

# Downtown Waterfront Municipal Harbor Planning Advisory Committee



CITY OF BOSTON  
Martin J. Walsh  
*Mayor*



Boston  
Redevelopment  
Authority  
Brian Golden, Acting Director

Consultants:  
Utile, Inc.  
Durand & Anastas  
Noble & Wickersham

# Agenda

## I. Urban Design Considerations

## II. Review of Planning Recommendations

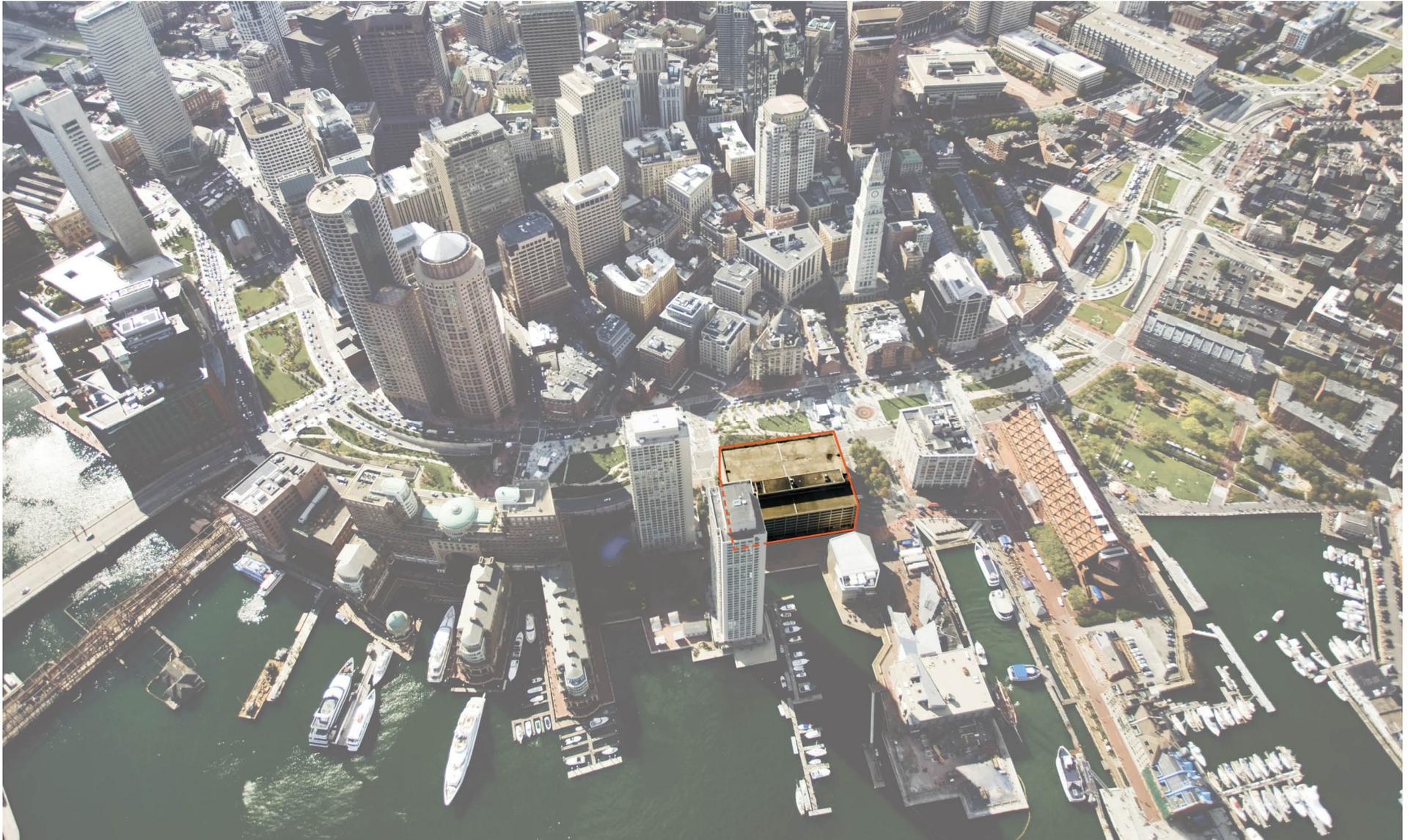
## III. Harbor Garage Ch. 91 Baseline and the Proposed Redevelopment Scenario

- Building Footprint
- Building Height
- Shadow Impacts

# Urban Design Considerations

Overview of the Harbor Garage Parcel

# Harbor Garage



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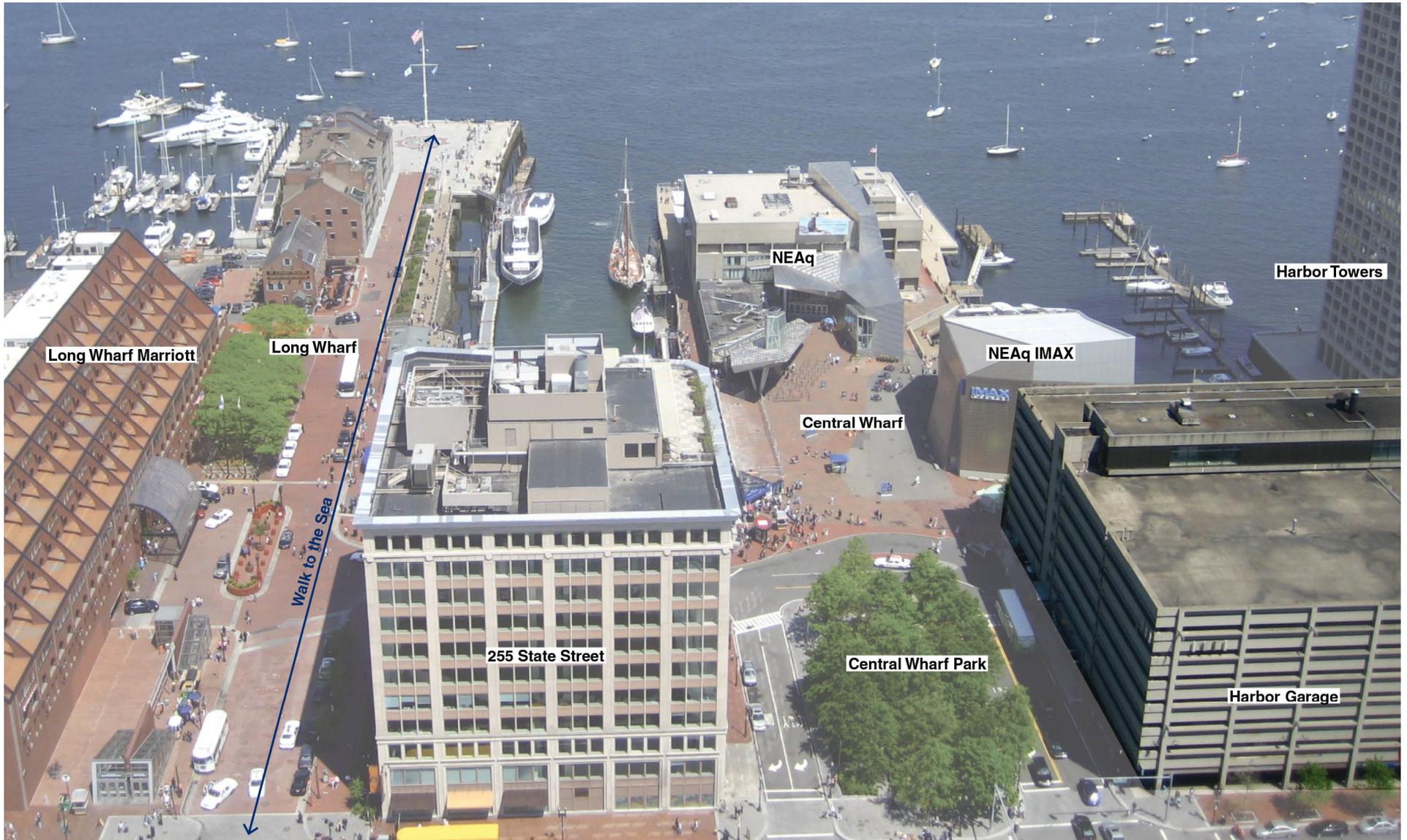
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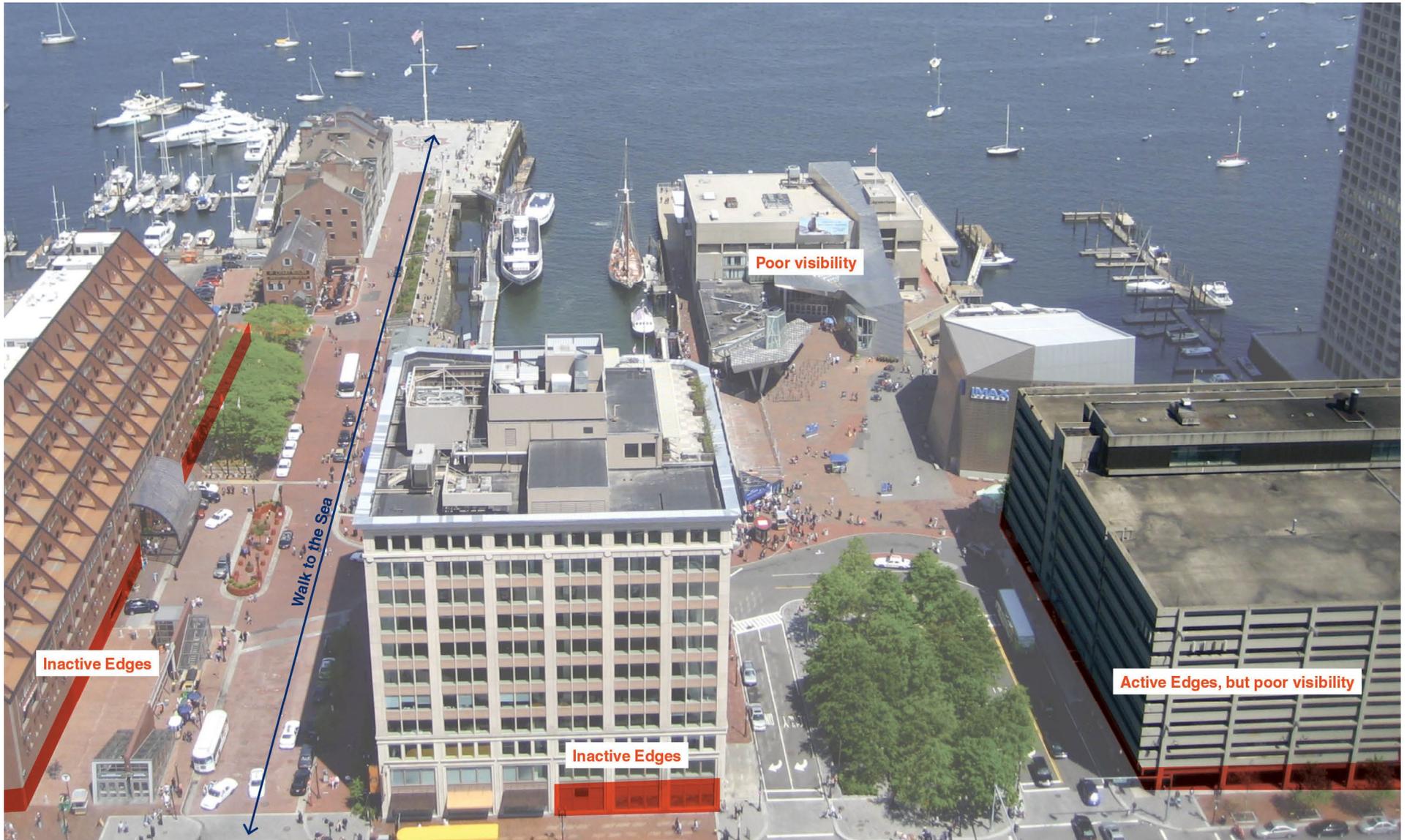
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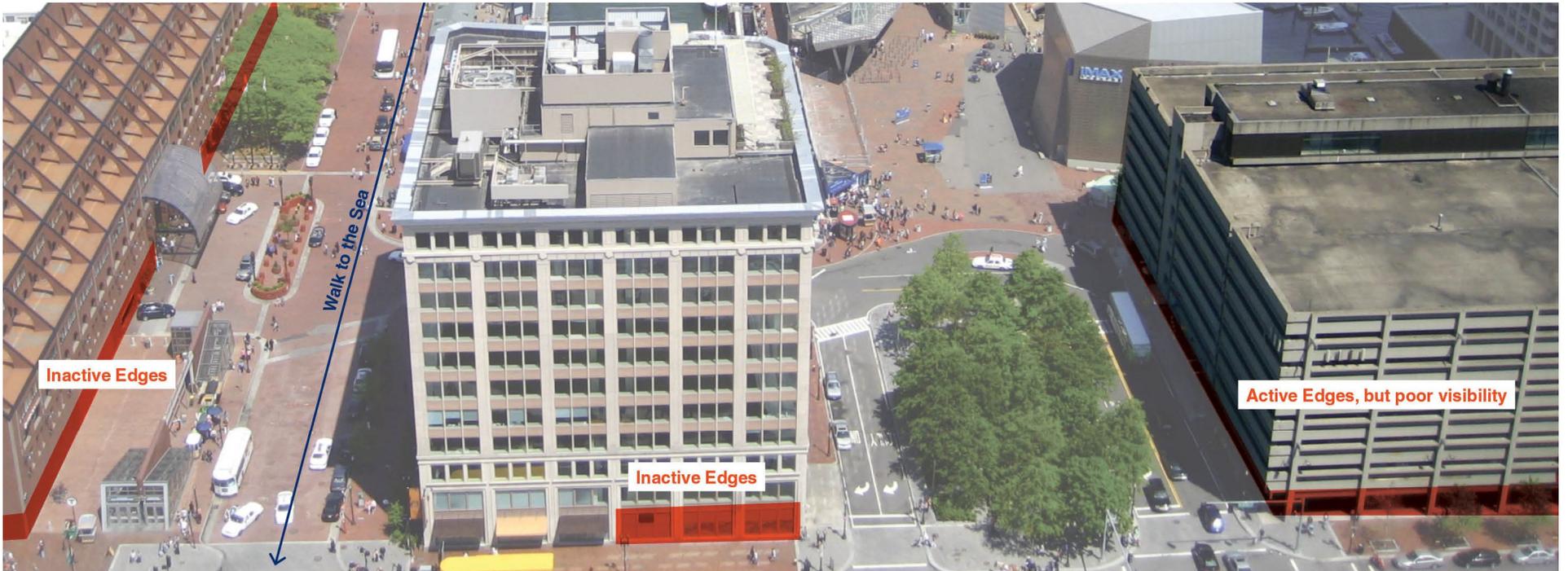
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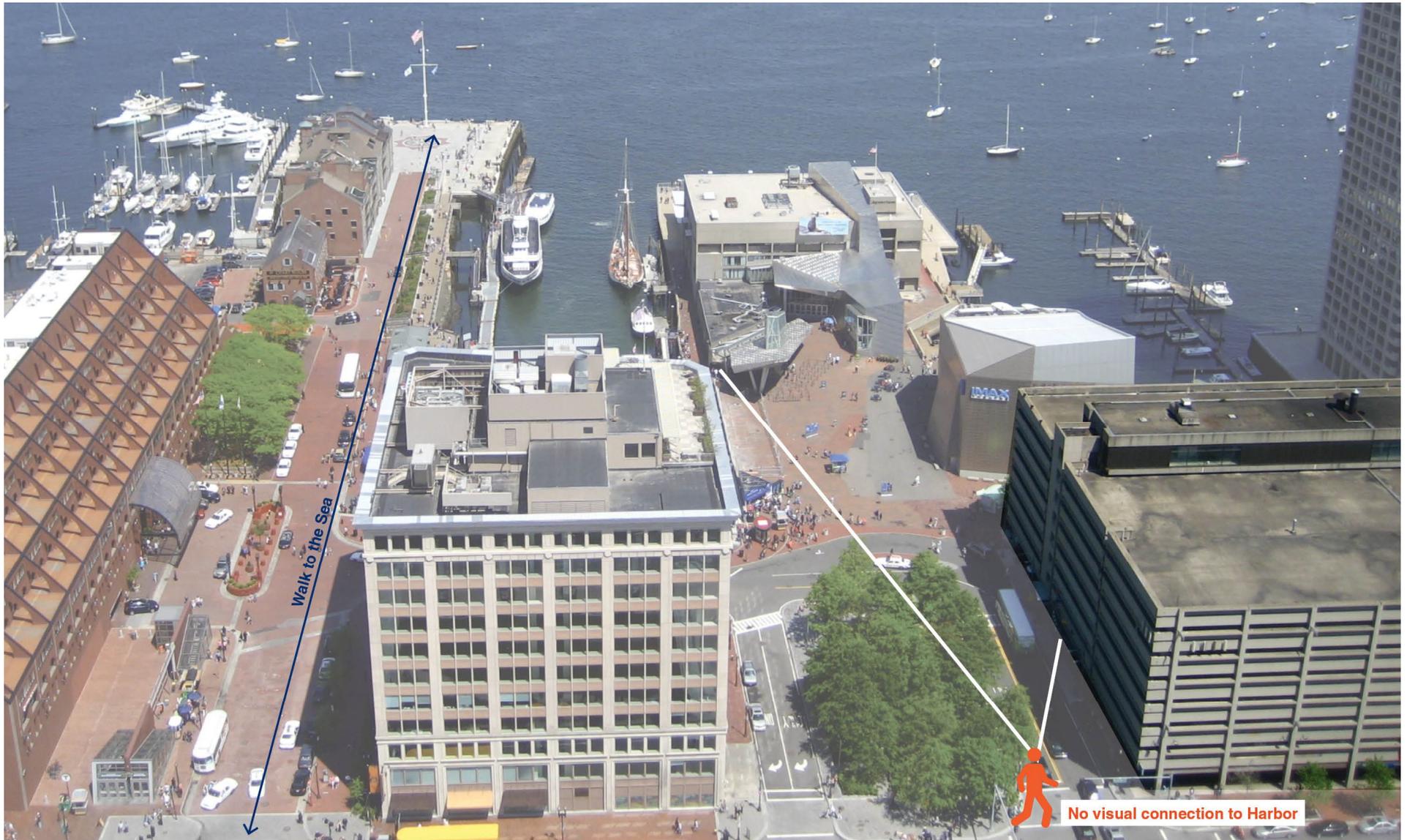
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# Review of Planning Recommendations

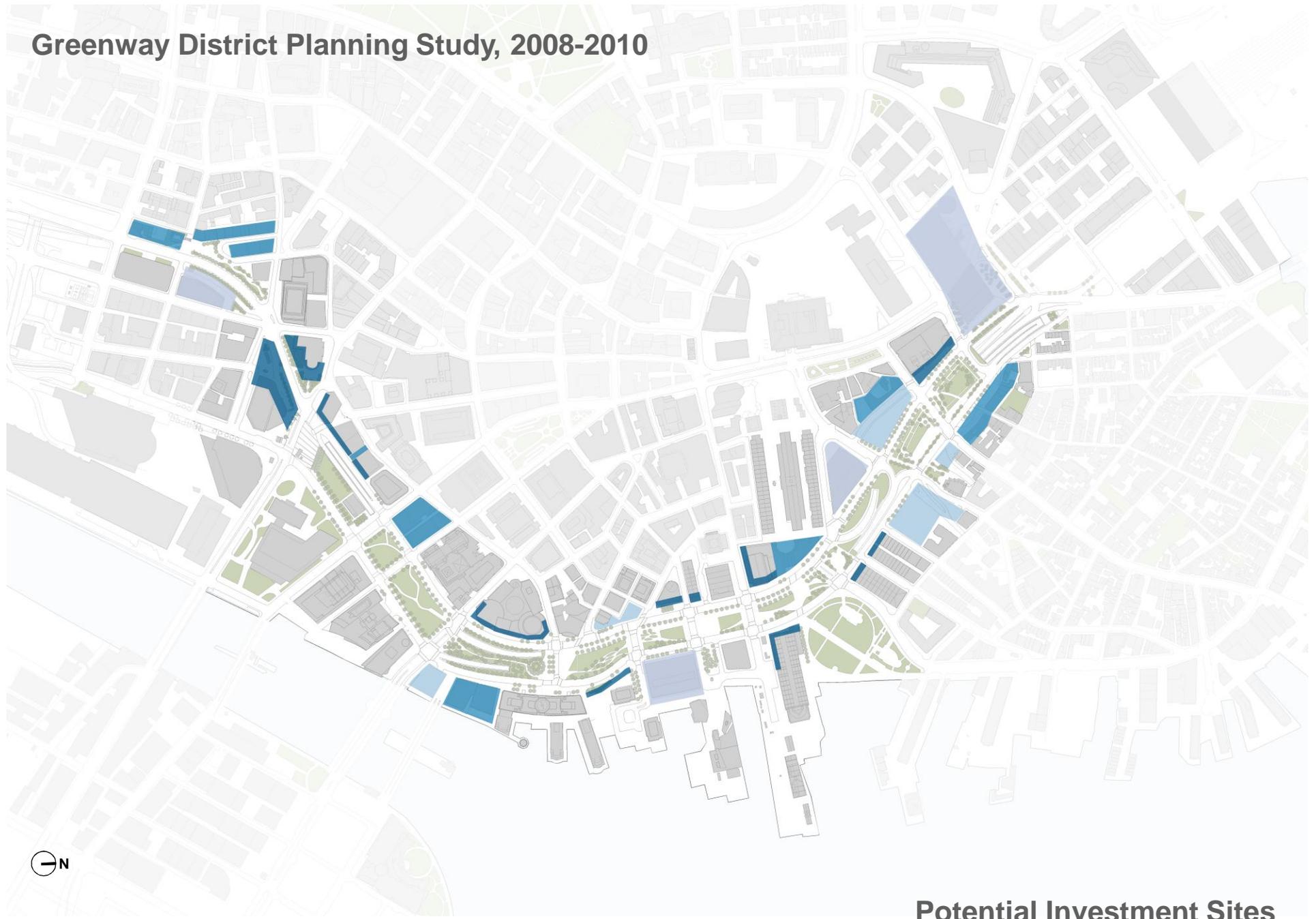
Review of Planning Recommendations  
**Harbor Garage Parcel and its context**



# Central Artery/Tunnel Project

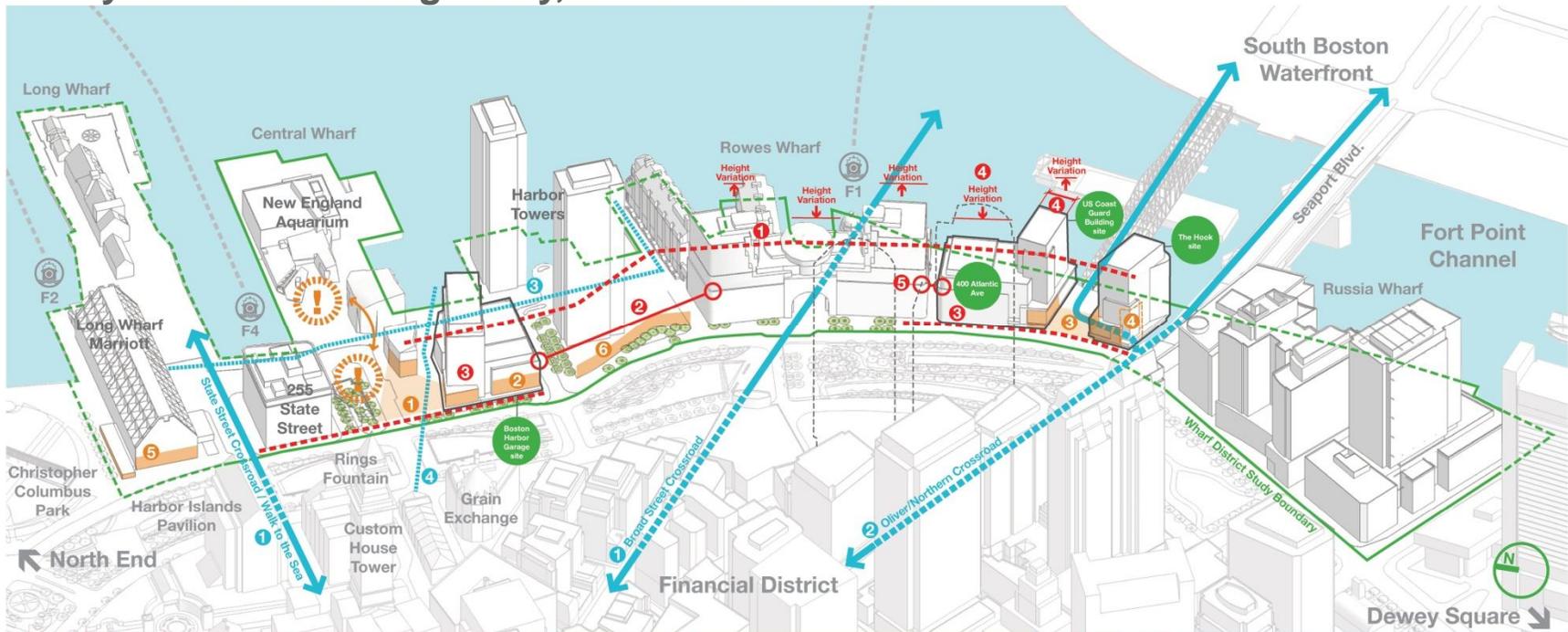


# Greenway District Planning Study, 2008-2010



## Potential Investment Sites

# Greenway District Planning Study, 2010



## Dimensional Criteria

- 1 All new buildings will have a maximum height of 200' (with the exception of the Hook site, at 175'), equivalent to the taller portions of Rows Wharf. Buildings should combine both low-rise and mid-rise elements in a way that takes cues from the existing context. Individual massing alternatives will be evaluated for how the shadows they create will impact the actively used portions of the park.
- 2 New buildings should establish a datum at the property's edge facing the Greenway. Ideally, the datum corresponds to and reinforces the heights in the immediate context, including the lower portions of Rows Wharf, the parapet of 255 State Street, or the tallest portion of Long Wharf, at about 125'. Taller portions of any new building should be set back by 10'-15' at this datum on the Greenway-facing sides of the building.
- 3 New development at the Boston Harbor Garage, 400 Atlantic Avenue, and the U.S. Coast Guard Building should reinforce the Atlantic Avenue street edge by building to it along a majority of its frontage. Significant breaks in that alignment should be in the service of opening connections to the waterfront.
- 4 All sites in the Wharf District, including 400 Atlantic Avenue, should vary in height like Rows Wharf, where taller masses alternate with lower masses of approximately 125' to allow for intermittent exposure to the sky plane, and to maintain visual access to the water. The lengths of any upper portion of a building over 125' should be limited to 125' on the Greenway-facing portions of the building.
- 5 The lower portions of 400 Atlantic Avenue should align with those of Rows Wharf.

## Programmatic Goals

- 1 The lively occupation of the forecourt to the New England Aquarium should be extended as close the Greenway as possible. An additional ticket kiosk or similar related programming venue might facilitate this goal. New development on the Boston Harbor Garage site should feature active uses at the northwest corner that help anchor this node of activity and enhance enjoyment of the harbor.
- 2 New or replaced uses for the Atlantic Avenue edge of the Boston Harbor Garage should offer as many uses as possible that are complementary to the adjacent parks—restaurants, cafes, retail.
- 3 The ground floor uses at 400 Atlantic Avenue and the Hook site should reinforce the presence of the Oliver Street/Northern Avenue Crossroad with complementary active uses. Concentrations of small cafes will help mark the space between them as an important link over the bridges between the Greenway and South Boston.
- 4 The southwest corner of the Hook site should acknowledge in its architectural form the importance of the Moakley Bridge "gateway" to the South Boston waterfront. The form and orientation of the building should reflect the important urban morphologies that have created the site and that announce the grid of the adjacent emerging neighborhood.
- 5 The edges of the Long Wharf Marriott site have the opportunity to offer expanded ground level uses complementary to the adjacent Greenway and Christopher Columbus Park.
- 6 The base edge of Harbor Towers is currently defined by a perimeter fence. This location would benefit from an increased residential presence and openness at the ground level.

## Connectivity

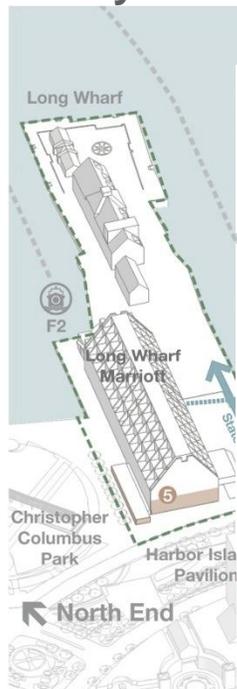
- 1 State and Broad Streets are two important Crossroads, the only two that terminate at the water's edge. Future development along these axes should enhance these rare direct views to the water from the Financial District, such as those through the arch at Rows Wharf.
- 2 Development at the Hook site and 400 Atlantic Avenue should enhance the ground plane in such a way as to render this most fragile Crossroad connection more legible. Ground floor uses and special attention to landscape design will help in this regard.
- 3 All developments in the Wharf District should enhance the continuity and accessibility of the Harborwalk by providing additional points of connection from the Greenway and by "repairing" breaks in the community caused by grade changes and buildings or other obstructions.
- 4 All developments in the Wharf District, and the Boston Harbor Garage site in particular, should increase visual access to the waterfront, either at the building edges or through-building connections.

# Wharf District



04. Guidelines by Subdistrict / Wharf District 21

# Greenway District Planning Study, 2010



South Boston

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# Wharf District



# Greenway District Planning Study, 2010



# Long and Central Wharves

## Touch the Water

24

Long and Central wharves are where the city has historically met the harbor. Throngs of tourists, families, residents, and workers pass through here on a daily basis, drawn by the rich historical significance of the area, the Aquarium and IMAX theater, the nearby Rings Fountain and Greenway Carousel, and the water transportation options. This is the most activated waterfront in Boston.

The primary objective is to **create an exemplary twenty-first-century waterfront, so generations to come can experience the water's edge**. This requires concerted efforts by the many operators and property owners to come together around common goals, such as managing the pedestrian, bicyclist, and ferry traffic; coordinated wayfinding; and preserving and enhancing key view corridors. Both incremental physical improvements as well as management strategies can help organize and clarify the public realm and movement through this area.

The goals for this area are to:

- **Improve signage and wayfinding and develop coordinated signage system.** This includes a unified water transit system and consistent wayfinding for the transit options. This may include new landmarks, such as public art or flagpoles, along the waterfront.
- **Diversify the uses within the area,** such as include a broader range of retail and food venues, ranging from casual (e.g., food trucks) to fine dining. Consider uses that support the residential community and local workers.
- **Improve the Aquarium plaza / Central Wharf Park area** through consistent paving, improved wayfinding, and enhancing key view corridors to

the Aquarium and the harbor from the Greenway.

- **Increase appreciation of the Harbor Islands and establish a permanent Harbor Islands ferry gateway** on Long Wharf North. In addition, more activities and seasonal programming should be considered for the Harbor Islands (e.g., Hubway or fall and winter nature walks).
- **Activate ground-levels** facing the waterfront, key public spaces (e.g., the Greenway and Christopher Columbus Park), and the waterfront.
- **Strengthen lateral connections to waterfront** through programming and ground-level activity and maintaining view corridors from the Greenway to the harbor.
- **Invest in ferries and water transportation,** including subsidies for infrastructure improvements and ongoing maintenance.
- **Strengthen management of the public realm,** such as the bus/trolley parking in the area and vendors. Develop management plan for vendors, trolley operators, seasonal services, etc.
- **Increase appreciation of the Downtown Waterfront** through interpretive signage (both historical and environmental). Physical improvements such as storm surge barriers or public spaces designed to withstand inundation are educational opportunities.
- **Create a range of open spaces,** from quiet and contemplative zones to active hardscaped areas to shared streets. For example, the Chart House parking lot might be redeveloped as a pocket park with seating, which could complement the restaurant in the Marriot Long Wharf and offer an outdoor waiting area for ferry passengers. The end of Long Wharf should be a destination, with programming, such as food trucks or casual dining.
- **An innovative rotating public art program,** such as those organized by the Public Art Fund in New York and Friends of Fort Point Channel locally, might also be considered at the underutilized public spaces. This program could focus on art about climate change and sea level rise or the history of the harbor.
- **Improve connections to the North End** and Christopher Columbus Park. This may be through signage or increasing the visual porosity through the Marriott.



### Key Development Site

#### Harbor Garage

Redevelopment of the Harbor Garage site should respect both the residential uses of Harbor Towers and the activity of Central Wharf. It will form a key edge and gateway, linking the Town Cove neighborhood and the Rose Kennedy Greenway to the Aquarium and the waterfront. The edge along Milk Street, facing Central Wharf Park, needs to be designed with consideration to the streams of visitors heading to the Aquarium, the IMAX Theater, and the ferries on the wharves. This side of the parcel, as well as the edge facing the waterfront, are the most appropriate locations for new public open spaces on this parcel.

-  Targeted Area for Improvements
-  Area of Proposed Active Edge
-  Important Node
-  Significant Connections
-  Pedestrian Connections
-  Wayfinding Location
-  Existing Amenity
-  Harborwalk

## Key Development Site

### Harbor Garage

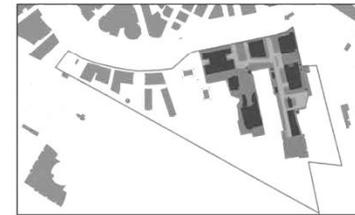
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## Wharves

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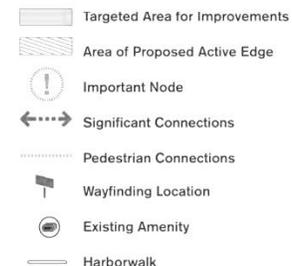
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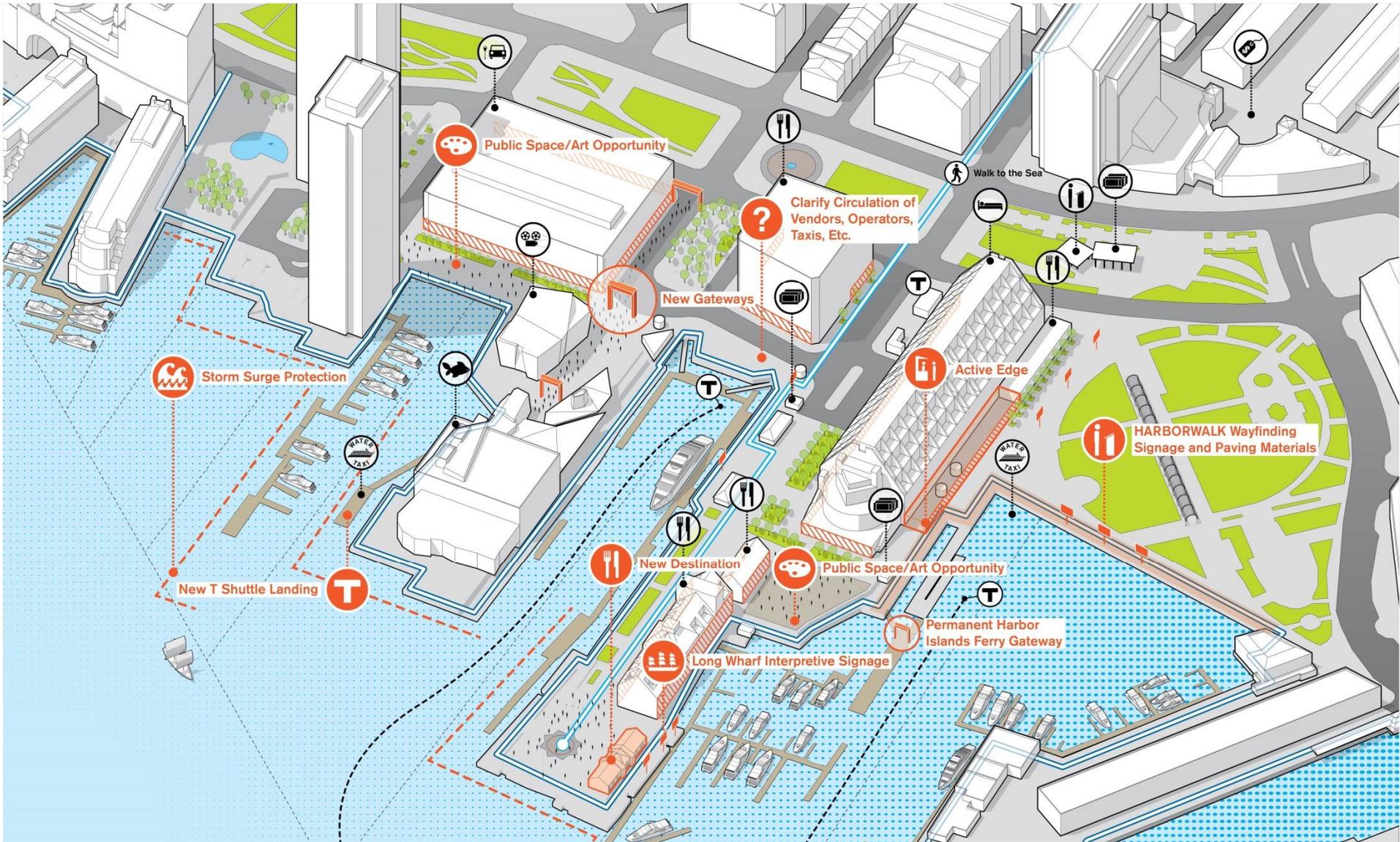


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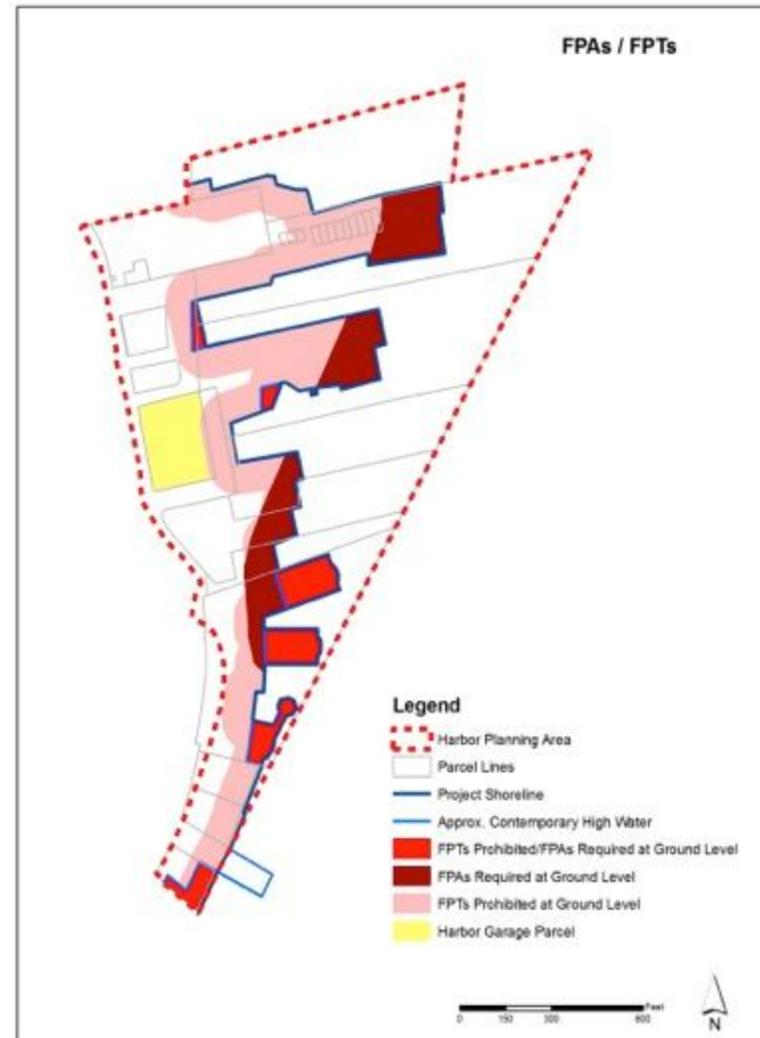
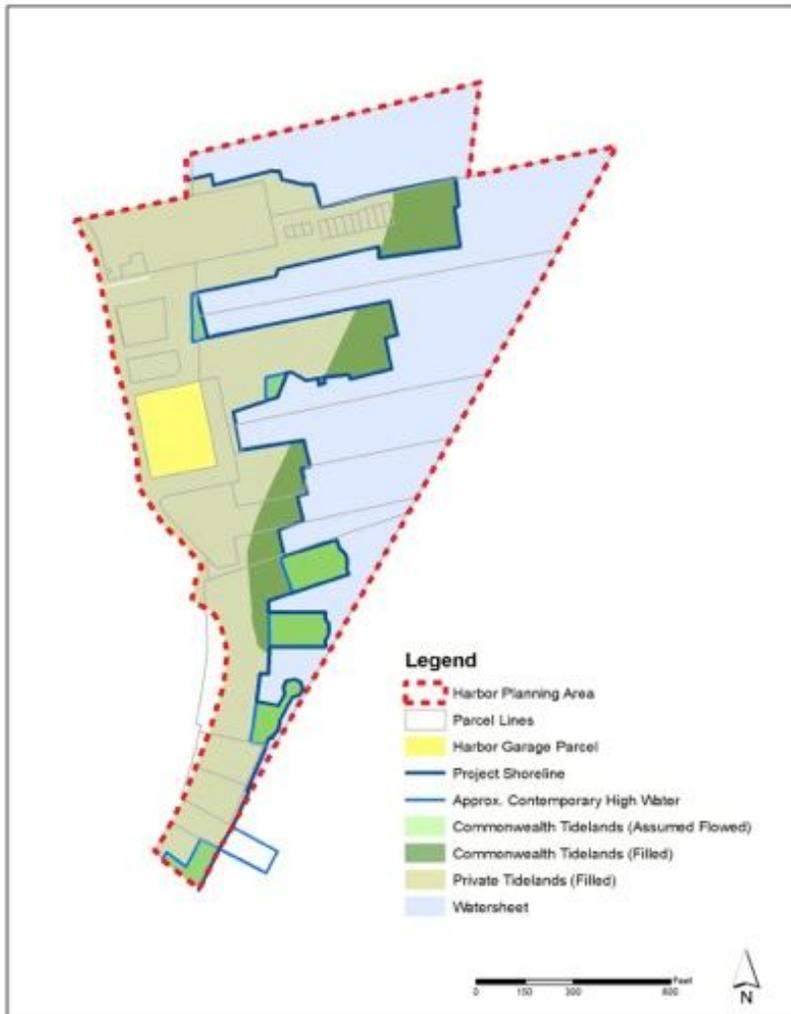
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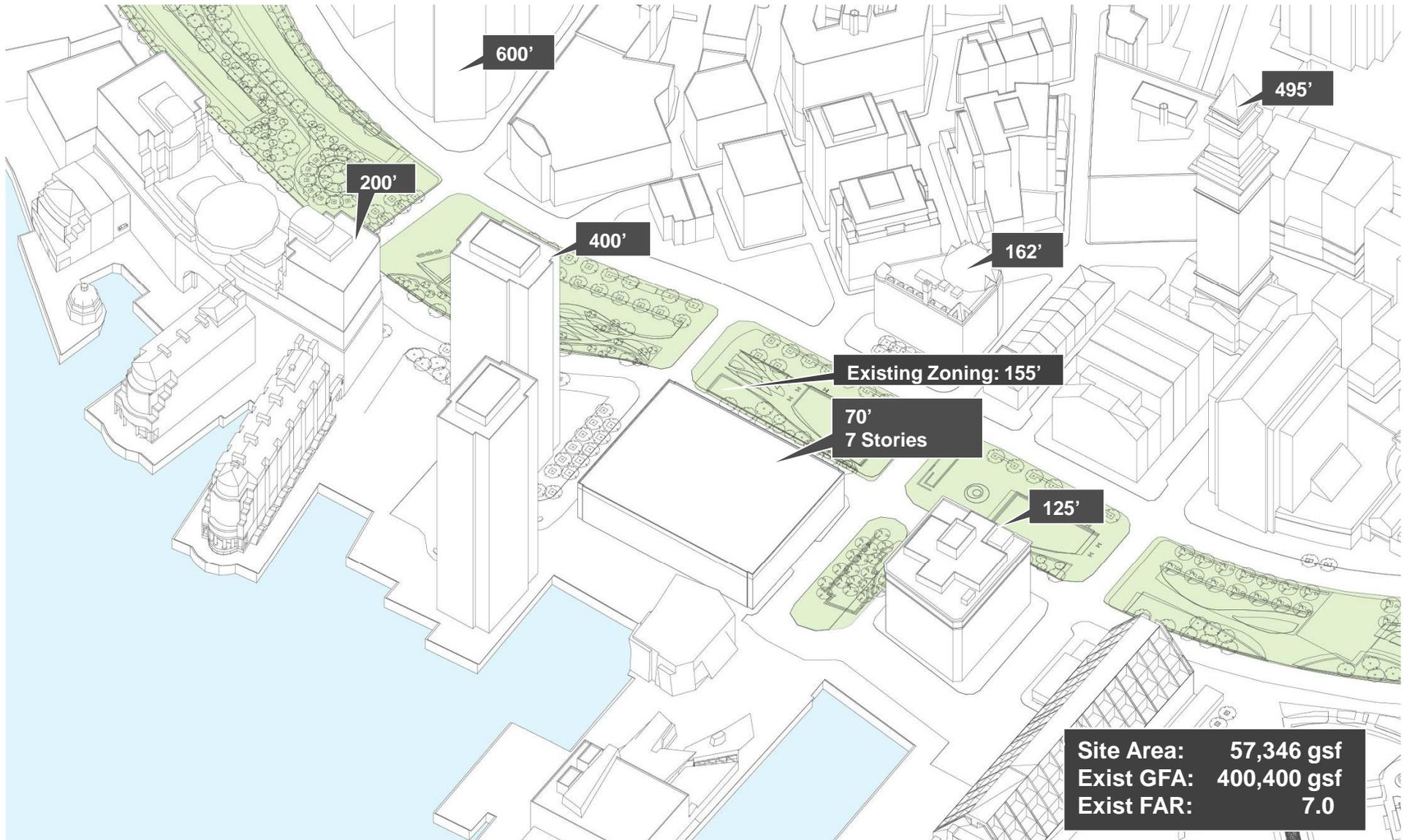
# Harbor Garage Ch. 91 Baseline and the Proposed Redevelopment Scenario

# Tidelands Jurisdiction



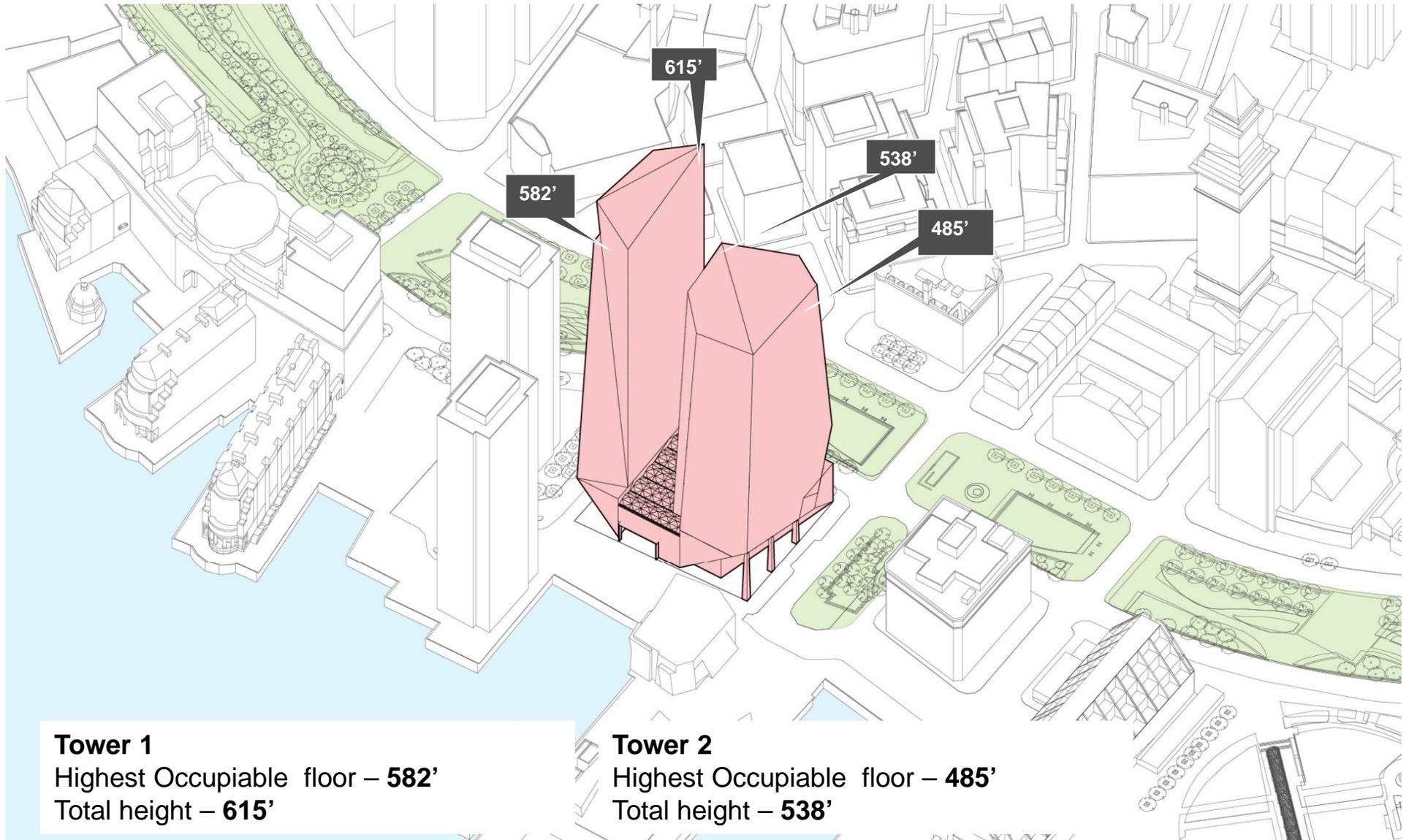
# Existing Conditions

100% Building Coverage  
0% Open Space



Site Area: 57,346 gsf  
Exist GFA: 400,400 gsf  
Exist FAR: 7.0

# Chiofaro Co. Proposal



**Tower 1**  
Highest Occupiable floor – **582'**  
Total height – **615'**

**Tower 2**  
Highest Occupiable floor – **485'**  
Total height – **538'**

# State Approval Standards

City's MHP objectives (RNTP and Public Realm Plan)

+ Substitute provisions

+ Impacts & offsets

+ Amplifications

**+ State approval standards**

+ Public input

**= MHP framework**

# State Approvals: Chapter 91 Background

## General standards for nonwater-dependent use projects:

- Avoid the incompatibility of new structures and spaces with open space activities and water-dependent purposes
- Avoid a layout of buildings and permanent structures that affect existing and potential public views of the water, marine-related features along the waterfront, and other objects of scenic, historic or cultural importance to the waterfront, especially along sight lines emanating in any direction from public ways and other areas of concentrated public activity
- Avoid a scale of buildings and a pattern of landscape designs that adversely affect the wind, shadow, and other conditions of the ground level environment, and public circulation patterns within and to areas of water dependent activity

*(from 310 CMR 9.51)*

# State Approvals: MHP Approval Standards

- Consistency with CZM Enforceable Policies
- Consistency with primary state tidelands objectives
  - No net loss of open water for nonwater dependent projects
  - No significant privatization of waterfront areas, and no conflicts to discourage water dependent activities and public use
  - Sufficient open space along the water's edge for water dependent use & public access
  - Buildings have a condensed footprint and are relatively modest in size, to accommodate sufficient open space and minimize impacts of wind & shadow
  - Promote Commonwealth tidelands & FPAs as year-round destinations
  - Ensure that private use is not primary but merely incidental to achieving public purposes
- For Substitute Provisions and Offsets, promote state tidelands policy objectives with comparable or greater effectiveness than Chapter 91 compliance
- Additional standards for Amplifications and enforceability

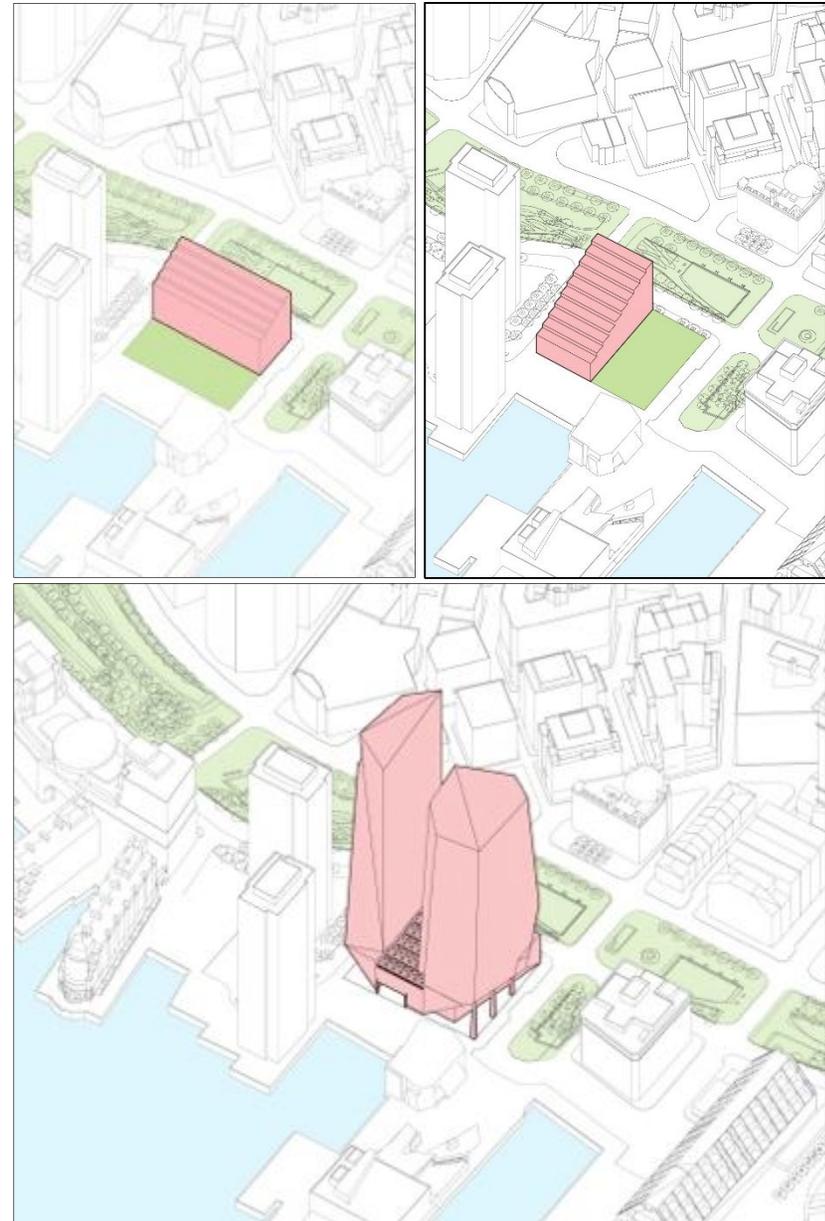
*(from 301 CMR 23.05)*

# Building Footprint

# Building Footprint

Chapter 91 requires one square foot of open space on-site for every square foot of building footprint

- Harbor Garage Parcel is approx. 58,000 SF
- Chapter 91-compliant scenario would require 50% open space, or approx. 29,000 SF
- Past MHPs & DEP define Open Space as clear to the sky
- Under that definition, 0% of the proposed development is open space...
- But other approaches could be developed based on the MHPAC's priorities.



# Building Footprint

- Chapter 91/MHP Open Space and covered public spaces are not the same.
- Based on prior MHPs and state policies, covered public spaces have not been used as Offsets for Building Footprint.
- However, covered public spaces may be used in an MHP to:
  - Enhance the public waterfront experience
  - Implement state tidelands policy objectives
  - Offset other Substitute Provisions

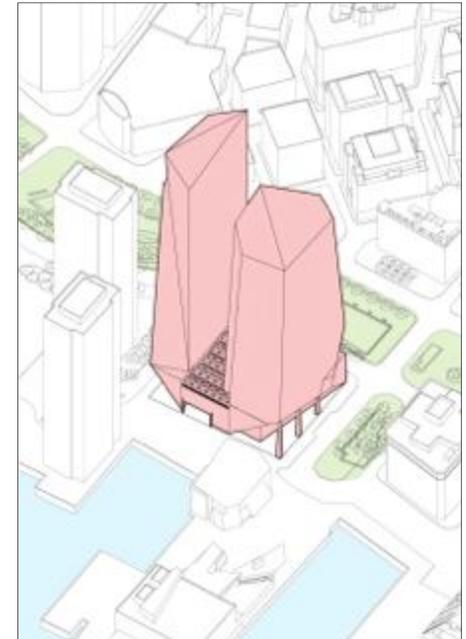
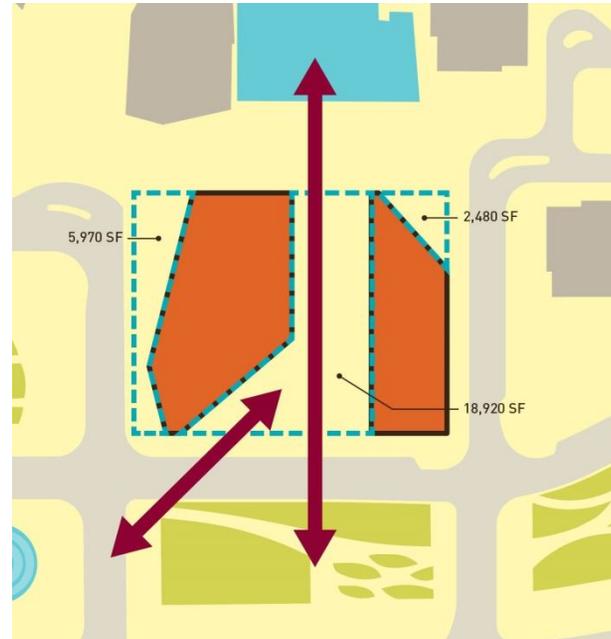
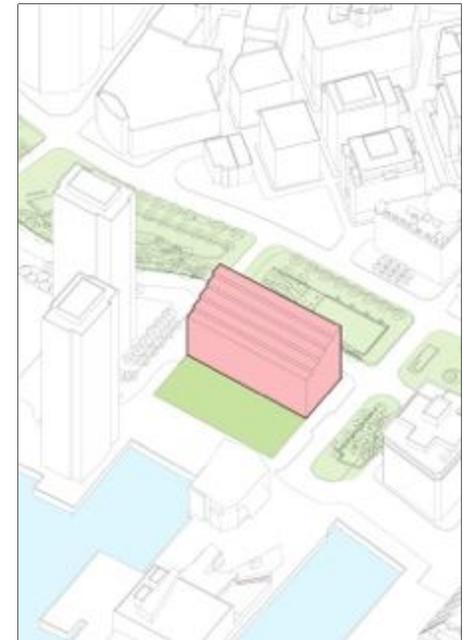


# Building Footprint

An MHP “...must specify alternative site coverage ratios and other requirements that ensure that, in general, buildings for nonwater-dependent use will be relatively condensed in footprint, in order that an amount of open space commensurate with that occupied by such buildings will be available to accommodate water-dependent activity and public access associated therewith, as appropriate for the harbor in question”

301 CMR 23.05

And...



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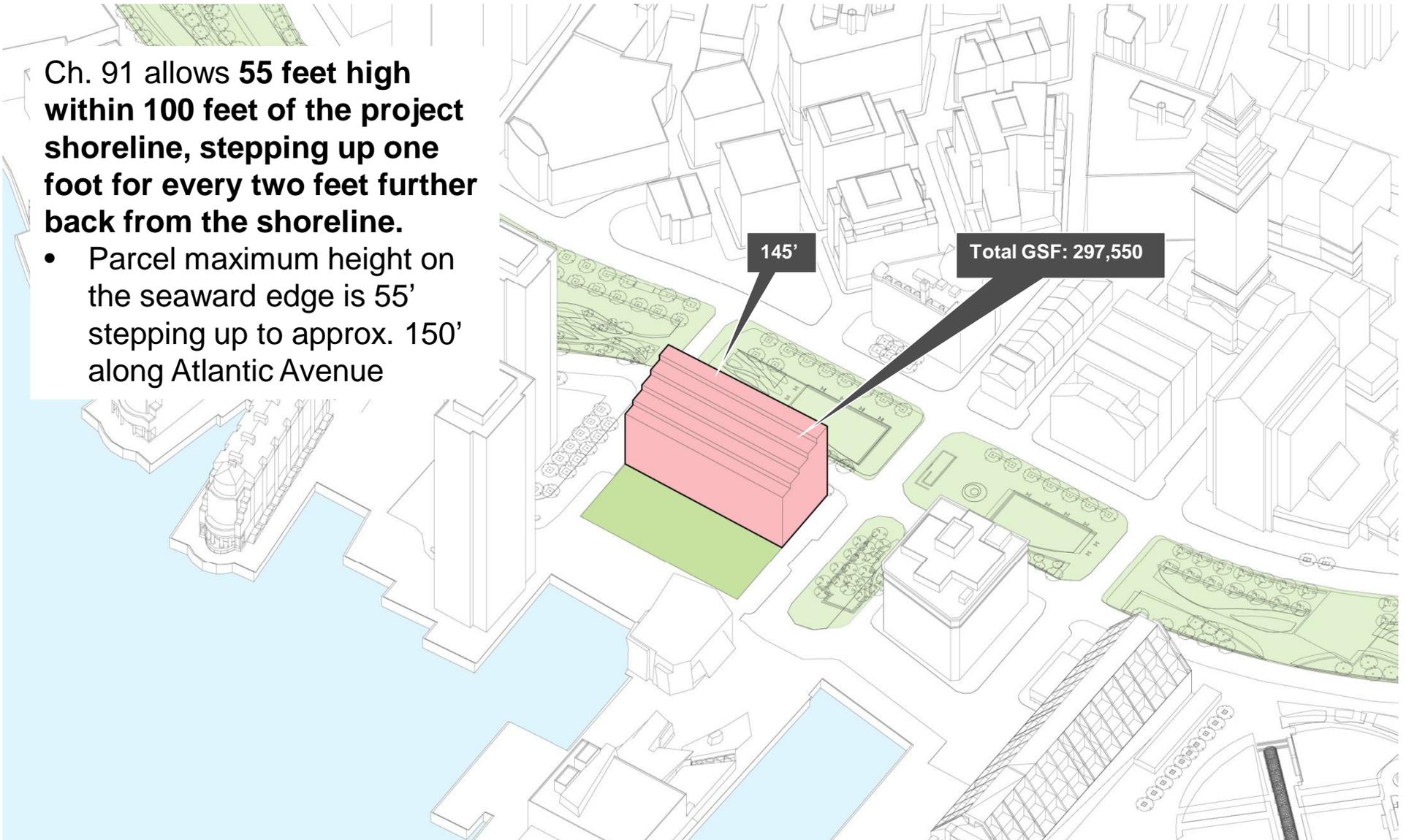
# Building Height

# Ch. 91 Baseline

50% Building Coverage  
50% Open Space

Ch. 91 allows **55 feet high within 100 feet of the project shoreline, stepping up one foot for every two feet further back from the shoreline.**

- Parcel maximum height on the seaward edge is 55' stepping up to approx. 150' along Atlantic Avenue



# Building Height

Shadows are calculated based on the highest occupiable floor.

582'

485'

**Tower 1**  
Highest Occupiable floor – **582'**  
Total height – **615'**

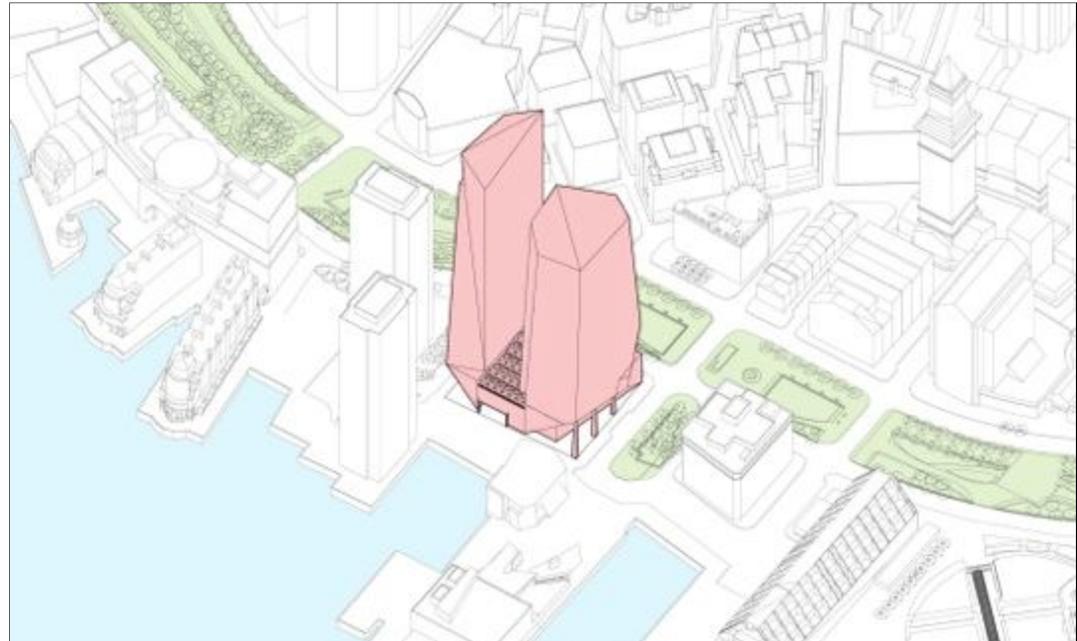
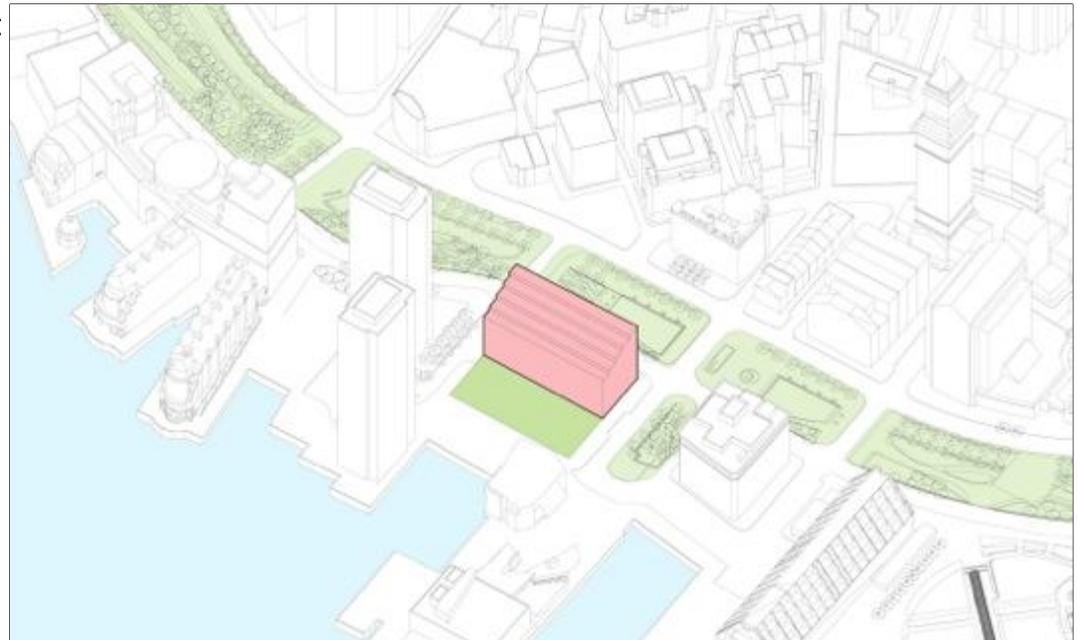
**Tower 2**  
Highest Occupiable floor – **485'**  
Total height – **538'**

# Building Height

An MHP “...must specify alternative height limits and other requirements that ensure that, in general, new or expanded buildings for nonwater-dependent use will be relatively modest in size, in order that wind, shadow and other conditions of the ground level environment will be conducive to water-dependent activity and public access associated therewith, as appropriate for the harbor in question”

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(from 301 CMR 23.05)

# Building Height: Wind & Shadow

Key measurements of the impact of building height on the ground level environment are wind and shadow

- **Wind:** the 2000 South Boston MHP established a wind analysis based on a pedestrian comfort standard that must be met in the final design of the project. This approach, which requires no Offset, has been used in subsequent MHPs and incorporated in other City wind standards (e.g., Article 49A of the Greenway Overlay District). Standards include:
  1. Comfortable for Long Periods of Standing or Sitting
  2. Comfortable for Short Periods of Standing and Sitting
  3. Comfortable for Walking
  4. Uncomfortable for Walking
  5. Dangerous and Unacceptable
- **Shadow:** again, the City's 2000 South Boston MHP developed a method to quantify shadow impacts, based on the net new shadow of a project over what would be created by existing buildings and a Chapter 91-compliant development scenario as baseline information

# Building Height: Shadow

*“Our greatest concern is the shadows of longer duration, as these can have a significant impact on the pedestrian environment.... Accordingly we focused our attention on those areas of the shadow protection zone that are in shadow more than one hour each day.”*

## South Boston MHP



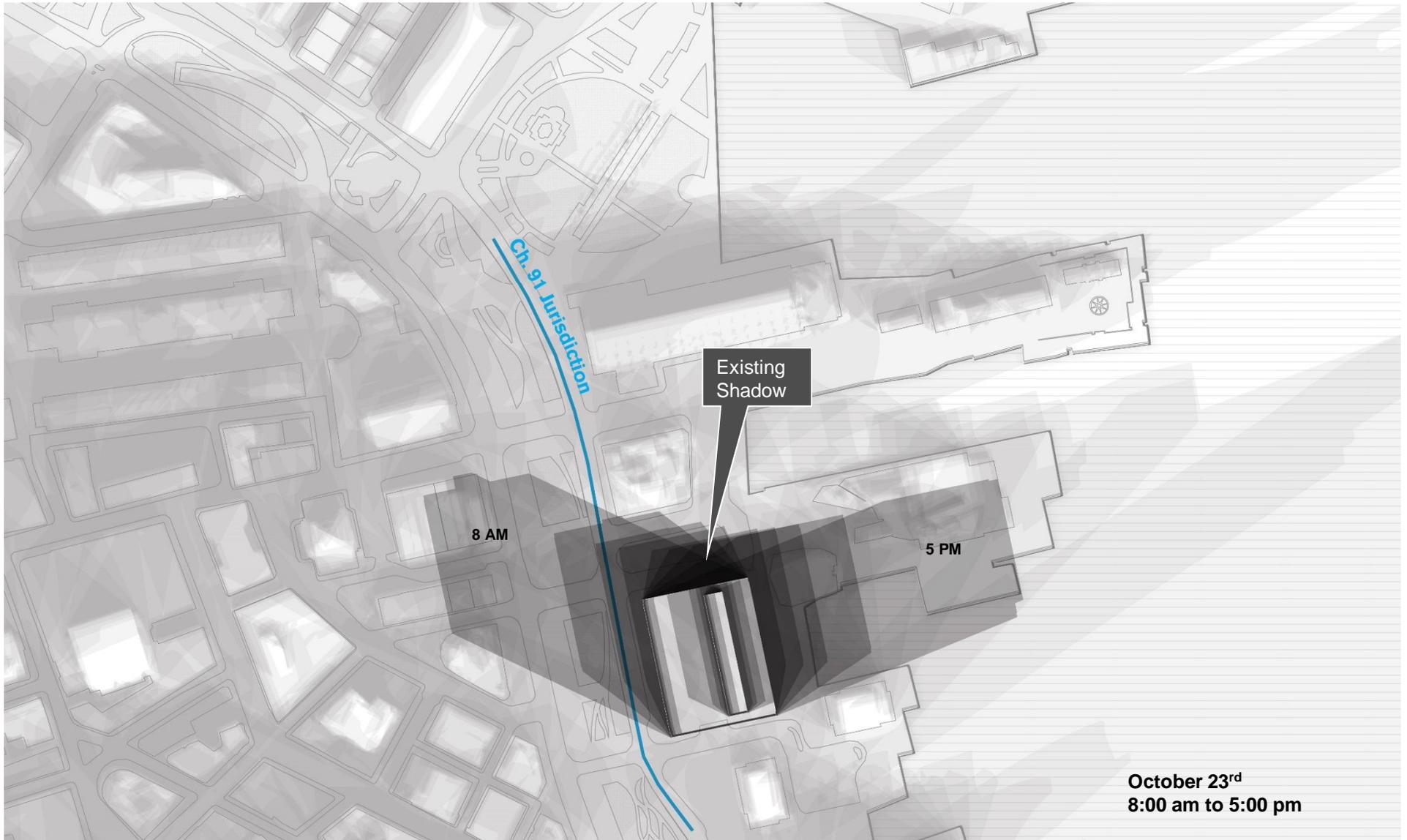
Figure 10-3 Fan Pier, Pier 4 and McCourt / Broderick Substitution Provisions

# Shadow Criteria

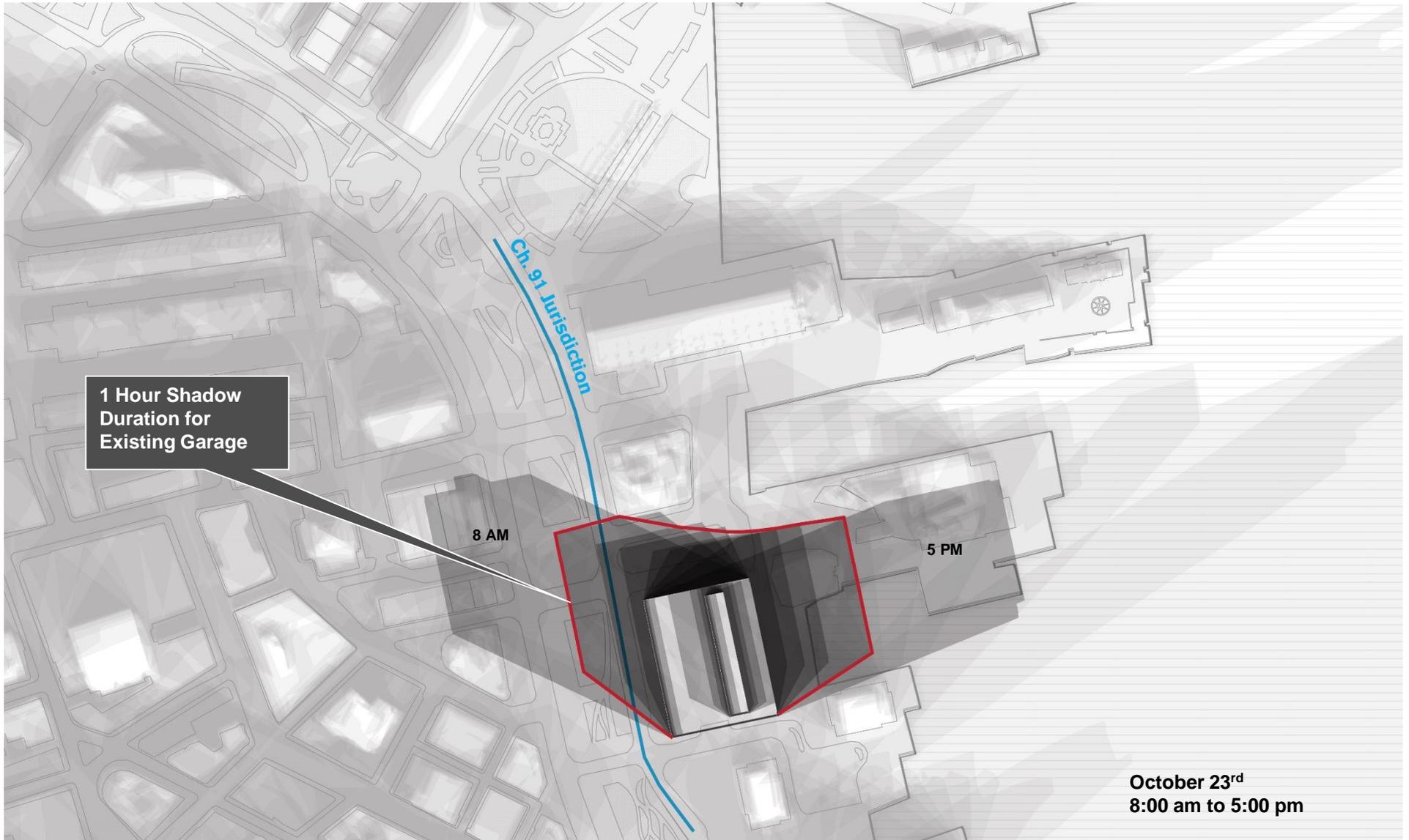
- October 23rd has been utilized in the development of MHPs as the appropriate date to study shadow impacts as it is representative of seasonal conditions during which shadow impacts might reasonably be considered a detriment.
- In Boston the sun's access is most important in the shoulder seasons of spring and fall, when radiation from the sun is capable of compensating for cool air temperatures.
- BRA determined that it is more appropriate to base sun/shadow standards at the end of what are traditionally considered the "outdoor months", when late afternoon daylight is still present and prior to the end of daylight savings time.
- Standard developed through the South Boston Waterfront MHP process and utilized for all following MHP's.
- Shadow impacts are assessed on both the land and the adjacent watershed.

# Shadow Impacts

# Existing Conditions

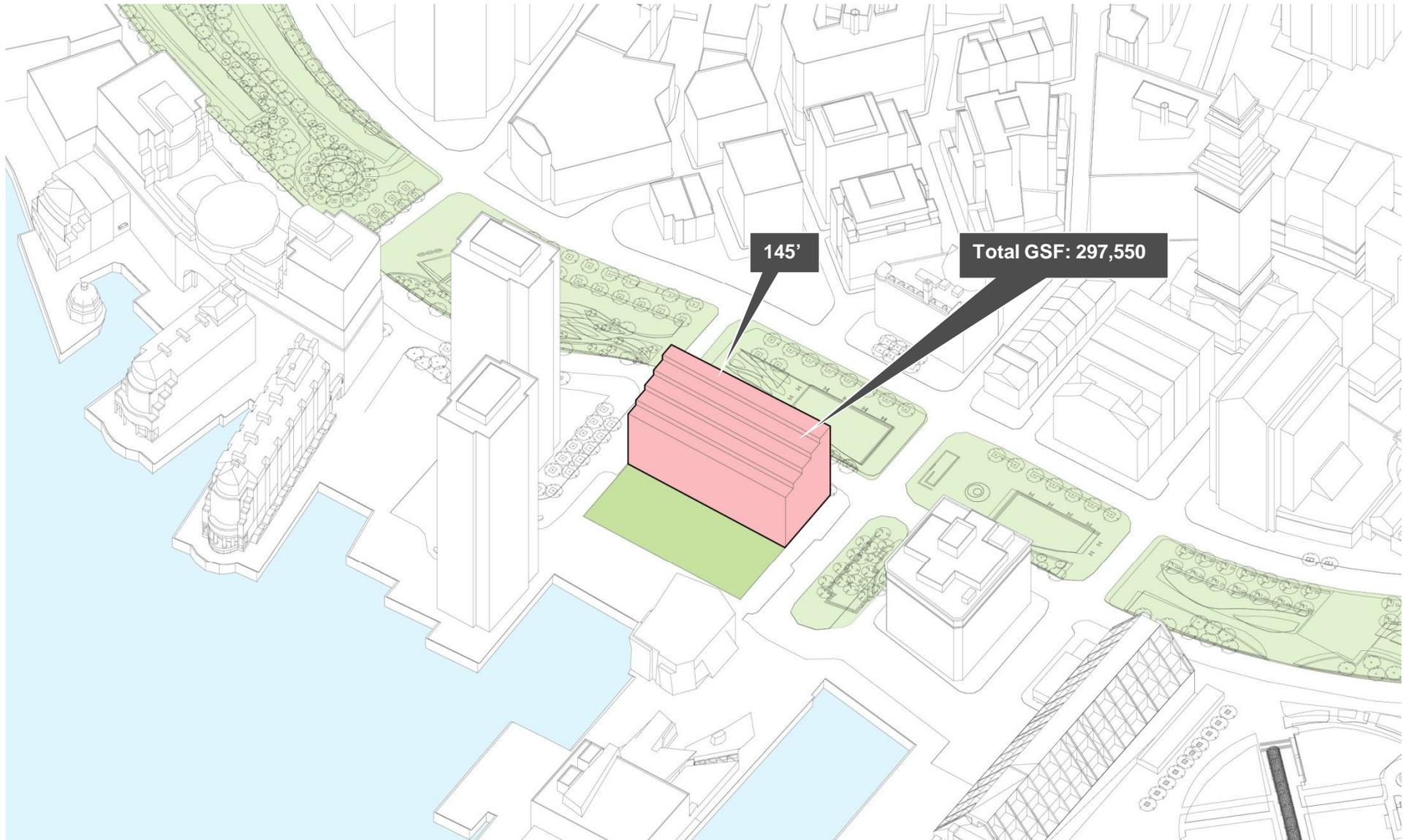


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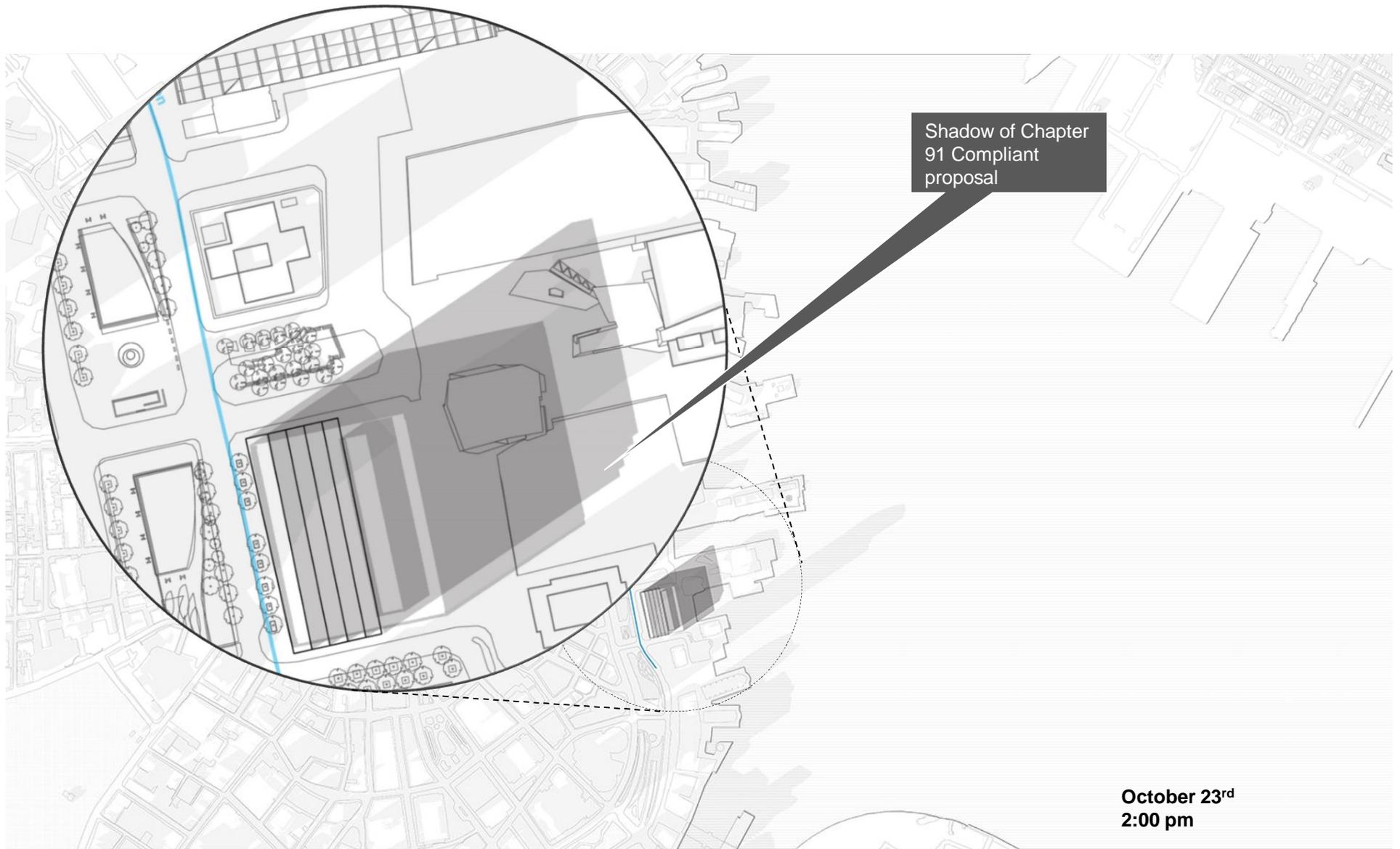


50% Building Coverage  
50% Open Space

# Ch. 91 Baseline



# Chapter 91 Compliant Scenario



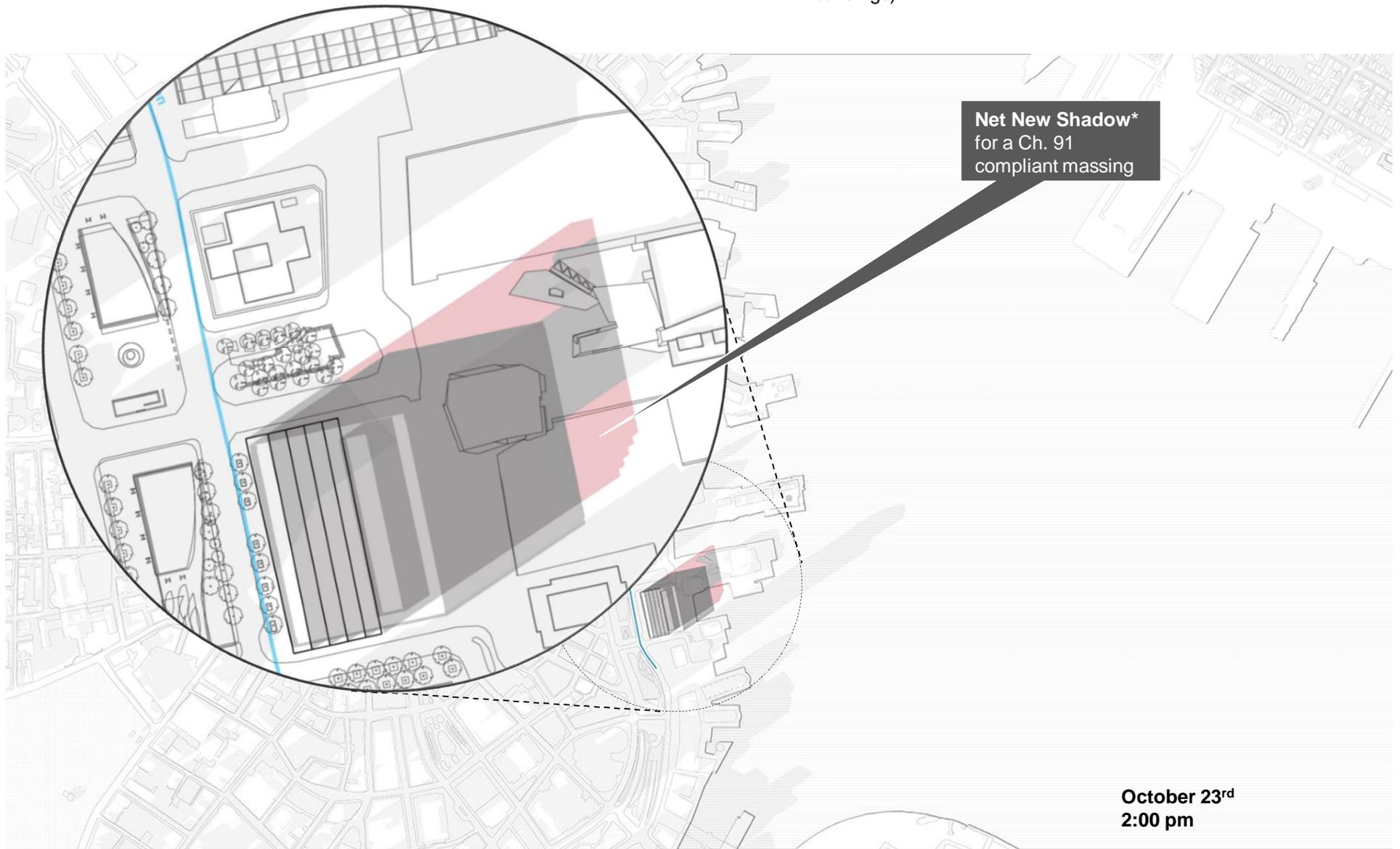
Shadow of Chapter 91 Compliant proposal

October 23<sup>rd</sup>  
2:00 pm

Ch. 91 Baseline and the Proposed Redevelopment Scenario

# Chapter 91 Compliant Scenario

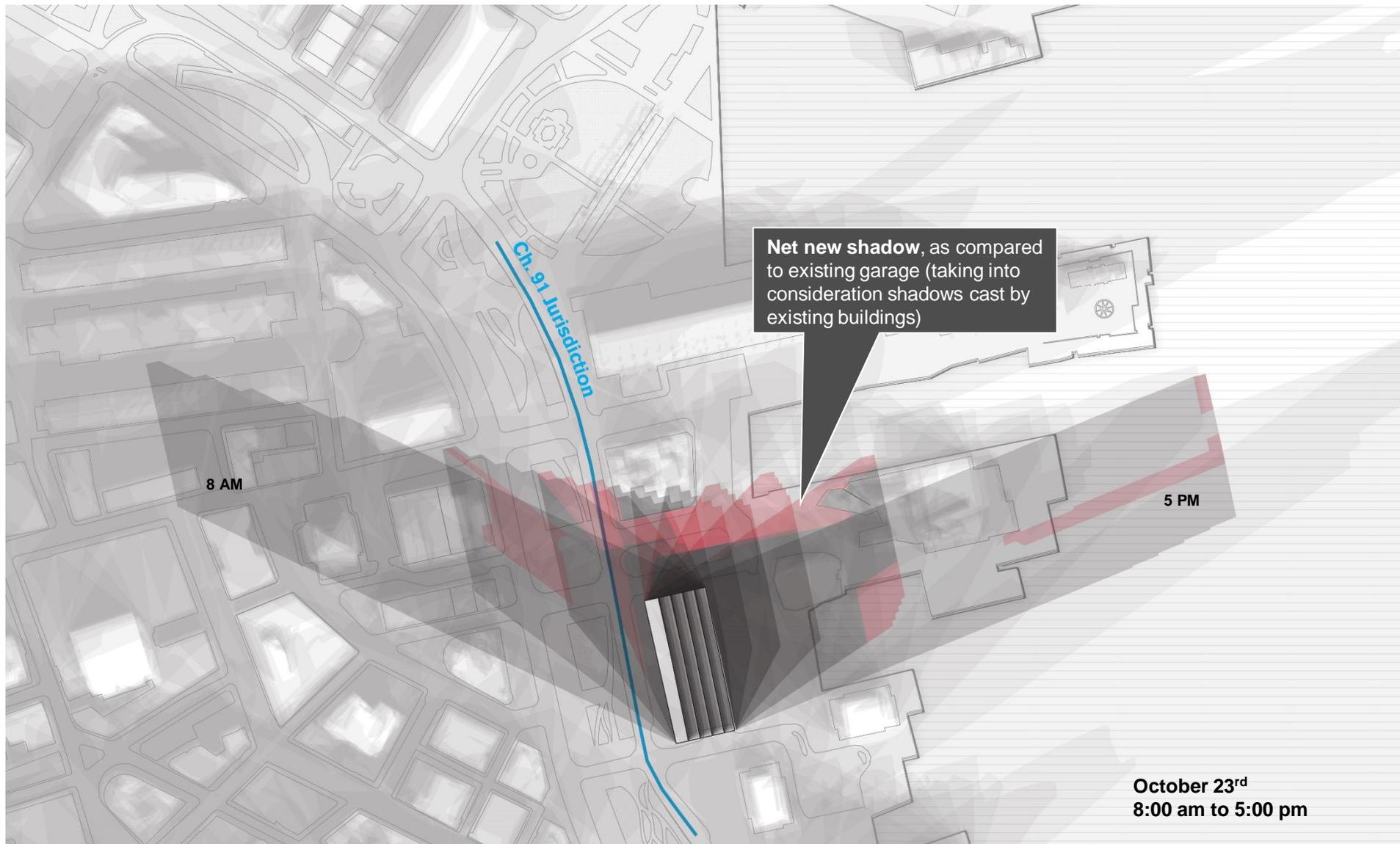
\* Net new shadow increase, as compared to existing garage (taking into consideration shadows cast by all existing buildings)



**Net New Shadow\***  
for a Ch. 91  
compliant massing

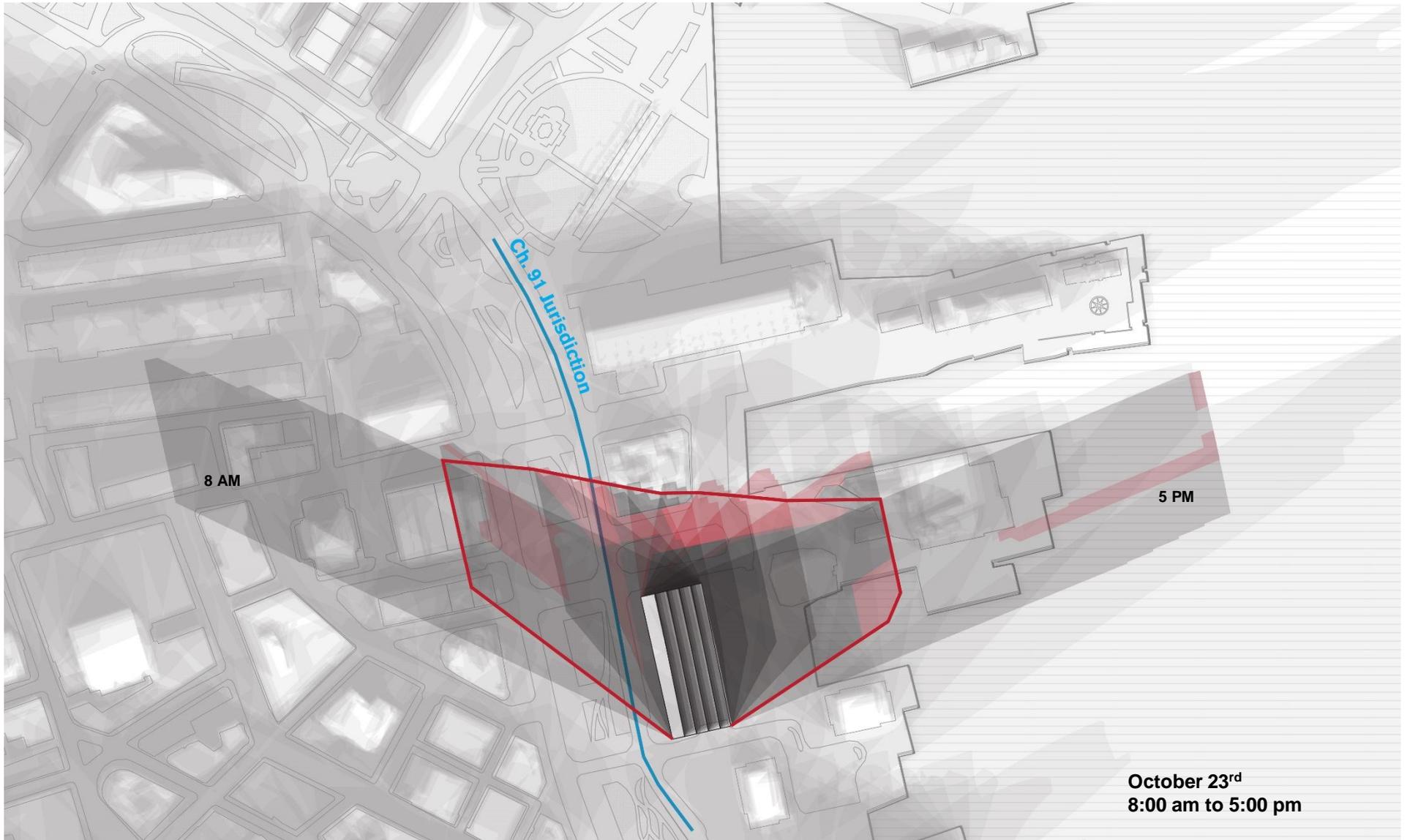
**October 23<sup>rd</sup>**  
**2:00 pm**

Ch. 91 Baseline and the Proposed Redevelopment Scenario  
**Chapter 91 Compliant Scenario**

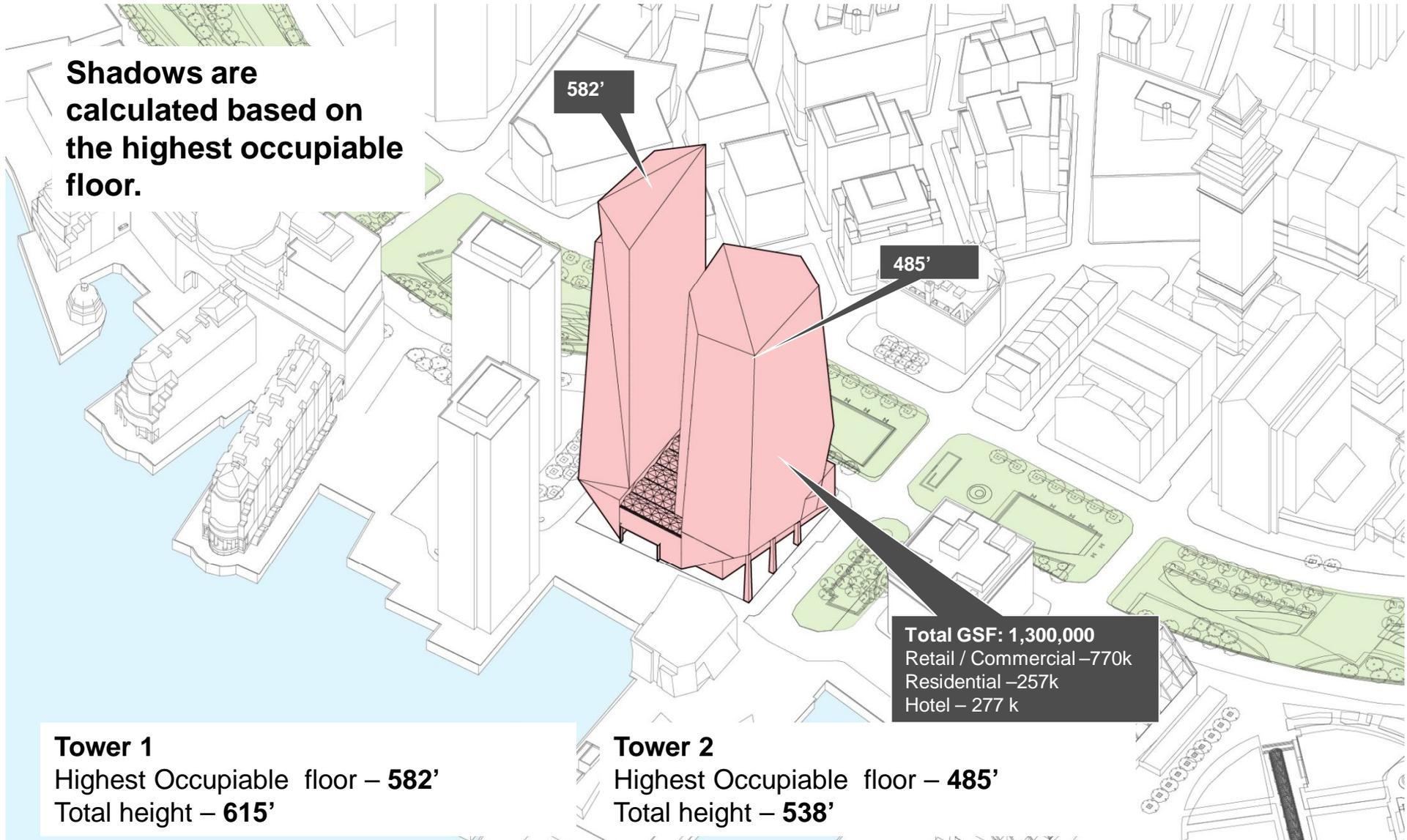


Ch. 91 Baseline and the Proposed Redevelopment Scenario  
**Chapter 91 Compliant Scenario**

— Minimum 1 hour or more continuous shadow extent for Chapter 91 Compliant scenario



# Building Height & Shadow Impact



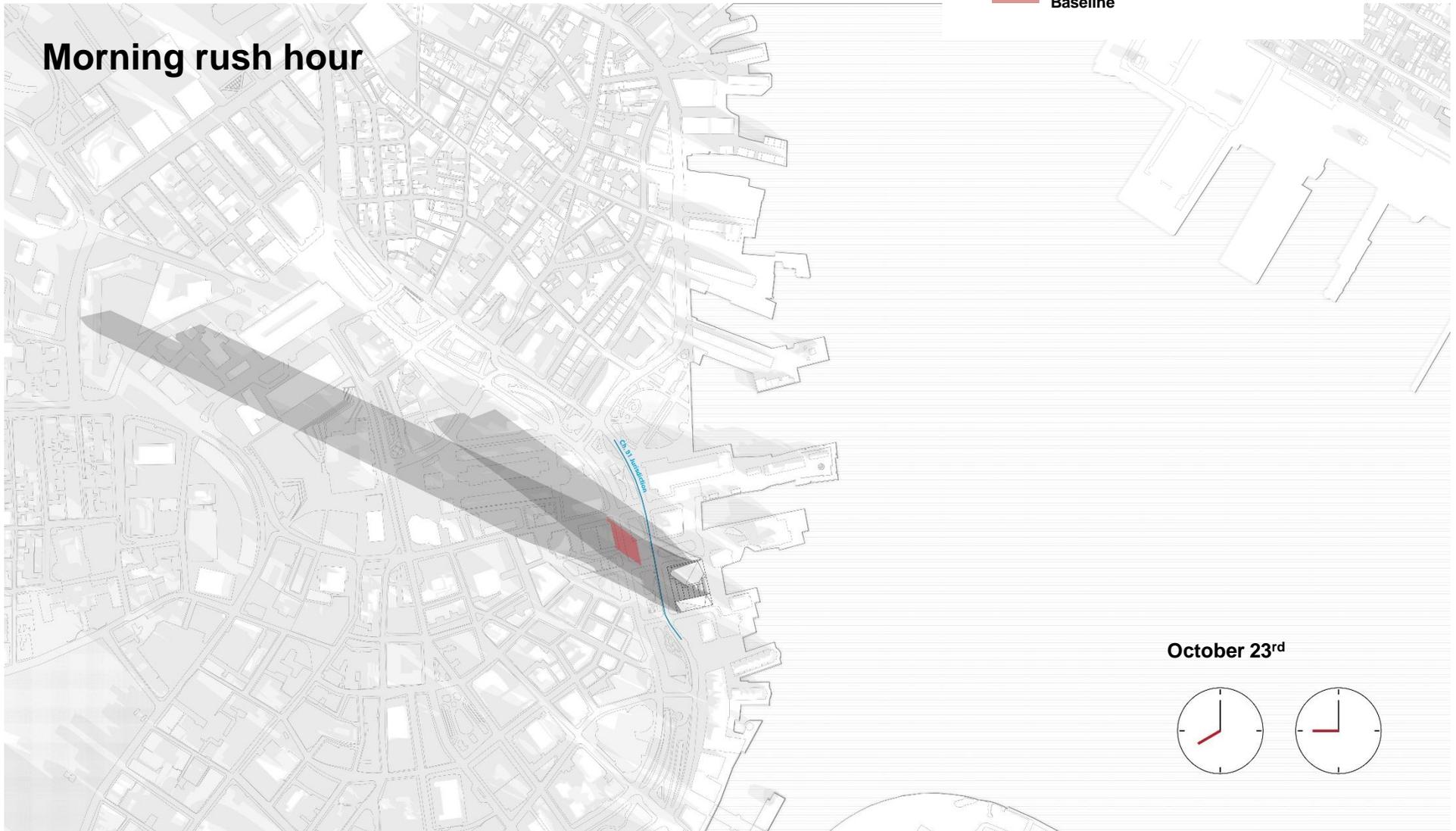
Ch. 91 Baseline and the Proposed Redevelopment Scenario  
**Chiofaro Co. Proposal**



# Ch. 91 Baseline and the Proposed Redevelopment Scenario Chiofaro Co. Proposal

Net Shadow increase over Chapter 91  
Baseline

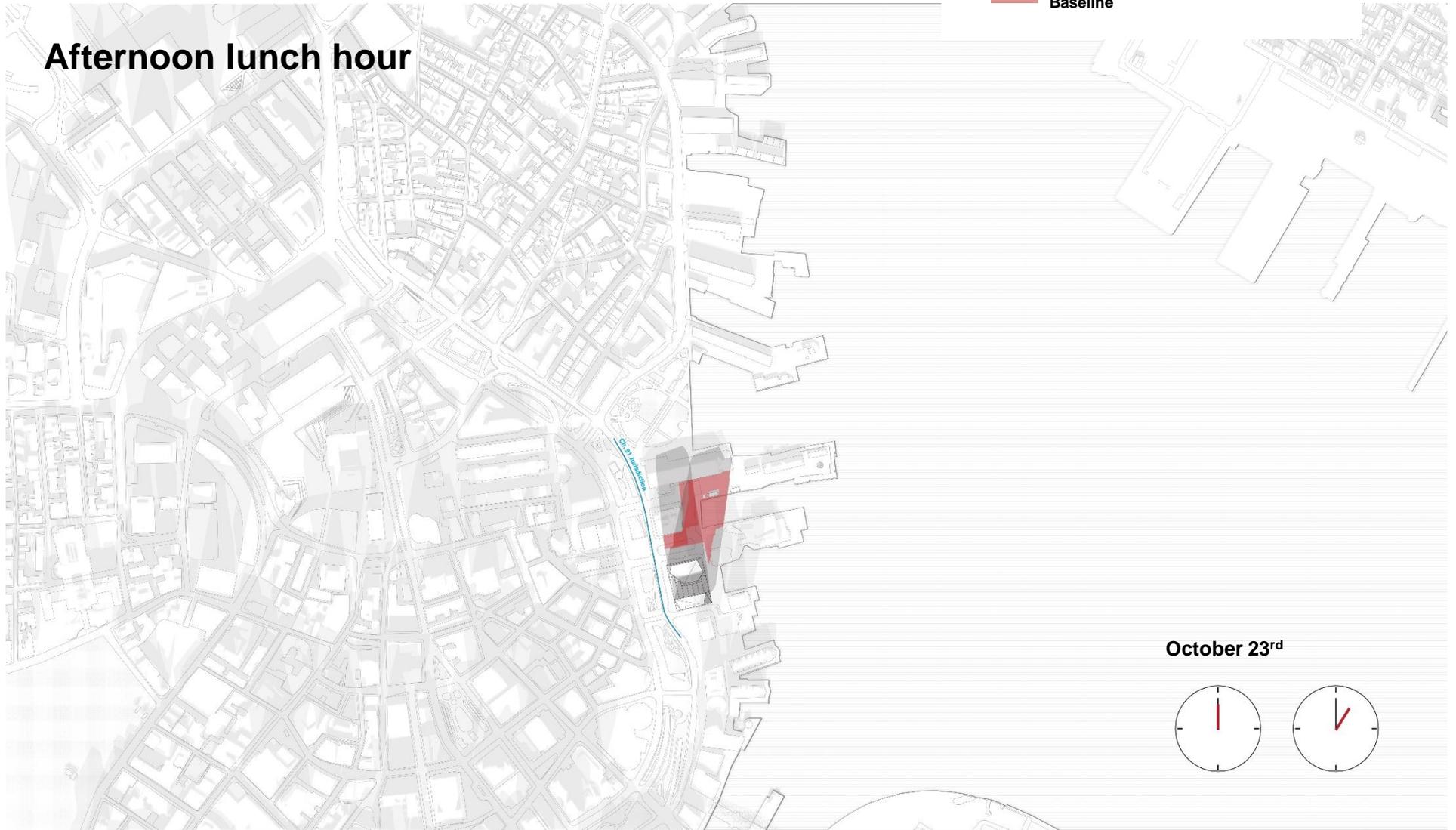
Morning rush hour



Ch. 91 Baseline and the Proposed Redevelopment Scenario  
**Chiofaro Co. Proposal**

Net Shadow increase over Chapter 91  
Baseline

Afternoon lunch hour



# Ch. 91 Baseline and the Proposed Redevelopment Scenario Chiofaro Co. Proposal

\* Net shadow increase, as compared to existing garage (taking into consideration shadows cast by all existing buildings)

Net Shadow\* increase over Chapter 91 Baseline



# Ch. 91 Baseline and the Proposed Redevelopment Scenario Chiofaro Co. Proposal

- Minimum 1 hour or more continuous shadow extent for Chapter-91 Compliant proposal
- Minimum 1 hour or more continuous shadow extent for Development Scenario
- Net Shadow increase over Chapter 91 Baseline



October 23<sup>rd</sup>  
8:00 am to 5:00 pm

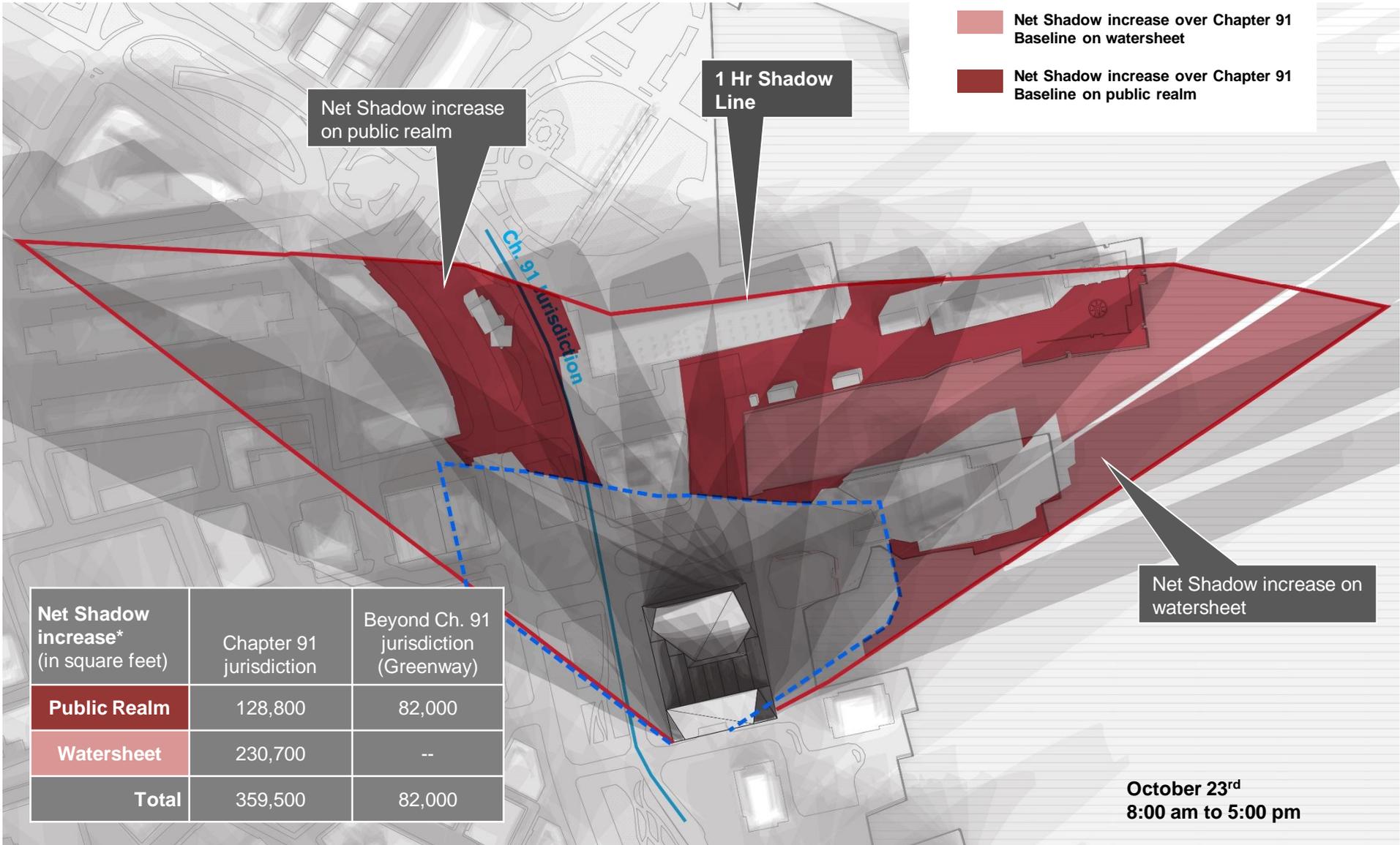
# Ch. 91 Baseline and the Proposed Redevelopment Scenario Chiofaro Co. Proposal

--- Minimum 1 hour or more continuous shadow extent for Chapter-91 Compliant proposal

— Minimum 1 hour or more continuous shadow extent for Development Scenario

Net Shadow increase over Chapter 91 Baseline on watersheet

Net Shadow increase over Chapter 91 Baseline on public realm



Net Shadow increase* (in square feet)	Chapter 91 jurisdiction	Beyond Ch. 91 jurisdiction (Greenway)
<b>Public Realm</b>	128,800	82,000
<b>Watersheet</b>	230,700	--
<b>Total</b>	359,500	82,000

October 23<sup>rd</sup>  
8:00 am to 5:00 pm