

# **WELCOME** TO THE ULI COASTAL FORUM

Toronto | May 17, 2023



SPRING MEETING



**Mark Costa**

Mark Costa, Water Resources and Civil Engineer, VHB



**Doug Manz**

Partner, Chief Investment Officer, HYM Investment Group, LLC



**Yvonne Yeung**

CEO, SDG Strategies



**Moderator: Jack Smith**

Partner, Nelson Mullins Riley & Scarborough LLP

# Beyond the Property Line

*Inclusive Planning for Resilient Coastal Development*



Urban Land Institute – Coastal Forum

# Suffolk Downs Resiliency and Adaptation Study

Doug Manz – HYM Investments  
Mark Costa – VHB

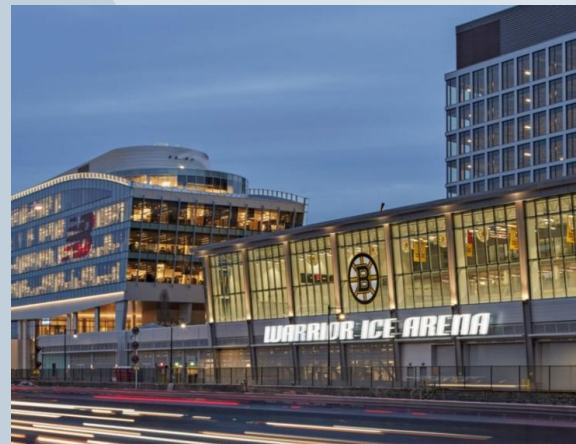


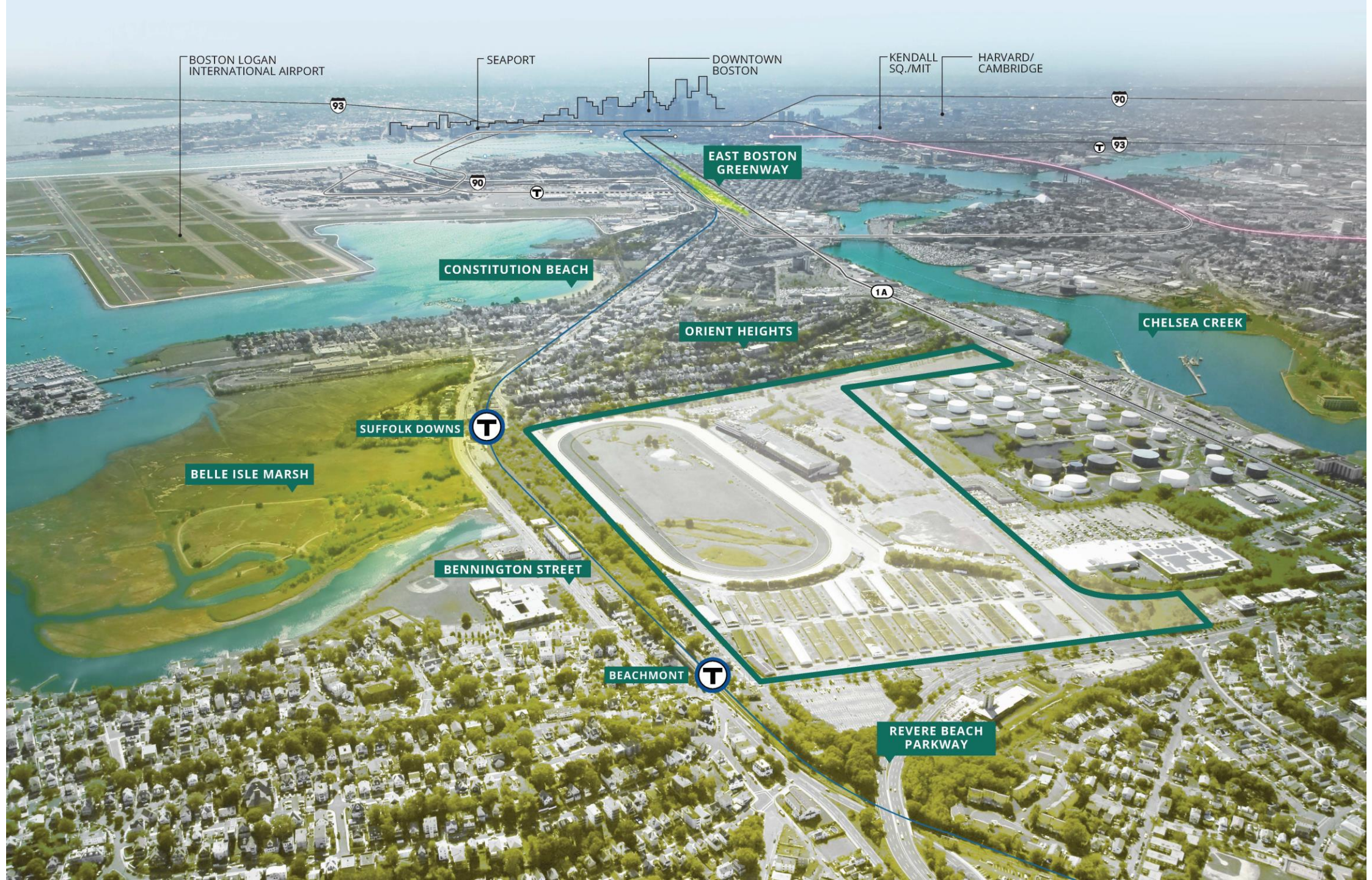
# The HYM Investment Group (HYM)

Successfully managing many of Boston's innovative urban mixed-use developments

## Quick Facts

- Boston-based real estate development and investment firm founded in 2009
- Our team is made up of 50% women, 35% people of color
- Currently leading the development of more than 20 million square feet
- 35+ years experience primarily in Boston-New York corridor
- Our projects have created 25,000 jobs, totaling \$12 billion of investments
- Proven track record permitting/developing complicated, mixed-use projects
- Majority of our projects are coastal locations & on the front lines of climate change





BOSTON LOGAN INTERNATIONAL AIRPORT

SEAPORT

DOWNTOWN BOSTON

KENDALL SQ./MIT

HARVARD/CAMBRIDGE

EAST BOSTON GREENWAY

CONSTITUTION BEACH

BELLE ISLE MARSH

SUFFOLK DOWNS

BENNINGTON STREET

BEACHMONT

REVERE BEACH PARKWAY

ORIENT HEIGHTS

CHELSEA CREEK

1A

# 16.2 MSF of Dynamic Uses

2  
MBTA Blue Line stations

40  
acres of open space

Direct  
Access from Route 1A

5.2MSF  
life science/commercial office

450,000  
sf of creative retail and civic spaces

800  
keys at 3 hotels

10,000  
diverse residential units

\$337M+  
on and offsite infrastructure investment

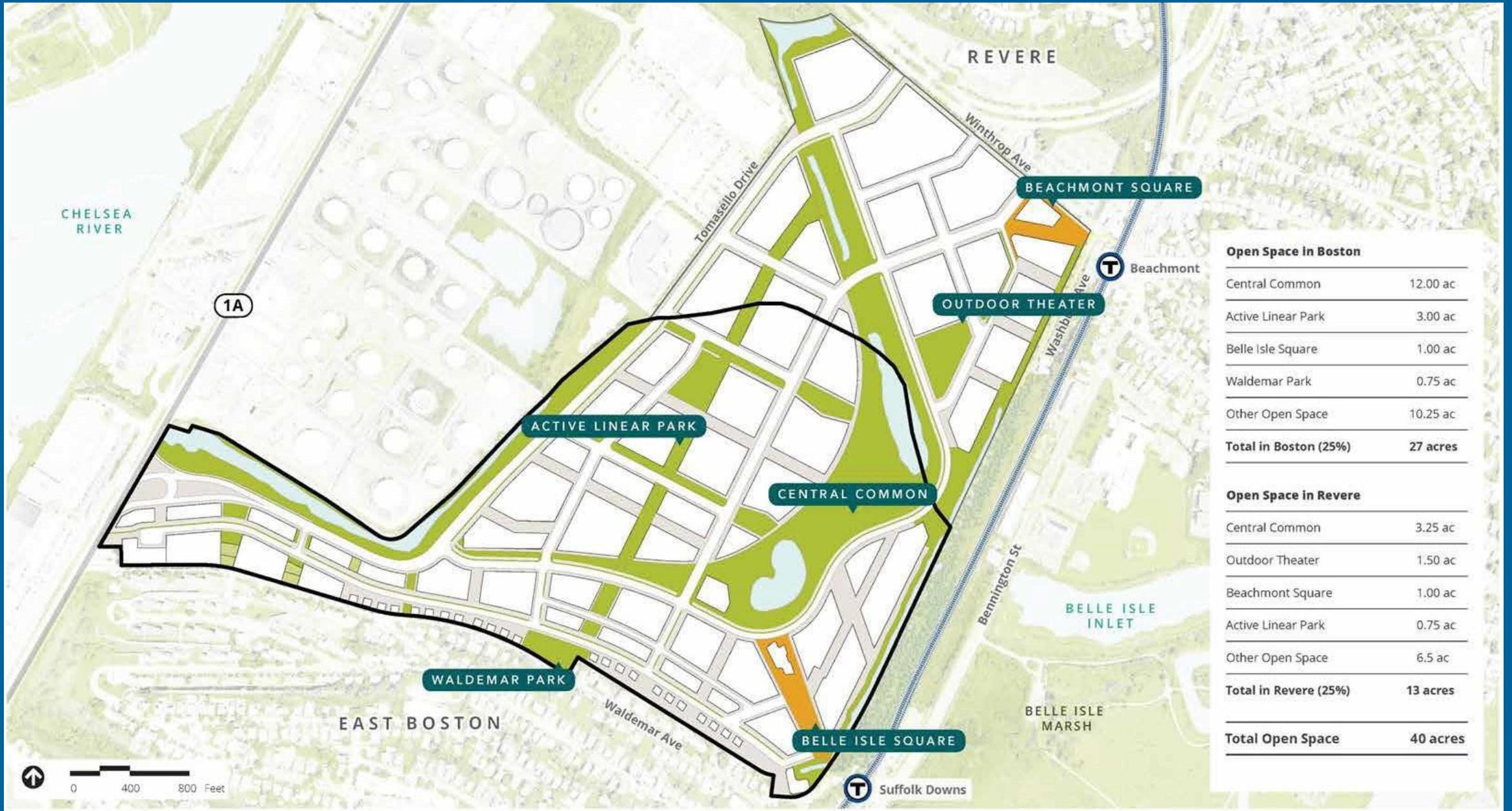


# Land Use Plan



# Open Space Commitments

Over 40 acres of Open Space, totaling 25% of Entire Site





# 40-Acre Open Space System

## Unlocking Value

through expansive open space network

## 25% Sitewide

of Active and Passive Recreation

## Walkable and Bike Friendly

protected bike lanes and pedestrian loops

## Resilient

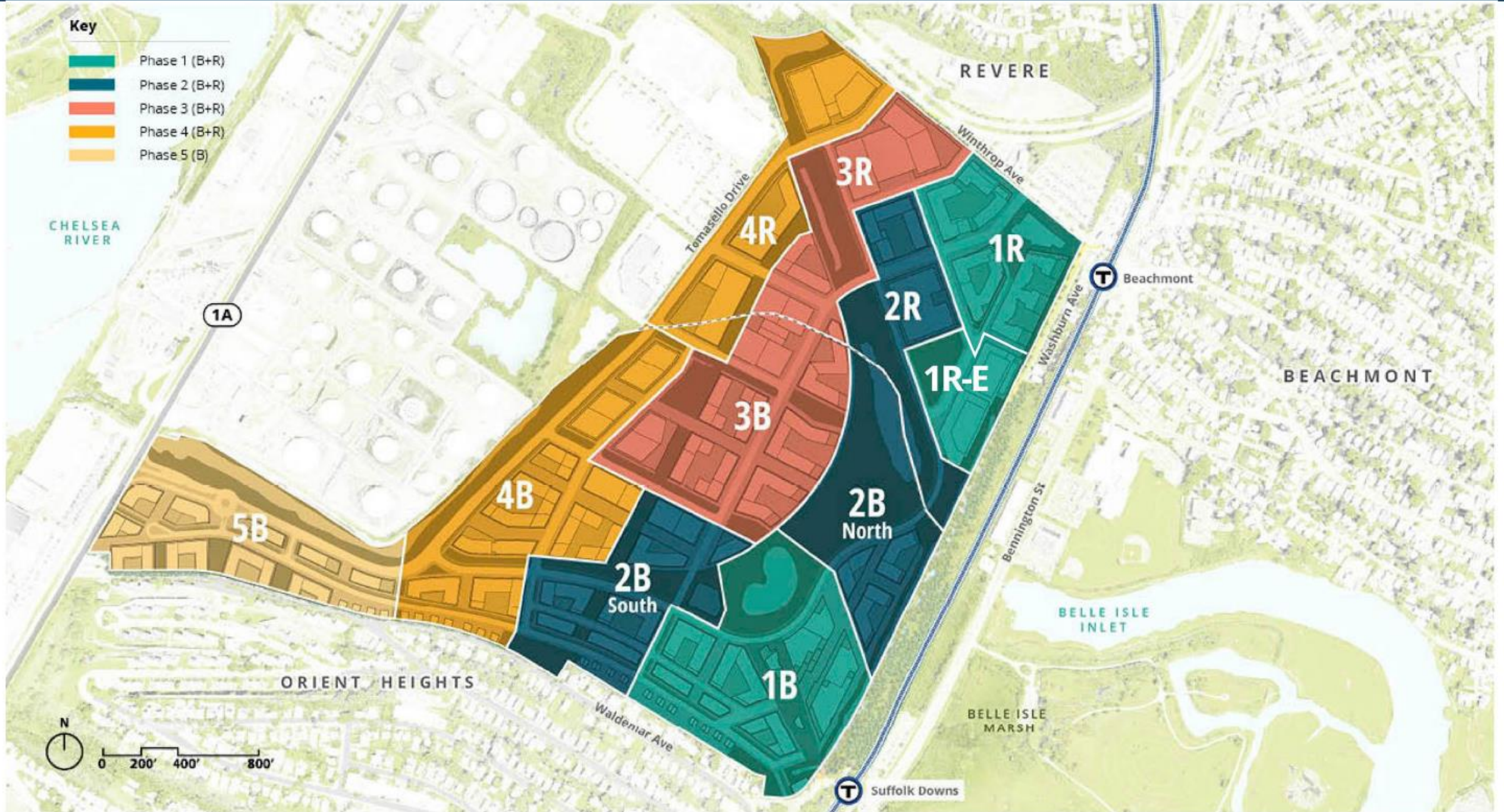
forward-thinking open space design

## Multi-Use

playgrounds, flexible fields sport courts, walking paths



# Phasing Plan



# Study and Project Goals

## 1. Construct a resilient project

- 16.2 million square feet mixed-use development
- Targeting BPDA finished floor elevations

## 2. Analyze potential impacts to abutters

- Over 1,000 low-lying hydraulically connected properties in Revere and Boston

## 3. Mitigate (if necessary) impacts to abutters

- Provide flood protection measures for the project site and abutters



*Outlet of Sales Creek to Belle Isle Inlet; Existing DCR Tide Gates*



**Shirley Avenue  
Neighborhood**

*Atlantic Ocean/  
Broad Sound*

**Roughans Point Flood  
Protection Project**

*Sales Creek  
(Riverine)*

**Beachmont  
Neighborhood**

*Chelsea Creek  
(Tidal)*

**Suffolk Downs**

**Flood Protection Infrastructure:  
Alfred H. Long Pump Station  
Bennington Street Tide Gate**

**Orient Heights**

*Belle Isle Inlet  
(Tidal)*

*Boston Harbor*



## Previous Flood Studies Do Not Include:

- Sales Creek
- Alfred H. Long Pump Station
- Tide Gates
- Sea Level Rise

# Resiliency Study Overview



**No Build**

**vs.**



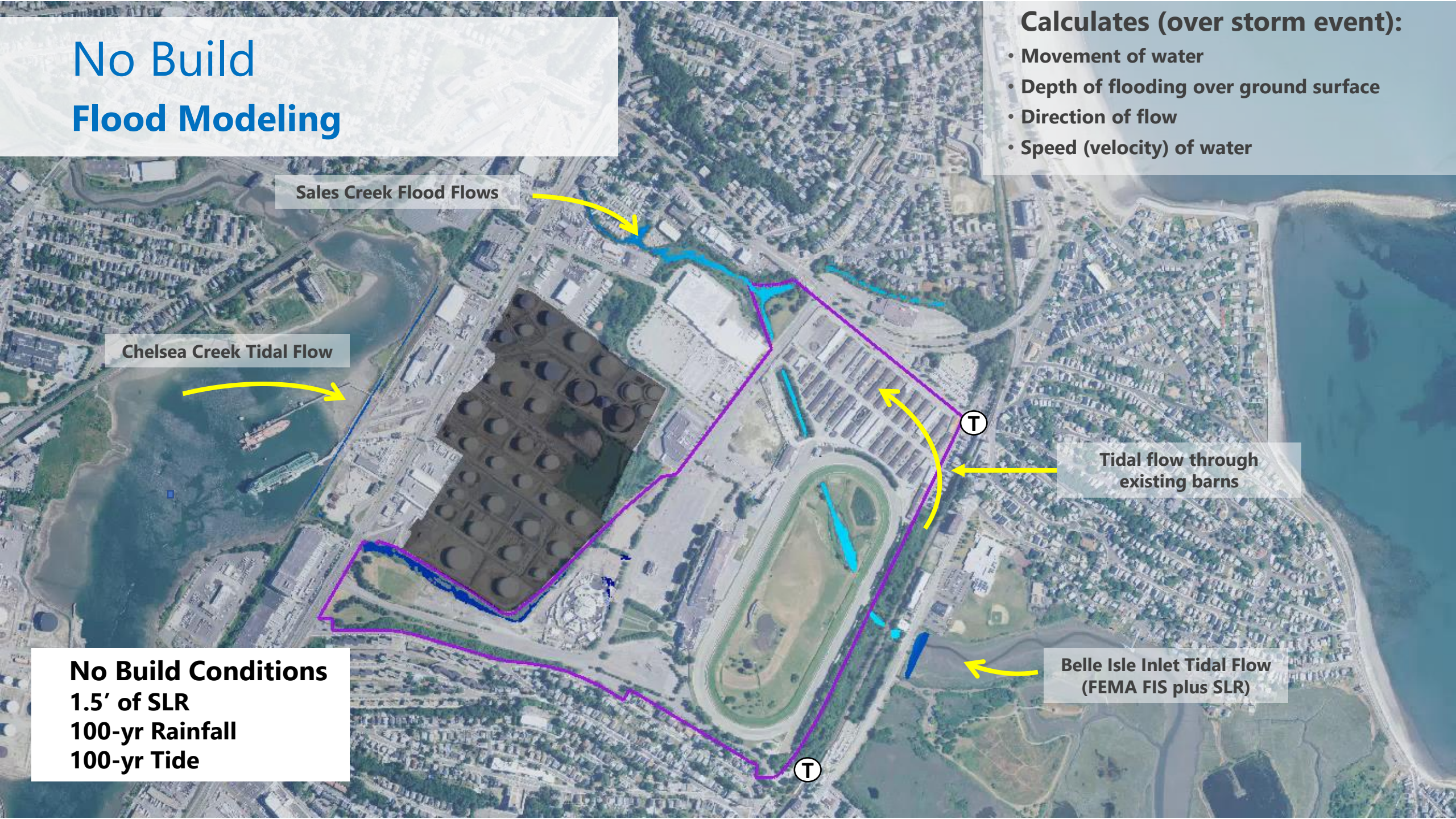
**Build**

- FEMA approved hydraulic and hydrologic modeling software with FEMA FIS inputs
- Model calculates **flow, elevation, direction,** and **velocities** of flood waters from river and tidal influences
- Analyzed peak flood elevations of **no build** vs. **build** for current and future climate conditions. No rises in upstream communities for full-build condition for current and future climate conditions.

# No Build Flood Modeling

## Calculates (over storm event):

- Movement of water
- Depth of flooding over ground surface
- Direction of flow
- Speed (velocity) of water



Sales Creek Flood Flows

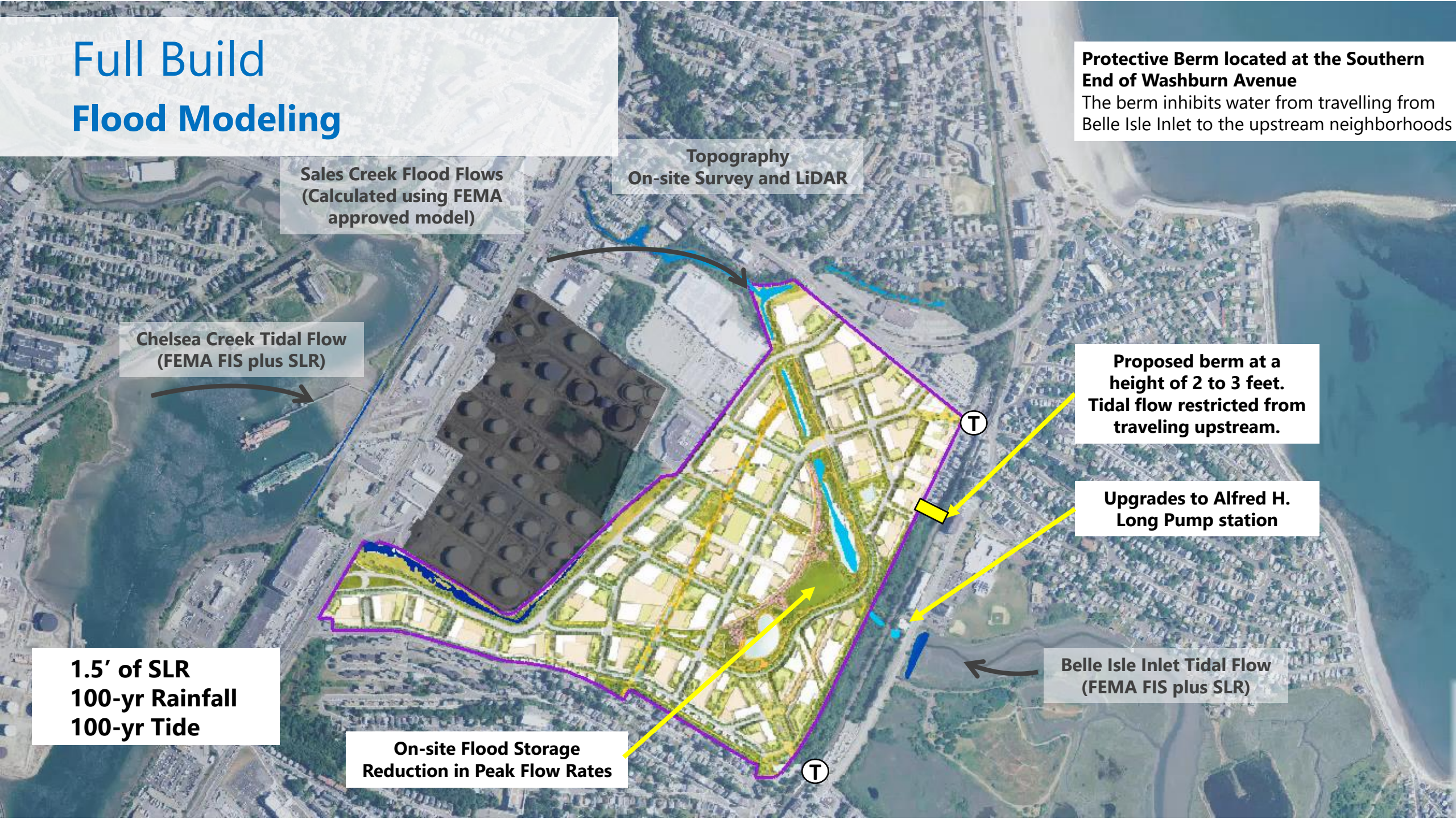
Chelsea Creek Tidal Flow

Tidal flow through existing barns

Belle Isle Inlet Tidal Flow (FEMA FIS plus SLR)

**No Build Conditions**  
1.5' of SLR  
100-yr Rainfall  
100-yr Tide

# Full Build Flood Modeling



**Protective Berm located at the Southern End of Washburn Avenue**  
The berm inhibits water from travelling from Belle Isle Inlet to the upstream neighborhoods

**Topography**  
On-site Survey and LiDAR

**Sales Creek Flood Flows**  
(Calculated using FEMA approved model)

**Chelsea Creek Tidal Flow**  
(FEMA FIS plus SLR)

**Proposed berm at a height of 2 to 3 feet.**  
Tidal flow restricted from traveling upstream.

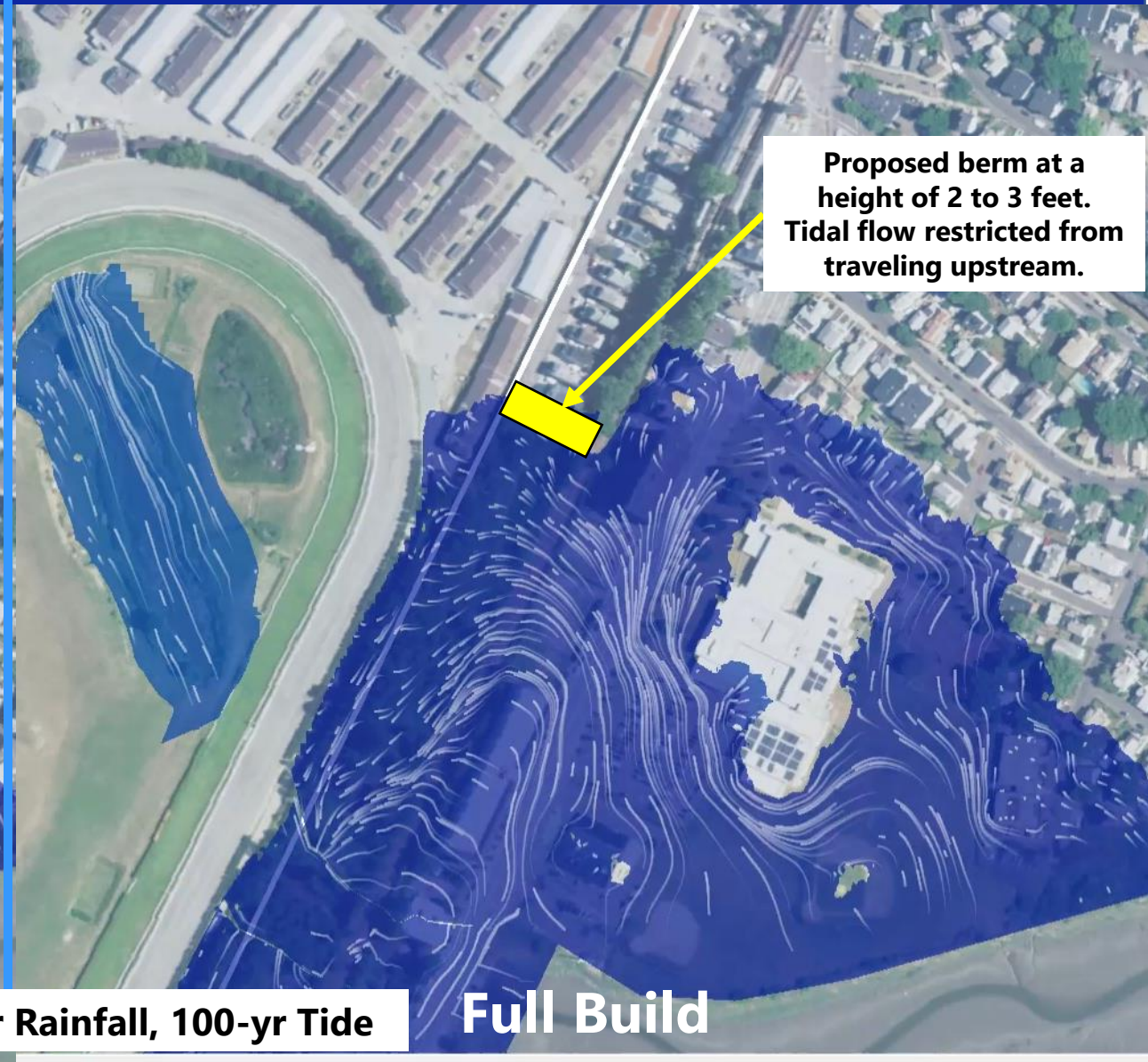
**Upgrades to Alfred H. Long Pump station**

**Belle Isle Inlet Tidal Flow**  
(FEMA FIS plus SLR)

**1.5' of SLR**  
**100-yr Rainfall**  
**100-yr Tide**

**On-site Flood Storage**  
**Reduction in Peak Flow Rates**





**VS.**

# Flood Modeling

Shirley Avenue  
Neighborhood  
Max Depth  
EX: 4.7  
PR: 3.5

- Calculates (over storm event):**
- Movement of water
  - Depth of flooding over ground surface
  - Direction of flow
  - Speed (velocity) of water

Topography  
On-site Survey and LiDAR

- Pre- vs. Post-Project**
- No Build Flooding
  - Full Build Flooding
  - No Build & Full Build Flooding

Beachmont  
Neighborhood  
Max Depth  
EX: 3.7  
PR: 2.8

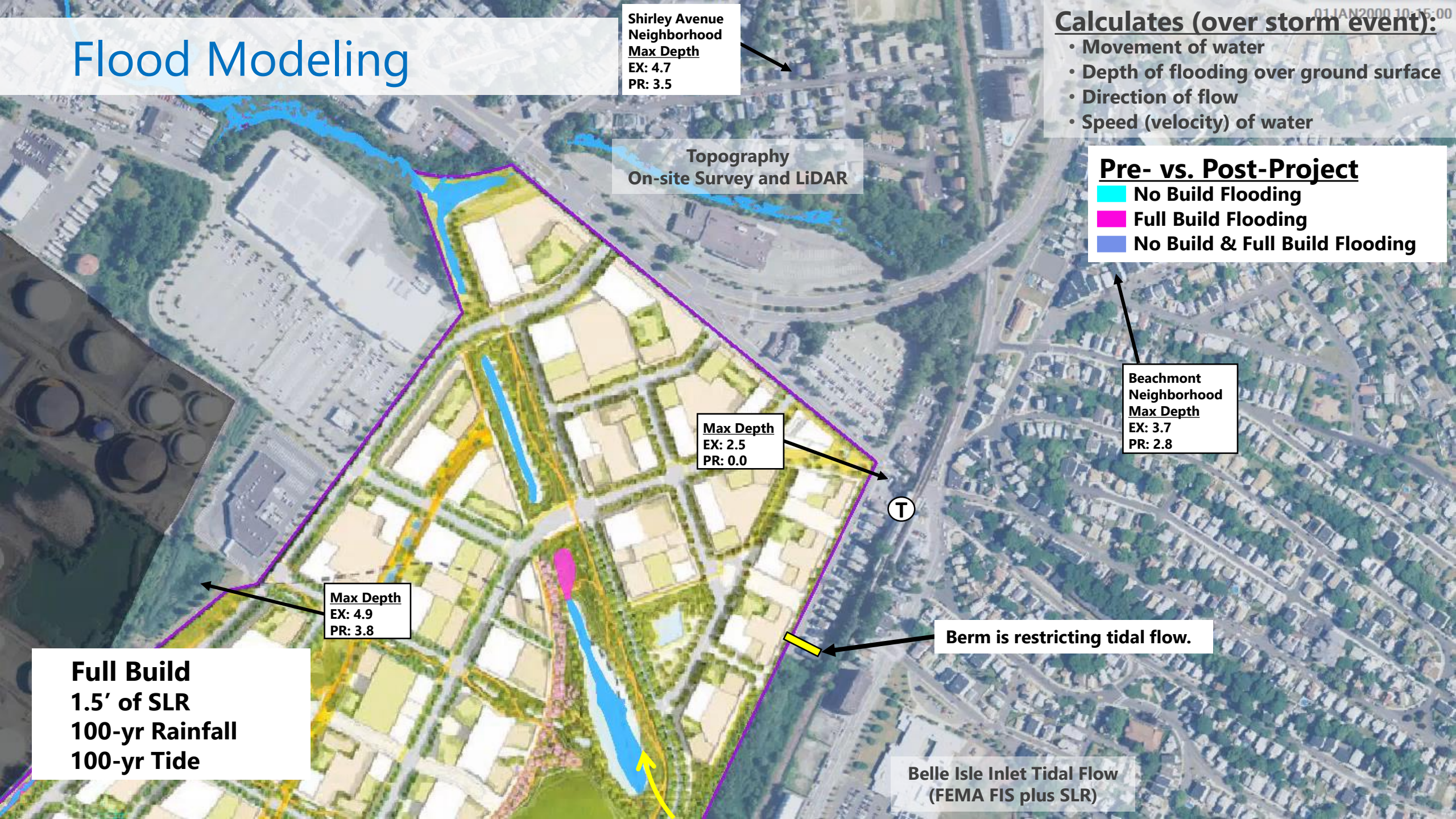
Max Depth  
EX: 2.5  
PR: 0.0

Max Depth  
EX: 4.9  
PR: 3.8

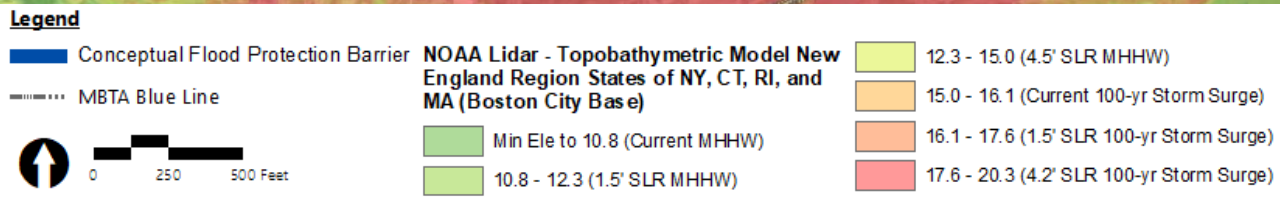
Berm is restricting tidal flow.

**Full Build**  
1.5' of SLR  
100-yr Rainfall  
100-yr Tide

Belle Isle Inlet Tidal Flow  
(FEMA FIS plus SLR)



# Conceptual Regional Bern Alternative



**HYM has committed to completing a feasibility study of the regional berm.**

# Summary Mitigation

Mitigation	Schedule	Responsibility /Cost	Notes
Target at-grade Finished Floor Elevations (FFE) in accordance with BPDA 2070 Design Flood Elevations	All Phases	Proponent	Elevation 20.5 BCB non-critical buildings Elevation 21.5 BCB critical buildings If elevations are not met, implement dry-floodproofing materials.
Washburn Avenue Berm	Prior to completion of Phase 1	Proponent	No increases in flood elevations, extents, duration for all hydraulically connected abutting properties through 4.2-feet of sea level rise as a result of this mitigation.
Interim Storage—Phase 2	Prior to construction of Phase 2	Proponent	
Interim Storage—Phase 3	Prior to construction of Phase 3	Proponent	
Facilitate upgrade of Alfred H. Long Pump Station, additional tide gate, or Bennington Street berm construction	Return to MEPA prior to Phase 4R in order to determine how to best use mitigation funds	Proponent up to \$5.25 million plus installation of additional tide gate	No increases in flood elevations, extents, duration for all hydraulically connected abutting properties through 4.2-feet of sea level rise due to pump station upgrades and additional tide gate or Bennington Street Berm.
Feasibility Study of Bennington Street Berm	Prior to Phase 2 Construction	\$325,000±	

# City, State, and Non-Profits: A Ripple Effect

## Municipalities

- Boston placed the Bennington Street Berm on its Climate Ready Boston Coastal Resilience Solutions for East Boston Plan
- Boston and Revere requiring developers along Chelsea Creek to incorporate berm and public access
- Residents in Revere and Boston will have a reduced flood risk

## Non-profit

- Mystic River Watershed Association & Friends of the Belle Isle Marsh teamed up on a study
  - Pulling together private and public stakeholders
  - Incorporates also Nature Based Saltwater Marsh Mitigation Strategies

## State Agencies

- Governor Healey had a press conference at Belle Isle Marsh and announced \$100 million in funds for continued Municipal Vulnerability Planning.
- MassDOT & MBTA is looking to utilize a former rail ROW as part of new Chelsea Creek Berm
- MBTA shifting its focus from on just its facilities to regional approach

*Overall, significant collaborative engagement and cooperation*

*Atlantic Ocean is coming.....time for focused action & cooperation is now*



Doug Manz | [Dmanz@hyminvestments.com](mailto:Dmanz@hyminvestments.com) | 617-2458-8905

Mark Costa | [MarkCosta@vhb.com](mailto:MarkCosta@vhb.com) | 617-607-2766

