

USACE & Boston Coastal Storm Risk Management Study

East Boston Update
September 2025



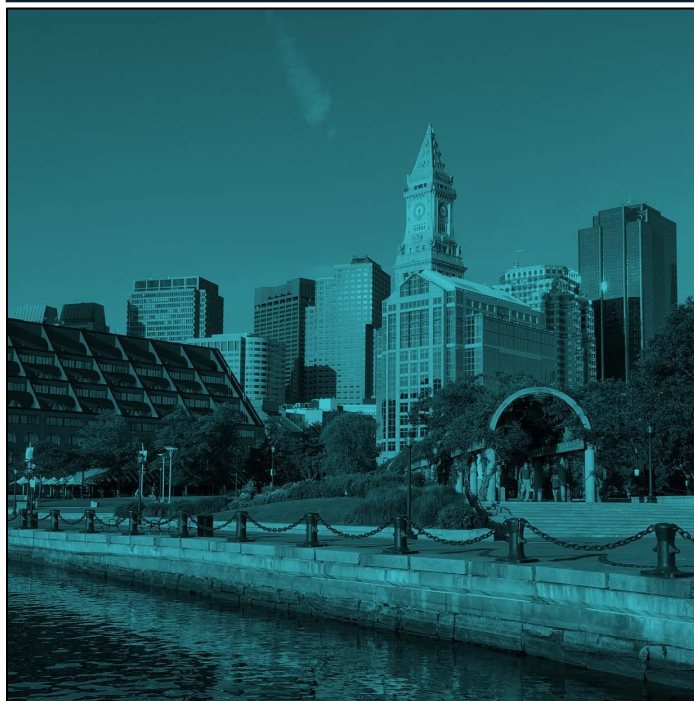
City of Boston
Climate Resilience

Goals

- Find out what the City is doing to prepare for Today's Storms
- Find out what the City is doing to prepare for storms of the next decade and beyond
- Learn about how the USACE partnership align with the ongoing Boston and Partner Projects
- Answer your questions
- Next steps on where you can provide feedback and contact us



CLIMATE READY BOSTON



CLIMATE READY BOSTON EXECUTIVE SUMMARY

MAYOR MARTIN J. WALSH



DECEMBER 2014

In 2016, the City of Boston released the *Climate Ready Boston* report, which included a comprehensive vulnerability assessment of current and projected risks associated with each of three climate hazards under a low, medium, and high greenhouse gas emissions scenario.

EXTREME TEMPERATURE



HEAT WAVES &
DROUGHT

EXTREME PRECIPITATION



STORMWATER
FLOODING

SEA LEVEL RISE



COASTAL & RIVERINE
FLOODING

COASTAL STORMS



COASTAL & RIVERINE
FLOODING

RESILIENT HARBOR VISION



DORCHESTER

SOUTH BOSTON

DOWNTOWN

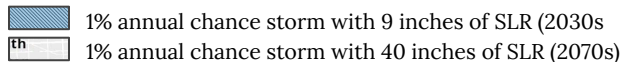
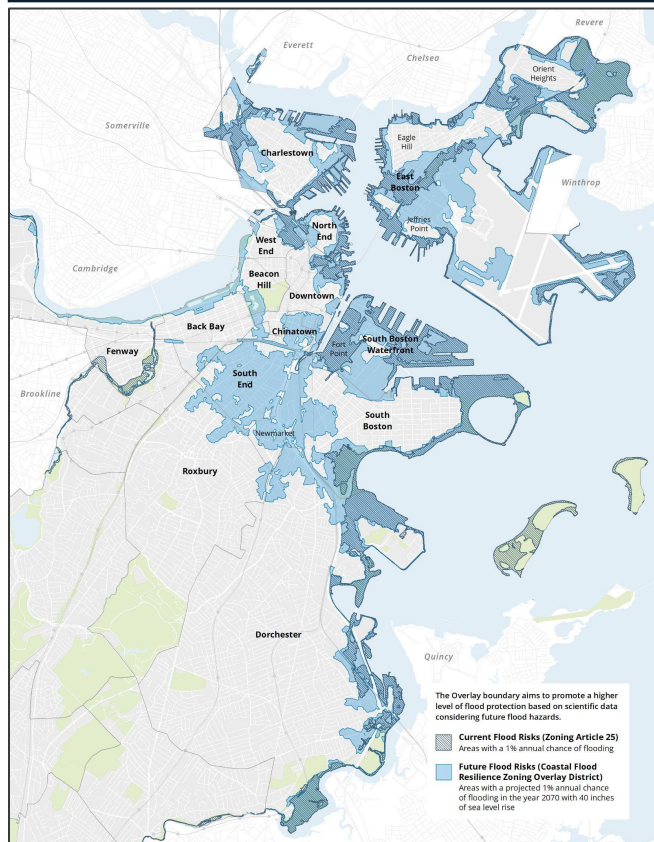
EAST BOSTON



RESILIENT BOSTON HARBOR

-  = FLOOD ADAPTED BUILDINGS
-  = ELEVATED LANDSCAPES
-  = CONNECTIONS AND ACCESS

NEIGHBORHOOD COASTAL RESILIENCE PLANS



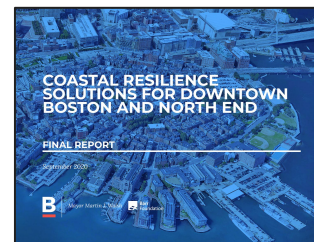
Between 2017-2022, the City completed neighborhood-level coastal resilience plans for all 47 miles of Boston's coastline.



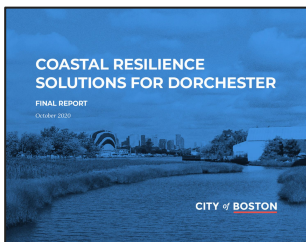
**East Boston
& Charlestown
Phase 1 (2017)**



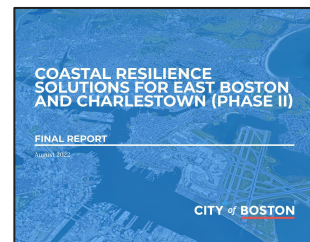
**South Boston
(2018)**



**North End &
Downtown
(2020)**

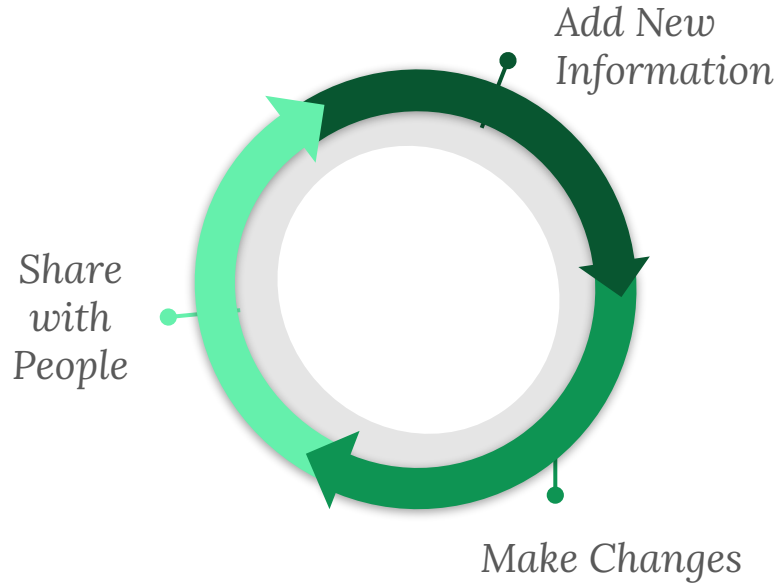


**Dorchester
(2020)**



**East Boston
& Charlestown
Phase 2 (2022)**

THE PROCESS CAN FEEL LIKE A SPIRAL STAIRCASE...



Construction,
Operation and
Maintenance

Final Design
and Permitting

Preliminary
Design

Conceptual Plan

Vision



COASTAL FLOODING IN BOSTON IN 2018 AND 2022



Flooding from during Winter Storm Riley in Boston's North End
(Source: Matt Conti, Winter, 2018)



Flooding along the Mary Ellen Welch Greenway in East Boston
(Source: Lisa A. DiFrisco, Winter 2018)



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



Man kayaks along surface streets near Lewis Mall in East Boston
(Source: Steve Holt, Winter 2018)



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 IMPLEMENTATION: THREE CONCURRENT STRATEGIES

TODAY'S STORMS

Key Goal:
Strengthen our response
to today's flooding

How?

Educate residents about emergency preparedness, strengthen protocols for preparing for and responding to extreme weather, and operationalize deployable barriers

Key City Agencies:

Office of Emergency Management
Office of Climate Resilience

THIS DECADE'S STORMS

Key Goal:
Address 2030 flood
pathways

How?

Advance near-term priority projects identified in coastal resilience plans from conceptual design to construction

Key City Agencies:

Office of Climate Resilience
Planning Department
Parks & Recreation Department

BEYOND 2030

Key Goal:
Transform our 47 miles
of coastline

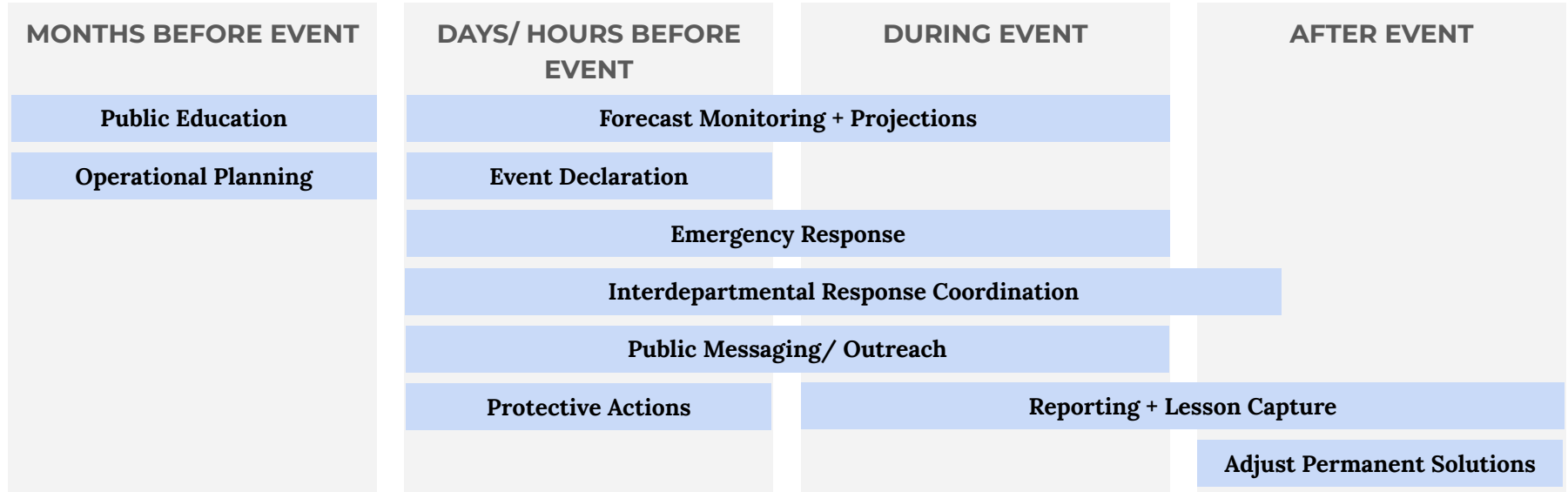
How?

Through an ongoing partnership with the U.S. Army Corps of Engineers, advance mid- and long-term priority projects from conceptual design to construction

Key City Agencies:

Office of Climate Resilience,
Planning Department,
Boston Water & Sewer
Commission, and many more!

TODAY'S STORMS

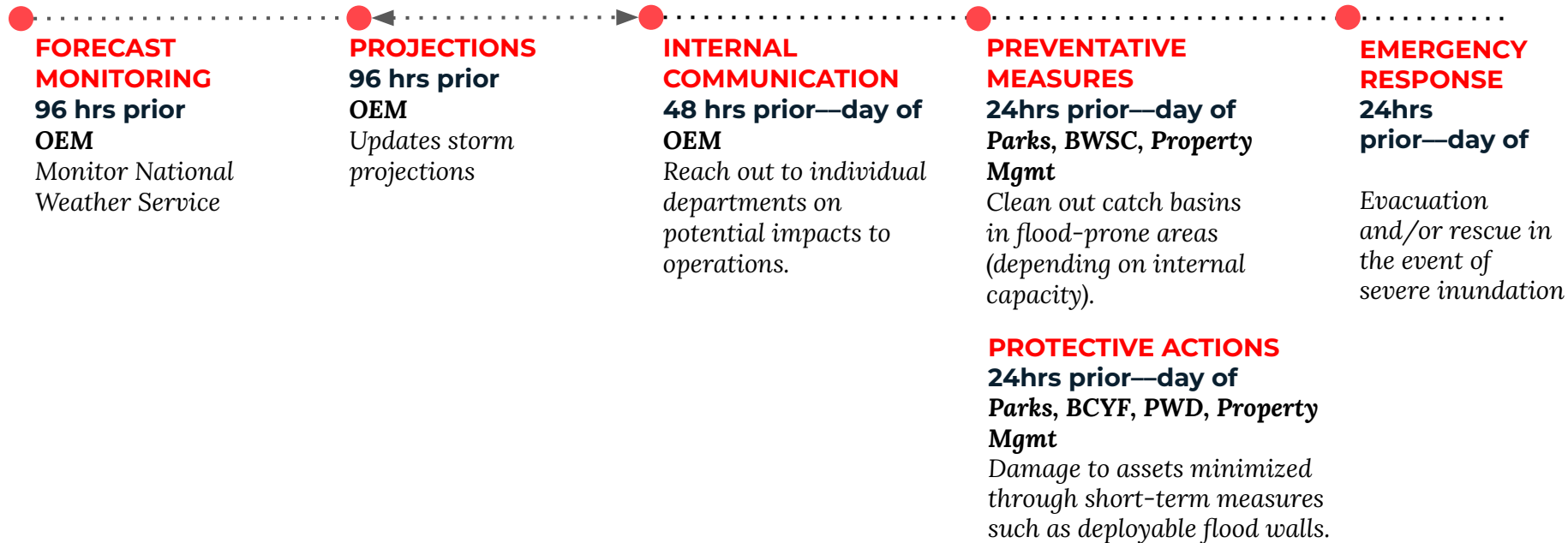


EDUCATION AND OUTREACH

- “Know Your Zone”
 - Raise awareness of evacuation zones
 - Inform residents of their specific hurricane evacuation routes
 - Encourage residents to plan and prepare for evacuation scenarios
- Deployables Day (September 25, 2025)
 - Free Demonstration and Resource Fair at City Hall Plaza
 - See Deployables in action (private + City deployables)

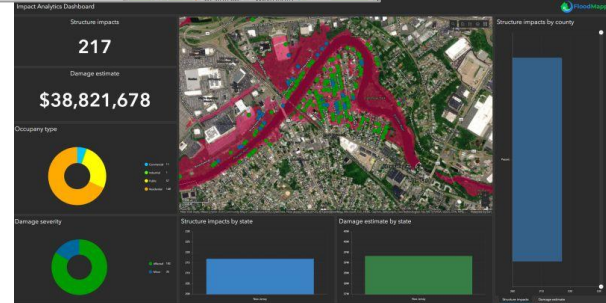
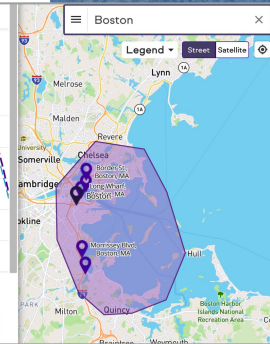
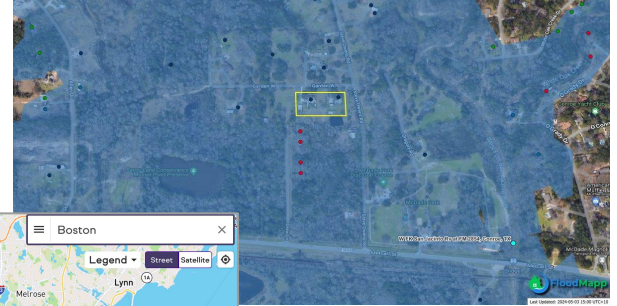
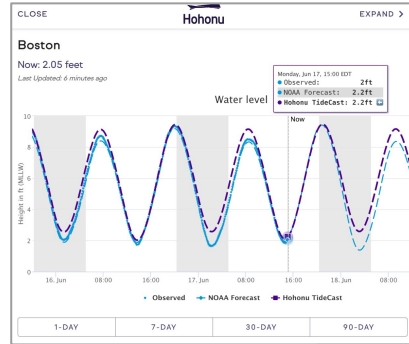


STORM RESPONSE



IMPROVING THE RESPONSE CYCLE

- Expanding the City's network of flood sensors
- Developing tools for:
 - Emergency response
 - Damage assessment
 - Recovery efforts



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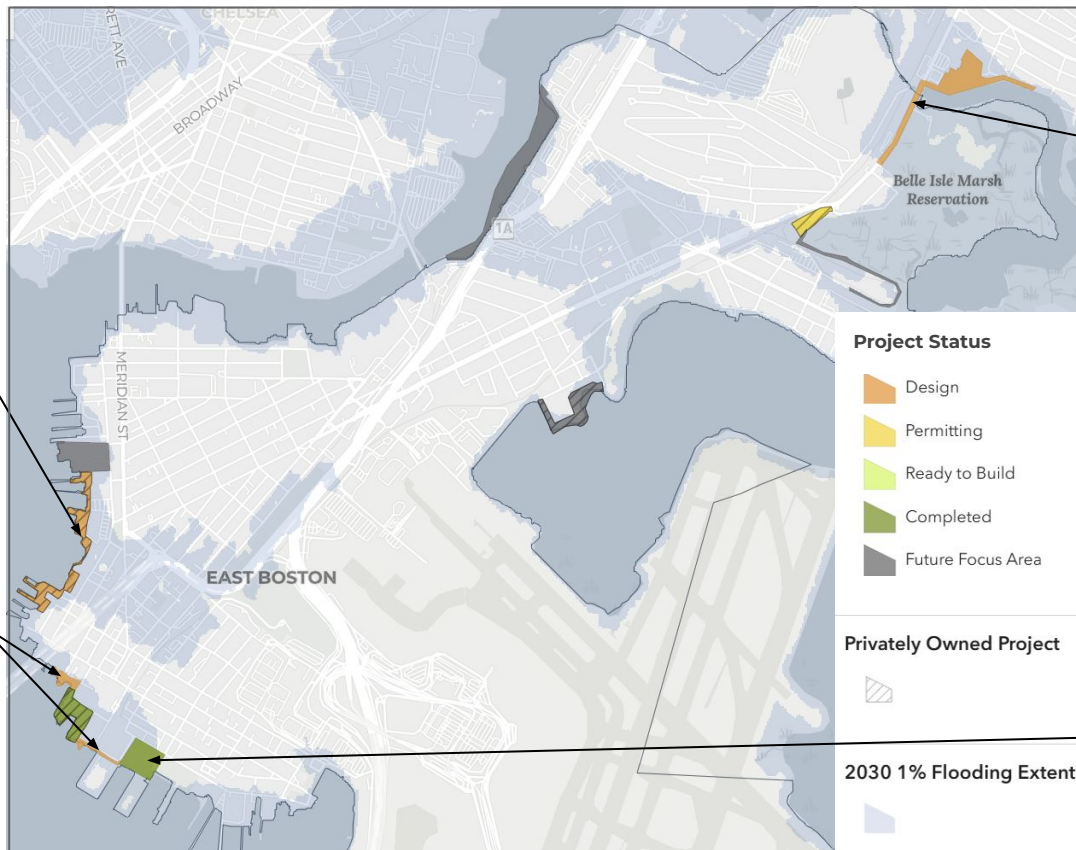
COASTAL RESILIENCE IMPLEMENTATION - EAST BOSTON



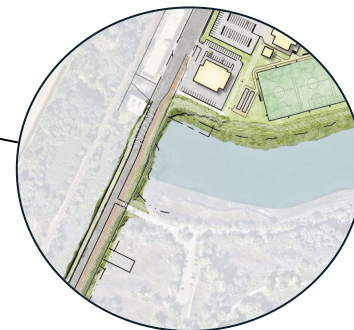
Border Street
Design in progress



Lewis Mall & Carlton Wharf
Design in progress



The map displays extents of flooding produced from the Massachusetts Coast Flood Risk Model (MC-FRM), which is the Commonwealth of Massachusetts' adopted flood projection model. The flooding shown accounts a 1% annual chance storm with 2030 sea level rise projections.



Bennington Street & Fredericks Park
Design in progress



Piers Park II
Construction complete in 2023

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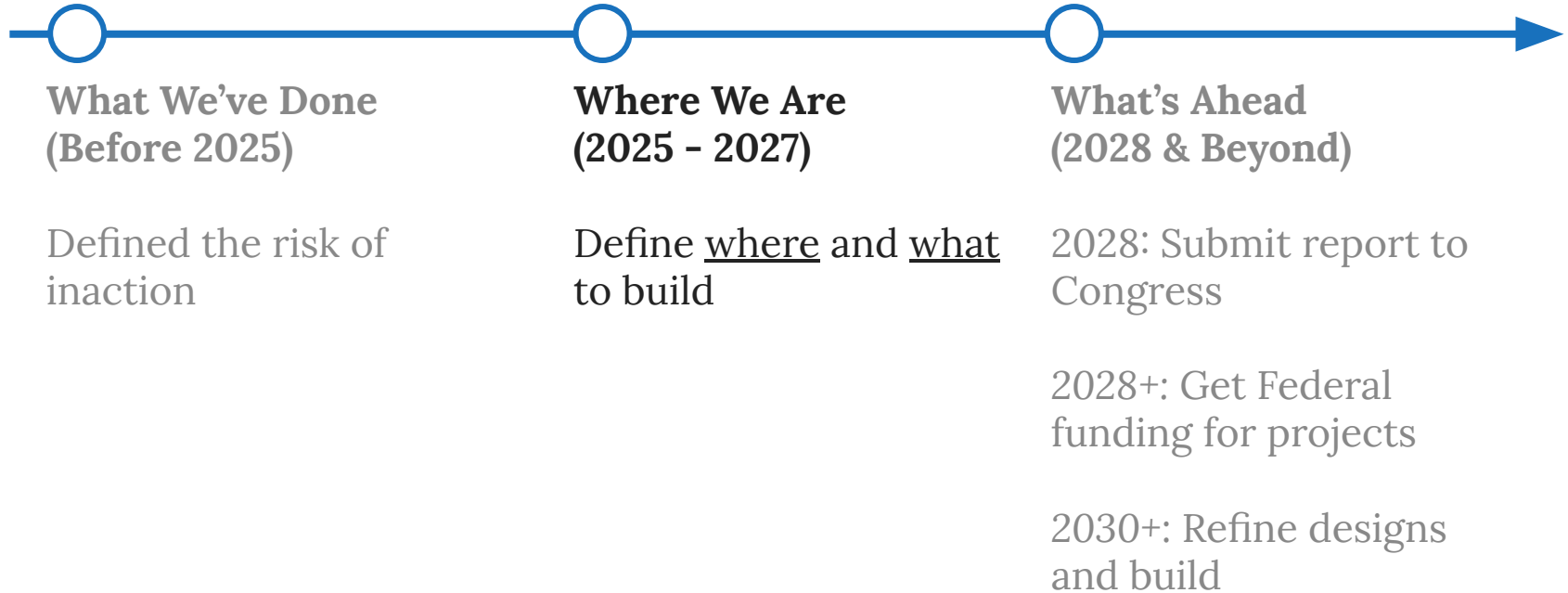
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WHY NOW AND WHY USACE?

- USACE has a specific charge for proposing coastal resilience solutions that are **effective in mitigating risk to the Federal Interest**;
 - We have shared interest in **protecting homes, critical infrastructure, and evacuation corridors**;
- USACE **follows a specific process** in designing, evaluating and selecting projects.
 - They can provide **up to 65% of the cost** to build these structures.



WHERE ARE WE IN THE USACE PROCESS?



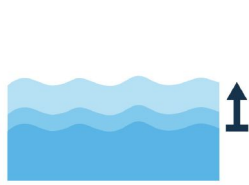
CSRM Process:

Coastal Storm Risk Analysis and Management 101



HOW DOES USACE DEFINE COASTAL STORM RISK?

COASTAL HAZARDS:



SEA LEVEL CHANGE

Permanent rise in ocean level relative to land



STORM SURGE

Temporary rise in ocean level during a storm event



WAVE ACTION & EROSION

Gradual reduction in the coastline as waves carry away sediment

CLOSING LONG-TERM FLOOD PATHWAYS:



FLOOD PATHWAY

Impacts inland areas when water enters through a low-lying area on the waterfront



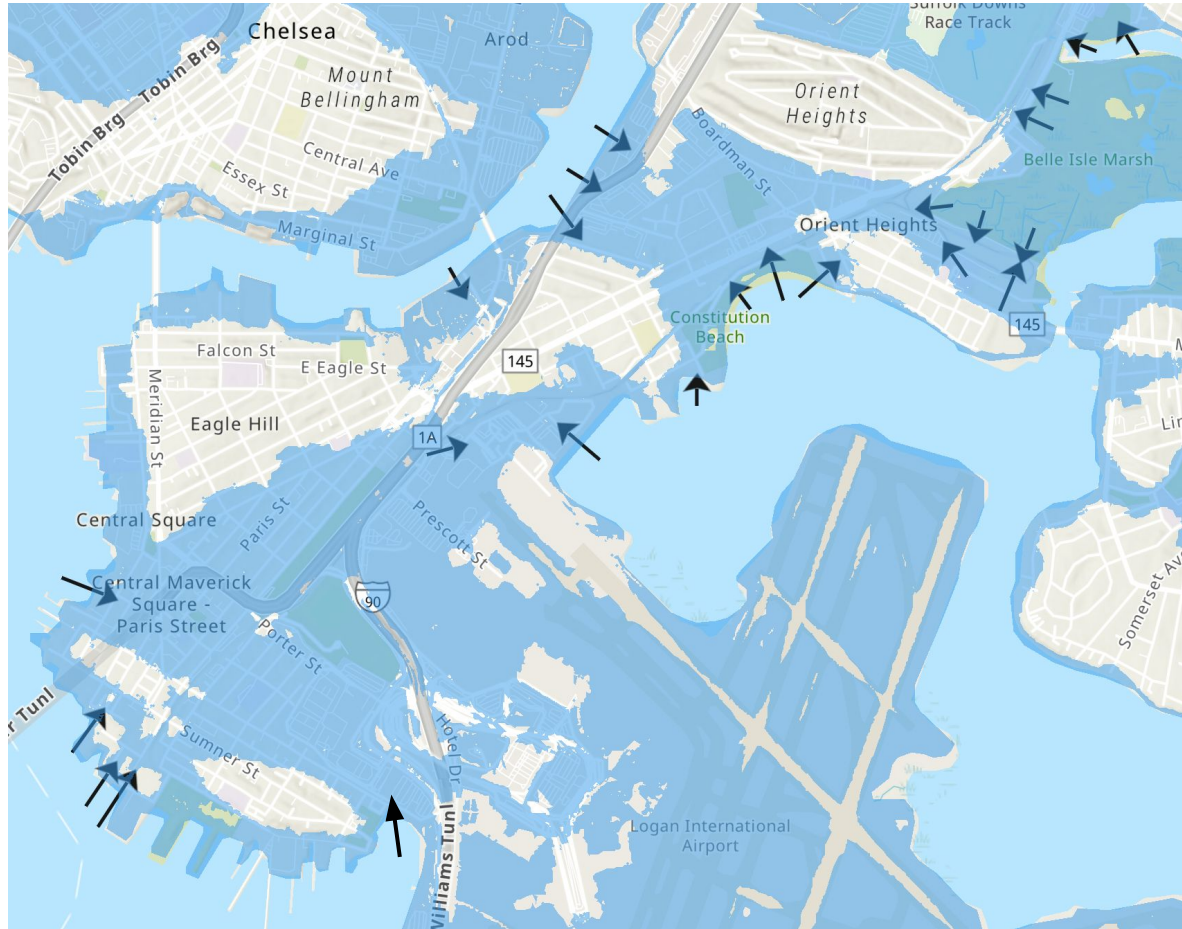
U.S. ARMY



US Army Corps
of Engineers



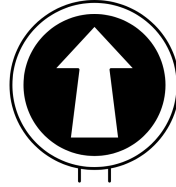
COASTAL STORM RISK MANAGEMENT: HOW IS THIS DIFFERENT FROM CLIMATE READY BOSTON?



HOW DOES USACE DEFINE “FEDERAL INTEREST”?



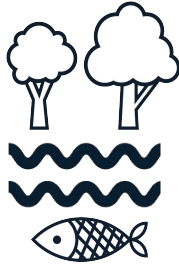
Protection of
Housing



Protection of
Evacuation Corridors



Protection of Critical
Infrastructure



Protection of Natural
Resources



Protection of the People



Protection of Critical
Transportation



U.S. ARMY

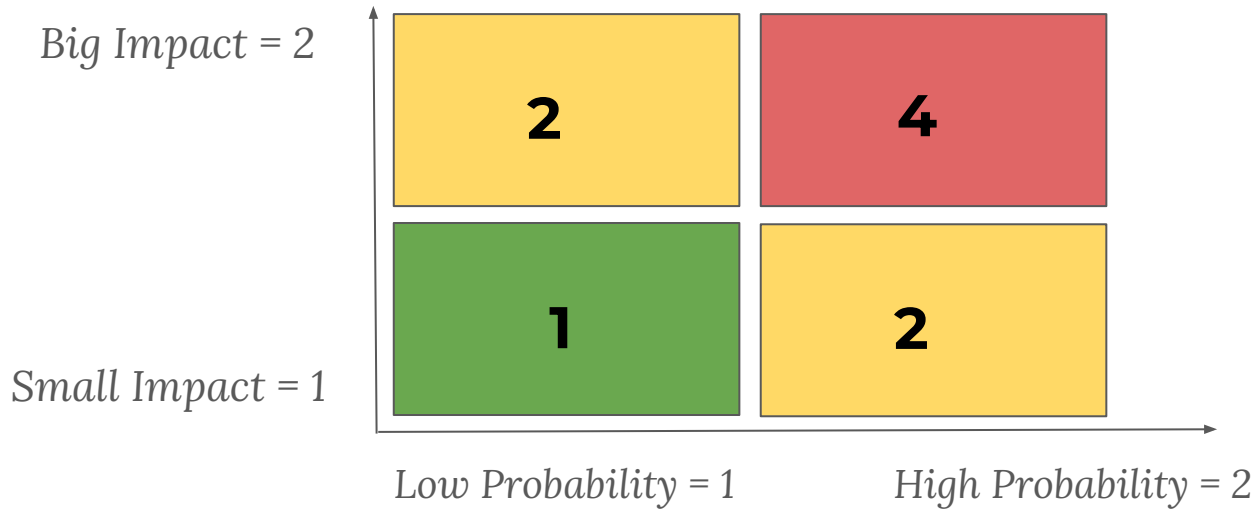


US Army Corps
of Engineers



HOW DOES USACE MANAGE STORM RISK?

- Storm Risk is the possibility of a bad storm happening in a specific area
 - Level of Probability multiplied by Level of Impact



HOW DOES USACE ADDRESS STORM RISK? PICK THE RIGHT TOOL



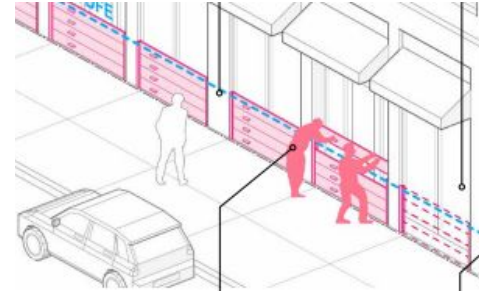
1st Drawer: PROTECT

Structural



2nd Drawer: ADAPT or ACCOMMODATE

Non-Structural, Physical



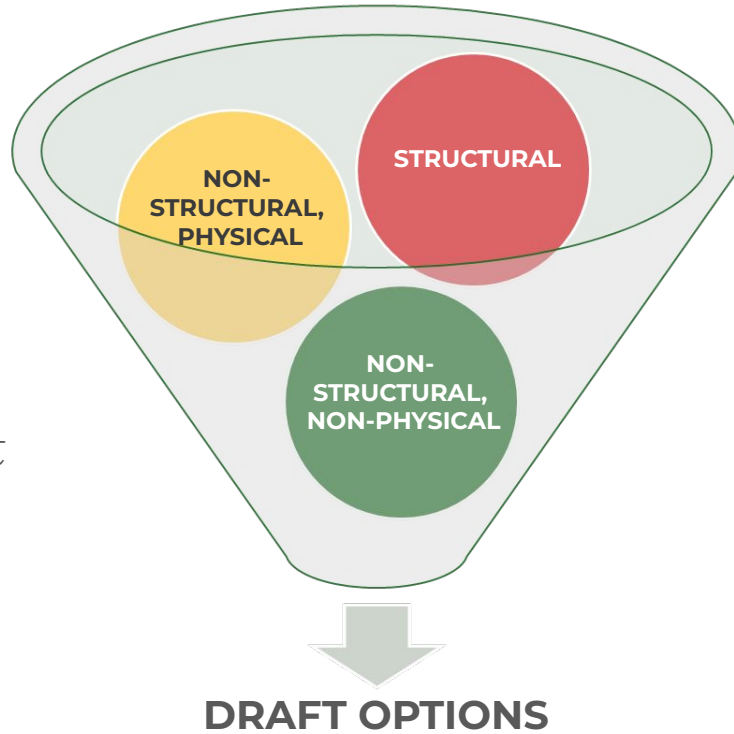
3rd Drawer: MANAGE

Non-Structural, Non-Physical



HOW DOES USACE SELECT TOOLS FOR BOSTON?

- *What provides maximum protection?*
- *What is possible to build?*
- *What is the best fit for East Boston?*



Pause for Questions

Coastal Storm Risk Analysis and Management 101



REFRESHER: CLIMATE READY BOSTON TOOLS

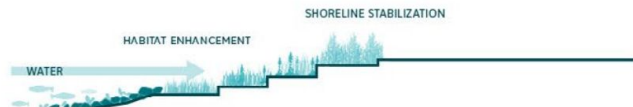
RAISED HARBORWALK / RAISED PARK SPACE



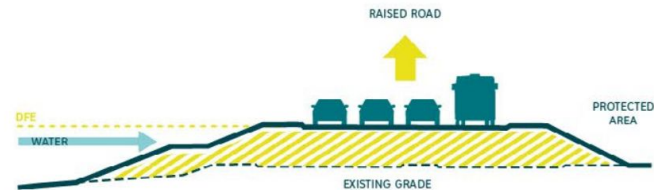
RAISED BERMS AND DUNES



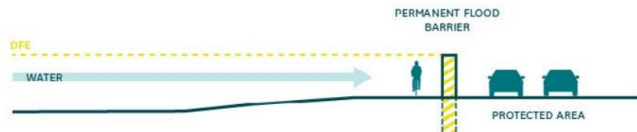
NATURE-BASED SOLUTIONS



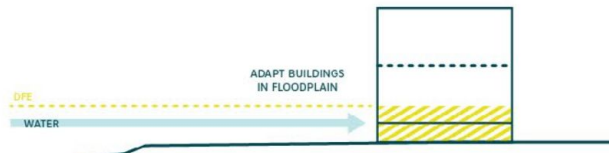
RAISED ROADWAYS / MEDIAN FLOODWALLS



VERTICAL FLOODWALLS



ADAPTED BUILDINGS AND STRUCTURES

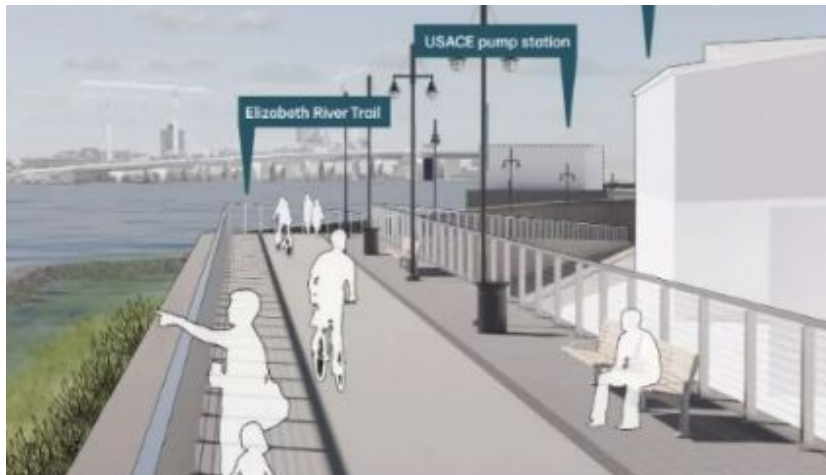


EXAMPLES OF USACE APPLICATIONS

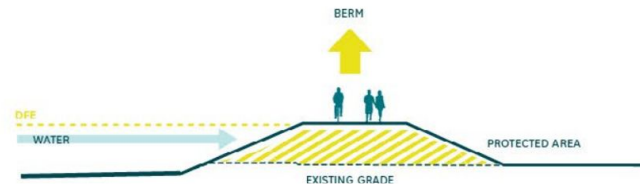
RAISED HARBORWALK / RAISED PARK SPACE



USACE Example: Norfolk, VA



RAISED BERMS AND DUNES



USACE Example: New Bedford, MA

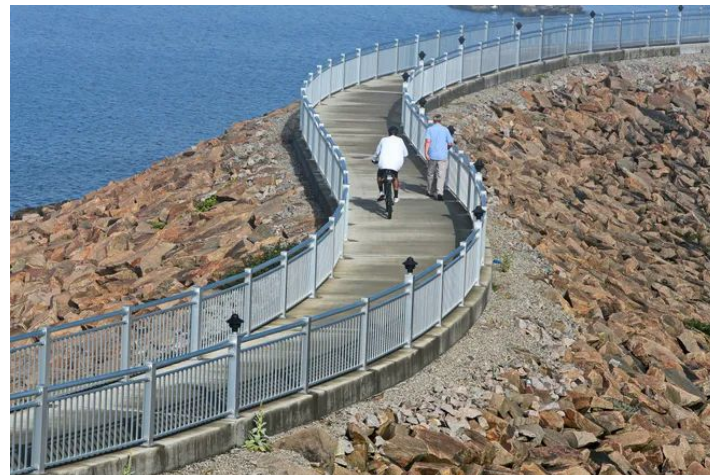


Photo Credit: Peter Pereira, The Standard-Times

EXAMPLES OF USACE APPLICATIONS

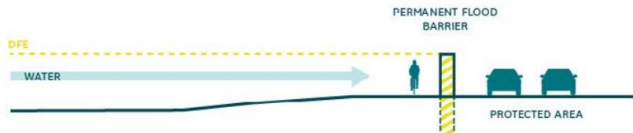


USACE Example: Norfolk, VA



USACE Example: Long Island, NY

VERTICAL FLOODWALLS



ADAPTED BUILDINGS AND STRUCTURES



Preliminary Locations:

Draft Alignments for East Boston



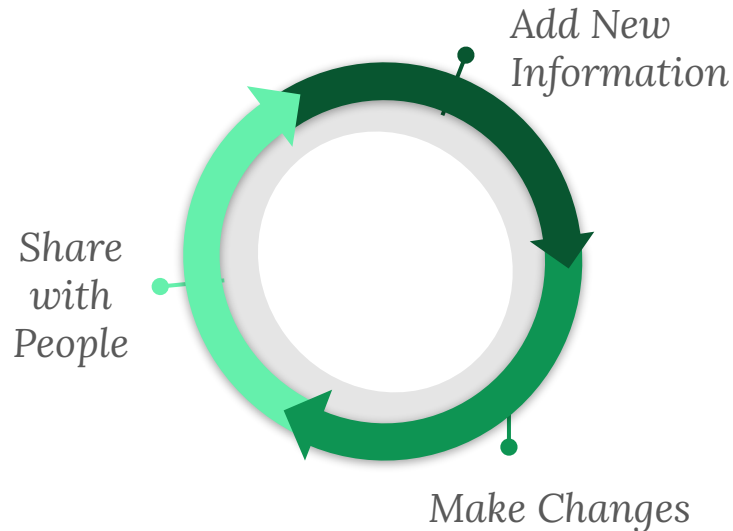
HOW YOU CAN HELP TODAY:

- *Ask us questions*
- *Share your concerns*
- *Help us answer these questions:*
 - *Did we miss any areas with coastal risk?*
 - *Did we miss any areas we need to protect?*
 - *What is important to you that we know about the tools or the locations for draft USACE structures?*
 - *How can we make the process more accessible to you?*



WHAT WE WILL DO NEXT:

- Give you answers, as best as we can
- Send you these presentation slides
- Meet you in person to hear more about your concerns and questions
- Report back with a second presentation later this year (Fall 2025)



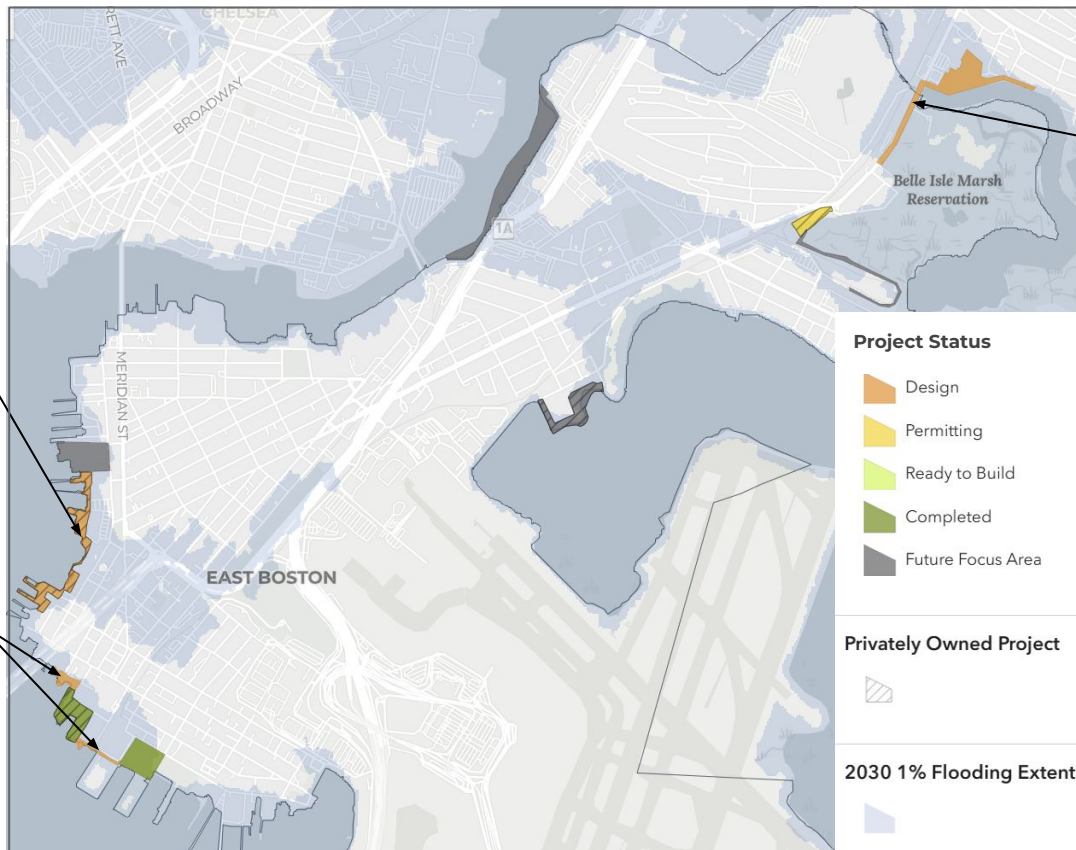
REMINDER: COASTAL RESILIENCE IMPLEMENTATION IN PROGRESS



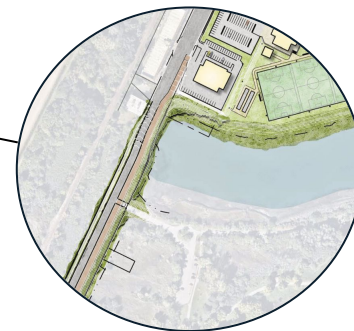
Border Street
Design in progress



Lewis Mall & Carlton Wharf
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Bennington Street & Fredericks Park
Design in progress

EAST BOSTON STRUCTURAL LOCATIONS OVERVIEW



1. Route 1A
2. Connection to Boston & Revere Project:
Bennington St. and
Frederick's Park & Orient Heights
3. Constitution Beach
4. Wood Island
5. Jeffries Point
6. Connection to Boston Project:
Resilient East Boston
7. Connection to Boston Project:
Border St.



PRELIMINARY DRAFT ALIGNMENTS 1 - 4



LEGEND

CHS Inundation Layers

CHS 1% Inundation 2090 High SLC



Flood Pathways



U.S. ARMY



US Army Corps
of Engineers



5. Jeffries Point



LEGEND

CHS Inundation Layers

CHS 1% Inundation 2090 High SLC



Flood Pathways



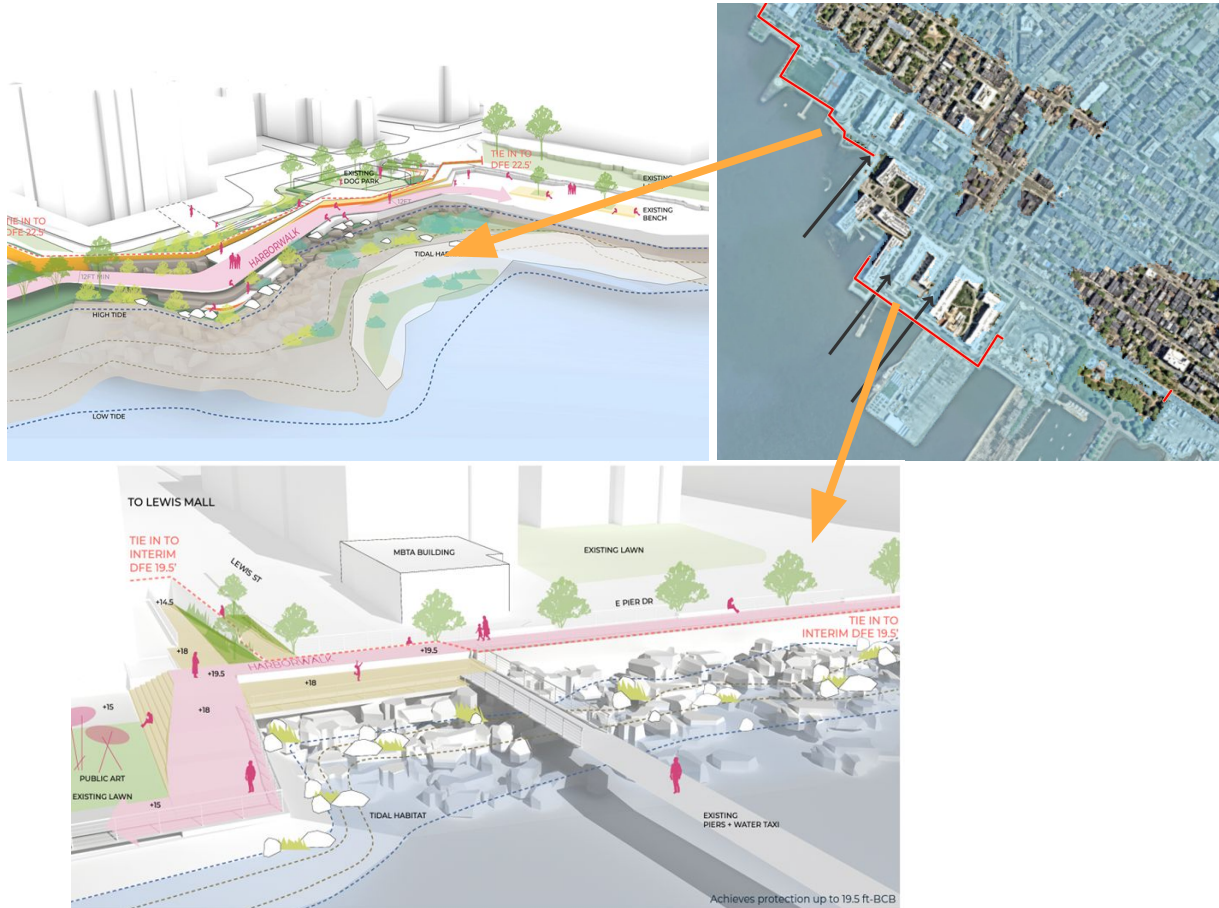
U.S. ARMY



US Army Corps
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6. Connection to Boston Lewis Mall/Carlton Wharf Project



LEGEND

CHS Inundation Layers

CHS 1% Inundation 2090 High SLC



Flood Pathways



7. Connection to Boston Border St. Project



LEGEND

CHS Inundation Layers

CHS 1% Inundation 2090 High SLC



Flood Pathways



US Army Corps
of Engineers



Summary

- *Long Term Projects to Address Long Term Risk*
- *Current Focus on Getting Questions on Process and Areas of Focus*
- *Subsequent Feedback on Designs (and construction alternatives)*



Next Steps

- **Monday, September 29, 2025 at 6:00pm** - join the Resilient East Boston Waterfront Project at Lewis Mall and Carlton Wharf Project Update Webinar led the City of Boston Planning Department



How to Provide Feedback: *boston.gov/usace-study*



Submit Comments Online



Book an Appointment with us



Question and Answer Session



City of Boston
Climate Resilience

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B

REMINDER: CLIMATE READY BOSTON RECOMMENDATIONS

Long-Term

- Option A
- Option B
- Building & Site Level Adaption

