

# Lower Manhattan Coastal Resiliency

October 17th, 2022 Community Board 1 Update

**NYC** Mayor's Office of Climate &  
Environmental Justice

Battery  
Park City  
Authority



NYC Parks

**NYC** / **EDC**

**NYC** Department of  
**DDC** Design and  
Construction

# Agenda

- Overall Updates
  - USACE HATS Study
  - Design Flood Elevation
- Project Updates
  - BPCA Projects
    - Battery Coastal Resilience
    - Seaport Coastal Resilience
  - Fidi/Seaport Master Plan
  - Interim Flood Protection Measures Update
  - BMCR
- Ongoing engagement opportunities

# USACE HATS update

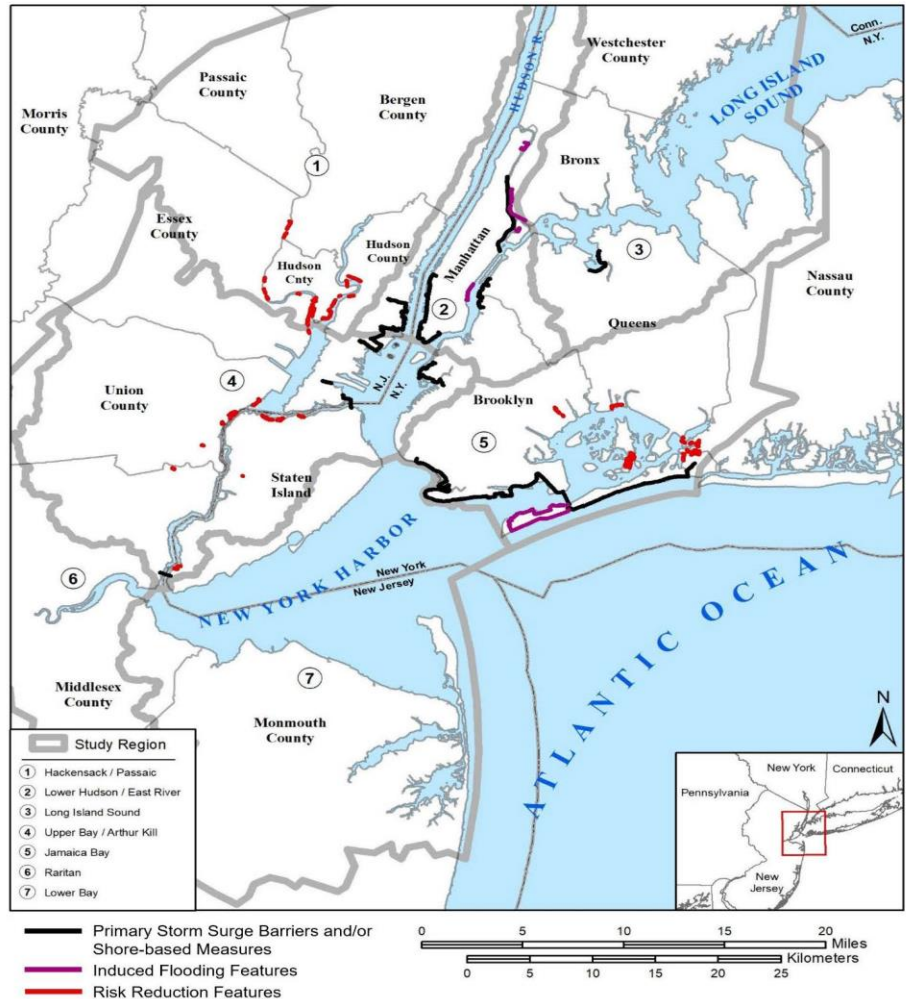
- USACE lead with two non-federal sponsors: NJ DEP and NY DEC; in partnership with NYC MOCEJ
- Cost \$19.4M, split 50/50: USACE/NY DEC and NJ DEP
- Study started in July 2016; paused in February 2020; resumed in October 2021
- HATS Study area:
  - 2,150+ square miles and 900+ miles of shoreline
  - 25 counties in New York and New Jersey
  - Population ~16 million, including New York City and the six most populated cities in New Jersey

# USACE HATS update

- USACE proposed six alternatives (including no action alternative.) The alternatives range from predominantly in-water surge barriers to only on-land measures. In between are combinations of the two
  - Each alternative is made up of a group of “measures” with multiple locations
  - Mitigation toolkit or “measures” includes structural: floodwalls, floodgates, in-water surge barriers, berms, levees, revetments; non-structural: home elevations, dry/wet floodproofing; and nature-based/natural solutions
  - Each independent measure needs to be technically feasible, economically justifiable and environmentally acceptable

# Tentatively Selected Plan (TSP): Alt 3B

- \$52B and require 14 years to complete construction
- Features include: 12 in-water surge barriers, floodwalls, elevated promenades, berms/dunes, elevated bulkheads, on-land deployables (floodgates at pedestrian and vehicular crossings)
- Neighborhoods:
  - Manhattan: Lower Manhattan; East Harlem
  - Brooklyn: Greenpoint, Gowanus/Red Hook, Coney Island, Sheepshead Bay
  - Queens: Rockaways, Flushing Creek, Howard Beach
  - Bronx: Mott Haven
  - Staten Island: Mariners Harbor, Richmond Terrace, western Staten Island





**Legend**

Alt3b Features/Measures	IFF, Elevated Promenade
SBM, Deployable Flood Barrier	IFF, Floodwall
SBM, Elevated Promenade	IFF, Seawall
SBM, Floodwall	Alt3b Reduced Risk Areas
SBM, Levee	SSB/SBM Reduced Risk Areas
SBM, Seawall	IFF Reduced Risk Areas

NEW YORK - NEW JERSEY  
HARBOR & TRIBUTARIES STUDY

**Alternative 3B - SSB/SBMs**  
Feature Name: New York City West Side  
Page 7 of 8

0 3000 Feet

U.S. ARMY CORPS OF ENGINEERS  
NEW YORK DISTRICT

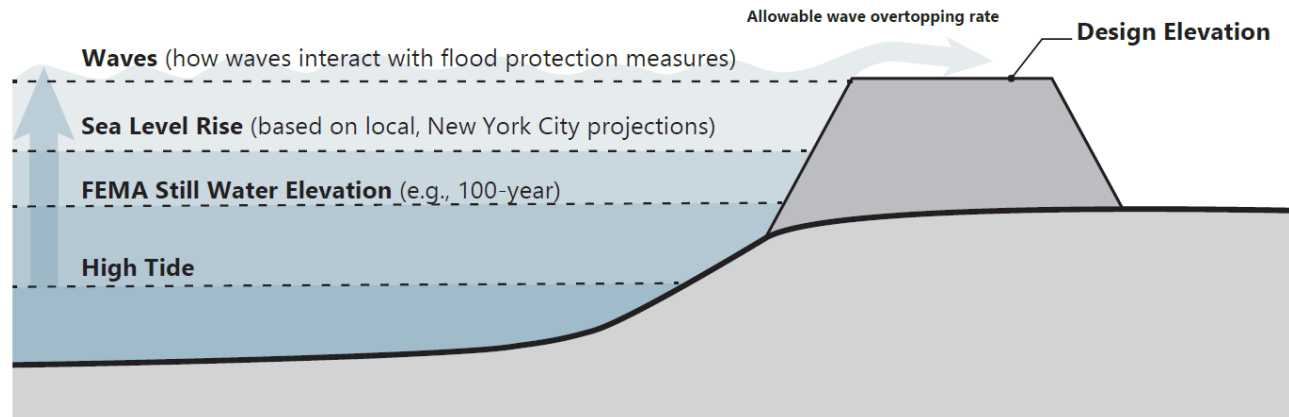
page 141:

Financial District (FiDi)/Seaport, Manhattan, NY

After detailed engineering studies completed December 2021 as a part of the Financial District and Seaport Climate Resilience Master Plan and earlier efforts, the City of New York concluded that flood defense solutions on existing land are not feasible due to conflicts with nearby sub-surface and above ground infrastructure. Further, the City of New York found that on-land solutions would reduce or eliminate access to important waterfront transportation and recreational facilities. Therefore, the City of New York determined that extending the shoreline of Lower Manhattan into the East River is necessary to build flood defense infrastructure that is reliable, is technically viable, and that meets the needs of waterfront users. USACE New York District's Regulatory Branch, as a key regulator overseeing in-water construction, convened the Aquatic Regulatory Advisory Committee (ARAC) in conjunction with city, state, and other Federal regulatory agencies to review these efforts over the last several years. USACE and the City of New York will continue to coordinate and collaborate to further advance and refine the design.

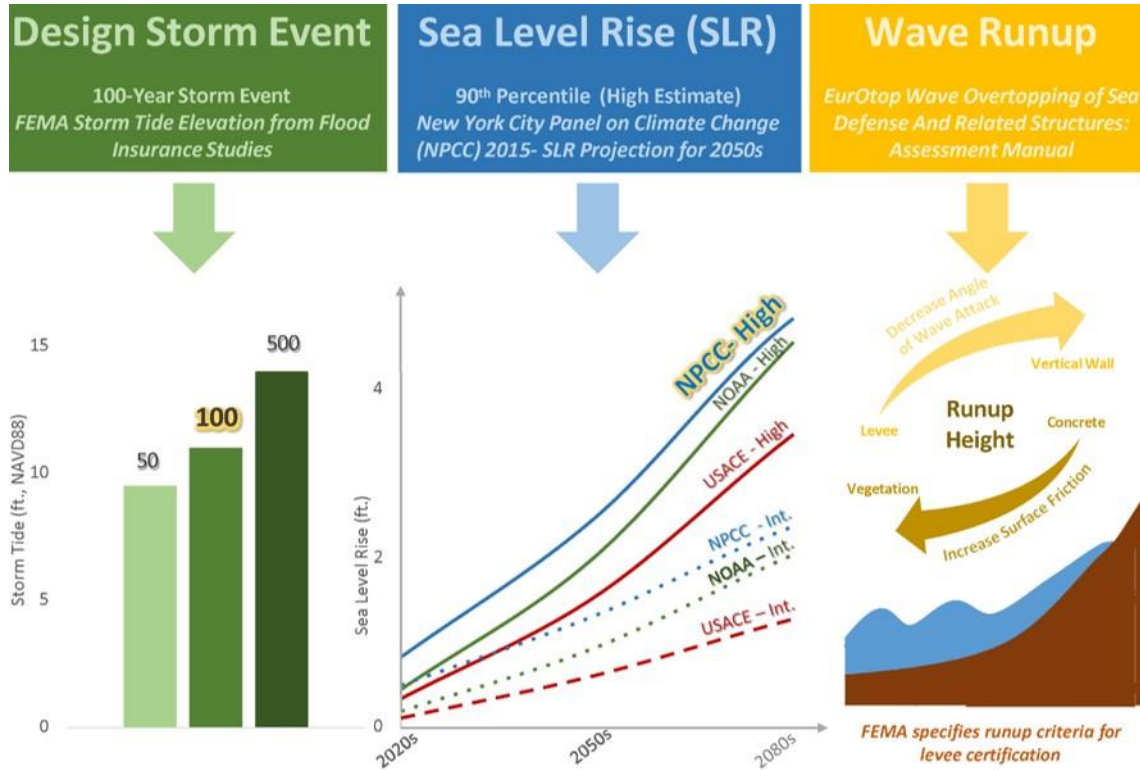
# What is a Design Flood Elevation?

- The **design flood elevation**, or the “**DFE**” is the minimum elevation to which a structure must be elevated or floodproofed.
- To calculate a DFE, first a **Design Storm Event** is determined, then additional height is included for **sea level rise, wave runoff and wave overtopping**.
- The selected design storm, sea level rise projection, and relative wave climate, all have a large impact on the DFE.
- Projects pursuing FEMA accreditation need to comply with FEMA 44 CFR 65.10 – which sets forth design standards.





# All LMCR projects are based on the same underlying principles



# Different geographies and implementation needs produce design variations.

## WAVES

- For LMCR, the waves are bigger in the south near the Battery due to the relative location in the NY harbor.

## ON-LAND CONDITIONS

- Some areas have less space to site flood defense, particularly where there is less existing open space.

## IMPLEMENTATION TIMELINES AND REQUIREMENTS

- Projects awarded federal funds need to be designed and implemented within the allowable timeframe



# Current capital projects & planning studies share same underlying principles with variations that reflect localized needs.

## CAPITAL PROJECTS TO PROTECT AGAINST TIDAL FLOODING AND FREQUENT STORMS:

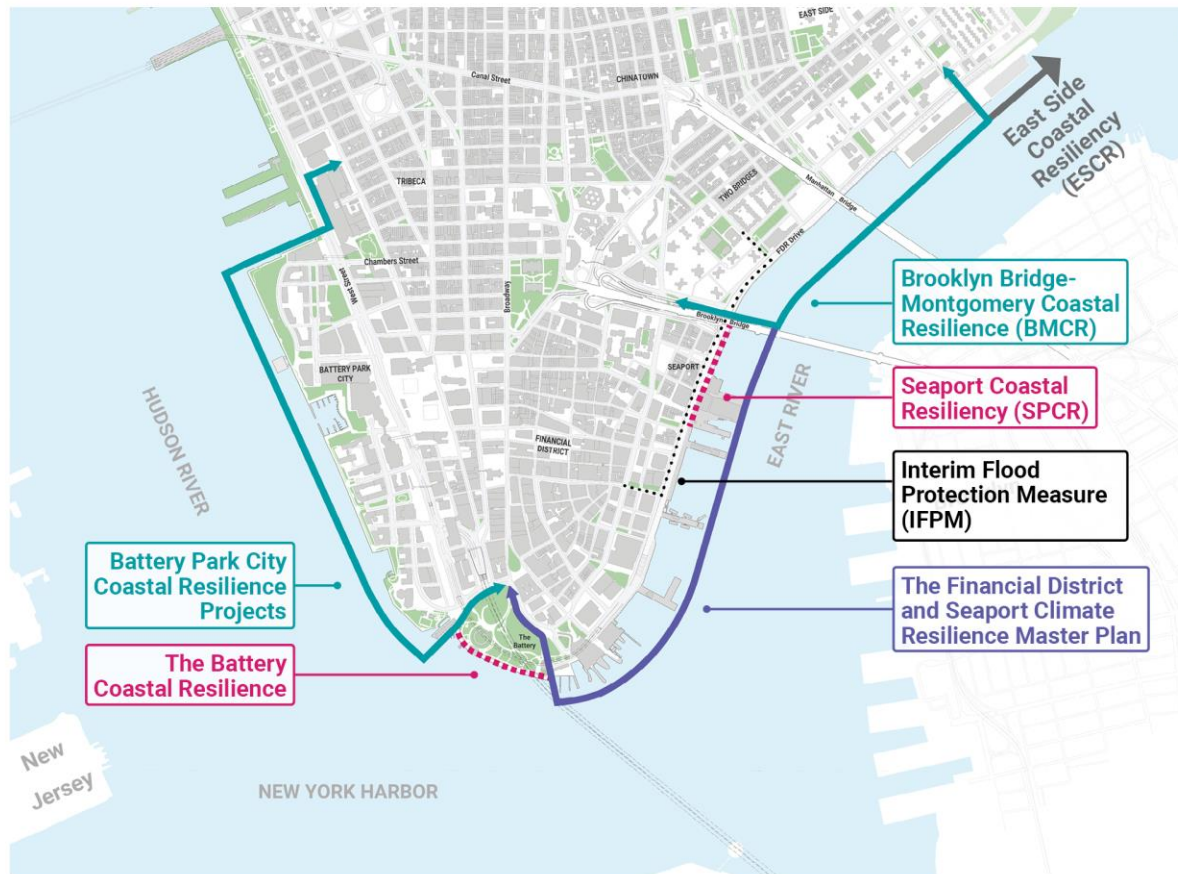
- The Battery Coastal Resilience
- Seaport Coastal Resilience (SPCR)

## CAPITAL PROJECTS TO ADDRESS BOTH STORM SURGE AND TIDAL FLOODING:

- Battery Park City Coastal Resilience Projects
- Brooklyn Bridge-Montgomery Coastal Resilience (BMCR)

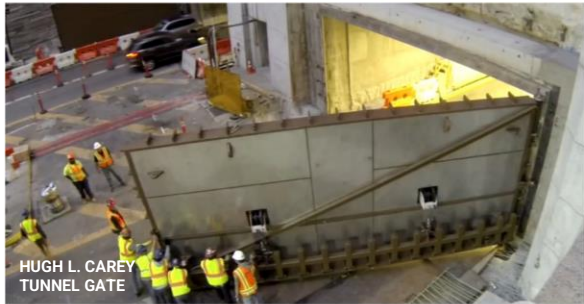
## LONG TERM PLANNING PROJECTS TO ADDRESS BOTH STORM SURGE AND TIDAL FLOODING:

- The Financial District and Seaport Climate Resilience Master Plan



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

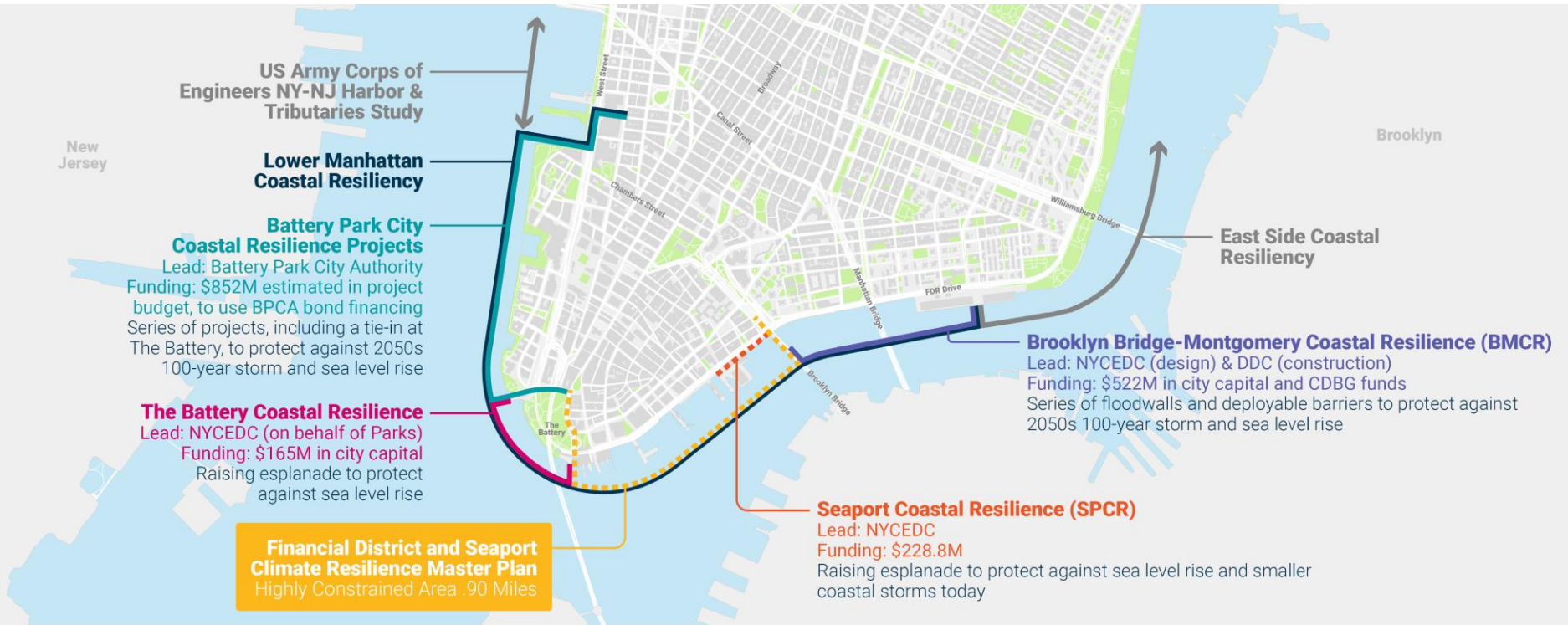
A shared goal of protecting against climate hazards, addressing the unique conditions for each area



Responding to the urgency of the moment....

...And making investments in the future

# Lower Manhattan Coastal Resiliency (LMCR) is a comprehensive climate adaptation strategy with over \$1B in city investments



# LMCR Goals and Values

- Use the latest climate science to advance flood risk reduction projects across Lower Manhattan to ensure a **secure future for those who live in, work in, or depend upon Lower Manhattan** by addressing near and long-term climate risks
- Communicate **multi-hazard risk** and deliver projects with urgency
- Create an **equitable and inclusive public engagement process** that advances widespread understanding of climate risks and fosters dialogue around opportunities and constraints.
- Plan for resiliency infrastructure that protects **key historic assets, maximizes ecologically-sensitive design and sustainability, is adaptable over time**, and creates an accessible public realm for all
- Maximize **federal and state investment** to supplement city resources
- Ensure **clear communication** of construction impacts

# Project Timelines

(Est. Dates as of October 2022)

Project	100% Design	Procurement	Construction Start	Construction Complete						
					'22	'23	'24	'25	'26	'27
Brooklyn Bridge–Montgomery Coastal Resilience	Complete	Summer 2022	Fall 2022	Fall 2026						
South Battery Park City Resiliency	Spring 2022	Winter/ Spring 2022	Fall 2022	Fall 2024						
The Battery Coastal Resilience	Fall 2022	Fall 2022	Spring 2023	Winter 2024						
North/West Battery Park City Resiliency	Fall 2022	Summer 2022 (PDB Team Procurement)	Fall 2023	Early 2027						
Seaport Coastal Resilience	2023	Spring 2025	Fall 2025	Winter 2027						
FiDi-Seaport Master Plan	Underway	TBD	TBD	TBD						

# Battery Park City Update

## South Battery Park City Resiliency

### Construction

- **Phase 1 (Projected Construction Start -- Late Fall 2022):**  
**MJH & Wagner Park Site:** Contract Awarded  
**Wagner Park Pavilion:** Contract Awarded
- **Phase 2 (Projected Construction Start – Winter 2022)**  
**Pier A/Battery/Interior Drainage :** RFP Issuance  
November 2022
- **Project Construction Completion:** Late Fall 2024 (2-Year Duration)

**FEIS Published** - September 28, 2022



Current



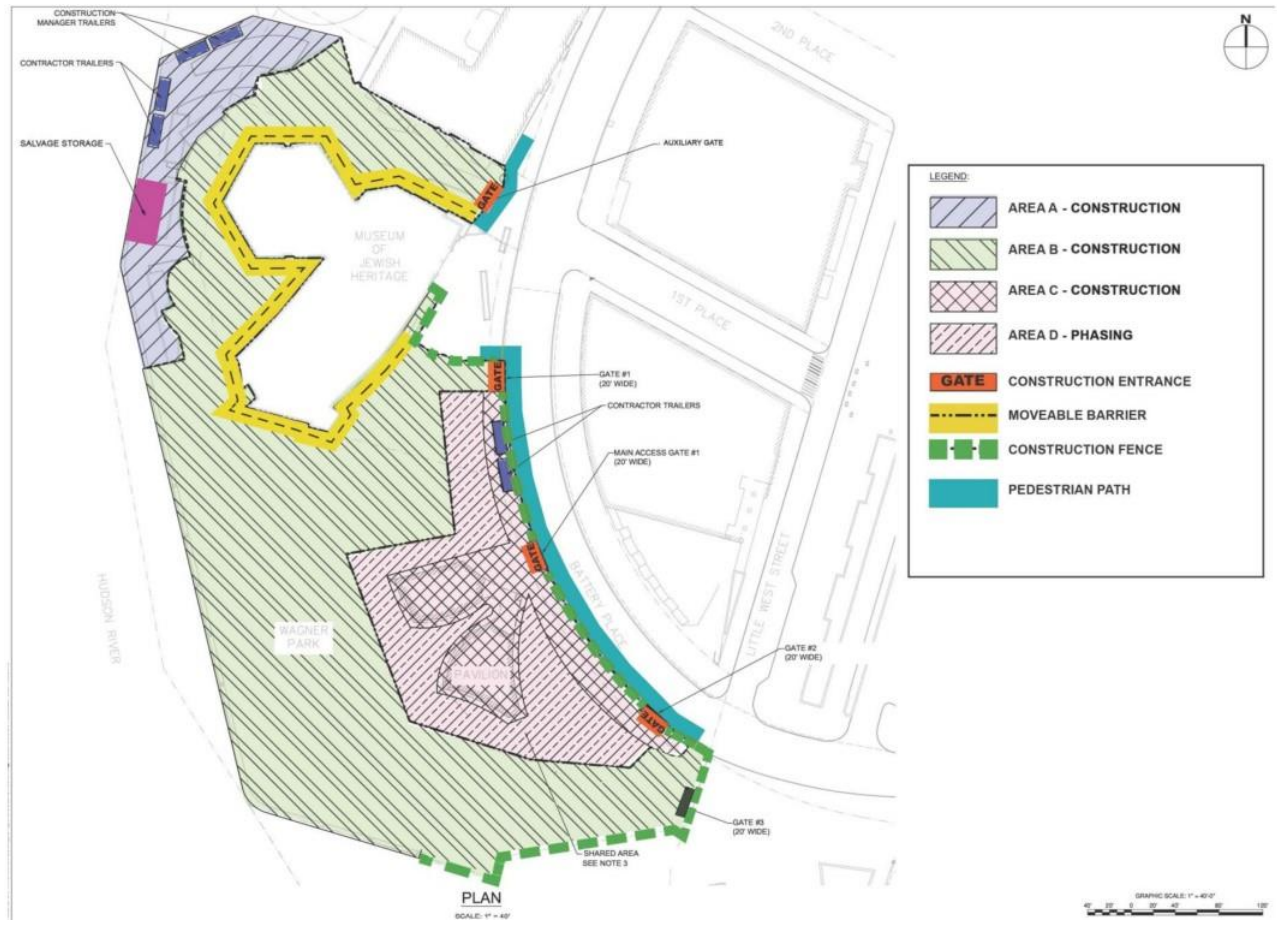
New





# Battery Park City Update

## South Battery Park City Resiliency



# Battery Park City Update

## South Battery Park City Resiliency

Questions and feedback about SBPCR can be sent to:

**Rick Fogarty**  
Community Construction Liaison  
(917) 624-5409  
[sbpcrinfo@bpca.ny.gov](mailto:sbpcrinfo@bpca.ny.gov)

*or by mail:*

**Battery Park City Authority**  
200 Liberty Street, 24th Floor  
New York, NY 10281  
att: South BPC Resiliency Project Team



Current



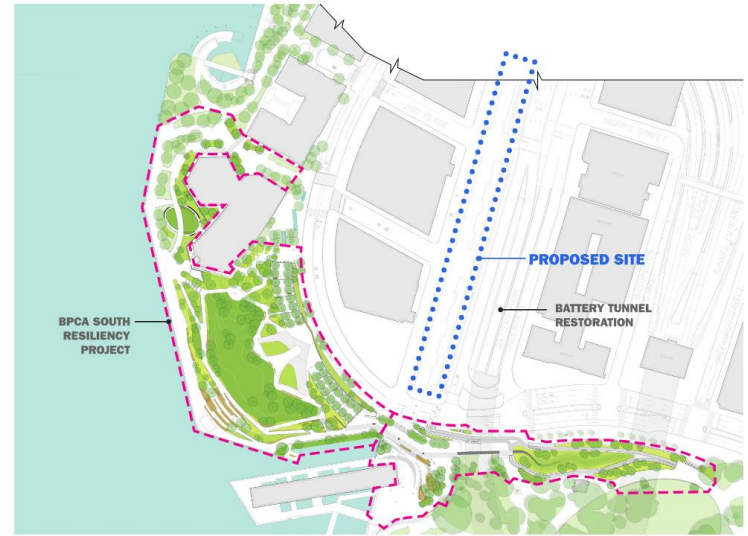
New



# Battery Park City Update

## South Battery Park City Resiliency – Open Space Opportunities

- To mitigate loss of public open space during SBPCR construction, BPCA is exploring opportunities to create a new open space treatment along the southern portion of the Hudson River Greenway.
- The site is more than 24,000 square feet (approximately .55 acres) and runs from Battery Place to 3rd Place.
- BPCA is currently seeking ideas and feedback about the possibilities for utilizing this area in line with the community's vision.



Provide Feedback Here:

<https://www.surveymonkey.com/r/89VPT9P>

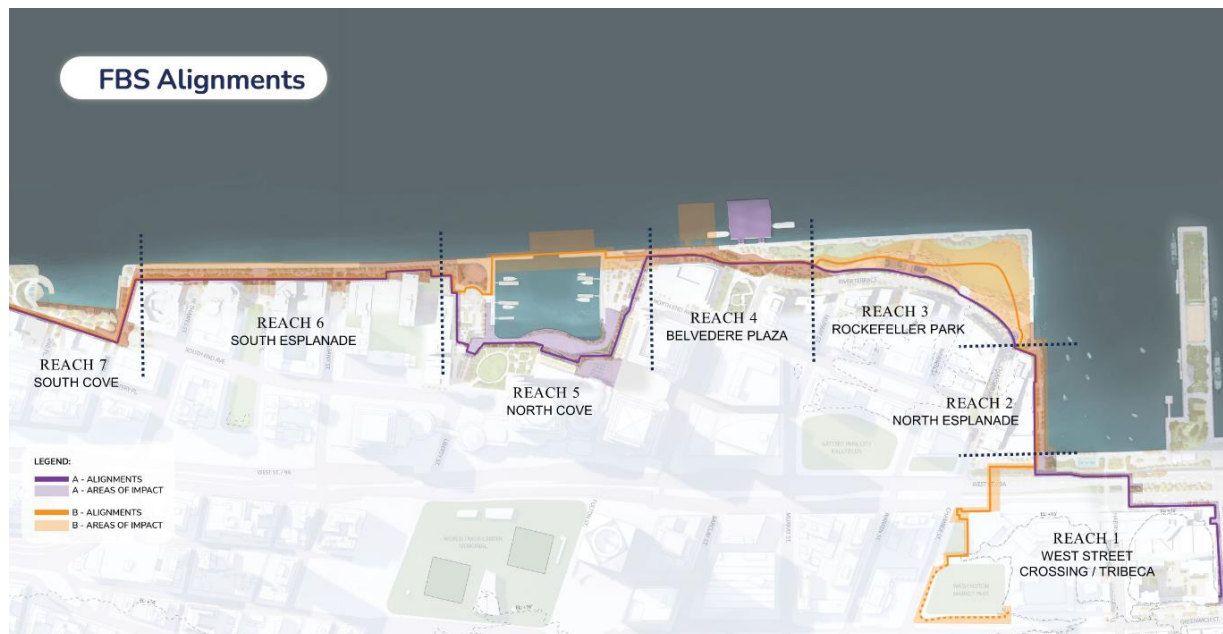
# Battery Park City Update

## North/West Battery Park City Resiliency – Public Engagement

- **Project Kickoff:** June 2021
- **Public Meeting #1** – August 4, 2021
- **Public Meeting #2** - December 16, 2021
- **Public Walkshops:** - October & November 2021
- **Public Meeting #3 (Open House)** – June 2022
- **Public Meeting #4** - September 2022

### Upcoming Opportunities for Community Feedback :

- **Draft Scope of Work Publication** – October 19, 2022
- **Scoping Hearing** – November 17, 2022 Stuyvesant High School



# Battery Park City Update

## North/West Battery Park City Resiliency – Public Meeting 4 Summary (September 19, 2022)

- **Virtual Feedback platform, live streamed, over 180 participants**
- **Over 250 public comments received on alignment alternatives.**
- **Feedback will be integrated into the 30% design development and EIS draft scope of work**

North/West Battery Park City Resiliency Project Virtual Community Meeting

**NORTH/WEST BATTERY PARK CITY RESILIENCY PROJECT**

**CLICK HERE TO START**

**WELCOME** to the Virtual Boards of the North/West Battery Park City Resiliency Project Community Meeting #4.

This platform contains all the same materials and displays as the in-person Community Meeting that was held on September 19, 2022.

To get started, please enter your name in the participant's name box at the top right of the screen.

As you move through the displays, click any display to enlarge it. You can **leave comments** in the comment box at the bottom of each display. Press "post" to save your comment.

To view sections in detail, open the **corresponding PDF at the bottom of this page**. You can then scroll through the file, zoom in, and download.

The virtual boards will remain open for comment **until October 3, 2022**.

To see the presentation and Q&A session from the September 19 community meeting, please watch this video.

**NORTHWEST BATTERY PARK CITY RESILIENCY PROJECT OVERVIEW**

The North/West Battery Park City Resiliency Project will develop an integrated coastal flood risk management system around Battery Park City, connecting to the South Battery Park City Project at First Place. The project is also part of a city-wide master plan to protect Lower Manhattan by investing in climate adaptation projects.

The **project vision** includes safety, resiliency and environmental stewardship, engagement and collaboration, design excellence.

# LMCR - The Battery

EDC Managing Project on Behalf of Parks

## Public Meetings and Stakeholder Input Coordination

- Coordination with stakeholders on 90% Design. Parties include: Parks, BPCA, TBTA, NPS, DEP, NYC DOT, NPS, PDC

## Project Progress

- PDC Final approval: September 2022
- 90% Design complete: October 2022
- Design process includes Envision certification program
- Community Liaison being onboarded by Hunter Roberts Construction Group
- Project information signage installed in The Battery



## Conceptual Rendering



## Upcoming Milestones

- 100% Design Documents – November 2022
- Battery Wharf Slip Repair Construction Start – October 2022
- Battery-Wharf Slip Repair Construction Complete - Spring 2023

# LMCR - The Battery



## Project Signage

- Community requested project signage installed 10/17/22
- Signage developed by design consultants in coordination with NYC EDC, NYC Parks, MOCEJ and the Battery Conservancy

# Interim Slip Repairs

## Overview

**The Interim Slip Repairs are being performed to ensure the wharf is in a safe condition for the Statue Cruises to continue operating ferry service to Ellis Island and Statue of Liberty.**

**Construction Manager – Hunter Roberts Construction Group**

**Marine Contractor- JT Cleary**

**Construction Fence set up start – October 11, 2022**

**Construction Work Commencement – October 14, 2022**

**Construction Completion – Spring 2023**

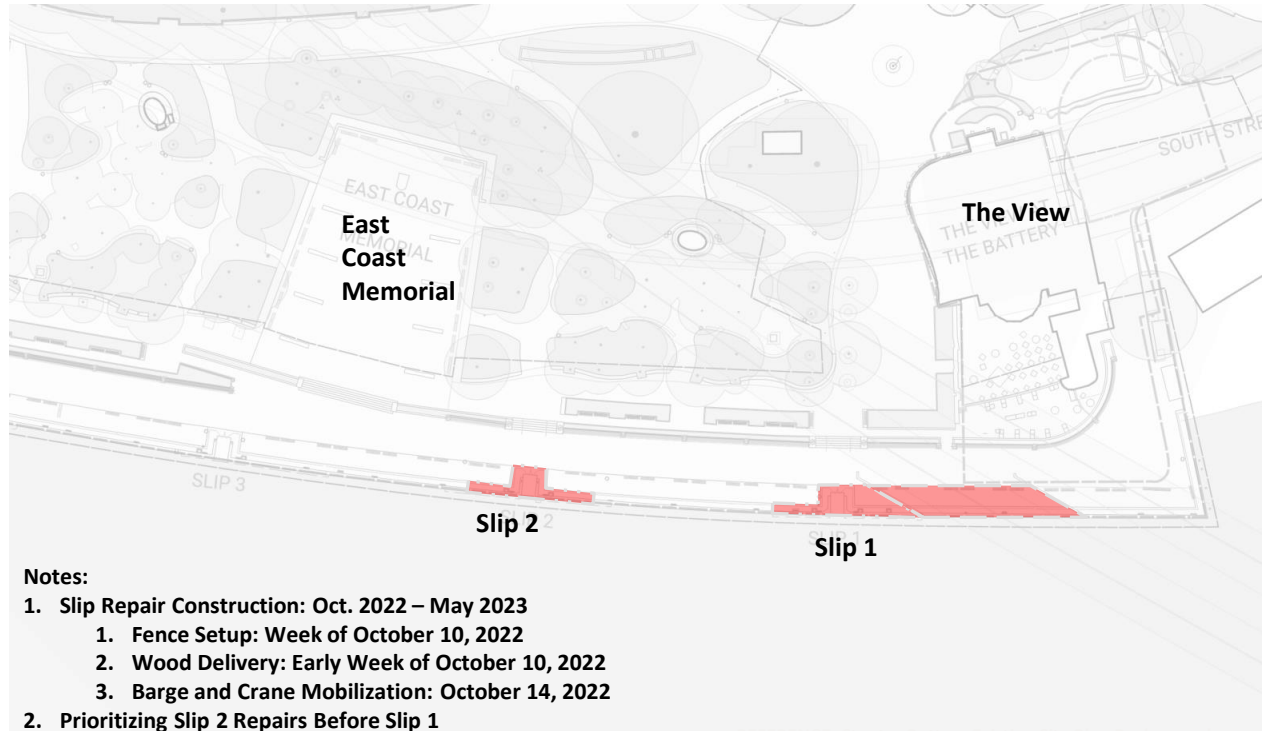


# Interim Slip Repairs

## Overview

### LEGEND

 Limit of Work Area



### Notes:

1. Slip Repair Construction: Oct. 2022 – May 2023
  1. Fence Setup: Week of October 10, 2022
  2. Wood Delivery: Early Week of October 10, 2022
  3. Barge and Crane Mobilization: October 14, 2022
2. Prioritizing Slip 2 Repairs Before Slip 1

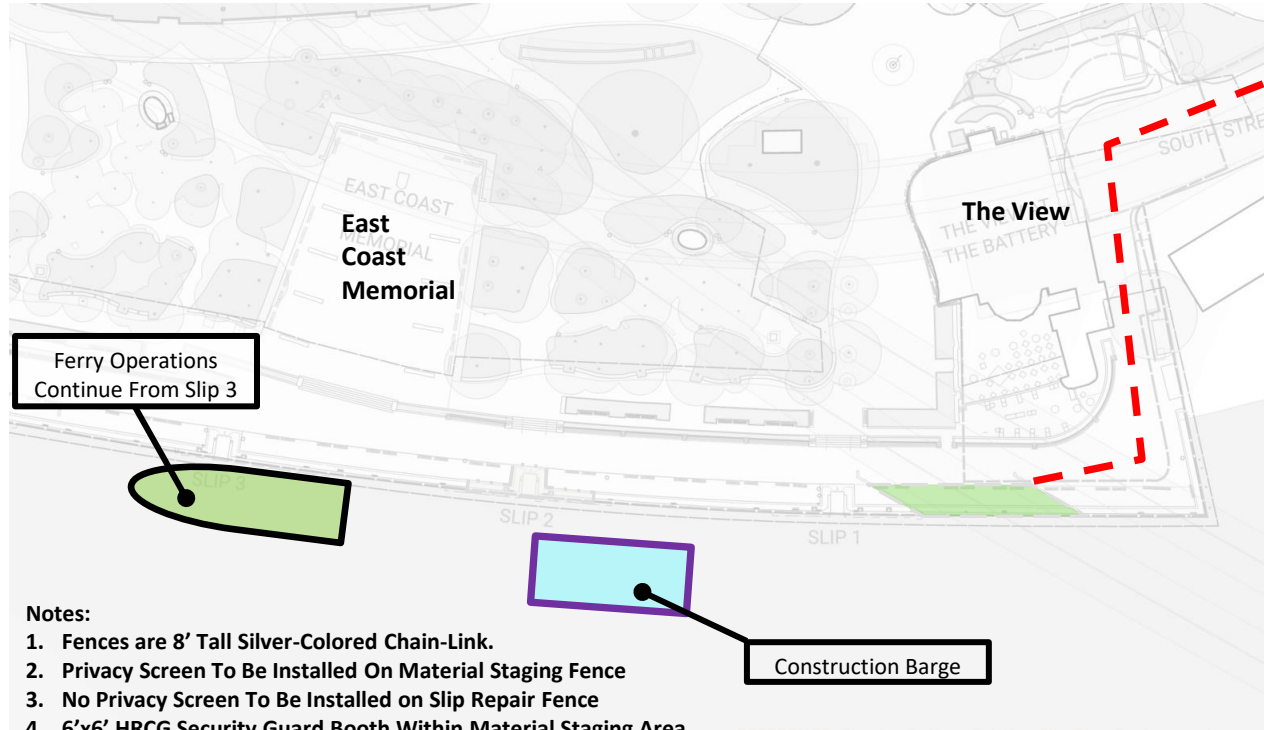
# Interim Slip Repairs

Slip 2 (Oct. 2022 – Mid Jan. 2023)

## LEGEND



Slip Repair Limit of Construction Fence  
Material Staging Construction Fence  
Construction Vehicle Route




### Notes:

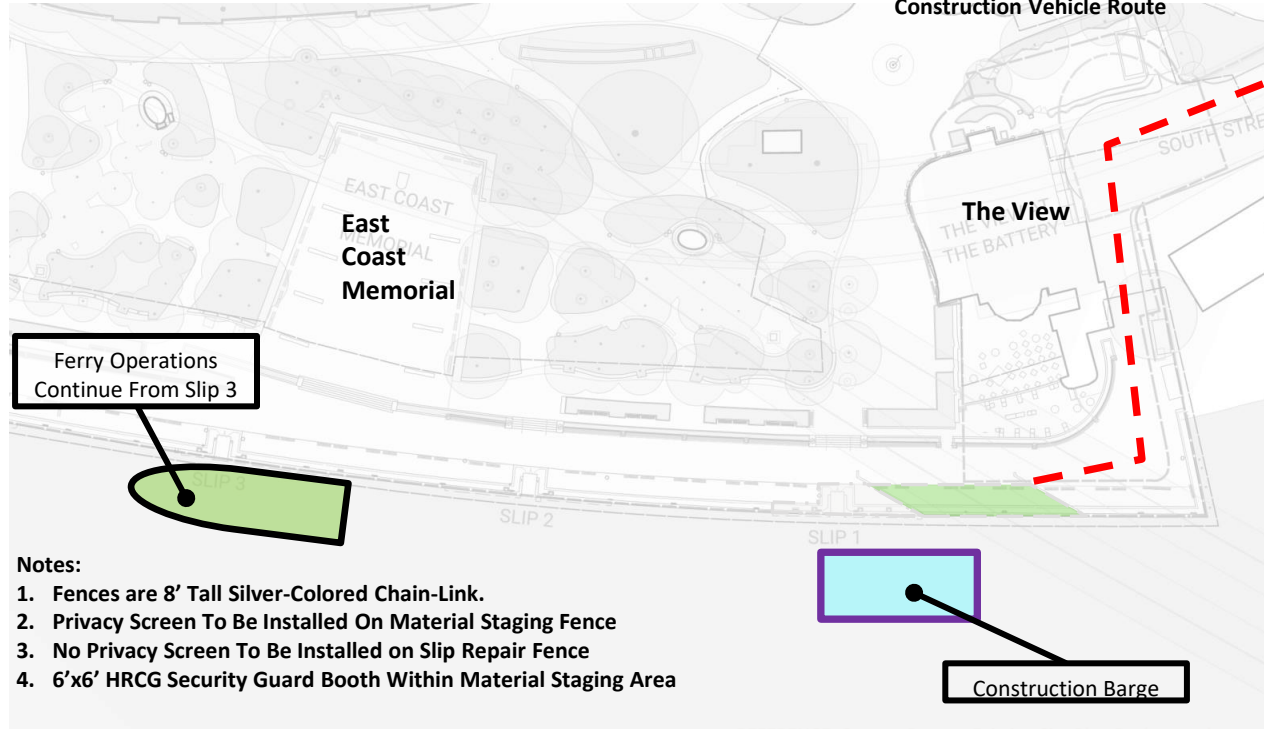
1. Fences are 8' Tall Silver-Colored Chain-Link.
2. Privacy Screen To Be Installed On Material Staging Fence
3. No Privacy Screen To Be Installed on Slip Repair Fence
4. 6'x6' HRCG Security Guard Booth Within Material Staging Area

# Interim Slip Repairs

Slip 1 (Mid Jan. 2022 – Apr. 2022)

## LEGEND

-  Slip Repair Limit of Construction
-  Fence
-  Material Staging Construction Fence
-  Construction Vehicle Route



### Notes:

1. Fences are 8' Tall Silver-Colored Chain-Link.
2. Privacy Screen To Be Installed On Material Staging Fence
3. No Privacy Screen To Be Installed on Slip Repair Fence
4. 6'x6' HRCG Security Guard Booth Within Material Staging Area

# Why the Seaport?

**Identified during the FiDi-Seaport Master Planning process, Seaport Coastal Resilience is a near-term investment to protect one of the most vulnerable and low-lying areas in Lower Manhattan**

- The Seaport District is particularly low-lying, which makes it highly vulnerable to climate change and sea level rise
- Without action, this area will begin to see frequent flooding by the 2040s, monthly flooding by the 2050s, and daily flooding by the 2080s
- The area is also at risk from coastal storms and extreme precipitation and these risks will only continue to increase over time with climate change
- This area is at risk of a bath-tub effect because the waterfront at a higher elevation than the adjacent upland neighborhood, allowing water to be trapped once it overtops the bulkhead



# What is SPCR?

**Creating a more resilient Seaport by addressing sea level rise, drainage risks, and improved waterfront access**

- To address climate risks in this area, this project proposes raising the shoreline 3-5 feet in the area from the Brooklyn Bridge to Imagination Playground
- As part of the federal grant application process, early project scoping also includes potential esplanade improvements, ecological enhancements, and green infrastructure to address stormwater management
- The design will be determined once we move further along into the design process and have a Design Consultant onboard



# Current Status and Next Steps

**NYCEDC & MOCEJ will continue to coordinate closely with the community throughout design process**

## Funding:

*Project in early stages and fully funded:*

- \$170M in City Capital
- \$50M from FEMA, (BRIC Grant) - been selected by FEMA, awaiting official Notice of Grant Award
- \$8.8M from the Howard Hughes Corporation to go towards the waterfront esplanade and public amenities

## Engagement & Next Steps:

- BRIC Award Review Process ongoing from FEMA
- With Notice of FEMA Funding, beginning procurement of design team in Q4 of 2022, RFP Award tentative First-Half 2023
- When design work begins, project team to regularly coordinate with and seek input from the CB and continue to share updates via quarterly LMCR briefings

# FiDi-Seaport Climate Resilience Master Plan

NYCEDC and MOCEJ are continuing to refine the design of the Master Plan (released December 2021). We are working towards the following goals by the end of 2025:

## Project Goals by End of 2025:

- **Advance the design of the base infrastructure** (shoreline fill & overwater structures) to a preliminary design level. A preliminary level of design will allow us to begin environmental review & permitting applications.
- **Update and refine the full conceptual design** of the Master Plan based on extensive additional feedback from neighborhood, citywide, and regional stakeholders.
- **Refine our implementation strategy**, including how we get approvals for, fund, and phase the construction of the Master Plan over time.
- **Develop strategies to expand the Master Plan's benefits** to the city and region, including robust maritime, stormwater management, and sustainability and energy plans.

BP Levine will reconvene the Climate Coalition of Lower Manhattan (co-chaired by Tammy Meltzer, Elizabeth Yee, and Shaun Donovan) this winter and EDC will re-kickoff robust public engagement shortly after.



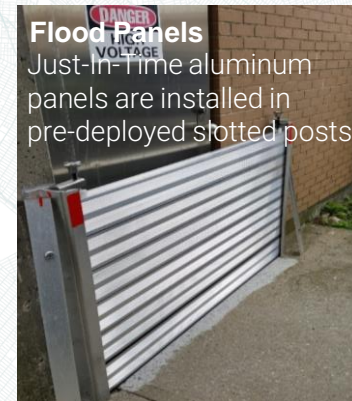
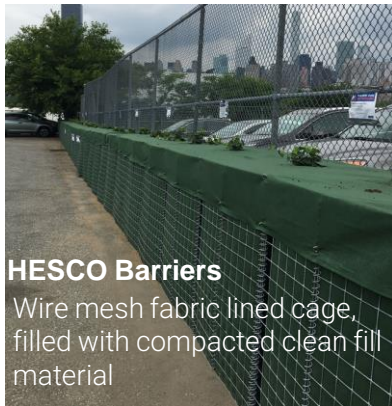
## Interim Flood Protection Measures (IFPM)

- Created in 2016 to provide temporary storm surge flood risk reduction at critical city facilities and low-lying neighborhoods while NYC continues to advance longer-term coastal protection
- Utilizes HESCO barriers, Tiger Dams and Flood Panels
- Combination of pre-deployed and just-in-time measures

IFPM is not a life safety program.

It is intended for infrastructure protection so residents can get back to their homes faster.

Residents must follow all evacuation orders issued by NYC.



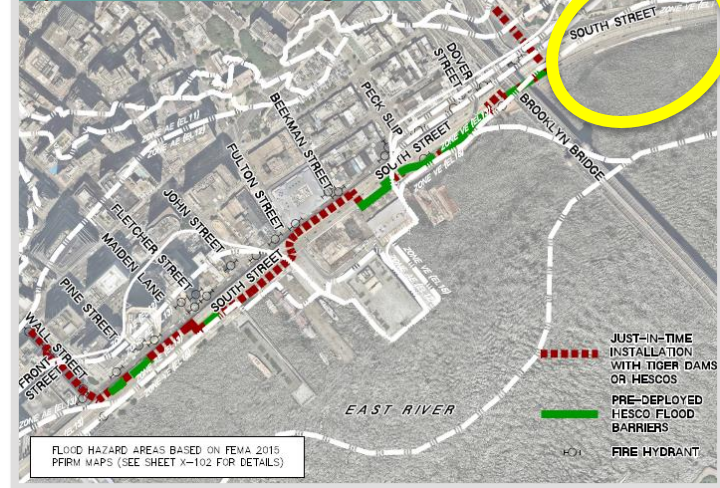


# IFPM Lower Manhattan Project Updates

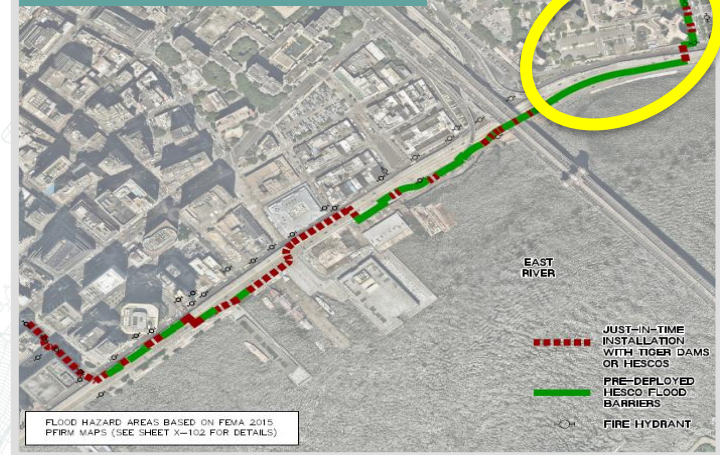
## IFPM110 South Street Seaport (SSSP)

- Operational 7/1/2019
- Reduced alignment from Catherine Slip to Robert F. Wagner Place
  - Permanent mitigation achieved at NYCHA Smith Houses
    - Reduced amount of IFPM in the BMCR and BBE construction zones

### Updated SSSP design



### Previous SSSP design



# IFPM Lower Manhattan Project Updates

## SSSP Extension & Tribeca Feasibility Analysis

- Completed October 2022
- Analyses involved:
  - Flood extent mapping
  - Site visits, building owner outreach
  - DEP consultation, data sharing and dye tests
  - Ground floor elevation surveys
  - Wave action analysis
  - Building usage and occupancy mapping

IFPM South Street Seaport and Potential Tribeca & South Street Seaport Extension

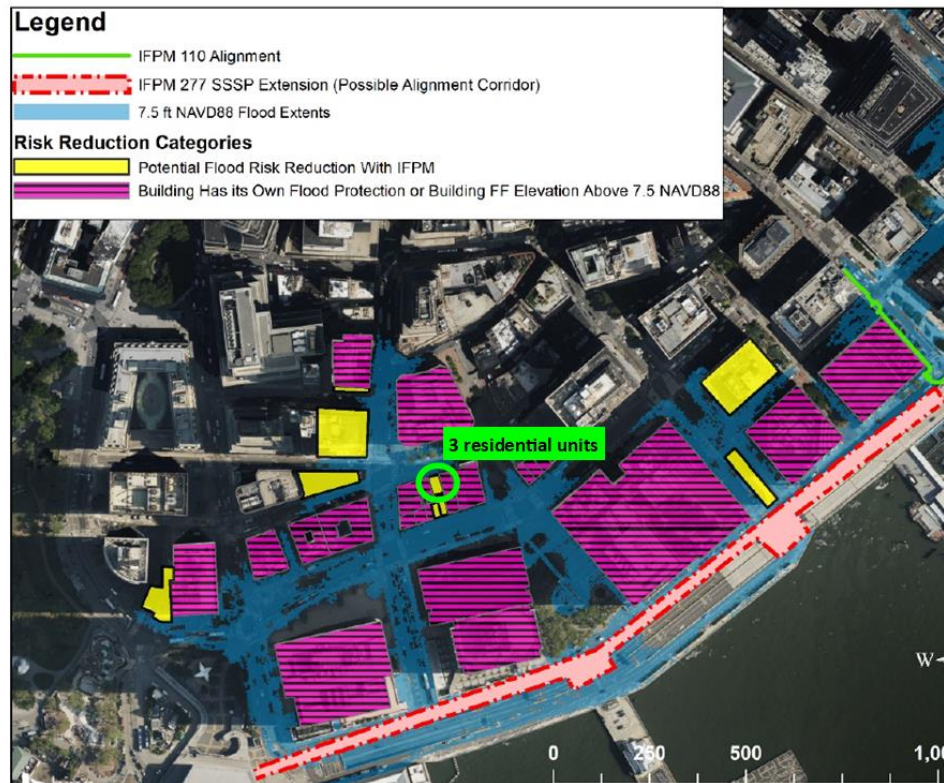


# IFPM Lower Manhattan Project Updates

## SSSP Extension Feasibility Analysis

### Findings:

- Maximum possible level of protection is 7.5' NAVD88, corresponding to 15-year event
- Majority of buildings in area of protection have own flood protection systems or have a first-floor elevation of above 7.5' NAVD88
- 9 buildings in project area may receive flood risk reduction from IFPM
- 3 residential units in project area would receive flood risk reduction benefit from IFPM
- Unable to rule out groundwater undermining in individual buildings

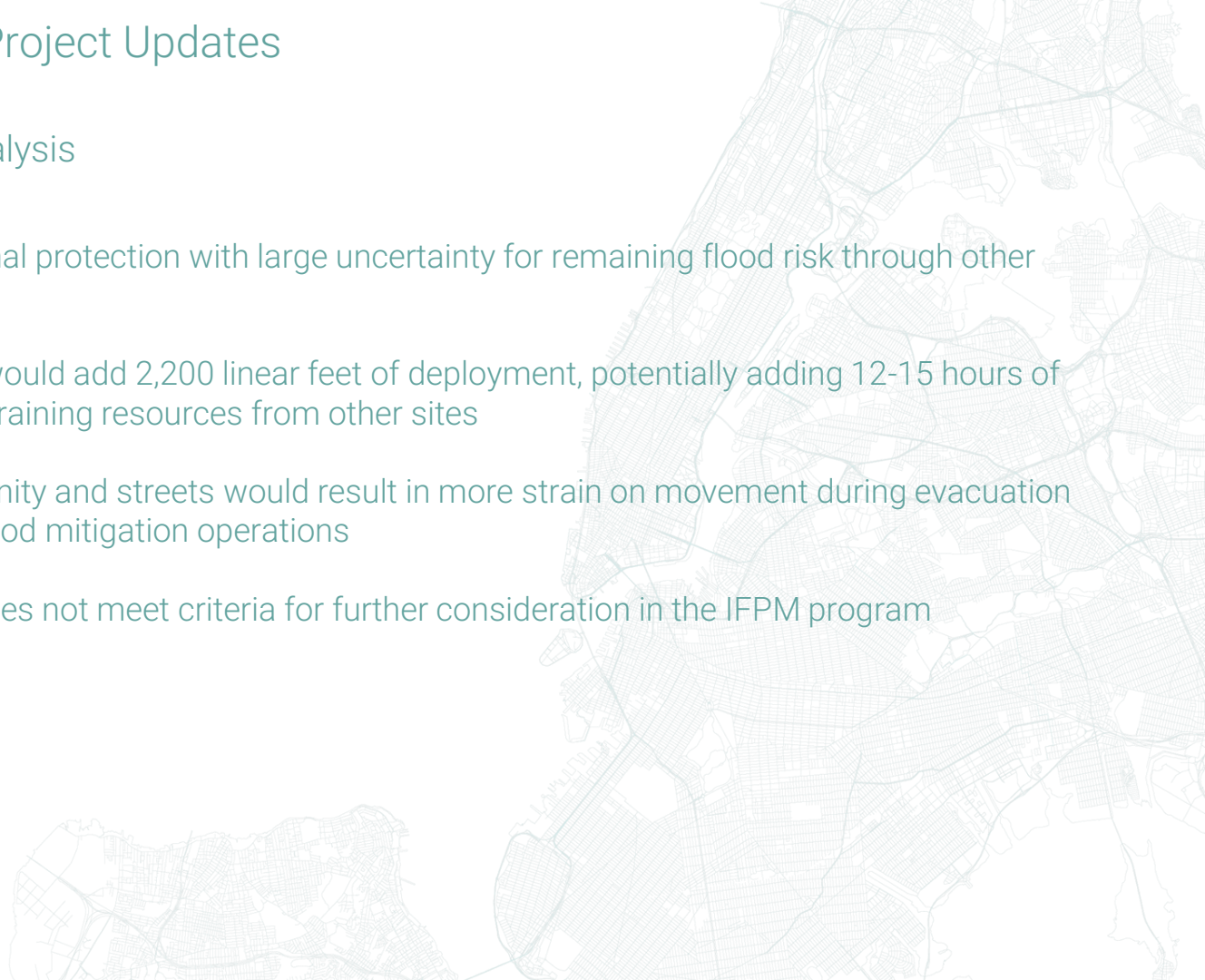


# IFPM Lower Manhattan Project Updates

## SSSP Extension Feasibility Analysis

### Conclusions:

- IFPM measures provide nominal protection with large uncertainty for remaining flood risk through other sub-grade spaces
- Programmatically, extension would add 2,200 linear feet of deployment, potentially adding 12-15 hours of deployment to the program, straining resources from other sites
- Added closures to the community and streets would result in more strain on movement during evacuation order and other established flood mitigation operations
- Overall, the SSSP Extension does not meet criteria for further consideration in the IFPM program

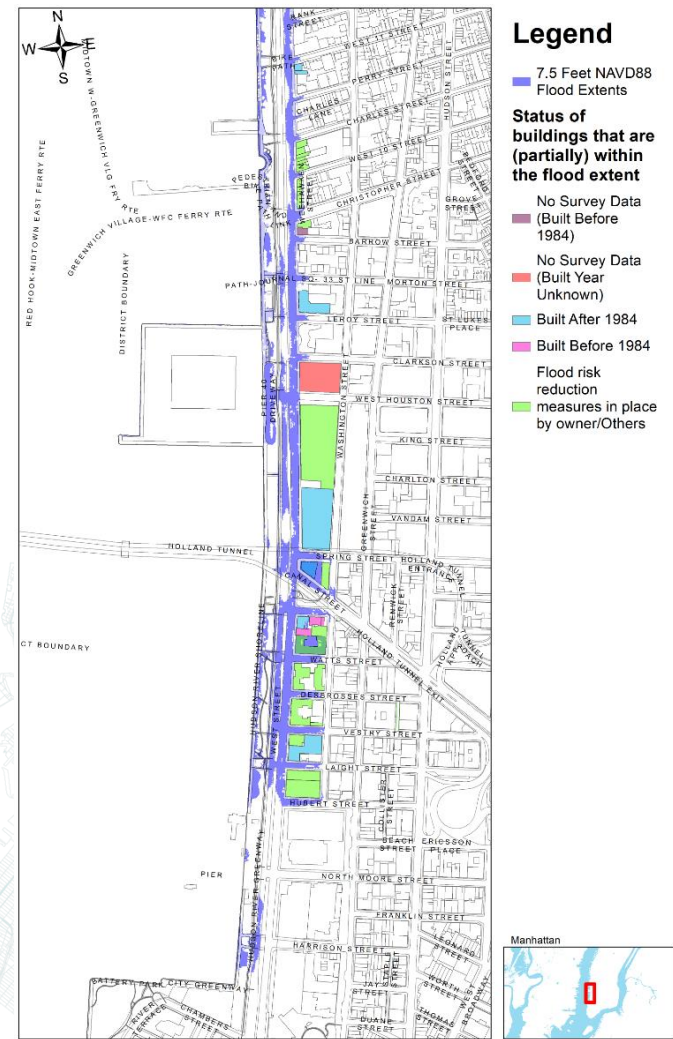


# IFPM Lower Manhattan Project Updates

## Tribeca Feasibility Analysis

### Findings:

- Maximum possible level of protection is 7.5' NAVD88, corresponding to 15-year event
- Majority of buildings in area of protection have own flood protection systems or have a first-floor elevation of above 7.5' NAVD88
- 4 buildings in project area would realize any potential flood risk reduction from IFPM
- 22 estimated residential units in project area
- Unable to rule out groundwater undermining in individual buildings
- Major challenges to deployment including traffic management (West Side Highway closure)

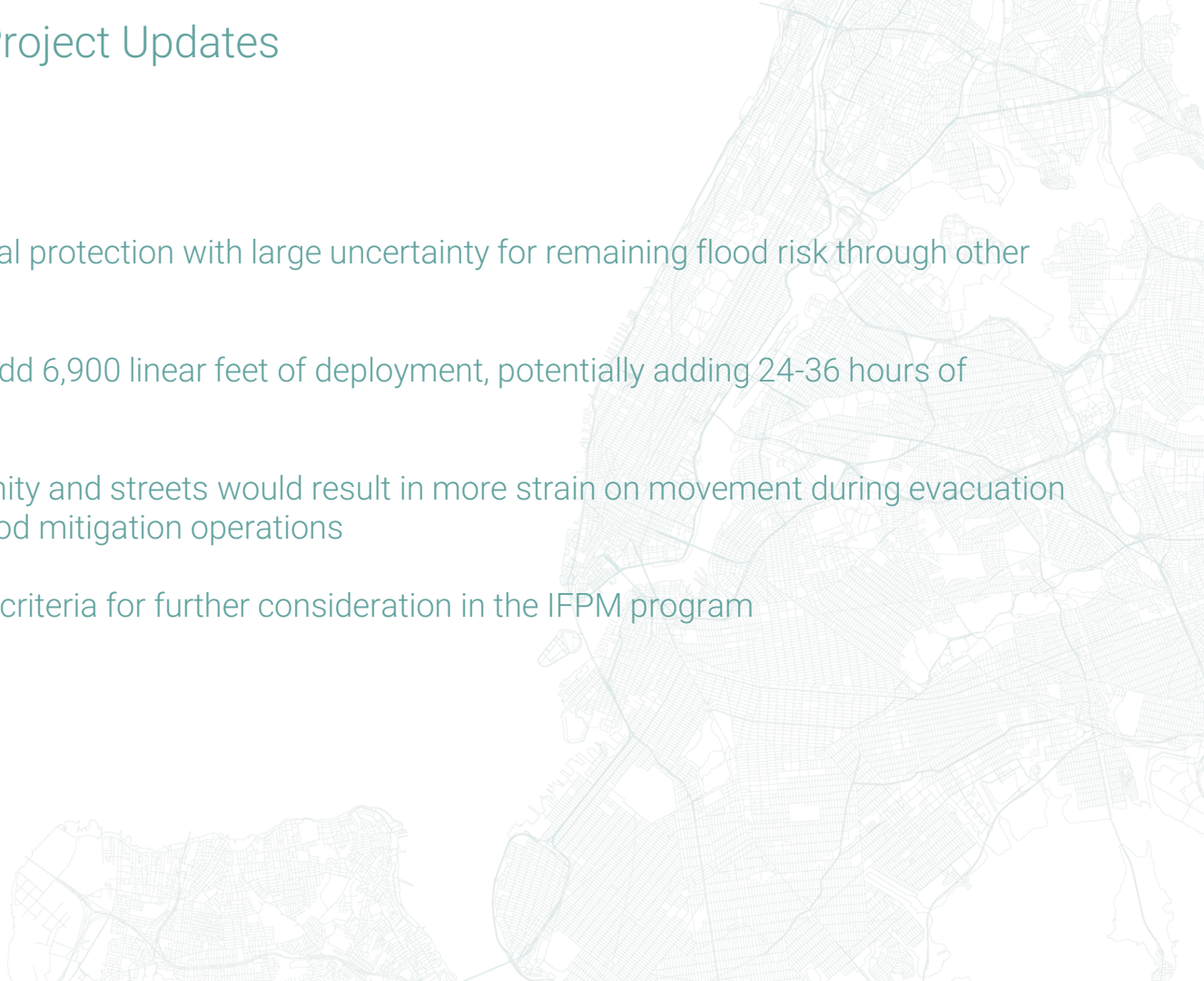


# IFPM Lower Manhattan Project Updates

## Tribeca Feasibility Analysis

### Conclusions:

- IFPM measures provide nominal protection with large uncertainty for remaining flood risk through other sub-grade spaces
- Programmatically, site would add 6,900 linear feet of deployment, potentially adding 24-36 hours of deployment to the program
- Added closures to the community and streets would result in more strain on movement during evacuation order and other established flood mitigation operations
- Overall, Tribeca does not meet criteria for further consideration in the IFPM program



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# BK BRIDGE–MONTGOMERY COASTAL RESILIENCY (BMCR) PRE-CONSTRUCTION UPDATE

**COMMUNITY BOARD 1 (CB1) ENVIRONMENTAL PROTECTION COMMITTEE  
VIRTUAL ZOOM MEETING  
FOR PRESENTATION PURPOSES ONLY**

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# HIGHLIGHTS

- Project Overview
- Project Schedule & Status



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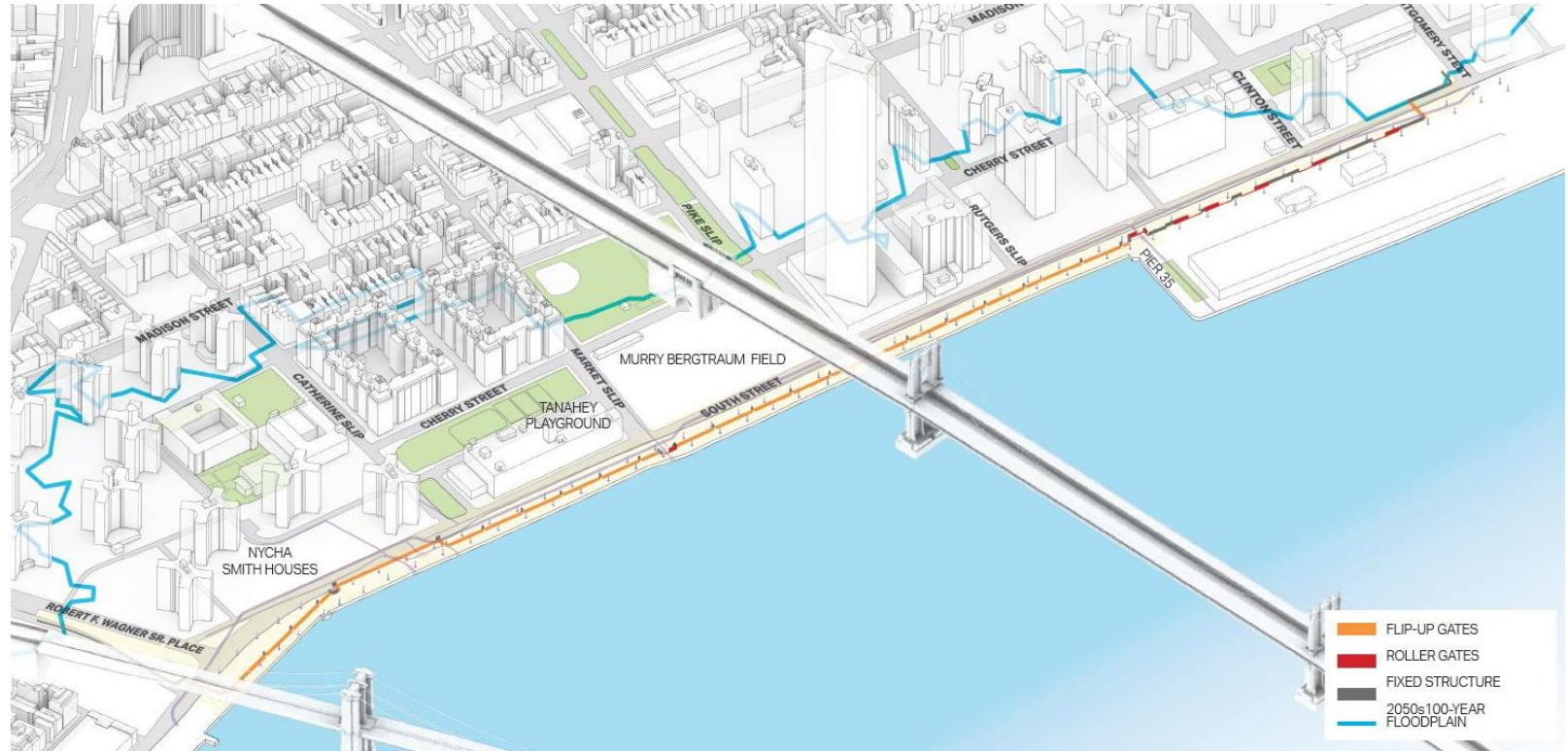
# PROJECT OVERVIEW

# Brooklyn Bridge–Montgomery Coastal Resiliency (BMCR) Project Overview

## Project Overview



# Brooklyn Bridge–Montgomery Coastal Resiliency (BMCR) Project Overview



# Brooklyn Bridge–Montgomery Coastal Resiliency (BMCR)

## Managing City Agencies



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# PROJECT STATUS

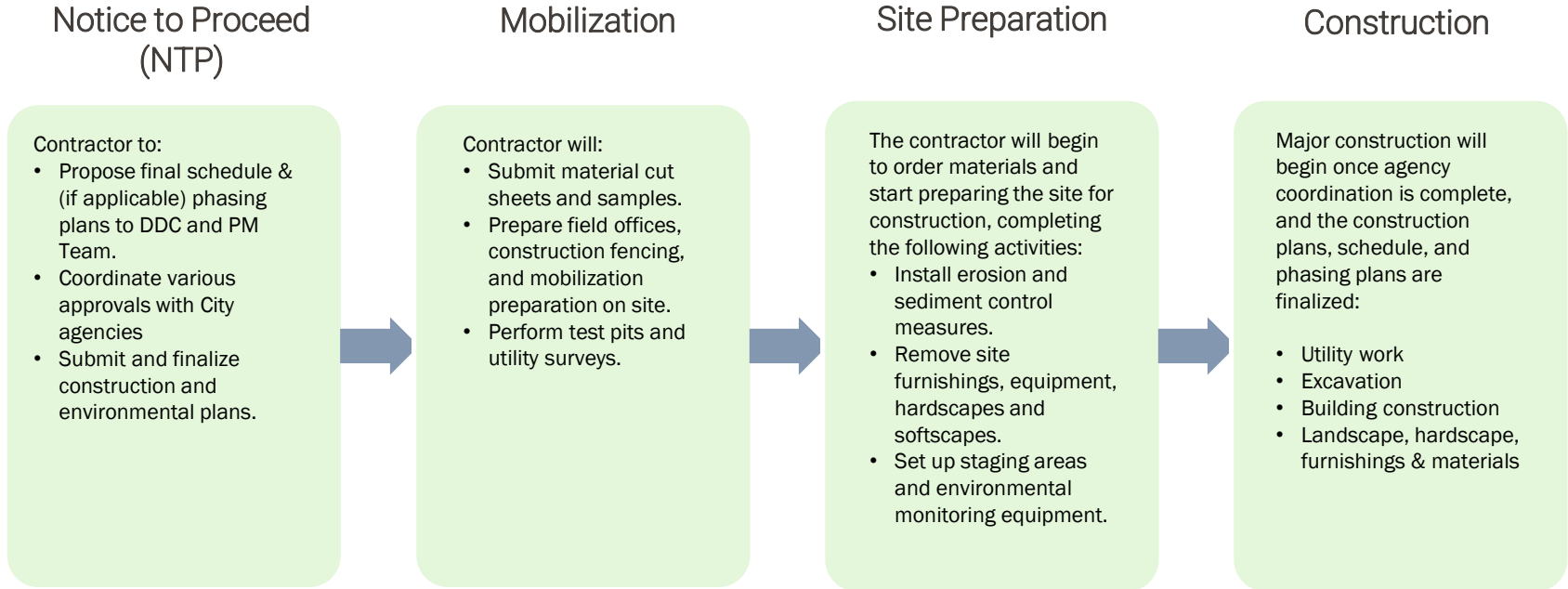
## Current Schedule and Status

- Program Management construction Management (PMCM): Jacobs/GPI JV
- Notice to Proceed for contractor issued October 2022: John P. Picone Inc.
- Construction to commence Winter 2022/2023

## Next Steps

- Contractor will begin to organize staffing plan, field office, order materials, and submit plans for DDC review/approval
- Major construction will begin once:
  1. agency coordination is complete
  2. construction plans / schedule / phasing plans are finalized
  3. Site preparation is complete (*Install erosion and sediment control measures, Remove site furnishings/equipment/hardscapes, set up staging areas, etc.*)

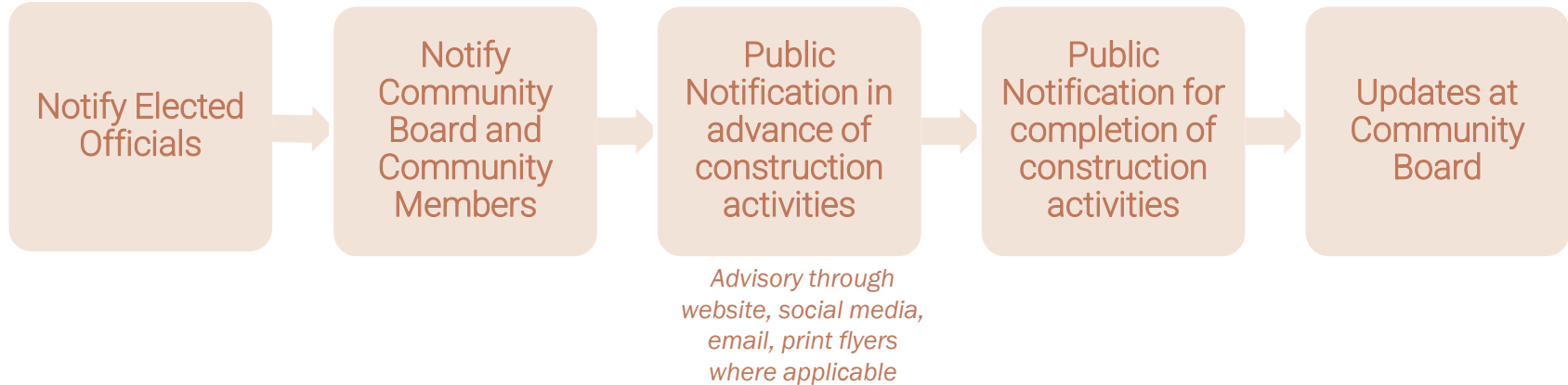
# CONSTRUCTION PHASE PROCESS



# COMMUNITY OUTREACH DURING CONSTRUCTION

Stakeholder and community outreach activities will continue throughout the construction phase, to alert you of upcoming construction work, advisories, completion of milestones and activities, as well as community engagement events:

## COMMUNITY OUTREACH PROCESS:



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

NYC Lower Manhattan Coastal Resiliency W/T/ Translate Text-Size

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**


Facebook Twitter YouTube Share Print

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) is leading 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 due to start construction in fall 2022.


This project will reduce flooding risk – from both sea level rise and storm surge – for thousands of residents, including many living in affordable housing, 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.

Lead: DDC, NYCEDC, MOCR  
Funding: \$522M

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



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



Are you looking for more information?

Visit Us at:

<https://www1.nyc.gov/site/lmcr/progress/brooklyn-bridge-montgomery-coastal-resilience.page>





# Opportunities for Community Engagement

Project	Community Engagement Opportunities
BMCR	Ongoing Construction Updates & Communication
The Battery	Ongoing Construction Updates & Communication
Battery Park City	South BPC: Ongoing Construction Updates & Communication North/West BPC: Public Scoping Meeting November 2022
Seaport Coastal Resilience	2023 - Design Kick-Off
FiDi-Seaport Master Plan	Ongoing Design Updates/Presentations

Thank you!

# Appendix

# LMCR Comparison Table

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

Project Name	Stage of Project	Source of Stillwater Elevation	Design Criteria: Sea Level Rise	Design Criteria: Storm Surge	Design Criteria: Tidal Flooding	Relative Wave Climate*
The Battery Coastal Resilience	Funded, Construction to begin Spring 2023	FEMA PFIRMs	NPCC, 2100	Protect against current day higher frequency coastal storm events (2% storm)	High Tide	High
Seaport Coastal Resilience	Funded, Design Development to begin Early 2023	FEMA PFIRMs	NPCC, 2100	Protect against current day higher frequency coastal storm events (2% storm)	High Tide	Moderate
Battery Park City Coastal Resilience Projects	Funded, Construction to begin Fall 2022 (South Project)	FEMA PFIRMs	NPCC, 2050s	100-year storm	High Tide	BPCA South = High; BPCA North/West = Low-High
BMCR	Funded, Construction to begin Fall 2022	FEMA PFIRMs	NPCC, 2050s	100-year storm	High Tide	Moderate
FiDi Seaport	Long-term Planning	FEMA PFIRMs	NPCC, 2100	100-year storm	High Tide	Moderate – High

# Coordination Across the City

The LMCR portfolio has been structured to involve an array of agencies who remain coordinated via an interagency taskforce, regular updates within and across the agencies, and coordinated community outreach

Main agencies and roles:



Mayor's Office of Climate and Environmental Justice (MOCEJ): oversees City's resilience portfolio, including LMCR, and ensures consistency with citywide policy goals



New York City Economic Development Corporation (NYCEDC): leads on 3/4 of the LMCR portfolio, including leading design for the FiDi-Seaport Master Plan, BMCR, and the Battery



Parks: Owner of The Battery



Battery Park City Authority (BPCA): Leads resilience planning and design for all projects within Battery Park City, including ongoing work with BPCA North/West and South



Department of Design and Construction (DDC): Leads on implementation of BMCR

# Protecting Lower Manhattan Against Storm Surge and Tidal Flooding

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

**Near term capital projects to protect against either storm surge or daily tidal flooding**

## **The Battery Coastal Resilience**

0.33 Miles

Tidal Flooding: High tide + 2100 SLR

## **Seaport Coastal Resilience (SPCR)**

Tidal Flooding: High tide + 2100 SLR



# Protecting Lower Manhattan Against Storm Surge and Tidal Flooding

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

**Capital projects to address both storm surge and tidal flooding:**

## **Battery Park City Coastal Resilience Projects**

1.15 Miles

Storm Surge: 100 year storm + 2050s SLR

Tidal Flooding: High tide + 2050s SLR

## **Brooklyn Bridge-Montgomery Coastal Resilience (BMCR)**

0.80 Miles

Storm Surge: 100 year storm + 2050s SLR

Tidal Flooding: High tide + 2050s SLR

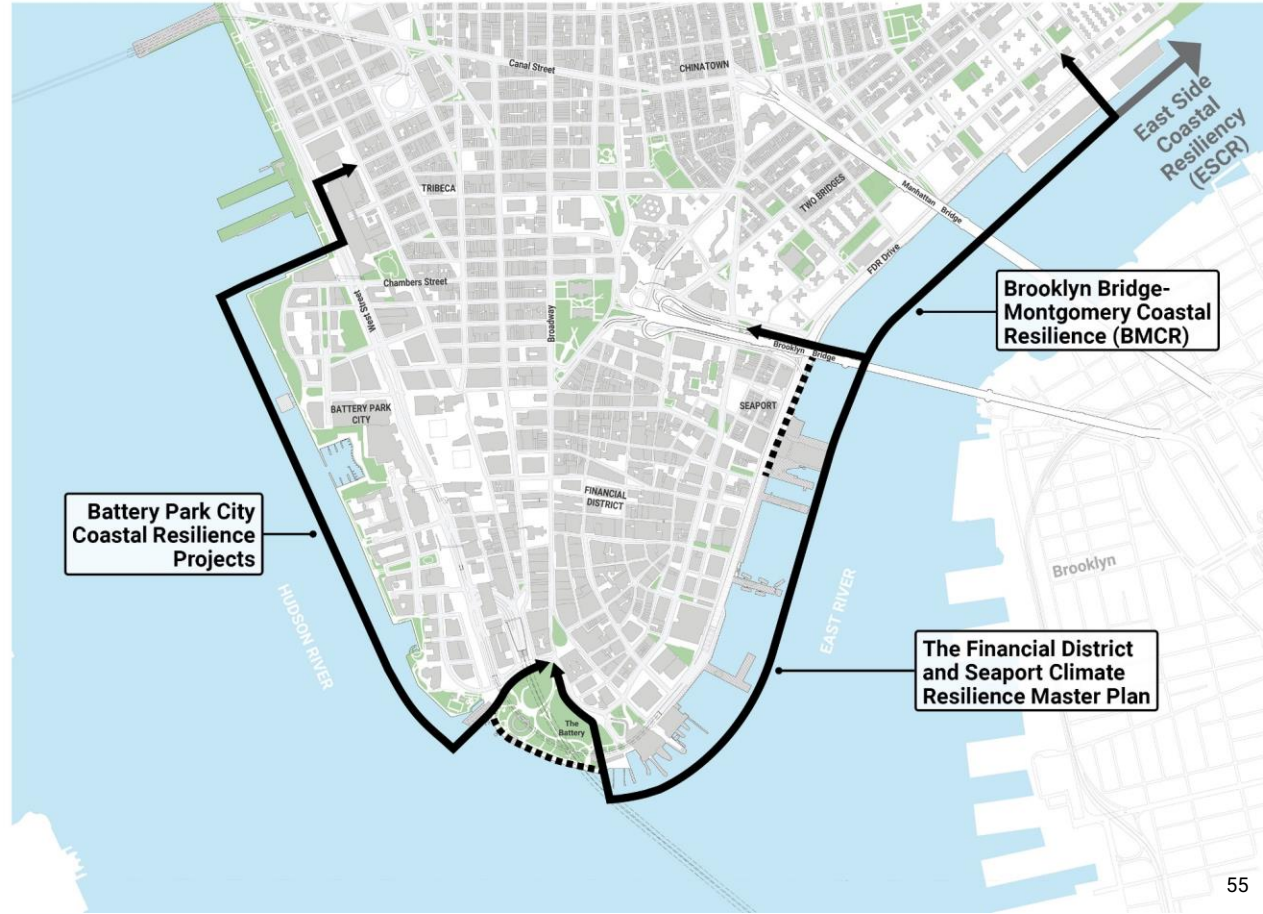
**Long term planning to address both storm surge and tidal flooding:**

## **The Financial District and Seaport Climate Resilience Master Plan**

0.90 Miles

Storm Surge: 100 year storm + 2100 SLR

Tidal Flooding: High tide + 2100 SLR



# LMCR Projects and Construction Timelines

