

# USACE & Boston Coastal Storm Risk Management Study

Charlestown Update  
May 20, 2025



City of Boston  
Climate Resilience

# ZOOM TIPS - INTERPRETATION

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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”.

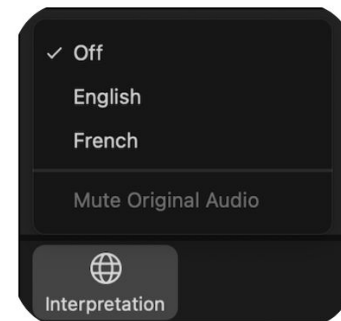
**NOTA: TODOS DEBEN SELECCIONAR UN IDIOMA. ¡RECUERDE HABLAR LENTAMENTE!**

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。请记得慢慢说话！**

呢次會議有西班牙語、普通話同粵語傳譯。請喺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 RECORDING

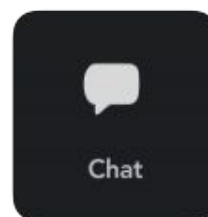
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At the request of community members, this event will be recorded and posted on the project webpage for those who are unable to attend the Zoom event live:

<https://www.boston.gov/departments/climate-resilience/climate-ready-boston-and-army-corps-partnership>

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.**





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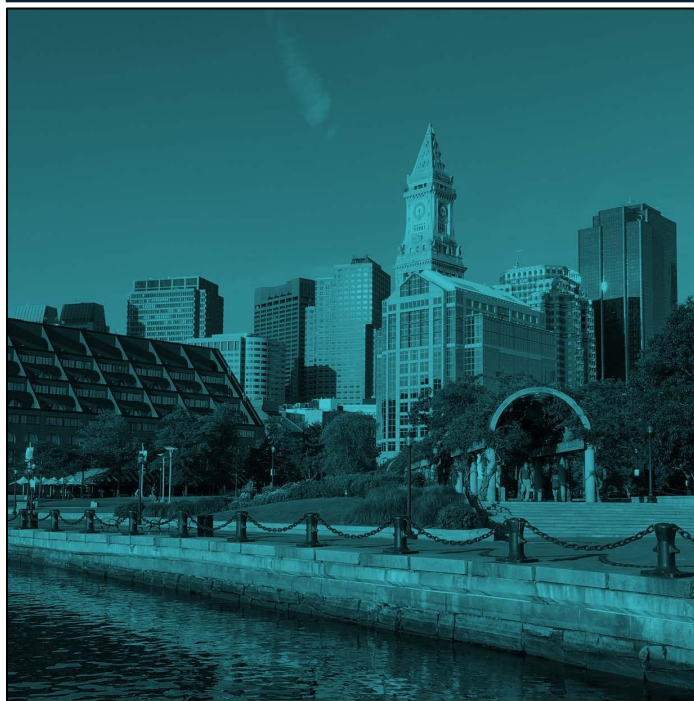
# Goals

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- *an introduction to the City and Federal teams*
- *background from "Climate Ready Boston" in Charlestown*
- *report out of USACE study steps and progress*
- *an opportunity to ask questions*
- *how to provide feedback and next steps*



# 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 TEMPERATURES



HEAT WAVES &  
DROUGHTS

### EXTREME PRECIPITATION



STORMWATER  
FLOODING

### SEA LEVEL RISE



COASTAL & RIVERINE  
FLOODING

### COASTAL STORMS





# RESILIENT HARBOR VISION



DORCHESTER

SOUTH BOSTON

DOWNTOWN

EAST BOSTON



RESILIENT BOSTON HARBOR



= FLOOD ADAPTED BUILDINGS

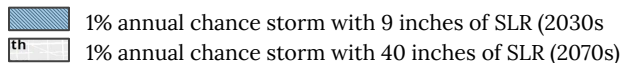
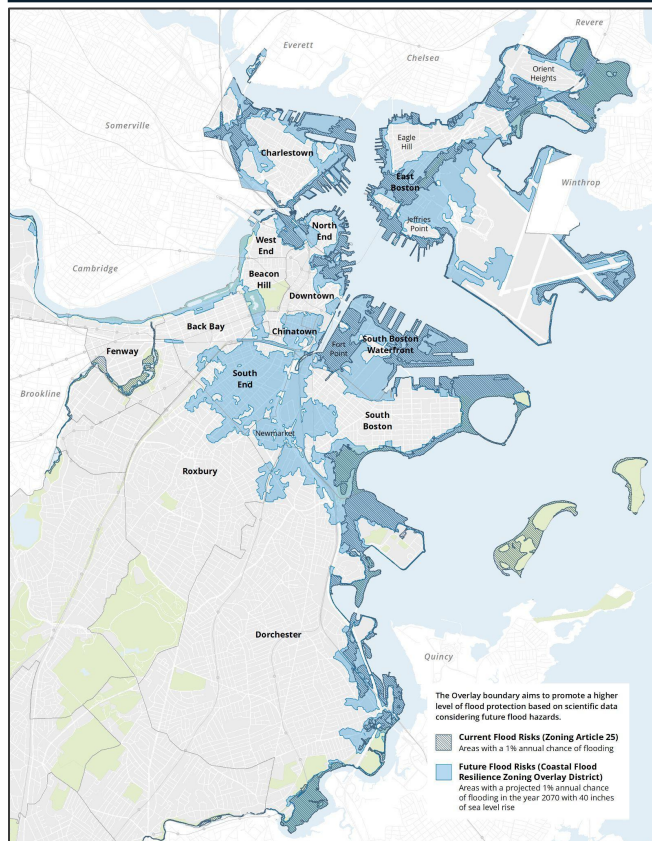


= ELEVATED LANDSCAPES

= CONNECTIONS AND ACCESS



# NEIGHBORHOOD COASTAL RESILIENCE PLANS



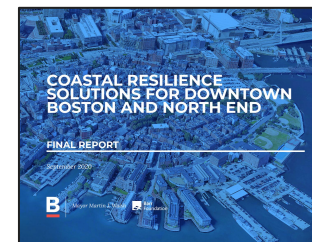
Between 2017-2022, the City completed neighborhood-level coastal resilience plans for all 47 miles of Boston's coastline.



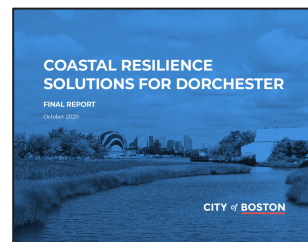
**East Boston  
& Charlestown  
Phase 1 (2017)**



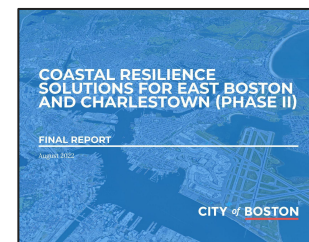
**South Boston  
(2018)**



**North End &  
Downtown  
(2020)**



**Dorchester  
(2020)**

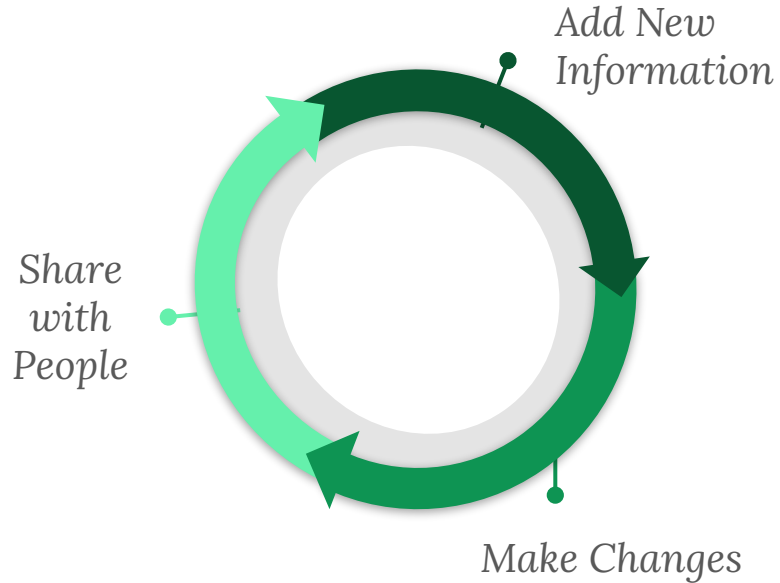


**East Boston  
& Charlestown  
Phase 2 (2022)**





# 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!

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**CITY OF BOSTON  
PLANNING DEPT. STUDY**

**Little Mystic  
Channel**

**Boston National  
Historical Park  
(Boston National Parks  
and U.S. Navy)**

**Charlestown  
Navy Yard**

**Massport / DCR**

**NPS BOSTON  
RESILIENCE  
CONCEPTUAL DESIGN**



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# WHY NOW AND WHY USACE?

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- 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?

---



## What We've Done (Before 2025)

Defined the risk of  
inaction

## Where We Are (2025 - 2027)

Define where and what  
to build

## What's Ahead (2028 & Beyond)

2028: Submit report to  
Congress

2028+: Get Federal  
funding for projects

2030+: Refine designs  
and build





# CSRM Process:

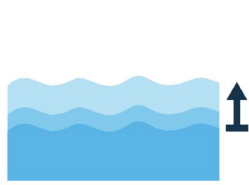
Coastal Storm Risk Analysis and Management 101



# HOW DOES USACE DEFINE COASTAL STORM RISK?

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## 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



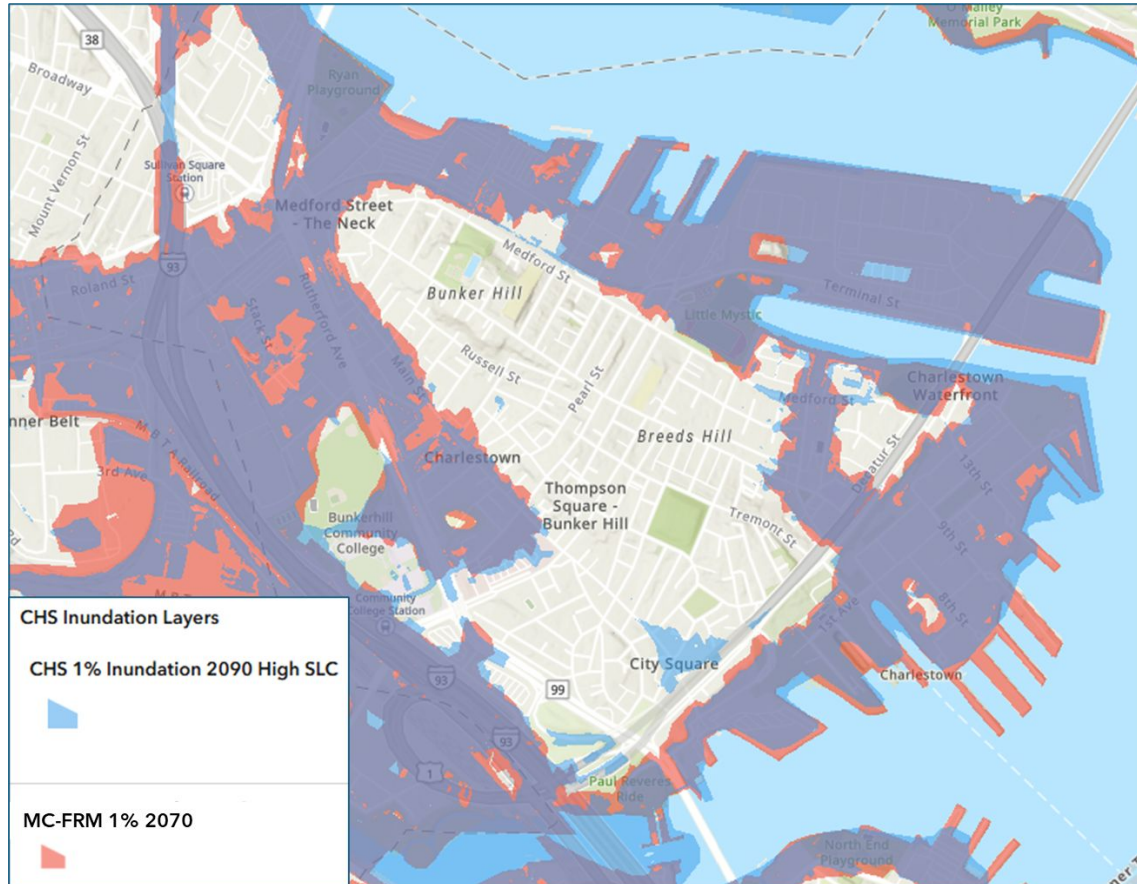
U.S. ARMY



US Army Corps  
of Engineers



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



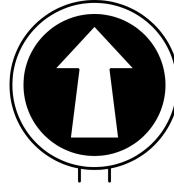


# HOW DOES USACE DEFINE “FEDERAL INTEREST”?

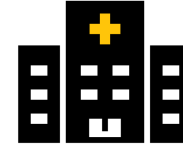
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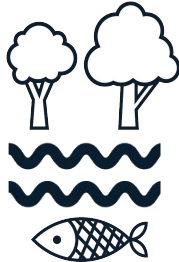
Protection of  
Housing



Protection of  
Evacuation Corridors



Protection of Critical  
Infrastructure



Protection of Natural  
Resources



Protection of People



Protection of Critical  
Transportation



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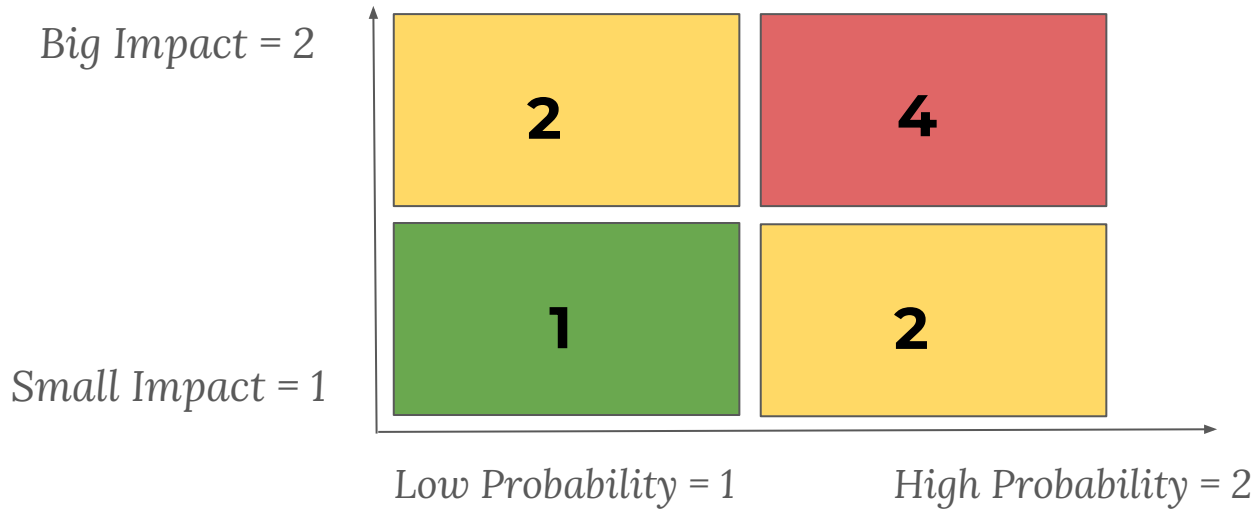




# HOW DOES USACE MANAGE STORM RISK?

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- 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



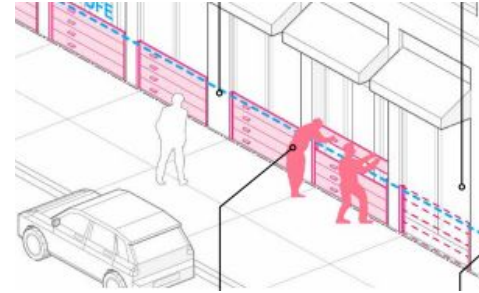
**1st Drawer: PROTECT**

*Structural*



**2nd Drawer: ADAPT or ACCOMMODATE**

*Non-Structural, Physical*



**3rd Drawer: MANAGE**

*Non-Structural, Non-Physical*



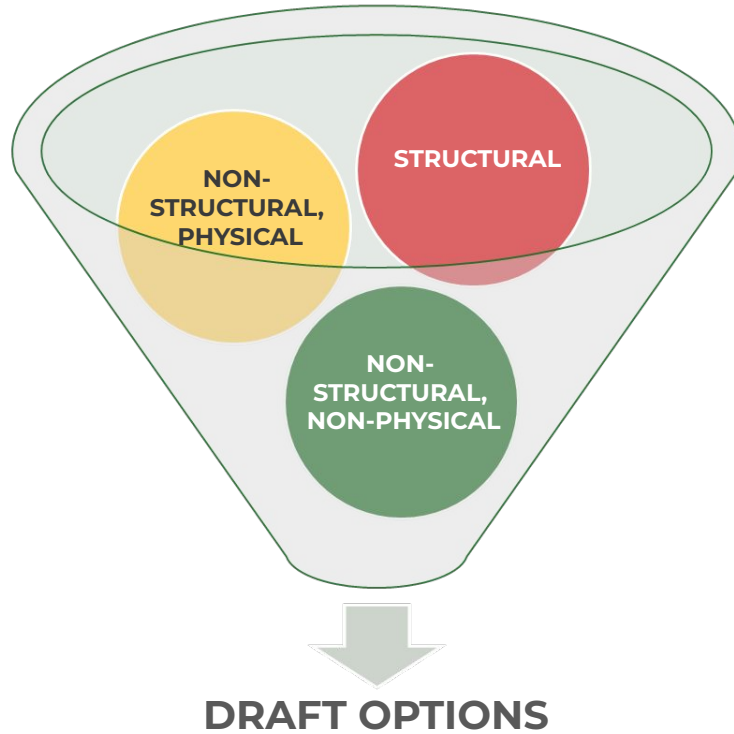
**US Army Corps  
of Engineers**



# HOW DOES USACE SELECT TOOLS FOR BOSTON?

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



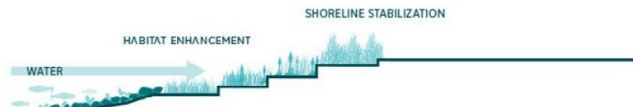


# REFRESHER: CLIMATE READY BOSTON TOOLS

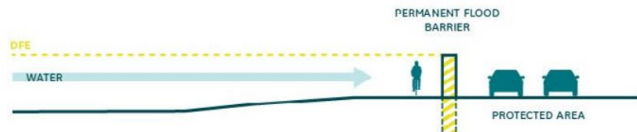
## RAISED HARBORWALK / RAISED PARK SPACE



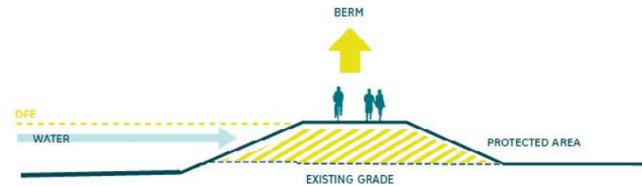
## NATURE-BASED SOLUTIONS



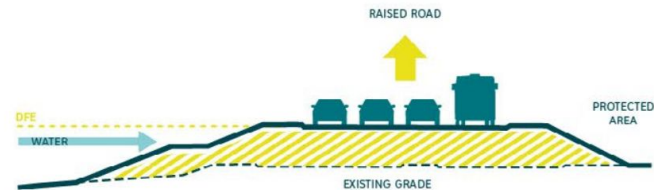
## VERTICAL FLOODWALLS



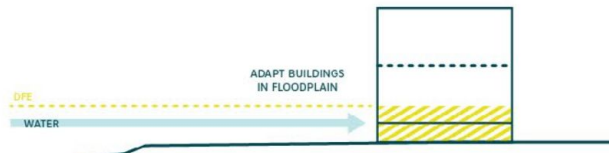
## RAISED BERMS AND DUNES



## RAISED ROADWAYS / MEDIAN FLOODWALLS



## ADAPTED BUILDINGS AND STRUCTURES

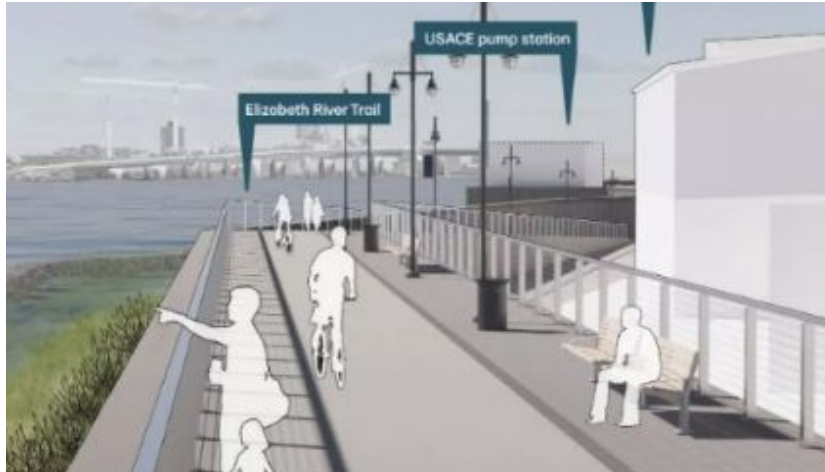


# EXAMPLES OF USACE APPLICATIONS

## RAISED HARBORWALK / RAISED PARK SPACE



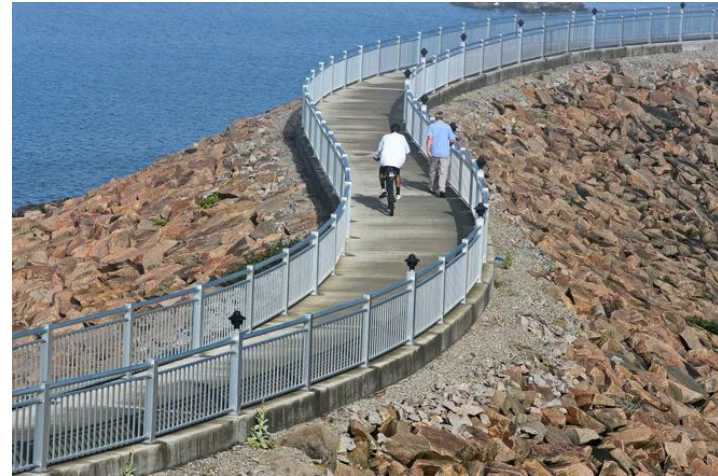
*USACE Example: Norfolk, VA*



## RAISED BERMS AND DUNES



*USACE Example: New Bedford, MA*



*Photo Credit: Peter Pereira, The Standard-Times*

# EXAMPLES OF USACE APPLICATIONS

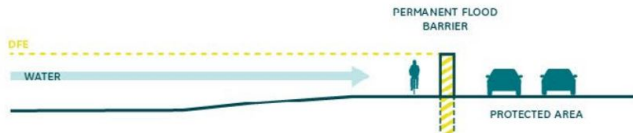


USACE Example: Norfolk, VA



USACE Example: Long Island, NY

## VERTICAL FLOODWALLS



## ADAPTED BUILDINGS AND STRUCTURES





## HOW YOU CAN HELP TODAY:

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- *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?*



# How to Provide Feedback:

---



**Come to Office Hours**

**114 16th Street, Charlestown**

**THURSDAY, MAY 22**

*6 - 8 pm*

**THURSDAY, MAY 29**

*12 - 2 pm*

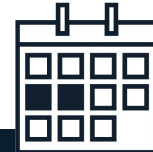


**Submit comments online**

**STUDY FEEDBACK FORM**



<https://forms.gle/accbLWV33Ze4t93T7>



**Make an appointment**

**VIRTUAL  
(WITH CITY AND CORPS)**



U.S. ARMY



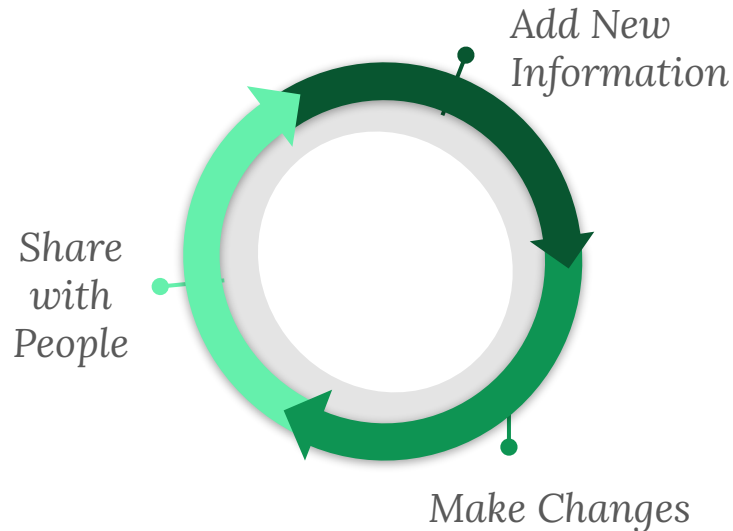
US Army Corps  
of Engineers.



## WHAT WE WILL DO NEXT:

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- 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)



# Preliminary Locations:

*Draft Alignments for Charlestown*





# THREE SECTIONS



## SECTION 1: Northern Charlestown

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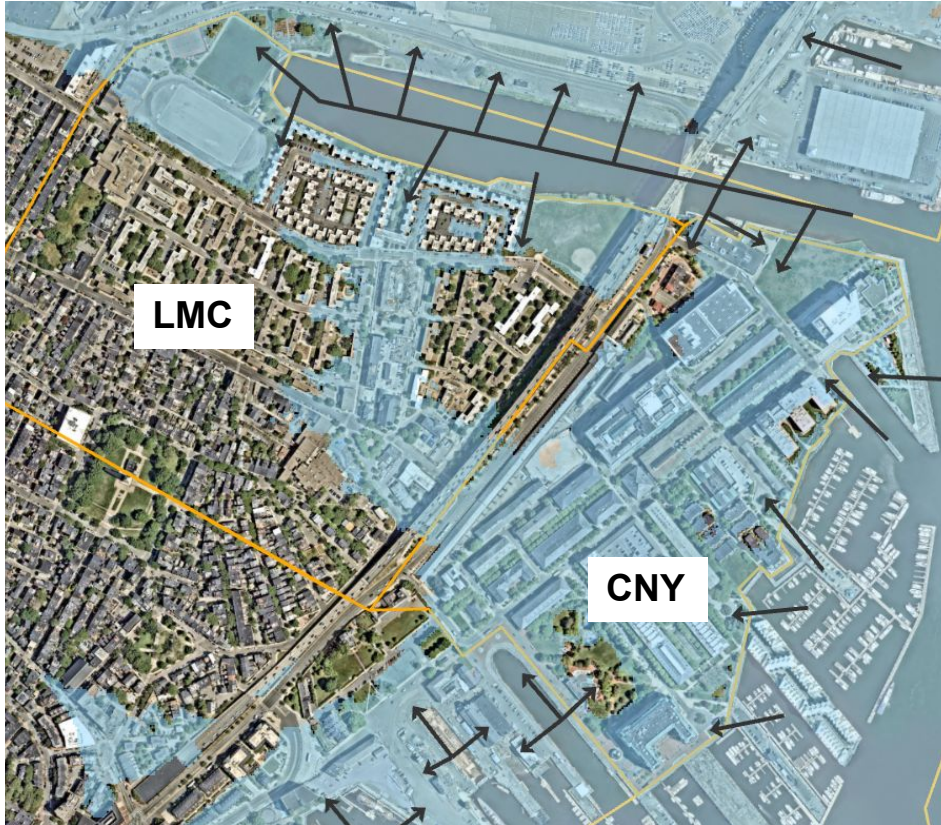


US Army Corps  
of Engineers.





# THREE OPTIONS FOR THE REMAINING TWO SECTIONS



Option	Structural	Non-Structural
1	LMC + CNY	CNY
2	LMC	CNY
3		LMC + CNY



# SECTION 2, PART 1: Little Mystic Channel



Option	Structural	Non-Structural
1	LMC + CNY	CNY
2	LMC	CNY
3		LMC + CNY

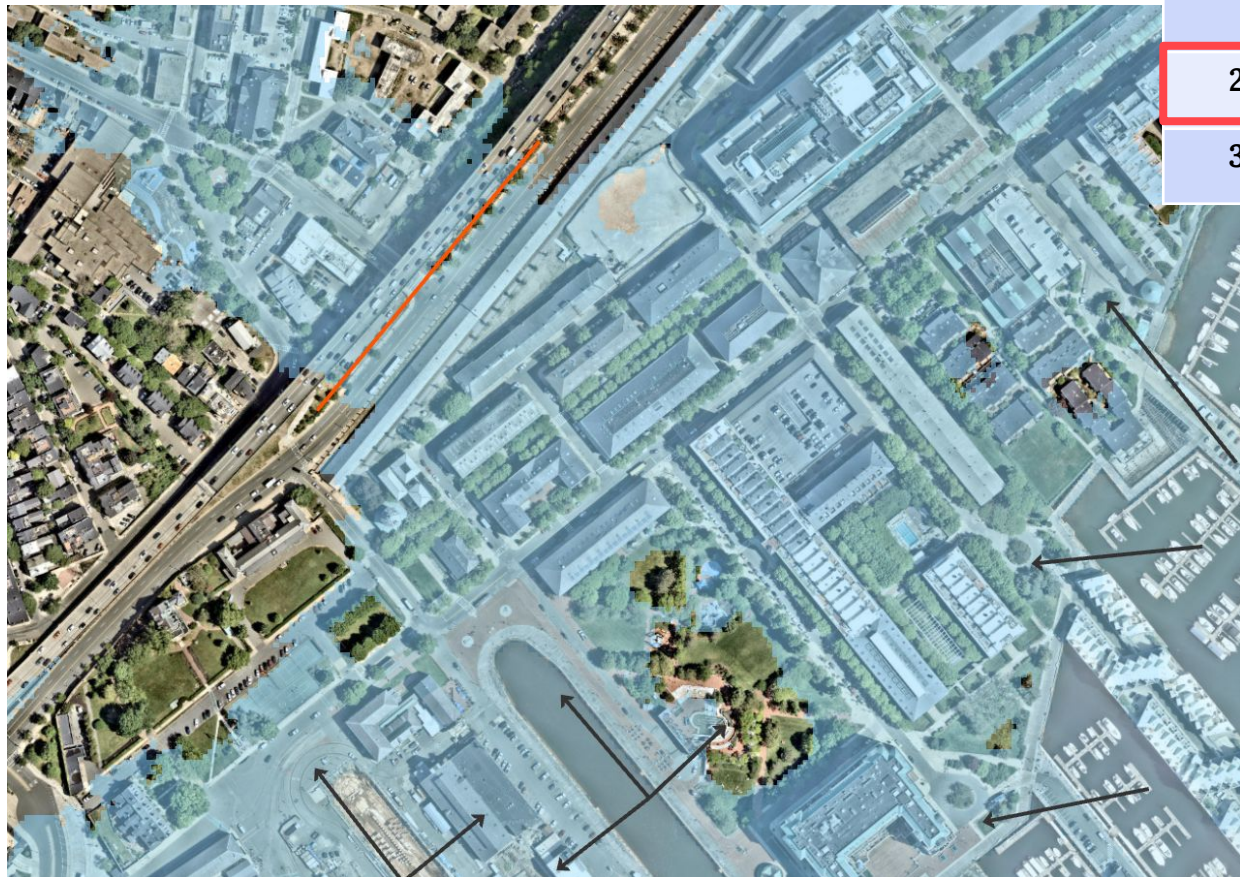


US Army Corps  
of Engineers.





## SECTION 2, PART 2: Little Mystic Channel



Option	Structural	Non-Structural
1	LMC + CNY	CNY
2	LMC	CNY
3		LMC + CNY



# SECTION 3: Charlestown Navy Yard



Option	Structural	Non-Structural
1	LMC + CNY	CNY
2	LMC	CNY
3		LMC + CNY



US Army Corps  
of Engineers.



# Summary

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- *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)*





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# Question and Answer Session



City of Boston  
Climate Resilience

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