

Welcome to the FiDi-Seaport Virtual Open House!

As you're waiting for the presentation to start, please take a moment to introduce yourself in the chat!

If you would like to listen to the presentation and ask questions in Cantonese or Spanish, please let us know in the chat!

Si desea escuchar la presentación y hacer preguntas en cantonense o en español, ¡háganoslo saber en el chat!

如果您想听演講並用粵語或西班牙語提問，請在聊天中告訴我們！

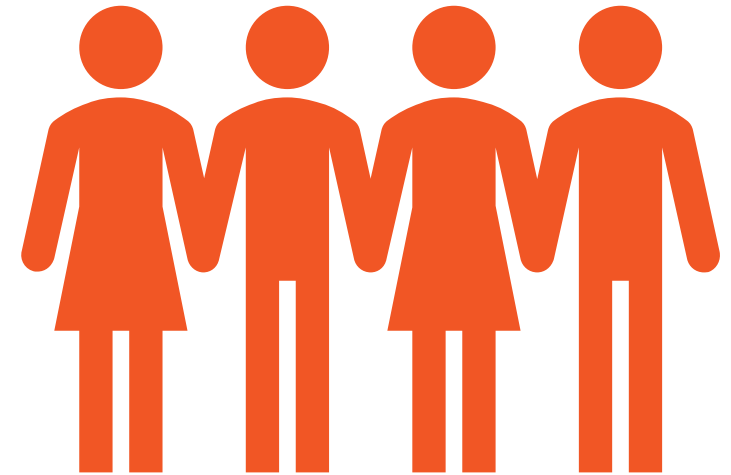
Financial District & Seaport Climate Resilience Plan

November 2021

Welcome to Zoom!

A few requests for today's event:

1. *When in a Zoom meeting, please mute yourself while others are speaking throughout the duration of the Virtual Open House. You will have time in the breakout rooms and the Q&A room to unmute and discuss.*
2. *Add questions to the chat box during presentations.*
3. *Turn on your camera if you can!*



In Lower Manhattan, the City is advancing over \$900M in **climate adaptation** projects. The Financial District and Seaport Master Plan will fill the missing link.

The FiDi-Seaport Climate Resilience Plan will be a **comprehensive resilience plan** to protect the Financial District and South Street Seaport



Presentation in-progress, please go to the livestream on [FidiSeaportClimate.NYC](https://www.fidi-seaport-climate.nyc.gov) to watch from the beginning.

Join Zoom meeting for discussion from 6:00 - 7:30pm

Who is our **project team**?

The logo for the New York City Economic Development Corporation (NYCEDC), featuring the letters 'NYC' in black, a yellow diagonal slash, and 'EDC' in black.The logo for the Mayor's Office of Climate Resiliency, featuring the letters 'NYC' in teal and the text 'Mayor's Office of Climate Resiliency' in black.The logo for Arcadis, featuring an orange stylized 'A' icon followed by the word 'ARCADIS' in black.The logo for SCAPE, featuring the word 'SCAPE' in teal.The logo for ONE Architecture & Urbanism, featuring the word 'one' in blue.

The **New York City Economic Development Corporation (NYCEDC)** and the **Mayor's Office of Climate Resiliency (MOCR)** are leading the Climate Resilience Plan in close collaboration with the NYC Departments of Transportation, City Planning, Environmental Protection, Parks & Recreation, and more.

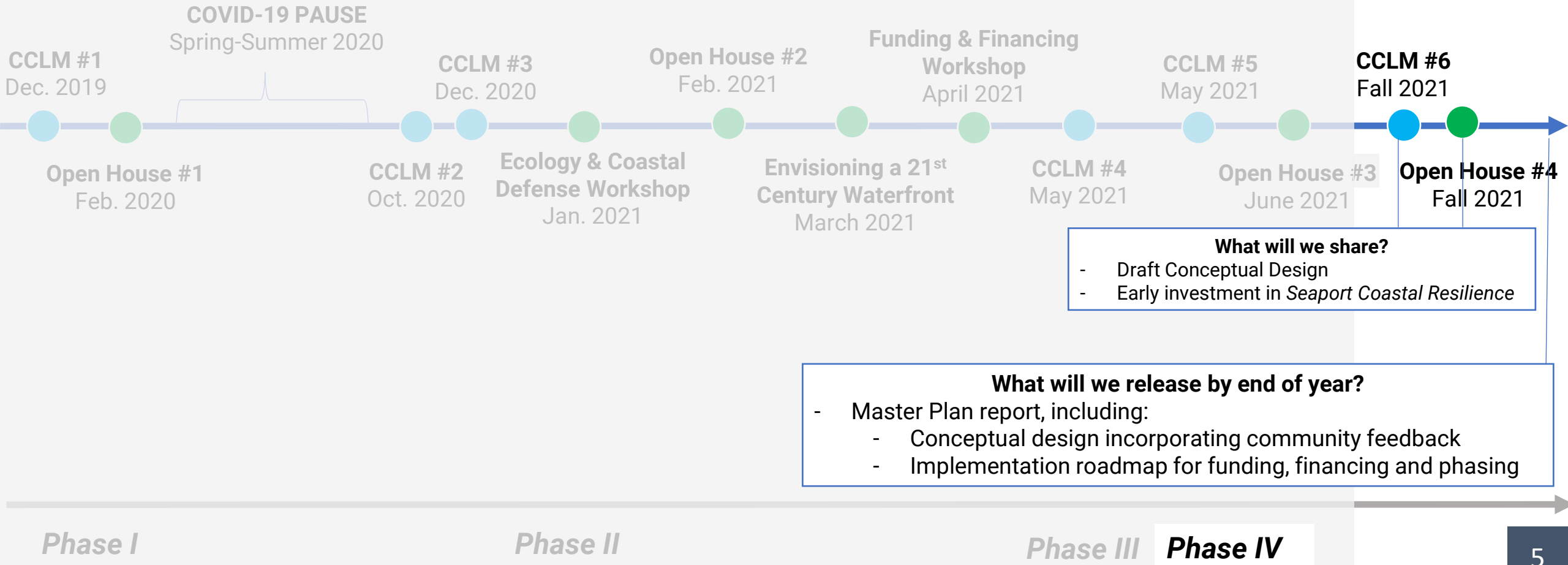
An interdisciplinary team of experts are supporting this work, led by the Dutch engineering firm **Arcadis** and including **ONE Architecture & Urbanism** and **SCAPE Landscape Architecture**.

In **June**, we hosted our **third Open House** to share an update on our technical work and discuss what a resilient waterfront could look like.

We've been engaging with you and the public at every step of this process, and it has continually informed our analysis, design work, and development of the plan.

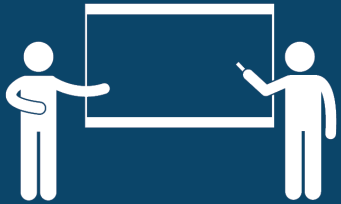
- Ongoing:**
- Quarterly elected briefings
 - CB briefings
 - Engagement subcommittee meetings

CCLM ●
PUBLIC ●



Tonight, we would like to discuss...

WELCOME



You are here!

Learn more about the project's goals, ingredients, and design!

FOLLOW-UP DISCUSSIONS



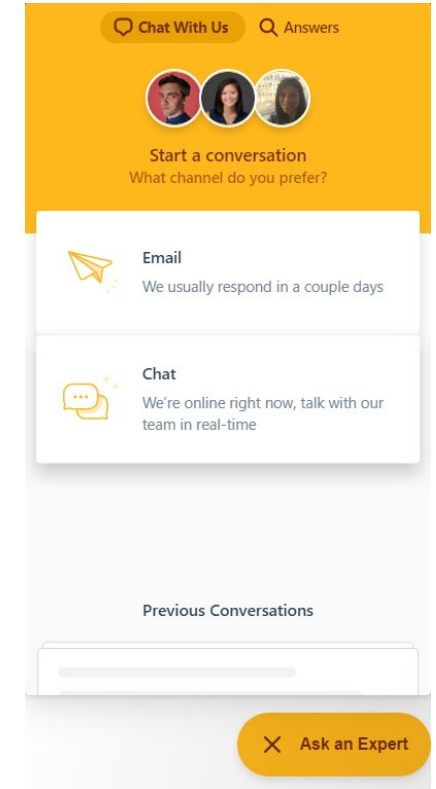
The Master Plan

We want to hear from you! Tell us your thoughts on the master plan, its design, and the urban and waterfront experience.



Project Implementation and Q&A

Ask our project leaders questions about the project and our process.



Click the 'Ask an Expert' button in the bottom right corner of the event page to chat with someone from our team at any time!

Lower Manhattan is both a gateway and a destination.

Our plan is for the hundreds of thousands of commuters, workers, residents, students, and visitors that rely on this place and its functions that serve our city.

If we don't act, Lower Manhattan will begin to flood monthly by the 2040s and daily by the 2080s.

200 buildings

With over 85,000 jobs, 6,200 residents, and over \$115 million in daily economic output

9 schools

With over 3,500 students, affecting over 2,500 families

70,000 daily riders

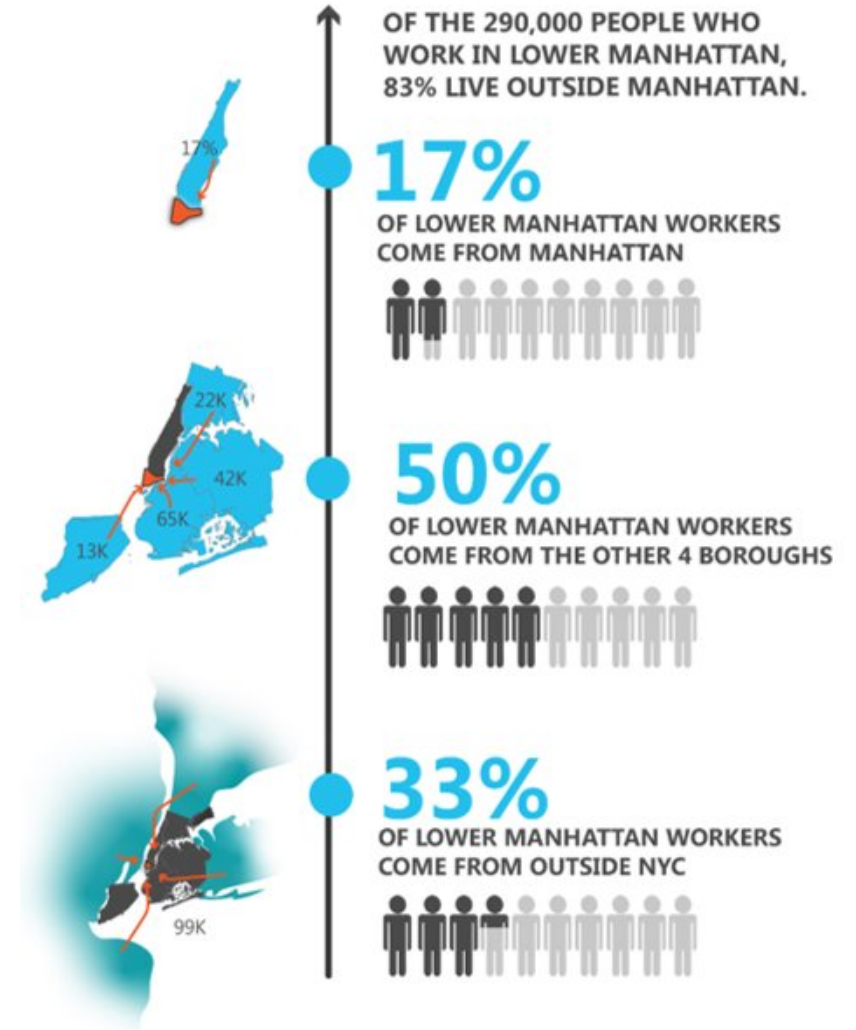
Rely on the Staten Island Ferry and travel through the Whitehall Ferry Terminal

11 subway lines

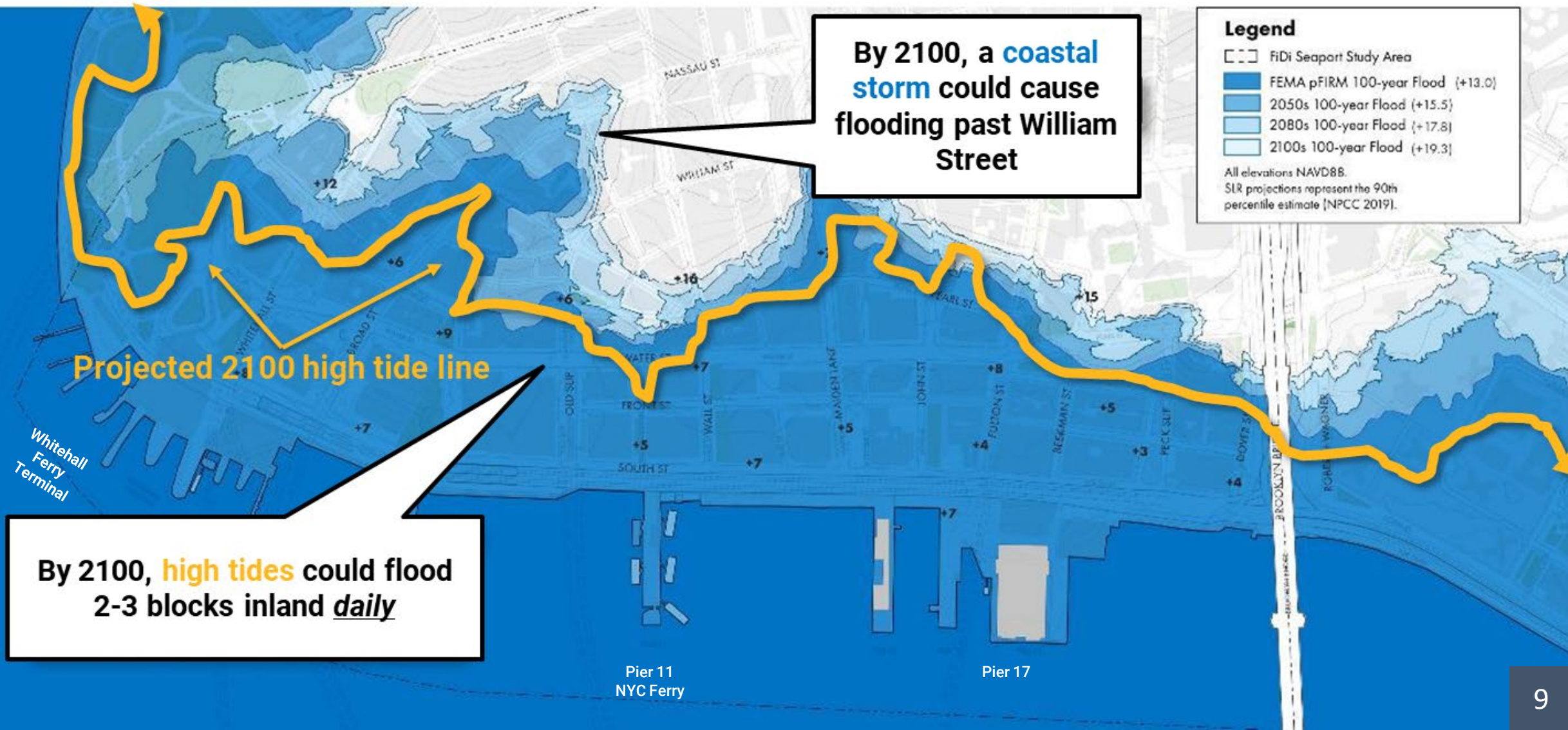
With almost 60,000 daily users

Critical citywide systems

Including our subways, sewers, and electrical systems



We need to protect the FiDi-Seaport from two types of climate risks – daily tidal flooding and coastal storms.



What is Seaport Coastal Resilience?

Project to protect a portion of the Historic South Street Seaport from climate impacts and deliver key community amenities.

- The Mayor announced **\$110M commitment** to advance a resilient waterfront project in the Seaport
- This stand-alone project will raise the water's edge 3-5 feet to protect a portion of the Seaport from sea level rise, rain events, current day 50-year storms, and **prevent monthly tidal inundation that would begin to occur in 2040s.**
- City is **applying for federal funds** through FEMA's Building Resilient Infrastructure and Communities (BRIC) grant to supplement City capital.
- Goal to **maximize opportunities** for green infrastructure, drainage improvements, ecological enhancements, and waterfront access.
- 5 years to project completion



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The FiDi-Seaport Climate Resilience Plan will transform this waterfront.

It will protect us from climate change while preserving what people love most and creating the waterfront we want for the future.

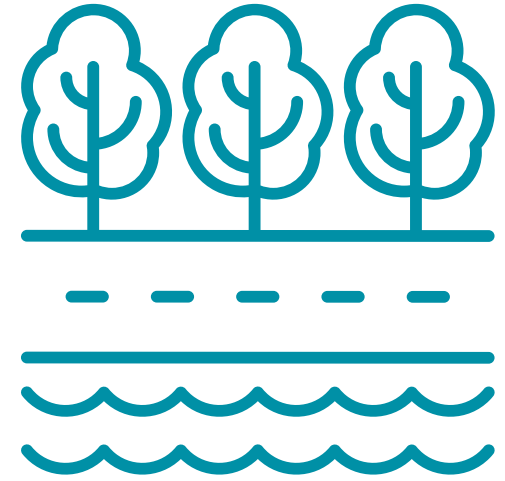
What are the project goals?



**Protect Lower
Manhattan from daily
tidal flooding and
coastal storms**



**Integrate our climate
resilience
infrastructure into
the city**



**Enhance the public
waterfront
experience**



Protect Lower Manhattan from daily tidal flooding and coastal storms

Our project must protect Lower Manhattan and its critical functions serving all New Yorkers from daily tidal flooding and coastal storms.

Ingredients



Flood Walls and Gates



Interior Drainage

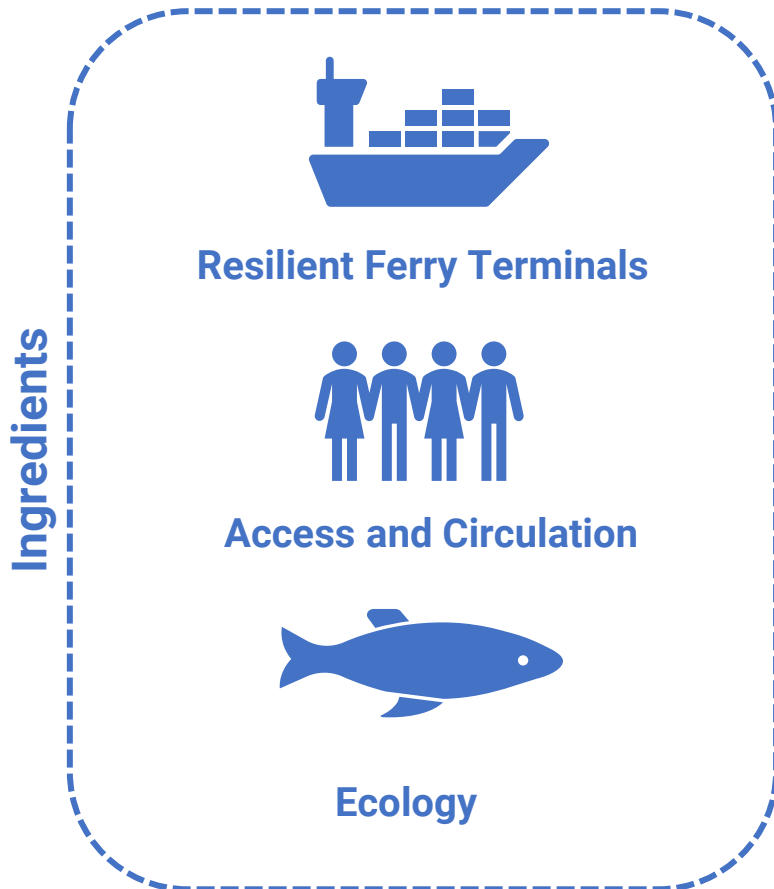
Our project will do this by:

- **Creating a multi-level waterfront** with two design flood elevations (DFEs) to defend the area from both frequent tidal flooding and coastal storms:
 - At the **lower level**, the plan will permanently raise the shoreline 3-5 feet higher than the esplanade today to protect against frequent tidal flooding.
 - At the **higher level**, the plan will include a series of gates and flood walls that are approximately 15-18 feet (or two stories) taller than the waterfront today to protect the neighborhood from coastal storms.
- Creating new infrastructure to **manage stormwater (interior drainage)**



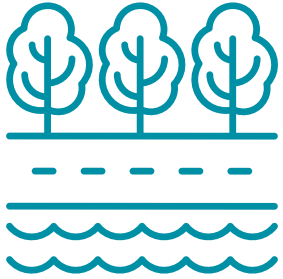
Integrate our climate resilience infrastructure into the city

Our project must provide coastal defense while restoring and enhancing what makes this waterfront so unique and important to our city – ferries, public access and waterfront connections, and even the East River itself.



Our project will do this by:

- Constructing **new resilient ferry terminals and piers**
- Ensuring **fluid movement of pedestrians, bikes, and emergency vehicles** to and along the waterfront
- Limiting impacts to the East River ecology and **restoring habitats that once thrived here**



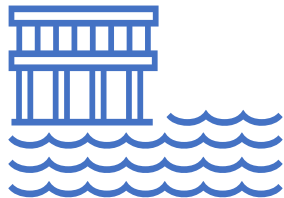
Enhance the public waterfront experience

This is also a tremendous opportunity to create a waterfront that preserves what people love about this area today while planning for the needs of the future.

Ingredients



Existing Public Destinations



Multi-level Waterfront Experiences



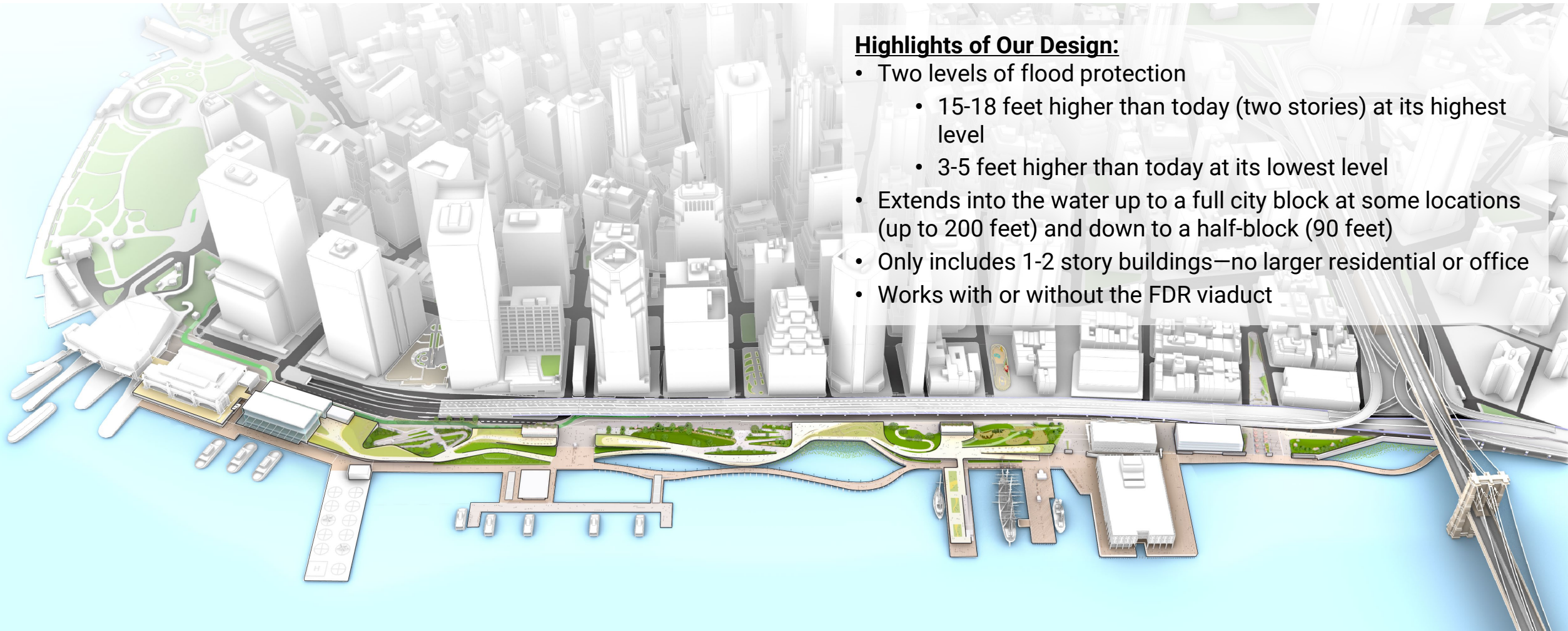
New Community Amenities

Our project will do this by:

- Preserving and restoring the **public destinations** along the waterfront that people already love today
- **Creating multi-level and multi-purpose waterfront experiences** where tall flood barriers double as elevated open spaces with **new 360-degree views** back to the city and out to the harbor
- Including **new community amenities**, including opportunities for **active recreation**, along the waterfront

Our Plan

Grounded in extensive community conversations, collaboration, and regulatory feedback, our plan lays out a shared vision that is feasible, implementable and provides a dynamic urban and waterfront experience.



Highlights of Our Design:

- Two levels of flood protection
 - 15-18 feet higher than today (two stories) at its highest level
 - 3-5 feet higher than today at its lowest level
- Extends into the water up to a full city block at some locations (up to 200 feet) and down to a half-block (90 feet)
- Only includes 1-2 story buildings—no larger residential or office
- Works with or without the FDR viaduct

What could the future of this waterfront look like?



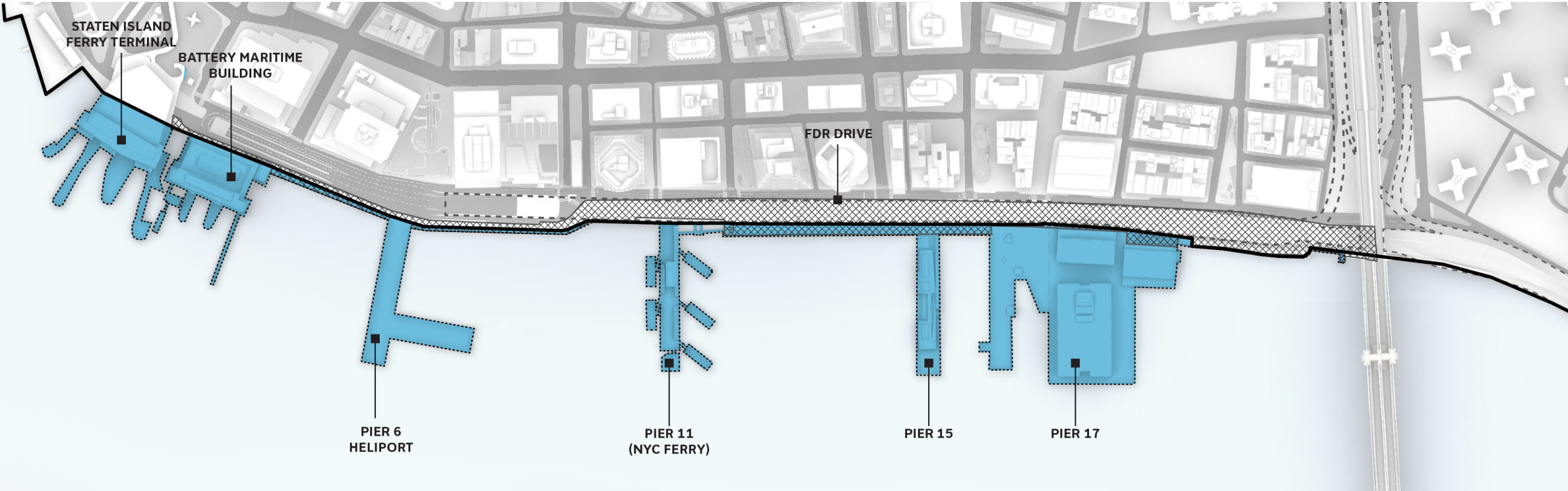
*Presentation in-progress, please go to the livestream on [FidiSeaportClimate.NYC](https://www.fidi-seaport.com/climate) to watch from the beginning.
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What is a master plan and what will it provide?

- A guiding document that provides a framework for long-term decision-making that will likely take a decade or more to implement
- Identifies the **core pieces of infrastructure** necessary to protect this area and create our comprehensive flood defense system
- Seeks to **build a shared City-community vision** for the future of this waterfront based on extensive community feedback
- Sets aside **flexible space for future programming** and provides specific programming recommendations based on community feedback

A master plan is not a set-in-stone plan that prescribes what this area will look like. This plan is intentionally flexible so that it can adapt with the future needs and priorities of the area and community.

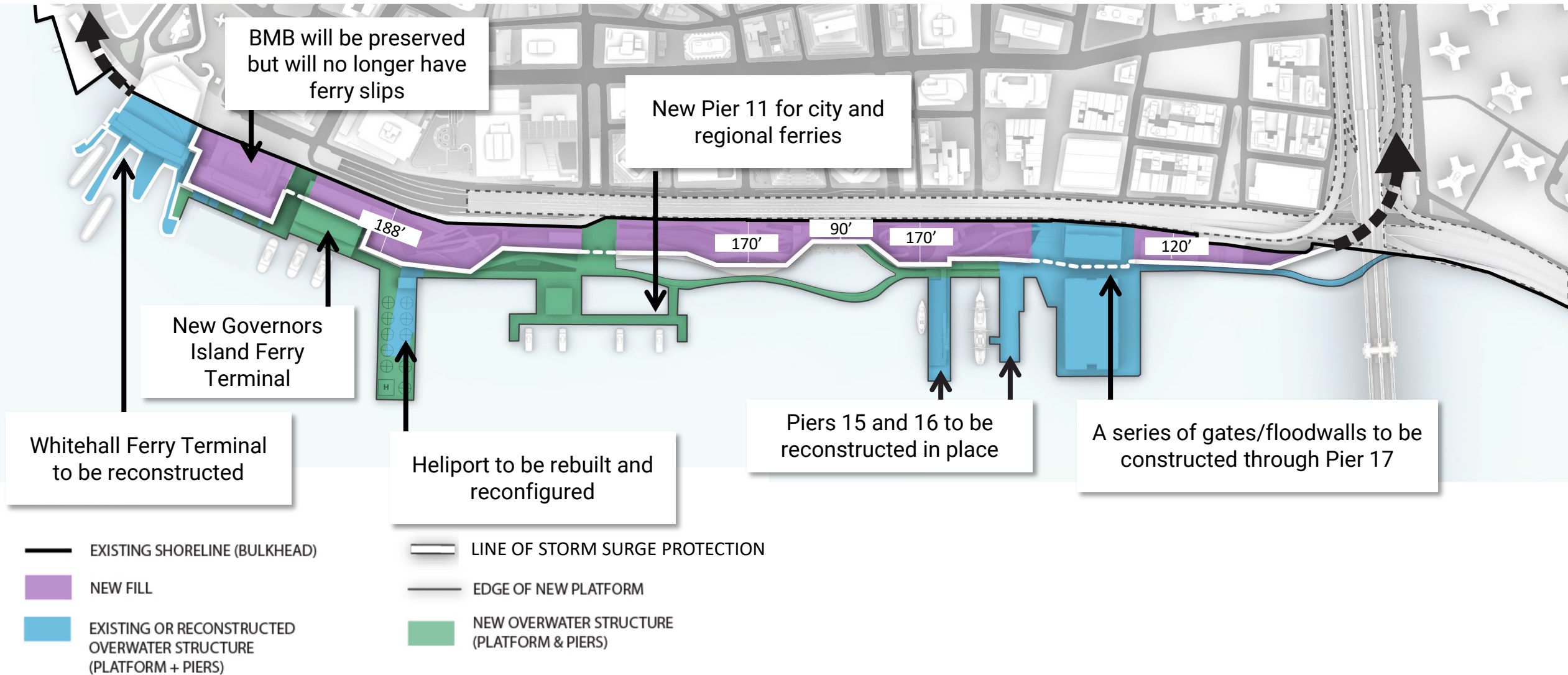
Our waterfront today includes important facilities that keep the city running. We will need to move and reconstruct some facilities to be resilient in the long-term.



- EXISTING SHORELINE (BULKHEAD)
- EDGE OF EXISTING PLATFORM
- OVERWATER STRUCTURE (PLATFORM + PIERS)
- WATERFRONT ESPLANADE

Future Waterfront

How the Waterfront Will Evolve

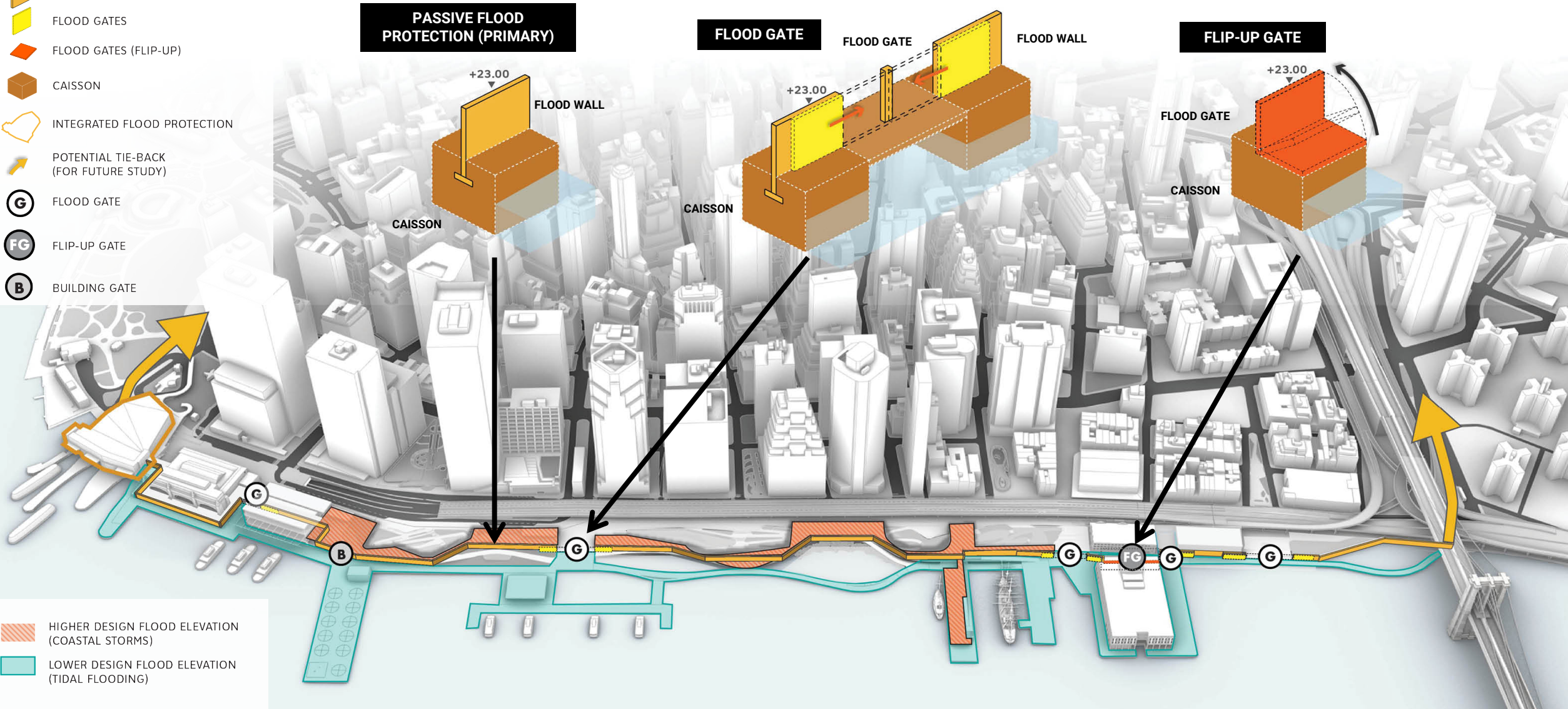


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**Our project will protect Lower
Manhattan from daily tidal
flooding and coastal storms.**

Flood Defense

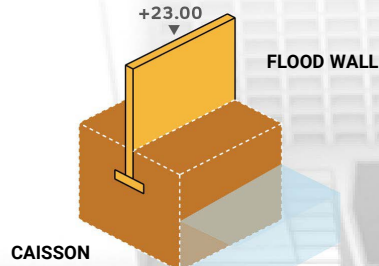
-  PASSIVE FLOOD WALL (PRIMARY)
-  FLOOD GATES
-  FLOOD GATES (FLIP-UP)
-  CAISSON
-  INTEGRATED FLOOD PROTECTION
-  POTENTIAL TIE-BACK (FOR FUTURE STUDY)
-  FLOOD GATE
-  FLIP-UP GATE
-  BUILDING GATE



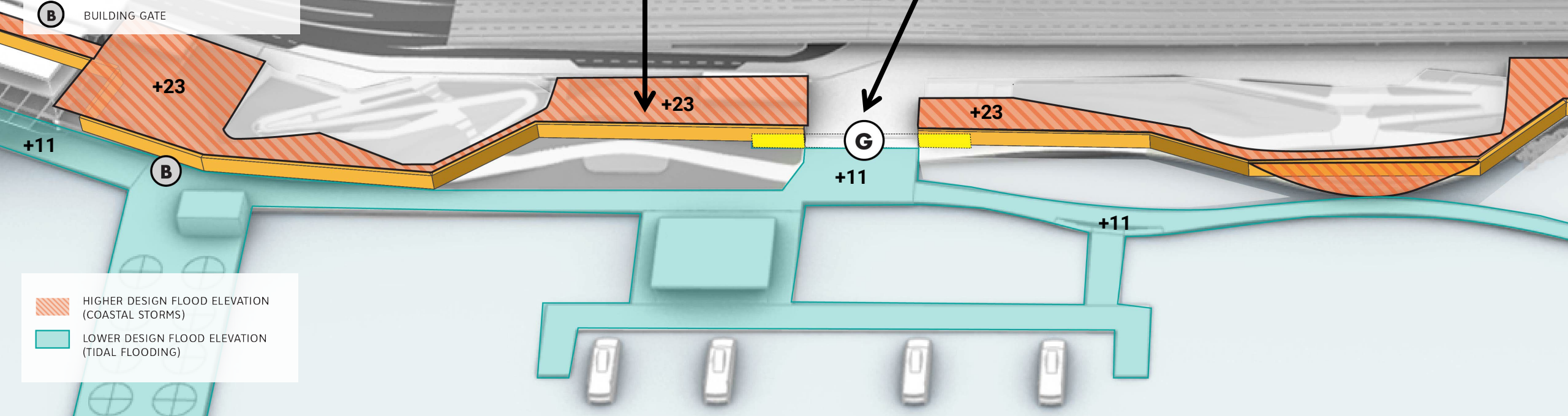
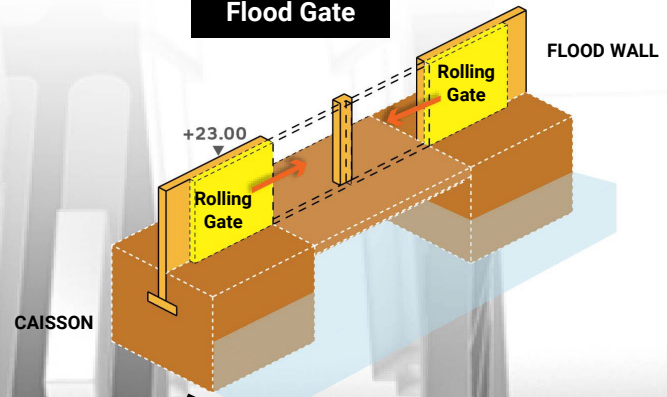
Flood Defense

-  PASSIVE FLOOD WALL (PRIMARY)
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-  CAISSON
-  INTEGRATED FLOOD PROTECTION
-  POTENTIAL TIE-BACK (FOR FUTURE STUDY)
-  FLOOD GATE
-  FLIP-UP GATE
-  BUILDING GATE

Passive Flood Protection (Primary)

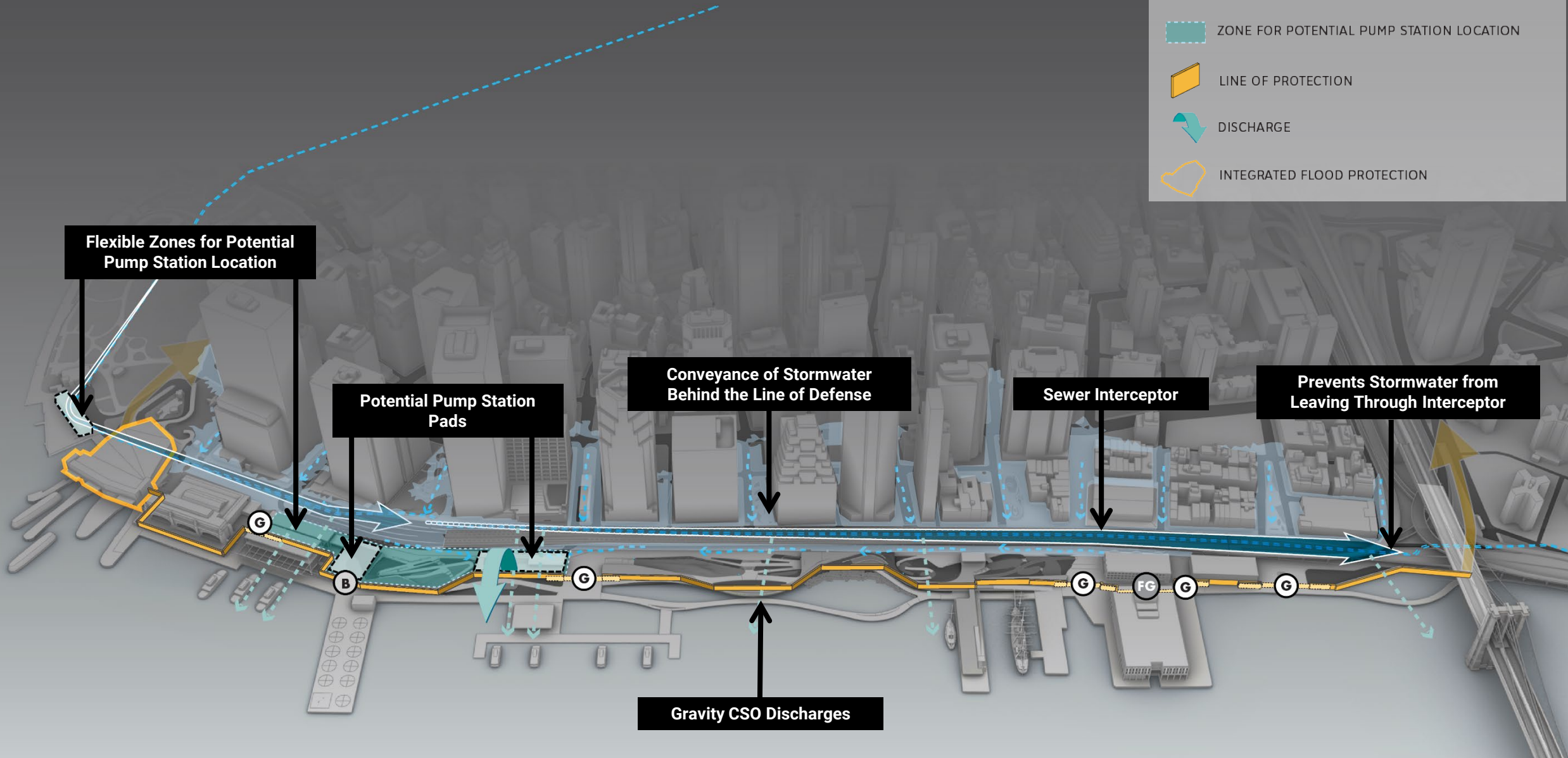
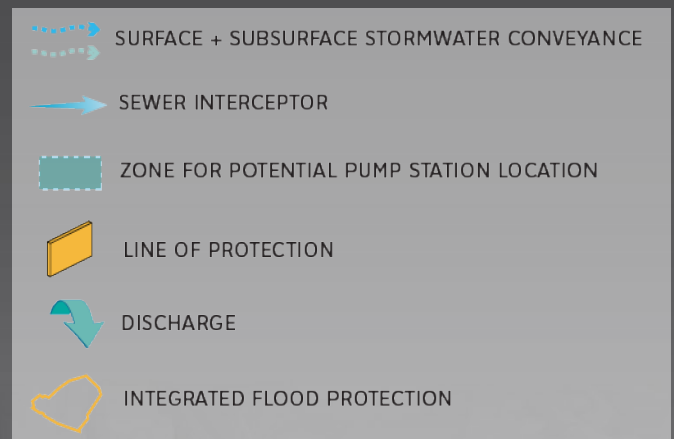


Flood Gate



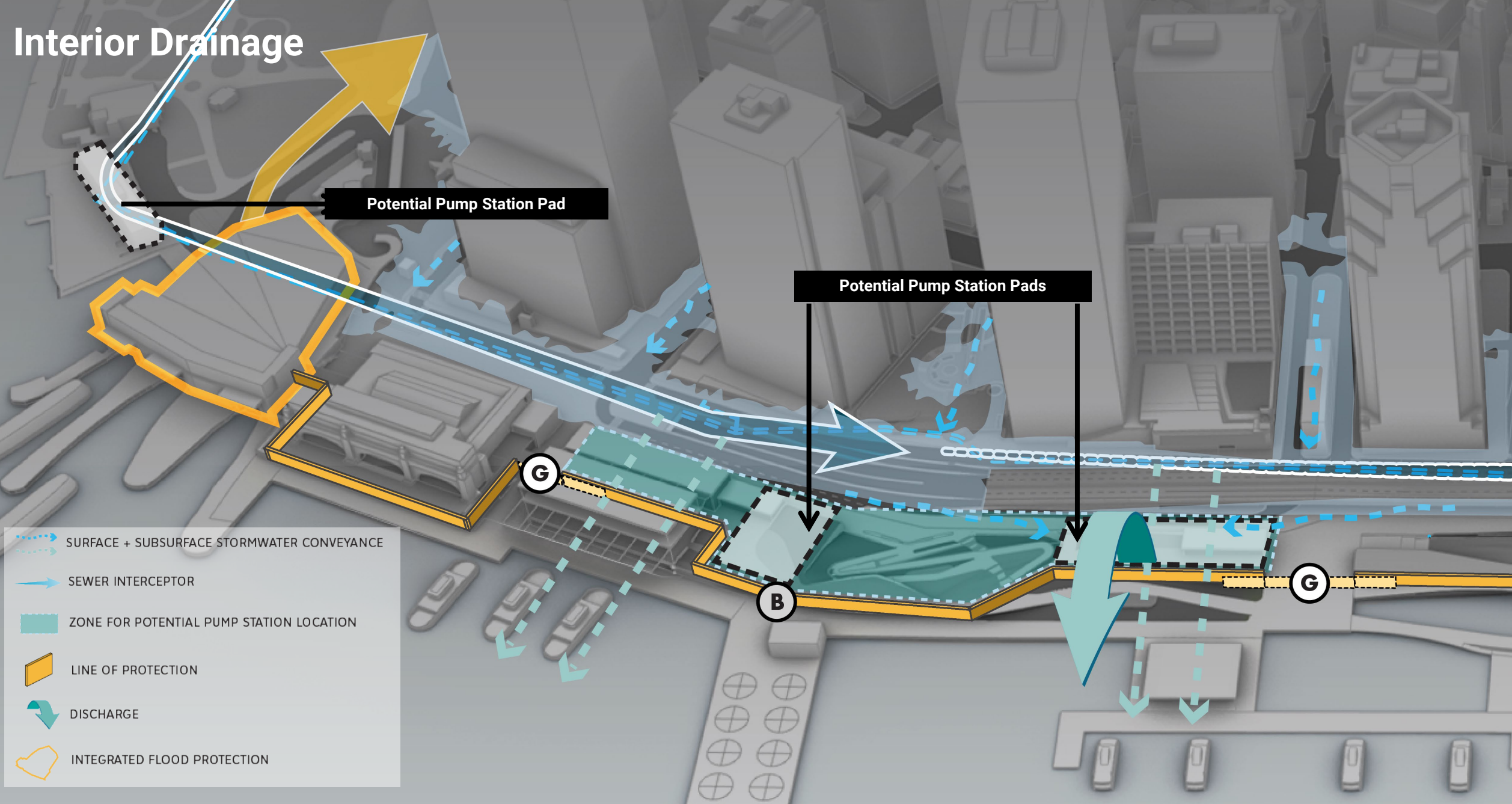
-  HIGHER DESIGN FLOOD ELEVATION (COASTAL STORMS)
-  LOWER DESIGN FLOOD ELEVATION (TIDAL FLOODING)

Interior Drainage



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Interior Drainage



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**Our project will integrate
climate resilience
infrastructure into the city.**

Ferries, Ships, & Piers

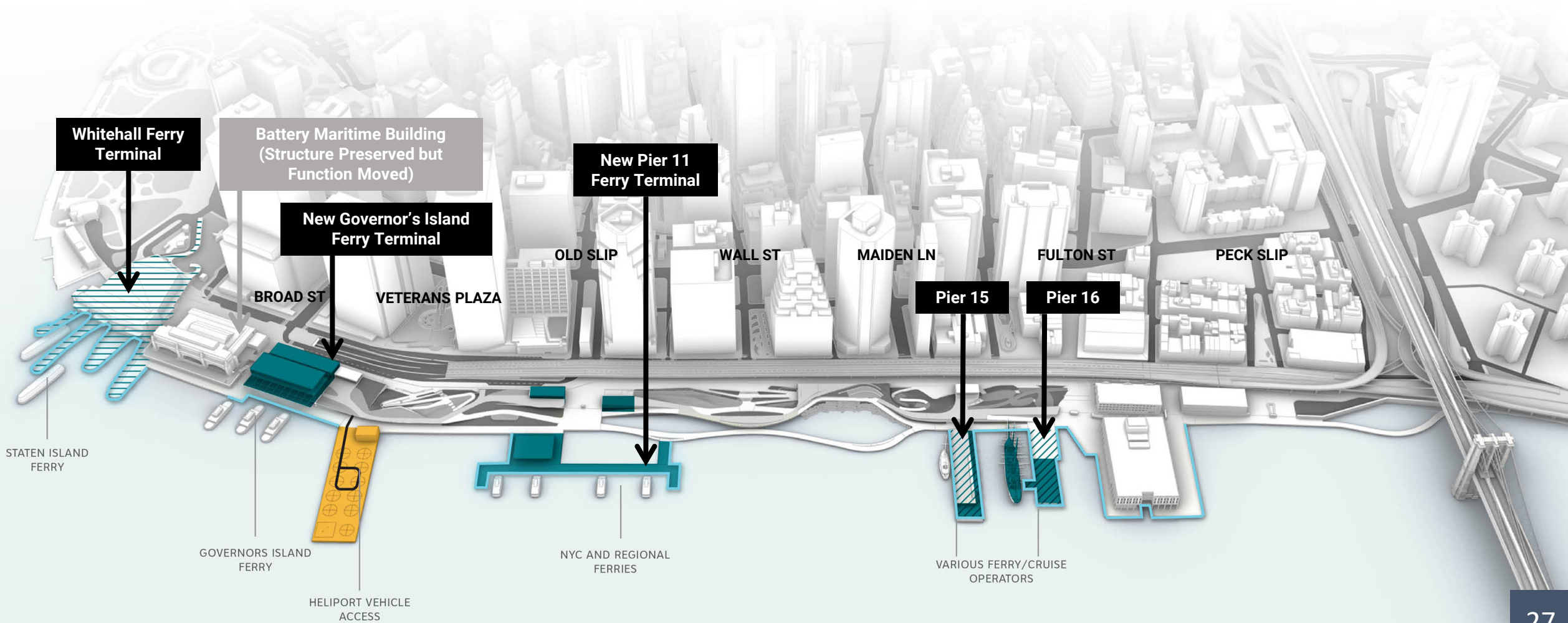


HELIPORT

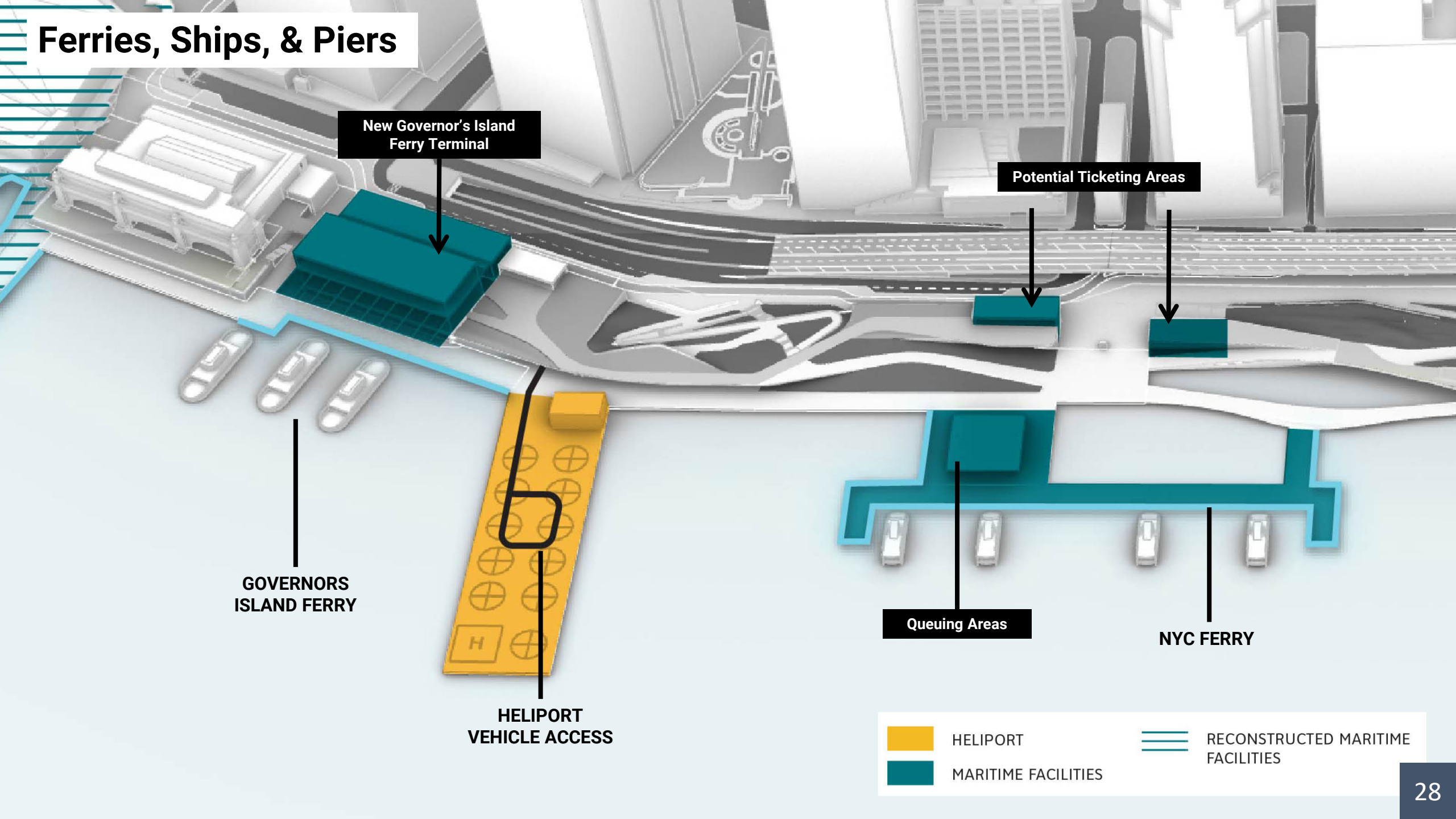
MARITIME FACILITIES



RECONSTRUCTED MARITIME FACILITIES



Ferries, Ships, & Piers



GOVERNORS ISLAND FERRY

New Governor's Island Ferry Terminal

Potential Ticketing Areas

Queuing Areas

NYC FERRY









HELIPORT VEHICLE ACCESS

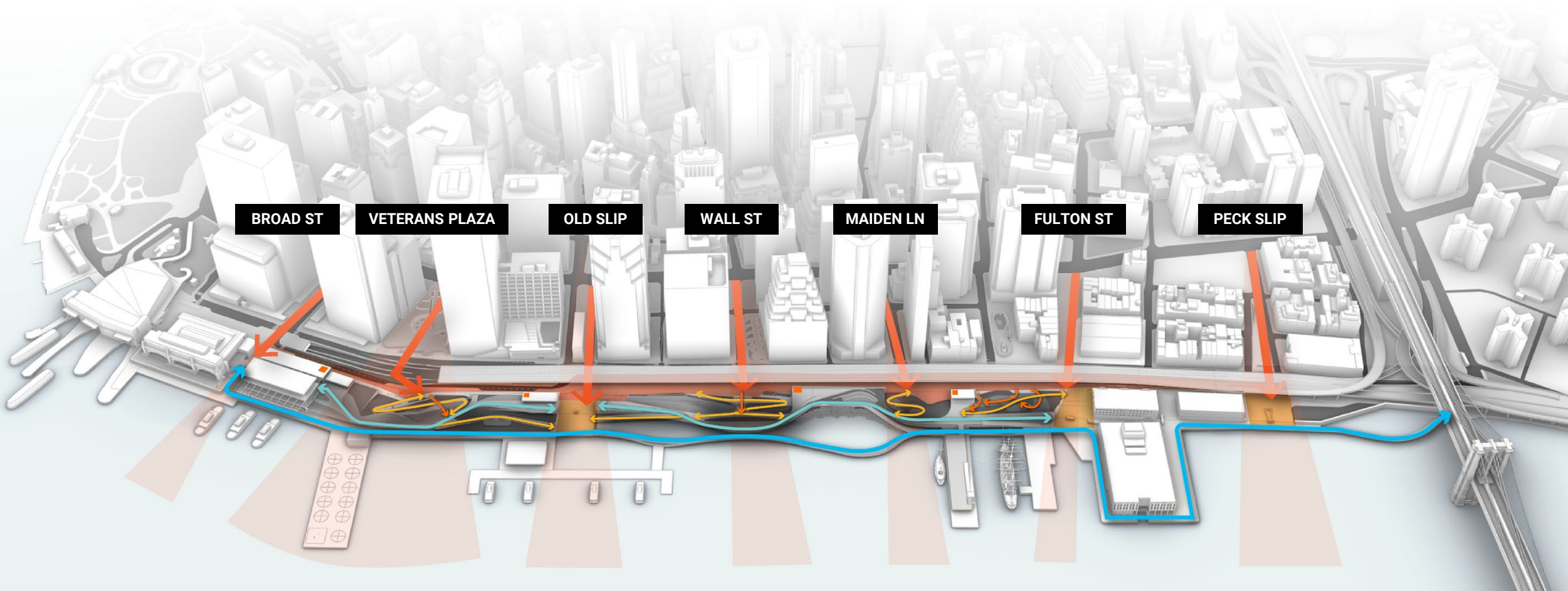
-  HELIPORT
-  MARITIME FACILITIES
-  RECONSTRUCTED MARITIME FACILITIES

Access & Circulation

Pedestrians

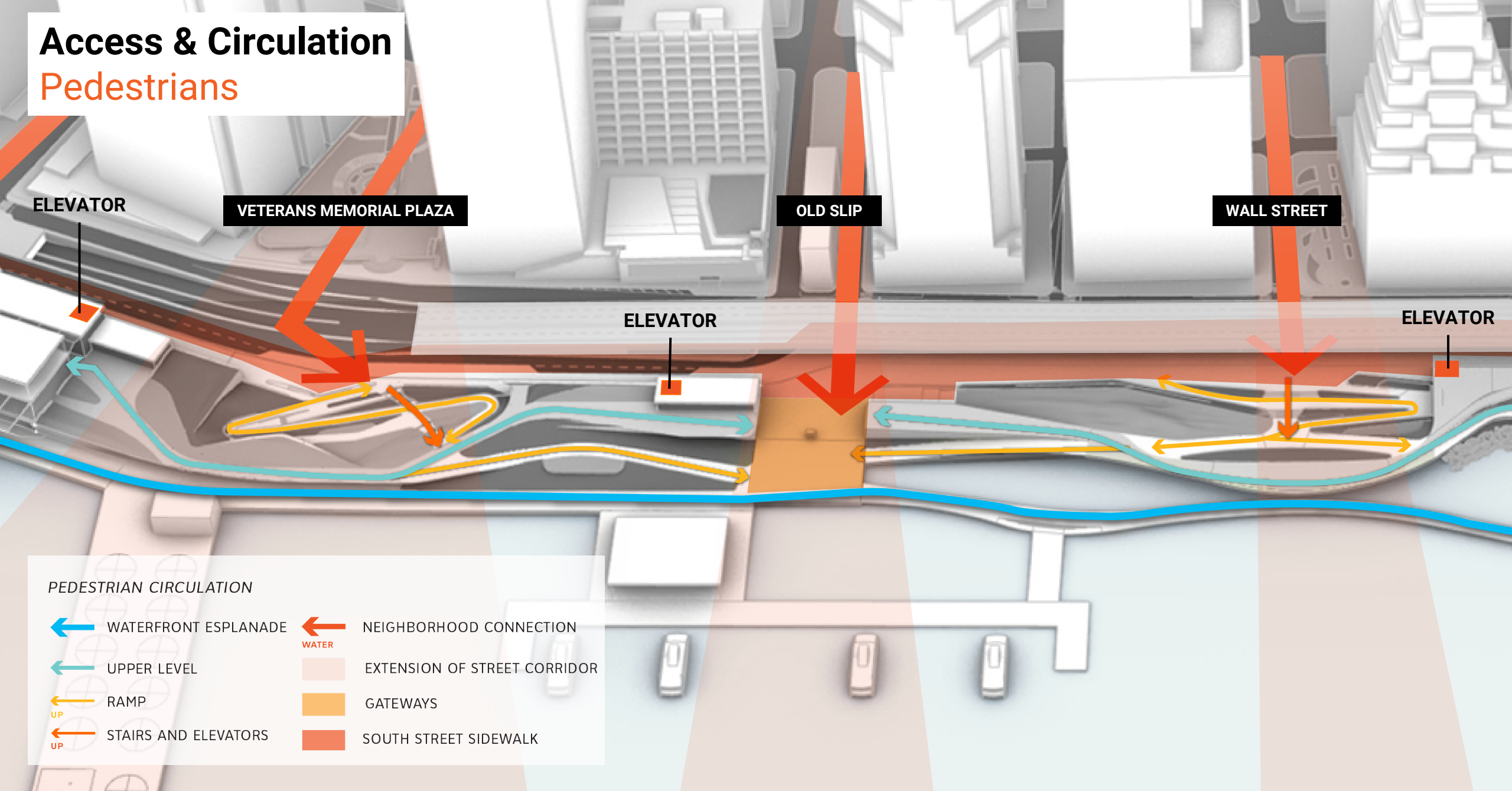
PEDESTRIAN CIRCULATION

-  WATERFRONT ESPLANADE
-  UPPER LEVEL
-  RAMP
-  STAIRS AND ELEVATORS
-  NEIGHBORHOOD CONNECTION
-  EXTENSION OF STREET CORRIDOR
-  GATEWAYS
-  SOUTH STREET SIDEWALK



Access & Circulation

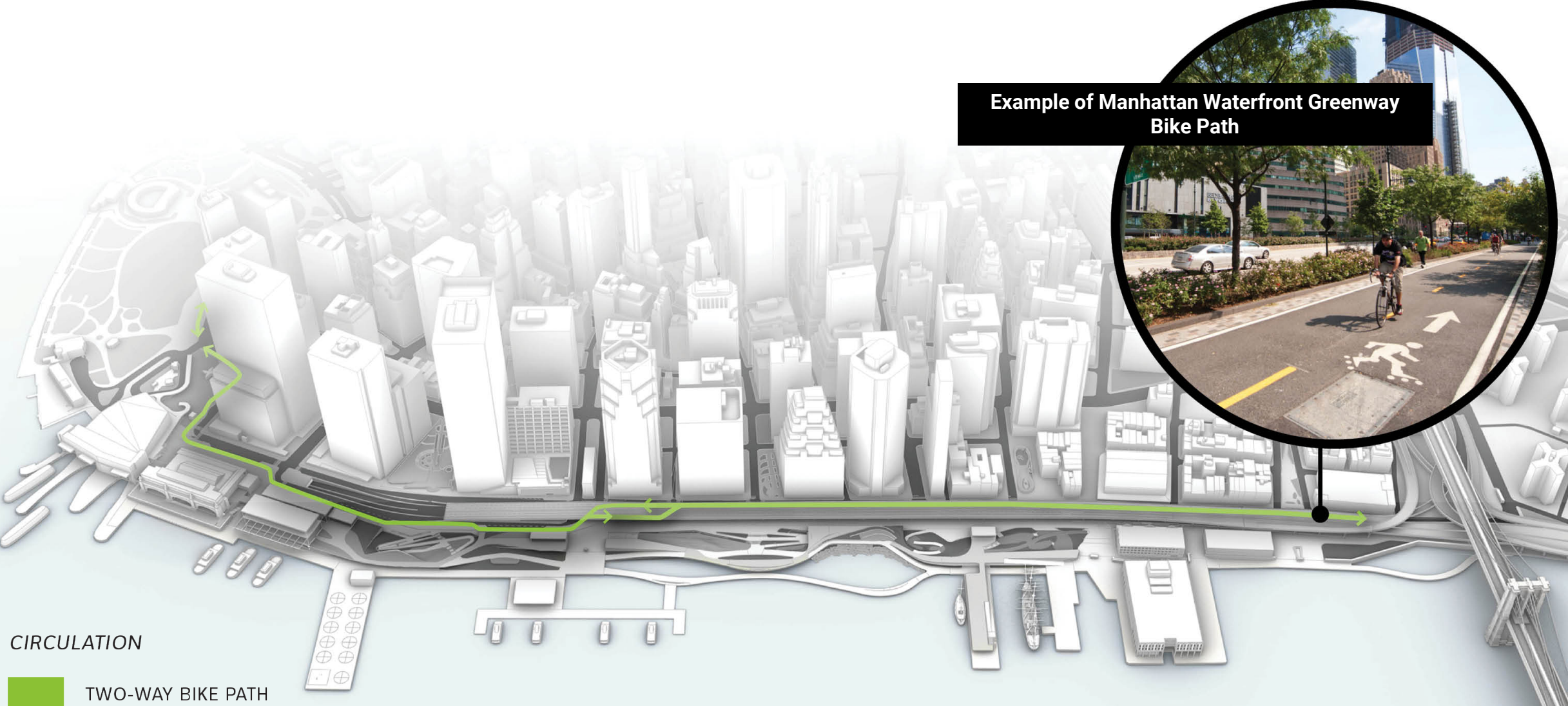
Pedestrians



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Access & Circulation

Bicycles



Example of Manhattan Waterfront Greenway Bike Path

CIRCULATION

 TWO-WAY BIKE PATH

Access & Circulation

Emergency and Maintenance Vehicles



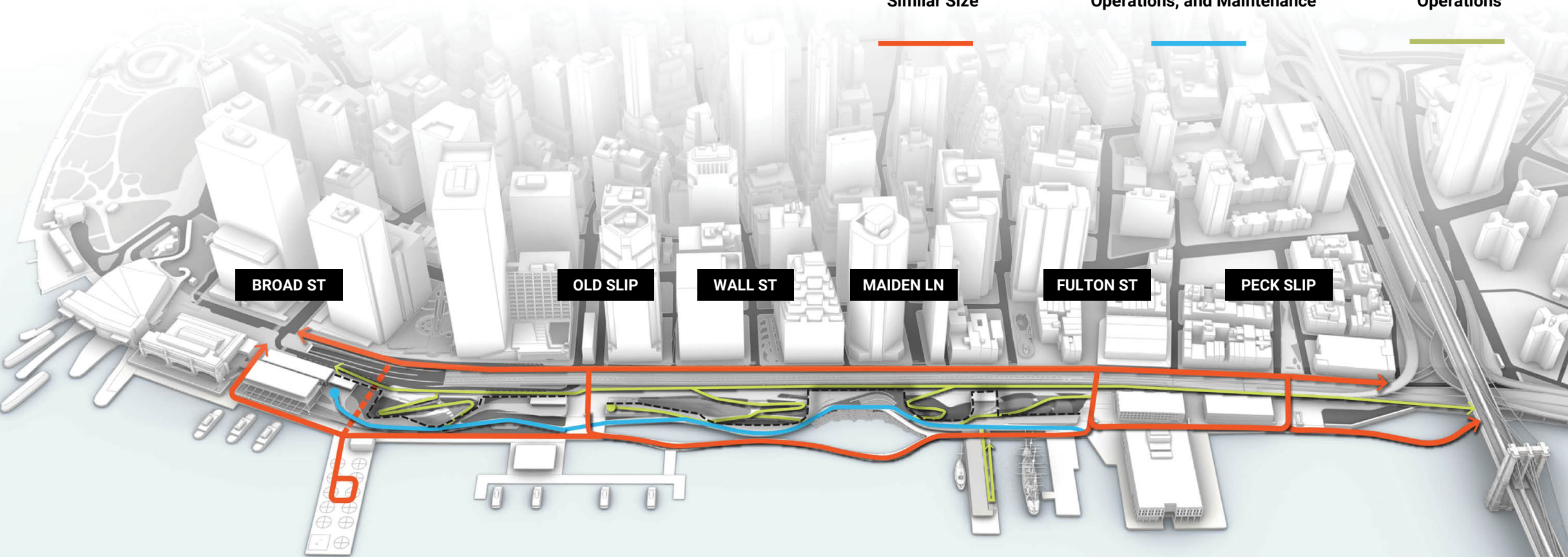
Fire Engines and Similar Size



Ambulance, Flood Defense Operations, and Maintenance




Small Vehicles for Operations



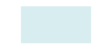
Ecology

Design Strategies to Protect & Preserve

 INTERTIDAL (PRESERVED)
MLLW (-2.77') - MHHW (2.28)

 SHALLOW SUBTIDAL
-6 MLLW (-8.57') - MLLW (-2.77')

 SUBTIDAL
(-40') - (-20')

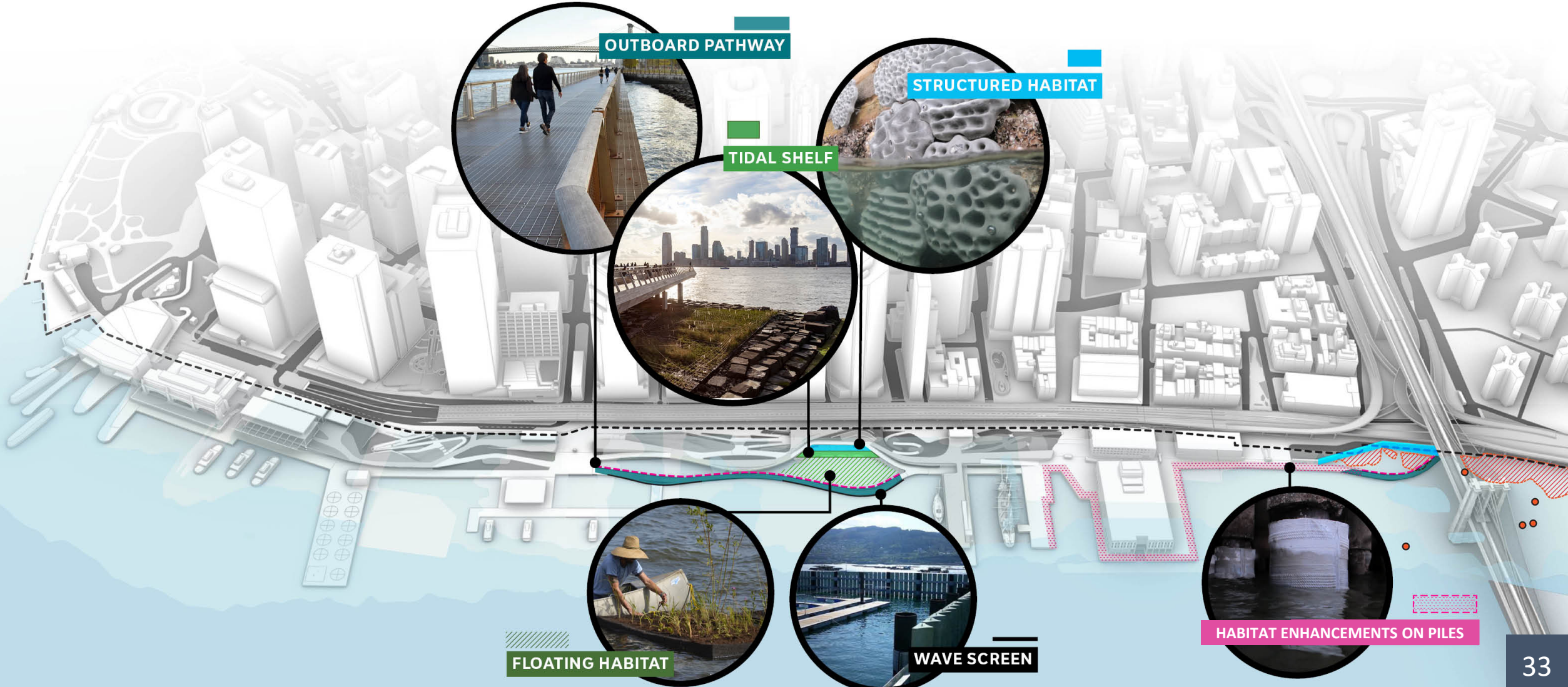
 SUBTIDAL
(-20') - -6 MLLW (-8.57')

 SUBTIDAL
< (-40')

 EXISTING BATHYMETRY

 S. VULGARIS WORM FOUND

 EXISTING BULKHEAD



Ecology

Design Strategies to Restore & Enhance

INTERTIDAL (PRESERVED)
MLLW (-2.77') - MHHW (2.28)

SHALLOW SUBTIDAL
-6 MLLW (-8.57') - MLLW (-2.77')

SUBTIDAL
(-40') - (-20')

EXISTING BATHYMETRY

S. VULGARIS WORM FOUND

EXISTING BULKHEAD



REEF-BUILDING
WORM FOUND



EXISTING BEACH

ECOLOGY - RESTORE & ENHANCE

FLOATING HABITAT

TIDAL SHELF

PILE ENHANCEMENTS

STRUCTURED HABITAT

OUTBOARD PATH

WAVE SCREEN

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**Our project will enhance the
public waterfront experience.**

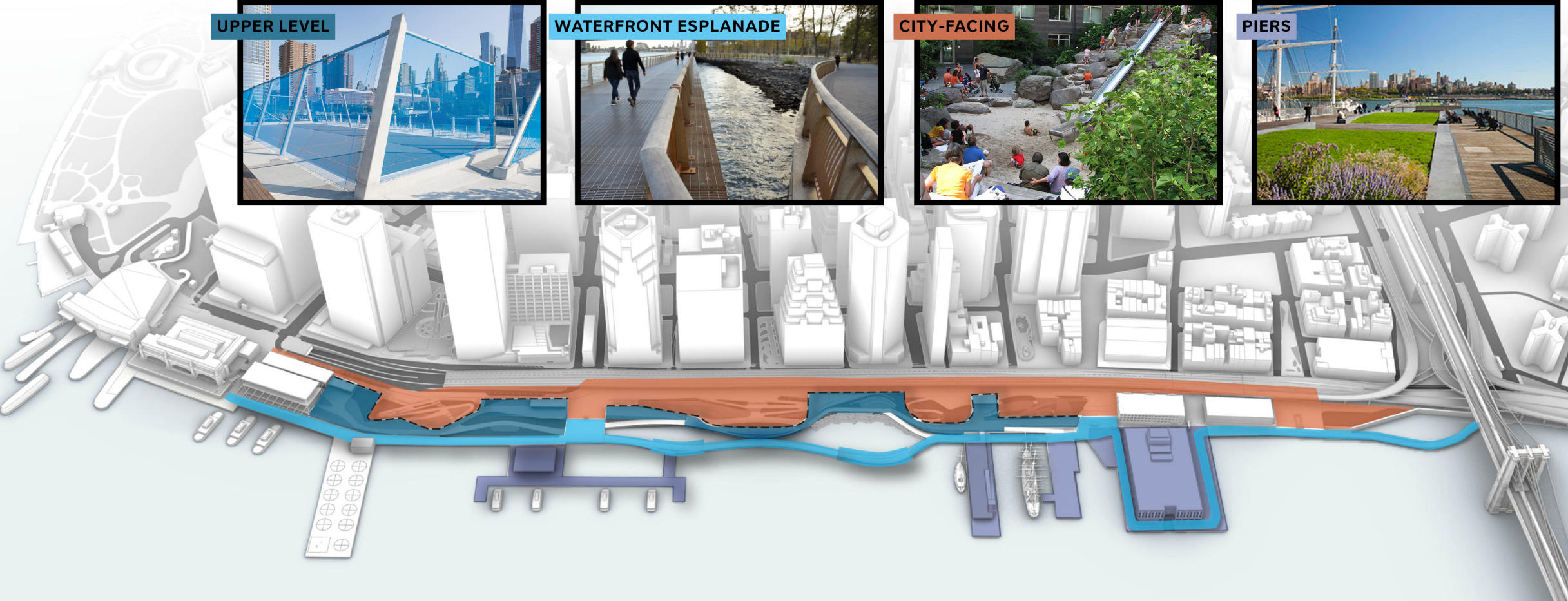
We will preserve or restore what people love about the waterfront today.



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We will create multi-level waterfront experiences with expansive views of the East River.

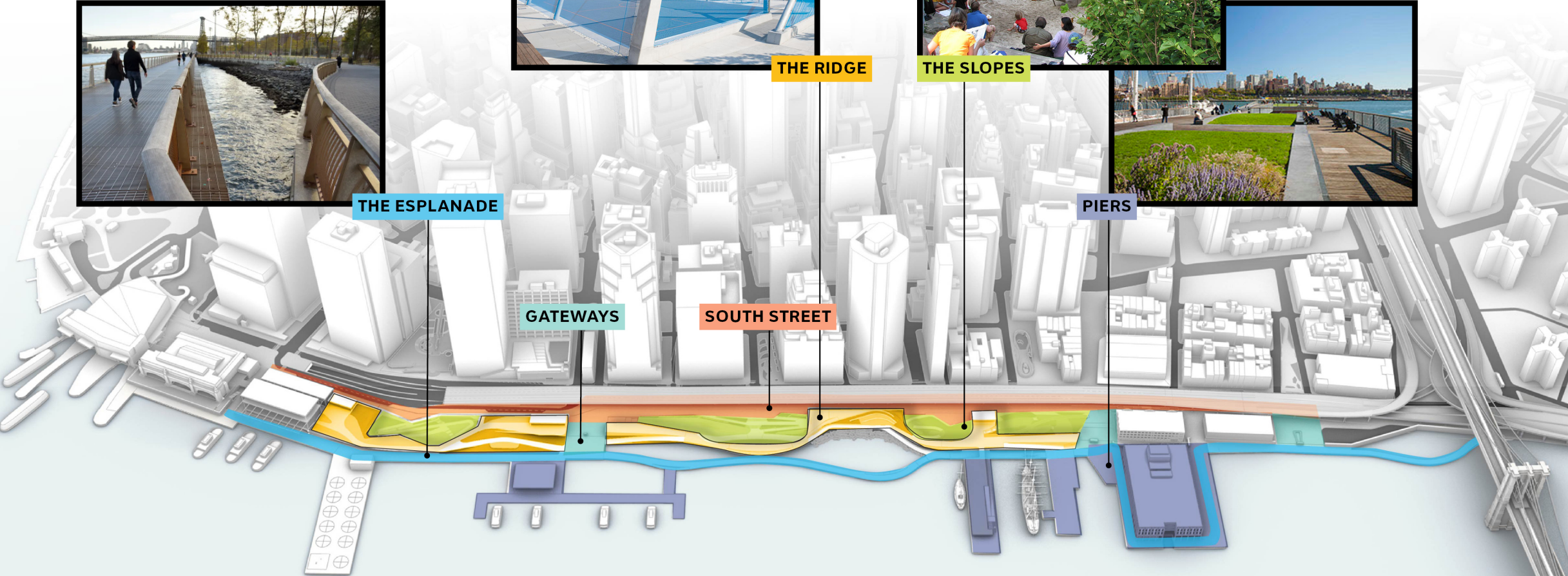
- UPPER LEVEL
- THE WATERFRONT ESPLANADE
- PIERS
- CITY FACING SPACES



Presentation in-progress, please go to the livestream on [FidiSeaportClimate.NYC](https://www.fidi.org/livestream) to watch from the beginning. Join Zoom meeting for discussion from 6:00 - 7:30pm

The future waterfront will include new types of spaces for a vibrant and diverse experience.

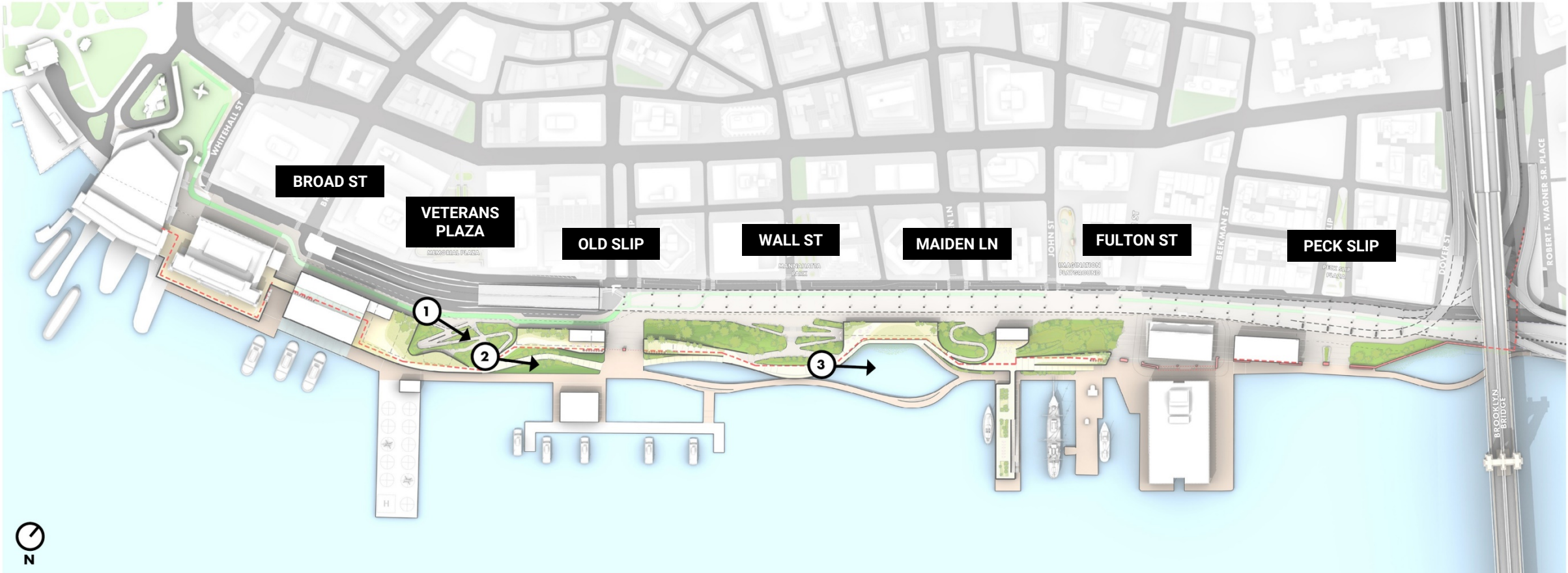
- SOUTH STREET
- THE SLOPES
- THE ESPLANADE
- PIERS
- THE RIDGE
- GATEWAYS



**Our project will create a new
kind of waterfront experience.**

Experiential Walkthrough

Entering at Veterans Plaza and Moving North



Veterans Plaza Entrance (Facing North)

Experiential Walkthrough



Stairs and elevators will provide shortcuts to complement ramps.

Landscaping and seating will be integrated with ramps to the upper level.



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Upper Walkway (Facing North)

Experiential Walkthrough



Restaurant & cafes
could be on the upper
level.

Seamless connections
between upper and
lower levels.

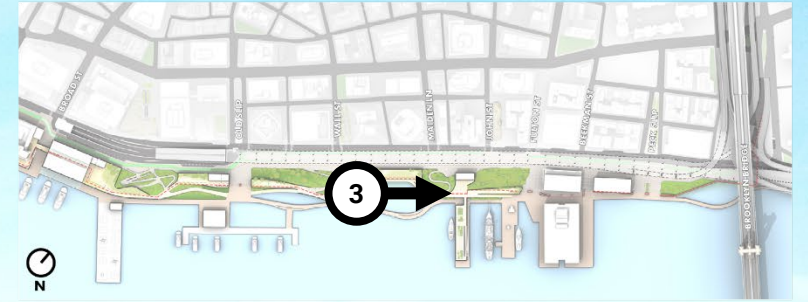


Pine Street Cove (Facing North)

Experiential Walkthrough

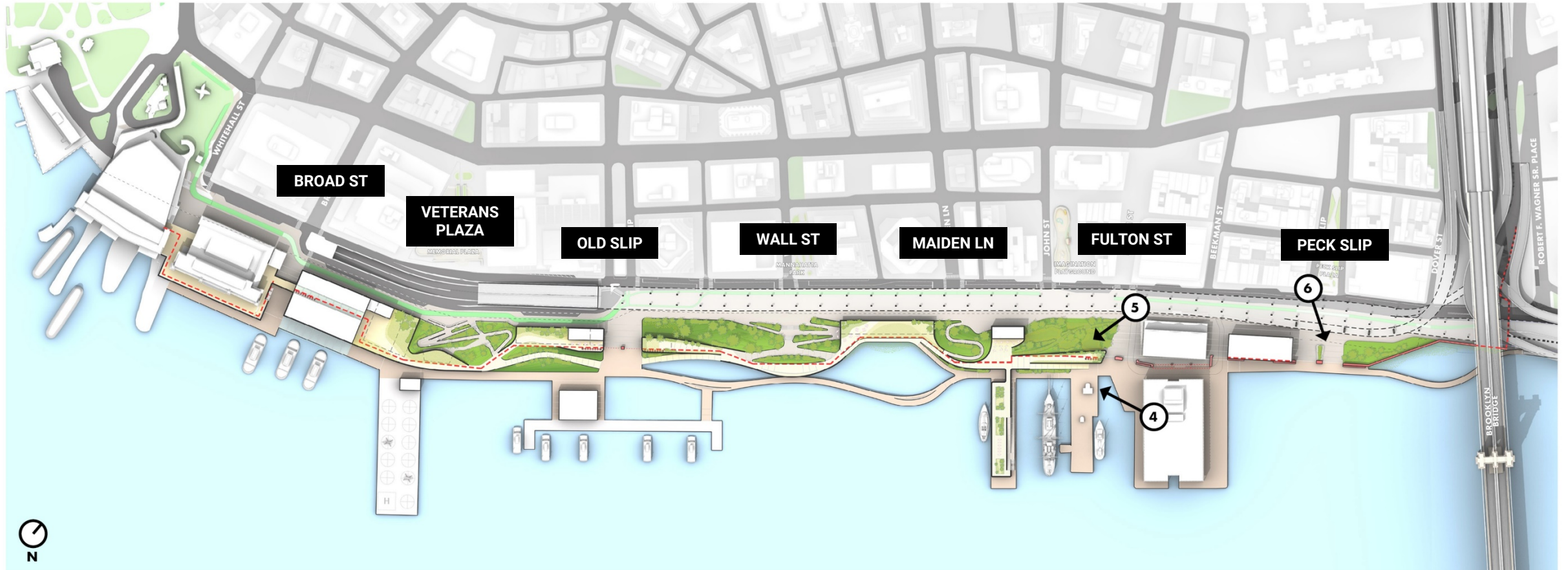
Coves will provide opportunities to **enhance aquatic habitats** and create **public educational programming**.

Outboard paths will bring people closer to the water.



Experiential Walkthrough

Moving Around the Historic Seaport



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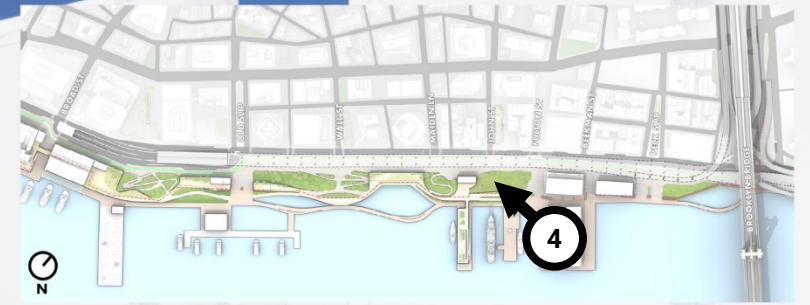
View from Pier 17 (Facing South)

Experiential Walkthrough

Upper level will provide a constant passive level of protection from coastal storms.

Waterfront esplanade will provide constant passive protection from tidal inundation.

Gates at Fulton St. will preserve direct access from Seaport neighborhood for pedestrians and essential vehicles.



Fulton Street Gateway (Facing East)

Experiential Walkthrough



Fulton St. gate will preserve views of waterfront & historic ships on sunny days.

Play spaces & gardens will face the city inland of the flood wall.



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Peck Slip Gateway (Facing East)

Experiential Walkthrough



Gates at Peck Slip will open up views to the river from the Seaport neighborhood.



Peck Slip Gateway—FDR Viaduct Replaced (Facing East)

Experiential Walkthrough



Replacing the FDR Drive viaduct with an at-grade boulevard could further integrate the city with the waterfront.

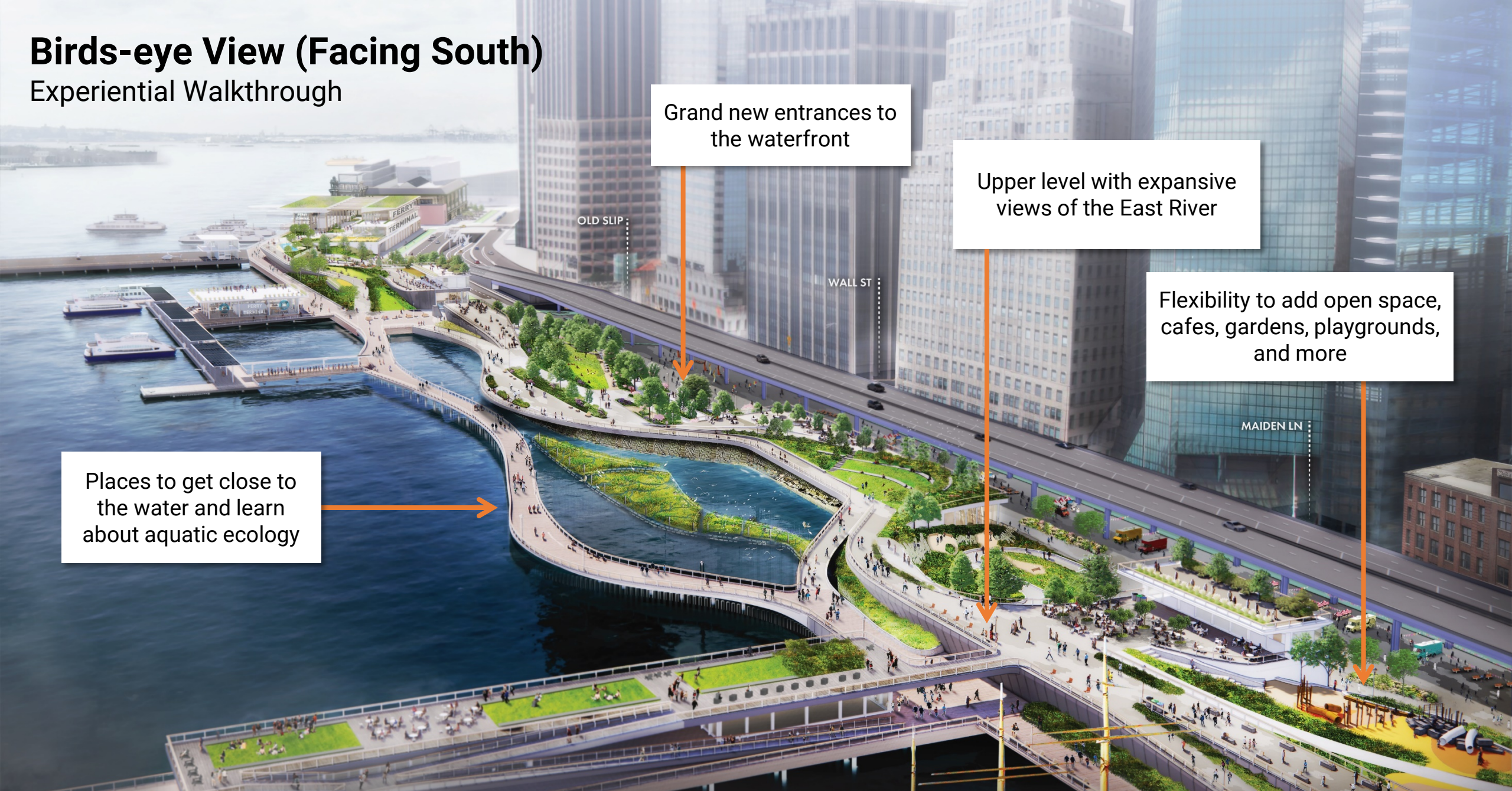


EDC and MOCR are not proposing to remove the FDR Drive viaduct as part of this plan. Instead, this plan maintains optionality for the viaduct to be removed in the future.

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Birds-eye View (Facing South)

Experiential Walkthrough



Grand new entrances to the waterfront

Upper level with expansive views of the East River

Flexibility to add open space, cafes, gardens, playgrounds, and more

Places to get close to the water and learn about aquatic ecology

Implementing the FiDi-Seaport Climate Resilience Master Plan

Based on this initial design, we created an early **cost estimate snapshot to help us plan for how we'll implement the project.**

High level estimated costs (for known project elements):

\$5 - \$7 billion

These are between ACE class 4 and class 5 estimates based on precedent projects.

The numbers are likely to increase as programming elements and additional costs get defined through community feedback.

Estimates were informed by:

- Recent similar project costs (e.g., East Side Coastal Resiliency)
- Published or industry-accepted costs and estimating standards
- Engineering judgement and experience

Primary cost drivers:

- Shoreline fill and structures to hold shoreline fill (cofferdams)
- Ferry terminal reconstruction or partial reconstruction
- Roadway gates
- Drainage infrastructure

No one funding source meets the needs of this plan. While we've looked at a variety of creative sources, significant federal and City investment will be needed to realize this plan.

Federal
<ul style="list-style-type: none">• USACE Civil Works Program• Transportation Grants (RAISE, INFRA, CIG)• FEMA Building Resilient Infrastructure and Communities (BRIC) grant• Infrastructure Investment and Jobs Act

State
<ul style="list-style-type: none">• Consumer Insurance Surcharge• Environmental Bond Act• Clean Water State Revolving Fund Loans

Local
<ul style="list-style-type: none">• City General Obligation Bond Funding• Bonds backed by revenue sources such as development revenue• Water Rate Bond Funding

Note: *These sources would be available at different times over the lifespan of the project, and depending on the element being constructed, so we need to strategically phase construction and elements to ensure that funding is available when we need it.*

It will take time to construct a project of this scale and ambition, but we need to do everything we can to address the real risks we face today and the near-term impacts of sea level rise

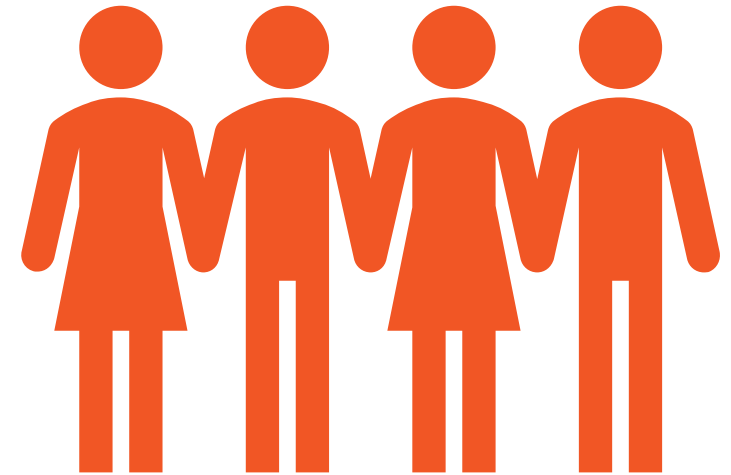
- 1. Release of the Final Plan & Executive Summary**
- 2. Continue the conversation online:** Explore our engagement portal to learn more about other aspects of this project and share your feedback through interactive features (<https://fidiseaportclimate.nyc/>)
- 3. Stay tuned for a big website** update coming with the final plan!
- 4. We will continue to work with the community as we the City advances the master plan through later phases of design and implementation**

Discussion Rooms

You can now join one of two rooms that will be open until 7:30 to speak directly with members of the project team – feel free to move between these rooms at any time or leave and come back if needed.

Members of the project team will be available to answer general project questions in both rooms. If you have detailed questions, please join the room with subject matter experts who best align with your question

1. The **Design Room** will feature members of the project team with expertise in design
2. The **Implementation Room** will feature members of the project team with expertise in implementation
3. To move between the rooms, click on the icon at the bottom of the screen, that says choose a different breakout room, or click to exit the breakout room to re-enter the main room, where someone will be available to assist you.



Welcome to the FiDi-Seaport Virtual Open House!

We are currently in breakout room
discussions.

If you would like to see the full presentation from the beginning, please visit:

FiDiSeaportClimate.nyc

If you would like to **participate in discussion**, please introduce yourself and share in the chat and a meeting organizer will add you to the right room.

If you have any **questions** about the event, please drop them into the chat.