

# Vision for Brooklyn Marine Terminal

Task Force Meeting #11 Presentation  
April 11, 2025



# Agenda

- Resiliency
- Blue Highways
- Workforce Development

# Resiliency

1. Climate issues facing BMT and Red Hook today
2. BMT Resiliency Approach
3. Potential design integration opportunities

# The BMT site is vulnerable to flooding

## Flood Risks at BMT:

- BMT is susceptible to coastal flooding from multiple directions.
- Extreme storm surge with wave action from the waterfront to the west will cause increased flood depths and significant damage to structures upland.
- From the south and east, wave action will be dampened but stillwater levels will cause flooding at BMT and adjacent neighborhoods.
- The BMT plan must plan for future sea-level rise (SLR). By the 2050's, sea-level could be 2 feet higher than today. By the 2100, sea-level could be almost 6 feet higher than today, with continued sea-level rise expected beyond 2100.



# New York City's approach to resilience

- Water and waterways define New York City, particularly its 520 miles of coastline.
- Over centuries, New Yorkers have made communities or otherwise chosen to live directly adjacent to the coastline. That includes over 400,000 living in our largely built out coastline today.
- Climate risk presents new challenges for New Yorkers who live near the coastline now and into the future. However, as in the past, there is not a question of whether to allow development along the coastline, but how new development occurs in a flood-safe manner.
- By leveraging modern tools, we can responsibly develop and live within our coastlines.
  - New construction adheres to updated post-Sandy Building Code
  - New zoning for the coastline allows for more flexibility to make buildings more resilient.

# BMT plan is an unprecedented opportunity to deliver the first phase of a comprehensive Red Hook resiliency infrastructure

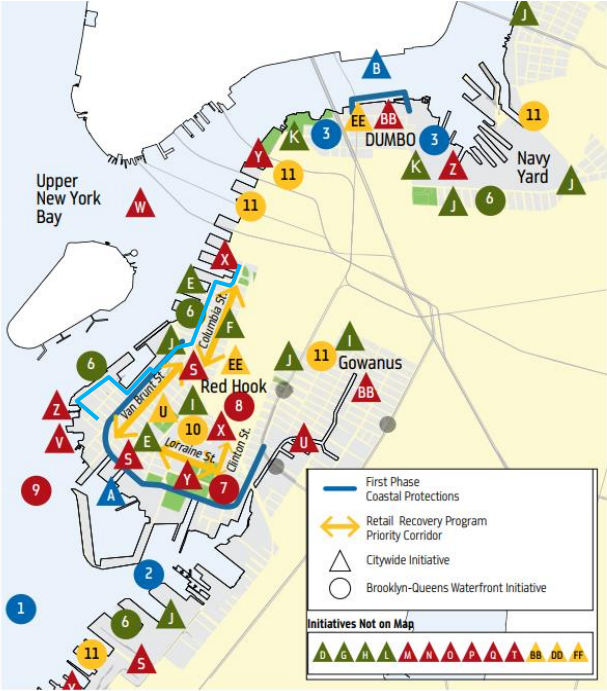
- Nearly 60,000 New Yorkers live in adjacent neighborhoods today.\*
- We should invest in the future of this community and its waterfront.
- We have an opportunity to leverage this moment to make the community more resilient.
- BMT presents a unique opportunity to build flood resilience on the Brooklyn waterfront. The amount of vacant waterfront space - and public ownership of the site - makes it possible to design flood and stormwater resiliency into new development, streets, and open spaces with a comprehensive, integrated approach.



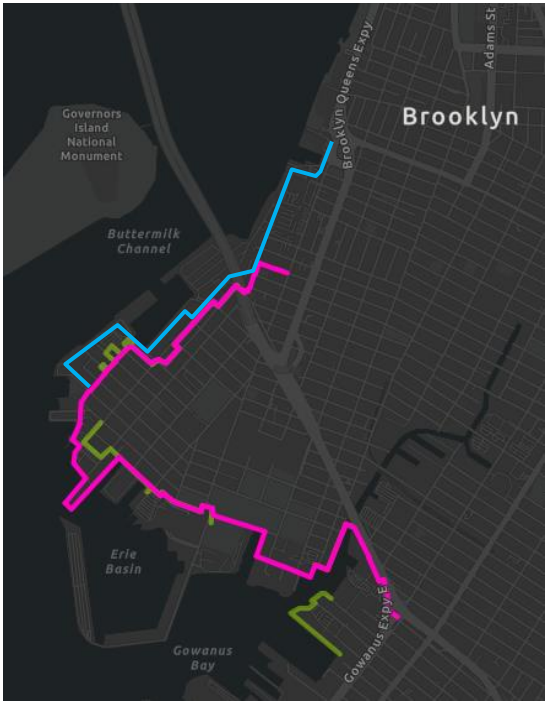
\* According to the 2020 census (DCP Population FactFinder), the Carroll Gardens/ Columbia Street/Red Hook/Gowanus tabulation area had a population of 59,166.

# BMT delivers the first compartment of a full-peninsula flood protection system, totaling a third of the length of the full system

A Stronger, More Resilient New York, 2013



USACE HATS Plan, 2022



FEMA Red Hook Coastal Resiliency, 2023



# A comprehensive resiliency strategy will be delivered for BMT and the surrounding neighborhood



Maritime Areas

## Waterfront / Maritime Zones

- Protect waterfront facilities against future SLR / King Tides
- Design yard areas to be floodable and can recover quickly after a storm event
- Must be responsive to vessel freeboard heights and waterborne access needs (functional today and in the future)
- Protection for critical infrastructure and power systems



Buildings

## Buildings and Mixed Use

- The first floor of any new development must be several feet higher than existing grade.
- Any new street on the site should be elevated as much as space and ADA requirements allow. This will allow greater flexibility for an active street.



Neighborhood Integration

## Open Space

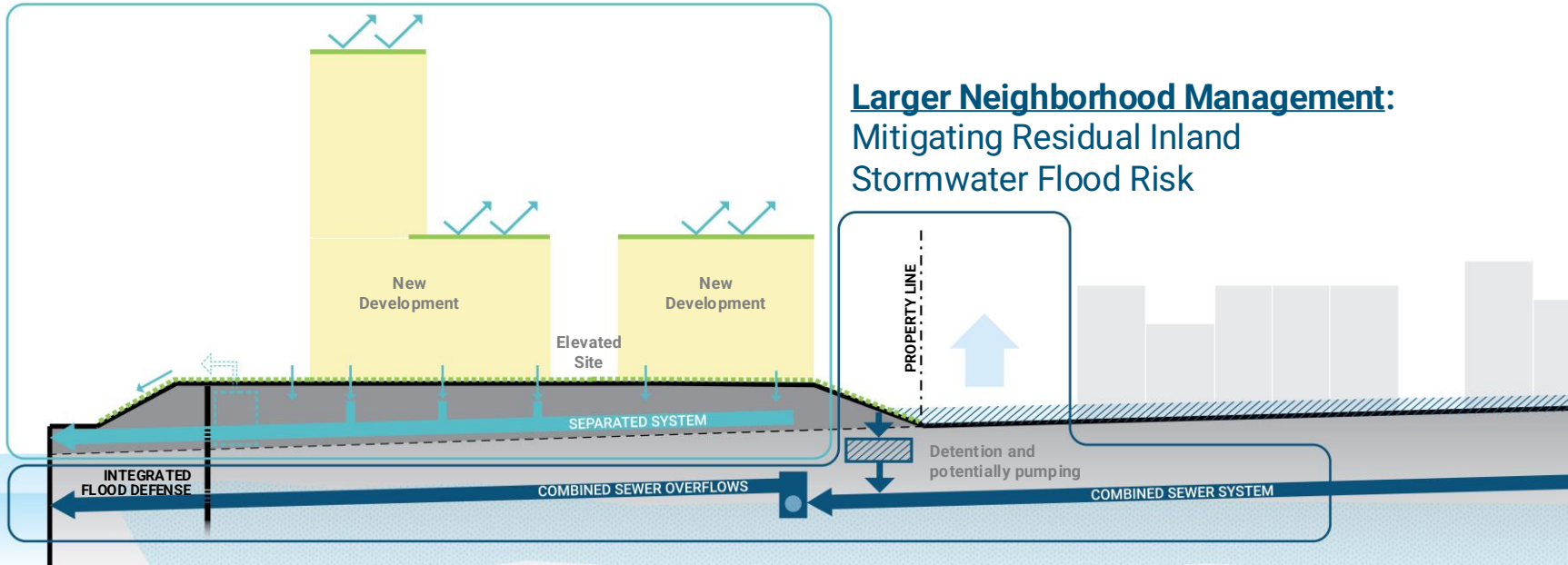
- Flood defense will be integrated into public realm design: flood wall in elevated greenway, landscaping and plantings, green and hybrid stormwater infrastructure
- BMT provides opportunity to complete a first phase of a potential integrated flood defense system for Red Hook, which will be studied further.

# The plan will manage stormwater on-site and improve conditions upland

## BMT Site Management:

### Managing Runoff On-site + Discharge to the Harbor

Integrate stormwater management into port, new development, streets, and open space



## Larger Neighborhood Management:

### Mitigating Residual Inland Stormwater Flood Risk

# The plan will create multipurpose open spaces that manage stormwater

- Using best practices for retention and detention, the BMT site will be able to manage stormwater and mitigate impact to the upland neighborhood.
- The City is undergoing a DEP-led drainage plan for the BMT site and the neighborhood to identify infrastructure needs.
- EDC will similarly lead a study for a broader flood protection system outside of the BMT site.

**Vegetated Retention  
(Green Infrastructure)**



Hudson River Park, NYC

**Hybrid Green Infrastructure + Detention**



1st Ave Water Plaza (America Copper), NYC

**Cloudburst Management**



NYCHA South Jamaica Houses (pilot), NY



Town Branch Commons, KY

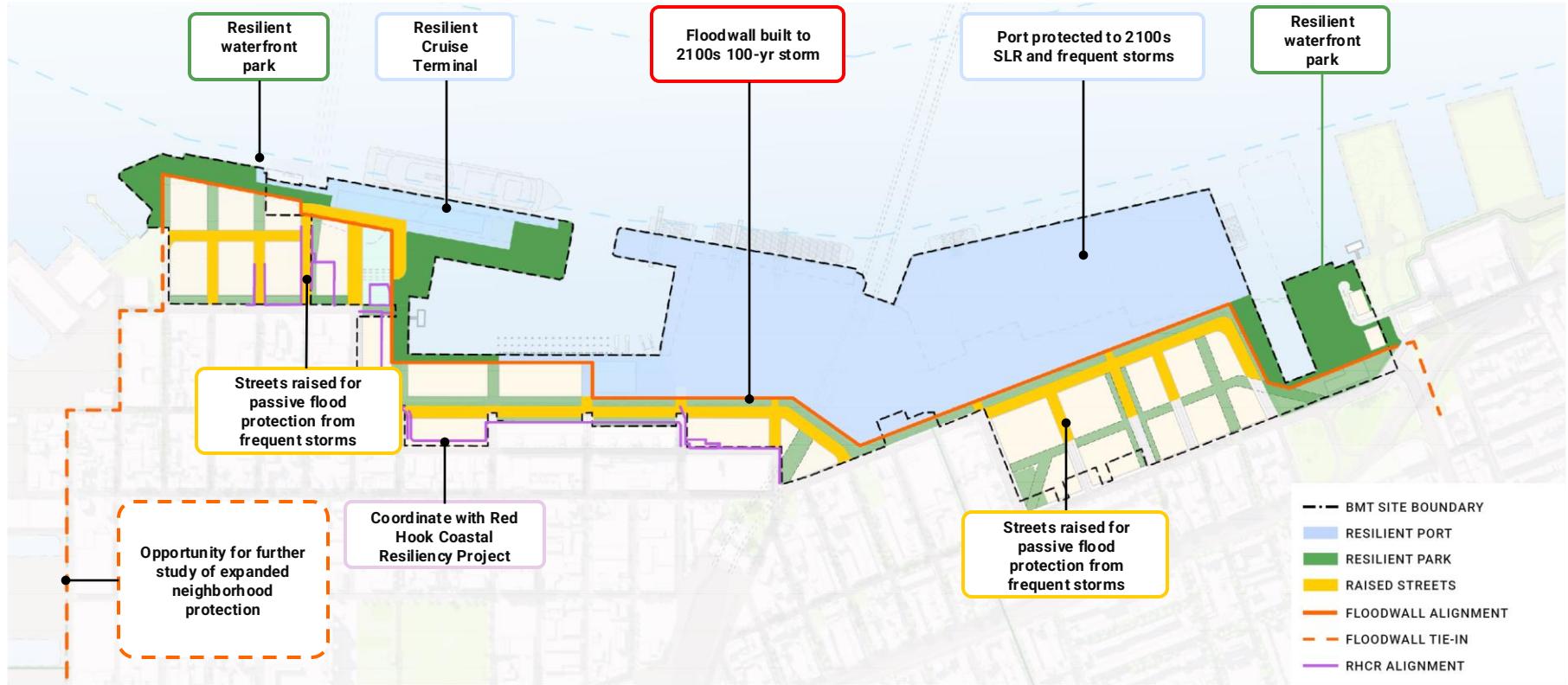


Southwest Resiliency Park, Hoboken

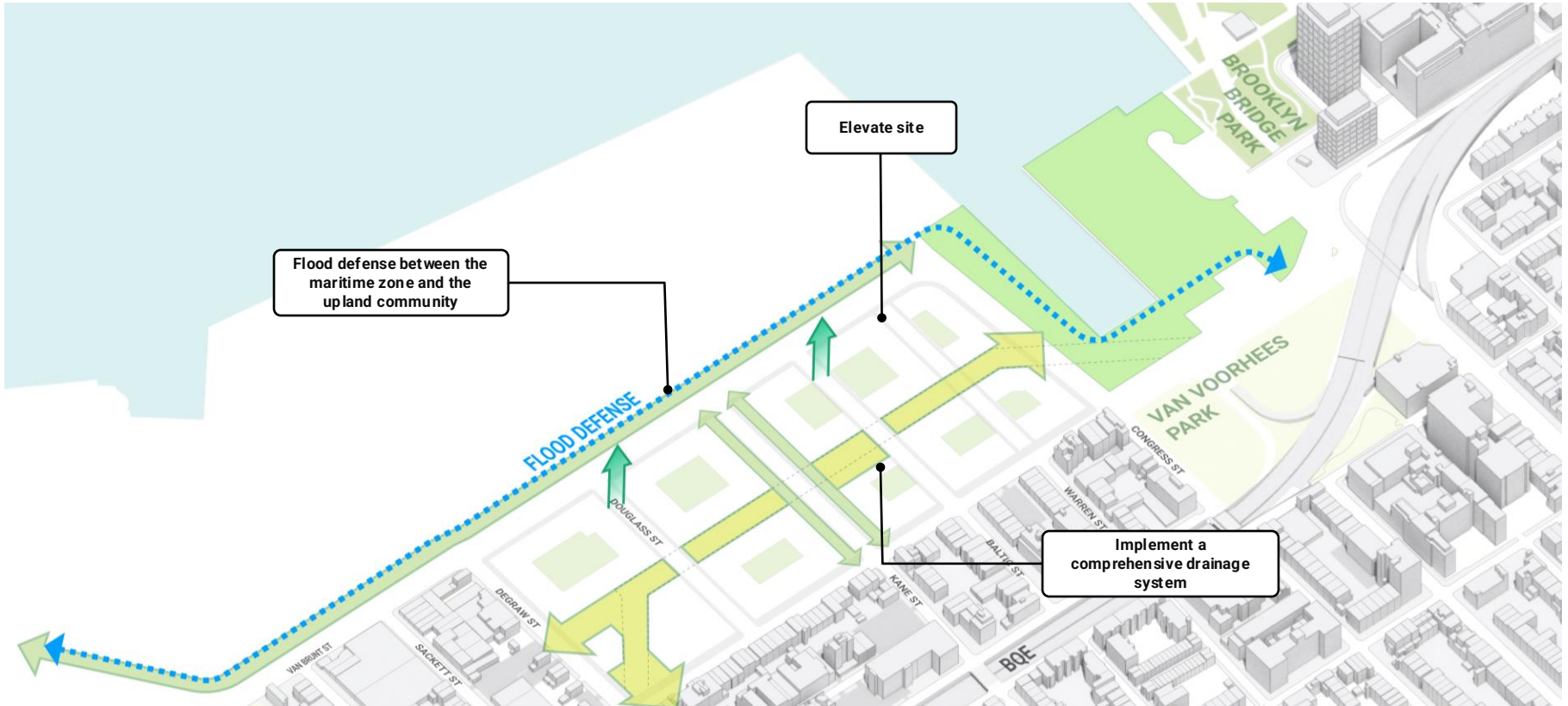


Tasinge Square Copenhagen

# The plan will be multi-layered to balance flood risk and water access needs



# The plan will build a floodwall, elevate the new streets, and help coordinate a comprehensive drainage system

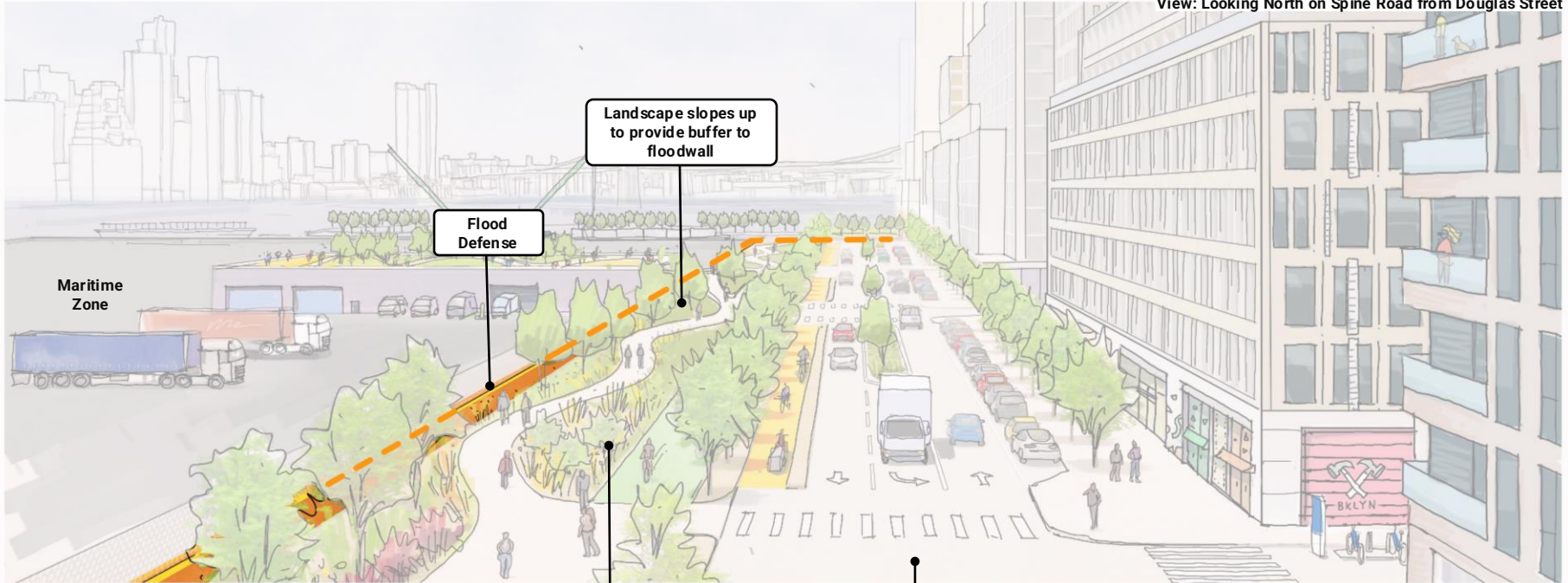




# Flood resilience can be part of a new linear park



View: Looking North on Spine Road from Douglas Street

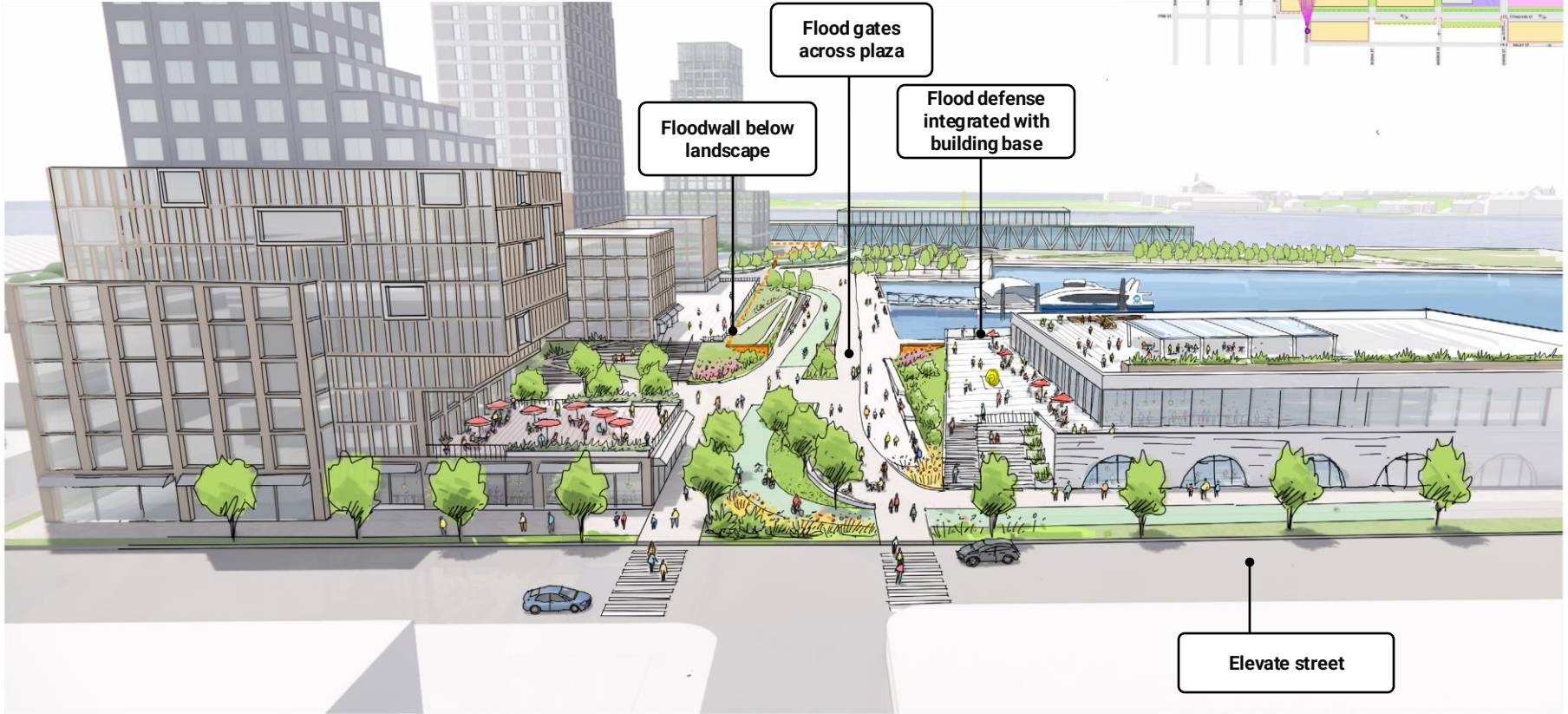


Preliminary concepts, subject to change

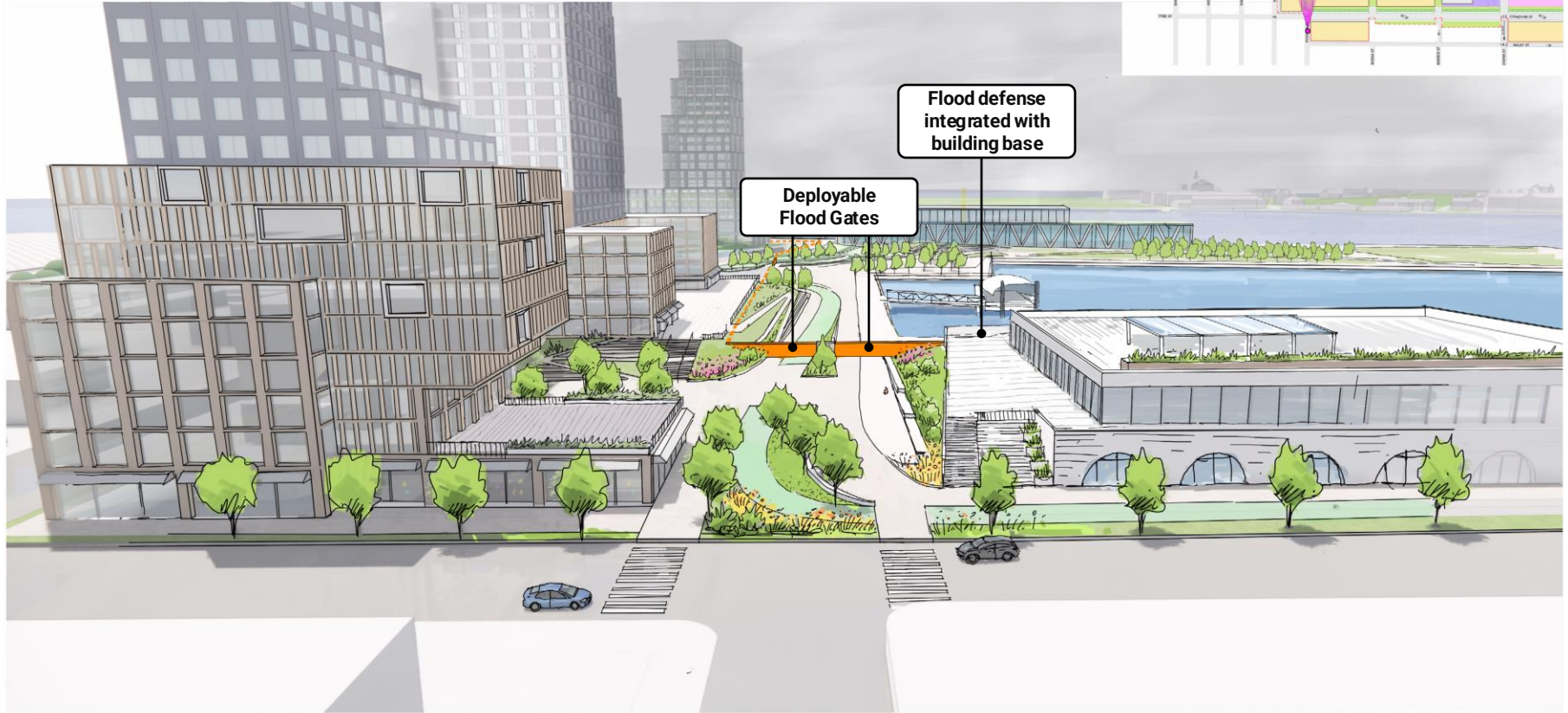
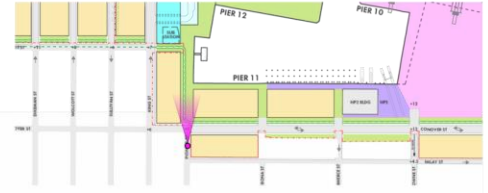
# Pioneer Street gateway, existing conditions today



# This plan is an opportunity to integrate floodwalls into the landscape



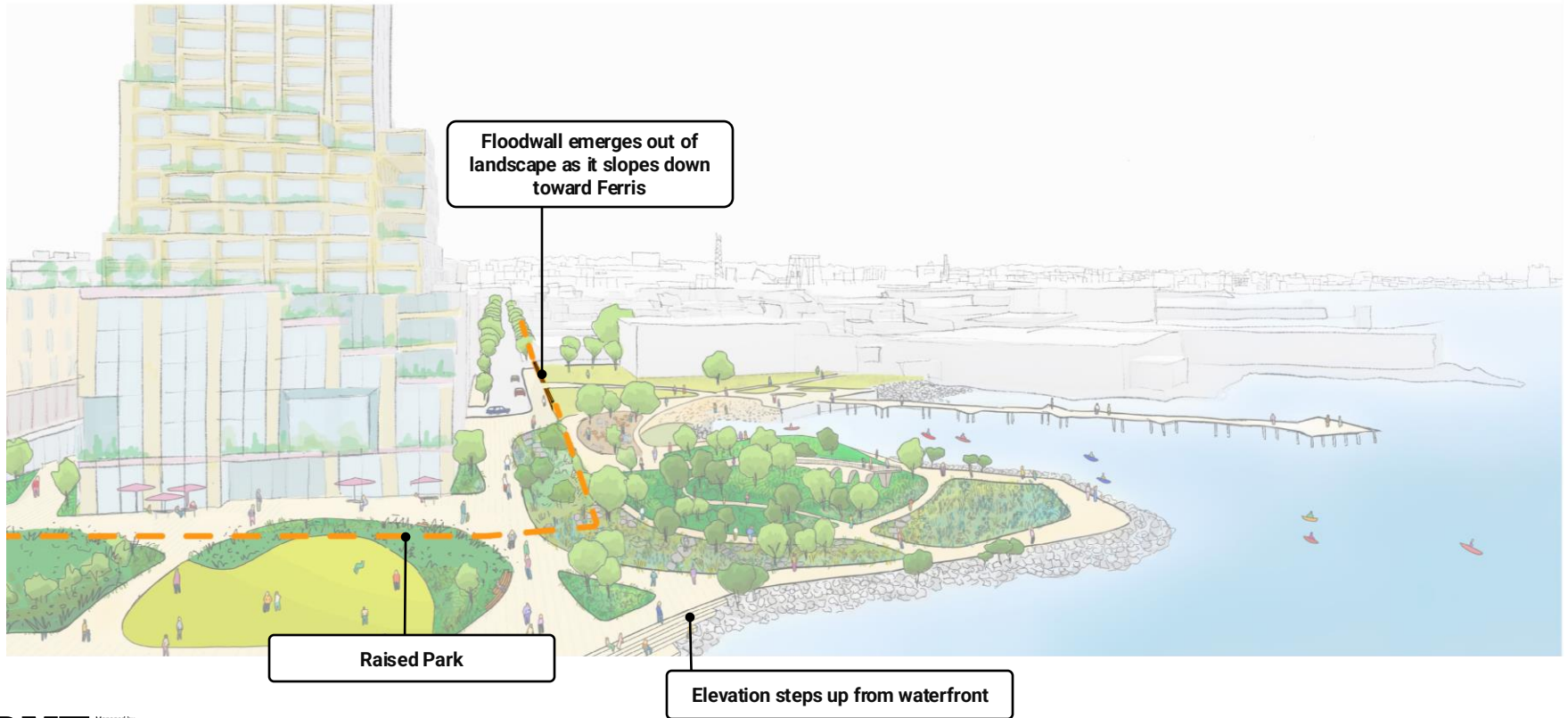
# BMT can help protect the community from the next Superstorm Sandy



# UPS site and Valentino Pier Park waterfront today



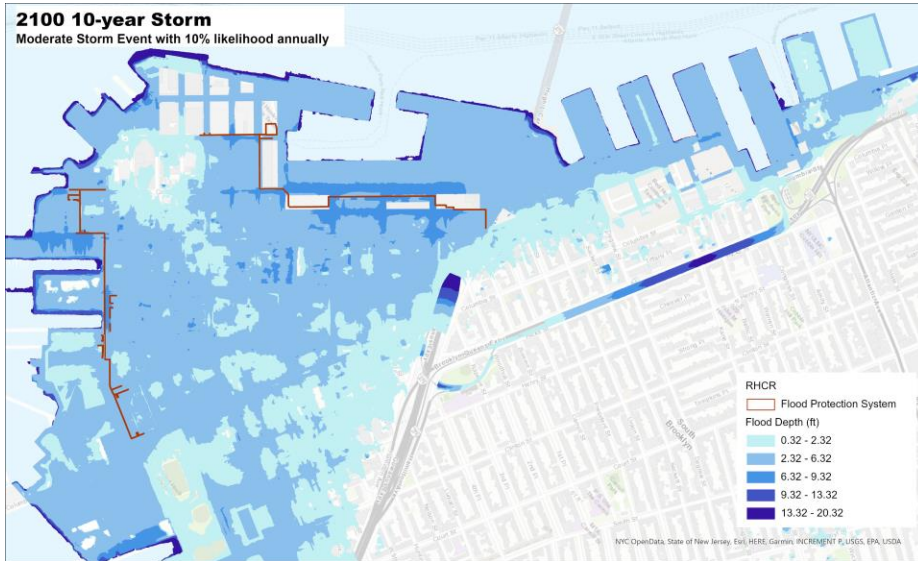
# The peninsula can be elevated to create a park that protects the neighborhood



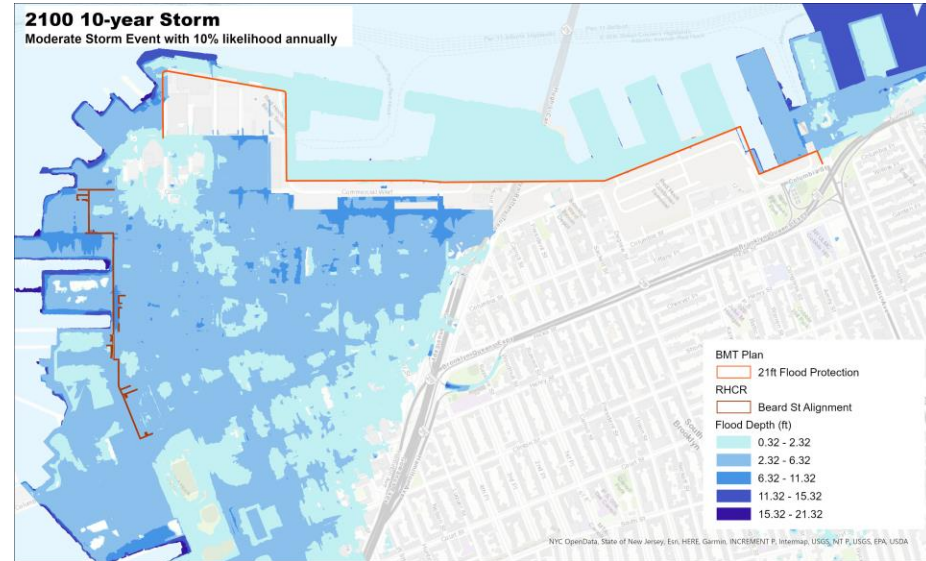
# Flood Protection against Moderate Storm Events

- The BMT plan would protect the neighborhood north of Hamilton Ave from sea level rise, high tides, tidal flooding, and storm events with a 10 percent chance of occurring each year through the year 2100

## Red Hook Coastal Resiliency Protection



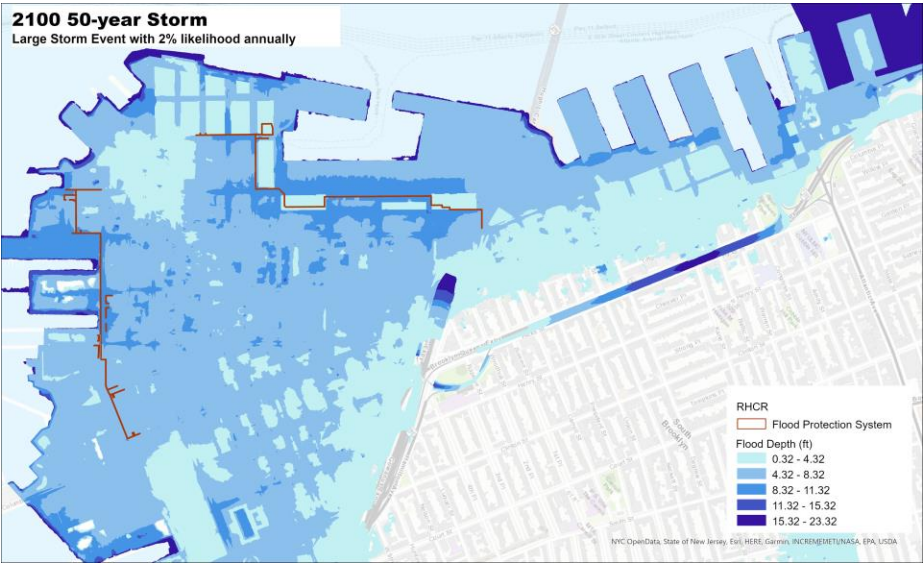
## BMT Coastal Flood Protection



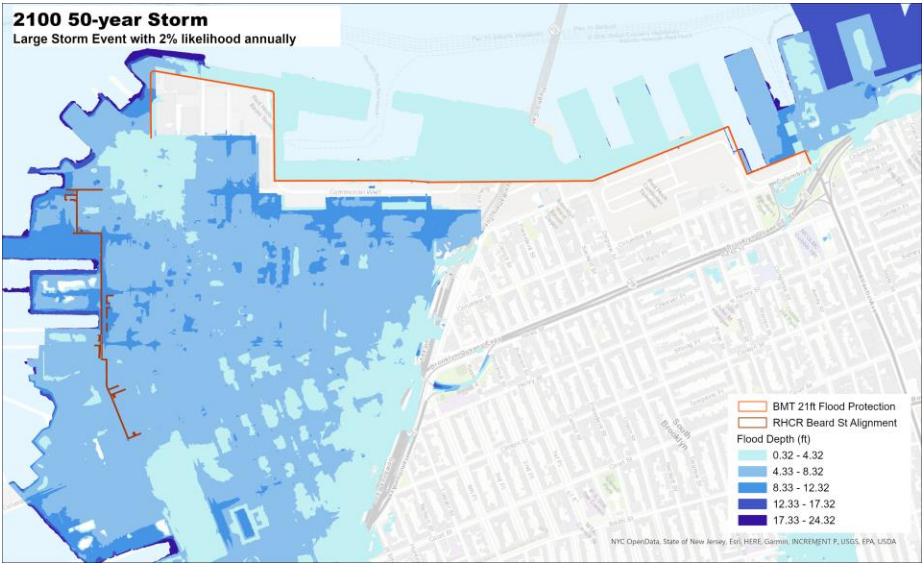
# Flood Protection against Large Storm Events

- The BMT plan would protect the neighborhood north of Hamilton Ave from the 50-year storm event which has a 2 percent chance of occurring each year through the year 2100.
- The plan should also prevent flooding in the BQE trench.

## Red Hook Coastal Resiliency Protection



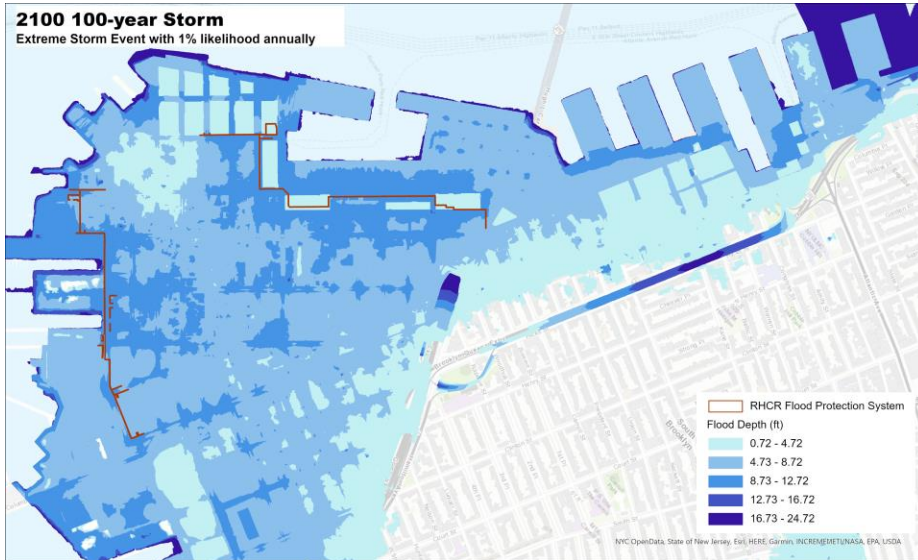
## BMT Coastal Flood Protection



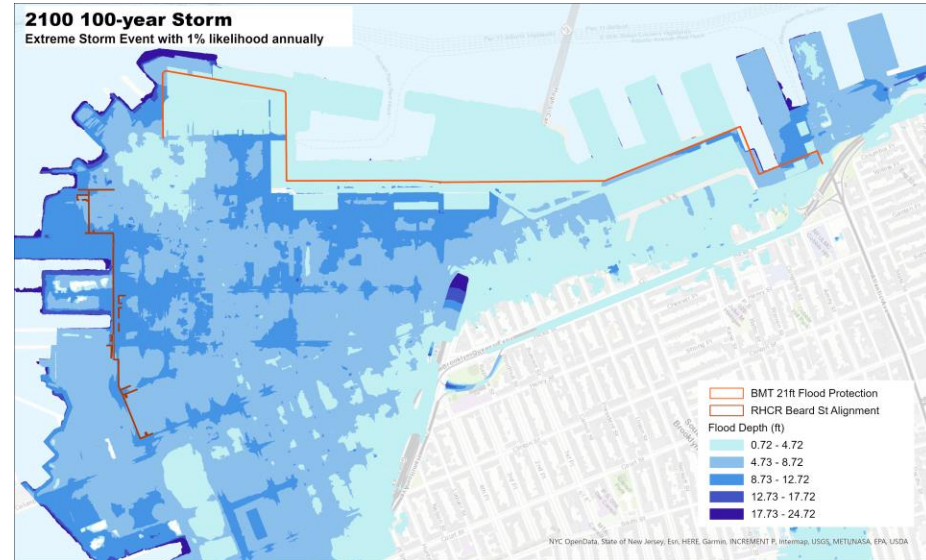
# Flood Protection against Extreme Storm Events

- Such extreme storm events could resemble Hurricane Sandy.
- While the BMT plan would limit the amount of flooding in the neighborhood north of Hamilton Ave, wave action from the south could still cause inundation throughout the floodplain.

## Red Hook Coastal Resiliency Protection

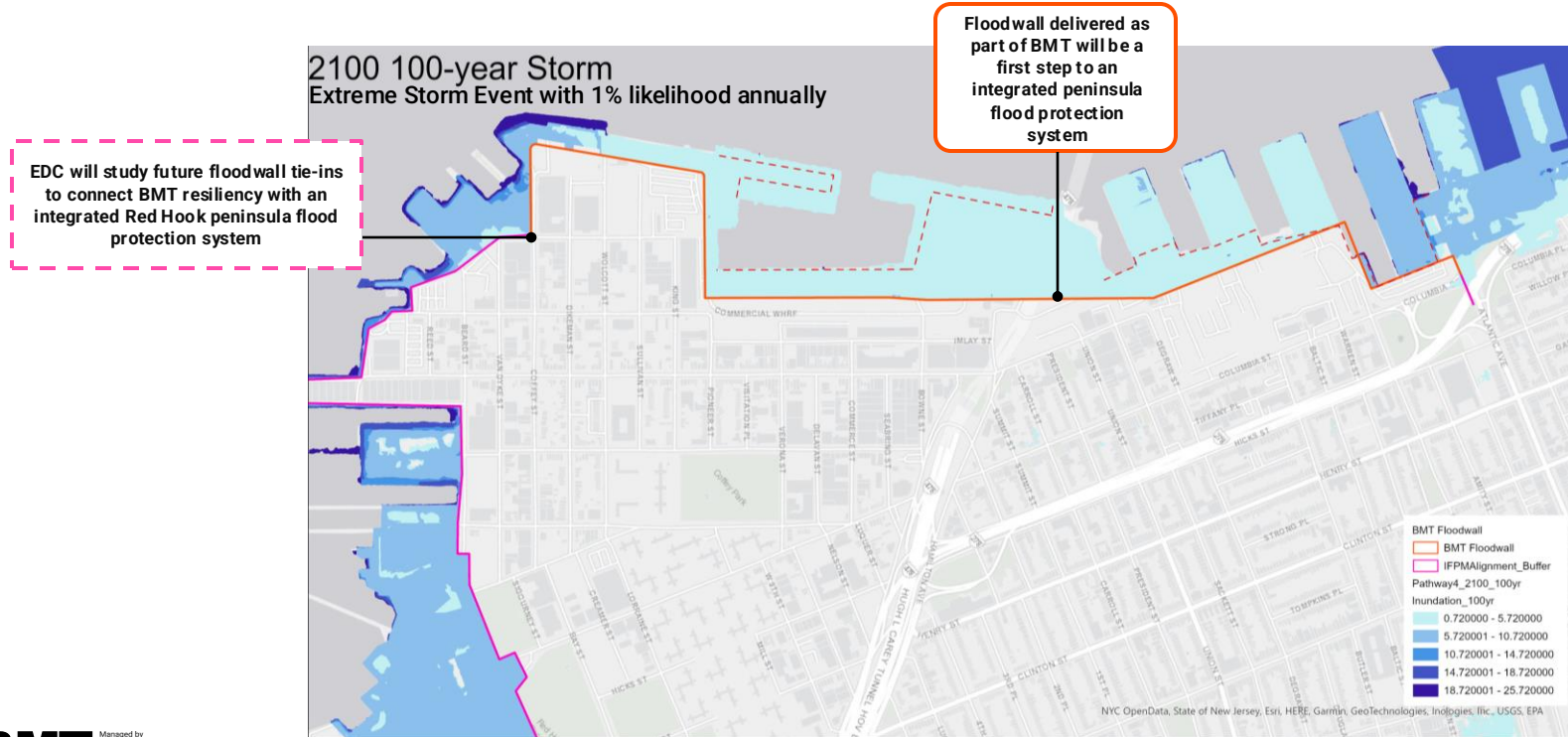


## BMT Coastal Flood Protection



# BMT will be the first step towards an integrated peninsula flood protection system

- The BMT plan will form a key part of an integrated flood protection system that protects the entire floodplain from future extreme storm events in 2100.
- BMT will deliver 1/3<sup>rd</sup> of the alignment envisioned by HATS Plan (2022), and is full funded.



# Project Commitments for Resiliency

- EDC commits that all new development will be resilient to coastal flooding and that the site will be raised to protect against future sea level rise.
- EDC commits to building a flood barrier system that will be constructed to span the length of the BMT site with a design elevation based on a 2100, 100-year storm.
- EDC commits that the BMT site will manage stormwater that falls on the site, optimizing green infrastructure and water reuse and that any runoff will be discharged directly to the harbor, avoiding impacts to the existing drainage system.
- The City commits to completing a DEP-led amended drainage plan for BMT (by end of 2025) and surrounding area (by end of 2026) to identify infrastructure needs and upland drainage measures.
- EDC commits to a \$5 million study of future floodwall tie-ins to connect BMT resiliency with an integrated Red Hook peninsula flood protection system.

# Q&A Discussion

A blue-tinted photograph of a port. In the foreground, a large gantry crane stands on a pier. In the background, a ship is docked at the pier, and a city skyline is visible across the water. The overall scene is industrial and maritime.

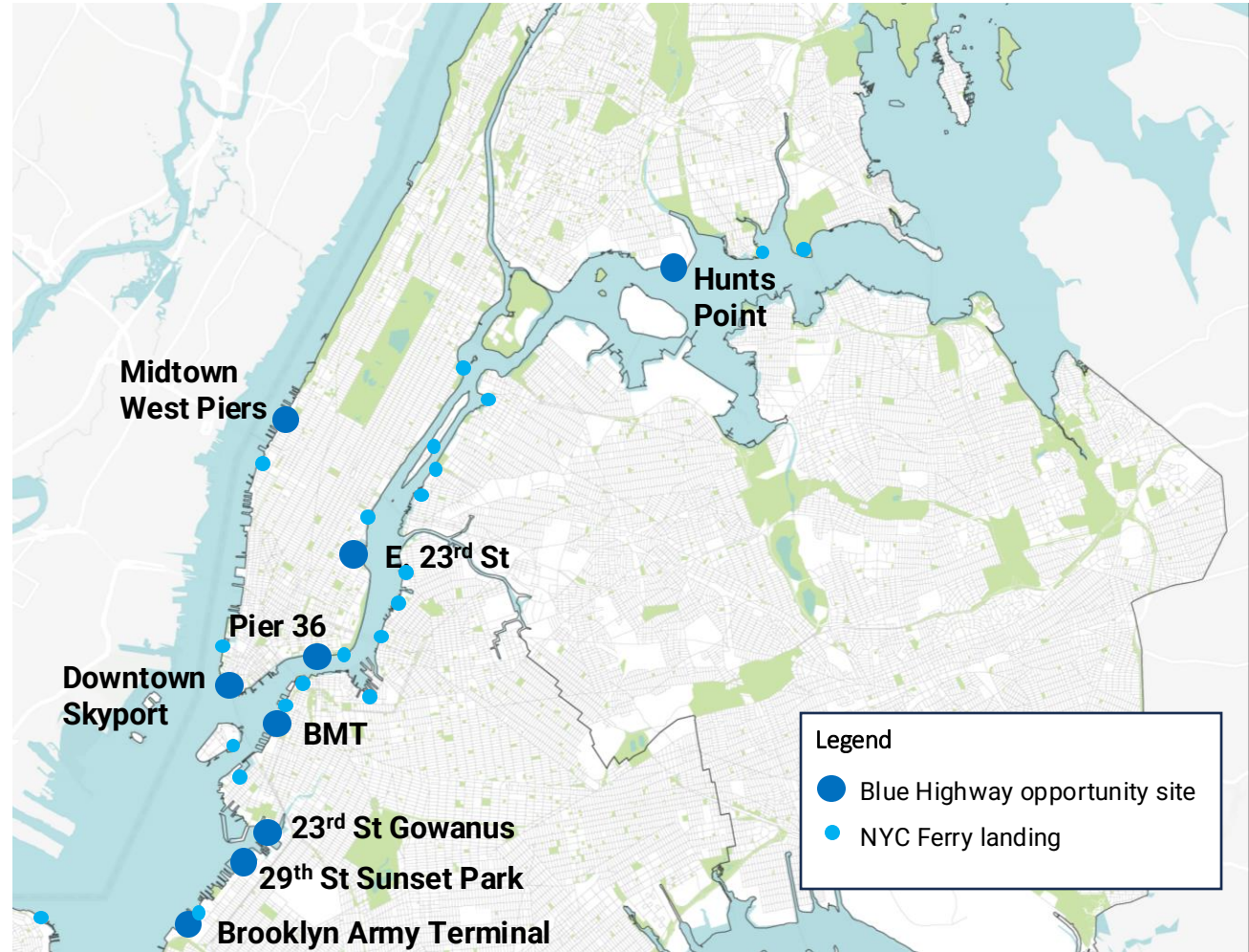
# Blue Highway

A blue-tinted photograph of a port. In the foreground, a large gantry crane stands on a pier. To the left, a ship is docked. In the background, a city skyline is visible across the water. The overall scene is industrial and maritime.

# Blue Highways landing sites under evaluation

Opportunities for  
Blue Highway  
activities exist at 25+  
locations along  
NYC's waterfront









Additionally, EDC is  
investigating the use of  
private landing sites in  
partnership with industry  
on the Bronx and Queens  
waterfronts



# Blue Highways can be used to move a variety of goods

## Blue Highways encompasses both microfreight and bulk commodity verticals

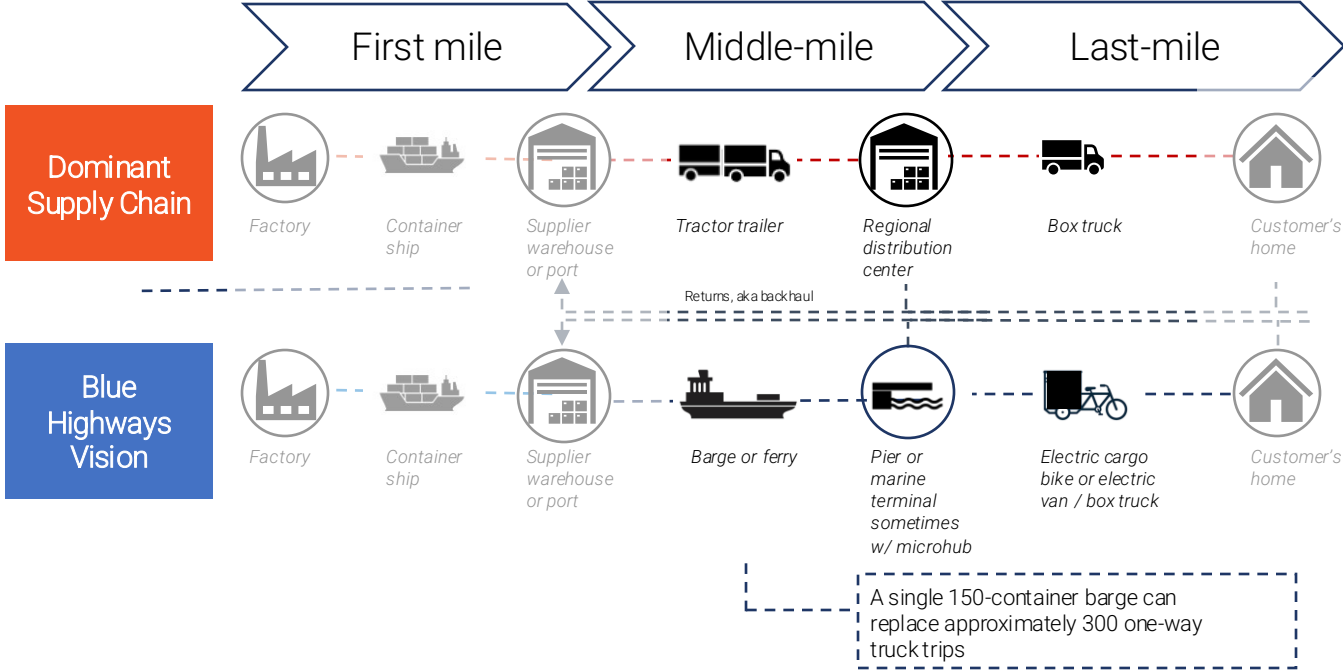
- Microfreight: e-bikes for parcel delivery and microfreight, using smaller barges and ferries, docking at smaller landings
- Bulk: aggregate, municipal bulk, large trucks on barges, container movement within NY Harbor at larger landings

	Microfreight  		Bulk 		
Commodity	Microfreight food and beverage	Consumer goods	Food	Aggregate	Municipal bulk
Example	Kegs of beer	E-commerce packages	Pallets of bananas	Gravel	DSNY organic waste, road salt
					
Vessel	Ferry	Ferry	Deck barge	Deck barge, hopper barge	Deck barge, hopper barge
Containers	e-bikes, e-vans, bike-compatible containers	e-bikes, e-vans, bike-compatible containers	Trailers, shipping container	Hopper, on barge deck	Hopper, on barge deck
Loading/unloading	RO-RO	RO-RO	RO-RO, LO-LO	Materials handler	Materials handler

BMT and Hunts Point  
Focus

# Blue Highway supply chain for moving goods in NYC

Shifting movement of freight from trucks to waterborne freight to reduce congestion, emissions, and strain on roadway infrastructure



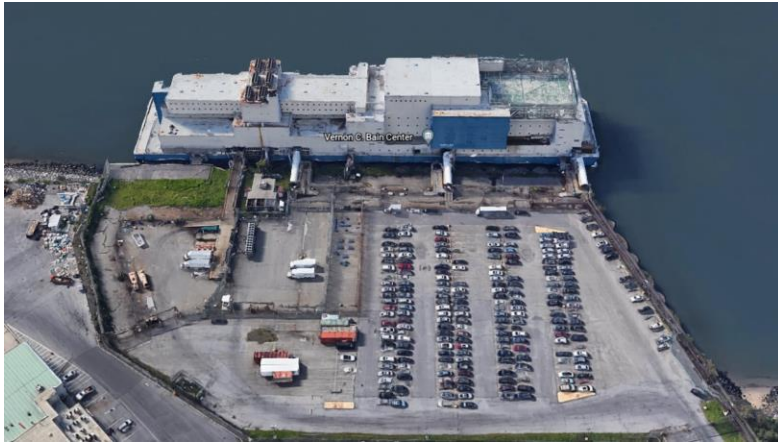
**\$20B**

*“Excess congestion has increased 53 percent since the Partnership and HDR conducted an initial analysis in 2006, rising to a cost of \$20 billion annually.”*

- Partnership for New York

# Hunts Point Marine Terminal Vision

- Strategic opportunity to link BMT and food distributors at Hunts Point via a barge service and marine terminal operation, due to 12% of all food in NYC flowing through the Hunts Point Food Distribution Center
- Fully electrified terminal – electric yard tractors and shore power
- Includes removal of the Vernon C. Bain prison barge, as the City committed to as part of the 2022 Hunts Point Forward plan conducted in consultation with the community

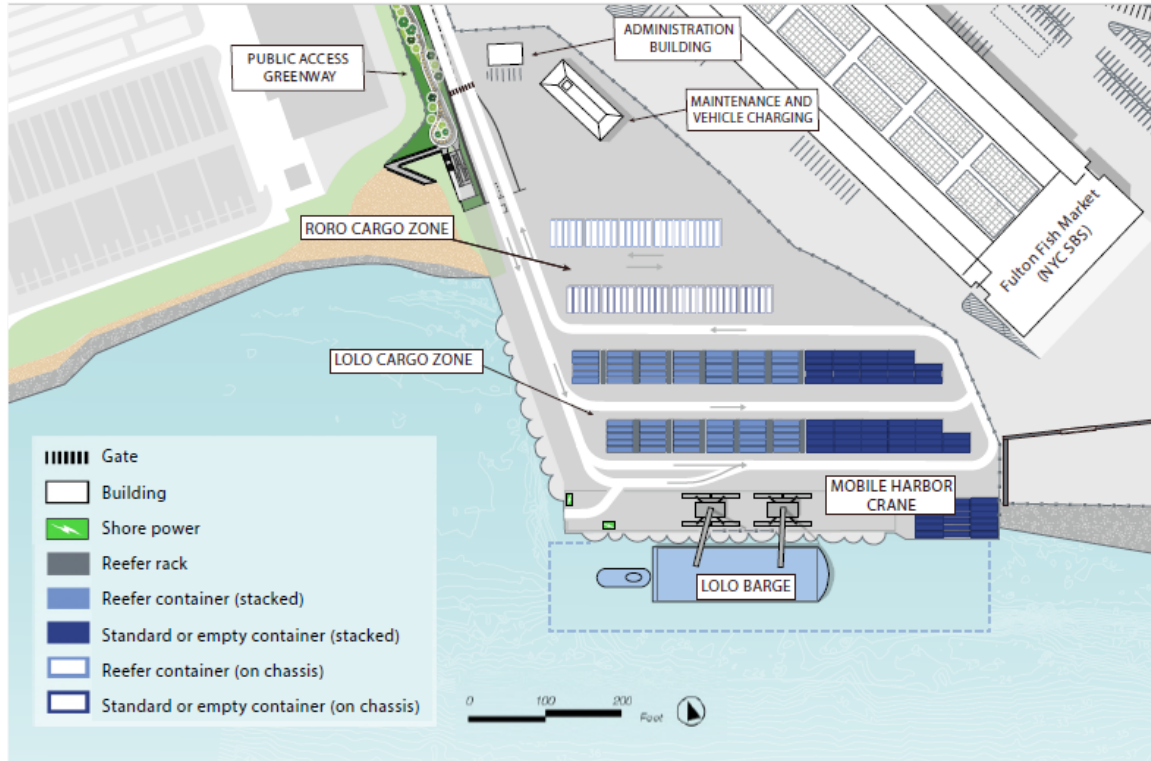


Vernon C. Bain Center (VCBC) prison barge and parking lot, circa 2021



Rendering of proposed Hunts Point Marine Terminal

# Proposed Hunts Point Marine Terminal Layout

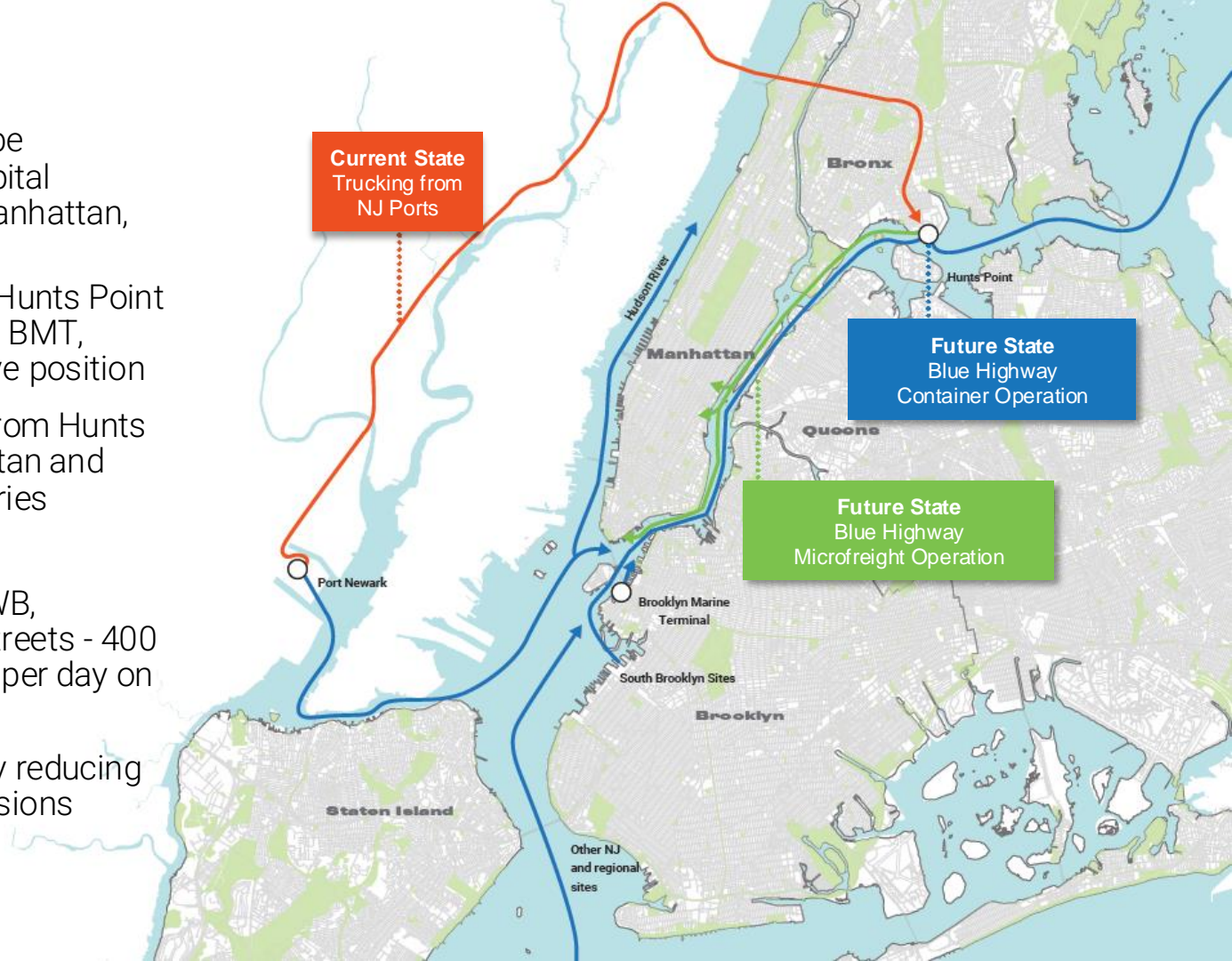


## Marine Terminal Components

- 8-acre site capable of handling inbound 40' shipping containers via Lift-on/Lift-off (LOLO) with mobile harbor cranes. Additional capability for roll-on/roll-off (RORO) depending on demand for interoperability with low-tech marine terminals. LOLO allows for high-volume throughput primarily from BMT
- 150-container electric, refrigerated LOLO barge for carrying food and beverage
- 2 mobile harbor cranes
- Electric shore power for vessel and vehicle charging

# Blue Highways

- Blue Highways landings to be upgraded with **\$25M+** in capital funding across Brooklyn, Manhattan, and the Bronx
- **Inbound** barge deliveries to Hunts Point Food Distribution Center via BMT, improving BMT's competitive position
- **Outbound** barge deliveries from Hunts Point to landings in Manhattan and Brooklyn for last-mile deliveries
- Project Benefits
  - **Reduces trucks** on GWB, highways, and local streets - 400 fewer daily truck trips per day on NYC streets
  - **Improved air quality** by reducing greenhouse gas emissions



# Electrification

Electrification at BMT and Hunts Point creates network of citywide coverage

- EDC is committed to pursuing electrification at all stages of marine terminal operations, from yard equipment to vessels
- BMT to Hunts Point route a strong contender for electrification due to short distance with fixed volumes with charging infrastructure to be installed at both terminals



# Project Commitments for Blue Highways

- In addition to BMT, EDC has already committed to activating Downtown Skyport (former Downtown Manhattan Heliport) as a Blue Highways landing alongside private partners with the EDC-led design and permitting process underway.
- EDC is committed to the transformation of the former Vernon C. Bain Correctional Center prison barge site in Hunts Point into a loading and unloading port for containers with primarily perishable goods that are barged from BMT and other regional ports to the Hunts Point Food Distribution Center.
- EDC is committed to a major Blue Highway node on the West Side of Manhattan, most likely at Pier 92 as part of the redevelopment of the Manhattan Cruise Terminal.
- EDC is committed to advancing a Blue Highway uses and infrastructure at 23rd St in Gowanus/Sunset Park.
- EDC is committed to advancing Blue Highway uses and infrastructure at the 29th St Shed in Sunset Park.
- EDC is studying the use of NYC ferry landings to also receive and ship small packages as part of the Blue Highway network.
- EDC is partnering with the Trust for Governor's Island to pilot the use of NYC Ferry to deliver goods while collecting data to improve best practices for Blue Highways operations.
- EDC is also developing partnerships with the private sector to support privately-owned waterfront sites in Staten Island, Brooklyn, the Bronx, and Queens to be activated.
- Blue Highway workforce commitments are noted in the Workforce Development section.

# Pilots

Four pilots have been run since the start of the Blue Highways initiative

Clockwise, from top left:

- Empire Clean Cities, Net Zero logistics, and NY Water Taxi pilot for Governor's Island to Atlantic Basin (2024)
- Hunts Point to Pier 17 in Lower Manhattan (2023)
- DutchX and NY Waterway passenger ferry pilot from Weehawken, NJ to Pier 79, Manhattan (2024)
- UPS and Hughes Marine trailer-on-ferry roll-on/roll-off pilot from NJ to BMT (2021)



Future pilots planned for goods transiting to Governor's Island, in collaboration with NYC Ferry, Trust for Governor's Island, Net Zero Logistics, and Empire Clean Cities

# Q&A Discussion



# Workforce Development

A blue-tinted photograph of a port. In the foreground, a large gantry crane stands on a pier. In the background, a city skyline is visible across the water. The overall scene is industrial and maritime.

# BMT Projected Job Creation

Redevelopment of BMT will generate over \$21B in economic impacts, including:

**39,000**

**Temporary  
Construction  
Jobs**

**2,400**

**Permanent  
Operational  
Jobs**

**295**

**Maritime  
Industrial  
Jobs**

125 new jobs  
170 existing ILA jobs

**200**

**Cruise  
Sector  
Jobs**

50 new jobs  
150 existing cruise jobs

# BMT Workforce Development | Construction Jobs

## Residence-Based Community Hire

An individual living in NYCHA housing or in an Economically Disadvantaged Region, a ZIP code where at least 15% of the population lives below the federal poverty line.

**100%**

**NYCHA RED HOOK HOUSES RESIDENTS qualify as Residence-based Community Hires**

**29%**

**RED HOOK RESIDENTS (zip code: 11231) qualify as Residence-based Community Hires**

NYCEC will establish a **Project Labor Agreement (PLA)** and will support the use of unionized labor throughout all stages of City-funded construction.

The PLA will also incorporate NYCEDC's **Community Hiring** goals to maximize opportunities for community residents.

- **30% of labor hours** must be completed by Community Hires
- Contracts must hire the **maximum apprenticeship** to journeyman ratio permitted under law
- Contractors must utilize **community referral programs** for sourcing apprentices and local hires

# BMT Workforce Development | Permanent Jobs

NYCEDC is prepared to invest **~\$30M** towards workforce development

**\$17M**

CAPITAL FUNDING COMMITMENT

**\$12M**

OPERATIONS FUNDING COMMITMENT

NYCEDC is committed to fostering a dedicated workforce pipeline for community residents at BMT.

- Establish a **world-class, experiential learning center** at Pier 11
- Apply Community Hiring to all future tenants at BMT and establish an **Economic Mobility Network** for Red Hook
- Launch a **maritime career readiness & scholarship program** – specifically for NYCHA Red Hook Houses residents
- Launch a **grant fund** for blue highways training programs & create a blue highways **career pathways website**
- Utilize the cruise terminal for **hiring events** & launch a **flagger certification program** – specifically for Red Hook residents

# BMT Workforce Development | BMT Experiential Learning Center

NYCEDC will reserve a minimum of **15K SF** of space at Pier 11

## Learning Center Vision

Dynamic community space with educational programming, interactive exhibits, and public events that welcomes families, students, and visitors to the Brooklyn Marine Terminal and teaches them about key elements of NYC's working waterfront and the role of the port in the City's Blue Highways ecosystem.



# BMT Workforce Development | Economic Mobility Network

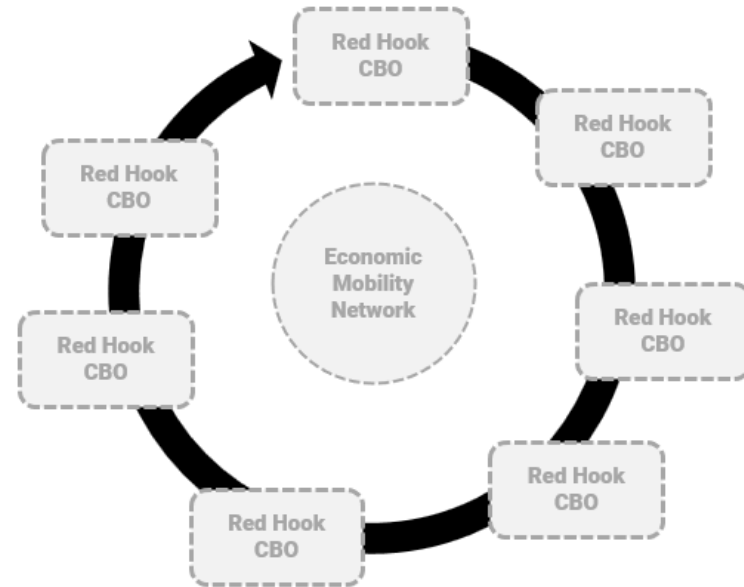
## Economic Mobility Network

A community-led coalition of Red Hook nonprofits that will partner with NYCEDC to deliver ongoing workforce services .

The objectives of the coalition will be to expand **local resident employment** and **local resident internships & apprenticeships** at BMT.

NYCEDC is currently piloting this concept in Sunset Park and Hunts Point.

NYCEDC will invest  
**~\$1.4M** over 4 years to  
create a Red Hook EMN



Community-based organizations from Red Hook will have the opportunity to respond to a competitive RFP to lead and/or participate in this new workforce development-focused coalition dedicated to advancing opportunities for residents at BMT.

# BMT Workforce Development | NYCHA Maritime Readiness Program

## NYCHA Program Overview

A comprehensive maritime career readiness program for young adults at NYCHA Red Hook Houses. This will focus on introducing high schoolers to potential maritime career pathways at BMT and the credentials/licensing/training required for those opportunities.

This may include classroom instruction as well as hands-on exposure to professionals in the field through mentorships, site visits, or job shadowing. Participants will also receive wrap around support to secure TWIC certification, a drivers license, and/or swim instruction as needed.

NYCEDC will also fund a scholarship program for students who wish to pursue an advanced degree and/or training in the maritime field.



- ✓ Professional mentors
- ✓ Job shadowing
- ✓ BMT site visits
- ✓ TWIC Certification
- ✓ Drivers License
- ✓ Swim Instruction
- ✓ Scholarships

# Project Commitments for Workforce Development

- EDC will reserve a minimum of 15,000 SF of space at Pier 11 within a future mixed-use development at Atlantic Basin and commit \$17 million towards the design and construction of a “maritime port and Blue Highways welcome and experiential learning center”, including workforce training space.
- EDC will commit \$12 million towards workforce development programming.
- EDC will identify operators for workforce initiatives, including:
  - One operator for a Red Hook Economic Mobility Network which will establish a coalition of workforce providers to partner with NYCEDC on advancing resident employment, resident internships, and resident apprenticeships at BMT
  - One operator to manage the experiential learning center and operate (in collaboration with local CBOs) community-based job training programs as well as early education partnerships to introduce youth to maritime career pathways.
  - One operator to manage a maritime career readiness program and a maritime degree scholarship fund for young adults at NYCHA Red Hook Houses that will create a dedicated workforce pipeline to BMT jobs.
  - Operator(s) to manage all additional workforce programs prior to BMT development.
- EDC will apply the City of New York’s new Community Hiring Program to BMT tenants within the future mixed-use development at Atlantic Basin.
- EDC will establish a Project Labor Agreement (PLA), for City-funded construction and will include Community Hiring goals to maximize opportunities for the local community.

# Q&A Discussion

