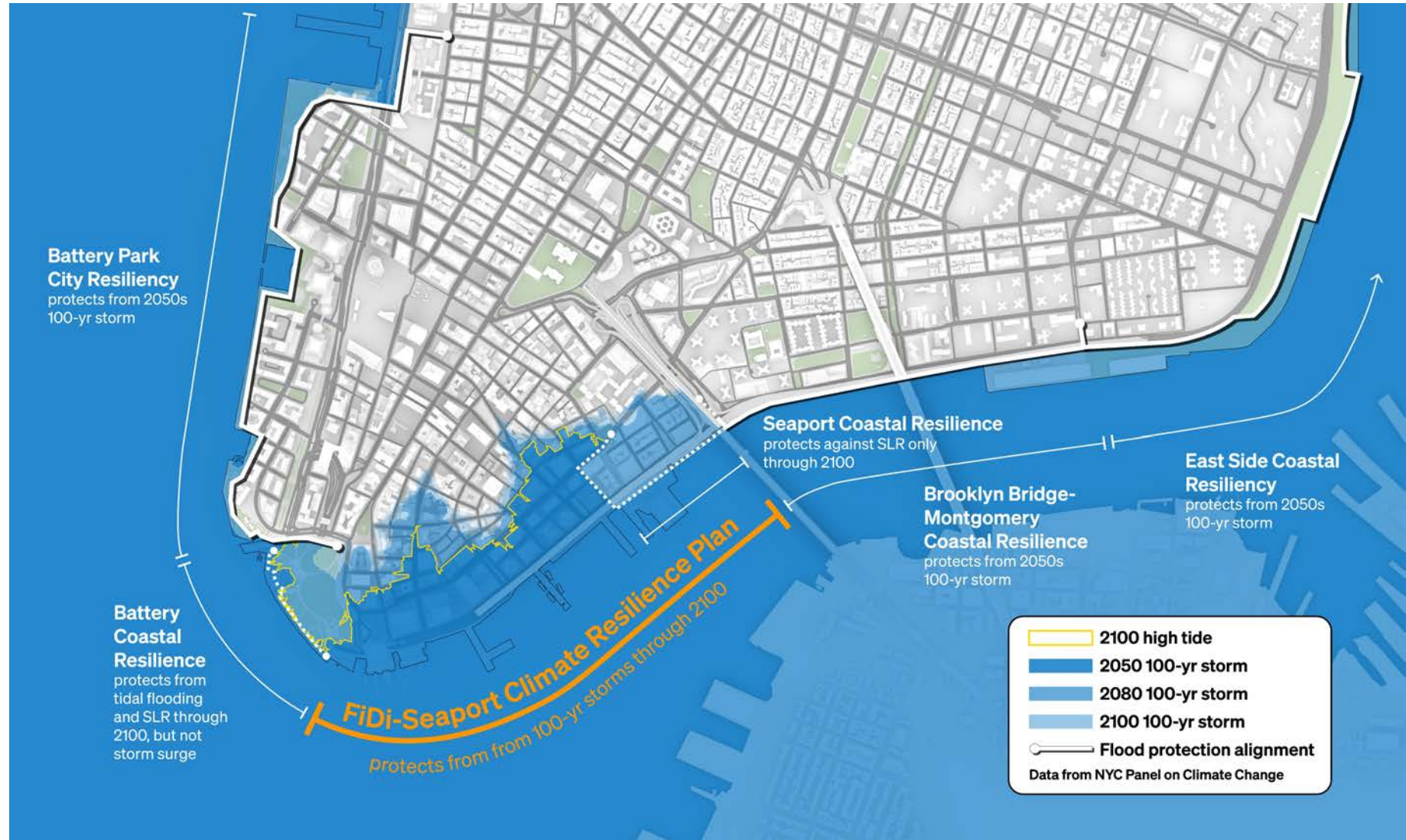
What can I do?

Spread Awareness

The more we can share the vision of this project and its need, the stronger our coalition of support grows.

Advocate for the USCG Site

While our goal is to make progress by Dec 2024 we will need support to keep the effort going



Questions & Answers

Please reach out to the FiDi-Seaport Climate Resilience team with additional questions & comments at FiDiSeaportClimate@edc.nyc.



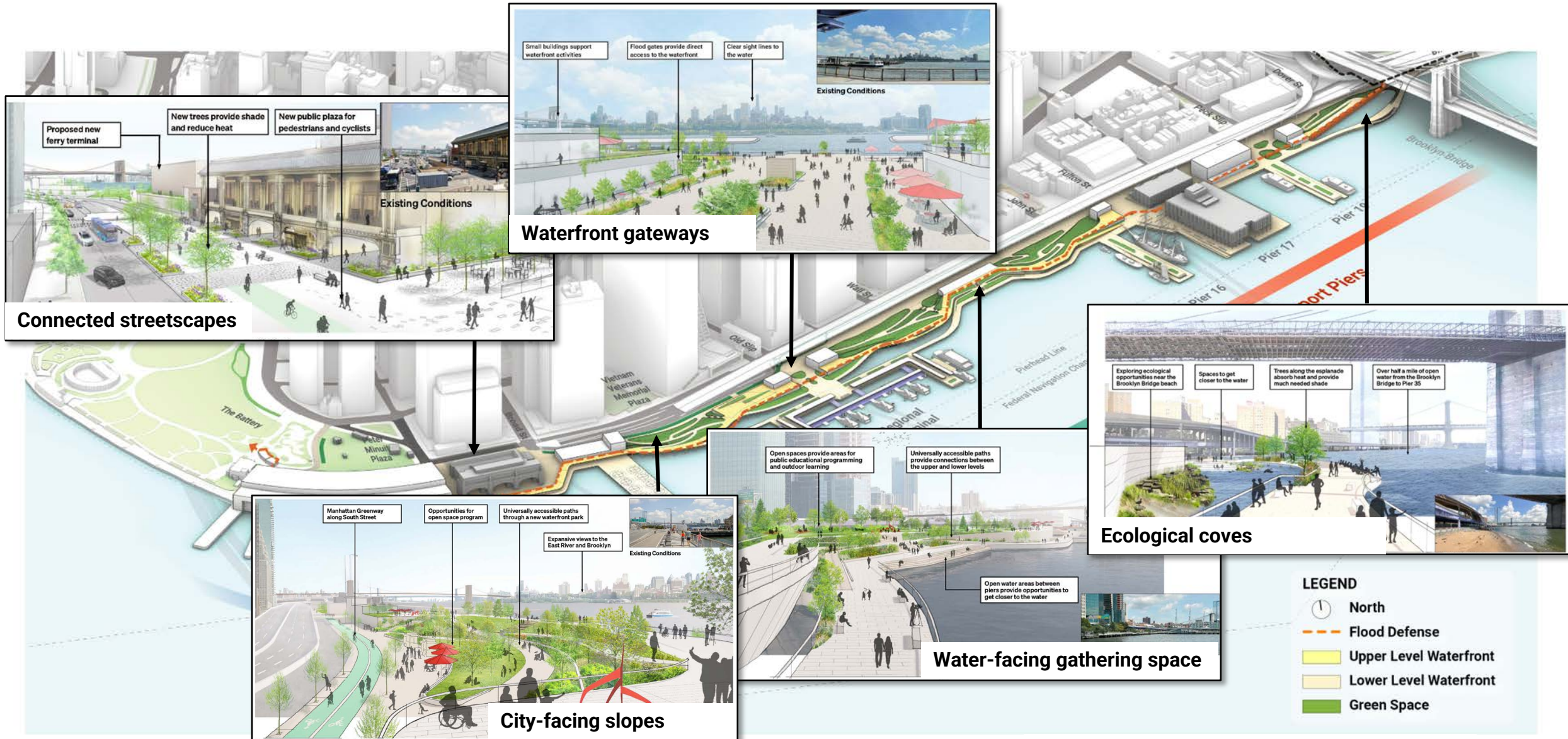
Thank you!



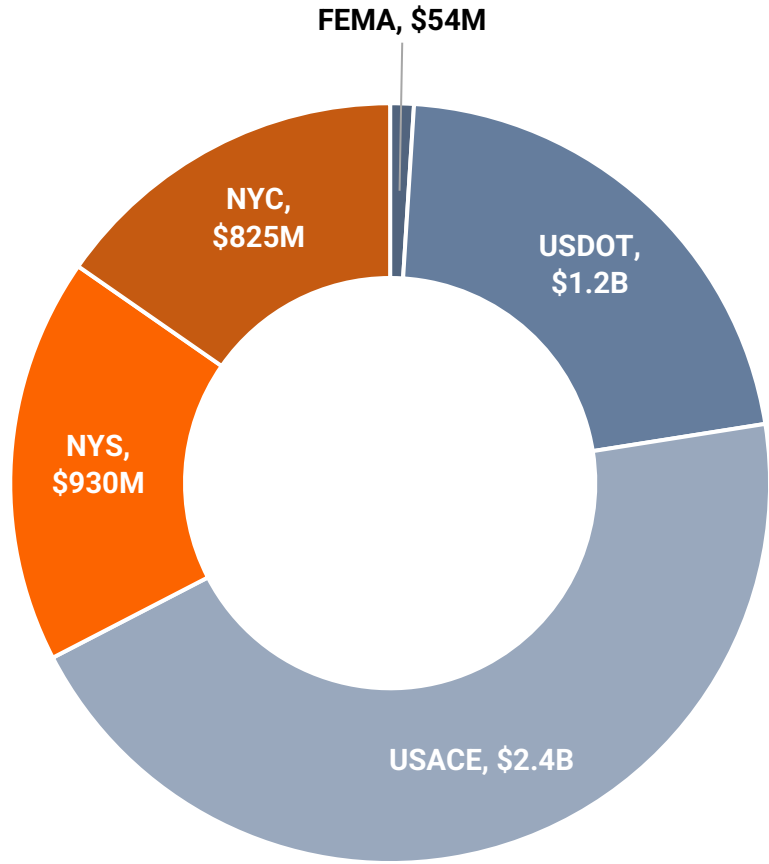
This is a timeline to advance the Flood Defense project. Without city funding FiDi-Seaport Climate Resilience will not continue beyond December 2025

- **2024**
 - Secure funding for environmental review
 - Now-April 2025 Pre-NEPA/Pre-NOI
- **2025**
 - Complete Federally compliant NEPA Draft EIS and submit to the Army Corps for approval
- **2026**
 - Request commitment through Federal Army Corps Authorized **Flood Defense Project**

The expanded waterfront allows for a diversity of open spaces and characters.

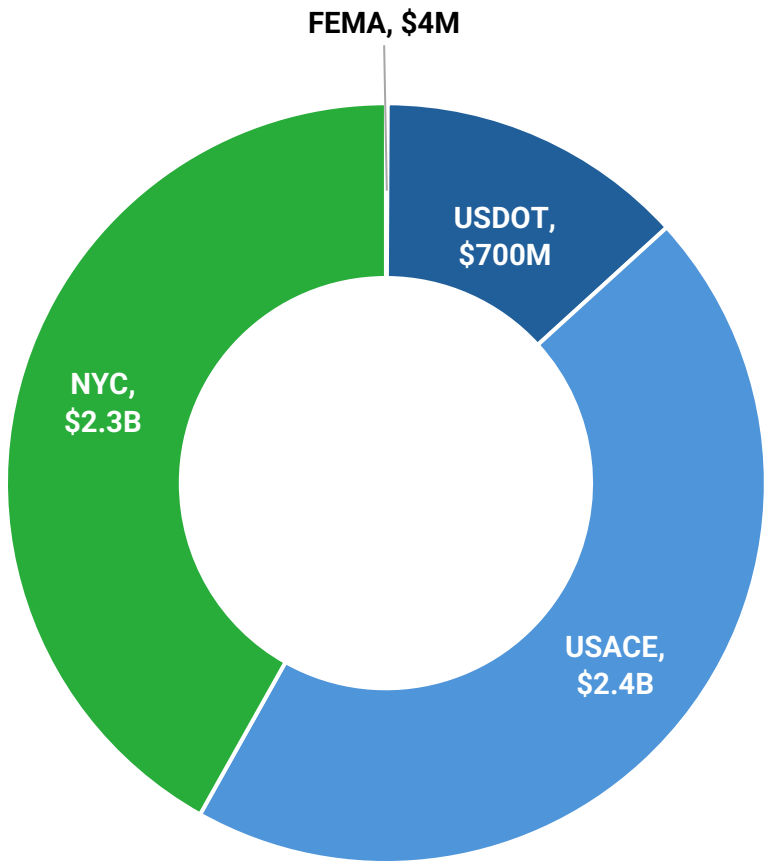


The ferry terminal is primarily funded by USDOT grants. We will need letters of support to make the case for this funding.



Optimistic Scenario

Assumes max. share of CIG (70%) and BRIC, and max. ferry grants based on total City ferry grant award precedents.



Conservative Scenario

Assuming conservative share of CIG (40%), no BRIC funding, and ferry grants based on single grant award precedents in NYC.

- Federal
- State
- Local

SEAPORT



Coastal Resilience

LMCR Quarterly Update

November 18, 2024

Seaport Coastal Resilience: Adjacent Projects

NEAR-TERM

Seaport Coastal Resilience
2100s Tidal Flooding: EL 11'

Total Project Budget: **\$228.8M**
(Design & Construction)

Responds to the immediate need to protect the historic Seaport neighborhood.

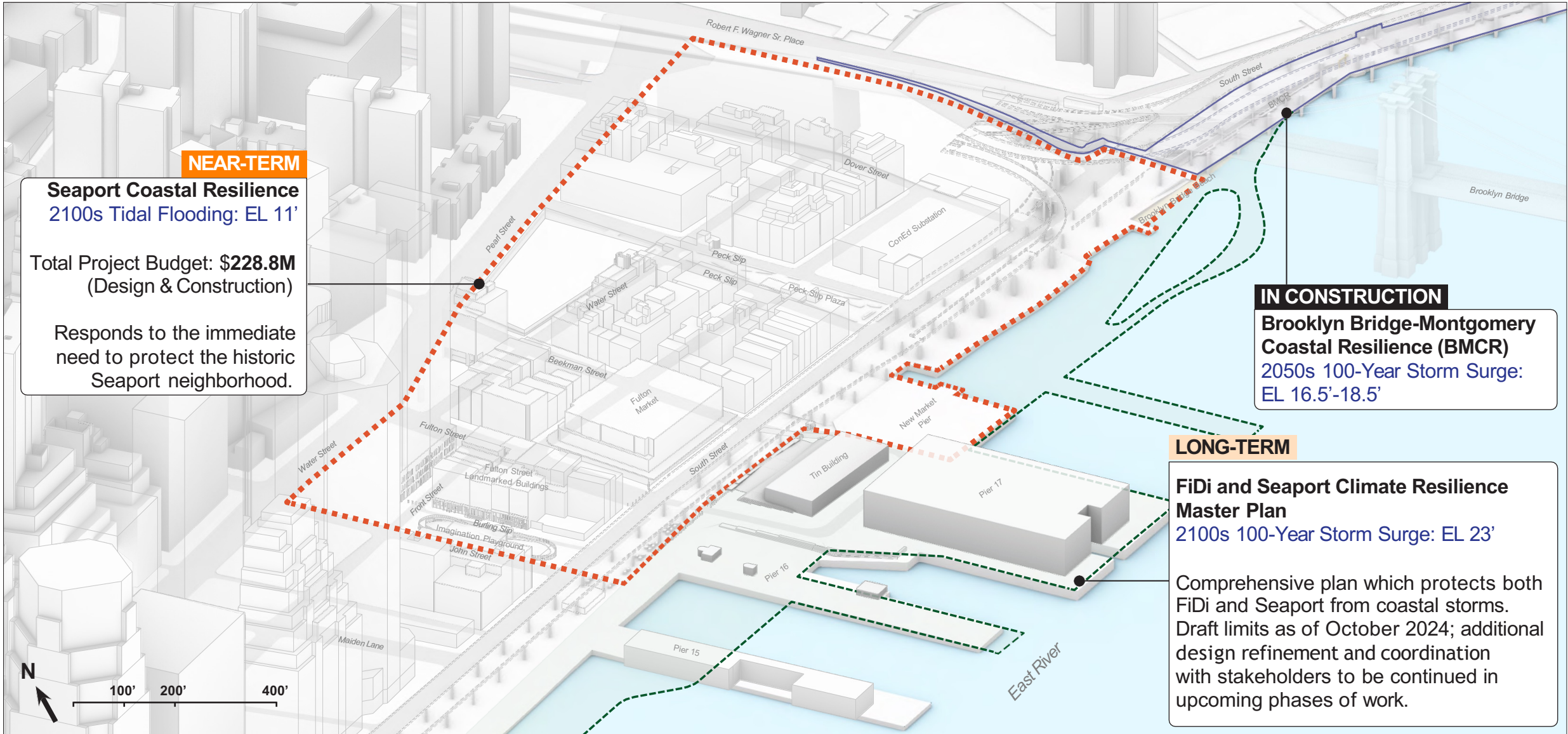
IN CONSTRUCTION

Brooklyn Bridge-Montgomery Coastal Resilience (BMCR)
2050s 100-Year Storm Surge: EL 16.5'-18.5'

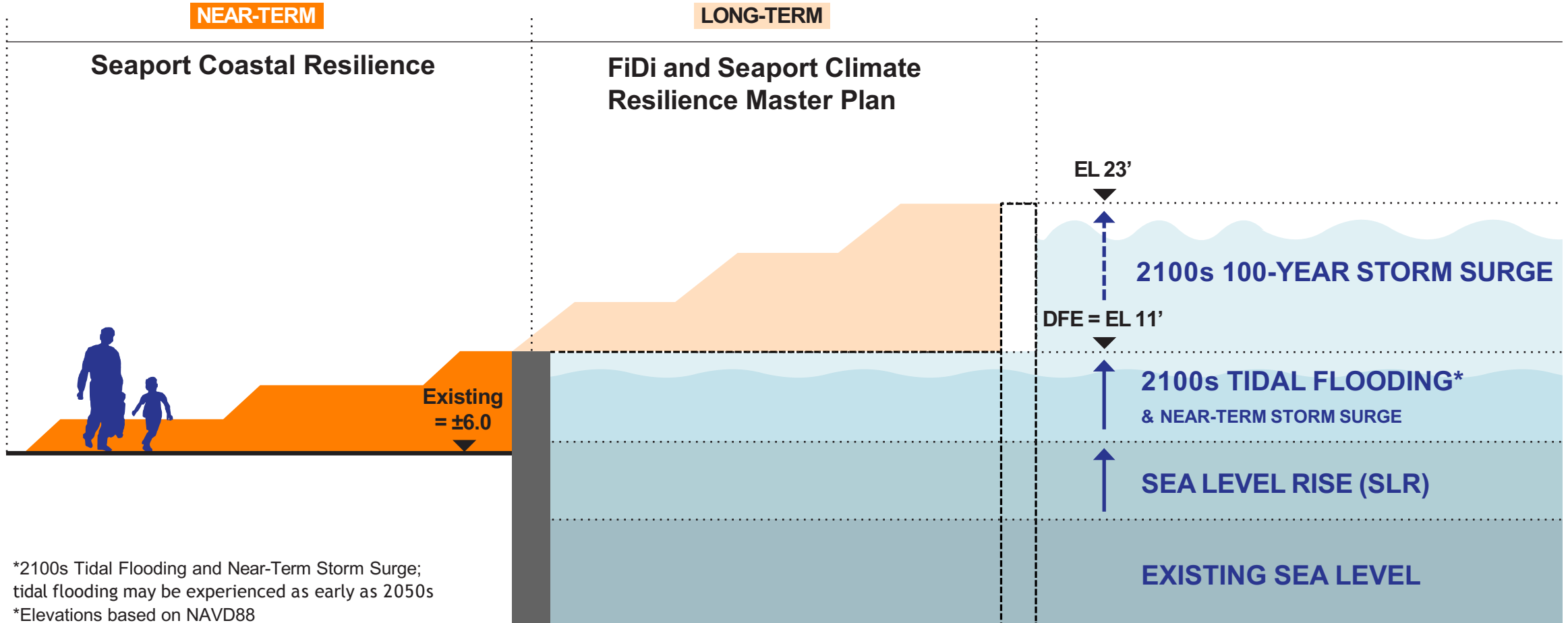
LONG-TERM

FiDi and Seaport Climate Resilience Master Plan
2100s 100-Year Storm Surge: EL 23'

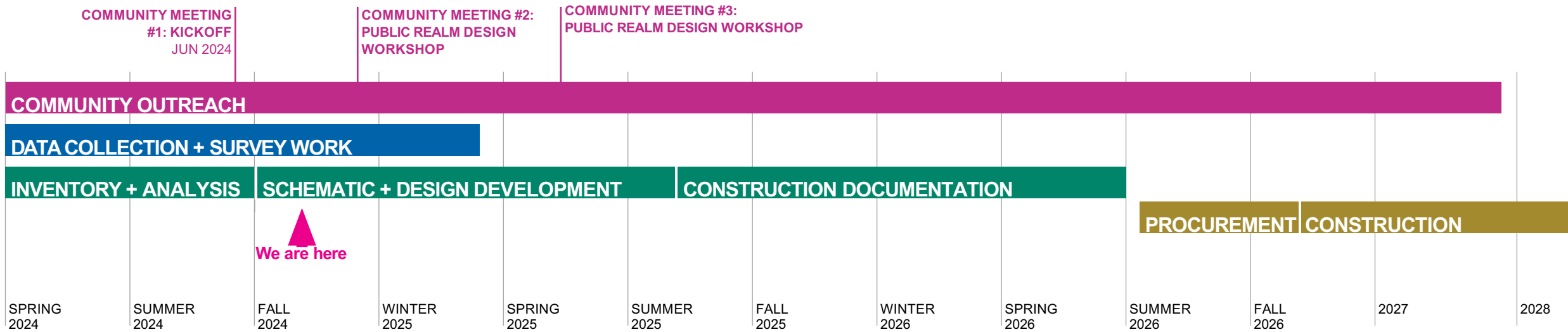
Comprehensive plan which protects both FiDi and Seaport from coastal storms. Draft limits as of October 2024; additional design refinement and coordination with stakeholders to be continued in upcoming phases of work.



Design Flood Elevation (DFE)



Next Steps | Project Schedule & Community Outreach



DATA COLLECTION + DESIGN (Fall 2024)

- Existing Drawing Collection
- Surveys (Topographic, Geotechnical, Utility, Bathymetric, Hydraulic)
- Site Inventory and Analysis
- Preliminary Alignment Feasibility Studies
- Coordination with Agencies
- Begin Public Art Process
- Begin Schematic/Pre-conceptual Design

COMMUNITY OUTREACH LOOKAHEAD

- November 18** LMCRC Quarterly Update
- December 16** Community Meeting #2: Alignment Updates & Public Realm Design Workshop
- January** CB1 (Environmental Protection Committee): Share feedback from Community Workshop and design progress
- Spring 2025** Public Walking Tours/Pop Up Events
- Spring 2025** Community Meeting #3: Present design progress and receive feedback

Brooklyn Bridge-Montgomery Coastal Resilience Construction Update

CB1 Environmental Committee Meeting
1 Centre Street
November 18, 2024



BMCR | Project Status

ALL WORK IS SUBJECT TO CHANGE

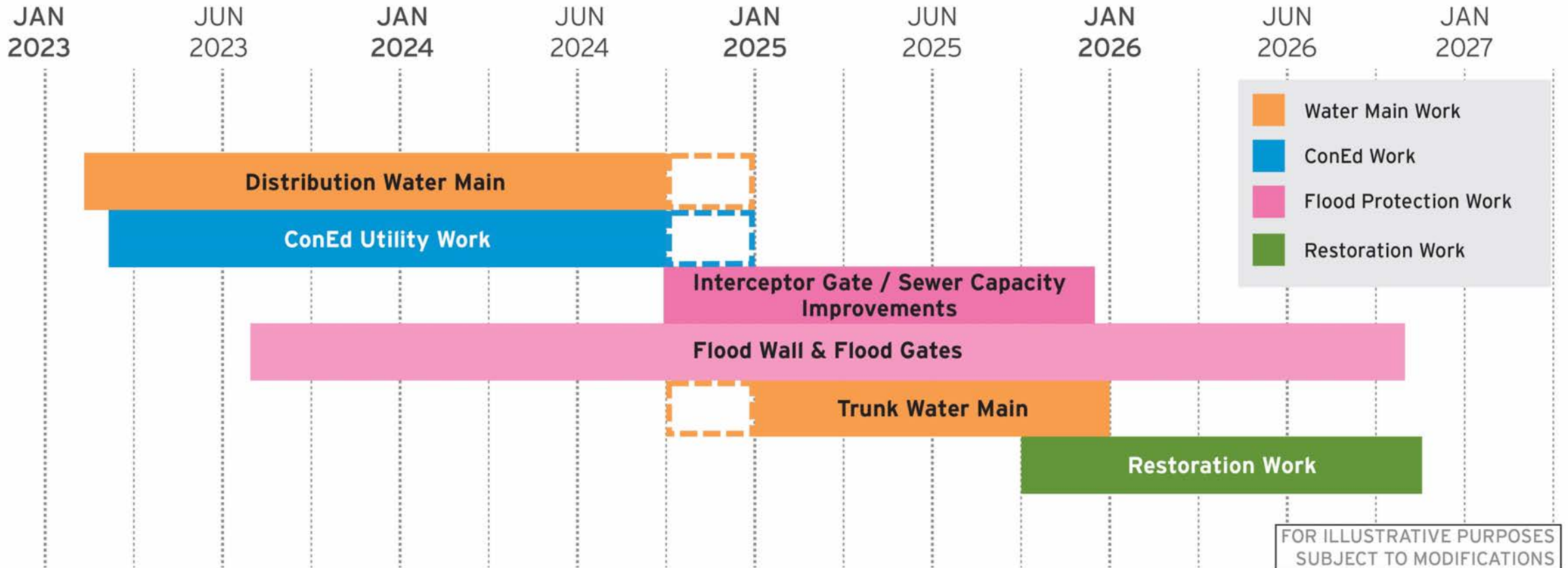
1. Floodwall construction
2. Utility installations on South St., Catherine Slip to Market Slip
Parallel conveyance micropile installation, Robert F. Wagner Sr. PI to Catherine Slip
3. Utility work on South St., Pike Slip to Montgomery
Intermittent closures of Clinton St. between Cherry St. and South St.
4. Flip up gate installation, floodwall construction
Micropile installation
5. Pedestrian access to Pier 35 via esplanade (closest entry from South Street at Rutgers Slip)
Floodwall construction



Weekly Bulletins & Advisories are issued with construction activities.
Saturday work and off-hour shifts are anticipated for some work operations.

BMCR | Project Timeline

ALL WORK IS SUBJECT TO CHANGE



BMCR | Flip Up Gate Progress

ALL WORK IS SUBJECT TO CHANGE

- 16 of 89 flip-up gates installed
- 404 of 730 micropiles for floodgate foundations in place
- Over 395 of proposed 1,930 linear feet of concrete floodwalls installed



Micro-piles for floodgate foundation – October 2024



Flip up gates being installed – October 2024

BMCR | Interceptor Gate Building

ALL WORK IS SUBJECT TO CHANGE



Rendering, view from South Street



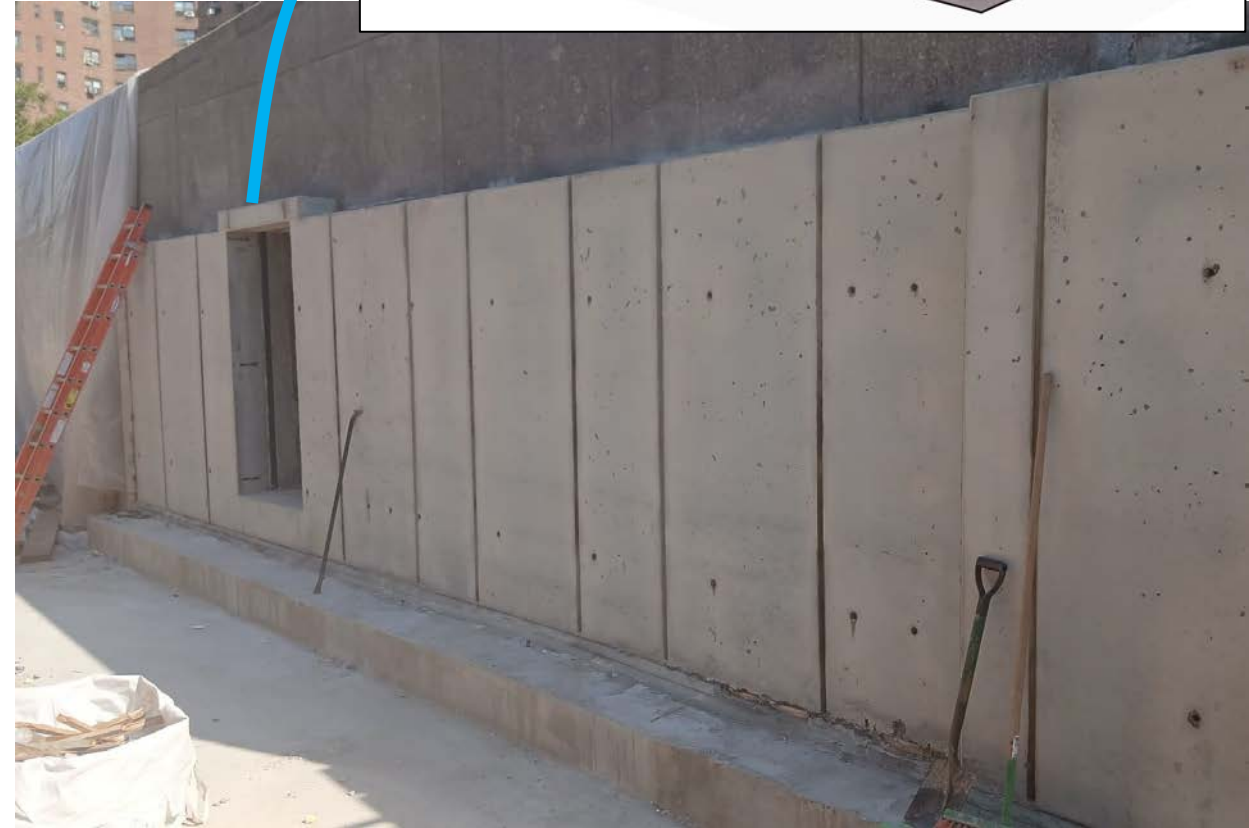
Rendering, aerial view toward South Street

BMCR | Brooklyn Bridge Tie-In

ALL WORK IS SUBJECT TO CHANGE



Floodwall near Robert F. Wagner Sr. Place – November 2024



Floodwall tie-in to FDR Drive off-ramp – September 2024

BMCR | Resources

• Visit Us: <https://www.nyc.gov/bmcr>

• Community Construction Liaison:

• Marsha Guido

347-538-4266

Email: bmcr.ccl@gmail.com

• Tabling in the Community

• CB 3 Parks Meetings

• On-site signage

• Inquiry tool and email updates:

<https://www.nyc.gov/bmcr/contact>



Tabling event - 2023



Advisories posted on-site

NYC Lower Manhattan Coastal Resiliency 311 Search all NYC.gov websites

NYC Lower Manhattan Coastal Resiliency [Русский](#) Select Language | Text-Size

Home Background Progress Resources Get Involved Search

Brooklyn Bridge-Montgomery Coastal Resilience

[Brooklyn Bridge-Montgomery Coastal Resilience](#)

The Battery Coastal Resilience

Interim Flood Protection Measure (IFPM)

Battery Park City Resilience Projects

The Financial District and Seaport Climate Resilience Master Plan

Seaport Coastal Resilience

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Brooklyn Bridge - Montgomery Coastal Resilience

In the Two Bridges neighborhood, the Department of Design and Construction (DDC) will install a combination of flood walls and deployable flip-up barriers to protect the neighborhood from a 100-year storm surge in the 2050s, while also maintaining access and visibility to the waterfront. New York City Economic Development Corporation (NYCEDC) led the design for the project, which will extend along the waterfront from the Brooklyn Bridge to Montgomery Street. EDC completed design in fall of 2021 and DDC is now managing the construction of BMCR.

This project will reduce flooding risk – from both sea level rise and storm surge – for thousands of residents, while continuing to preserve views and access to the waterfront. These deployable barriers will be permanent infrastructure, hidden until they are flipped up in the event of a storm. The location of the flood walls and posts has been designed to minimize conflict with subsurface infrastructure and to maximize integration of public space amenities such as open-air seating, fitness equipment, and athletic courts.


Explore the headings below for more information about BMCR and the status of construction:

Learn more about the NYCEDC design phase: [NYCEDC LMCR](#)

The same waterfront that the community enjoys when weather is good...



...transforms into critical flood protection during major flooding events.



Learn More about BMCR

- About
- Construction Notices
- Presentations
- Newsletters
- Gallery
- Community Engagement
- Contact
- FAQs

Are you looking for more information?

Visit Us at:
<https://www.nyc.gov/bmcr>



APPENDIX

LMCR projects respond to the urgency of the moment while planning for the long-term

A shared goal of protecting against climate hazards, addressing the unique conditions for each area



Responding to the urgency of the moment....

...And making investments in the future