

# CHARLESTOWN FLOOD RESILIENCE PROJECT

FLOOD RESILIENCE MITIGATION PLANNING, FEASIBILITY & DESIGN STUDY  
FOR CHARLESTOWN NAVY YARD & LITTLE MYSTIC CHANNEL

Community Webinar 1 – May 1, 2025



Planning Department

**CITY of BOSTON**

# ZOOM TIPS - INTERPRETATION

Spanish, Mandarin, and Cantonese interpretation is available for this meeting. Please select your preferred language option at the bottom of the screen by clicking on the globe symbol. Click “Mute Original Audio to silence other languages.”

**NOTE: EVERYONE MUST SELECT A LANGUAGE. REMEMBER TO SPEAK SLOWLY!**

Se dispone de interpretación en español y criollo haitiano para esta reunión. Seleccione la opción de idioma de preferencia en la parte inferior de la pantalla haciendo clic en el símbolo del globo terráqueo. Haga clic en “Silenciar audio original para silenciar otros idiomas”.

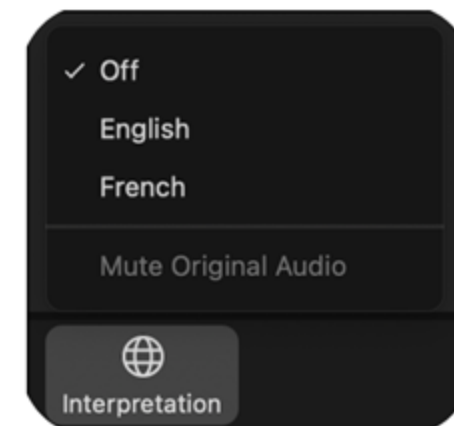
**NOTA: TODOS DEBEN SELECCIONAR UN IDIOMA. ¡RECUERDE HABLAR LENTAMENTE!**

本次会议提供西班牙语、普通话和粤语翻译。请点击屏幕底部的地球图标选择您偏好的语言选项。点击“静音原音”可将其他语言静音。

**注意：所有人必须选择一个语言。请记住慢慢说话！**

呢次會議有西班牙語、普通話同粵語傳譯。請睇畫面底部揸個地球圖示，揀你想聽嘅語言。揸「靜音原音」就可以靜咗其他語言。

**注意：大家都要揀一種語言。記得慢慢講呀！**



# ZOOM TIPS - MEETING PARTICIPATION



**Participants will be muted during the presentation.**

The host will unmute you during the discussion if you raise your hand and it is your turn to talk.



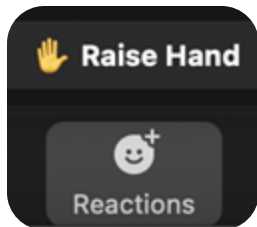
**Click the video button to turn your video on/off.**

If you experience connectivity or bandwidth issues, turning off your video can help.



**Use the chat to type a comment or ask a question at any time.**

Members of the Project Team will moderate the chat.



**To raise your hand, click on “Reactions” at the bottom of your screen, and then choose “Raise Hand.”**

Use \*9 to raise your hand via phone.

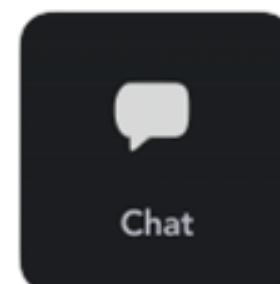
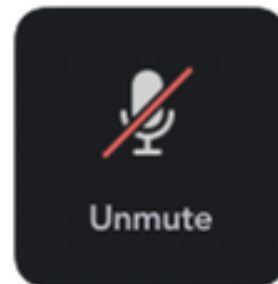
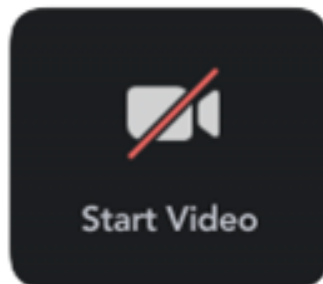
# ZOOM TIPS - MEETING RECORDING

**This event will be recorded and posted on the project webpage for those who are unable to attend the Zoom event live:**

<https://www.bostonplans.org/planning-zoning/planning-initiatives/flood-resilience-mitigation-planning,-feasibility>

**If you do not wish to be recorded during the meeting, please turn off your microphone and camera.**

**If your camera and microphone are off, you can still participate through the text chat feature.**



# PROJECT TEAM



City of Boston  
Planning Department

## IN PARTNERSHIP WITH



City of Boston  
Environment



## CONSULTANT TEAM



# BUILDING A RESILIENT BOSTON, TOGETHER



# INTRODUCTIONS

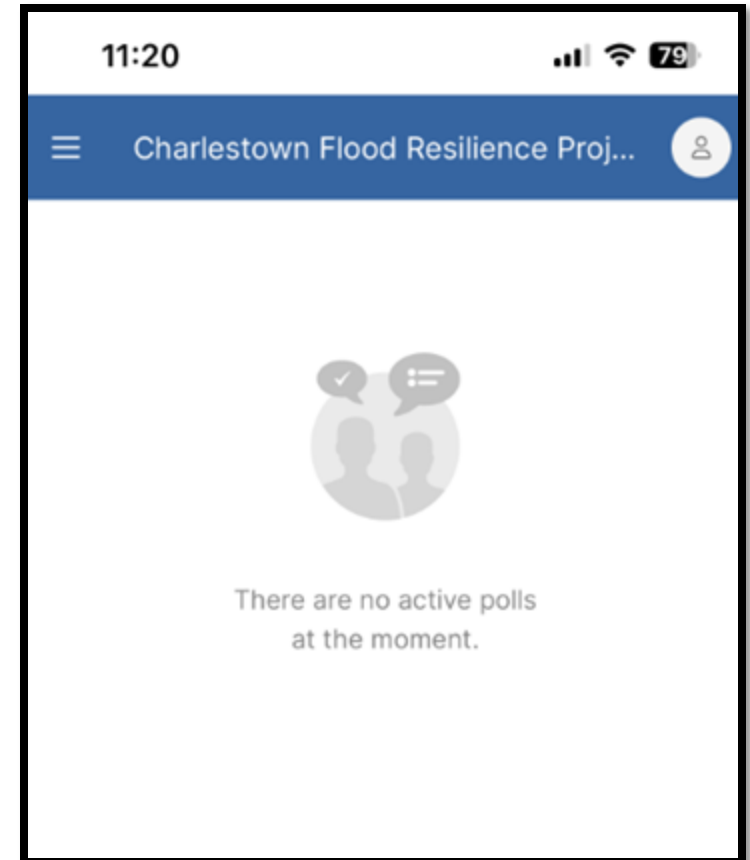
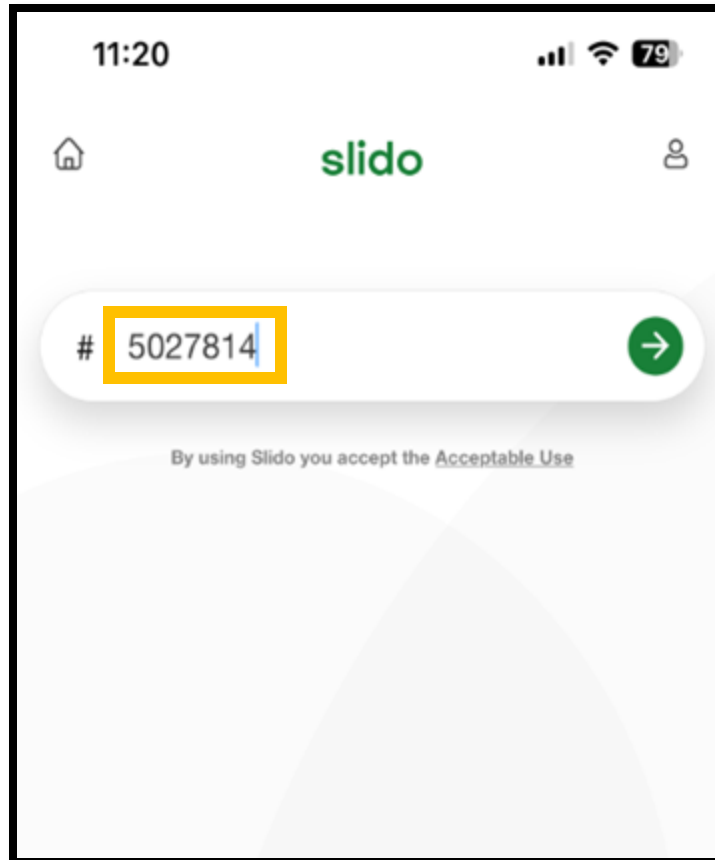
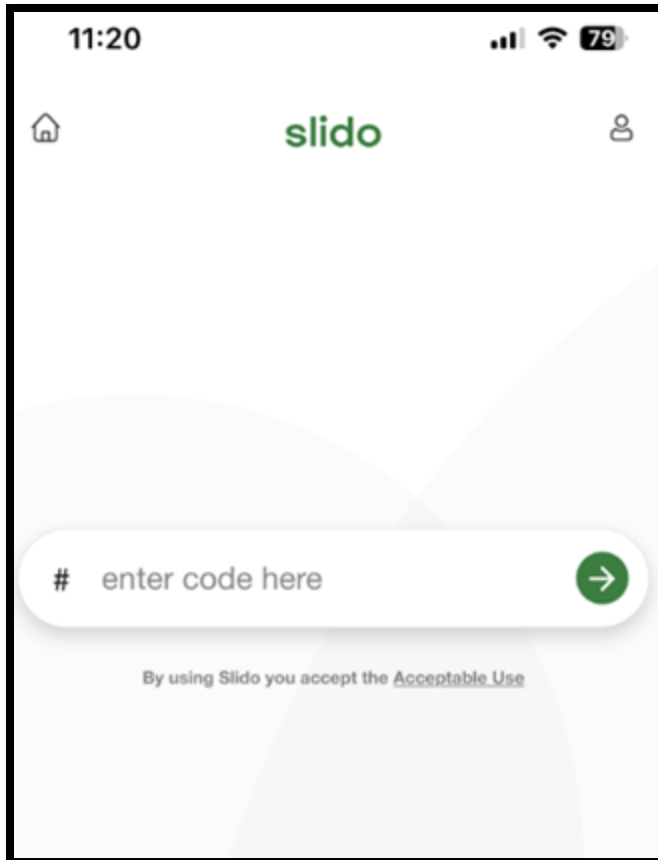


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# JOINING SLIDO





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# MEETING AGENDA

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- 1 INTRODUCTION
- 2 CLIMATE RESILIENCE IN BOSTON
- 3 WHY THIS PROJECT?
- 4 COMMUNITY FLOODING CONCERNS
- 5 WHAT IS THIS PROJECT?
- 6 QUESTIONS AND DISCUSSION
- 7 WHAT TO EXPECT GOING FORWARD

# CLIMATE RESILIENCE IN BOSTON

# CLIMATE RISK - EVIDENCE FROM PAST STORMS



**Flooding along Atlantic Avenue in Downtown Boston**  
Source: Alison Brizius, January 2024



**Flooding along the Border Street waterfront in East Boston**  
Source: Robin Seidel, January 2024



**Flooding beneath the Evelyn Moakley Bridge in South Boston's Fort Point Channel**  
Source: Alison Brizius, December 2022



**Flooding along Lewis Mall in East Boston**  
Source: Robin Seidel, January 2024



**Flooding along the Harborwalk in the Charlestown Navy Yard**  
Source: Gerry Angoff, Winter 2018



**Flooding along the Harborwalk in Downtown Boston**  
Source: Alison Brizius, December 2022

# COASTAL RESILIENCE: CONCURRENT STRATEGIES



## TODAY'S STORMS

**Key Goal:**  
Strengthen our  
response to today's  
flooding

### How?

- Educate residents about emergency preparedness
- Provide adaptation guidance to property owners
- Strengthen protocols for preparing for and responding to extreme weather
- Operationalize deployable barriers

## THIS DECADE'S STORMS

**Key Goal:**  
Address 2030 flood  
pathways

### How?

- Complete near-term priority projects identified in CRB/CSR
- Deliver and coordinate with USACE CSRM planning process

**All while improving open space and neighborhoods, addressing local needs and equity; and providing adaptation guidance to property owners**

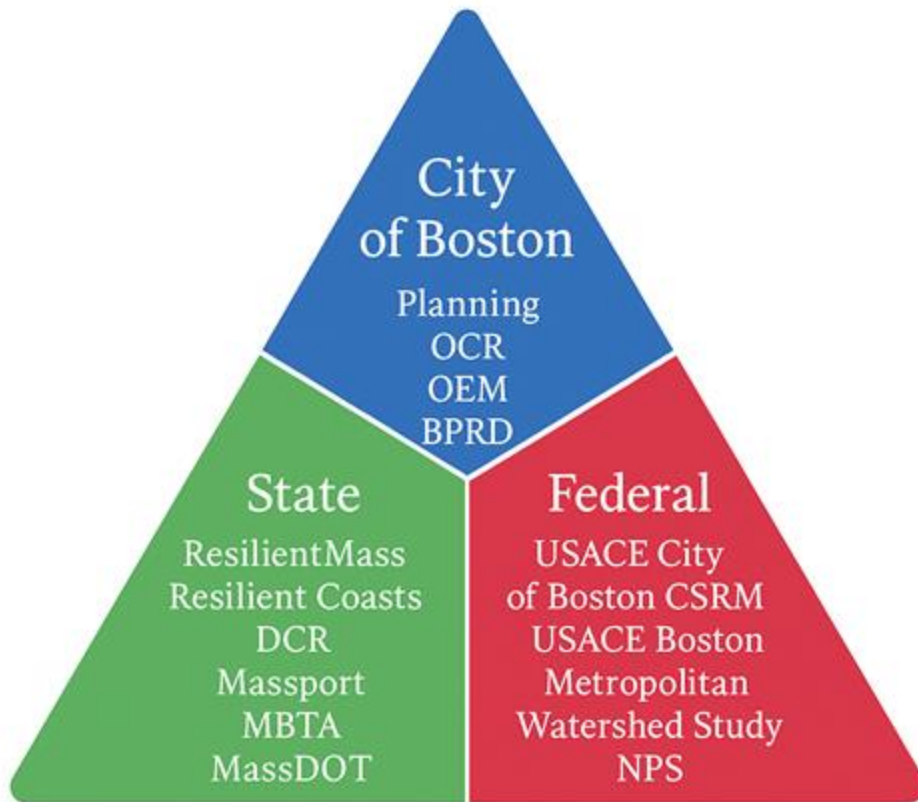
## BEYOND 2030

**Key Goal:**  
Transform our 47 miles  
of coastline

### How?

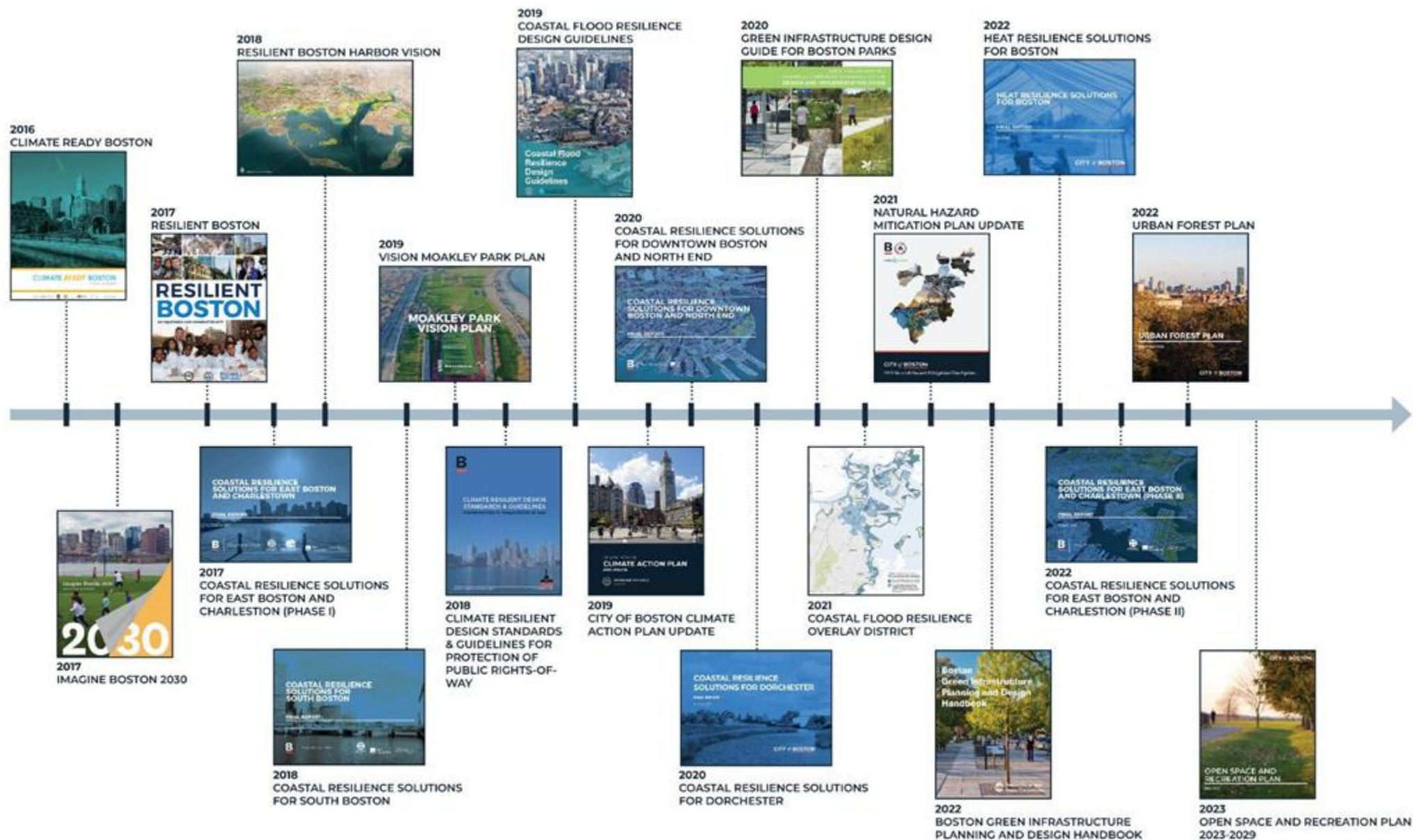
- Advance mid- and long-term priority projects from conceptual design to construction through an ongoing partnership with USACE
- Continue to address permitting and regulatory challenges
- Develop and implement long-term financing roadmap

# COASTAL RESILIENCE: WHOLE-OF-GOVERNMENT APPROACH

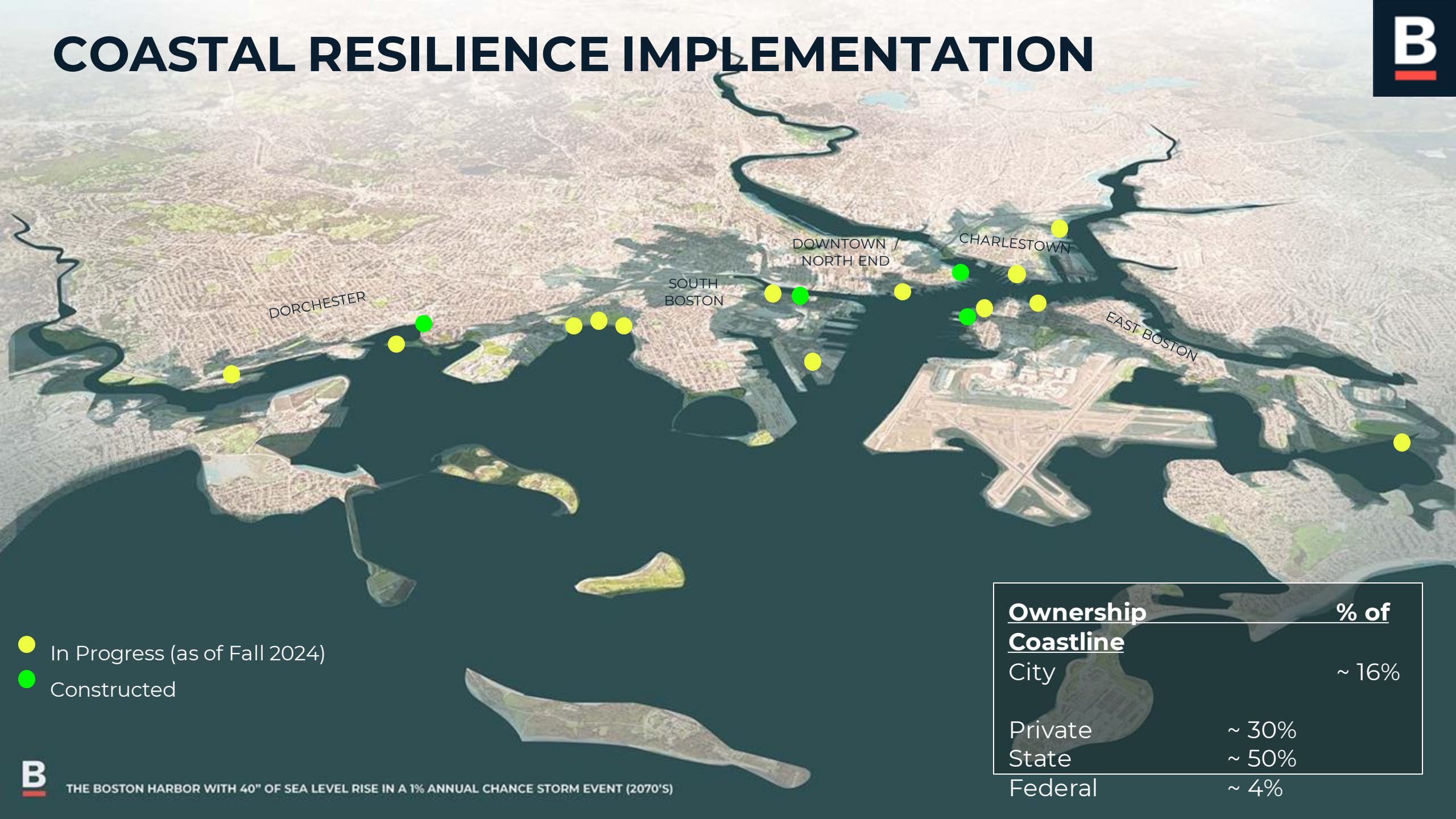


- All ongoing public agency led projects are being coordinated with USACE CSRM
  - Depending on the project stage, they could be part of the USACE plans
  - AND inform locally preferred/betterment plans
- The City is prioritizing 2030 risks, while USACE will help close mid- and long-term flood pathways

# CLIMATE PLANS & ACTION



# COASTAL RESILIENCE IMPLEMENTATION

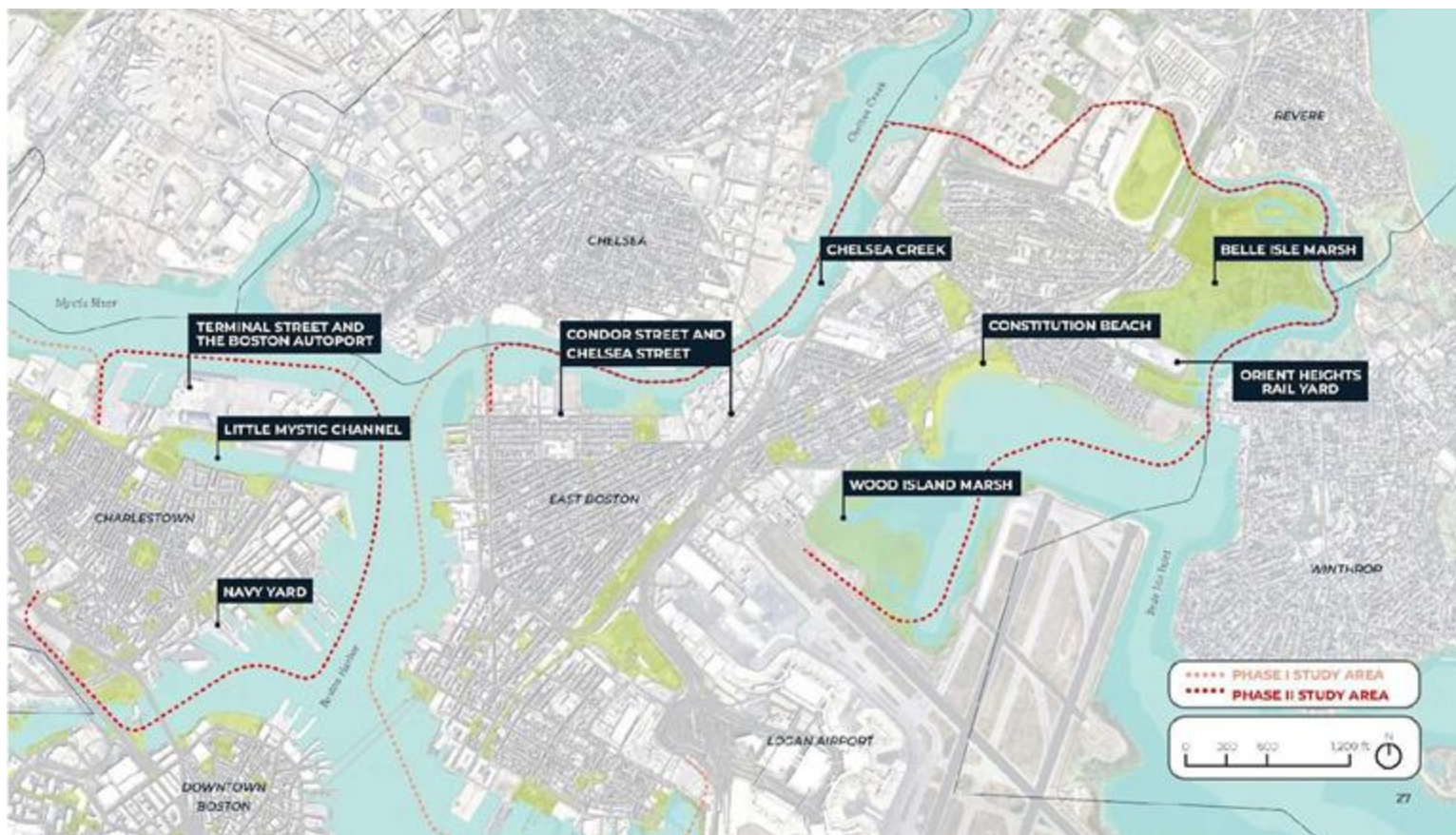


- In Progress (as of Fall 2024)
- Constructed

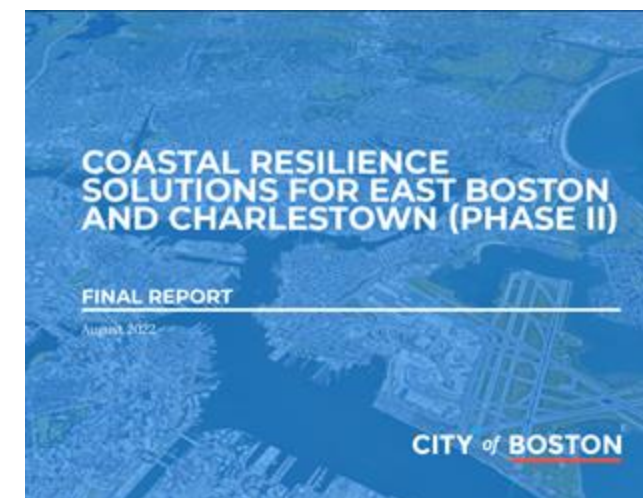
Ownership		% of
Coastline		
City		~ 16%
Private	~ 30%	
State	~ 50%	
Federal	~ 4%	

# COASTAL RESILIENCE SOLUTIONS

## PHASE I & II



Phase I - 2017



Phase II - 2022

# CHARLESTOWN NEIGHBORHOOD



LITTLE MYSTIC  
CHANNEL

BHA HOUSING  
COMMUNITY

SPAULDING  
REHABILITATION  
HOSPITAL

MENINO PARK

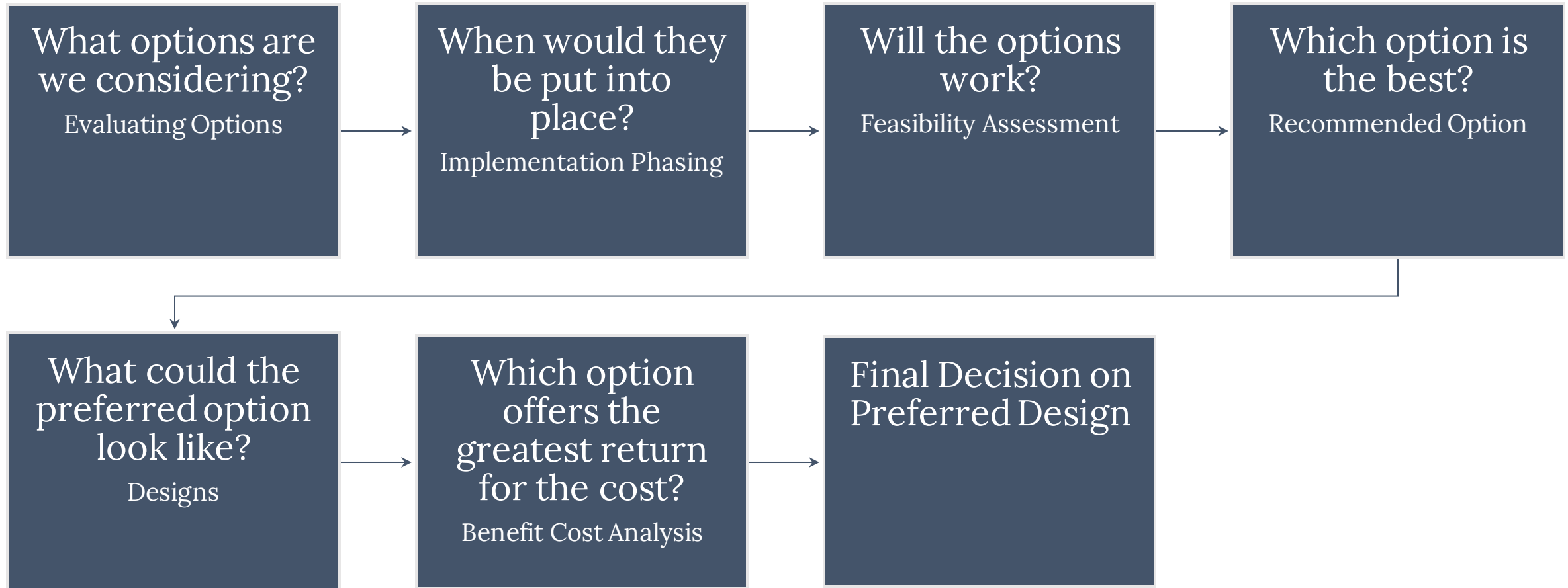
BUNKER HILL

CHARLESTOWN  
MARINA

BOSTON NATIONAL  
HISTORICAL PARK

NAVAL SHIPYARD  
PARK

# FROM PLANNING TO DESIGN



# WHY THIS PROJECT?

# WHY THIS PROJECT?

Charlestown is at **risk**  
of **flooding**



**Flooding along the Harborwalk in the Charlestown Navy Yard**  
Source: Ben Stoddard, 2018

# TYPES OF FLOODING



# TYPES OF FLOODING



## FRINGE FLOODING

Impacts low-lying areas along the waterfront as Harbor water levels rise above the ground elevation



## FLOOD PATHWAY

Impacts low-lying areas along the waterfront *and inland* as Harbor water enters through discrete low-lying areas on the waterfront

# WHY THIS PROJECT?

This project seeks to address stormwater and coastal flood risk – **now and into the future**



Charlestown King Tide at Dry Dock 2, 2016  
Source: MyCoast, MassCZM

An aerial photograph of a coastal city, likely Boston, showing extensive flooding in 2030. Blue areas represent water inundating streets, parks, and industrial zones. Dashed black arrows indicate the direction of water flow from the harbor and surrounding areas into the city. The city's layout, including residential blocks and industrial areas, is visible. A large body of water, the harbor, is on the right side of the image.

## COASTAL FLOODING EXPECTED AS SOON AS 2030

Based on Massachusetts Coast Flood  
Risk Model

An aerial 3D rendering of a coastal city, likely Boston, showing extensive flooding by 2050. The water, depicted in blue, has inundated large portions of the city, including industrial areas, parking lots, and some residential zones. A large, grey, curved barrier or dike runs diagonally across the middle of the image, separating the city from the harbor. Numerous black dashed arrows are overlaid on the image, pointing from the flooded areas towards the interior of the city, indicating the direction of water intrusion and the resulting impact on land. The city's layout, with its dense grid of streets and buildings, is clearly visible in the non-flooded areas.

# COASTAL FLOODING EXPECTED AS SOON AS 2050

Based on Massachusetts Coast Flood  
Risk Model

An aerial photograph of a coastal city, likely Boston, showing extensive flooding in 2070. The water is a deep blue, covering large areas of the city, including the harbor and surrounding low-lying areas. Dashed black arrows point from the flooded areas towards the city center, indicating the direction of water intrusion. The city buildings are shown in a light gray, and the surrounding land is a light green. The flooding is most prominent in the harbor area and along the coast.

## COASTAL FLOODING EXPECTED AS SOON AS 2070

Based on Massachusetts Coast Flood  
Risk Model

# COASTAL FLOODING EXPECTED AS SOON AS 2030, 2050, and 2070

Based on Massachusetts Coast Flood Risk Model

## LEGEND

- 2030 Flood Extent (1% AEP)
- 2050 Flood Extent (1% AEP)
- 2070 Flood Extent (1% AEP)



# WHY THIS PROJECT?

We need to act  
**collectively** to address  
flooding



# COMMUNITY FLOODING CONCERNS



**What flooding impacts are you most concerned about? (choose 2)**

# WHAT IS THIS PROJECT?

# PROJECT AREA: CHARLESTOWN NAVY YARD AND LITTLE MYSTIC CHANNEL



LITTLE MYSTIC

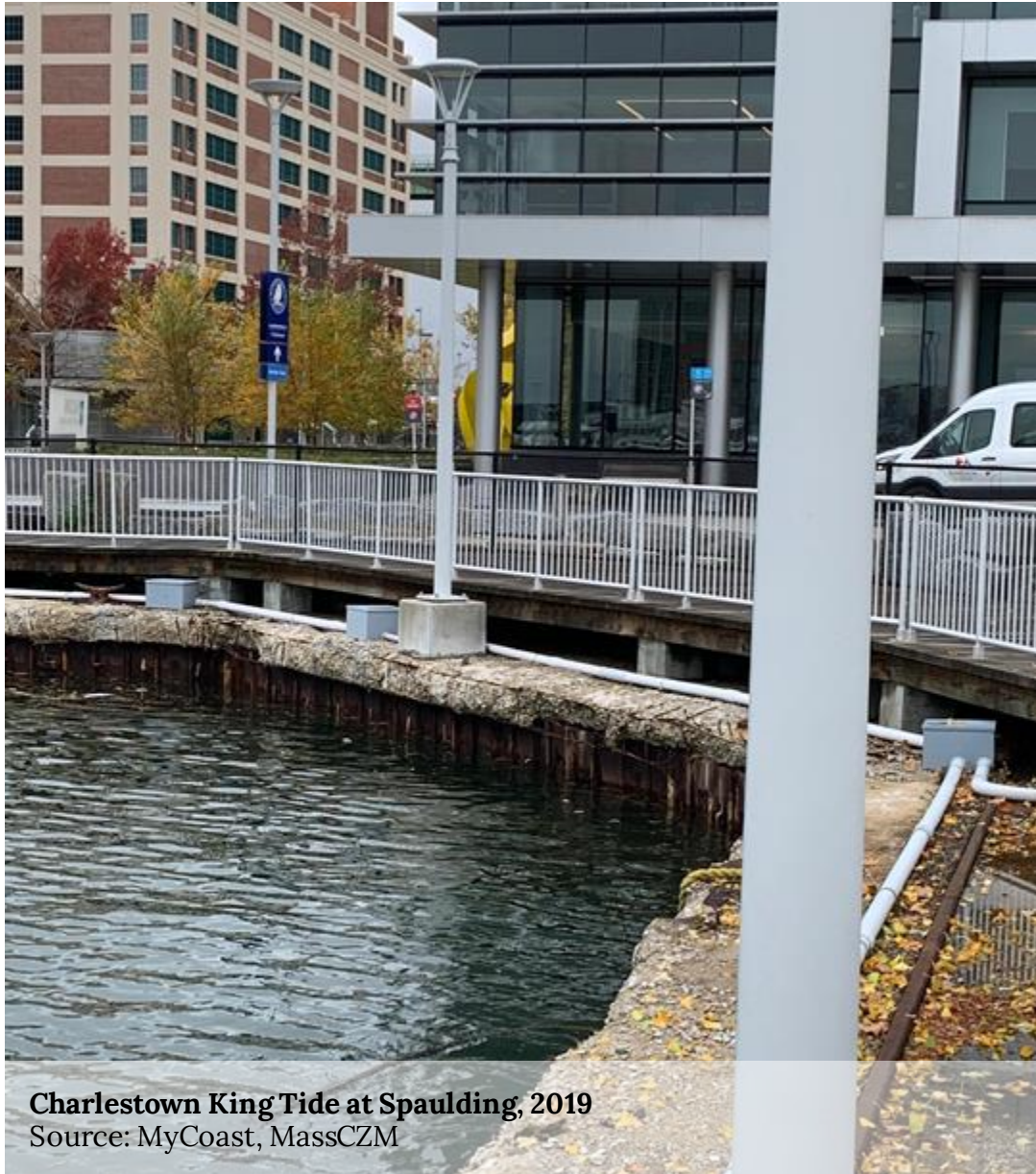
CHARLESTOWN  
NAVY YARD / CITY  
OF BOSTON

BOSTON  
NATIONAL  
HISTORICAL PARK/  
NATIONAL PARK  
SERVICE

City of Boston Study

National Park Service Study

# GOALS OF THIS PROJECT



Charlestown King Tide at Spaulding, 2019  
Source: MyCoast, MassCZM



Assess flood risks in the Charlestown Navy Yard and the Little Mystic Channel



Align with neighboring projects



Evaluate opportunities and constraints in implementing flood protection designs



Create flood protection tools for property owners



Identify and develop the design for a preferred long-term approach

# PROJECT VISION



## CONCEPTUAL EXAMPLE FROM NORTH/WEST BATTERY PARK CITY RESILIENCY PROJECT, NEW YORK CITY

Source: New York State Battery Park City Authority

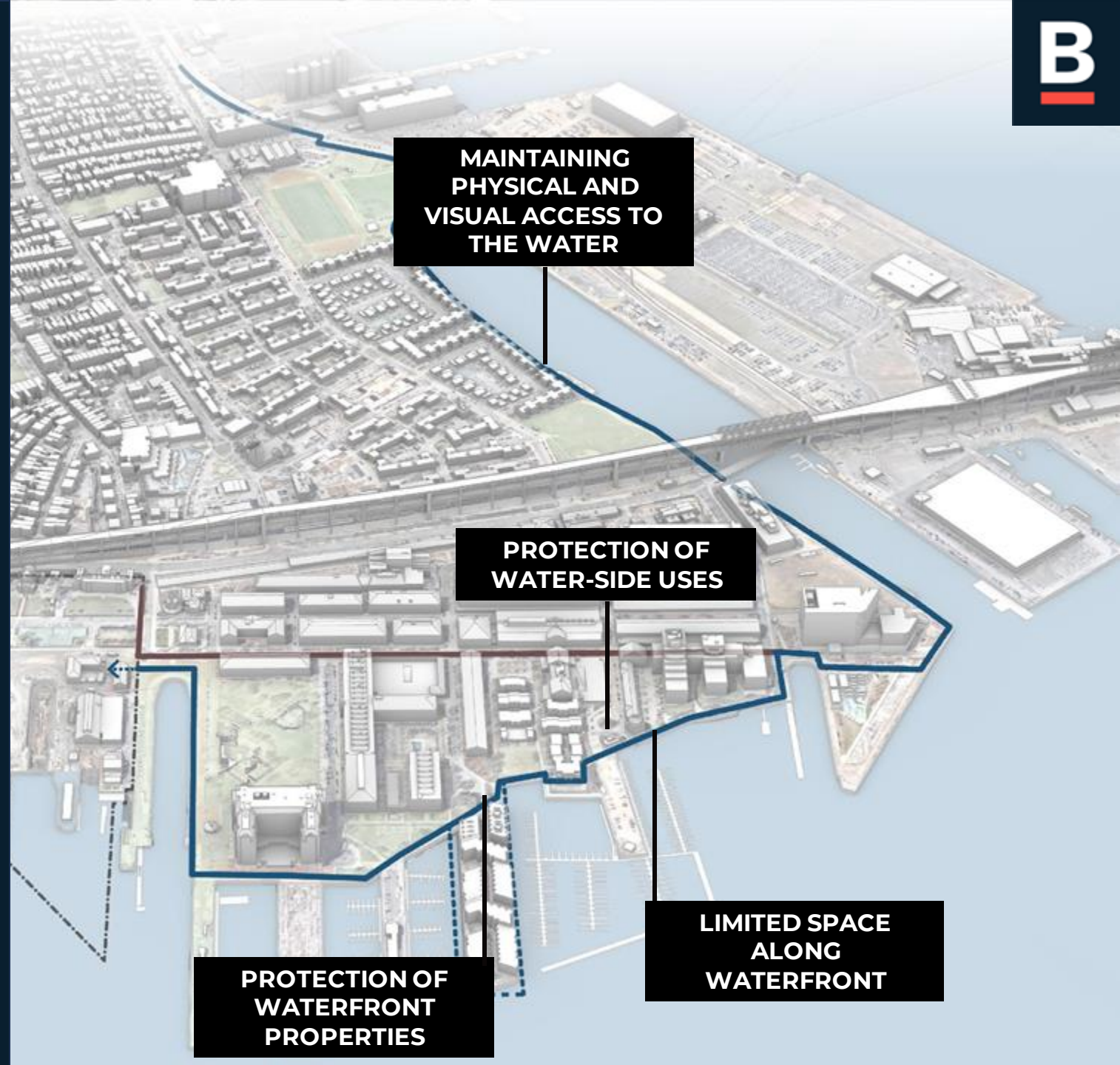
*Please note this image does not represent a proposed design for Charlestown*

Communities and structures are **protected** from near-term and long-term flooding.

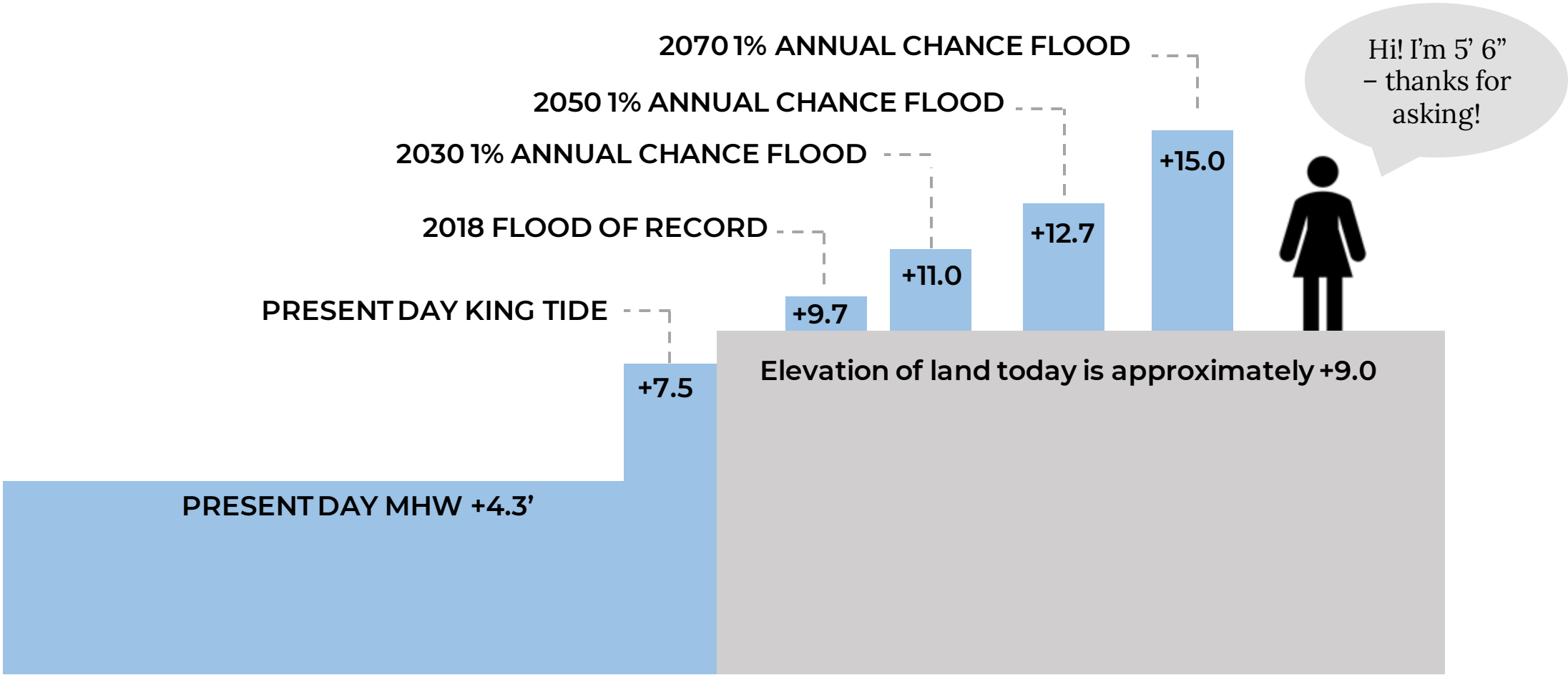
The waterfront experience is **enhanced and accessible**.

# KEY DESIGN CHALLENGES

- Multiple and Diverse Property Owners at Waterfront
- Need for Collective Solution
- Integration of Waterfront Design with Character of Charlestown
- Accessibility and ADA Compliance



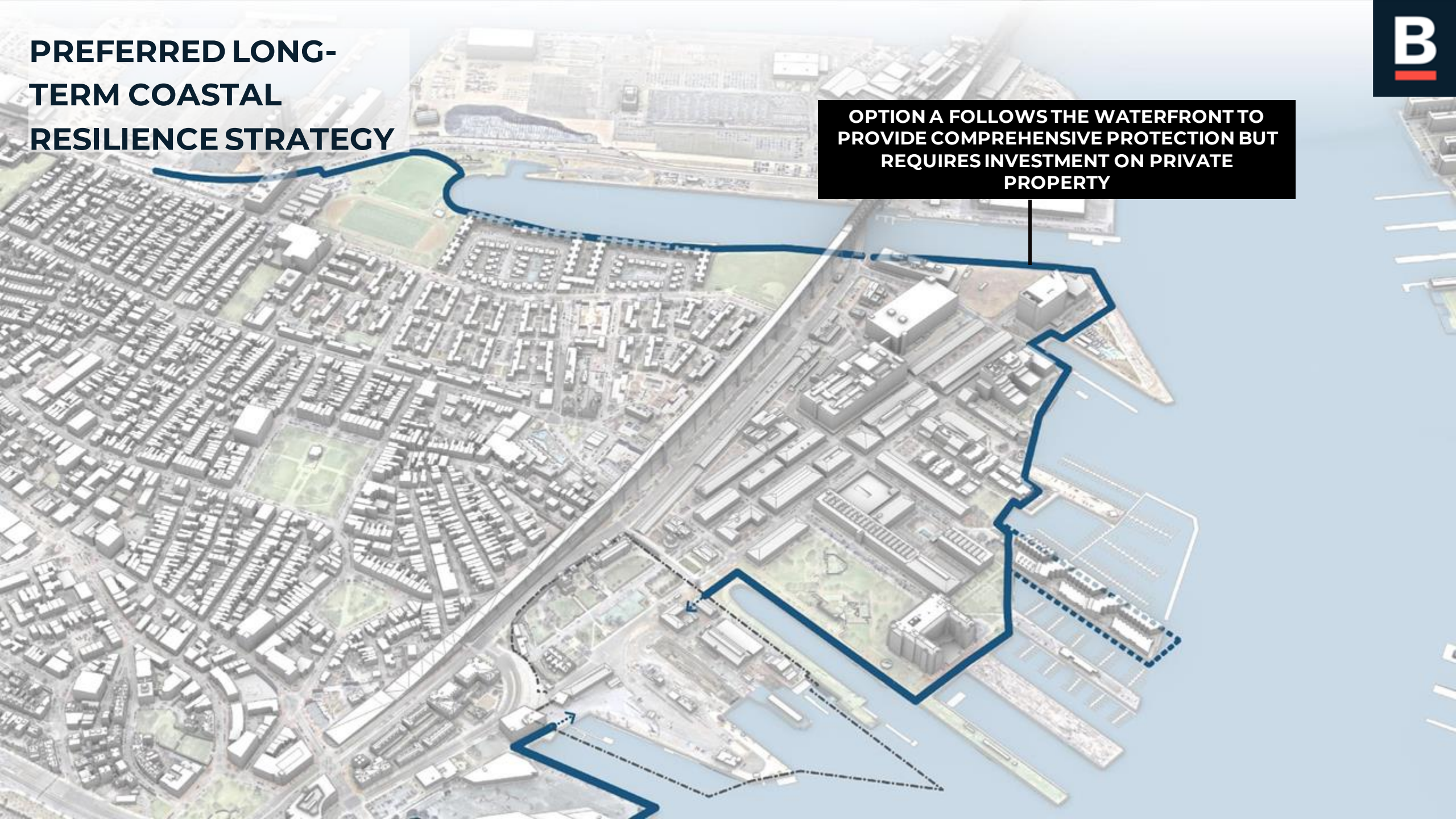
# DESIGN FLOOD ELEVATIONS



All figures represent approximate elevations at the shoreline in NAVD88

# PREFERRED LONG-TERM COASTAL RESILIENCE STRATEGY

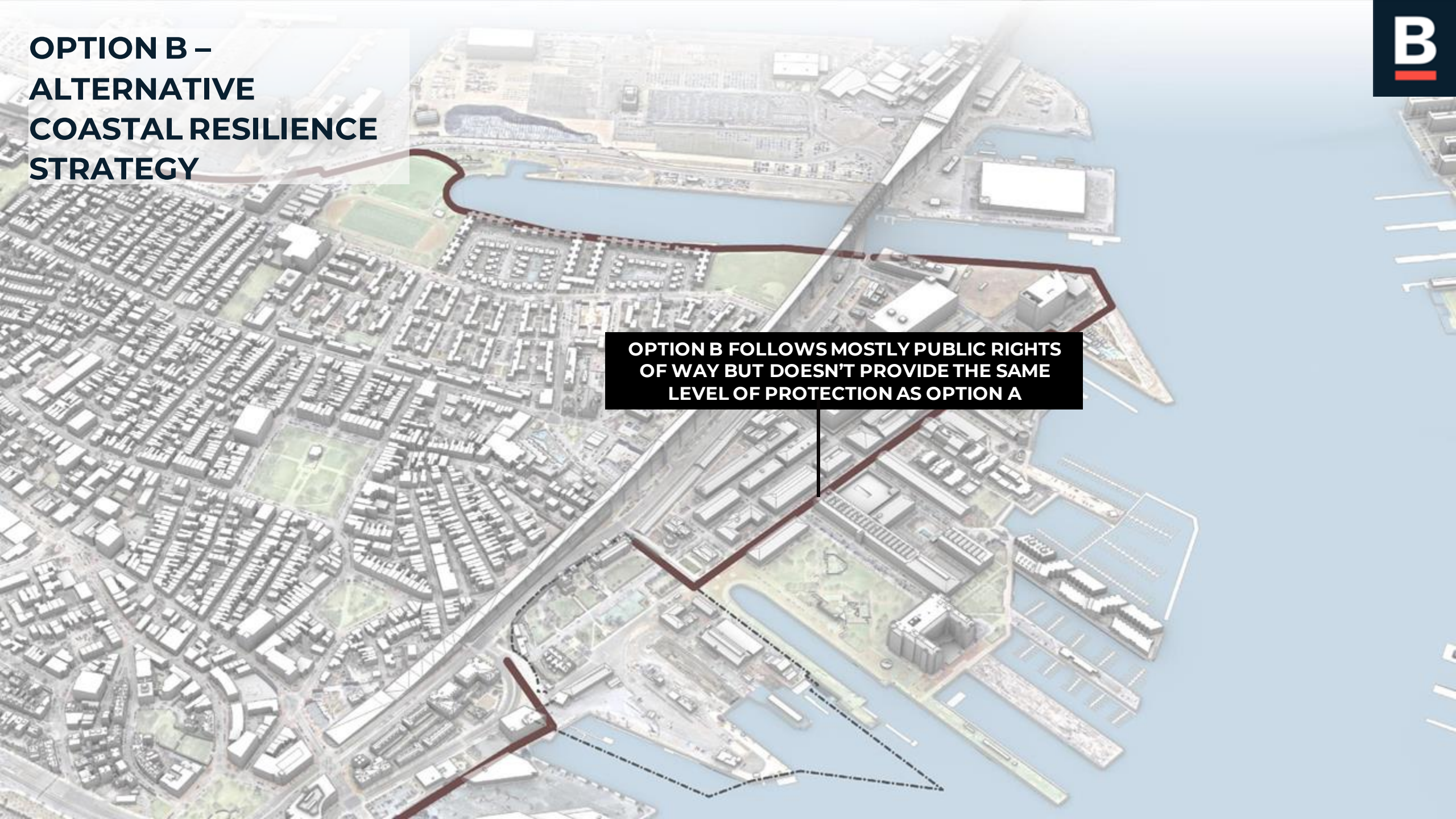
OPTION A FOLLOWS THE WATERFRONT TO PROVIDE COMPREHENSIVE PROTECTION BUT REQUIRES INVESTMENT ON PRIVATE PROPERTY



# OPTION B – ALTERNATIVE COASTAL RESILIENCE STRATEGY

**B**

OPTION B FOLLOWS MOSTLY PUBLIC RIGHTS  
OF WAY BUT DOESN'T PROVIDE THE SAME  
LEVEL OF PROTECTION AS OPTION A



# WHAT MIGHT THIS DESIGN LOOK LIKE?

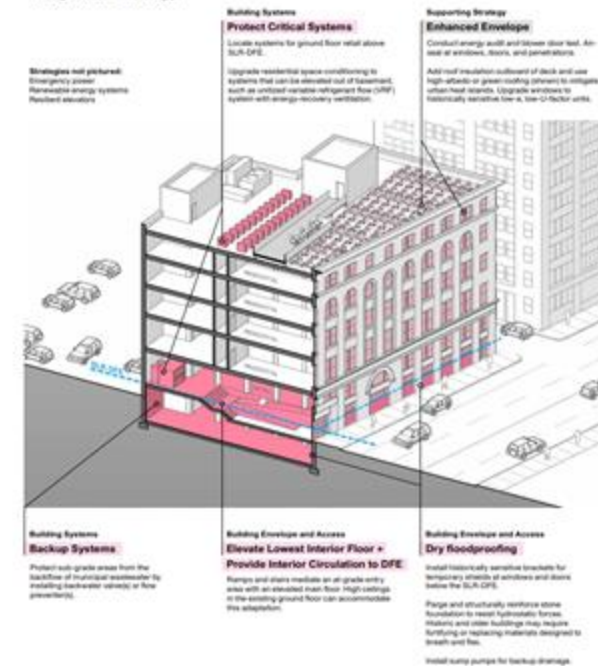
## FLOOD PROTECTIONS FOR BUILDINGS

Example: City of Boston Flood Resilience Design Guidelines



LANGONE PARK AND PUOPOLO PLAYGROUND  
SITE PLAN

### Long-term Strategy



# PROJECT EXAMPLES



**LANGONE PARK AND PUOPOLO PLAYGROUND,  
BOSTON MA**

Source: City of Boston



**MARTIN'S PARK,  
BOSTON MA**

Source: City of Boston

# PROJECT EXAMPLES

## Ferry Terminal | View from South

Proposed



### NORTH/WEST BATTERY PARK CITY RESILIENCY PROJECT, NEW YORK CITY

Source: New York State Battery Park City Authority

Please note this image does not represent a proposed design for Charlestown

# CHARLESTOWN EXAMPLE: Harborview

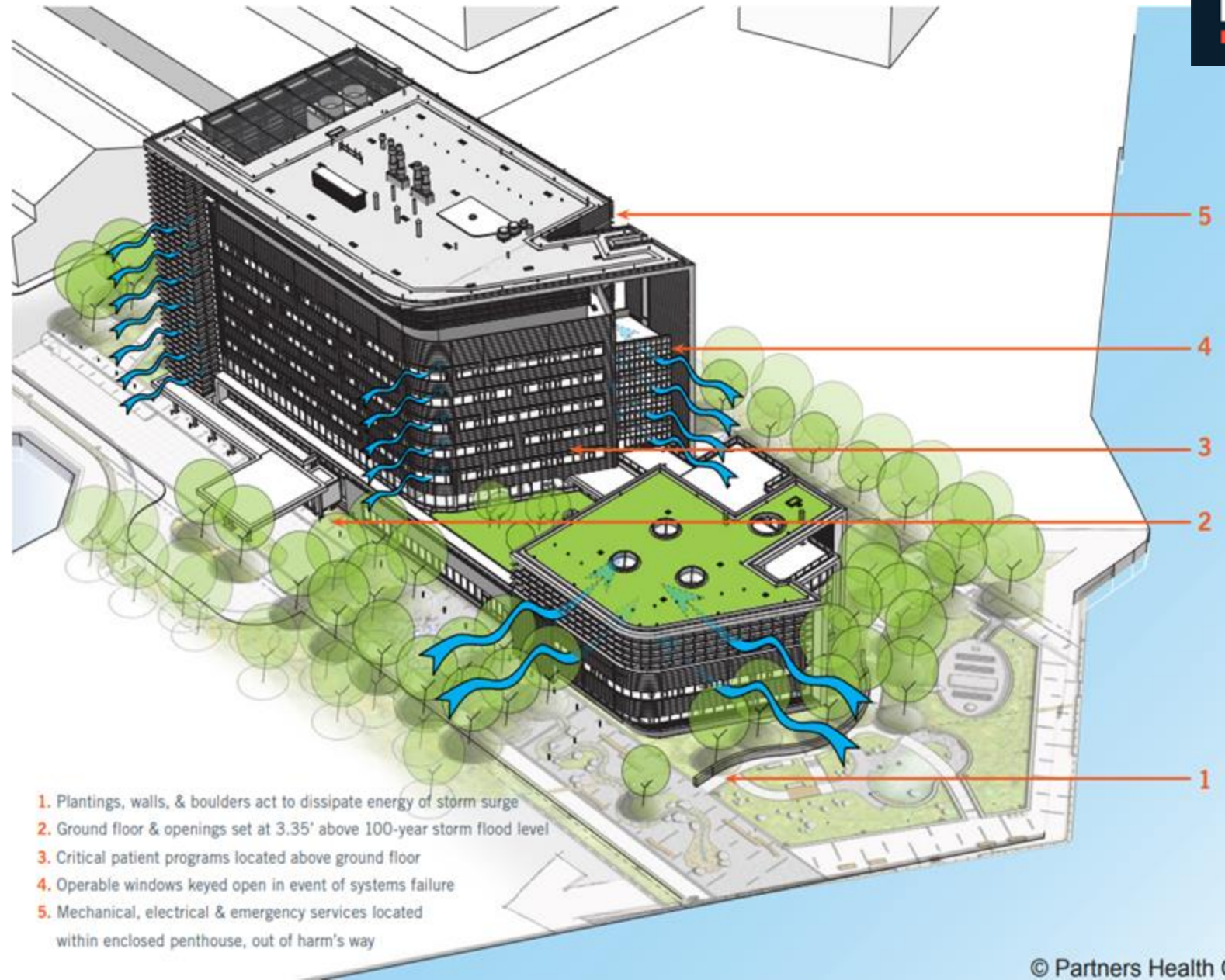
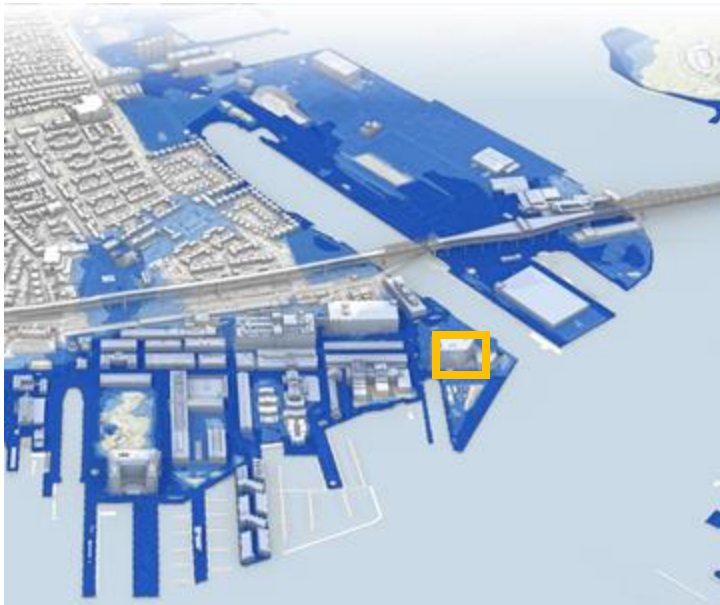
NEIGHBORHOOD WIDE  
PROTECTION



# CHARLESTOWN EXAMPLE:

## Spaulding Rehabilitation

### BUILDING LEVEL PROTECTION



1. Plantings, walls, & boulders act to dissipate energy of storm surge
2. Ground floor & openings set at 3.35' above 100-year storm flood level
3. Critical patient programs located above ground floor
4. Operable windows keyed open in event of systems failure
5. Mechanical, electrical & emergency services located within enclosed penthouse, out of harm's way

# QUESTIONS AND DISCUSSION

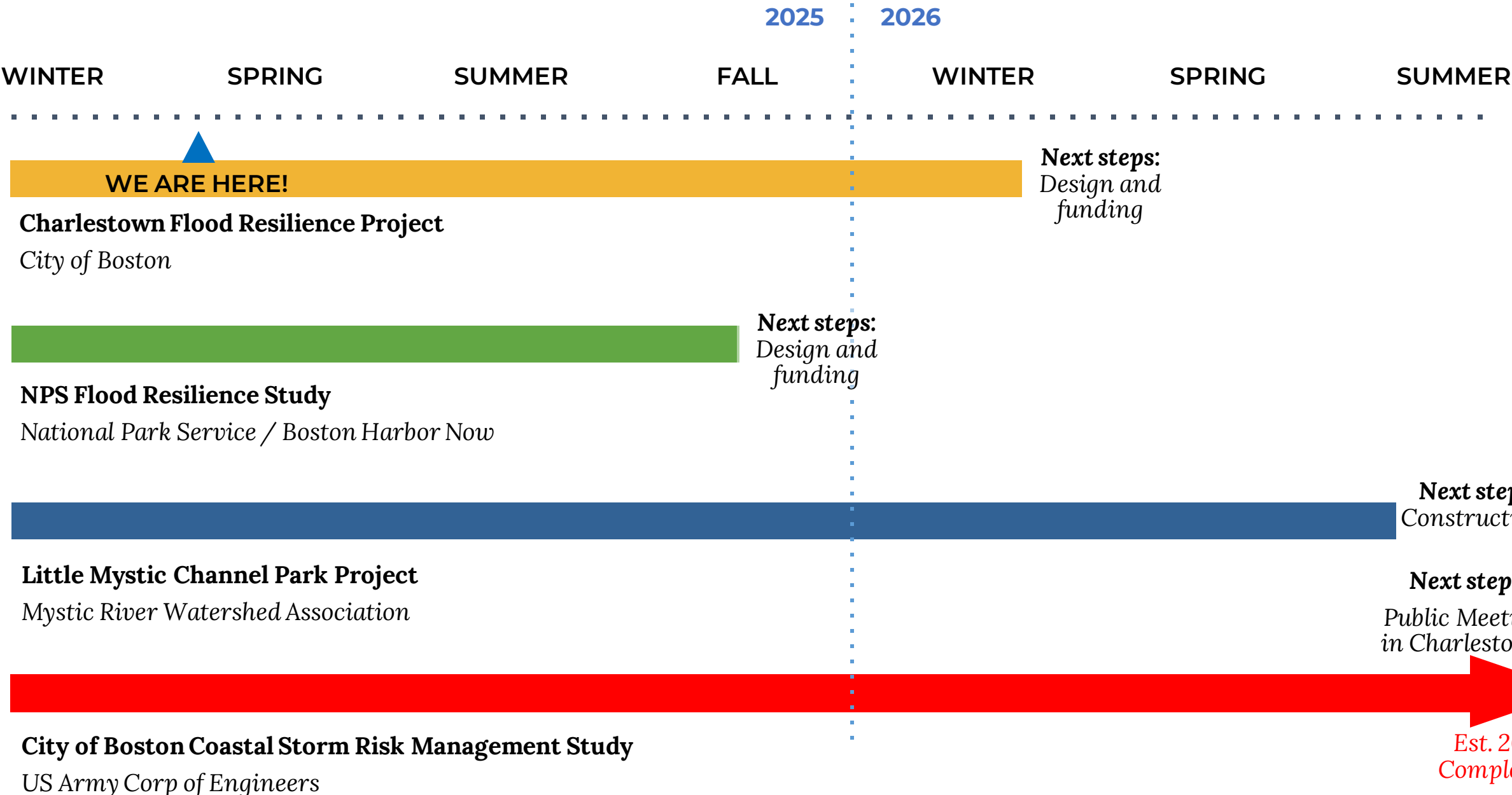
# KEY STAKEHOLDERS



Boston Planning Department	City of Boston (Parks, BTD, DPW, BCYF, and Other Departments)	State Regulators (DEP, CZM, etc.)	Charlestown Marina
Charlestown Community Center	Massachusetts General Hospital	Massachusetts DCR	Residential Associations
MassDOT	MassPort	MBTA (Charlestown Navy Yard Ferry Terminal)	National Park Service (Boston National Historical Park)
Boston Housing Authority Residents	Mystic River Watershed Association	Friends of Charlestown Navy Yard	State and Local Elected Officials

- Including:
- Constellation Wharf
  - Shipway
  - The Basilica
  - CNY Rowhouses
  - Parris Landing
  - Flagship Wharf
  - BHA Tenant Associations
  - Newtown CoOp
  - Navy Yard Garden and Art

# COORDINATION WITH NEIGHBORING EFFORTS



# QUESTIONS AND DISCUSSION



**For designs, I would like to see  
(choose 2)**



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**I would like to know more about  
(choose 2)**



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# WHAT TO EXPECT GOING FORWARD

# PROJECT PHASES

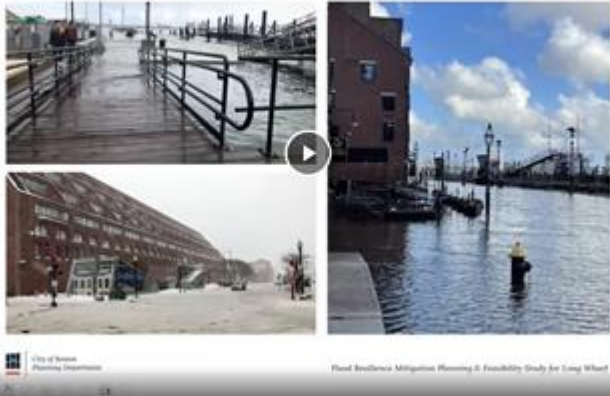


Evaluating Options	Implementation Phasing	Designs	Benefit Cost Analysis
	Feasibility Assessment	Recommended Options	Final Decision
PHASE 1 SPRING 2025	PHASE 2 SUMMER 2025	PHASE 3 FALL 2025	PHASE 4 WINTER 2025 - 2026
INPUT	EXPLORATION	DESIGN OPTIONS	CHOOSING A DESIGN

Engagement and Input Will Continue Throughout the Project

# FUTURE POINTS OF ENGAGEMENT

## BUILDING A COASTAL RESILIENT BOSTON, TOGETHER



### PUBLIC MEETINGS

Zoom meetings to keep everyone up-to-date on the project's progress

Source: City of Boston



### DESIGN CHARETTES

In-person workshop(s) to jointly consider, in a hands-on way, design options for different parts of the project area

Source: Everyday Boston



### COMMUNITY EVENTS

Participating in existing community events in Charlestown to share information about the project and gather informal input

Source: Coastal Resilience Solutions for South Boston



**I most prefer engaging through  
(choose all that apply)**



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# OFFICE HOURS & MORE INFORMATION

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## Office Hours

**Location:** Building 114 (Massachusetts General Hospital, 16th St. Charlestown, MA 02129) in rooms D1/D2 on the following dates and times:

- **May 5<sup>th</sup>** – 12:00 PM – 2:00 PM
- **May 7<sup>th</sup>** – 5:00 PM – 7:00 PM

## USACE CSRM Study Webinar in Charlestown

- **May 20<sup>th</sup>** – 6:00 PM – 8:00 PM
- <https://bit.ly/USACECTOWN1>
- Follow updates on Environment Department newsletter and on project webpage

**Stay up to date with the project website:**



# THANK YOU

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We appreciate your time and hope you enjoyed this presentation.

## HAVE QUESTIONS?

Ksenia Acquaviva

[ksenia.acquaviva2@boston.gov](mailto:ksenia.acquaviva2@boston.gov)

OR VISIT:

[bostonplans.org](http://bostonplans.org)



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CITY of **BOSTON**