

CLIMATE READY BOSTON

DOWNTOWN & NORTH END

AUGUST 8, 2019



A
BETTER
CITY

Bova's
BAKERY
North End
FAMOLIQ
Italian Bread
OPEN 24hrs

WELCOME

RICHARD DIMINO

A BETTER CITY



TODAY'S GUEST SPEAKERS

**ALISHA PEGAN, CLIMATE READY BOSTON COORDINATOR,
CITY OF BOSTON**

**JOE CHRISTO, SENIOR RESILIENCE AND WATERFRONT PLANNER,
BOSTON PLANNING & DEVELOPMENT AGENCY**



DORCHESTER

SOUTH BOSTON

DOWNTOWN

EAST BOSTON

CLIMATE READY DOWNTOWN AND NORTH END



one architecture
new york city amsterdam



OPEN HOUSE #2

JULY 16, 2019

- Project History + Goals
- Existing Conditions/What's at Risk?
- Protection Scenarios
 - District Overview
 - Downtown and Wharf District
 - North End Waterfront
 - North End-West End
- Resiliency Toolkits
- What's Next? Implementation Timelines and Strategies

PROJECT HISTORY + GOALS

PROJECT GOALS



ENGAGEMENT

Engage the community and stakeholders to obtain feedback and build awareness of long-term risk and climate resilience actions



SHORT-TERM SOLUTIONS

Develop specific short-term (early action) coastal resilience solutions



LONG-TERM SOLUTIONS

Develop long-term district-level coastal resilience solutions



IMPLEMENTATION

Develop implementation roadmaps to reduce risk and increase feasibility

PUBLIC OUTREACH TO DATE

COMPLETED

OPEN HOUSE I (March 12, 2019)

STAKEHOLDER INTERVIEWS/PRESENTATIONS

- Boston Harbor Now
- Boston Harbor Cruises
- Commercial Wharf Owners
- North End Waterfront Neighborhood Council
- Wharf District Council
- New England Aquarium
- Sydney Ashbury
- Green Ribbon Commission
- Greenway Conservancy
- Friends of Christopher Columbus Park
- Marine Transportation Workshop (July 16, 2019)

FOCUS GROUPS

- Utilities + Transportation (May 16, 2019)
 - MBTA, MassDOT, Utility Companies, BHC...
- Wharves + Piers (May 20, 2019)
 - Owners Representatives along waterfront

UPCOMING

OPEN HOUSE II



STAKEHOLDER INTERVIEWS/PRESENTATIONS

- USCG
- Eliot School
- DCR
- City of Boston Preservation Team
- Groundwater Conservation

FOCUS GROUPS

- Long Wharf
- Lovejoy Wharf

WHAT RESILIENT SOLUTIONS ARE YOUR PRIORITY?

APPROX. 62 TOTAL PARTICIPANTS

1ST PRIORITY

#1



25 VOTES

EFFECTIVENESS

#2



12 VOTES

DESIGN LIFE +
ADAPTABILITY

#3



11 VOTES

EQUITY

2ND PRIORITY

#1



14 VOTES

EFFECTIVENESS

#1



14 VOTES

DESIGN LIFE +
ADAPTABILITY

#3



11 VOTES

ENVIRONMENTAL
IMPACT

3RD PRIORITY

#1



13 VOTES

ENVIRONMENTAL
IMPACT

#2



11 VOTES

FEASIBILITY

#3

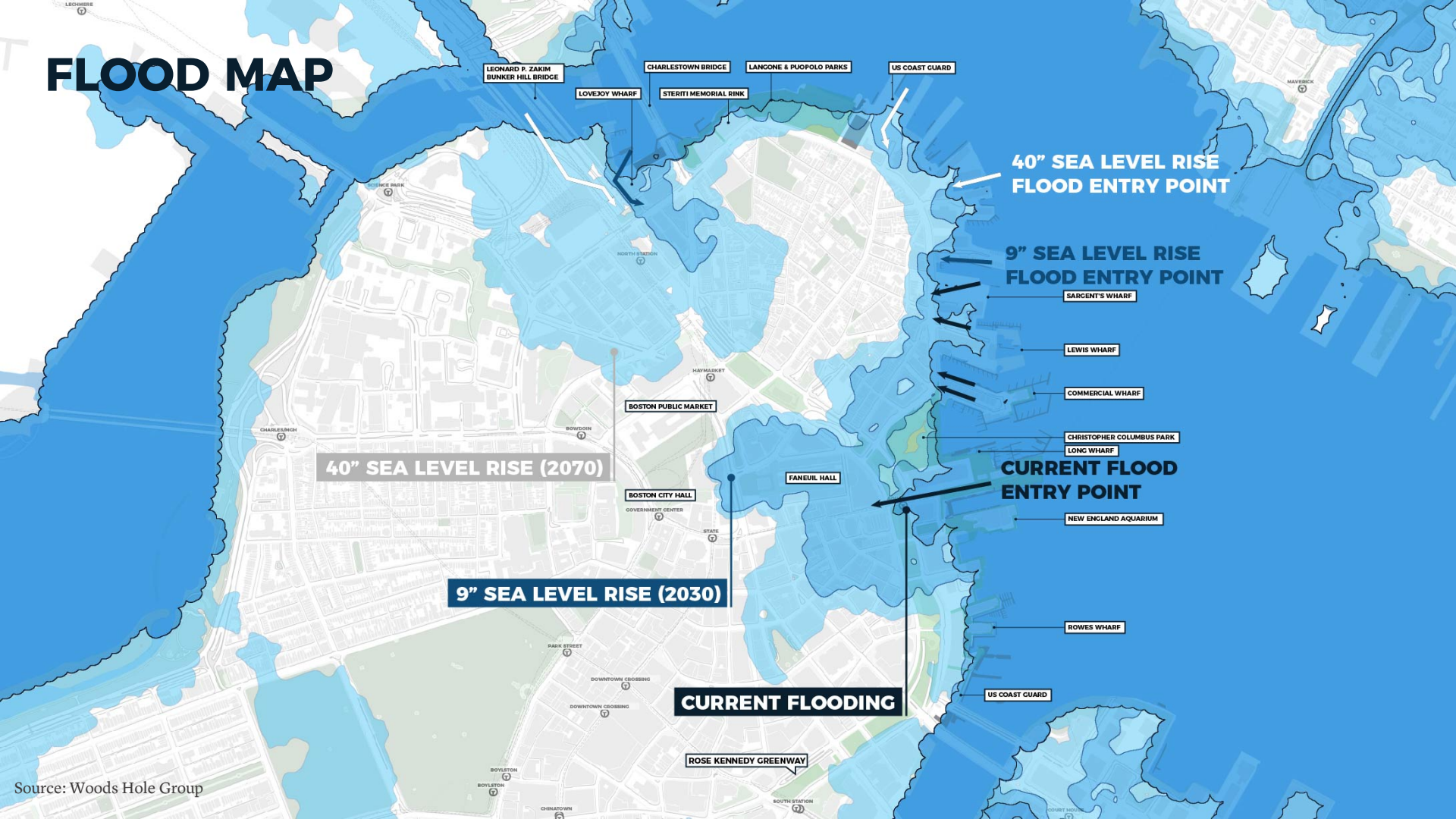


10 VOTES

DESIGN LIFE +
ADAPTABILITY

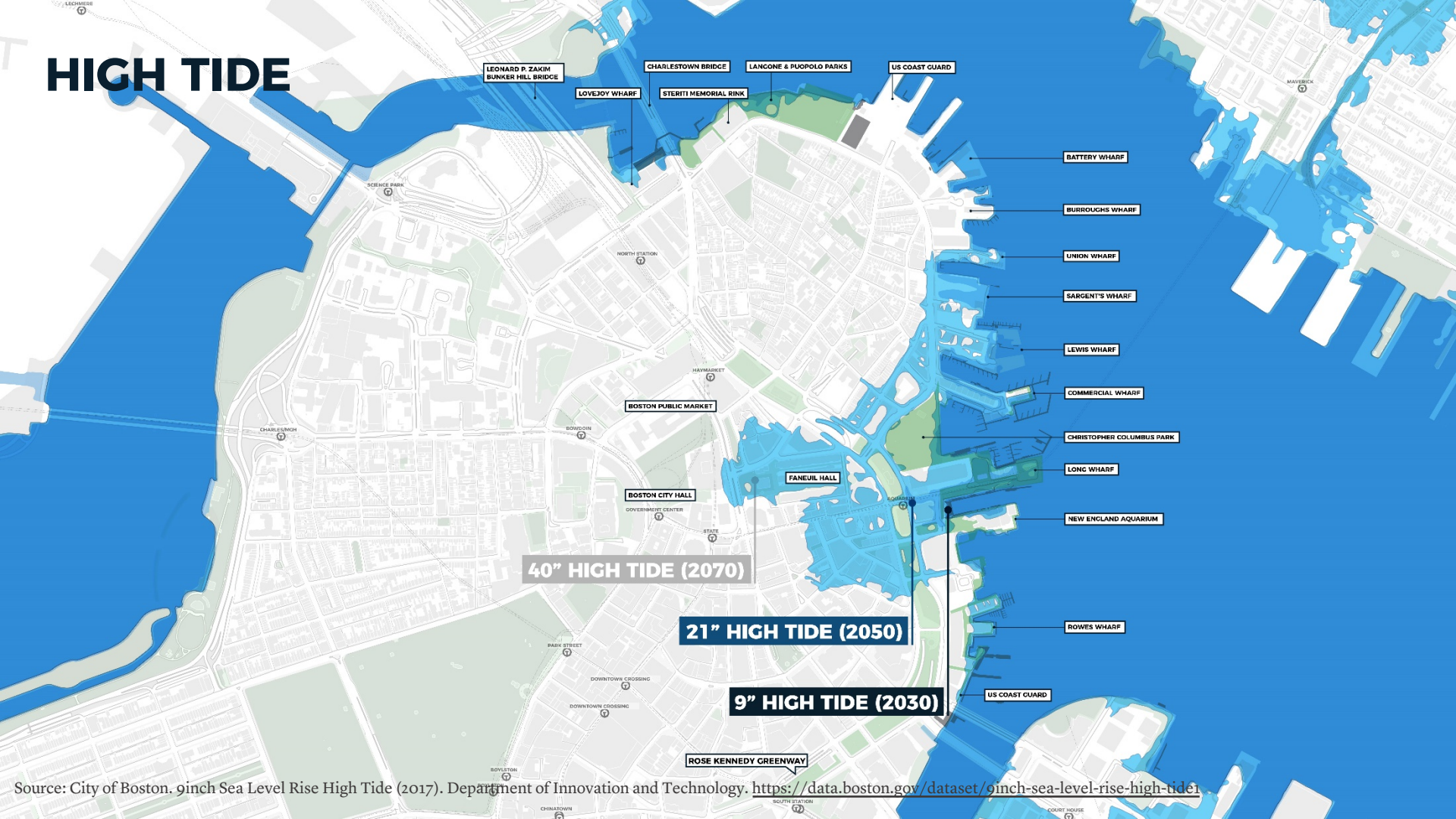
EXISTING CONDITIONS

FLOOD MAP



Source: Woods Hole Group

HIGH TIDE



40" HIGH TIDE (2070)

21" HIGH TIDE (2050)

9" HIGH TIDE (2030)

Source: City of Boston. 9inch Sea Level Rise High Tide (2017). Department of Innovation and Technology. <https://data.boston.gov/dataset/9inch-sea-level-rise-high-tide1>

WHAT'S AT STAKE?

KEY FACTS + FIGURES



DOWNTOWN BOSTON IS CURRENTLY HOME TO 30,000 RESIDENTS



THERE ARE 2,900 BUILDINGS IN DOWNTOWN



\$58.9 BILLION MARKET VALUE

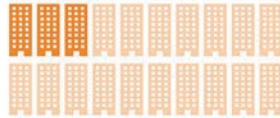


200,000 PEOPLE EMPLOYED

2030+ 1% ANNUAL STORM



28 % OF POPULATION EXPOSED



13 % OF BUILDINGS EXPOSED



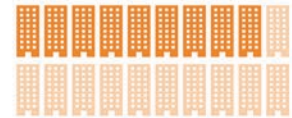
8 % OF MARKET VALUE EXPOSED

**+ \$ 500 M
ECONOMIC LOSSES**

2070+ 1% ANNUAL STORM



85 % OF POPULATION EXPOSED



42 % OF BUILDINGS EXPOSED



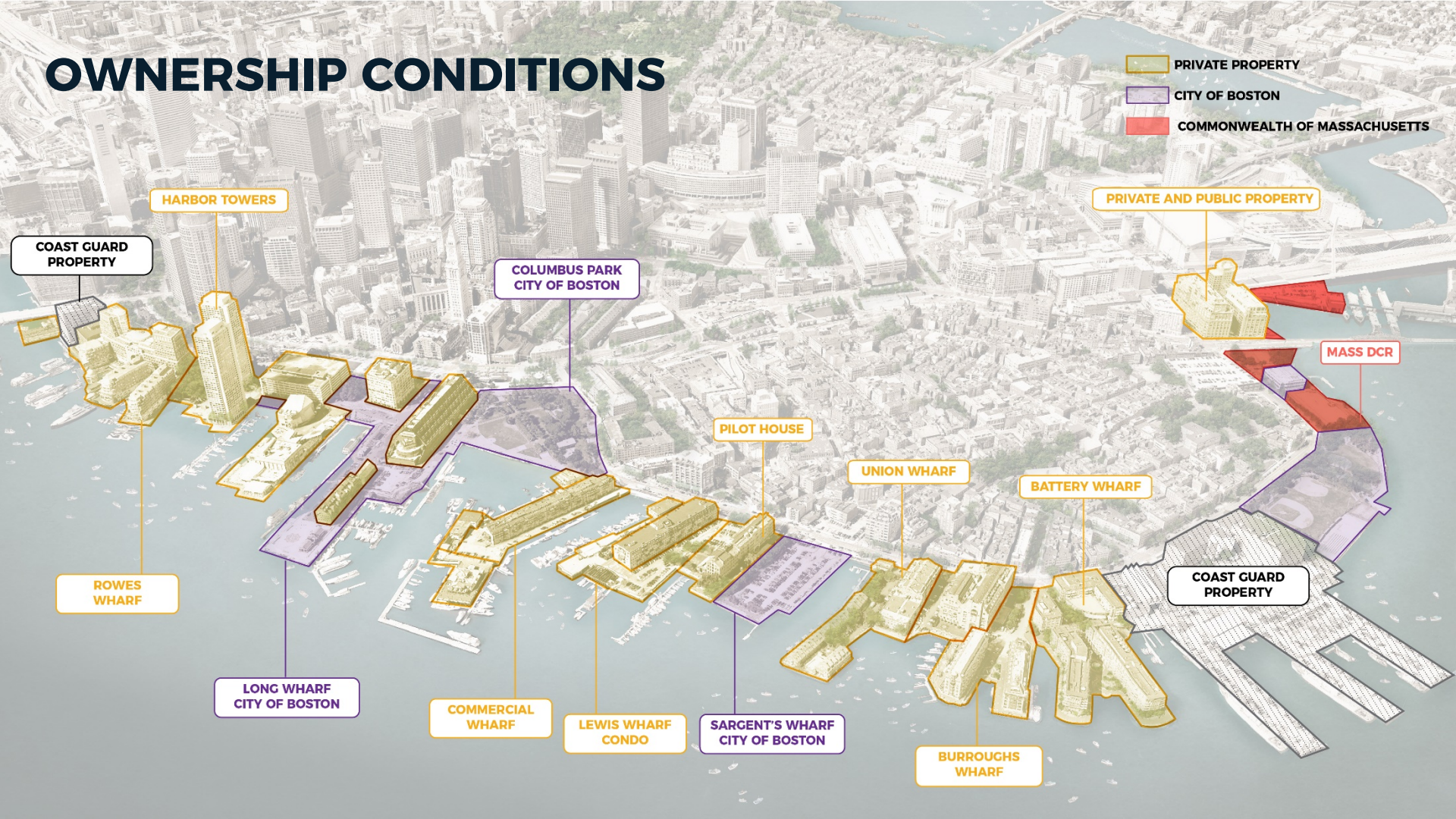
28 % OF MARKET VALUE EXPOSED

**+ \$ 3 B
ECONOMIC LOSSES**

* PLEASE NOTE THAT NUMBERS SHOWN HERE INCLUDE CHINATOWN, NOT SHOWN ON MAP.

OWNERSHIP CONDITIONS

- PRIVATE PROPERTY
- CITY OF BOSTON
- COMMONWEALTH OF MASSACHUSETTS



COAST GUARD PROPERTY

HARBOR TOWERS

COLUMBUS PARK
CITY OF BOSTON

PRIVATE AND PUBLIC PROPERTY

MASS DCR

PILOT HOUSE

UNION WHARF

BATTERY WHARF

COAST GUARD PROPERTY

ROWES WHARF

LONG WHARF
CITY OF BOSTON

COMMERCIAL WHARF

LEWIS WHARF
CONDO













SARGENT'S WHARF
CITY OF BOSTON

BURROUGHS WHARF

SUBSURFACE CONDITIONS

STRUCTURAL CAPACITY
issues with additional weight
over tunnel

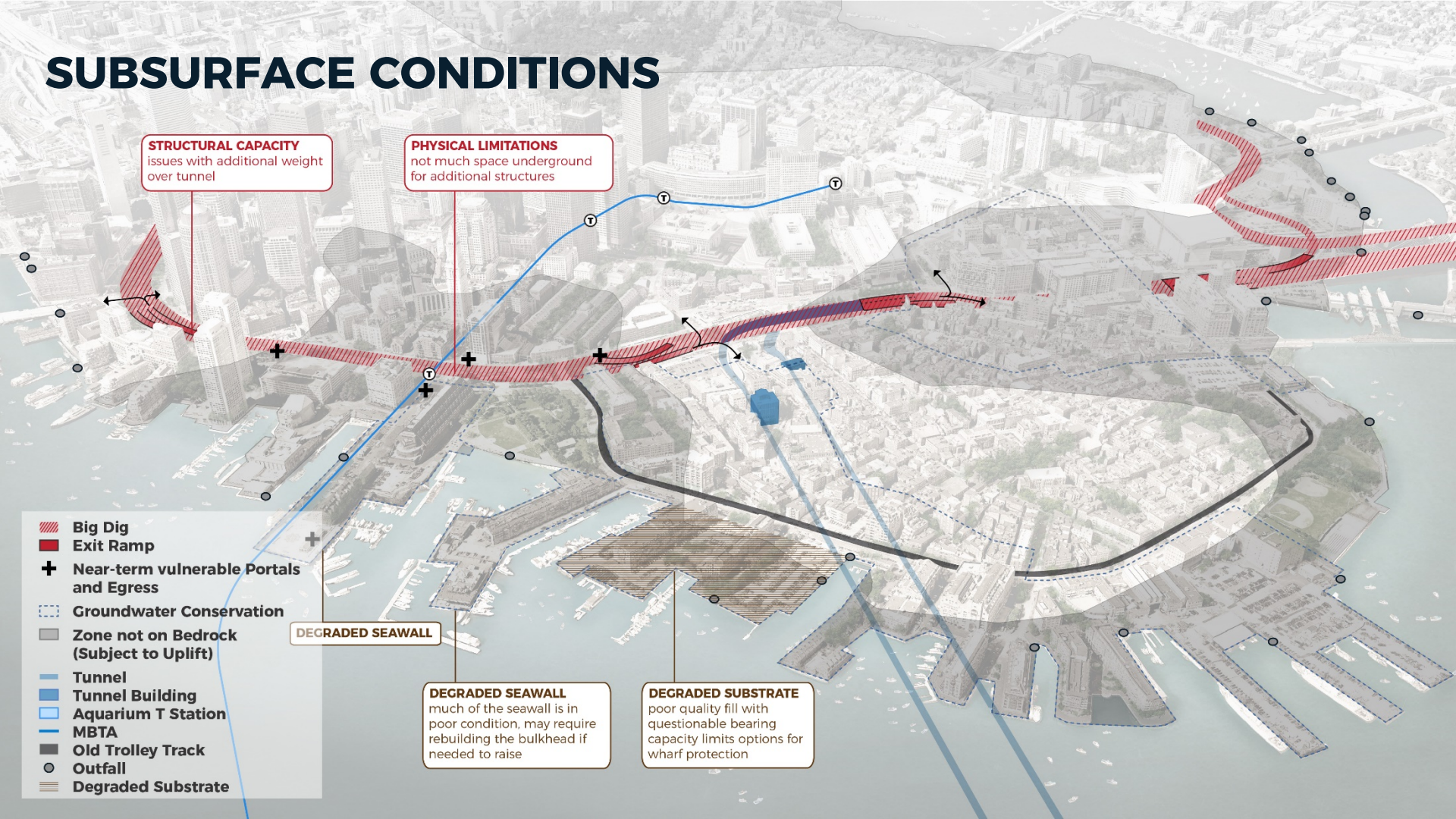
PHYSICAL LIMITATIONS
not much space underground
for additional structures

-  Big Dig
-  Exit Ramp
-  Near-term vulnerable Portals and Egress
-  Groundwater Conservation
-  Zone not on Bedrock (Subject to Uplift)
-  Tunnel
-  Tunnel Building
-  Aquarium T Station
-  MBTA
-  Old Trolley Track
-  Outfall
-  Degraded Substrate

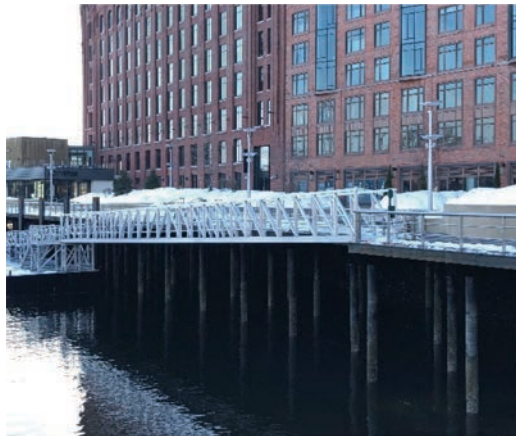
DEGRADED SEAWALL

DEGRADED SEAWALL
much of the seawall is in poor condition, may require rebuilding the bulkhead if needed to raise

DEGRADED SUBSTRATE
poor quality fill with questionable bearing capacity limits options for wharf protection



BULKHEAD CONDITIONS



FLOOD PROTECTION SCENARIOS

FLOOD PROTECTION TOOLKIT



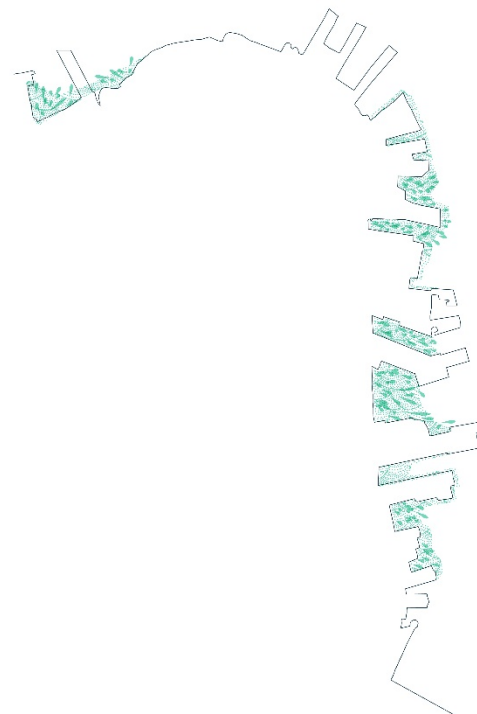
SPINE

Raised roads, Harborwalk, bulkheads



OPEN SPACES

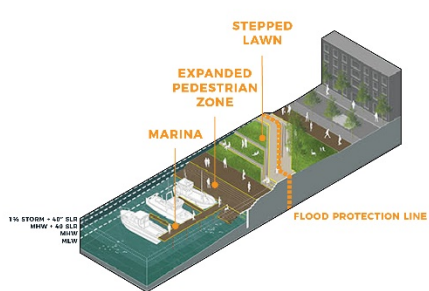
Parks, Harborwalk



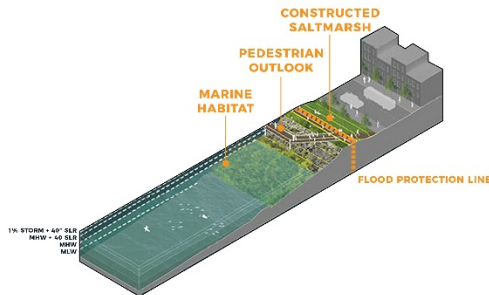
OUTBOARD ELEMENTS

Fill, living breakwaters, coastal marshes, floating wetlands

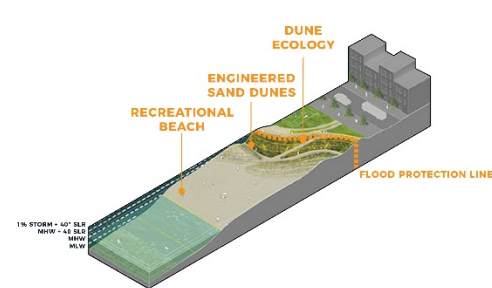
FLOOD PROTECTION TOOLKIT (Resilient Boston Harbor)



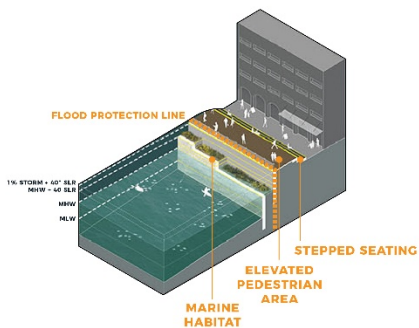
WATERFRONT GATEWAYS



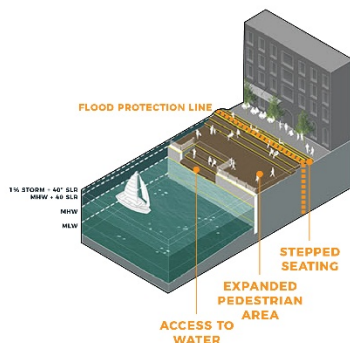
LIVING EDGES



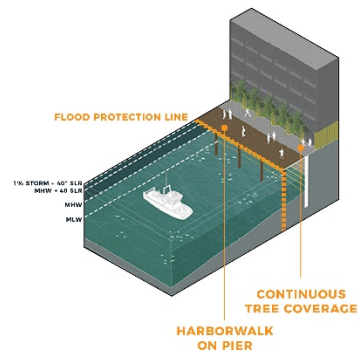
NEIGHBORHOOD BEACHES



HABITAT HARBORWALK



STEPPED HARBORWALK



ELEVATED HARBORWALK

*Axons from Resilient Boston Harbor. Orange annotations have been added.

FLOOD PROTECTION PRECEDENTS



City Deck / Green Bay, WI
Stoss Landscape Urbanism



Martin's Park
Michael Van Valkenburgh Associates



Hunter's Point South Waterfront Park / Queens, NY
Thomas Balsley Associates + Weiss Manfredi



Chicago Riverwalk / Chicago, IL
Sasaki

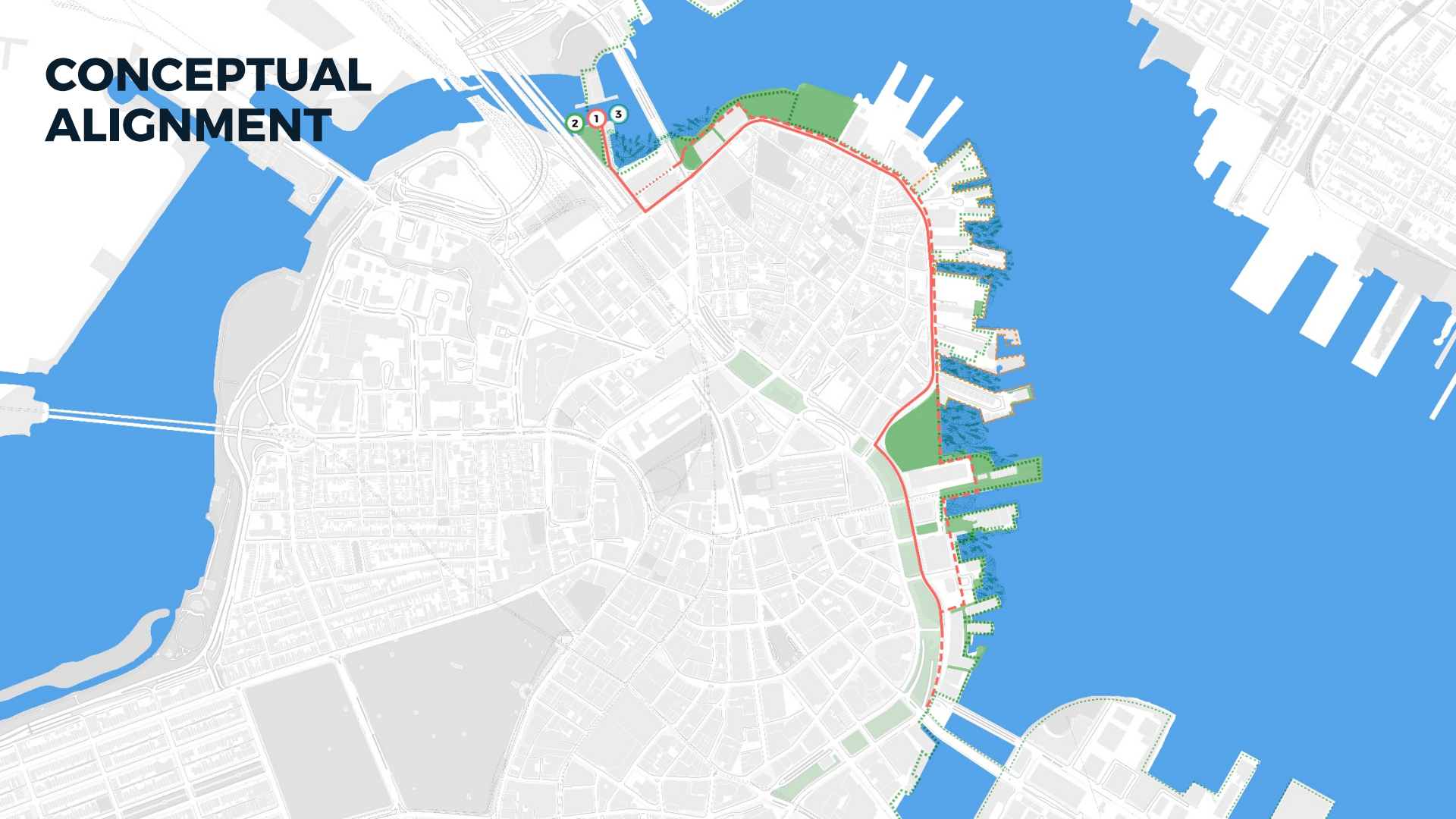


Bronte Baths / Sydney, AUS

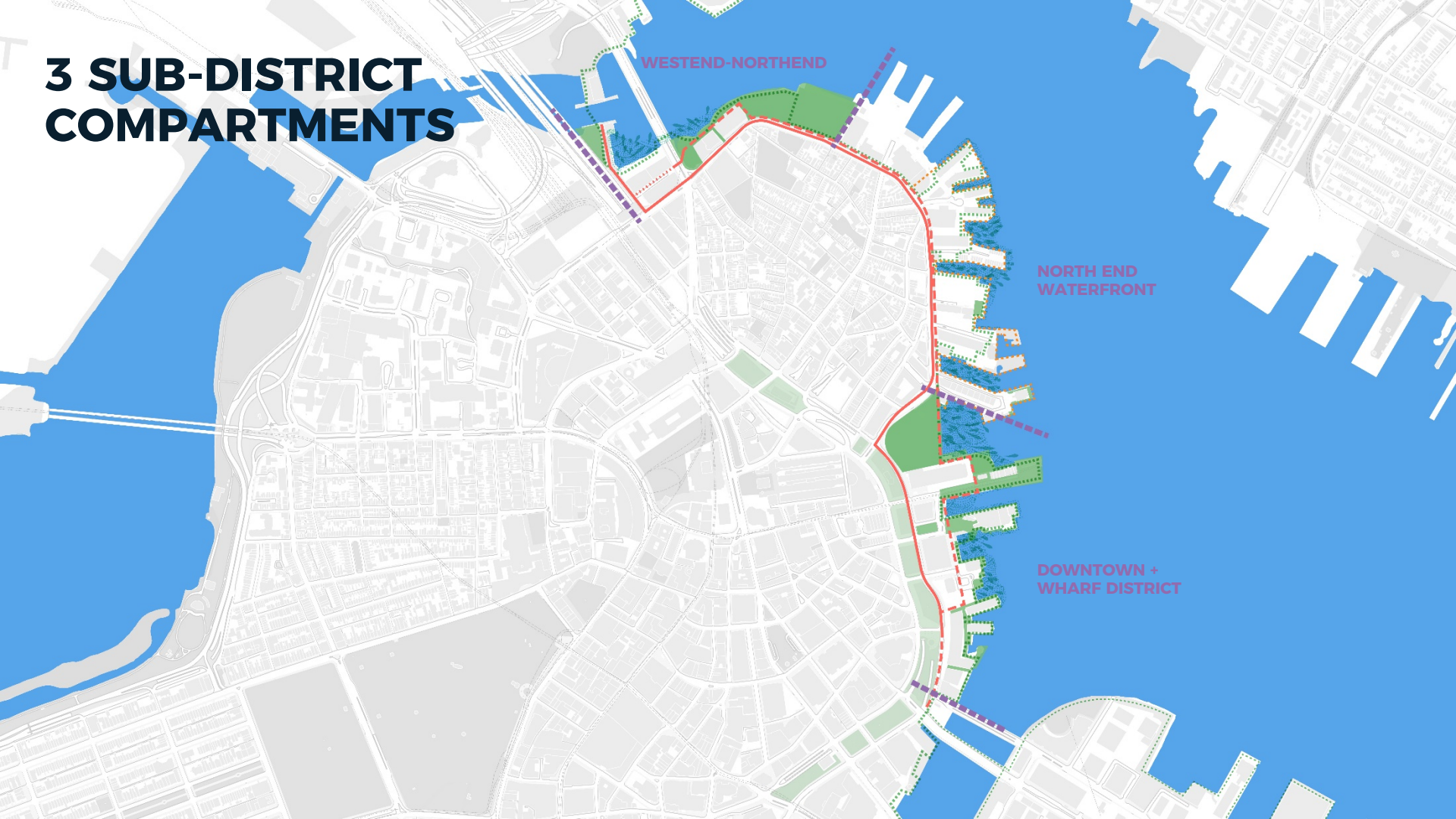


Brooklyn Bridge Park / NYC, NY
MVVA

CONCEPTUAL ALIGNMENT



3 SUB-DISTRICT COMPARTMENTS



WESTEND-NORTHEND

NORTH END
WATERFRONT

DOWNTOWN +
WHARF DISTRICT

DOWNTOWN + WHARF DISTRICT

PROPERTY
OWNERSHIP



CITY/STATE LAND



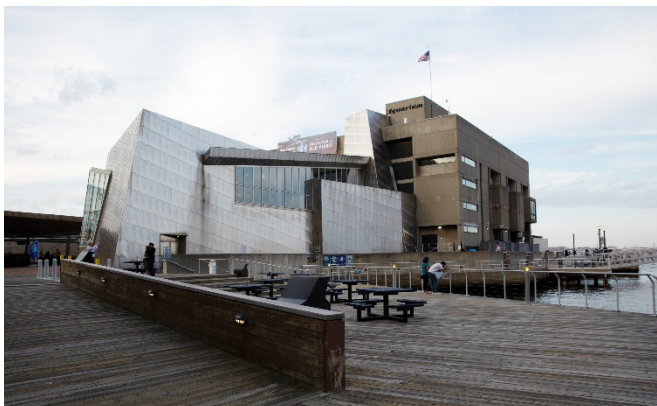
PRIVATE LAND



Christopher Columbus Waterfront Park



Long Wharf

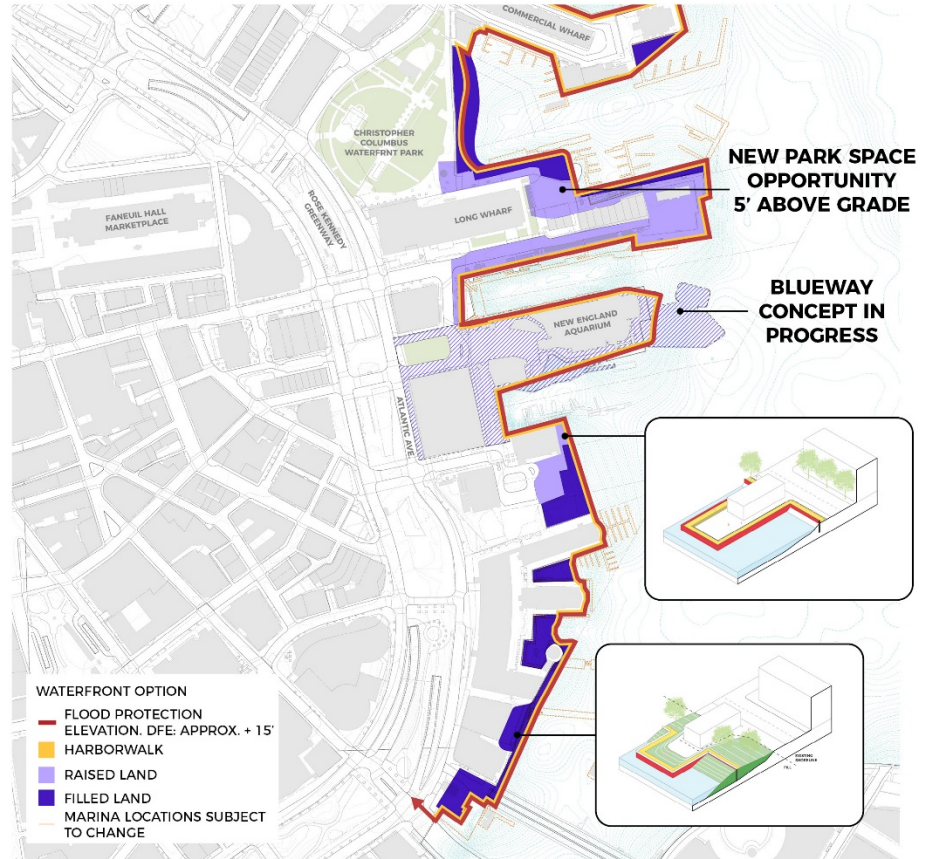
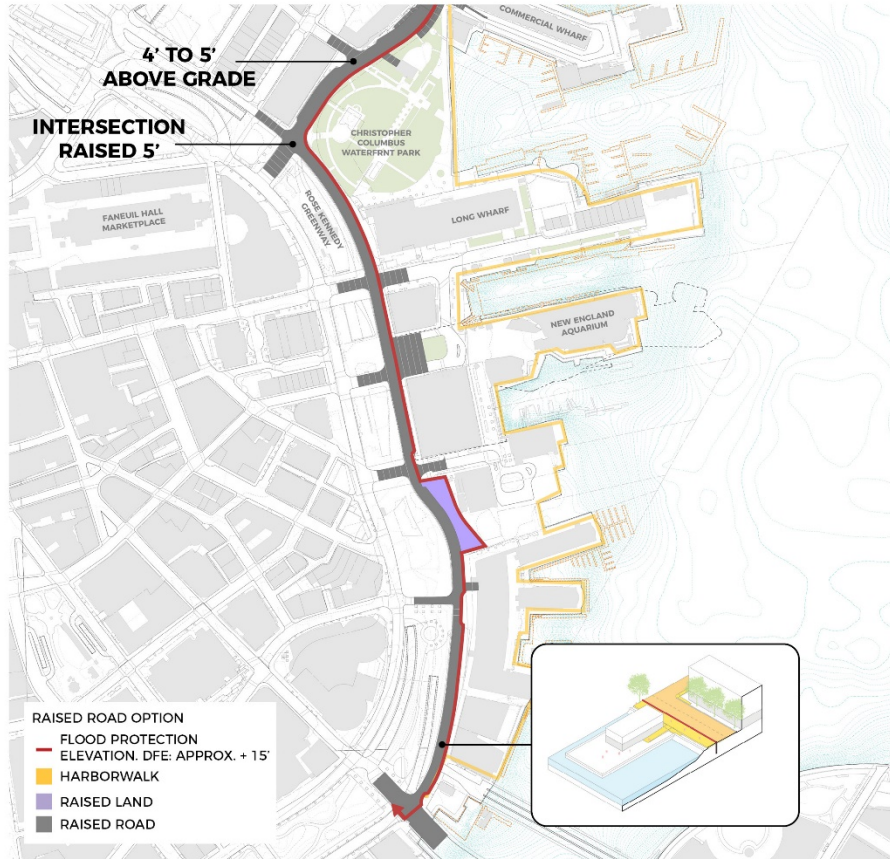


New England Aquarium

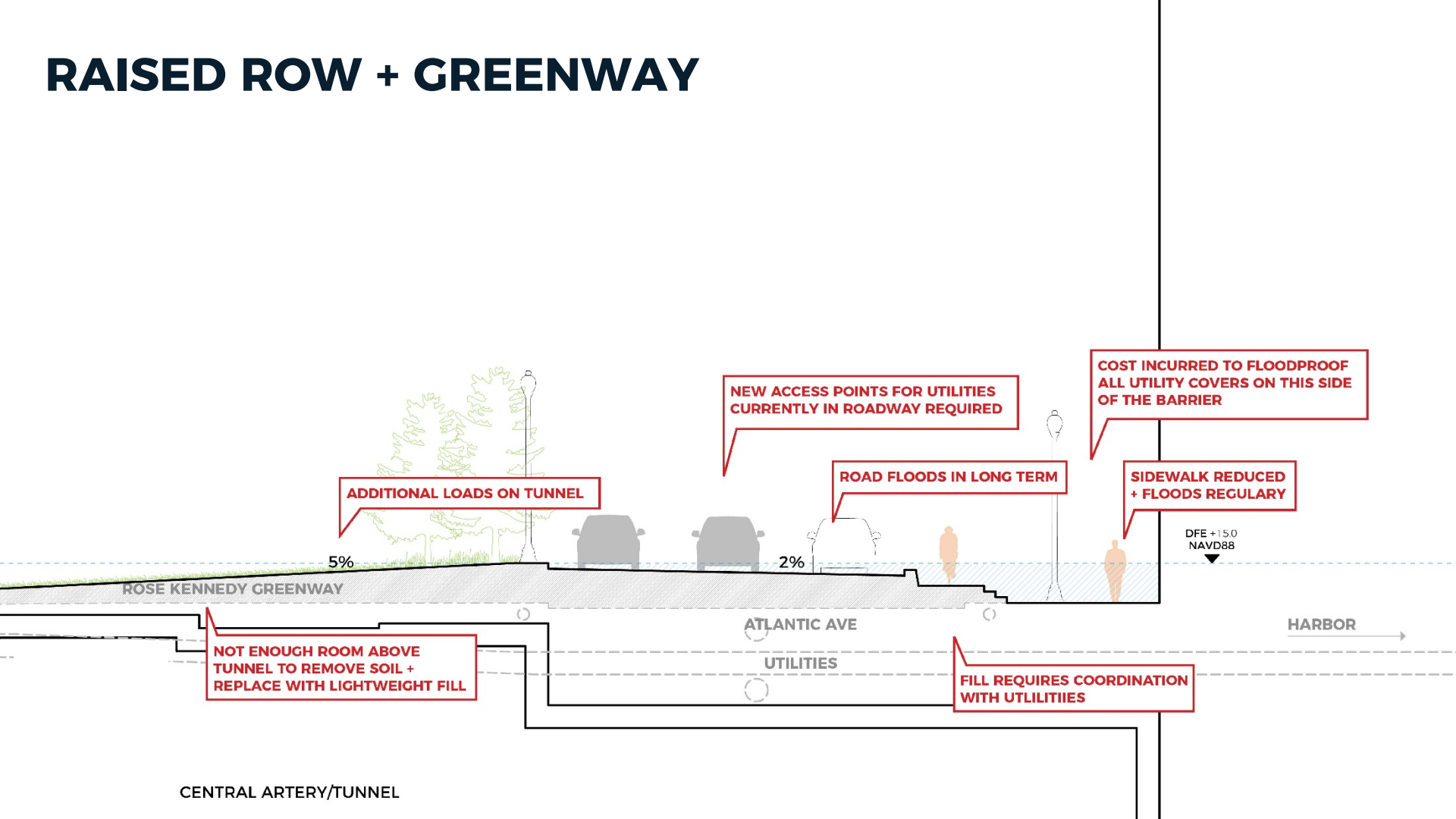


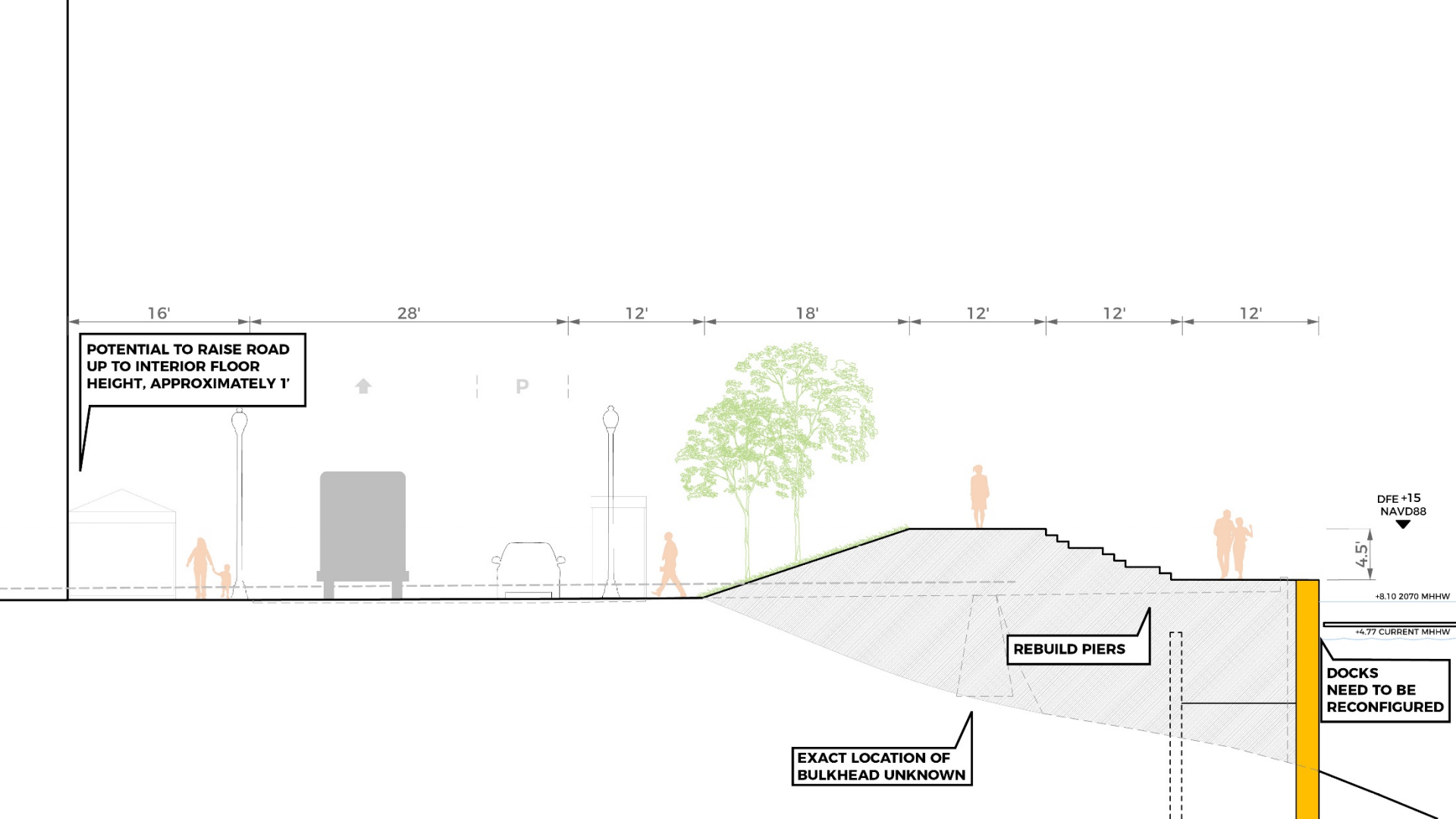
Harborwalk

DOWNTOWN + WHARF DISTRICT



RAISED ROW + GREENWAY





NORTH END WATERFRONT

PROPERTY
OWNERSHIP

CITY/STATE LAND

PRIVATE LAND



Sink Holes



Buildings Overhanging Wall

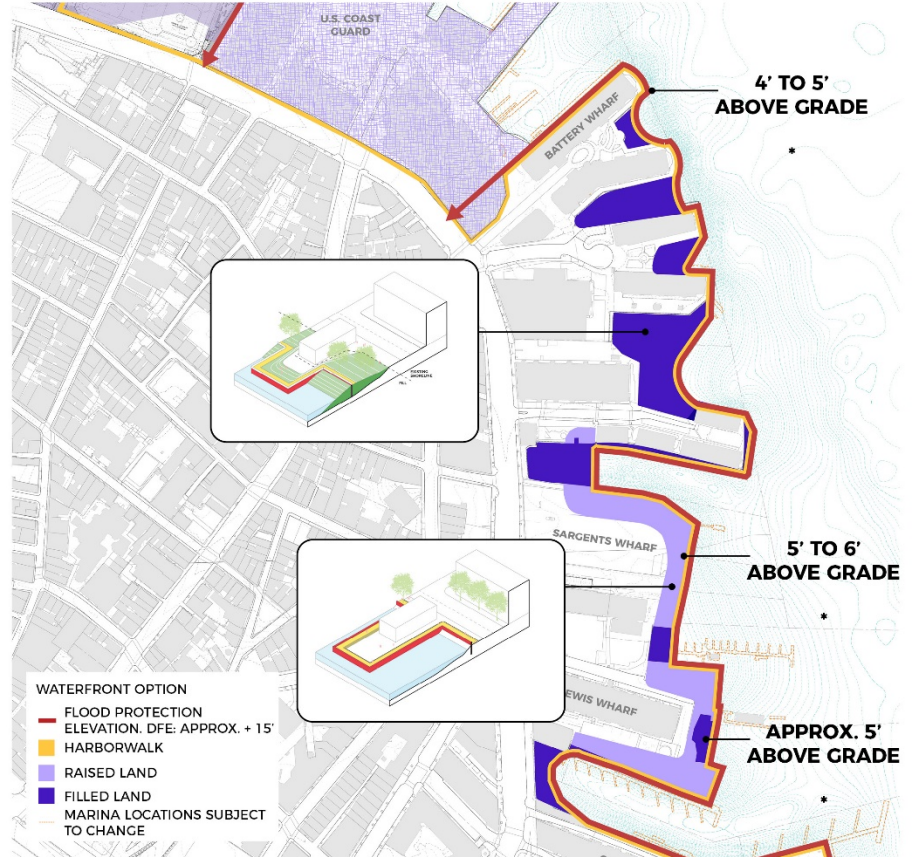
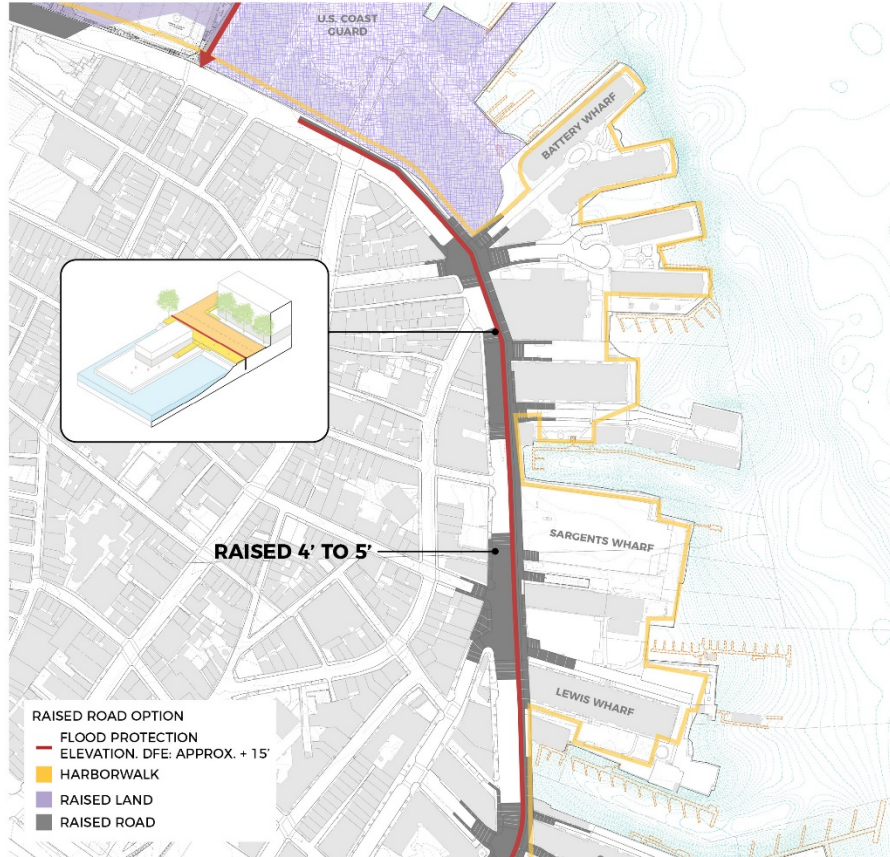


Buildings on Piers

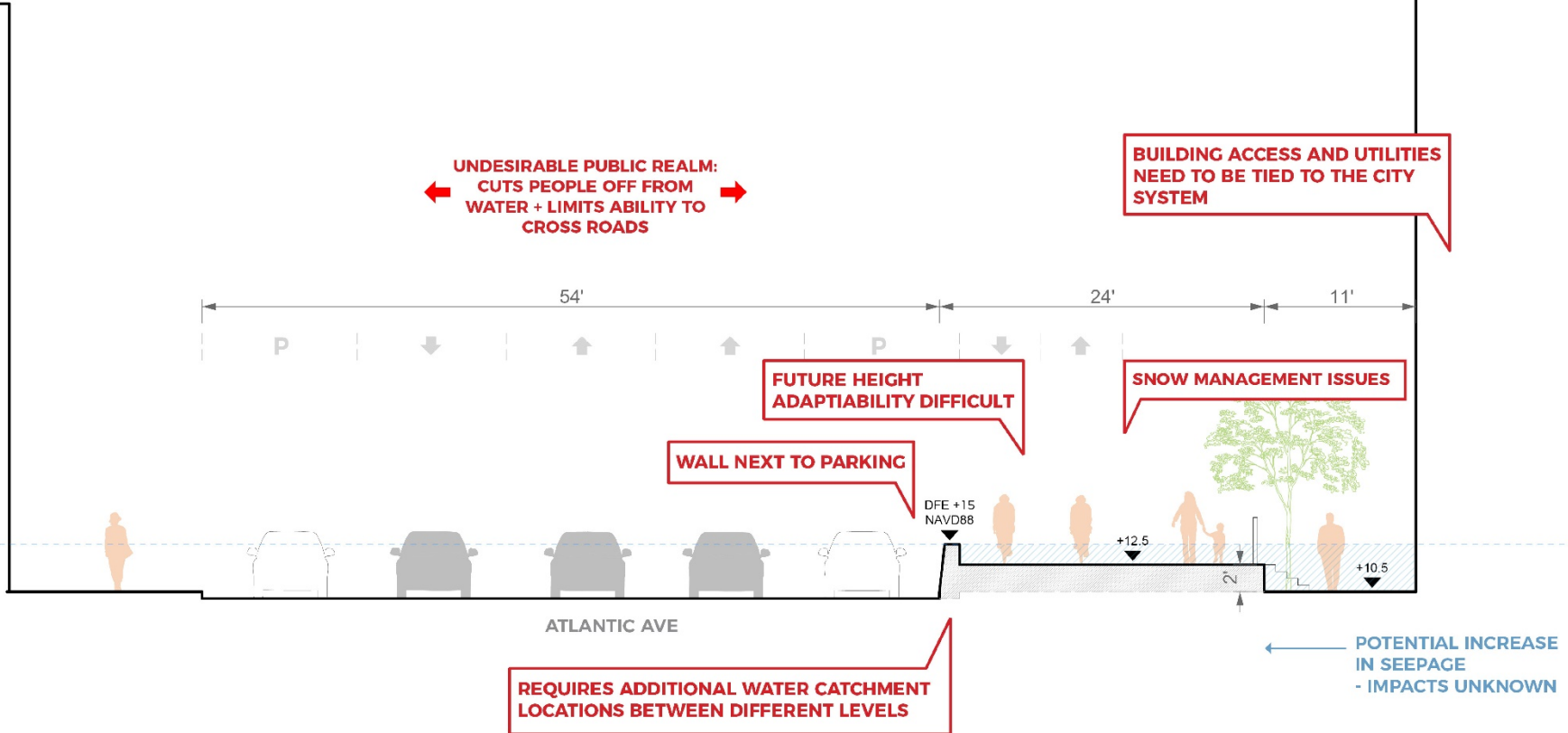


Degraded Structures

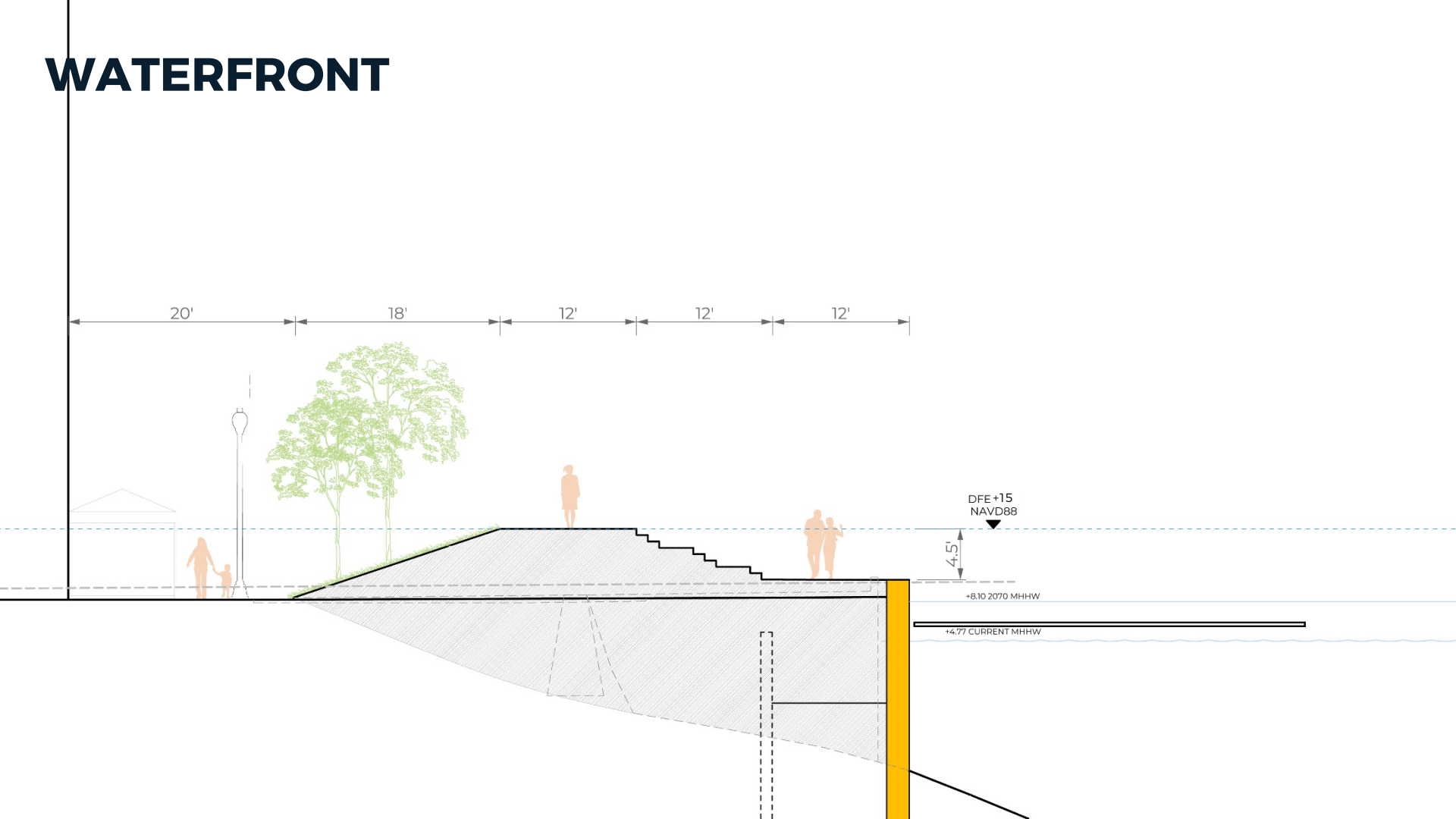
NORTH END WATERFRONT



RAISED BIKEWAY



WATERFRONT



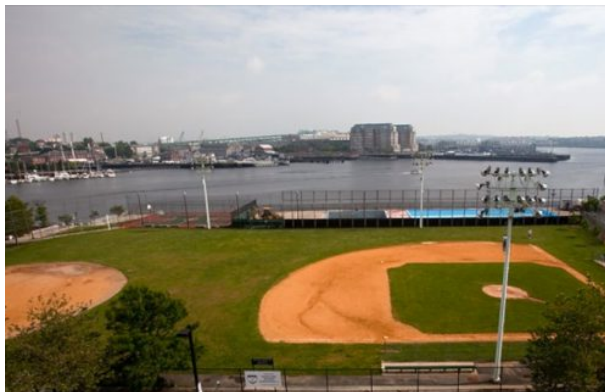
WEST END – NORTH END

PROPERTY
OWNERSHIP



CITY/STATE LAND

PRIVATE LAND



Langone + Puopolo Park
City of Boston

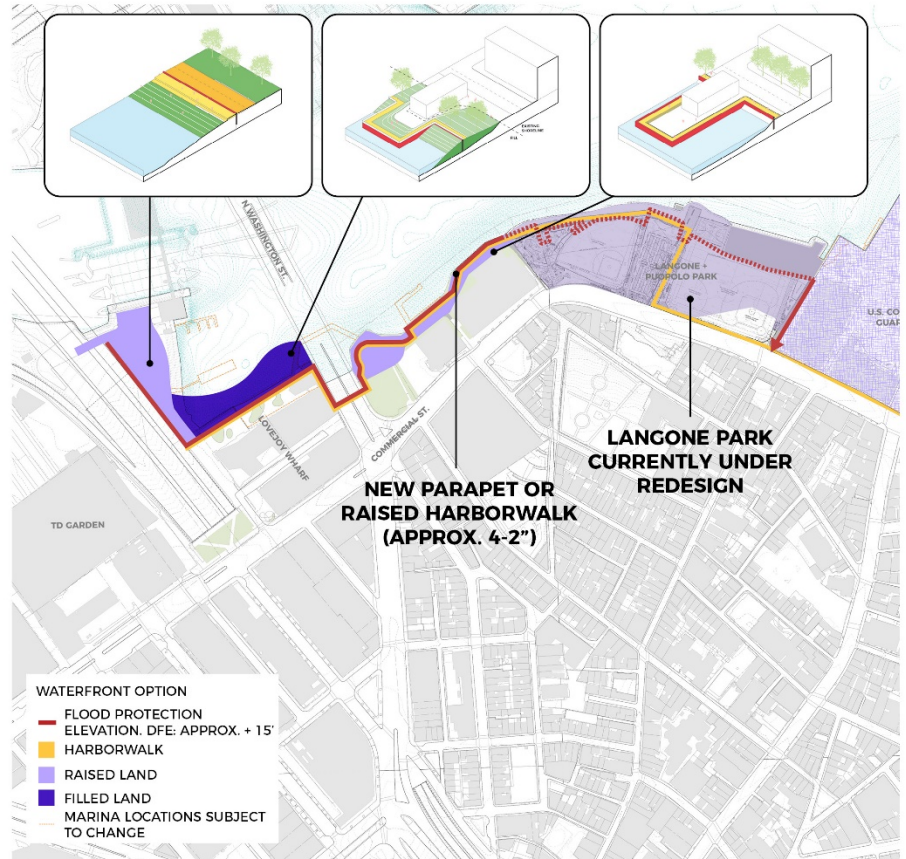
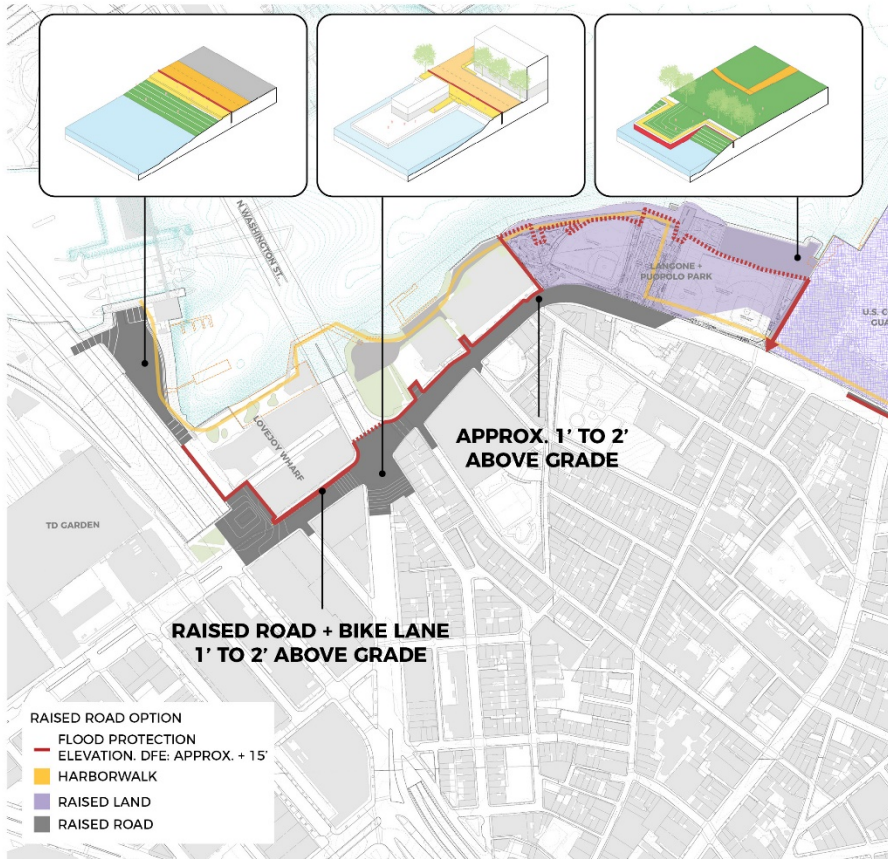


Lovejoy Wharf
Related Lovejoy Residential
Boston Redevelopment Authority (BRA)

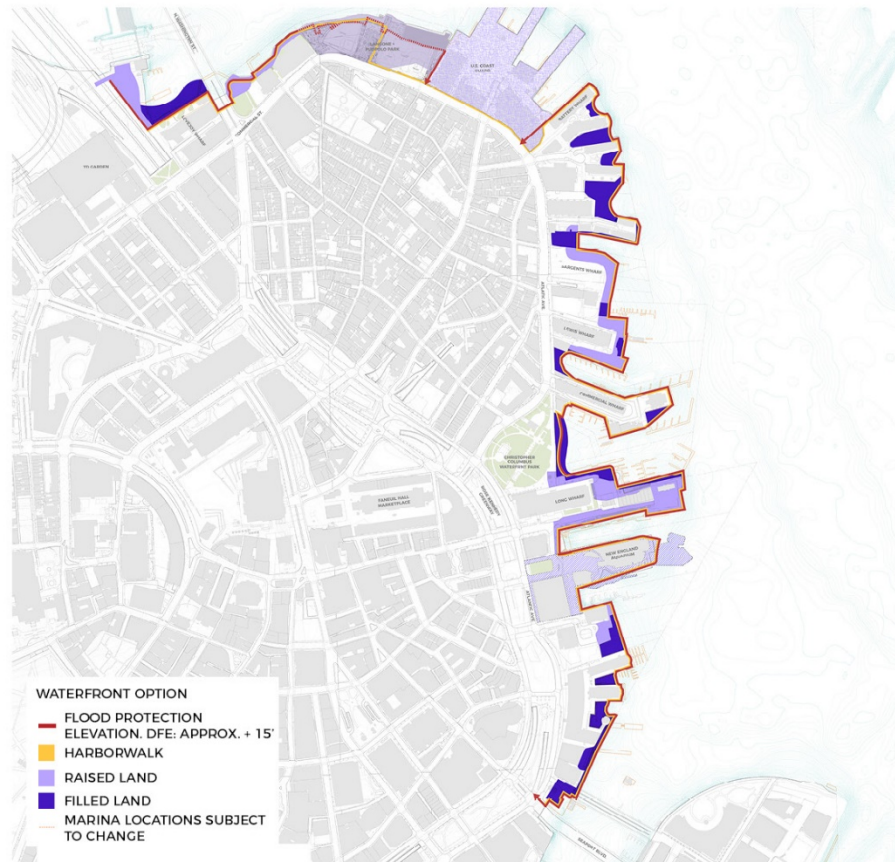
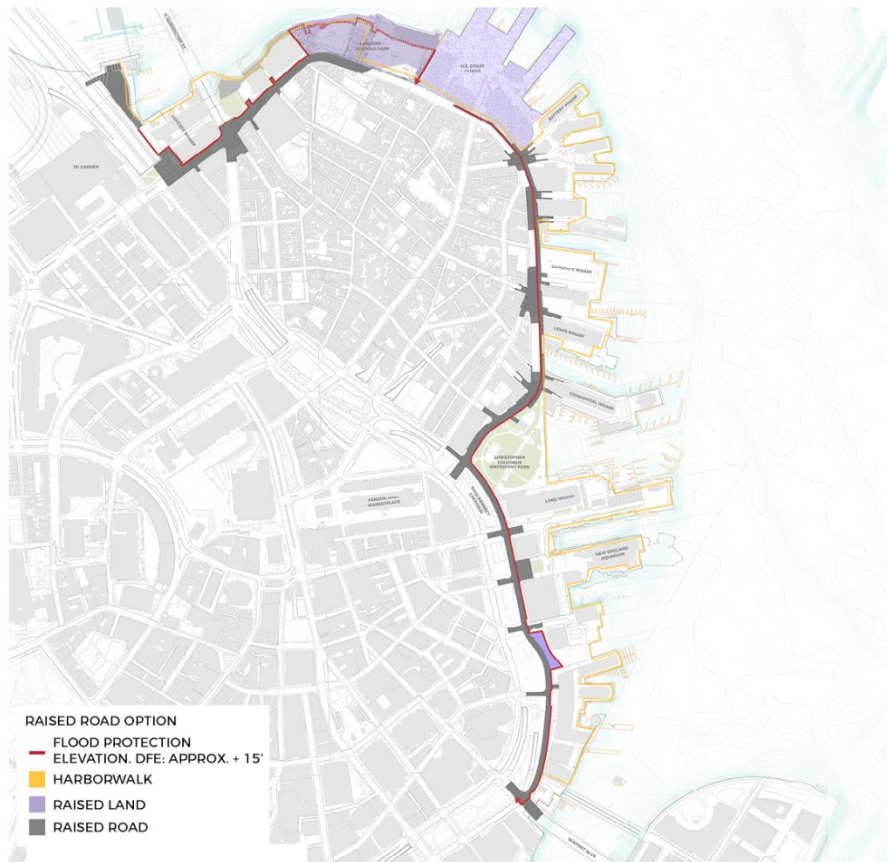


Steriti Memorial Rink + Harborwalk Park
Department of Conservation and Recreation

WEST END-NORTH END

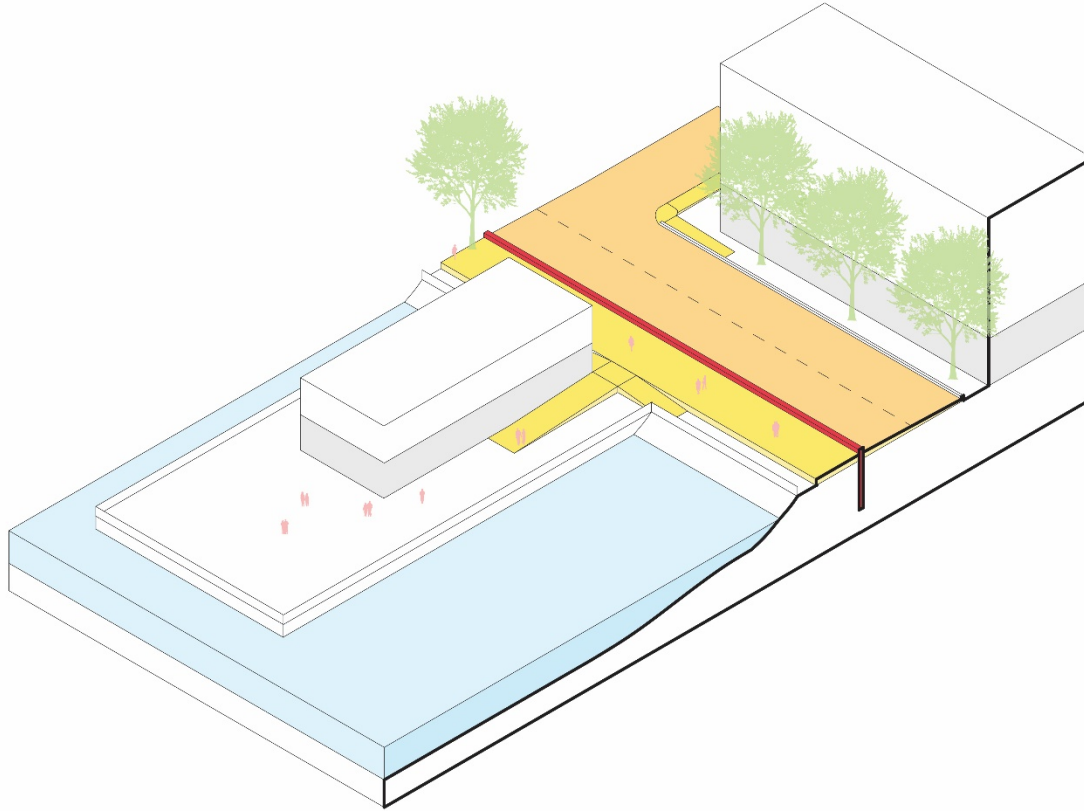


1 IF BY LAND, 2 IF BY SEA



RESILIENCY TOOLKIT

PUBLIC RIGHT-OF-WAY



Sunset Harbour, Miami Beach, FL

URBAN IMPACTS

- NEGATIVE IMPACT ON PUBLIC REALM

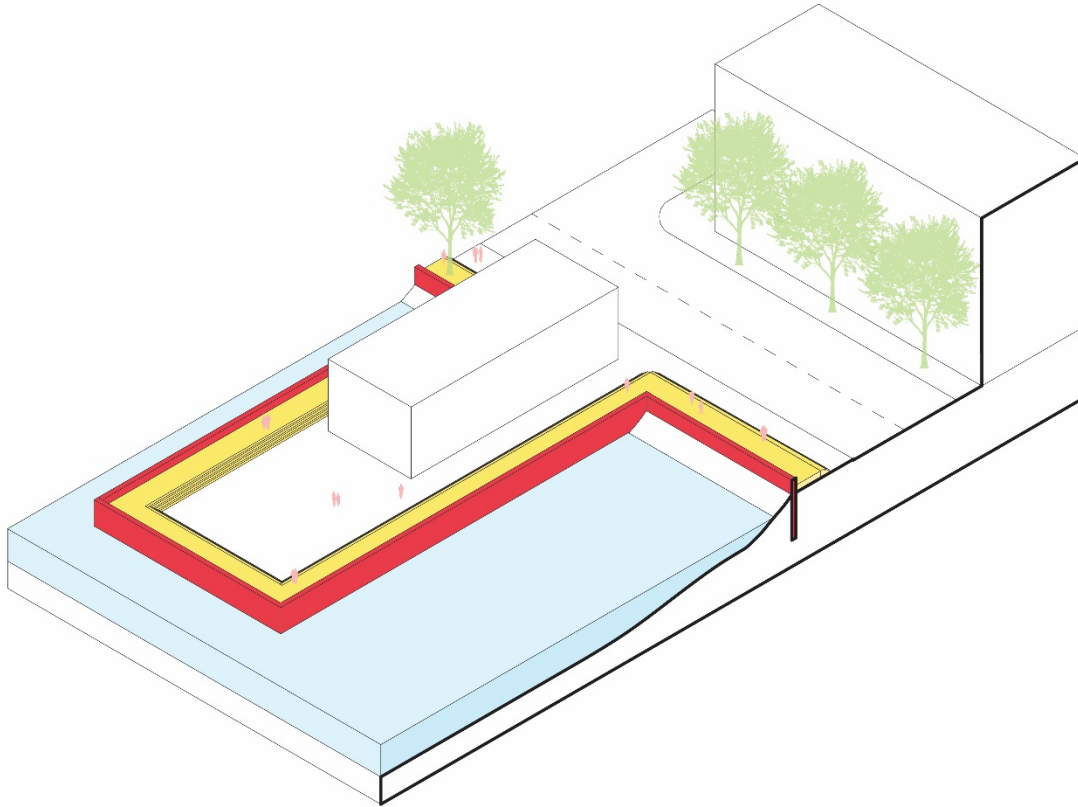
FEASIBILITY

- COMPLEX INTERFERENCE WITH UTILITIES (BELOW COMMERCIAL)

ADAPTIVE CAPACITY

- LIMITED ADAPTIVE CAPACITY BEYOND 40" SLR AND 1% STORM

INTEGRATED WITH HARBORWALK



City Deck / Green Bay, WI
Stoss Landscape Urbanism

URBAN IMPACTS

- MODERATE BENEFIT TO PUBLIC REALM

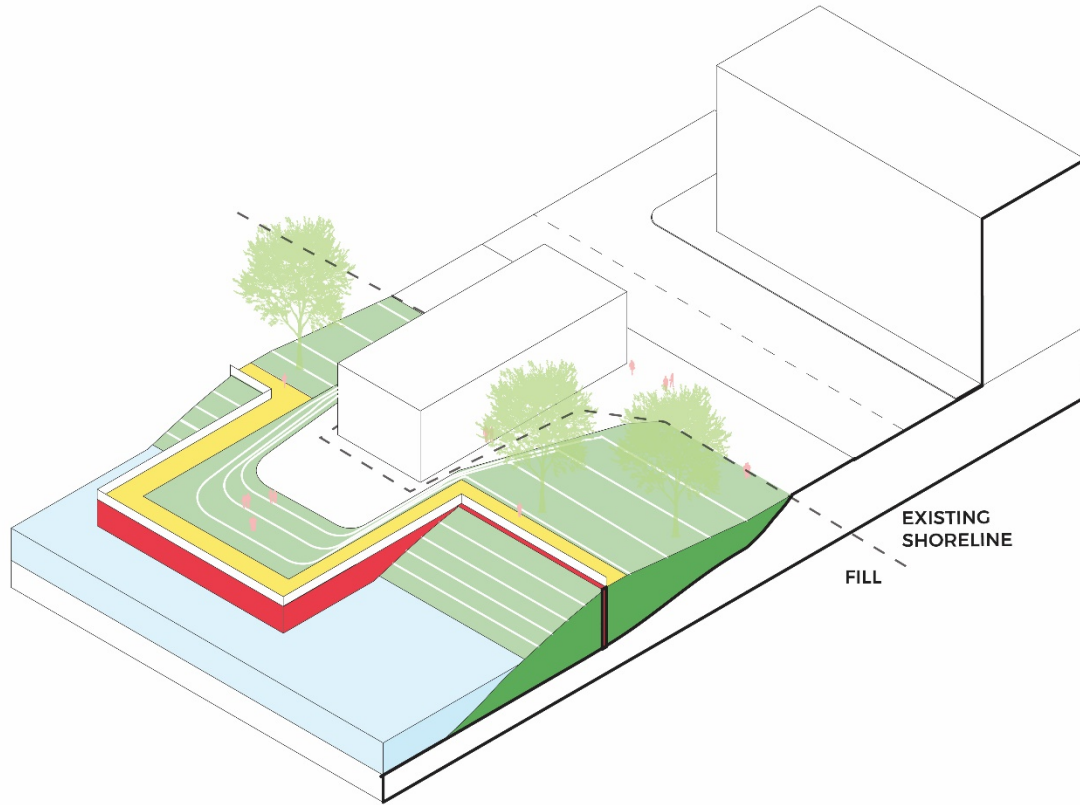
FEASIBILITY

- COMPLEX INTERFERENCE WITH BULKHEADS
- LONG PERIMETER
- REQUIRES COLLABORATION BETWEEN OWNERS

ADAPTIVE CAPACITY

- SOME ADAPTIVE CAPACITY BEYOND 40" SLR AND 1% STORM

OUTBOARD WITH SOFT SHORE



Hunter's Point South Waterfront Park
James Corner Field Operations

URBAN IMPACTS

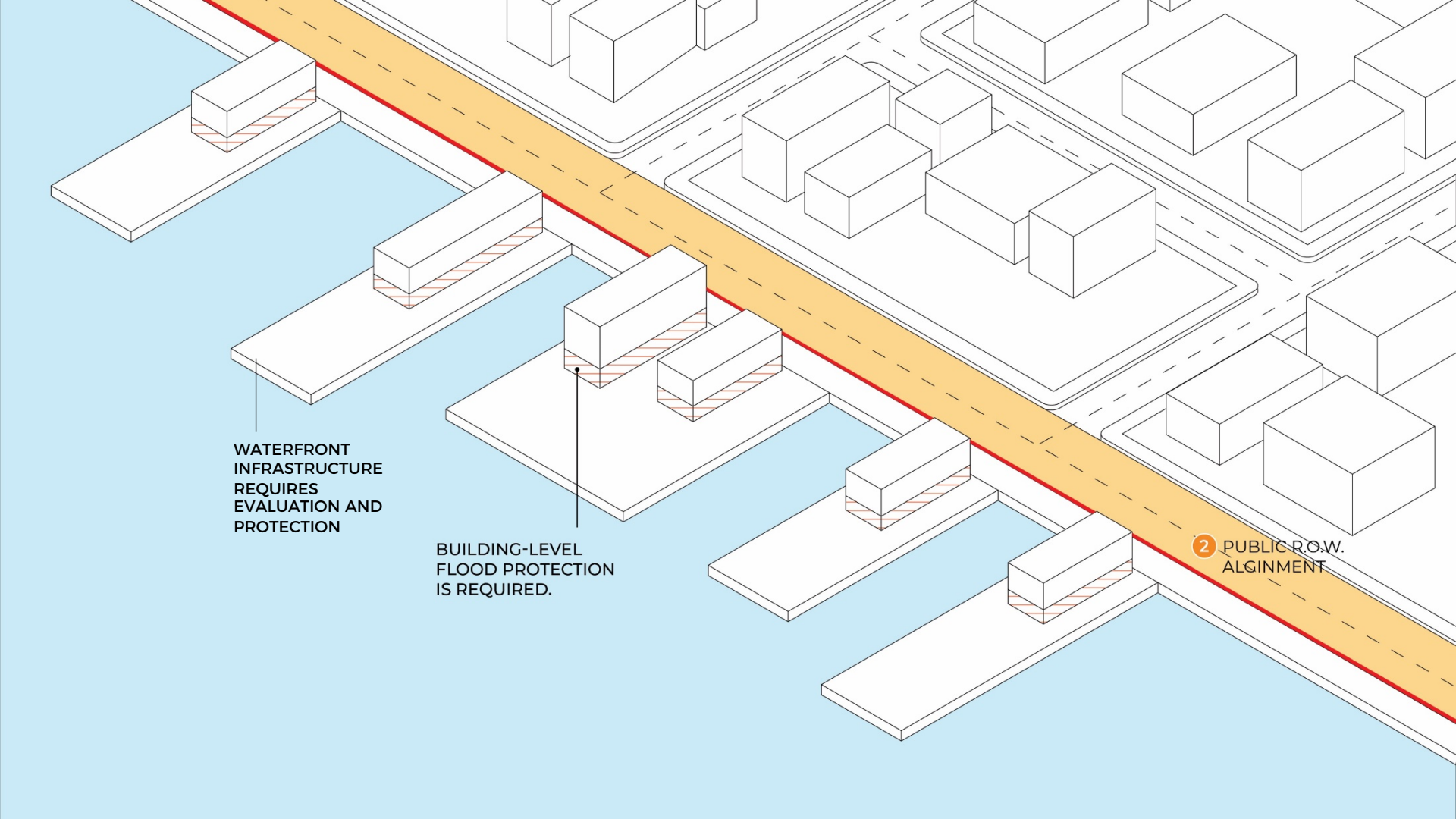
- TRANSFORMATIVE IMPACT ON PUBLIC REALM

FEASIBILITY

- COMPLEX PERMITTING
- POSSIBILITY FOR EXPANDED FUNCTIONS
- REQUIRES COLLABORATION BETWEEN OWNERS

ADAPTIVE CAPACITY

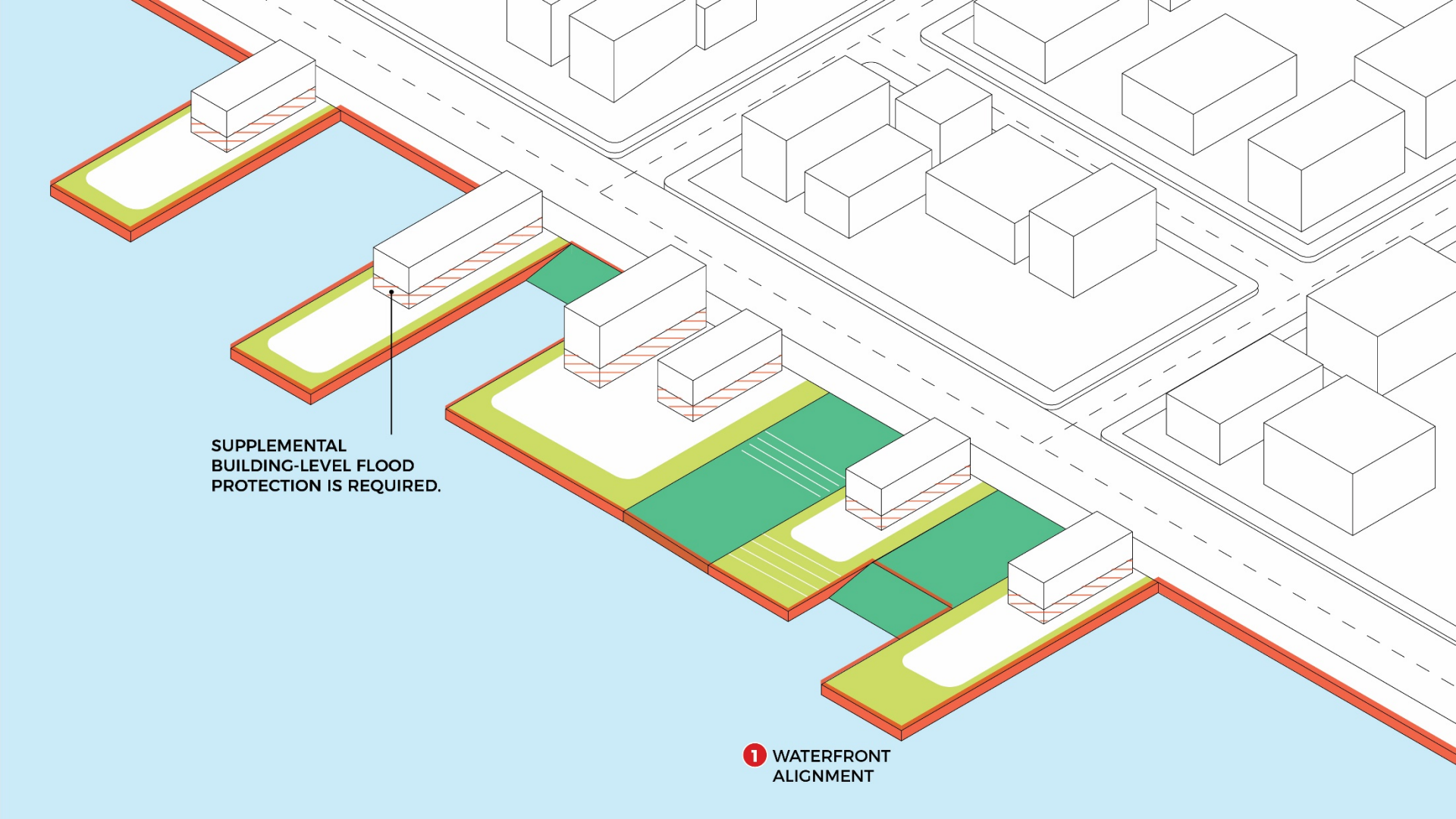
- HIGHER ADAPTIVE CAPACITY



WATERFRONT
INFRASTRUCTURE
REQUIRES
EVALUATION AND
PROTECTION

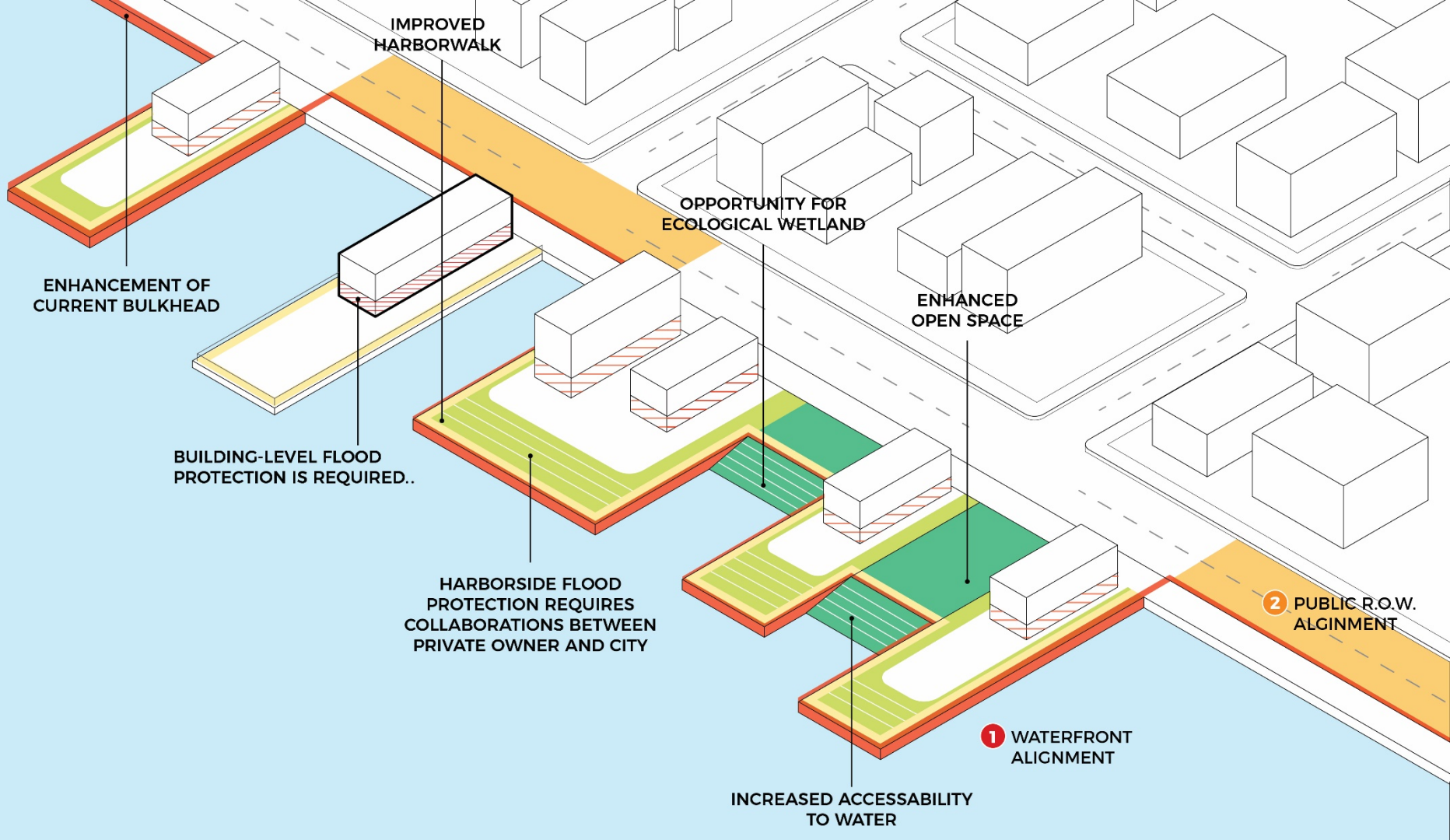
BUILDING-LEVEL
FLOOD PROTECTION
IS REQUIRED.

2 PUBLIC R.O.W.
ALIGNMENT



**SUPPLEMENTAL
BUILDING-LEVEL FLOOD
PROTECTION IS REQUIRED.**

**1 WATERFRONT
ALIGNMENT**



IMPROVED HARBORWALK

OPPORTUNITY FOR ECOLOGICAL WETLAND

ENHANCED OPEN SPACE

ENHANCEMENT OF CURRENT BULKHEAD

BUILDING-LEVEL FLOOD PROTECTION IS REQUIRED..

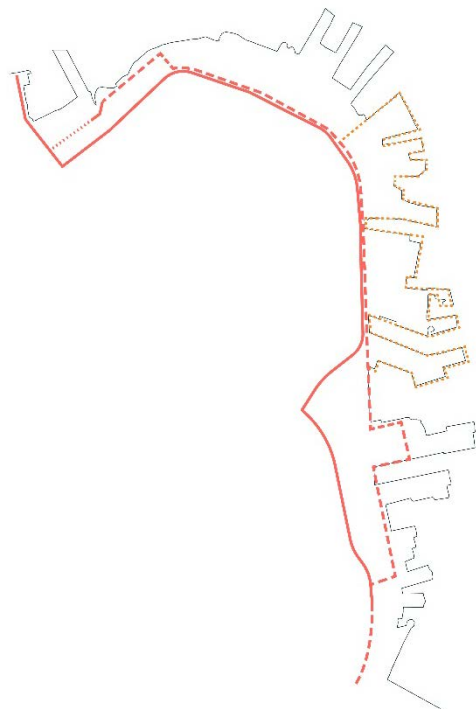
HARBORSIDE FLOOD PROTECTION REQUIRES COLLABORATIONS BETWEEN PRIVATE OWNER AND CITY

1 WATERFRONT ALIGNMENT

2 PUBLIC R.O.W. ALIGNMENT

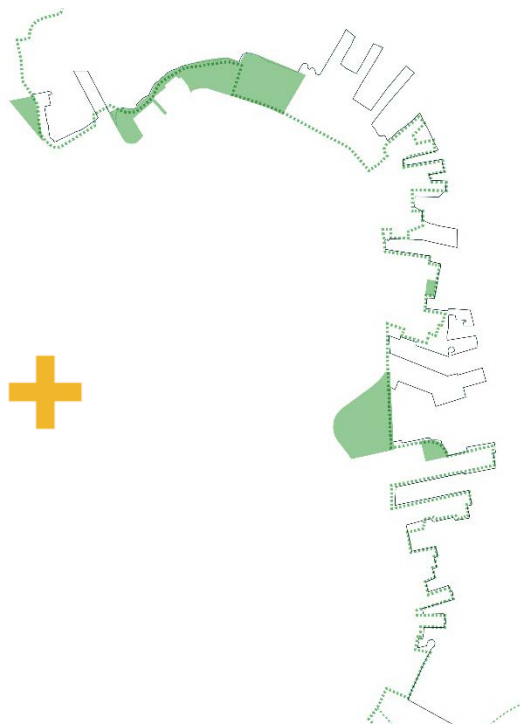
INCREASED ACCESSABILITY TO WATER

FLOOD PROTECTION TOOLKIT



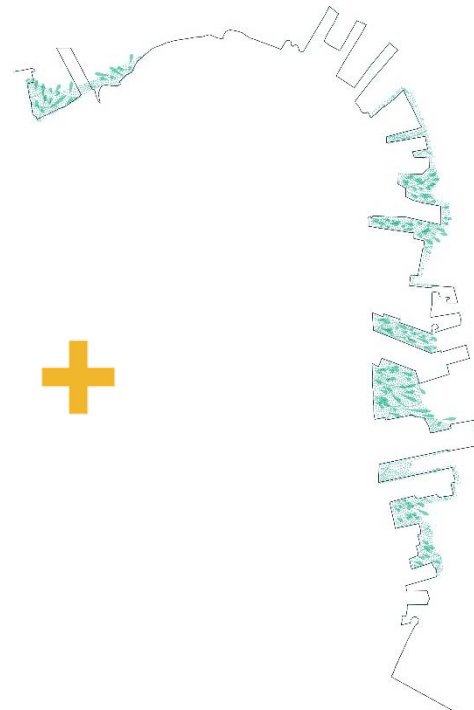
SPINE

Raised roads, Harborwalk, bulkheads



OPEN SPACES

Parks, Harborwalk



OUTBOARD ELEMENTS

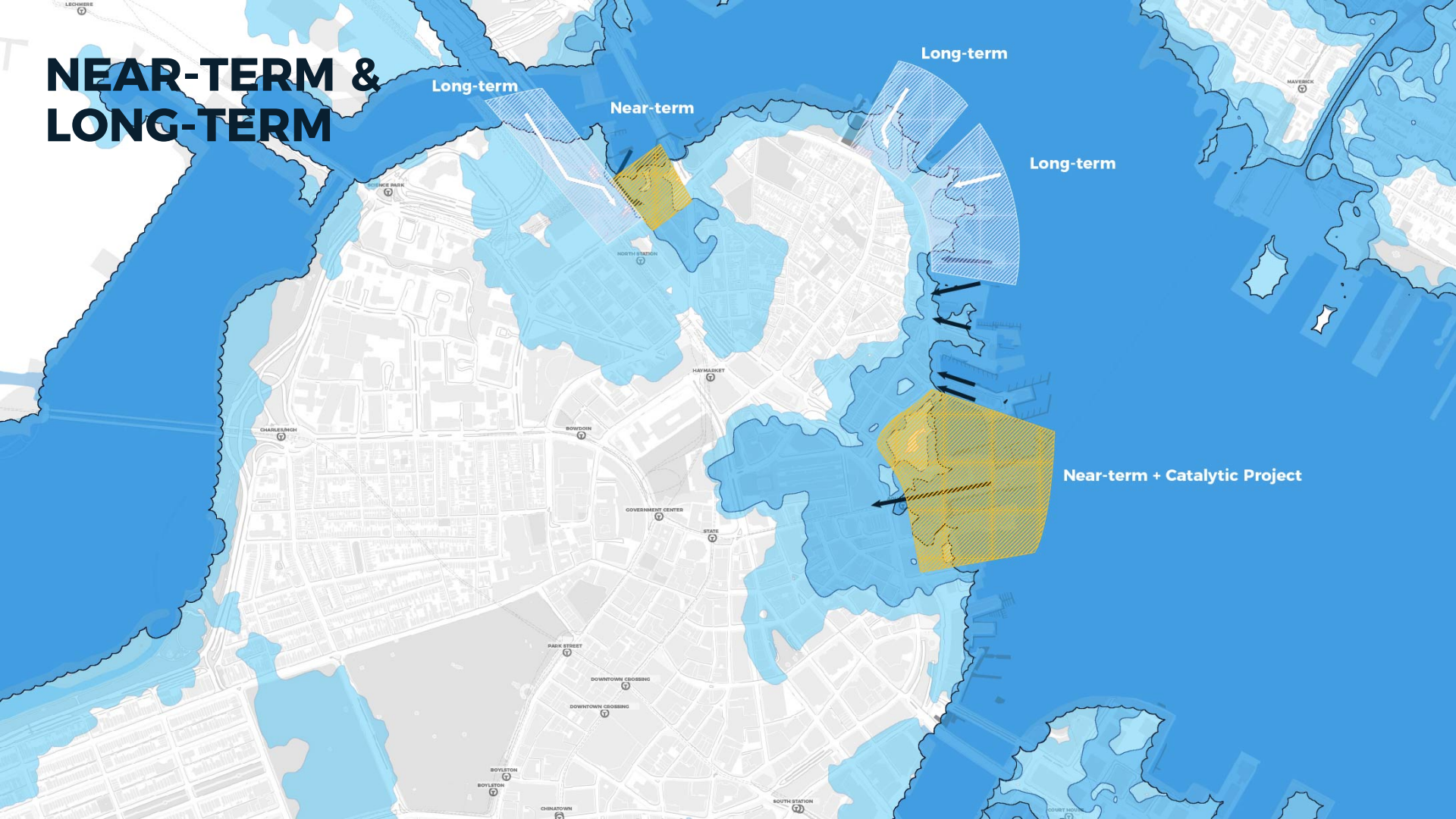
Fill, living breakwaters, coastal marshes, floating wetlands

**NEXT STEPS:
PARTNERSHIPS + TIMELINES**

IMMEDIATE RISK REQUIRES EARLY ACTION

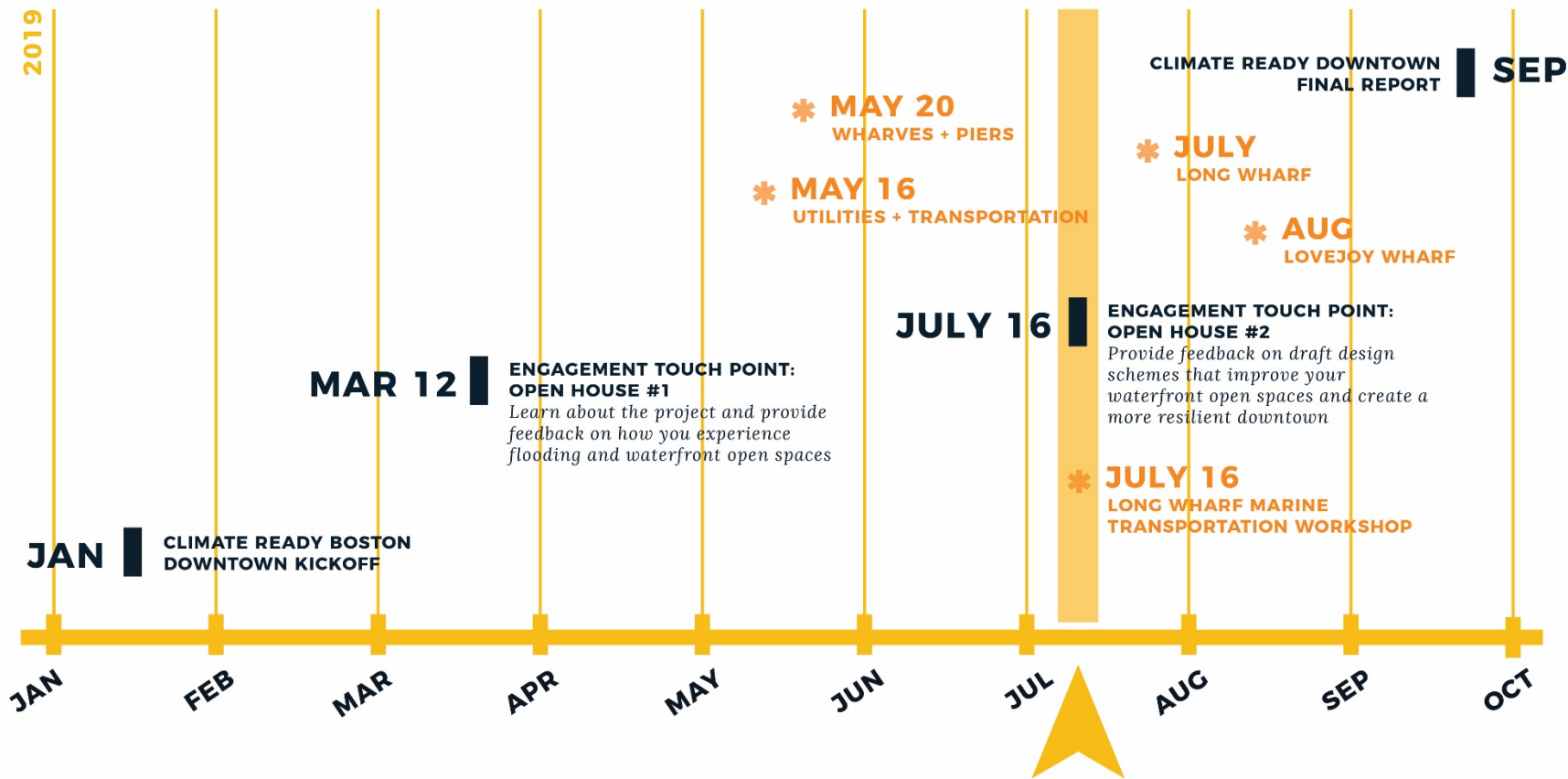


NEAR-TERM & LONG-TERM



CLIMATE READY DOWNTOWN AND NORTH END

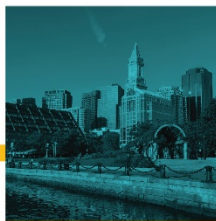
* FOCUS GROUP MEETINGS



CLIMATE READY BOSTON



**CLIMATE ACTION
PLAN (2014)**



**CLIMATE READY
BOSTON
FULL REPORT (2016)**



**CLIMATE READY
EAST BOSTON +
CHARLESTOWN
(2017)**



**RESILIENT BOSTON
HARBOR (2018)**



**CLIMATE READY
SOUTH BOSTON (2018)**



**CLIMATE READY
DOWNTOWN + NORTH
END (In Progress)**



**MOAKLEY PARK
VISION PLAN
(In Progress)**



**CLIMATE READY
DORCHESTER
(Coming Soon)**

WE ARE HERE!



An aerial photograph of a city waterfront, likely New York City, showing a dense urban skyline with numerous skyscrapers and a harbor filled with boats and piers. The entire image is overlaid with a semi-transparent blue filter. The word "Questions?" is written in a large, white, sans-serif font in the center of the image.

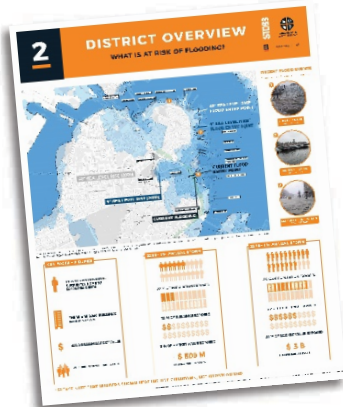
Questions?

LET'S HEAR FROM YOU!

1. LEARN ABOUT CLIMATE READY BOSTON!



2. FLOODING IN DOWNTOWN



3. WHAT WE'VE HEARD



4. FLOOD PROTECTION TOOLKIT



5. ALIGNMENT SUBDISTRICTS + SURVEY

A survey form titled "NICE TO MEET YOU!". It has a blue header with the text "PLEASE HELP US BY FILLING IN THE INFORMATION BELOW." and "Boston". Below the header, there are two sections: "WHERE I LIVE (ZIP CODE?)" and "WHERE I WORK (ZIP CODE?)". There are also checkboxes for "I AM A..." with options: RESIDENT, WORKER, VISITOR. Below that, there are checkboxes for "AGE" with options: 19, 20-24, 25-34, 35-44, 45-54, 55-64, 65+. At the bottom, there is a section for "OVERALL COMMENTS?" with a large text area and a small yellow icon of a person.

Q & A

A



BETTER

CITY