EEA # 15632

SEPTEMBER 2017

1000 Boylston Street Project BOSTON, MA

DRAFT ENVIRONMENTAL IMPACT REPORT/PROJECT IMPACT REPORT



PROPONENT

ADG Scotia II LLC
c/o Weiner Ventures LLC

DEIR SUBMITTED TO

Massachusetts Executive Office of Energy and Environmental Affairs MEPA Office

DPIR SUBMITTED TO

Boston Redevelopment Authority
d/b/a Boston Planning & Development Agency

SUBMITTED BY

vhb

IN ASSOCIATION WITH

Elkus Manfredi Architects
Goulston & Storrs
Haley & Aldrich
WSP
RWDI
Suffolk Construction

ADG SCOTIA II LLC
c/o Weiner Ventures LLC
The John Hancock Tower
200 Clarendon Street, Floor 50
Boston, MA 02116

September 22, 2017

BY HAND

Brian Golden, Director
Boston Planning & Development Agency
Boston City Hall, 9th Floor
Boston, MA 02201

Re: 1000 Boylston Street Project
Boston, MA

Dear Director Golden:

Weiner Ventures LLC, on behalf of ADG Scotia II LLC (the "**Proponen**t"), is pleased to submit the enclosed Draft Project Impact Report ("**DPIR**") for the 1000 Boylston Street Project under Section 80B of the Boston Zoning Code. Ten (10) paper copies and 1 CD containing the DPIR are enclosed. This DPIR is being filed as a combined document with the Draft Environmental Impact Report being simultaneously filed with the MEPA Unit of the Executive Office of Energy and Environmental Affairs under 301 CMR 11.00 et. seq.

On January 3, 2017, the Proponent filed a Project Notification Form ("**PNF**") with the Boston Planning & Development Agency ("**BPDA**") in accordance with Article 80B. The BPDA issued its Scoping Determination on July 11, 2017.

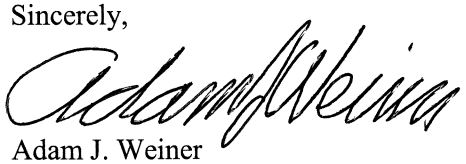
Since the filing of the PNF, the Proponent has evaluated the public comments received and the concerns and views expressed by the community and agencies. As a result, the Project has been reconfigured to respond to community concerns regarding density, height and various other matters. The reconfigured Project will consist of a single condominium tower containing up to approximately 108 condominium units, rising from a Podium base containing approximately 45,500 square feet of first and second-story retail and restaurant space fronting on Dalton, Boylston and St. Cecilia Streets, a two-story above-grade parking garage containing approximately 175 spaces, and an amenities floor. A greenspace and outdoor amenity area for the condominium unit owners will be located on the roof level of the Podium. The second residential building proposed in the PNF has been eliminated resulting in reduced potential environmental impacts.

The revised Project accomplishes the reductions in density (by eliminating the apartment tower previously planned for the corner of Boylston and Dalton Streets) and height (by reducing the height of the condominium tower) while continuing to incorporate the Prudential Parcel as part of the Project Site. Thus, the reconfigured Project meets the objectives of the BPDA and community to fully deck over the opening to the Turnpike below while also eliminating the second residential building which had been proposed in the PNF.

We look forward to continuing to work with the BPDA, the Citizens Advisory Committee serving as an Impact Advisory Group, elected officials, and the community in the final steps of the review of the 1000 Boylston Street Project under the Large Project Review Process.

If you have any questions or if any additional information would be useful, please call me (tel. 857-990-3007), our Executive Project Director Donny Levine (tel. 857-990-3008), Lauren DeVoe (tel. 617-924-1770), or Marilyn Sticklor (tel. 617-482-1776).

Sincerely,



Adam J. Weiner
Managing Partner

cc: Mr. Jonathan Greeley
Mr. Michael Rooney
Mr. Donny Levine, D. Levine Management LLC
Ms. Lauren Devoe, VHB
Ms. Marilyn Sticklor, Goulston & Storrs

8991214.1

1000 Boylston Street Project

Boston, Massachusetts

SUBMITTED TO **Boston Redevelopment Authority**
d/b/a Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

PROPONENT **ADG Scotia II LLC**
c/o Weiner Ventures LLC
200 Clarendon Street, Floor 50
Boston, MA 02116

PREPARED BY **VHB**
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Boston, MA 02110

In association with:
Elkus Manfredi Architects
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September 22, 2017

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Project Description and Alternatives

ADG Scotia II LLC (the "Proponent") submits this combined Draft Environmental Impact Report/Project Impact Report ("DEIR/DPIR") for the 1000 Boylston Street Project (the "Project") to the Executive Office of Energy and Environmental Affairs ("EEA") and to the Boston Redevelopment Authority ("BRA"), d/b/a the Boston Planning and Development Agency ("BPDA"). The Draft Environmental Impact Report ("DEIR") is being filed to continue the state review process, in accordance with the Massachusetts Environmental Policy Act ("MEPA"), M.G.L. c. 30, Sections 61-62I, and the regulations promulgated thereunder set forth at 301 CMR 11.00. The Draft Project Impact Report ("DPIR") is being filed to continue the Large Project Review process in accordance with Article 80B the Boston Zoning Code (the "Code").

Responding to community and agency comments, the Project has been modified since the filing of the ENF/PNF to now consist of a single residential tower containing a total of up to approximately 108 for-sale units, rising from a podium base containing up to approximately 45,500 square feet of first and second-story retail and restaurant space fronting Dalton, Boylston, and St. Cecilia Streets, a two-story 175-space above-grade parking garage above the retail and an amenities floor for the condominium residents, thus totally eliminating the second residential building which had been proposed in the ENF/PNF. The Project will be constructed on a vacant site comprised of both land and air rights above and adjacent to the Massachusetts Turnpike (the "Turnpike"), and bounded by Boylston, Dalton, Cambria, St. Cecilia and Scotia Streets in the Back Bay (the "Project Site"). Notwithstanding the elimination of the second residential building which had been proposed in the ENF/PNF, the Project Site will continue to include the air rights over the Turnpike owned by Prudential Insurance Company of America and, accordingly, will continue to fully deck over the opening to the Turnpike below.

Construction of the Project will represent the first successful air rights development above the Turnpike since construction of Copley Place in the mid-1980s. The proposed development will transform the Project Site from an undeveloped highway overpass into a hub of residential and retail activity, which will help knit together the fabric of the City. The Project will provide a new connection between the Back Bay neighborhood, the bustling Massachusetts Avenue corridor south of Boylston Street, and the Fenway neighborhood. This connection will be strengthened by street-level retail and an improved streetscape that will provide significant urban design and social benefits, as well as stimulate economic growth.

This chapter provides an overview of the Project history and background, describes the existing site conditions and the Project, and summarizes Project-related public

benefits. It also identifies the anticipated required permits and approvals, summarizes ongoing public agency and community outreach, identifies the development team, and provides relevant legal information regarding the Proponent and the Project Site.

1.1 Overview

On January 3, 2017, the Proponent filed an Environmental Notification Form ("ENF") with the MEPA Unit in accordance with MEPA and a Project Notification Form ("PNF") with the BPDA in accordance with Article 80B. After a MEPA Scoping Session, the Secretary of EEA issued a Certificate on the ENF on February 10, 2017 (the "ENF Certificate"). In addition to a public meeting held on the Project, in accordance with Article 80, meetings were held with the Citizens' Advisory Committee for the Back Bay ("CAC") serving as Project's Impact Advisory Group ("IAG") and members of the community, as well as BPDA staff, City agencies and elected officials. The BPDA issued its Scoping Determination on July 11, 2017 (the "BPDA Scoping Determination").

Since the filing of the ENF/PNF, the Proponent has evaluated the public comments received and the concerns and views expressed by the community and agencies, and is now proposing changes to the Project described in the ENF/PNF (the "ENF/PNF Alternative"). This DEIR/DPIR describes the project changes, addresses comments received on both the ENF and the PNF, and provides the additional studies and information requested by the ENF Certificate and the BPDA Scoping Determination, respectively.

As discussed more specifically below, the reconfigured Project consists of a single condominium tower containing up to approximately 108 condominium units, rising from a Podium base containing approximately 45,500 square feet of first and second-story retail and restaurant space fronting on Dalton, Boylston and St. Cecilia Streets, a two-story above-grade parking garage containing approximately 175 spaces, and an amenities floor. A greenspace and outdoor amenity area for the condominium unit owners will be located on the roof level of the Podium.

The revisions to the Project (the "Project" or Preferred Alternative"), as compared to the ENF/PNF Alternative, respond to community concerns regarding density (by eliminating the apartment tower previously planned for the corner of Boylston and Dalton Streets), height (by reducing the height of the condominium tower), and number of parking spaces (by reducing the proposed parking capacity). The revised Project accomplishes these reductions in density, height, and parking while continuing to incorporate the Prudential Parcel (defined below) as part of the Project Site; thus, the Project will continue to fully deck over the opening to the Turnpike below the Project Site.

The Project will be constructed on a vacant site comprised of both land and air rights parcels above and adjacent to the Turnpike, and bounded by Boylston, Dalton, Cambria, St. Cecilia and Scotia Streets in the Back Bay. Refer to Figure 1.1 for a site location map, and Figure 1.2 for a site context map.

The Project will transform the Project Site from an undeveloped highway overpass into a hub of residential and retail activity, which will help knit together the fabric of the City. The Project will provide a new connection between the Back Bay neighborhood, the bustling Massachusetts Avenue corridor south of Boylston Street and the Fenway neighborhood. This connection will be strengthened by street-level retail and an improved streetscape that will provide significant urban design and social benefits, as well as stimulate economic growth.

1.2 Project History and Background

For more than 15 years, the Project Site, along with the remainder of the air rights corridor over the Boston Extension of the Turnpike, has been the subject of extensive planning and review by the BPDA, as well as by the Massachusetts Department of Transportation ("MassDOT") and its predecessor agency. In 1998, the City of Boston (the "City") commissioned a group of residents, business owners, elected officials, and design and planning experts to craft a vision for the air rights over the Boston Extension of the Turnpike. The "Civic Vision for Turnpike Air Rights in Boston", issued in June 2000, (the "Civic Vision"), outlined the vision for 23 air rights parcels. Parcels 11-15, as depicted on Figure 1.3, were described as the area from Charlesgate to the Hynes Convention Center. Air rights developments in this area were encouraged to re-establish the broader sidewalk widths across the Turnpike, have multiple entrances and windows at street level, and find ways to incorporate parking in air rights projects.

In September 2008, the Massachusetts Turnpike Authority issued a Request for Proposals ("RFP") for Air Rights Parcels 12, 13, 14, and 15. The aspiration of the RFP was that the air rights projects would link the Fenway and Back Bay neighborhoods, ending a separation established by railroad tracks and widened by the Turnpike Extension.

In 2008, four proponents submitted proposals in response to the RFP, but the recession caused MassDOT to put the process on hold until early 2011. Between August 2011 and May 2012, nine Community Advisory Committee ("CAC") meetings were held. The Proponent submitted a response to the RFP for Parcels 12, 14, and 15 on March 13, 2012. This proposal received favorable recommendation by the CAC on June 29, 2012 and favorable comment by the BRA on August 1, 2012. On March 4, 2013, the Proponent was designated as the Developer for Air Rights Parcels 12 and 15. A Development Agreement was executed between MassDOT and the Proponent on June 19, 2014 for Parcel 15, which anticipated that the ground lease, a form of which was attached to the Development Agreement, would be executed at a later date subsequent to the satisfaction of various conditions set forth in the Development Agreement.[1]

The Proponent's Parcel 15 proposal (the "2013 Designation Alternative") related only to Parcel 15 and the Scotia Parcel (described further below in Section 1.3.2). The

[1] A separate Development Agreement was executed for Air Rights Parcel 12.

Scotia Parcel was acquired in 2008 by an affiliate of the Proponent. The Proponent's 2013 proposal for Parcel 15 and the Scotia Parcel included 168,800 square feet of residential uses (120 units), as well as 194,400 square feet of hotel space (270 keys) with 9,100 square feet of retail space and 240 parking spaces in a single building approximately 398 feet in height. Only 25 percent of the building footprint was to be on the Turnpike air rights of Parcel 15, with the remainder on the terra firma of the Scotia Parcel.

Not included in the proposal approved in the 2013 Designation Alternative was a triangular-shaped parcel located above the Turnpike at the corner of Boylston and Dalton Streets and owned by the Prudential Insurance Company of America (the "Prudential Parcel"). The Prudential Parcel comprises approximately half of the existing opening along Boylston Street above the Turnpike.

During meetings with the BRA and CAC regarding the Proponent's 2013 Designation Alternative, the CAC requested that the Proponent engage Prudential with the goal of including the Prudential Parcel within an expanded the Project Site, covering the entirety of the opening above the Turnpike.

With the Prudential Parcel included and the entire opening decked over, the Project would generate greater urban design and economic benefits.

After listening carefully to the CAC, the Proponent engaged in discussions with Prudential leading to the filing in January 2017 of an ENF/PNF proposing a development, which included the Prudential Parcel and would be improved by two residential buildings (along with the underlying podium): a residential rental building, which would be retained by Prudential, and a residential condominium building, which would be retained by the Proponent as residential condominiums for sale to unit buyers.

As discussed further below, since the filing of the ENF/PNF and in response to the comments received, the Proponent has further engaged in discussions with Prudential which has now led to the Proponent's ability to propose a Project which eliminates the residential rental building which was to be located within the Prudential Parcel while retaining the Prudential Parcel as part of the Project Site. To accomplish this revised program, the Proponent has reached agreement with Prudential to reflect the incorporation of the Prudential Parcel into the Project without construction of the rental building. The Proponent continues to be in the process of finalizing a modification to the 2014 Development Agreement with MassDOT.

Expanding the Project Site to include the Prudential Parcel without construction of the rental building, as well as intervening factors since 2013 and the economic challenges inherent in construction over the Turnpike, require that the Project be modified from that approved in the 2013 designation to make the Project economically viable.

As both the State and BPDA are well-aware, due to economic and engineering constraints, no project has successfully been constructed in air rights over the

Turnpike since Copley Place in the mid 1980's (which benefited from federal grant assistance). Therefore, to make the Project economically viable based on considerations of added costs, risk, and complexity, and in particular due to elimination of the residential rental building, the Project now proposed continues to require a taller building (by only 86 feet) as compared to the 2013 Designation Alternative. However, the increases from the 2013 Designation Alternative have been reduced significantly from the ENF/PNF Alternative. Specifically, the Project includes approximately 30,500 less GFA and 65 fewer parking spaces than the 2013 Designation Alternative and exceeds its building height by only 86 feet. These relatively minor adjustments are required for the Project to be economically viable due to certain factors intervening since 2013, including:

- Increase in the proportion of the project footprint spanning the Turnpike from approximately 25 percent to approximately 60 percent;
- Escalation of industry-wide construction costs from 2013 to date of anticipated commencement of Project;
- Engineering, design, and construction costs inherent in construction over the Turnpike; and
- Financial costs to account for agreements with Prudential and incorporation of the Prudential Parcel while eliminating the second residential rental building which was to be retained by Prudential.

The Project proposed in this DEIR/DPIR incorporates the Prudential Parcel and reflects the community's vision of a single project stretching from Scotia Street to Dalton Street, filling in the street wall on Dalton and Boylston Streets, completing the deck over the Turnpike, while including only a single residential tower rising from a Podium, which completes the Boylston Street street wall.

1.3 Project Site Context and Existing Conditions

1.3.1 Project Site Context

Located in Boston's Back Bay neighborhood, the Project Site is undeveloped and exists as a major gap in the cityscape created by the nearby Hynes Convention Center and Prudential Center, the shops and residences of the Back Bay, the bustling corridor of Massachusetts Avenue, and the Christian Science Center Plaza (Figure 1.2). As described further in Chapter 3, *Urban Design*, large-scale development ongoing in this area includes construction along the so-called "high-spine" tracing from the Project Site generally along the Turnpike right-of-way from the Prudential Center eastward to Copley Place and Stuart Street. The Project aims to fill this gap and provide a new connection to the surrounding areas, strengthened by street-level retail, an improved streetscape, and new residents who will enliven the area on a 24/7 basis.

1.3.2 Existing Site Conditions

Figure 1.4 includes the existing conditions site plan and Figure 1.5 presents photographs of the existing site conditions. The Project Site is bounded on the north by Boylston Street, on the east by Dalton Street and the Hynes Convention Center, on the south by Scotia Street and an existing above-ground garage, and on the west by St. Cecilia Street and the rear façade of buildings fronting on Massachusetts Avenue. A portion of the Project Site is a vacant grass lot, and a portion of the Project Site is open to the Turnpike below.

As shown in Figure 1.6, the Project Site is comprised of the following four parcels currently held in separate ownership:

1. The Prudential Parcel, to be leased to the Proponent or its designee;
2. A parcel located above the Turnpike between the Prudential Parcel and Cambria Street ("Parcel 15"), owned by MassDOT, proposed to be leased to the Proponent, or its designee;
3. A parcel comprised of above-grade air rights spanning Cambria Street between Parcel 15 and the Scotia Parcel (the "Cambria Street Air Rights Parcel"), owned by the City of Boston subject to public way easement rights. It is proposed that the rights of the public will be discontinued above a specific elevation allowing for continued use of the surface and subsurface by the public and that the air rights will be acquired by the BPDA from the City, and then conveyed to the Proponent by the BPDA; and
4. A grass-covered parcel located across Cambria Street from Parcel 15 formerly used by the St. Cecilia Parish (whose church building is located on the opposite side of Scotia Street), owned by ADG Scotia LLC, an affiliate of the Proponent (the "Scotia Parcel").

The combination of these four (4) parcels is vital to the development's master plan as it provides a unique opportunity to infill the entire breach in the street wall along the south side of Boylston Street between Dalton Street and St. Cecilia Street, which is a longstanding goal of the Civic Vision.

1.4 Project Description

The Project is envisioned as a vibrant residential development with ground-floor uses, which will activate the street, that aims to repair the discontinuity in the urban street wall left behind by the Turnpike expansion through Boston. It will improve the pedestrian realm by providing active ground floor uses along Boylston Street, one of Boston's most walkable districts, and will knit together two distinct Boston neighborhoods: the Back Bay and the Fenway.

The Project is conceived as a transformative development. The Project offers a considerable opportunity to rejuvenate a vacant highway overpass, transform the adjoining public realm, create an attractive and appealing place worthy of its

prominent location, and become an asset to the vibrant Back Bay and Fenway neighborhoods and the City overall.

By introducing a mix of uses in appropriate and carefully considered locations, the Project will reinforce the existing mixed-use character of the area, while also creating a sustainable development. The Project's residents will contribute to the economic and philanthropic sectors of the City, stimulate economic growth and enliven the area.

1.4.1 Project Changes since the ENF and PNF Filings

The Project described in the ENF/PNF consisted of two residential buildings rising above a 5-story Podium[2] with rooftop outdoor amenity space that spanned the Project Site – an "East Building" or "Apartments Building" comprised of residential apartments with a height of approximately 283 feet from grade to the top of the highest occupiable floor, and a "West Building" or "Residences Building" comprised of residential condominiums with a height of approximately 566 feet to the top of the highest occupiable floor.

In response to community concerns about density of the Project and the height of the West Building, the Project has been re-designed to include only one residential building—the Residences Building—consisting of up to approximately 108 units, and with a reduced height of 484 feet from grade to the top of the highest occupiable floor. The number of condominium units have been reduced by 52 from up to 160 units to up to approximately 108 units, and the 182 rental units have been eliminated entirely for a total reduction of approximately 234 residential units. The height to the top of the highest occupiable floor has been reduced by 82 feet from 566 feet to 484 feet.

As previously proposed, the first and second stories of the Podium will continue to contain retail, including restaurant space facing Dalton, Boylston and St. Cecilia Streets with a two-story above-grade parking garage atop the first- and second-story retail uses, which will be accessible from Scotia Street. The Podium will also continue to include a ground-floor residential lobby, as well as 5th floor amenity space for the condominium residential component of the Project. The roof of the Podium will contain a greenspace and amenity area for the condominium unit owners.

The following section summarizes changes to the Project since the ENF/PNF filings. Refer to Figure 1.7 for the updated site plan.

› **Development Program:** Overall, the *proposed development program has been reduced by 36%* from 689,000 SF to 439,500 SF[3] through:

2 Due to the grade change of the Project Site, the Podium is one story taller fronting Scotia Street than fronting Boylston Street. Thus, the Podium of the ENF/PNF Alternative was 5 stories tall fronting Boylston Street and 6 stories tall along Scotia Street.

3 All references in this DEIR/DPIR to SF as pertaining to a building or structure are to SF of Gross Floor Area as defined in Article 2A of the Boston Zoning Code and as applicable to a Planned Development Area in the Huntington Avenue Prudential Center District under Article 41 of the Code.

- Elimination of the Apartments Building (212,000 SF or 182 units);
- Reduction in overall square footage of the Residences Building by 11% from 442,000 SF to 394,000 SF, and elimination of 52 units—from up to 160 to up to approximately 108 units;
- Reduction in parking capacity from 303 spaces to 175 spaces, with parking levels designed to be capable of conversion to alternative use in the future after construction is completed; and
- Accommodation of tunnel fan standby power generators has been created in Level 4.

› **Floor Area Ratio:** Reduced from 17 to 10.7 due to elimination of the Apartments Building.

› **Retail Space:** Increased from approximately 35,000 SF to approximately 45,500 SF to further enliven the public realm and encourage pedestrian activity in the vicinity of the Project.

› **Building Height and Massing:** Significantly reduced overall building height and massing by:

- Eliminating the Apartment Building (previously 17 stories above the Podium, approximately 300 feet in height above grade);
- Reducing height of the Residences Building by approximately 82 feet; and
- Setting back the fifth floor of the Podium to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecelia, and Scotia Streets.

› **Access and Circulation:**

- Relocating parking garage access to Scotia Street;
- Turning a short-section of Scotia Street into two-way for a direct connection to Boylston Street; and
- Reducing the number of curbside drop-off areas to one from two.

› **Green Space:**

- Increased green amenity space for residents on the roof level of the Podium, and in the setback of the Podium; and
- Exterior green landscaping in setback area of amenity floor of Podium from lower Podium levels.

1.4.2 Proposed Development Program

The proposed development program has been carefully considered and reflects the Proponent's consideration of community concerns regarding Project density and height, balanced against the density required to mitigate the cost premiums associated with an air rights development above the Turnpike, including the construction of up to approximately 23,000 square feet of deck over the Turnpike, as well as the site control costs of payments to both MassDOT and Prudential. The

proposed development program is presented in Table 1-1 below. (Note: all dimensions are approximate.)

Table 1-1 Proposed Development Program Summary

Project Element	Approximate Dimensions	Quantity	Building Height[1]
PDA Area	50,764 SF	NA	NA
Project Site Lot Area[2]	40,955 SF	NA	NA
Residential Total	394,000 SF		27 stories of residences above the Podium 484 feet to top of highest occupiable floor 504 feet to top of mechanicals 544 feet to top of mechanical screen
Residential Unit SF	282,000 SF	up to approximately 108 units	
Residential Common/Amenity Space SF	112,000 SF		
Retail	45,500 SF	NA	2 stories (Levels 1 and 2), 82 feet
Total SF Gross Floor Area (GFA)	**439,500 SF**	**up to approximately 108 units**	**NA**
Parking Garage [zoning GFA exclusion in PDA under Article 41]	NA	175 spaces	2 stories above Retail
Floor Area Ratio[3]	10.7[4]	NA	NA

NA=Not Applicable

SF=square feet of site or lot area

GFA = gross floor area of building, as defined in Article 2A of the Boston Zoning Code and as applicable to a Planned Development Area in the Huntington Avenue Prudential Center District under Article 41 of the Code.

1 In accordance with the Boston Zoning Code, heights are measured from "Grade" consisting of the average elevation of the nearest sidewalks at the lines of the streets on which the Project abuts: Boylston Street, St. Cecilia Street, Scotia Street, Cambria Street and Dalton Street. Table includes zoning heights to the top of the highest occupiable floor and to the top of mechanicals.

2 Article 2A of the Code defines "lot area" in relevant part as excluding "any area in a street or private way open to public use." This implies that the Cambria Street Air Rights, which will be discontinued as a public way and not thereafter open to public travel, are properly included in the Project Site Lot Area. However, to the extent that the Code is ambiguous with respect to this method of calculation, the Development Plan will clarify that any above grade portion of a public way which has been discontinued, including air rights above grade but not including a subsurface discontinuance, should be considered as part of a lot for purposes of calculating lot area and FAR. As discussed in Section 2.12 of Chapter 2, *Regulatory Context and General*

Information, a below-grade area of Cambria Street necessary to accommodate Load-Bearing Elements will be included within the PDA Site, but is not included in the SF of the Project Site Lot Area.

3 Floor Area Ratio (FAR) calculation for the PDA is based on provisions of Sec. 41-12(2) applicable in HAPC District, which excludes parking areas, and which will be extended through a map amendment to the portions of the Project Site currently located in the B-8-120C District. Accordingly, the FAR calculation is based on a GFA of approximately 439,500 square feet.

4 FAR calculation is based on the Project Site Lot Area of 40,955 SF, which does not include sidewalks but does include the portion of Cambria street which is anticipated to be discontinued for public use above-grade above the elevation required for the building. See Ftn. 2 above.

1.4.3 Proposed Building Design Overview

The Project is consistent with several key urban design principles specific to the Project Site, the Back Bay and Fenway neighborhoods, and the Civic Vision, which include:

- Repairing the discontinuity in the urban street wall left behind by the Turnpike expansion through Boston, to provide a cohesive link between the Back Bay and Fenway neighborhoods;
- Enlivening the public realm with generous sidewalks and ground and second floor uses that engage pedestrians; and
- Respecting the scale and character of the urban street wall and the adjacent Back Bay Historic and Architectural Districts by placing the Podium along Boylston Street and setting the Residences Building back from the Boylston Street edge.

The proposed building design is described in further detail in Chapter 3, *Urban Design*.

1.4.4 Proposed Public Realm Improvements

The Project Site design strategy focuses on creating pedestrian-oriented sidewalks and streets. The public realm will be upgraded to provide several conveniences and amenities throughout the Project Site consistent with the fundamental goals of the Boston Transportation Department's ("BTD") Complete Streets guidelines, wherever feasible. Refer to Chapter 3, *Urban Design* for additional details.

1.4.5 Access and Loading

As described more fully in Chapter 5, *Transportation,* and illustrated on Figure 3.34, vehicular access to the Project will be from Scotia Street via a vehicle elevator that will transport cars to the parking levels. Interior valet service will be provided within the garage with a drop-off/pick-up area proposed at the single residential entrance located on Boylston Street (reduced from two residential entrances in the ENF/PNF Alternative).

Three off-street loading docks for the Project are proposed along Cambria Street, which is consistent with the current primary use of Cambria Street as a service road for vehicles accessing the loading docks at the adjacent Hynes Convention Center.

1.4.6 Parking

The residential units and retail/restaurant uses will be supported by 175 parking spaces provided on two floors within the Podium above the retail space. The parking garage will accommodate Electric Vehicle (EV) charging stations. Provisions will be made to increase the number of EV charging stations over time based on demand. The parking floors will be designed so that such areas can be converted into interior building space in the event parking demand diminishes in the future after construction of the Project.

1.4.7 Project Schedule/Phasing

The Proponent submitted a Letter of Intent to the BPDA on November 14, 2016 and an ENF/PNF on January 3, 2017. Since that time, the Proponent has met with the community, as discussed further in Section 1.7 below, and with the City and State agencies as discussed further in Section 2.3 of Chapter 2, *Regulatory Context and General Information*. The Proponent will continue to work diligently with the community, and with City and State agencies to complete the MEPA and Article 80B Large Project Review processes.

The Project will be constructed in a single phase. The Proponent anticipates commencing site preparation and utility relocation work in mid-2018. The deep foundation work for the Podium and residential building will follow the completion of the site preparation and utility work. Work on the Podium is expected to be complete by the third quarter of 2019, and work on the residential building is expected to be complete by early- to mid-2022.

1.5 Summary of Public Benefits

Public benefits for the surrounding neighborhoods and the City of Boston as a whole will include, but not be limited to, the following:

Urban Design and Public Realm Benefits

- ***Contributing to the Cohesiveness of the City***—The Project will span and cover the undeveloped areas of the Turnpike, thus knitting together the Back Bay and Fenway neighborhoods of the City and eliminating an unsightly "hole" in the fabric of the City.
- ***Improved Street and Pedestrian Environment***—
  - The Podium will extend across the entire Project Site and create a high-quality continuous street frontage activated by vibrant and engaging ground and second floor uses, including retail and restaurant spaces and the residential building lobby.
  - The Project will provide an upgraded streetscape, including new sidewalks, street lighting, landscaping to the extent feasible given engineering constraints, and other public amenities along Boylston Street and other

abutting streets, consistent with the BTD's Complete Streets guidelines, wherever feasible.

- Using glass facades at ground level, wherever possible, the Project will provide transparency and create an inviting and safe ground-level experience for pedestrians.

› ***New Retail and Service Development*** –The Project will provide approximately 45,500 square feet of first and second-floor retail and restaurant space facing Dalton, Boylston and St. Cecilia Streets, which will enhance pedestrian activity around the Project Site and provide amenities to neighbors and building residents.

› ***Architecture*** –

- The elimination of the Apartments Building will help to preserve the flow of light and air in and around the Project Site.
- The Project reinforces the urban "high spine" planning strategy, reflecting high design standards and successfully complementing the height and massing in the area while designing the Residences Building to minimize wind and shadow impacts on surrounding neighborhood public space resources.
- The Project will be a prominent architectural addition to the skyline visible from West of the City and along Commonwealth Avenue.

Sustainability/Environmental Benefits

› ***Area Revitalization*** –The Project revitalizes an underutilized and uninviting urban site and uses land efficiently by incorporating a moderate amount of density within the urban core.

› ***Stormwater Management*** – The Project will improve the quality and quantity of site stormwater runoff compared to existing conditions, including consideration for groundwater recharge in accordance with provisions applicable to the Groundwater Conservation Overlay District ("GCOD"). Additionally, the proposed stormwater management systems will comply with the 2008 Massachusetts Department of Environmental Protection ("MassDEP") Stormwater Management Policy and Standards.

› ***LEEDv4 certifiable*** – In compliance with Article 37, the Project has been designed to be Leadership in Energy and Environmental Design version 4 ("LEEDv4") certifiable Silver level, and achieves a minimum of 50 LEED points. Through the incorporation of a variety of sustainable design strategies, the Project will improve water quality and reduce the urban heat island effect, among other environmental benefits. As the design and engineering of the Project is further advanced, the Proponent will aspire to achieve certifiability at LEEDv4 Gold level, to the extent feasible. This is discussed more extensively in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.

› ***Resource Conservation*** – By utilizing sustainable design strategies and exceeding the minimum building energy code requirements, the Project will

maximize the conservation of energy and water, and minimize impacts to regional infrastructure and water resources. The Project will meet the requirements of the Massachusetts Stretch Energy Code under the anticipated 9th Edition.

- ***Renewable Energy*** – The Proponent and design team have completed early evaluation of the feasibility of clean and renewable energy sources, including solar photovoltaic (PV) panels and a cogeneration system. This is discussed more extensively in Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*.
  - While the evaluation determined that competing space requirements for the roof and the relatively small roof area compared to the building volume make roof-top solar PV panels unattractive, the Proponent will continue to consider facade-mounted, or Building-Integrated (BIPV), panels for the Building given its relatively unobstructed exposure.
  - A Combined Heat and Power ("CHP") system was investigated and deemed infeasible under current Eversource policy.
- ***Improved Wellness*** – Through the incorporation of sustainable design elements, the Project will promote health and wellness with improved indoor air and access to views and daylight. The Proponent and design team will consider the health and wellness of the Project's future occupants and users through consideration of the WELL Building Standard® ("WELL") principles in building design and during operation. This is discussed more extensively in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.
- ***Climate Resilience*** – By designing for resilience, the Project seeks to integrate climate change adaptations that reduce vulnerability given future changes in climate scenarios and natural events, such as severe weather. This is discussed more extensively in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.

Social and Economic Benefits

- ***Additional Residential Opportunities*** -The Project will provide up to approximately 108 new units of ownership housing – a low traffic-generating use. The Project promotes a vibrant mixed-use neighborhood, and will contribute to drawing customers to other nearby restaurants, stores, and services in the area.
- ***Affordable Housing*** – The Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.
- ***Enhanced Retail Opportunities*** – The Project will provide new and diverse retail opportunities for neighborhood residents, visitors, and the public at large.
- ***New Job Creation*** -The Project will enhance the economy by providing new job opportunities and a source of customers for local retail and restaurant establishments. It will create approximately 75 permanent jobs relating to the

retail, restaurant, parking and residential administration components, and create approximately 1,200 construction jobs in a variety of trades.

› ***Enhanced Tax Revenues*** – The Project will generate new real estate tax revenues for the City of Boston.

1.6 Alternatives Analysis

In accordance with 301 CMR 11.07(6)(f) of the MEPA regulations, the ENF Certificate, and the BPDA Scoping Determination, five site development alternatives were considered in this DEIR/DPIR. This section provides a summary of the five site development alternatives considered: 1) a future No-Build Alternative, 2) the 2013 original designation proposal (the "2013 Designation Alternative") requested to be studied in the ENF Certificate, 3) a reduced build alternative project considered also as the "zoning compliant alternative", as requested by the BPDA Scoping Determination (the "BPDA Reduced Build Alternative"), 4) the previously reviewed development program presented in the ENF/PNF (the "ENF/PNF Alternative"), and 5) the current proposal (the "Project" or "Preferred Alternative").

1.6.1 Alternatives Development - Project Goals and Objectives

The following Project goals have been evaluated to reflect the City, State, and community planning and objectives for development of the air rights parcels over the Turnpike within the Back Bay neighborhood:

Address Civic Vision

› Transform an underutilized, vacant highway overpass into a hub of vibrant residential and ground-floor retail activity.

› Create an attractive and appealing place worthy of its prominent location as an asset for the Back Bay and Fenway neighborhoods, as well as for the City.

› Knit together the Back Bay and Fenway neighborhoods through a vibrant mixed-use development.

› Improve the public realm and neighborhood access, and create a more inviting and safer ground-level experience for pedestrians.

Balance Community Input

› Incorporate various design elements that are respectful to the scale and character of the urban street wall and the neighborhood, including the neighboring Back Bay Architectural District.[4]

› Extensive consideration and study of project alternatives, specifically to building massing and height.

[4] The Project Site is not within the bounds of the Back Bay Architectural District, which is bounded by the centerlines of Back Street on the north, Embankment Road and Arlington Street on the east, Boylston Street and Newbury Street on the south, and Charlesgate East on the west.

Minimize Environmental Impacts

- Incorporate sustainable concepts in all aspects of planning, design, construction and operation.
- Exceed minimum energy performance requirements.
- Improving stormwater and effluent quality.
- Encourage alternative transportation modes by improving bicycle and pedestrian accommodations.
- Redesign with reduced height and scale to minimize adverse impacts, including minimizing net new shadows on public spaces and historic resources.

Create Financially Feasible Development in Air Rights Parcel over Turnpike

- Recognizing the engineering and financial challenges to creation of an air rights project over the Turnpike (which has not been successfully implemented since creation of Copley Place in mid-1980's which benefitted from federal financial assistance), create successful development which will meet requirements of lenders, investors and condominium purchasers.

1.6.2 Project Alternatives

The following project alternatives have been considered consistent with the ENF Certificate and the BPDA Scoping Determination:

- **No-Build Alternative** – The No-Build Alternative would maintain the existing conditions at the Project Site, leaving an undeveloped, vacant highway overpass amidst one of Boston's most lively and walkable districts. The separation established by the railroad tracks and widened by the Turnpike Extension would continue to divide the Back Bay and Fenway neighborhoods, and would fail to achieve the vision established in the Civic Vision.
- **2013 Designation Alternative** – A reduced build alternative was initially considered in the 2013 designation, which did not include either the Prudential Parcel or the Cambria Street Air Rights Parcel. (Note: This project alternative was referred to as the "Reduced Build Alternative" in the MEPA ENF and is renamed herein as the "2013 Designation Alternative.")

  The Proponent's Parcel 15 proposal (approved in the 2013 designation) included a single, 398-foot building located on Parcel 15, the Cambria Street Air Rights, and the Scotia Parcel, consisting of up to approximately 470,000 square feet of residential, hotel, and retail uses. Since this alternative excluded the Prudential Parcel, it covered only 50% of the open area above the inbound Turnpike traffic lanes.
- **Zoning-Compliant Alternative or BPDA Reduced Build Alternative** – The ENF Certificate requested that a zoning-compliant alternative be evaluated. This alternative would reflect what is permitted by the underlining zoning, which in this case consists of a combination of the two distinct zoning articles applicable to different portions of the Project Site. Because the zoning boundary line

bisects Cambria Street, as a practical matter there is no realistic zoning-compliant alternative applicable to the Project Site.

This was recognized by the BPDA Scoping Determination, which suggested that an alternative of "a single tower covering the same parcel assembly, with a use and density that might allow realistic development, at the earlier proposed height of 400 feet" be evaluated as the closest to a literal Zoning-Compliant Alternative. Accordingly, this DEIR/DPIR evaluates the BPDA Reduced Build Alternative, which consists of residential use with ground and second floor retail and includes development on the Prudential Parcel with a 400-foot height, as the closest to a Zoning Compliant Alternative, as suggested in the BPDA Scoping Determination.

› **ENF/PNF Alternative** – In the course of meetings with the BRA and the Community Advisory Committee ("CAC") regarding Proponent's 2013 proposal, the Proponent was urged to expand the development of the 2013 Designation Alternative by seeking site control of the Prudential Parcel. With control of the Prudential Parcel, the Proponent could fill in the street wall on Dalton and Boylston Streets, and deck over the entirety of the open area immediately above the inbound Turnpike traffic lanes (as noted above, the open area above the inbound Turnpike traffic lanes would only have been approximately 50% covered if only Parcel 15 were decked over).

The ENF/PNF Alternative incorporated the Prudential Parcel reflective of the community's vision of a single project stretching to Dalton Street. By including the Prudential Parcel, the ENF/PNF Alternative covered the entirety of the open area immediately above the inbound traffic lanes and reaped greater urban design, public realm, and economic benefits associated with utilizing this area at the corner of Boylston and Dalton Streets. The ENF/PNF Alternative included two buildings, the "East Building" or "Apartments Building" comprised of approximately 182 residential apartments with a height of approximately 283 feet from grade to the top of the highest occupiable floor, and the "West Building" or "Residences Building" comprised of up to approximately 160 residential condominiums with a height of approximately 566 feet to the top of the highest occupiable floor.

› **Preferred Alternative (Project)** – In the course of meeting with community groups regarding the ENF/PNF Alternative, concerns were expressed regarding density and to a lesser extent regarding building height, while welcoming the inclusion of the Prudential Parcel which allowed both complete covering of the open area of the Turnpike below and completing the Boylston Street wall. To address these community concerns, substantial changes have been made to the ENF/PNF Alternative, including eliminating the Apartments Building and reducing the height of and the number of units in the Residences Building, while continuing to include the Prudential Parcel in the Project Site. The Project which is now the Preferred Alternative thus succeeds in reaping the great urban design, public realm, and economic benefits associated with completely covering the open area immediately above the inbound traffic lanes at the

corner of Boylston and Dalton Streets while reducing density and height in comparison with the ENF/PNF Alternative.

Table 1-2 below compares the development programs of the analyzed development alternatives in accordance with the ENF Certificate and the BPDA Scoping Determination.

1.6.3 Qualitative and Quantitative Comparison Analysis

This section below compares the potential environmental impacts of the project alternatives. Table 1-2 below provides a quantitative impact analysis comparing the No-Build Alternative, the 2013 Designation Alternative, the BPDA Reduced Build Alternative (or zoning-compliant project), the ENF/PNF Alternative and the Project (the Preferred Alternative), as described herein.

Environmental impact categories, such as stormwater management, solid and hazardous waste, and construction are not compared as part of the alternatives analysis since they would be generally the same across the development schemes other than the No-Build Alternative and all project alternatives would be required to comply with applicable regulations.

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Table 1-2 Comparison of Project Alternatives

Impact Category	No-Build Alternative	2013 Designation Alternative	BPDA Reduced Build Alternative	ENF/PNF Alternative	"Project" or Preferred Alternative
Program and Building Height					
Total PDA Site Acreage	1.165[1]	0.79[2]	1.165[1]	1.165[1]	1.165[1]
Total Site Zoning Lot (SF)	40,955	29,388	40,955	40,955	40,955
Total SF GFA	-0-	470,000	±392,500	689,000	439,500
Number of Buildings	-0-	1	1	2	1
Highest Building Height (feet)[3]	NA	398	400	566	484
Primary Ground Floor Use	None	Retail (9,100 SF)	Retail (±45,000 SF)	Retail (35,000 SF)	Retail (45,500 SF)
Primary Upper Floor Use (maximum # of units)	None	Residential (120) & Hotel (270 rooms)	Residential (±80)	Residential (342)	Residential (up to 108)
FAR[4]	0	13.5	9.6	16.8	10.7
Land					
New Land Alteration (SF)	-0-	-0-	-0-	-0-	-0-
Total Impervious Surface Area (SF)[5]	±5,365	±29,400	±46,121	±46,121	±46,121
Water & Wastewater					
Water Use (GPD)	-0-	62,211	±38,276	76,610	49,252
Wastewater Generation (GPD)	-0-	56,555	±35,205	69,645	44,775
Traffic					
Daily Vehicle Trips (Unadjusted)	-0-	3,494	2,670	3,634	2,890
Daily Vehicle Trips (Adjusted)	-0-	1,090	840	1,008	896
Parking					
Parking Spaces	-0-	240	±115	303	175

Historic Resources					
Impact to Historic Structure (shadows, visual)	None	Undetermined, but similar to Project	Reduced Impacts[6]	Adverse Effect	Reduced Impacts[6]
Consistency with Planning					
"Civic Vision for Turnpike Air Rights in Boston" Planning Study (2000)	Inconsistent	Consistent	Consistent	Consistent	Consistent
Metro Future: Making a Greater Boston Region (2008)	Inconsistent	Consistent	Consistent	Consistent	Consistent

NA Not Applicable
GFA gross floor area of building as defined in Article 2A of the Boston Zoning Code and as applicable to a Planned Development Area in the Huntington Avenue Prudential Center District under Article 41 of the Code.
SF Square Feet of site or lot area
GPD gallons per day
1 Includes area above public right-of-way and sidewalks.
2 Excludes Prudential Parcel. Would not have been eligible for PDA under current PDA 1-acrea requirement.
3 Represents zoning height (top of highest occupiable floor).
4 Excludes parking in accordance with provisions of Article 41 pertaining to PDA and is based on Total Zoning Lot SF.
5 Consists of building footprint and paved area.
6 As compared to the ENF/PNF Alternative.

Consistency with Planning

The No-Build Alternative would maintain the existing conditions at the Project Site, and fail to achieve the goals established in the Civic Vision.

Therefore, except for the No-Build Alternative, the remaining project alternatives endeavor to meet the applicable planning efforts and the development expectation and goals set by the City and community. However, the 2013 Designation Alternative does not achieve the CAC goal of fully covering the opening to the Turnpike below which will create a Boylston Street street wall and knit together the Fenway and Back Bay neighborhoods. While the ENF/PNF Alternative achieved these goals, the ENF/PNF Alternative raised concerns of density and height. The BPDA Reduced Build Alternative would achieve the CAC goal of fully covering the opening to the Turnpike below, but, as discussed below in connection with height and density, the BPDA Reduced Build Alternative cannot be implemented in a financially feasible manner since it would not create sufficient revenue to support the construction of the deck.

The Project, which is now the Preferred Alternative represents a thoughtful response to the community feedback, and improves the ENF/PNF Alternative to fulfill the longstanding goals of the Civic Vision through infilling the entire breach in the street wall along the south side of Boylston Street between Dalton Street and St. Cecilia Street, while eliminating one of the two residential buildings and decreasing height and density, in a manner more consistent with both the 2013 Designation Alternative and the BPDA Reduced Build Alternative, as compared to the ENF/PNF Alternative.

The Preferred Alternative also is consistent with the *MetroFuture* regional plan because it will provide new housing opportunities and employment and redevelop an underutilized urban site with existing infrastructure (including nearby public transit).

Height and Massing

The No-Build Alternative would maintain the existing conditions at the Project Site, and have no impact of height and massing.

The 2013 Designation Alternative with a height of 398 feet has a slightly reduced impact of height and massing compared to the Preferred Alternative, but does not achieve the goals of covering the entire open area over the Turnpike or of creating a street wall on Boylston Street.

The BPDA Reduced Build Alternative has a similar impact as the 2013 Designation Alternative with respect to the height of 400 feet. However, in order to achieve the necessary density to support the costs of development spanning the entire open area over the Turnpike in view of escalation of industry-wide construction costs from 2013 to date of anticipated commencement of the Project, engineering, design, and construction costs inherent in construction over the Turnpike, and site control costs

(including elimination of the Prudential rental building), a project with a height limit of 400 feet would need to have a significantly wider footprint and larger floorplates (such as an L-shape building) to provide for more sellable building area. This is problematic because building area cannot be added north and/or east due to the geometry of the Turnpike below. Furthermore, such a reconfigured building would be visually and aesthetically unappealing in terms of urban design. However, most significantly, such a reconfigured building would be structurally unfeasible due to the challenge of the building over the Turnpike, which significantly limits where the building core and support footings can be located.

The ENF/PNF Alternative represented the most dense and tallest development consisting of a total of approximately 689,000 square feet in the form of two residential buildings –an apartment building and condominium building, the tallest of which proposed a height of approximately 566 feet to the top of the highest occupiable floor. This alternative raised community concern regarding both density of development and height.

In response to community concerns about density and height, the Project has been redesigned to consist of a single condominium building with a reduced overall GFA, which is now the Preferred Alternative. Significantly, the Project now has fewer (although larger) residential units and less parking spaces than either the 2013 Designation Alternative (which also included hotel use) or the ENF/PNF Alternative (which combined rental and condominium uses). In many respects, the Preferred Alternative more closely represents the BPDA Reduced Build Alternative and only exceeds the height of that proposal by 84 feet, while reducing the height by 82 feet as compared to the ENF/PNF Alternative. While the Preferred Alternative does not include a hotel component, it provides additional retail uses compared to both the 2013 Designation Alternative and the ENF/PNF Alternative. Overall, while having a slightly greater height than the 2013 Designation Alternative and BPDA Reduced Build Alternatives, the Project, which is now the Preferred Alternative, reduces the density of the overall development scheme from the 2013 Designation Alternative with an overall SF of 439,500 as compared to the 2013 Designation Alternative SF GFA of 470,000 GFA.

The elimination of the second building of the ENF/PNF Alternative, which is now the Preferred Alternative, while retaining the Prudential Parcel as part of the Project Site, has financial implications in terms of the density required for success of the Project. In order to support the costs of a project spanning the entire open area over the Turnpike in view of escalation of industry-wide construction costs from 2013 to date of anticipated commencement of the Project, engineering, design and construction costs inherent in construction over the Turnpike, and site control costs (including elimination of the Prudential rental building), the Project must achieve a density level greater than achievable with the BPDA Reduced Build Alternative limited to a height of 400 feet given structural constraints. These factors combine to support the need for the slightly increased height of the Project, as compared to the 2013 Designation Alternative and BPDA Reduced Build Alternative.

Land/Urban Design

Since the No-Build Alternative did not create any new buildable area and since the 2013 Designation Alternative did not include the Prudential Parcel, the BPDA Reduced Build Alternative, the ENF/PNF Alternative, and the Preferred Alternative would all result in an increase of impervious area, compared to the No-Build and 2013 Designation Alternatives. However, under the 2013 Designation Alternative, only approximately 50 percent of the area above the Turnpike inbound traffic lanes would be covered, thus failing to repair the discontinuity in the urban street wall left behind by the Turnpike expansion to provide a cohesive link between the Back Bay and Fenway neighborhoods.

Although the BPDA Reduced Build Alternative would achieve the goal of covering the entirety of the open area immediately above the Turnpike inbound traffic lane, the BPDA Reduced Build Alternative limited to a height of 400 feet given structural constraints is not financially feasible.

Both the ENF/PNF Alternative and Preferred Alternative represent financially feasible developments that would achieve the goal of covering the entirety of the open area immediately above the Turnpike inbound traffic lane and reap greater urban design, public realm, and economic benefits associated with utilizing this area at the corner of Boylston and Dalton Streets. Furthermore, as noted above, the Preferred Alternative incorporates extensive community feedback and concerns regarding density and height.

Water and Wastewater

Since the No-Build Alternative did not create any new buildable area, it would not create any need for water or generation of wastewater. However, of the alternatives creating new building area, the BPDA Reduced Build Alternative would result in the least amount of water use and wastewater generation compared to the other project alternatives. The Preferred Alternative has been significantly reduced in program size to the current program of up to 108 residential units—which represents an overall reduction of 12 residential units and 270 hotel keys from the 2013 Designation Alternative, and of 234 residential units from the ENF/PNF Alternative. Although the retail use has increased modestly by approximately 10,500 square feet from the ENF/PNF Alternative, the reduction in residential units produces the most measurable decrease (just over half) in water demand and wastewater generation for the Preferred Alternative, as well as demands on other utilities.

Traffic and Parking

Since the No-Build Alternative did not create any new buildable area, it would not result in any new vehicle trips or need for parking.

The 2013 Designation Alternative included hotel use, which is impactful in terms of vehicle trips and parking. The ENF/PNF Alternative eliminated hotel use, but included more than three times as many residential units as proposed in the Preferred Alternative.

The BPDA Reduced Build Alternative and the Preferred Alternative would generate similar amount of new vehicle trips, which are less than those which would be generated by the 2013 Designation Alternative and ENF/PNF Alternative (Table 1-2). This is due to the reduced development program with the least impactful land use (residential) compared to the hotel use, as previously proposed in the 2013 Designation Alternative and more than three times as many residential units proposed in the ENF/PNF Alterative. However, as discussed above, the BPDA Reduced Build Alternative cannot achieve a density needed to support the Project costs.

The 175 parking spaces proposed in the Preferred Alternative also reduces the amount of parking capacity from that which had been proposed in both the 2013 Designation Alternative (which had proposed 240 parking spaces) and in the ENF/PNF Alternative (which had proposed 303 parking spaces).

Greenhouse Gas Emissions/Air Quality

As discussed above, given the reduction in new building program and vehicle trips as compared to the 2013 Designation Alternative and the ENF/PNF Alternative, the Preferred Alternative is expected to result in reduced GHG and other air emissions associated with building energy usage (stationary sources) and single-occupancy vehicles (mobile sources) as compared to such other alternatives.

Historic Resources

The MHC determined that the ENF/PNF Alternative would have "adverse effect" on the Back Bay Historic District, which is within ¼-mile of the Project Site, and on the Charles River Basin Historic District and Charles River Esplanade, both of which are more than ¼-mile from the Project Site, by introducing indirect visual elements out of character with the districts, altering their setting. The project refinements reflected in the Preferred Alternative compared to the ENF/PNF Alternative demonstrate that the Proponent has explored a development alternative that would minimize such adverse effects through a reduction in building height and massing. Refer to Section 10.6.1 of Chapter 10, *Historic Resources*, for additional information. Furthermore, the Preferred Alternative would result in less net new shadow on project area historic resources, also a concern of MHC relating to the ENF/PNF Alternative. Refer to Section 6.4 of Chapter 6, *Environmental Protection,* for an updated evaluation of shadow impacts for the Preferred Alternative.

Wind

The Preferred Alternative has many positive design features that are contributing to the wind comfort conditions around the Project Site. These include the setback of the Podium along the west face of the building and the building having many faces to reduce the amount of down-washing from a single direction. Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for an evaluation of pedestrian-level wind conditions as a result of the Preferred Alternative. The wind tunnel studies demonstrate that the Project complies with the BPDA criteria established for the

Build Condition studied with Air Rights Parcels 12 and 13 and the Berklee Crossroads assumed developments included.

Since both the 2013 Designation and BPDA Reduced Build Alternatives consist of a very similar building configuration as the Preferred Alternative (podium with single approximately 400-foot building), they can be expected to have similar wind conditions. Although a detailed wind analysis was not conducted for the ENF/PNF Alternative, it might be anticipated that this alternative, with greater heights and two buildings, would have greater wind impacts than the other alternatives considered. Removing the Apartments Building as part of the Preferred Alternative is expected to improve pedestrian wind conditions on Dalton Street and the corner of Boylston and Dalton Streets.

Shadow

Refer to Section 6.4 of Chapter 6, *Environmental Protection,* for an updated evaluation of shadow impacts for the Preferred Alternative. In comparison with the ENF/PNF, the project modifications of the Preferred Alternative result in overall less net new shadow that would extend over public ways and parks, and historic resources. Since both the 2013 Designation and BPDA Reduced Build Alternatives consist of a very similar building configuration as the Preferred Alternative (podium with single approximately 400-foot building), they can be expected to have similar shadow impacts.

1.6.4 Conclusion

The Project which is the Preferred Alternative represents a major change to the ENF/PNF Alternative intended to address the Civic Vision and be responsive to the community feedback by reducing the building density and height concerns, as well as environmental impacts. The Preferred Alternative continues to provide the significant public benefits to the surrounding neighborhoods and the City, including enhancing the key link between the Back Bay and Fenway neighborhoods, activating and significantly improving the public realm, building on the retail vitality of the Boylston Street commercial corridor, and providing high quality residential space in a highly visible and accessible Back Bay location. In many respects the Preferred Alternative is substantially similar in density and height as the 2013 Designation and BPDA Reduced Build Alternatives.

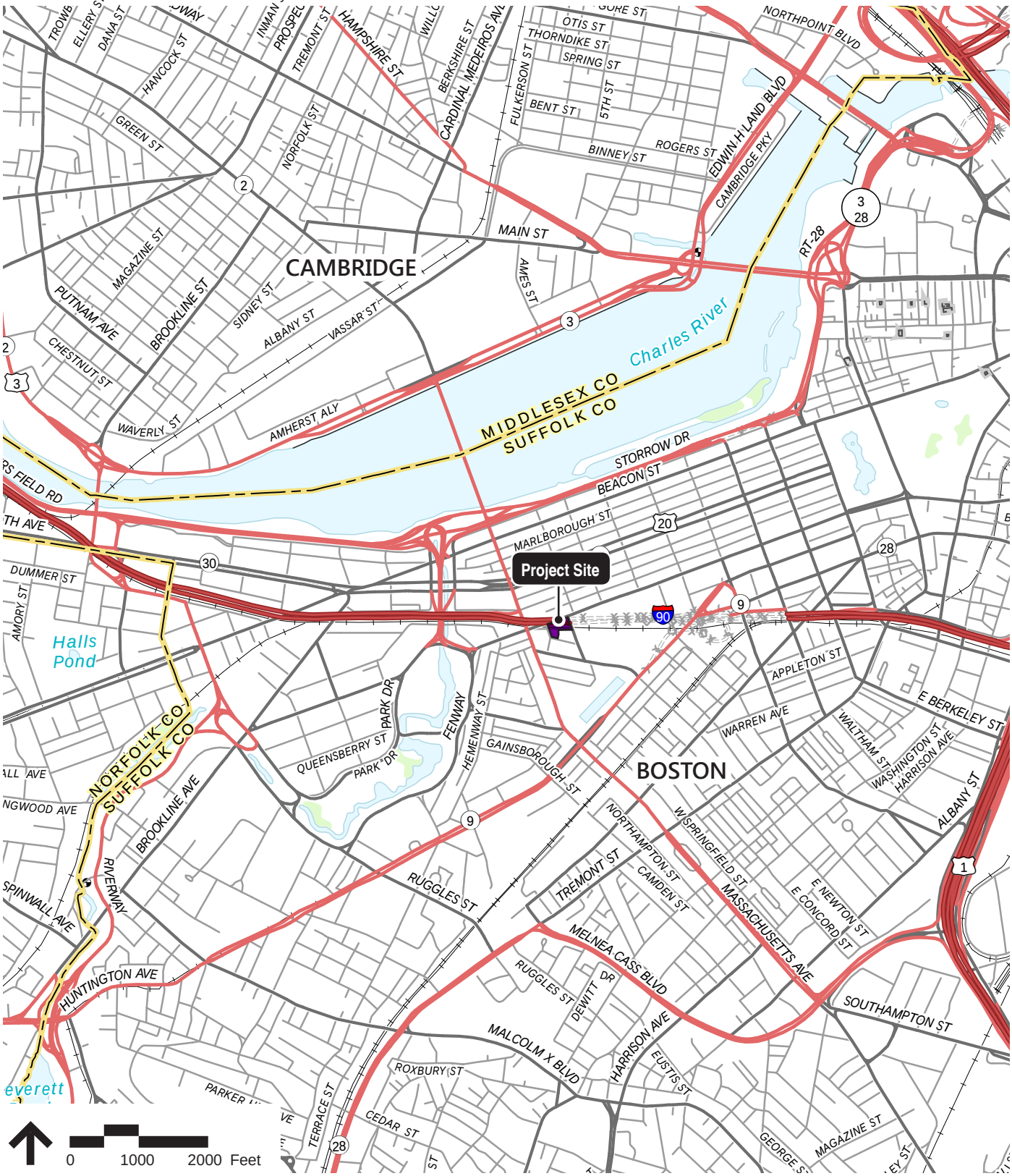
However, the Preferred Alternative presents challenges to the Proponent in terms of financial feasibility of construction of air rights over the entire opening of the Turnpike and of the costs of site control, including the Prudential Parcel while having income from only a single building. These factors combine to result in the need for slightly increased height of the Preferred Alternative as compared to the 2013 Designation and BDPA Reduced Build Alternatives, while reducing the density as compared to the 2013 Designation Alternative.

1.7 Community Outreach

Since 2011, the Proponent and CAC have met 16 times regarding the Project (and its previous iterations). Prior to filing the ENF/PNF, the Proponent and members of the project team met with City and State agencies, elected officials, members of the CAC, abutting owners, neighborhood groups, community leaders, business owners, area residents, and other stakeholders to seek input and feedback on the development plan as it progressed. In late 2016, two community meetings with the CAC were held about the Project then under consideration.

Since the filing of the ENF/PNF, several additional public community meetings were held during the public review and comment periods for each filing. In accordance with MEPA regulations, a public on-site consultation was held on January 24, 2017. During the public review period for the PNF, two CAC meetings were held (on February 14 and March 7), as well as a public meeting on February 1, 2017 and a community meeting on February 28, 2017.

The Proponent will continue to meet with City and State agencies, elected officials, the CAC, abutting owners, neighborhood groups, community leaders, business owners, area residents and other stakeholders regarding this DEIR/DPIR during its review period and will continue to interface and consult with such parties during implementation of the Project.



Source: MBTA

Site Locus Map

Figure 1.1

1000 Boylston Street
Boston, Massachusetts



Source: ArcGIS Online Bing Aerial

Project Site Context

Figure 1.2

1000 Boylston Street
Boston, Massachusetts

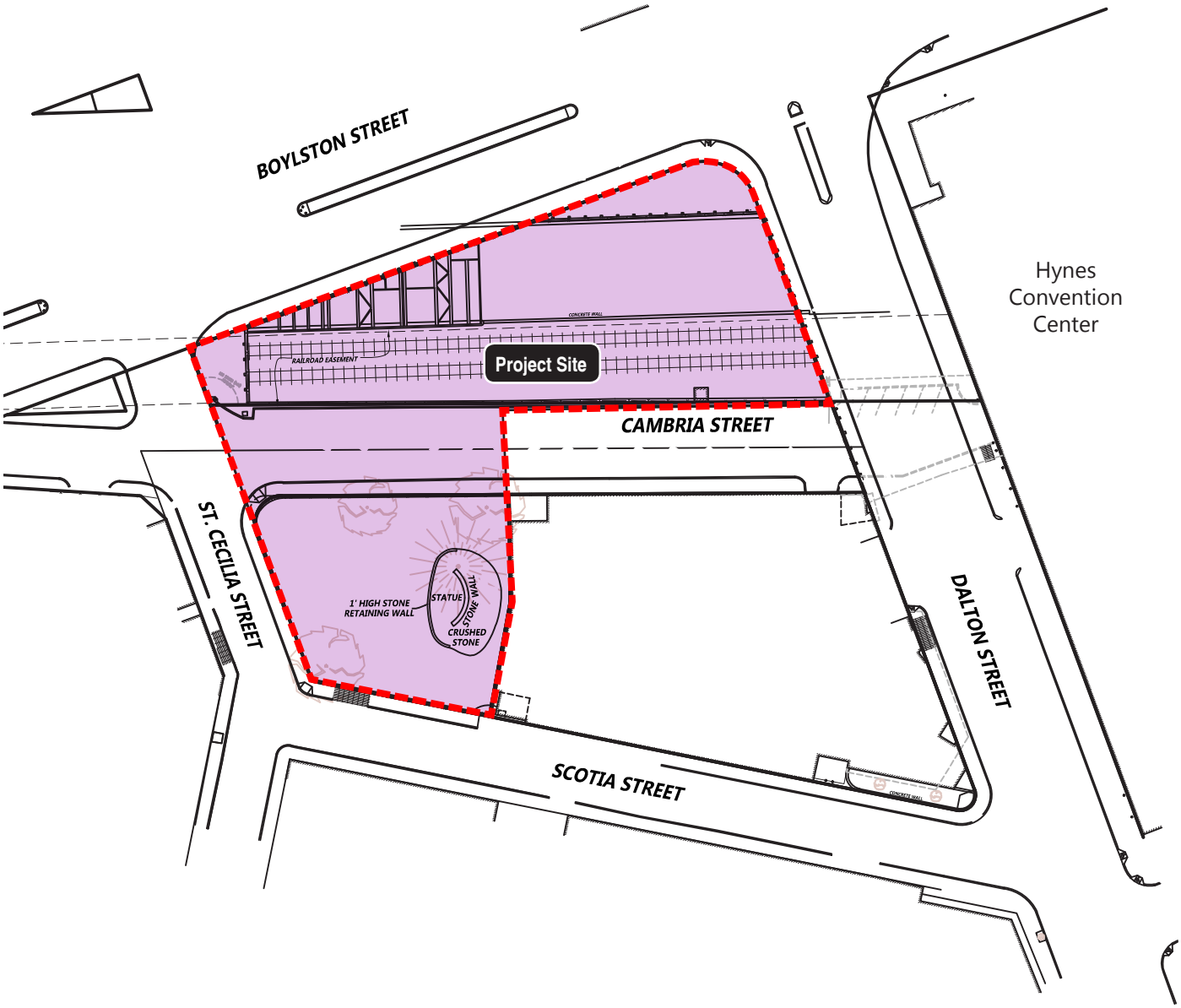


Aerial Image Source: Google Earth

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MASS DOT Air Rights Parcels
1000 Boylston Street
Boston, Massachusetts

Figure 1.3



0 40 80 Feet

Source: Feldman Professional Land Surveyors

Project Site Boundary

Existing Conditions Plan

Figure 1.4

1000 Boylston Street
Boston, Massachusetts



Bolyston Street looking South East towards Existing Garage



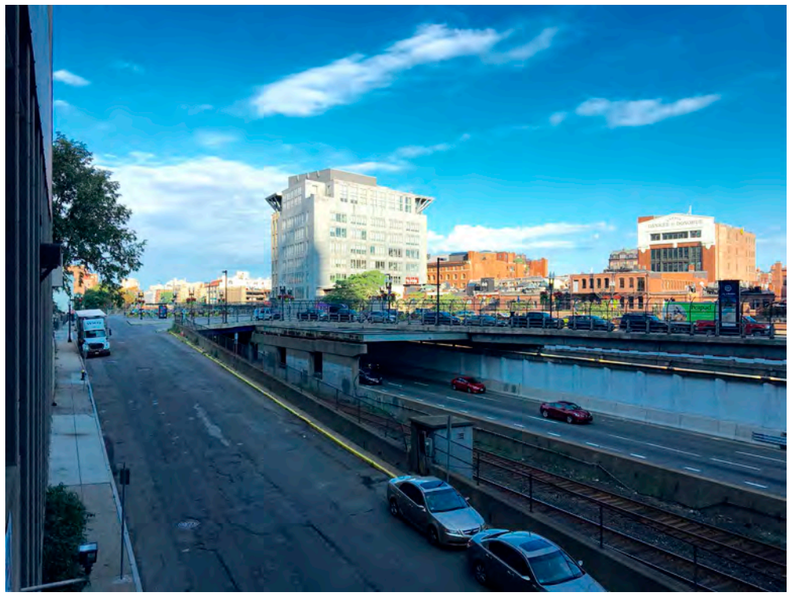
Cambria Street looking East towards Hynes Convention Center



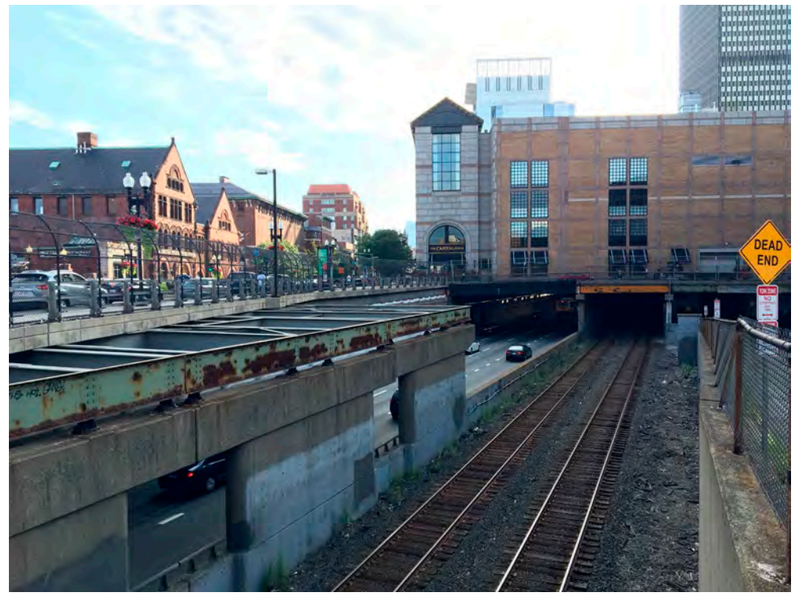
Corner of Dalton Street and Boylston Street looking West



Corner of St. Cecilia Street and Cambria Street looking South towards Scotia Street



Dalton Street looking West towards St. Cecila Street and Boylston Street



St. Cecilia Street looking East over Tracks and Turnpike

Existing Site Conditions Photos

Figure 1.5

1000 Boylston Street
Boston, Massachusetts



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Project Site Development Parcels
1000 Boylston Street
Boston, Massachusetts

Figure 1.6

PROPOSED PARCEL 13
DEVELOPMENT

PROJECT SITE
BOUNDARY

RESIDENT ENTRANCE
(Condominium)

BOYLSTON STREET

PROPOSED BERKLEE
IMP DEVELOPMENT

CAMBRIA STREET

MASSACHUSETTS AVENUE

BERKLEE COLLEGE
OF MUSIC

ST. CECILIA STREET

SCOTIA STREET

DALTON STREET

ST CECILIA'S
CHURCH

HYNES CONVENTION
CENTER

RETAIL
CONDOS
COMMON AREA
AMENITY
PARKING
BOH/MECHANICAL

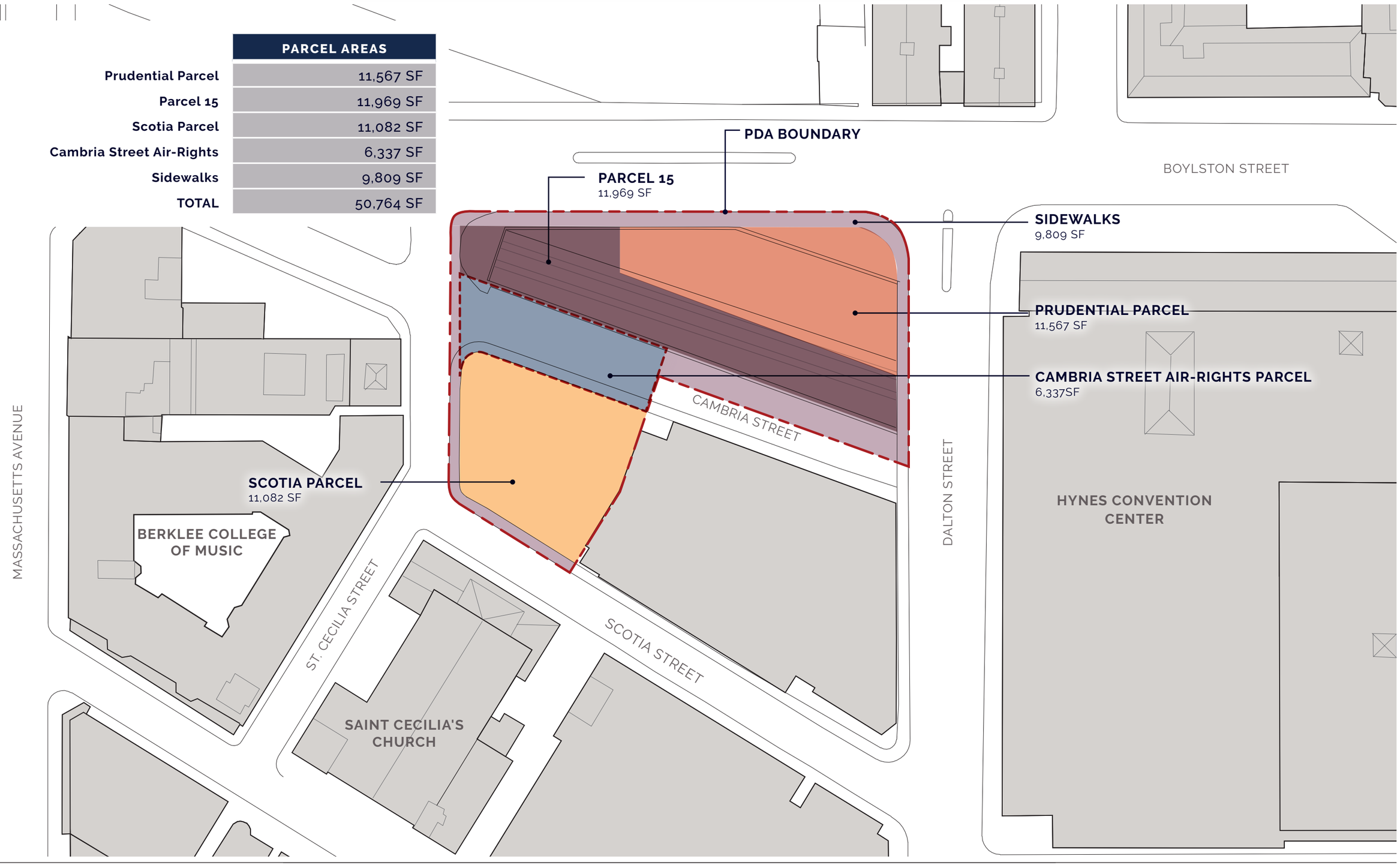
0 30 60 Feet

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ARCHITECTS

Proposed Conditions Site Plan
1000 Boylston Street
Boston, Massachusetts

Figure 1.7

PARCEL AREAS	
Prudential Parcel	11,567 SF
Parcel 15	11,969 SF
Scotia Parcel	11,082 SF
Cambria Street Air-Rights	6,337 SF
Sidewalks	9,809 SF
TOTAL	50,764 SF



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PDA Parcel Plan
1000 Boylston Street
Boston, Massachusetts

Figure 1.8

2

Regulatory Context and General Information

This chapter identifies the anticipated required permits and approvals, and describes how the Project will meet applicable regulatory requirements and standards. This chapter also provides a summary of ongoing public agency coordination and community outreach, identifies the development team, and provides relevant legal information regarding the Proponent and the Project Site.

2.1 Regulatory Context

This section lists the anticipated permits and approvals, as well as the local planning and regulatory controls applicable to the Project.

2.1.1 City of Boston Zoning

The Project Site spans the boundary between the Huntington Avenue / Prudential Center ("HAPC") District under Article 41 of the Code and the B-8-120-C zoning district of Boston Proper. The portion of the Project Site within the HAPC District is located in the St. Cecilia Special Study Area subject to Section 41-9 of the Code. The entirety of the Project Site is also located within the GCOD, pursuant to Article 32 of the Code, and the Restricted Parking Overlay District. The Project requires zoning relief.

It is anticipated that the Project Site will be included within a PDA Special Purpose Overlay District for a Planned Development Area ("PDA"), designated by the addition of the letter "D" to the area, which will include the Project Site and abutting portions of streets, which will be improved by Proponent as public realm improvements in connection with the Project or the subsurface of which will be used for support elements.

The rezoning of the Project Site will be accomplished through a two-step process. In the first step, the BPDA will recommend and the Boston Zoning Commission will adopt (i) a zoning map amendment to extend the boundaries of the Huntington Avenue/Prudential District over the entirety of the Project Site, so that the entirety of the Project Site will be located within a single zoning district, and a change to the boundaries of the St. Cecilia Special Study Area, and (ii) an amendment of Article 41 of the Code to allow a PDA Special Purpose Overlay District for a Planned Development Area at the Project Site. In the second step, the Proponent will seek designation of the PDA Parcel, as shown on Figure 1.8, as a PDA Special Purpose

Overlay District for a Planned Development Area, together with the adoption of a Development Plan for the Project, all pursuant to Article 80C of the Code.

Uses

The uses of the Project as multifamily dwellings, general retail, restaurant and accessory uses such as a garage accessory to residential use and other uses which do not exceed 25 percent of the floor area of the main building are permitted in both the B-8-120C District and in the HAPC District. Garage accessory to retail/restaurant/service uses is conditional within the Restricted Parking Overlay District. In the HAPC District, Ground Level uses on Boylston Street are limited to various retail, restaurant and service uses, and to residential lobbies not exceeding 40 feet of frontage.

Upon adoption of the Development Plan for the PDA, uses of the Project will be governed by the Development Plan.

Dimensional Requirements

Article 13 of the Code imposes the following dimensional requirements upon the portion of the Project Site within the B-8-120C District:

- A maximum Floor Area Ratio ("FAR") of 8, and a maximum height of 120 feet;
- Lot size, open space, lot width and yard requirements for dwelling uses are based on the least restrictive residence district; and
- No parapet setback from a side lot line is required.

For the portion of the Project Site in the HAPC District, Section 41-9 of the Code imposes a maximum FAR of 7 and a maximum height of 100 feet for a project which undergoes Article 80B, Large Project Review. Also, although sub-surface parking and at-grade parking for residential uses are excluded from Gross Floor Area ("GFA") calculations under the Code, the area of parking that is above-grade is included in determining FAR calculations. However, in a PDA in the HAPC District, above-grade parking is not included in GFA calculations.

For projects in a PDA, Section 41-16 of the Code imposes certain "shadow criteria" limiting the extent of net new shadow created on dedicated public parkland, and requiring a proponent to minimize the amount of shadow cast on any public open space created as part of a proposed project, and imposes certain "wind criteria" setting forth wind standards in Table A.

Section 41-18 of the Code imposes certain "Specific Design Requirements" on the portion of the Project Site within the HAPC District, including Street Wall Continuity, Street Wall Height, Display Window Area Regulations, and Setback and Floorplate Requirements. Relief from strict compliance with these provisions is by exception under Article 6A of the Code. In a PDA, some of the design requirements are determined through the Large Project Review process or in the Development Plan.

Based on the current design of the Project, it will exceed the maximum permitted FAR and height in both the B-8-120C District and the HAPC District, and may require relief from some of the design requirements applicable to the portion of the Project Site within the HAPC District, such as street wall height and maximum floorplate dimension.

Upon adoption of the Development Plan for the PDA, dimensional requirements for the Project will be governed by the Development Plan.

Off-Street Parking and Loading

Neither Article 23 of the Code applicable to the portion of the Project Site in the B-8-120C District, nor Section 41-19 of the Code applicable to the portion of the Project Site in the HAPC District, requires any minimum number of parking spaces. However, a minimum of 0.7 parking spaces for each new on-site dwelling unit is required in a PDA within the HAPC District.

Loading requirements for the portion of the Project Site in the B-8-120C District are established under Article 24 of the Code. Under Section 41-20 of the Code loading requirements for the portion of the Project Site in the HAPC District are established through Article 80B Large Project Review.

Groundwater Conservation Overlay District

Under Article 32 of the Code, a conditional use permit is required for projects within the GCOD involving paving or other surfacing of lot area, extension of a structure occupying more than 50 square feet of lot area, and construction of a structure involving excavation below-grade to a depth of seven (7) or more feet below Boston City Base. As required under Section 32-6 of the Code (and described further in Chapter 9, *Infrastructure*), the Project will infiltrate not less than one (1) inch of rainfall across the portion of the Project Site to be occupied by the Project and will not have a negative effect on groundwater on the lot or adjacent lots. It is anticipated that the Development Plan for the PDA will include a mechanism for demonstration of compliance with the requirements of Article 32.

Inclusionary Housing

The Inclusionary Development Policy ("IDP"), approved by the BRA in December 2015, established as city policy that any residential project seeking zoning relief must set aside at least 13 percent of its market rate units as affordable to households at specified levels of income within a project. Alternatively, in the Zone A within which the Project Site is located, a project can create the equivalent of 18 percent of the total number of units off-site, or contribute to a housing creation fund at a per-unit subsidy equal to 18 percent of the total number of project units.

The Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.

City of Boston Zoning Code Article 80B, Large Project Review

Because the Project exceeds 50,000 square feet of gross floor area and is located in part in a downtown zoning district, it is subject to Large Project Review by the BPDA pursuant to Article 80B of the Boston Zoning Code. The Large Project Review process was commenced by the filing of a Letter of Intent with the BPDA on November 14, 2016, and continued with the filing of the PNF on January 3, 2017. The BPDA issued a Scoping Determination on July 11, 2017. This DEIR/DPIR responds to the BPDA Scoping Determination, as well as the MEPA Certificate on the ENF. Given the reduction in overall project size (<500,000 square feet), the public review period for the DPIR is 45 days, per Article 80B-5 of the Code.

2.1.2 Fenway Urban Renewal Plan

The Project Site lies within the Fenway Urban Renewal Plan Area. Under the Fenway Urban Renewal Plan, 0.75 parking spaces are required per residential dwelling, one parking space is required per 400 square feet of commercial retail floor area, and one loading dock is required for 15,000 to 50,000 square feet of commercial retail floor area.

The Project will require a taking by the BPDA from the City of Boston of the Cambria Street Air-Rights and the below-grade area of Cambria Street relating to the Project's load bearing elements, and a conveyance of such above-grade and subsurface air rights from the BPDA to the Proponent.

2.1.3 Massachusetts Environmental Policy Act

The Project is subject to MEPA review because it involves land transfers in the form of an Air Rights Lease from MassDOT and a transfer of air rights from the BPDA acting as urban renewal authority under G.L. c. 121B. The Project also requires state permits/approvals.

The ENF/PNF Alternative exceeded the following review threshold and, accordingly, required a mandatory EIR under 301 CMR 11.03(6)(a):

› 301 CMR 11.03(6)(a)6: Generation of 3,000 or more New average daily trips ("adt") on roadways providing access to a single location.

The Project which is now the Preferred Alternative does not exceed the review threshold of 301 CMR 11.03(6)(a)6 but rather exceeds the review threshold for an ENF and an EIR if so determined by the Secretary of EEA under 301 CMR 11.03(6)(b):

› 301 CMR 11.03(6)(b)13: Generation of 2,000 or more New average daily trips ("adt") on roadways providing access to a single location.

The state review process is being undertaken concurrently with the City's Article 80B review process, in accordance with the Massachusetts Environmental Policy Act ("MEPA") M.G.L. c. 30, Sections 61-62I and the regulations promulgated thereunder

set forth at 301 CMR 11.00. An ENF under MEPA was filed on January 3, 2017 and a Certificate of the Secretary of EEA on the ENF was issued on February 10, 2017. Refer to Chapter 12, *Response to ENF Comments* for a copy of the ENF Certificate.

2.1.4 Public Benefits Determination

A portion of the Project Site is located in landlocked tidelands. Accordingly, a Public Benefits Determination for the Project has been requested from MEPA, pursuant to 301 CMR 13.02. A more detailed discussion of the boundary of landlocked tidelands in relation to the Project Site is included in Chapter 8, *Landlocked Tidelands*.

2.1.5 MassDOT Tunnel Ventilation

Beginning in March 2017, the Proponent has been participating in regular meetings organized by MassDOT to coordinate the tunnel ventilation needs associated with the build-out of various air rights parcels over the Turnpike including, but not limited to, the Project Site. MassDOT is currently in the process of evaluating ventilation requirements for the tunnel extension created by the Project, as well as the proposed developments on Parcels 12 and 13, in accordance with applicable regulations. The initial version of the air quality study was submitted by MassDOT to MassDEP for review and approval. Once finalized, the study will be submitted to the MEPA Office as additional information.

MassDOT's study includes an evaluation of normal (air quality) and emergency (smoke control) ventilation requirements within the tunnel, and ambient air quality in the Project Site vicinity. The results of the emergency ventilation analysis indicate that additional mechanical ventilation will be required for smoke control in the Eastbound lanes of the Turnpike only. Supplemental emergency ventilation will be provided by jet fans installed directly within the roadway beneath the Project. In late-August 2017, the Proponent submitted 30% design plans for the emergency ventilation system for MassDOT review. The sizing and operation of these new fans will be fully coordinated with the existing longitudinal ventilation systems serving the existing tunnel, in accordance with the requirements of NFPA 502, *Standard for Road Tunnels, Bridges, and Other Limited Access Highways*. Additional ventilation requirements for air quality in the tunnel and/or at the surface in the Project Site vicinity will be addressed based on the MassDOT study.

2.1.6 Massachusetts Historical Commission Review

The Massachusetts Historical Commission (MHC) has advisory review over projects requiring any state or federal action, such as land transfers, funding, licensing, permitting, and/or approvals, in order to evaluate potential direct or indirect impacts to properties listed in, or eligible for listing in, the National and State Registers of Historic Places, in compliance with State Register Review requirements (M.G. L. Chapter 9, Sections 27-27c, as amended by Chapter 254 of the Acts of 1988) and Section 106 of the National Historic Preservation Act of 1966. The submittal of the MEPA ENF initiated MHC's review of the Project pursuant to 950 CMR 71.07(1).

On January 31, 2017, the MHC determined the ENF/PNF Alternative would have an "adverse effect" on the Back Bay Historic District, which is within ¼-mile of the Project Site, and the Charles River Basin Historic District and Charles River Esplanade, both of which are more than ¼-mile from the Project Site, by introducing indirect visual elements out of character with the districts, altering their setting. MHC also expressed concern about net new shadow over the above-mentioned resources and landscapes, as well as individual properties located directly across Boylston Street from the Project Site.

Through its comment letter, MHC initiated the consultation process with MassDOT and the Proponent, pursuant to 950 CMR 71.07(3), to explore alternatives to eliminate, minimize, or mitigate these adverse effects. Consistent with the 950 CMR 71.00 et seq., the Proponent and project team have explored various alternatives. The Project which is now the Preferred Alternative represents a prudent and feasible alternative to the ENF/PNF Alternative to eliminate, minimize or mitigate any adverse effect on State Register Properties. The Project has been redesigned with a reduced height and massing, which minimizes adverse impacts to historic resources. Specifically, for almost all conditions, net new shadow over the Back Bay Historic District is reduced. Refer to Section 10.6 of Chapter 10, *Historic Resources*, for an updated evaluation of potential impacts to historic resources based on the current Project. As the consultation process with MHC continues, mitigation measures for any remaining adverse effects will be identified in consultation with MHC and MassDOT.

2.1.7 Federal Aviation Administration

The Project Site is located approximately 2.9 nautical miles from the nearest runway at Boston's Logan International Airport (Runway 14/32). The most recently issued Logan Airspace Map, published by the Massachusetts Port Authority ("Massport") in December 2011 identifies a Composite of Critical Airspace Surfaces above the project site at an elevation of 1,000 FT Above Mean Sea Level (AMSL). The current design proposes a structure with a maximum height of approximately 544 FT above the existing site grade of approximately 32 FT (NAVD88) on Boylston Street, corresponding to a maximum elevation of approximately 570 FT AMSL, approximately 430 FT below the published Massport limit.

During the review of the ENF, the project team consulted with the Aviation Planning Team at Massport providing detailed coordinates for the Project. Massport did not object to the taller height proposed at that time (586 FT AGL / 626 FT AMSL).

The Project requires the filing of one or more Notices of Proposed Construction or Alteration (Form 7460-1) with the Federal Aviation Administration (FAA) because the proposed structure exceeds the criteria at 14 CMR Part 77.9(a) "any construction or alteration that is more than 200 ft. AGL…" The project team anticipates filing one or more notices for the building following the completion of the MEPA and Article 80B review processes. Furthermore, a notice will be filed for the anticipated temporary construction crane when sufficient information is available.

2.2 Anticipated Permits/Approvals

Table 2-1 below presents a list of permits and approvals from local, state, and federal governmental agencies, which may be required for the Project. It is possible that not all permits or actions listed will be required, or that additional permits or actions may be needed, based on determinations during Project design and development.

Table 2-1 List of Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action	Status
City of Boston		
Boston Planning & Development Agency	Article 80B Large Project Review and Execution of Related Agreements	In process - PNF filed 1/3/17
	Recommendation of Text and Map Amendments regarding PDA eligibility, including rezoning of portion of Site in B-8-120C District into HAPC District	To be obtained
	Recommendation of PDA Designation [include certification of compliance with GCOD standards] and Map Amendment creating D Overlay District	To be obtained
	Taking of Cambria Air Rights and subsurface areas from City and Disposition to Proponent, including Minor Modification to Fenway Urban Renewal Plan or adoption of Demonstration Project	To be obtained
	Design Review	To be obtained
	Certificate of Consistency and Compliance	To be obtained
Boston Zoning Commission/Mayor	Approval of Text and Map Amendments regarding PDA eligibility, including rezoning of portion of Site in B-8-120C District into HAPC District	To be obtained
	Approval of PDA Designation [include certification of compliance with GCOD standards] and Map Amendment	To be obtained
Boston Civic Design Commission	Schematic Design Review	In process
Boston Transportation Department	Transportation Access Plan Agreement	To be obtained
	Construction Management Plan	To be obtained
	Valet License for on-street valet (as required)	To be obtained
Boston Water and Sewer Commission	Site Plan Review Approval	To be obtained
	Water and Sewer Connection Permits	To be obtained
	Temporary Construction Dewatering Permit (issued jointly with MWRA)	To be obtained
	Groundwater Trust Certification	To be obtained

Agency/Department	Permit/Approval/Action	Status
Public Improvement Commission/Public Works Department	Cambria Street Air Rights and Subsurface Discontinuances	To be obtained
	Specific Repair Plan/Curb Cut Permit	To be obtained
	License for Injection Well below Sidewalk	To be obtained
	Agreement for Temporary Earth Retention Systems, Tie-Back Systems and Temporary Support of Subsurface Construction (as required)	To be obtained
	Permits/Canopy Licenses for signs and awnings (as required)	To be obtained
Tree Warden (Boston Parks Department)	Approval of Cutting of Public Shade Trees (as required)	To be obtained
Public Safety Commission/Boston Committee on Licenses	Permit to Erect and Maintain Parking Structure	To be obtained
	Inflammables License	To be obtained
Boston Air Pollution Control Commission	Confirmation of exemptions	To be obtained
Boston Fire Department	Plan review approval	To be obtained
	Approval of fire safety equipment	To be obtained
Boston Inspectional Services Department	Building Permit	To be obtained
	Other construction-related permits	To be obtained
	Certificates of Occupancy	To be obtained
Commonwealth of Massachusetts		
Executive Office of Energy and Environmental Affairs (MEPA Office)	Review under Massachusetts Environmental Policy Act, including Public Benefits Determination	In process; ENF filed 1/3/17
Massachusetts Historical Commission	State Register Review	In process
Massachusetts Department of Transportation	Development Agreement and Air Rights Lease	In process
	Design Review	In process
	Construction Management Plan Review	To be obtained
	Approval under G.L. c. 40, sec. 54A (as applicable)	To be obtained
	Access permit(s) (as applicable)	To be obtained
	Tunnel Ventilation Approval/Permit (as applicable)	To be obtained
Department of Environmental Protection	Injection Well Permit	To be obtained
Department of Public Utilities	Approval of Rail Vertical Clearance under G.L. c. 160 Sec. 98	Issued 8/7/17
Massachusetts Department of Housing and Community Development	Review and Comment regarding Minor Modification to Urban Renewal Plan (as applicable).	To be obtained

Agency/Department	Permit/Approval/Action	Status
	Review and Comment regarding disposition of Cambria Street Air Rights	To be obtained
Massachusetts Water Resources Authority	Temporary Construction Dewatering Permit (issued jointly with BWSC)	To be obtained
Federal		
Federal Aviation Administration	Determination of No Hazard to Air Navigation	To be obtained

2.3 Agency Coordination

As the development plan has progressed, the Proponent and members of the Project team have met and will continue to meet with City of Boston agencies, elected officials, members of the CAC, abutting owners, neighborhood groups, community leaders, business owners, area residents, and other stakeholders to seek input and feedback.

The filing of the ENF/PNF initiated the formal agency coordination and community outreach process, and this process continues with the filing of this DEIR/DPIR. The Proponent is fully committed to maintaining an open dialogue and will continue to engage the public throughout the review and approval processes.

As mentioned above, beginning in March 2017, the Proponent has participated in regular meetings organized by MassDOT associated with the build-out of various air rights parcels over the Turnpike including, but not limited to, the Project Site. These meetings are expected to continue through design and construction, as needed.

2.4 Development Team

This section lists the members of the design and consulting team and provides their primary contact information.

Proponent	ADG Scotia II LLC c/o Weiner Ventures LLC 200 Clarendon Street, Floor 50 Boston, MA 02116 617-236-0200 *Contact:* Adam Weiner
Project Management	D. Levine Management LLC c/o Weiner Ventures LLC 200 Clarendon Street, Floor 50 Boston, MA 02116 857-990-3008 *Contact*: Donald Levine

Architect	Elkus Manfredi Architects 25 Drydock Ave Boston, MA 02210 617-426-1300 *Contacts:* David Manfredi Kevin Lennon
Legal Counsel	Goulston & Storrs 400 Atlantic Avenue Boston, MA 02110 617-482-1776 *Contacts:* Marilyn Sticklor Adam Hundley Michael Flannery
Site Civil Engineering, Permitting, Transportation, Historic	VHB 99 High Street, 10th Floor Boston, MA 02110 617-728-7777 *Contacts:* Mark Junghans, Project Manager/Civil Engineer Lauren DeVoe, AICP, LEED AP BD+C, Senior Environmental Planner David Bohn, PE, ENV SP, Senior Principal/ Transportation/Traffic Engineer Nicole Benjamin-Ma, Preservation Planner
Geotechnical Engineer & Environmental Engineer	Haley & Aldrich 465 Medford Street, Suite 2200 Boston, MA 02129 617-886-7408 *Contact:* Marya Gorczyca, P.E., Senior Vice President
Mechanical, Plumbing, Electrical Engineer and Sustainability Consultant	WSP 88 Black Falcon Avenue, Suite 210, Boston, MA 02210 617-210-1735 *Contacts:* Tom Burroughs, PE, LEED AP, Senior Vice President Building Systems Julia M. Rogers, LEED AP+, CSM, Practice Leader of WSP Built Ecology Group
Wind and Solar Consultant	RWDI 600 Southgate Drive Guelph, Canada N1G 4P6 519-823-1311 *Contact:* Derek Kelly, M.Eng., P.Eng., Project Manager/ Principal

Construction Management	Suffolk Construction 65 Allerton Street Boston, MA 02119 617-445-3500 *Contact:* Scott Menard, Vice President Preconstruction

2.5 Legal Information

2.5.1 Legal Judgments or Actions Pending Concerning the Proposed Project

The Proponent is not aware of any legal judgments in effect or legal actions pending that are adverse to the Project.

2.5.2 History of Tax Arrears on Property Owned in Boston by the Proponent

The Proponent does not have a history of tax arrears on any property owned within the City of Boston.

2.5.3 Evidence of Site Control

The Scotia Parcel is owned by an affiliate of the Proponent.

Parcel 15 is owned by MassDOT. The Proponent and MassDOT are parties to a Development Agreement, as it may be amended, pursuant to which the Proponent will acquire interests in Parcel 15 through a Land Transfer, such as an air rights lease, and pursuant to which the Project will be developed by the Proponent.

The Prudential Parcel is owned by Prudential. The Proponent and Prudential are parties to a ground lease, as it may be amended, pursuant to which the Project will be developed by the Proponent.

The Cambria Street Air Rights Parcel is owned by the City of Boston. The BPDA is being requested to take such air rights parcel by eminent domain from the City, and convey such area to the Proponent.

2.5.4 Public Easements

There are two public easements through the Project Site. The Cambria Street Air Rights Parcel is subject to a public way easement, which will be discontinued prior to the Proponent's acquisition of the Cambria Street Air Rights Parcel (although rights of the public for use of Cambria Street as a public way will remain in effect below the lowest elevation of the Cambria Street Air Rights Parcel, excepting the subsurface areas used for structural supports). The Prudential Parcel is subject to an easement

in favor of MassDOT pursuant to which the Turnpike is operated and maintained within the boundaries of the Prudential Parcel.

In addition, the Project Site may be made subject to certain additional easements in favor of MassDOT that will ensure the continued operation and maintenance of the Turnpike and adjacent railroad tracks within the boundaries of the Project Site.

3

Urban Design

This chapter describes the existing urban context of the Project Site and discusses the planning principles and design goals for the Project. It also describes urban design characteristics (i.e., height and massing) and public realm improvements proposed as part of the Project. Supporting graphics are provided, including massing diagrams, building floorplans, building sections, building elevations and view perspectives.

3.1 Summary of Project Changes

In response to feedback from the community and public agencies regarding the ENF/PNF Alternative, significant changes have been made to the massing and the program of the Project. The following are among the concerns which were expressed in comments regarding the ENF/PNF Alternative:

- The inclusion of the Apartments Building to be constructed on the Prudential Parcel portion of the Project Site was questioned by the CAC.
- Both the BDPA and the CAC requested that the massing of the project at the corner of Dalton and Boylston Streets be reduced.
- The increase in height of Residences Building above the height proposed in the 2013 Designation Alternative was a concern to some members of the CAC and the community.
- The diversity of architectural expression of the three primary project components – Podium, Apartments Building, and Residences Building – was questioned by the BCDC and the CAC.
- Further study of the Podium design and the visual screening of the cars in the parking garage was requested by the BCDC.

Most impactful of the proposed changes from the ENF/PNF Alternative to the Project which is now the Preferred Alternative is the removal of one of the two residential buildings. The Apartments Building at the corner of Boylston and Dalton Streets on the Prudential parcel has been eliminated as part of the Project. Additionally, the height of the taller Residences Building to the west has been reduced by 82 feet. The Podium has been slightly reduced in height and still completes the street walls along Boylston, Dalton, St. Cecelia, and Scotia Streets. The cumulative effect of these changes is to reduce the impact of shadows in the Back Bay and of wind in the surrounding streets. The massing configuration consisting of a podium, reflecting the urban block structure, and a single building, set back and articulated from the Podium is consistent with the principles outlined in the Civic Vision and complies with the required Boylston Street sky plane setback. The

location of the Residences Building, above Cambria Street and the Scotia Parcel, and at some distance from the historic fabric of the Back Bay, reflects the spirit of the High Spine concept. In addition to the massing adjustments, an effort has been made to harmonize and simplify the architectural vocabulary for the Project. Programmatically, the reduction in residential units has affected a reduction in parking from 303 cars to 175 and the entry to the garage has been moved from Dalton Street to Scotia Street, reducing the project impact on traffic. The visual screening of the cars in the garage has been further developed, as described in Sections 3.5.1 and 3.5.2 below.

3.2 Summary of Key Findings and Benefits

The Project benefits both the immediate neighborhoods and the City at large by improving retail vitality, enhancing the public realm, and providing high quality residential space in a highly visible and accessible Back Bay location. The Project design will dramatically improve the character of the public realm and neighborhood access, and the area will be significantly enhanced by the urban design and architectural character of the Project. The following is a summary of the key urban design benefits:

- Knits together the Back Bay and Fenway neighborhoods by constructing a building spanning and covering the open areas of the Turnpike.
- Provides a podium base that extends across the entire Project Site creating a high-quality continuous street frontage activated by vibrant and engaging ground floor uses, such as retail and restaurant spaces, as well as a residential building lobby.
- Provides up to approximately 45,500 square feet of first and second-floor retail and restaurant space facing Boylston Street, which will enhance pedestrian activity around the Project Site and provide amenities to neighbors and building residents.
- Provides an upgraded streetscape, including new sidewalks, street lighting, landscaping where feasible and other public amenities along Boylston, Dalton, St Cecilia and Scotia Streets, consistent with the BTD's Complete Streets guidelines, wherever feasible.
- Provides transparency and creates a more inviting and safer ground-level experience for pedestrians through the use of glass facades.
- Preserves the flow of light and air in and around the Project Site with the elimination of the Apartments Building.
- Reinforces the urban "high spine" planning strategy by reflecting high design standards and successfully complementing the height and massing in the area while designing the building to minimize wind and shadow impacts on surrounding neighborhood public space resources.
- Creates iconic architecture which will be a prominent architectural addition to the skyline visible from west of the City, from across the river in Cambridge, and

from various other locations in the city. (See Figure 3.12 through 3.29 for the view perspectives.)

3.3 Neighborhood Context

As described in Chapter 1, *Project Description and Alternatives,* and illustrated in Figure 3.1, the Project Site is bounded to the north by Boylston Street, to the east by Dalton Street and the Hynes Convention Center, to the south by Scotia Street and an existing above-ground garage, and to the west by St. Cecilia Street and the rear façade of the Berklee College of Music buildings fronting Massachusetts Avenue. A portion of the Project Site (the Scotia Parcel) is a vacant grass lot, and much of the Project Site is open to the Turnpike below.

The architectural character of the Back Bay is typified by three- to five-story brownstones flanking tree-lined streets. Two linear green spaces give the Back Bay further distinction: the Commonwealth Avenue Mall that links the Public Garden, the Fens in Boston's Emerald Necklace, and the Esplanade along the Charles River. There are several historical architectural landmarks in the neighborhood, including Trinity Church, the Boston Public Library, and Old South Church, as well as modern icons of the City, such as the Prudential and new Hancock Towers, south of Boylston. Copley Square provides a proper civic foreground to the Public Library, Trinity Church, and the new Hancock Tower. Figures 3.2a and 3.2b illustrate the existing urban context, and Figure 3.3 identifies the existing land uses near the Project Site.

The Project has been designed to be respectful of the history and spirit of the Back Bay by:

- Designing buildings to minimize wind and shadow impacts on the surrounding neighborhood and civic and historic resources;
- Creating a vibrant street-level pedestrian experience; and
- Enhancing connectivity among the surrounding Back Bay, Fenway, and South End neighborhoods by improving the pedestrian experience around the Project Site.

While the urban fabric of the Back Bay is generally consistent and continuous in its massing and scale north of Boylston Street, the massing along Boylston Street on the south side where the Project Site is located is taller and much more diverse. This east-west zone, along the southern edge of the Back Bay, is part of what has become known as the "High Spine". As illustrated in Figure 3.2a, this zone is characterized by a continuous urban edge and several buildings over 250 feet in height including, but not limited to, the two Hancock Towers, the Prudential Tower, and 111 Huntington Avenue.

Boylston Street is an important and lively thoroughfare of the Back Bay. The pedestrian nature of the street is reinforced by the presence of commercial uses, institutions – such as the Boston Public Library, Berklee College of Music, and Trinity Church – and a well-developed street wall. As seen in Figure 3.2a, under existing conditions the street wall at the Project Site does not exist, diminishing the

pedestrian experience. This breach in the street wall along Boylston Street is caused by the Turnpike and the rail tracks that run beneath the Project Site (see Figure 1.3) and continue west in front of the Berklee College of Music and Parcel 12. The Project represents an opportunity to build and activate the street edge to be consistent with the rest of Boylston Street east of the Project Site.

An existing parking garage occupies the southeast corner of the block along Dalton and Scotia Streets. Along Boylston Street, the Project Site is flanked by the Hynes Convention Center to the east and the Berklee College of Music to the west. Dalton Street is a connector to the South End neighborhood while St. Cecilia and Scotia Streets are primarily service oriented.

Cambria Street runs through the Project Site and slopes down from St. Cecilia Street to below Dalton Street, where it provides service access to the Hynes Convention Center. The only terra firma on the Project Site is the Scotia Parcel. Figure 1.5 provides photographs of the existing site and surrounding context.

3.4 Planning Principles and Design Goals

The project design embodies several key urban design principles specific to the Project Site, and the Back Bay and Fenway neighborhoods, as well as the Civic Vision, which include:

- Repairing the discontinuity in the urban street wall left behind by the Turnpike expansion to provide a cohesive link among the Back Bay, Fenway, and South End neighborhoods;
- Enlivening the public realm with generous sidewalks and ground floor uses that engage pedestrians and enliven streets;
- Emphasize on residential and other low-traffic generating uses; and
- Respecting the scale and character of the urban street wall and the Back Bay Architectural District by placing the lower-scale elements of the Project closest to Boylston Street and setting back the taller elements of the Project, as recommended in the Civic Vision.

3.5 Design Concept and Development

Figure 3.4 illustrates the existing site constraints and overarching concepts which have guided the development of the design, and Figure 3.5 illustrates the vertical stacking of the project program elements. The Project design consists of a Residences Building set atop a 5-story podium, with a setback of the fifth floor of the Podium at the top of the fourth floor. The Podium, which is roughly the height of the adjacent Hynes Convention Center at up to approximately 102 feet with a setback at 82-feet (above average grade), will provide up to approximately 45,500 square feet of retail and restaurant space on the first two floors fronting Boylston Street, and approximately 175 above-grade parking spaces on two floors of parking. The Podium will span the entirety of the Project Site, but maintain sufficient

clearance above Cambria Street to allow for continued passage of vehicles. Rising out of the Podium, the slender Residences Building is set back from the Podium's street wall on Boylston Street to respect the scale and character of the urban street wall and the Back Bay Architectural District.

The Residences Building is situated partially on the Scotia Parcel and partially within the Cambria Street Air Rights Parcel and Parcel 15. The building will rise 27 stories above the Podium, up to approximately 484 feet from average grade to the top of the highest occupiable floor, and provide up to approximately 108 condominium units. Two levels consist of mechanical penthouse space.

The fifth floor of the Podium contains residential amenity space. The top of the Podium features outdoor space consisting of terraces and greenery, to which all Project residents will have access to.

3.5.1 Height and Massing

Structural Considerations

Due to the air-rights nature of the Project Site, there are limited places to install new foundations, which locations ultimately drive the building massing and design. Project loads within the air-rights portions of the Project Site must fall along three lines around the Turnpike below:

1. The line between the east and westbound lanes of the Turnpike (the "North Line");
2. The line between the eastbound Turnpike and the commuter rail tracks (the "Center Line"); and
3. The line between the commuter rail tracks and Cambria Street (the "South Line").

These structural considerations influence the geometry and design of the Residences Building and the Podium, as illustrated in Figures 3.4 and 3.5.

Building Form

The form and massing of the project has changed dramatically since the filing of the ENF/PNF. Sections 1.4.1 and 3.1 above describe many of the factors that contributed to the change in massing and density, including the programmatic change resulting in the elimination of the Apartments Building. However, a rethinking of the twisting tower form, with large cantilevered balconies, was influenced by several factors including:

- Wind tunnel analysis which suggests the twisting tower design contributed to down-washing due to the large single direction surfaces;
- The projecting balconies were questioned by the BCDC as they competed with the elegance and purity of the twisting form;
- The twisting form was legible at the pedestrian scale along Boylston Street but could not be appreciated in longer viewpoints around the City.

A series of bird's eye, skyline and pedestrian-level views, from multiple viewpoints in the City studied to inform the design and form of the tower, as illustrated in Figures 3.10 through 3.33). The twisting tower has been transformed into a faceted or folded form, which will be more legible from distant viewpoints in and around the City. The faceted planes will reflect light variably giving the distinct geometric form a continually changing but readable appearance through the course of the day. The tower will be a fresh and positive addition to the Boston skyline. The faceting will also help break up wind currents, which were proving to be problematic with the twisting form.

The Podium

The Podium provides an approximately 82-foot tall continuous street wall on Boylston Street that is consistent with the cornice height of the neighboring Hynes Convention Center and general scale of the street wall created by other buildings in the vicinity. The fifth floor of the Podium, which is set back from the lower Podium levels, gives the Podium a total height of approximately 102 feet above average grade, similar to the height of the gable on the Hynes Auditorium, as illustrated in Figures 3.7a and 3.8a. The Podium aims to complete the urban block and is set back up to approximately eight feet from the north property line to form a generous 18-foot wide sidewalk along Boylston Street. Additionally, the Boylston Street façade is folded back at Dalton Street along the bearing line between the east and westbound lanes of the Turnpike below (the North Line). This generates more sidewalk space at the intersection, creates highly desirable retail frontage, and opens a view to the west end of the Hynes Auditorium along Boylston. Along Boylston Street, the Podium reiterates the faceted geometry of the building above, tying the main horizontal and vertical components of the project together aesthetically. The podium is bisected horizontally by a continuous canopy running along Boylston, Dalton, St. Cecilia and Scotia Streets. The canopy, instrumental in wind abatement at street level around the perimeter of the site, also clearly differentiates the two floors of retail from the two floors of parking above. Further, the canopy helps to obscure views into the parking garage from the street, along with materials selected in the cladding of the garage (as further discussed in Section 3.5.2). The volume of the parking garage along Boylston Street is incised vertically at regular intervals, which recall the rhythm of property divisions along the historic Back Bay Streets. These lines are respected in the division of retail tenants on the lower two floors, the location of the residential entry, and in the structure of the parking garage. Figures 3.31 and 3.32 illustrates the pedestrian-level perspective views of the Project's building façade from Boylston Street.

Access to the loading docks will be located discreetly on Cambria Street—in effect, under the Podium (refer to Figure 3.35).

Residences Building

Refer to Figures 3.6a through 3.6i for the building floor plans, Figures 3.7a through 3.7d for the building elevations, and Figures 3.8a and 3.8b for building sections. Figure 3.9 shows the neighborhood section.

The Residences Building is set back from Boylston Street and the base of the building on its north side and is aligned with the diagonal of the Turnpike and Cambria Street below to allow the structural column loads to bear directly on foundation elements aligned along the South Line. As the building rises, the northern face and its structure fold to the west along a full height diagonal, offering varied views across the Back Bay to Beacon Hill, the Charles River and Cambridge. This manner of shaping the building, or folding its faces in response to both internal (programmatic) and external (contextual) forces, is a theme that is carried around the perimeter wherever possible. As shown in Figures 3.10a through 3.10c, the east side folds subtly to the north, with the northeast corner leaning inwards to diminish the width of the building as it rises and to balance the size of living areas in the northeast residential units. The southeast face folds into the mass, to the north, increasing its distance from the adjacent garage property as the building rises. The west and southwest faces are at the property line and, therefore, rise vertically from the Podium, but are differentiated from it by a setback (which aides in wind abatement) on the fifth and sixth floors.

The Residences Building is also articulated as two offset and interlocking volumes. The highly transparent northern volume generally contains living areas, and its skin is distinguished from the southern volume, which encloses more varied program and includes private spaces. The two volumes are further differentiated by their distinct inflection at the top of the building.

3.5.2 Character and Exterior Materials

The materials and architectural expression of the Project will invite openness and transparency, enhance the vibrant pedestrian nature of Boylston Street, and convey a level of architectural quality worthy of the Back Bay neighborhood.

As shown in Figures 3.8a and 3.8b, the Podium along Boylston Street includes a residential lobby on the ground-floor, and retail and restaurant uses on the first and second floors, above-grade parking on the third and fourth floors, residential amenities on the fifth floor and a landscaped roof terrace on the perimeter of the setback fifth floor. Quality materials and careful detailing will clearly identify and distinguish the residential entrance. The garage will be clad in a veil of variably fritted glass, which will filter light and partially screen parking activities during the day. At night, internal garage lighting will illuminate the glass from within, creating interesting patterns that will soften the use and enliven the Boylston streetscape. In addition to the fritted glass cladding, vertical glass fins at 5-foot and 2.5-foot intervals will add richness to the Podium while greatly reducing solar glare at certain street locations. The landscaped roof terrace will create a green cornice with plantings that will be visible from the ground level, as illustrated in Figure 3.31 and Figure 3.32. Like the Podium, the Residences Building will also be clad in glass, as illustrated in Figures 3.31 and 3.32. There are two distinct glass skins corresponding to the two interlocking volumes of the building. As mentioned above, the north volume contains “active” living spaces, such as kitchens, living rooms, family rooms, etc. and is, therefore, wrapped in an open and transparent glass wall. The south

volume, with its more varied program, is clad in a glass wall that combines vision glass and shadow box and is representative of the more private spaces, such as bedrooms and bathrooms. Though the expression of the glass façades will vary, the glass types, colors and frames will be designed to work with glass of the other building elements. At the top of the building, the glass wall will transform and include metal and glass light catching elements that will be illuminated at night to contribute to the visual richness of the Boston skyline. The faceted glass facades will receive daylight in a constantly changing fashion and will render the mass differently throughout the course of the day.

While the Podium and residential building each has a distinct expression tailored to its particular role, there will be a relationship between them that conveys a sense of balanced harmony.

3.6 Site Design

The design strategy for the Project Site focuses on repairing the discontinuity in the Boylston Street street wall created by the Turnpike's extension through the City. To that end, the Project will construct a podium base that extends across the entire Project Site and creates a high-quality continuous street wall activated by vibrant and engaging ground and second floor uses, including retail and restaurant spaces, and the residential building lobby.

To reinforce the connection between the new building and the surrounding context, the Project will rehabilitate the perimeter sidewalks and enhance the public realm to incorporate the BTD Complete Streets design principles, where feasible. These principles include clearly defined pedestrian routes, bicycle facilities and landscaping, where feasible. These strategies will improve public accessibility and strengthen the connection between the Back Bay and its surrounding neighborhoods. Refer to Figure 3.35 for the site access and circulation plan.

3.6.1 Pedestrian Realm

As described above, and illustrated in Figures 3.31 and 3.33, the Project will infill the gaps in the existing street wall and repair the urban fabric on the south side of Boylston Street, from Dalton Street to Massachusetts Avenue. New public realm will be created through the construction of a continuous street wall along the south side of Boylston Street. A mix of active ground floor retail uses and generous pedestrian-friendly sidewalks will be introduced to transform the area into a vibrant retail corridor, connecting the Back Bay and Fenway neighborhoods. As illustrated in Figures 3.35 through 3.37, the street wall along Boylston Street and Dalton Street is designed to complement the character and quality of the nearby pedestrian realm by incorporating ground floor uses that enliven the public realm, embracing the notion of a podium and a distinct setback of the building above, reinforcing the prevailing scale of nearby buildings, and shielding above grade parking from direct pedestrian view.

The Project will also make significant improvements to the Boylston Street frontage and its adjacent sidewalks to create an active and engaging pedestrian realm that reflects the goals and visions of Boston's Complete Streets, as illustrated in Figures 3.37a through 3.37c. Within the Project area, portions of Boylston Street will be repaved and striped to accommodate a vehicle thru lane, a shared bike lane, and a drop-off area on the south side of the street, subject to applicable approvals.

The sidewalk along Boylston Street will be increased in width by approximately eight feet to a dimension of 18 feet. The design of the sidewalk along Boylston Street will include a 1'-6" Frontage Zone, a generous and uninterrupted 11'-6" wide Pedestrian Zone and a 5'-0" wide Greenscape/Furnishing Zone which will include: bike racks, trash receptacles, lighting, and street trees in raised planters. Also, as described above, a street wall is folded back toward Dalton Street, creating a more generous sidewalk area at the intersection of Dalton Street and Boylston Street to accommodate heavier pedestrian activity.

A consistent family of materials will be selected to provide a cohesive palette. Ground-level entrances for the residential lobby, restaurant and retail uses will include carefully designed display windows, canopies, signage and outdoor seating to add texture and scale. New accessible curb ramps with tactile surfaces will be incorporated into the sidewalks to allow for barrier-free connections along the major pedestrian corridors.

The pedestrian zones along Dalton Street will also be repaved to create a uniform and continuous walking surface.

The pedestrian zone on St. Cecilia Street and Scotia Street will be repaved, freed of obstructions, and will have a comfortable and compliant slope wherever feasible. Additionally, street lighting will be installed to provide a safer pedestrian environment.

The parking garage entrance on Scotia Street will incorporate a flush pedestrian condition giving priority to pedestrians.

Landscape Design

The project landscape is comprised of three distinct environments that include the streetscape (public realm), a terrace on the fifth floor, and private open space on the sixth floor. The public realm consists of ADA-compliant sidewalks, urban planting strategies and site lighting, all influenced by the Boston Complete Street Guidelines. The sidewalk is intended to enhance the Boylston Street experience as discussed in detail above. The fifth-floor terraces are intended to create small outdoor gathering areas for the residents and the sixth-floor park-like landscape will be a planted environment providing additional greenspace for residents, and minimizing the urban heat island effects.

Complete Streets

Boylston Street is one of Boston's most heavily traveled pedestrian corridors. The strong pedestrian nature of the street is reinforced by the presence of ground-level retail and restaurants, institutions such as the Boston Public Library, and a well-developed urban street wall. The pedestrian realm of this iconic street is defined by wide sidewalks with distinct zones including a greenscape/furnishing zone adjacent to the roadway, a generous pedestrian zone, and a frontage zone adjacent to the building. It is the intent of the Proponent to incorporate the fundamental goals of the Complete Street Guidelines, where feasible.

Accessibility

The Project will significantly improve accessibility around the Project Site by creating generous barrier-free pedestrian zones along Boylston Street and Dalton Street. Care will be taken to select materials and consider key elements to address the goals outlined in the Accessibility Checklist provided in Appendix C.

The Project will implement the following:

- A valet drop-off area will be created along Boylston Street in front of the building entrance.
- The sidewalk on Boylston Street will be widened to create a generous, barrier-free pedestrian zone along the entire Project frontage. Curb ramps will be provided to allow for connections to adjacent sidewalks and nearby bus stops.
- The sidewalk on Dalton Street will be paved in concrete, free of obstructions and will have a comfortable and compliant slope, where feasible.
- The parking ingress/egress on Scotia Street will incorporate a flush sidewalk condition giving priority to the pedestrian over the vehicle.

Since the Apartments Building has been eliminated from the Project, there is no requirement for 5 percent of the units to be accessible. However, as required by 521 CMR, it is anticipated that the for-sale units will be adaptable for accessibility (521 CMR Group 1). Additionally, these units will be designed to comply with the Fair Housing Act's design and construction requirements.

3.6.2 On-Street Drop-Off

Although no on-street parking is anticipated, a dedicated valet-operated drop-off zone is proposed to be provided along Boylston Street proximate to the residential entry lobby, as illustrated in Figure 3.36. This location is intended to provide convenience for retail/restaurant patrons and residents alike.



0 200 400 Feet

ELKUS MANFREDI ARCHITECTS

Neighborhood Context Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.1

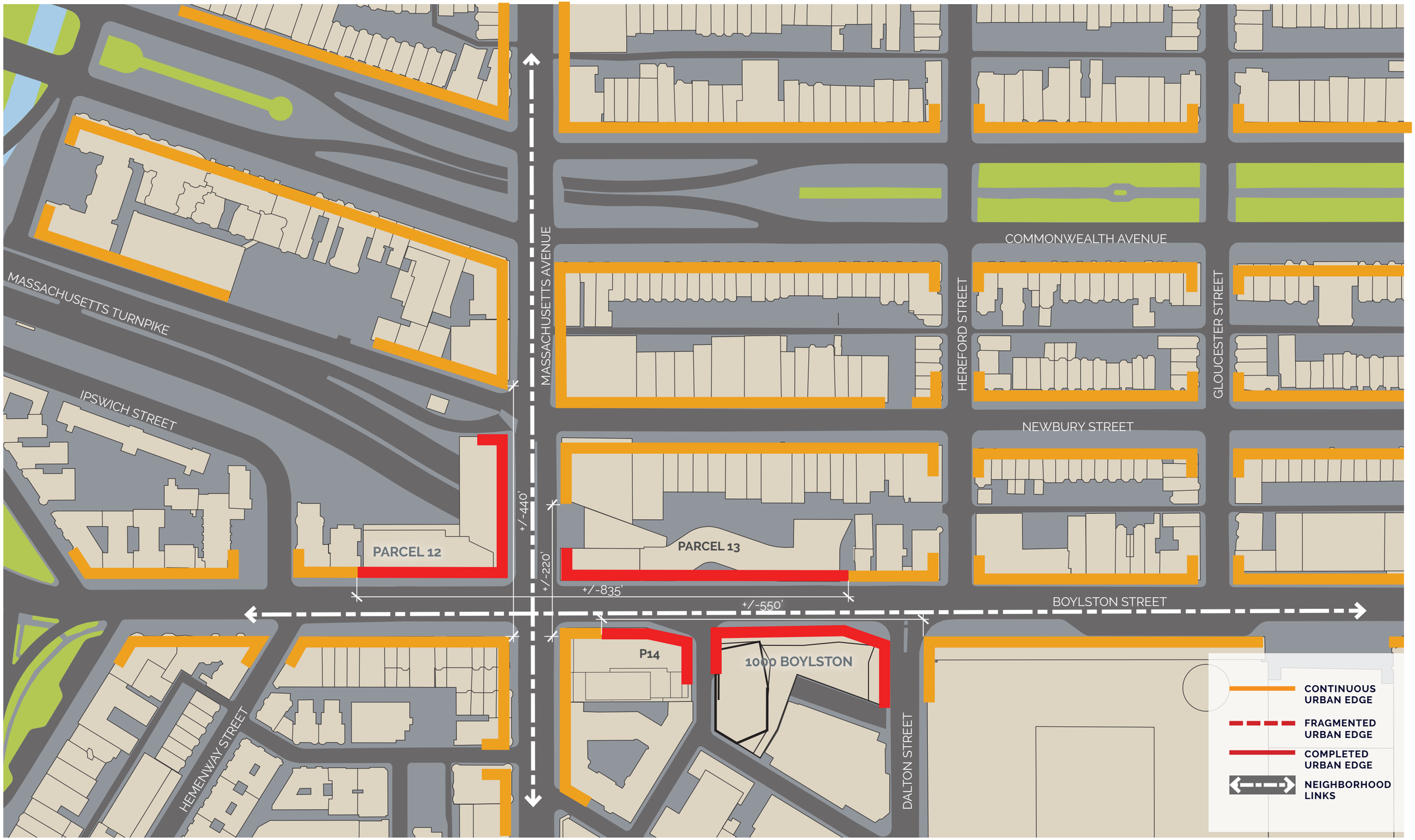
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Existing Urban Context
1000 Boylston Street
Boston, Massachusetts

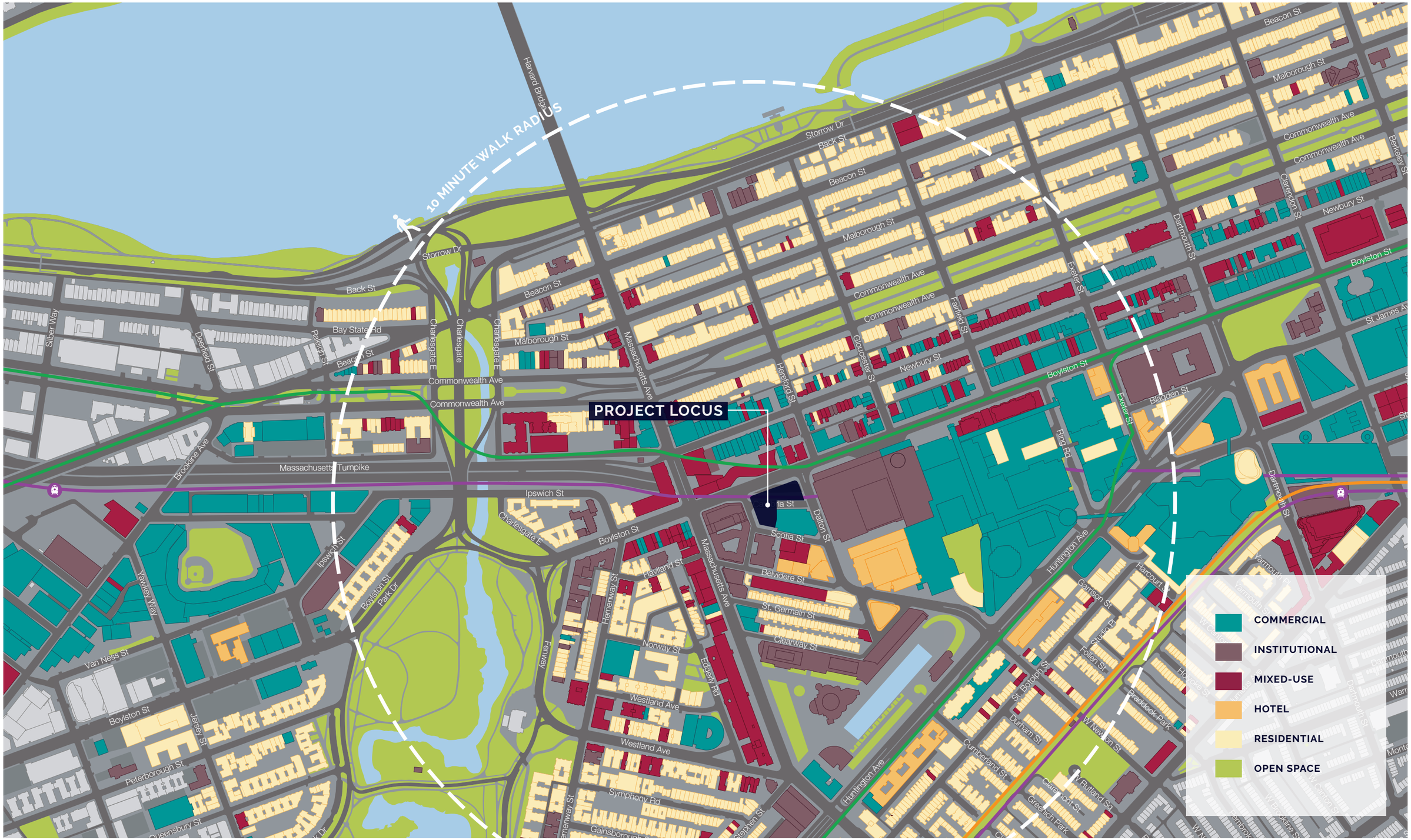
Figure 3.2a



ELKUS | MANFREDI ARCHITECTS

Urban Context | Completed Blocks Figure 3.2b

1000 Boylston Street
Boston, Massachusetts



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Existing Use Plan
1000 Boylston Street
Boston, Massachusetts

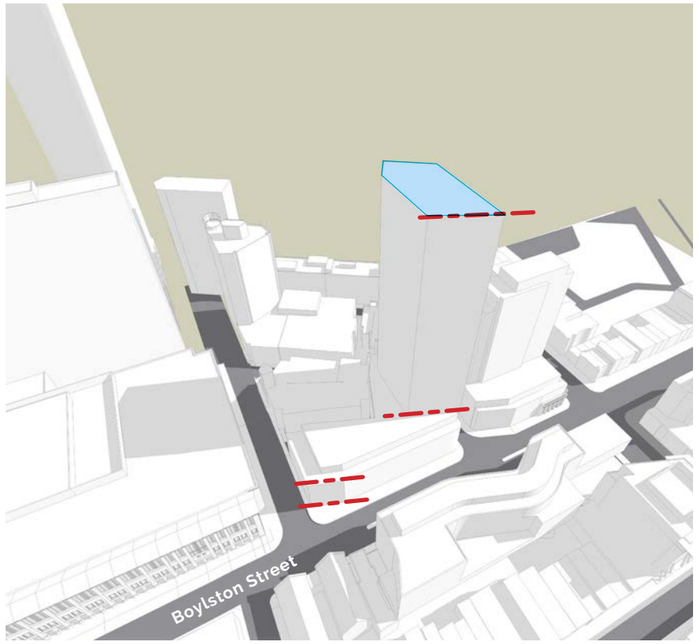
Figure 3.3



1 STRUCTURAL BEARING LINES



2 URBAN STREET WALL

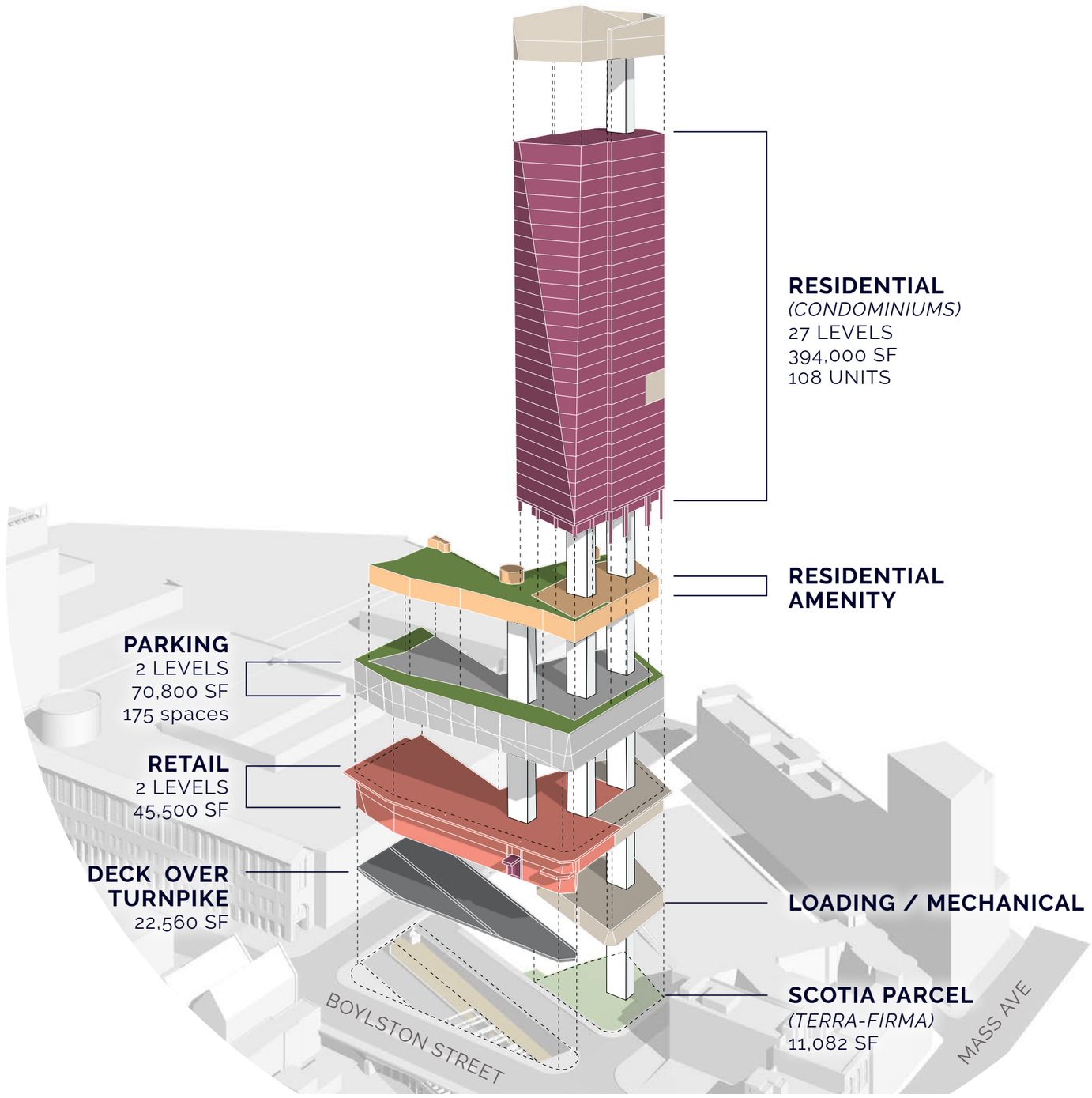


3 FOOTPRINT EXTRUSIONS

4 FACADE ROTATION

5 SCULPTED FORM

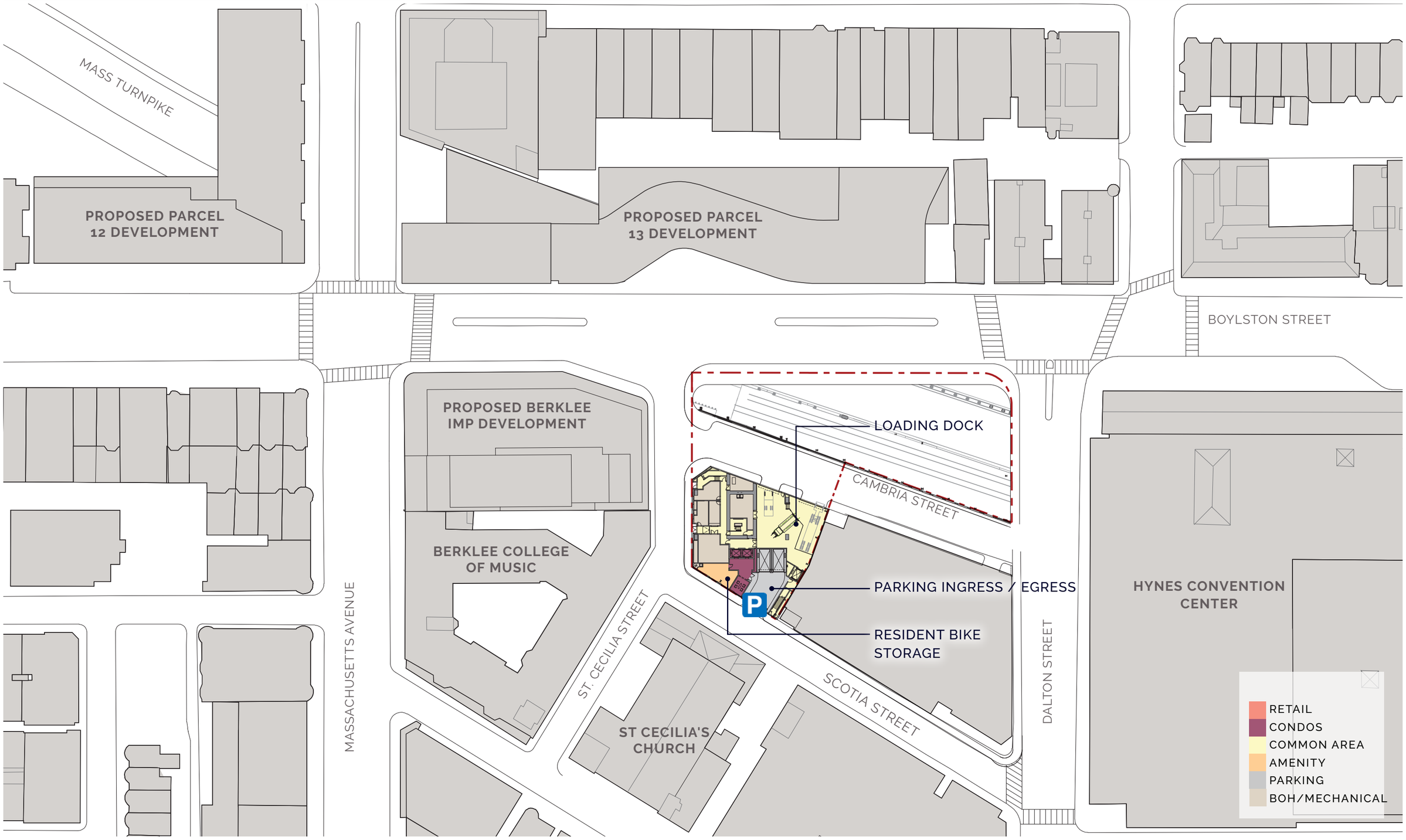
6 GREEN



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Program Stacking Diagram
1000 Boylston Street
Boston, Massachusetts

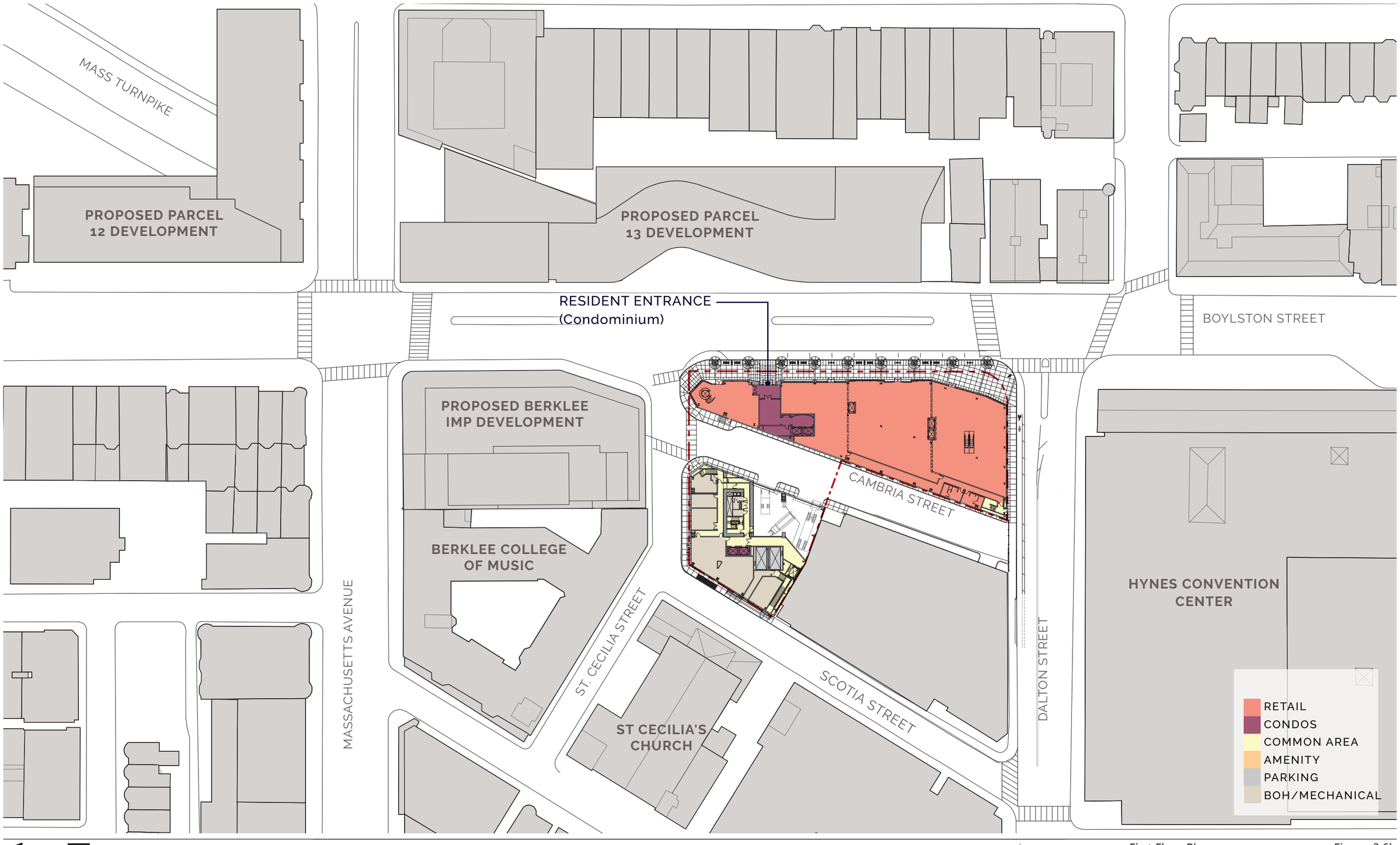
Figure 3.5



ELKUS | MANFREDI ARCHITECTS

Lower Level Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6a

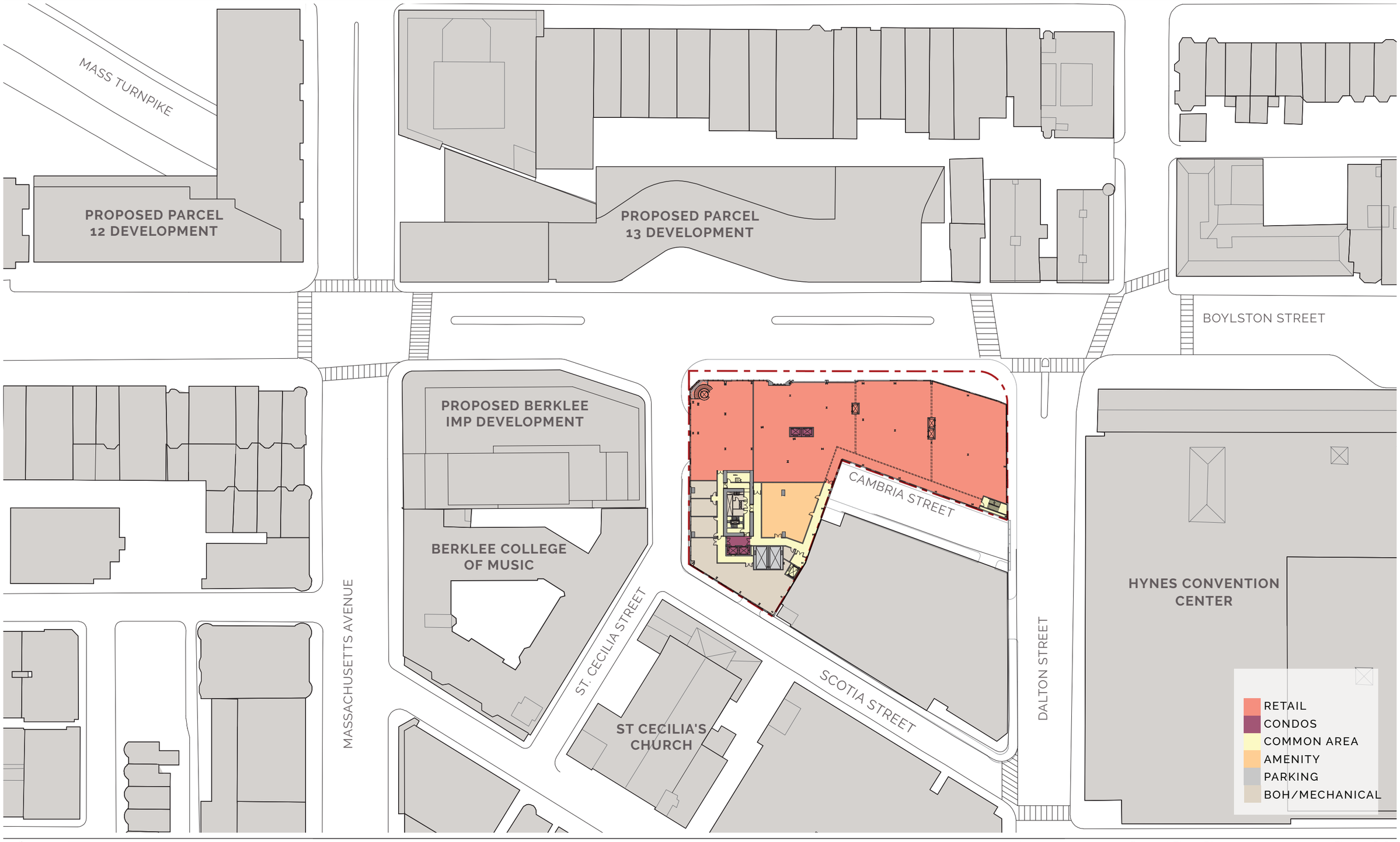


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First Floor Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6b

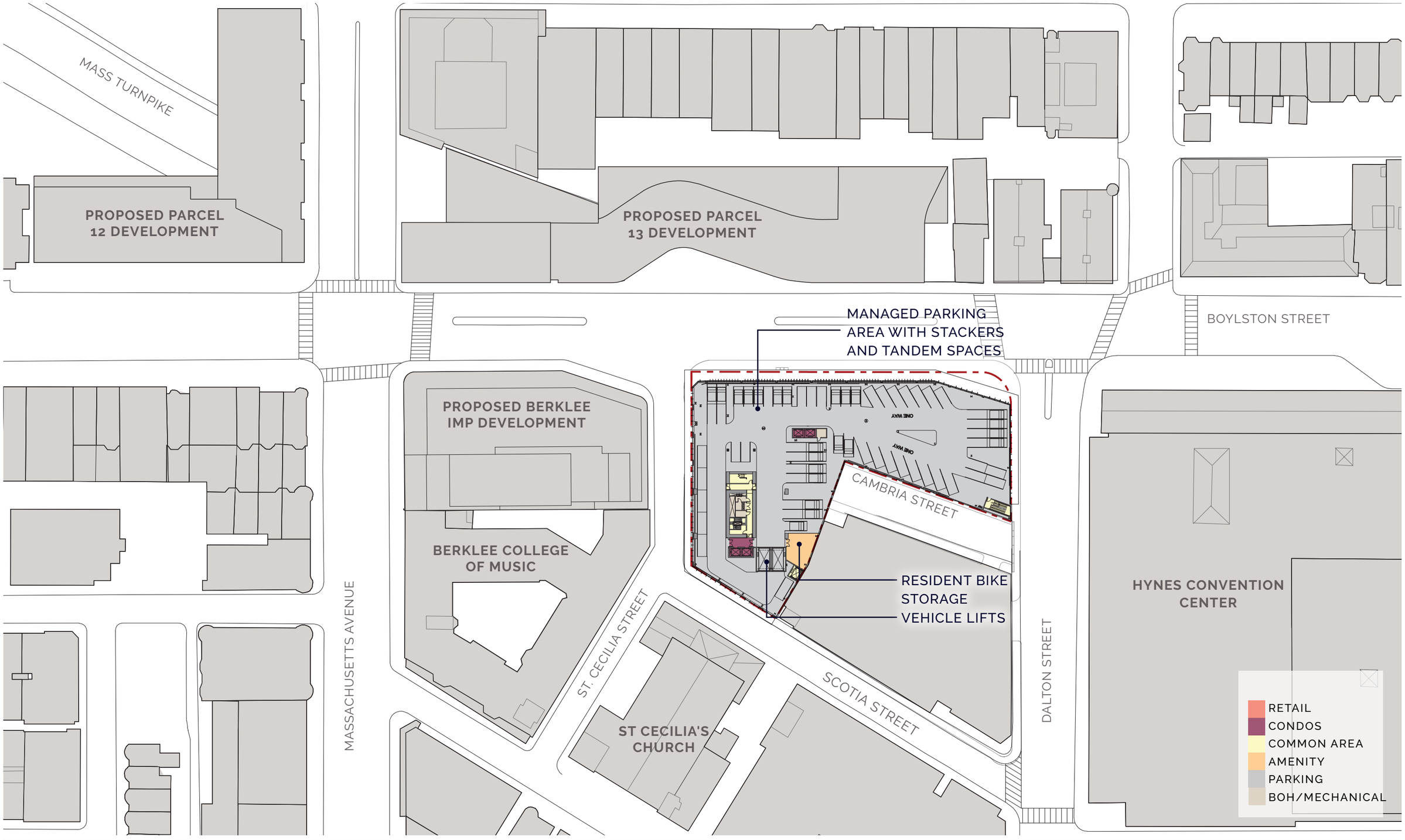
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Second Floor Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6c



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Typical Parking Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6d

MASS TURNPIKE

PROPOSED PARCEL 12 DEVELOPMENT

PROPOSED PARCEL 13 DEVELOPMENT

BOYLSTON STREET

OUTDOOR AMENITY FOR RESIDENTS

PROPOSED BERKLEE IMP DEVELOPMENT

BERKLEE COLLEGE OF MUSIC

CAMBRIA STREET

ST. CECILIA STREET

SCOTIA STREET

ST CECILIA'S CHURCH

DALTON STREET

HYNES CONVENTION CENTER

MASSACHUSETTS AVENUE

RETAIL
CONDOS
COMMON AREA
AMENITY
PARKING
BOH/MECHANICAL

0 40 80 Feet

ELKUS | MANFREDI ARCHITECTS

Level 5 Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6e

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MASS TURNPIKE

PROPOSED PARCEL 12 DEVELOPMENT

PROPOSED PARCEL 13 DEVELOPMENT

BOYLSTON STREET

LEVEL 6 OUTDOOR AMENITY FOR RESIDENTS

PROPOSED BERKLEE IMP DEVELOPMENT

BERKLEE COLLEGE OF MUSIC

B A D C

CAMBRIA STREET

MASSACHUSETTS AVENUE

ST. CECILIA STREET

SCOTIA STREET

ST CECILIA'S CHURCH

DALTON STREET

HYNES CONVENTION CENTER

RETAIL
CONDOS
COMMON AREA
AMENITY
PARKING
BOH/MECHANICAL

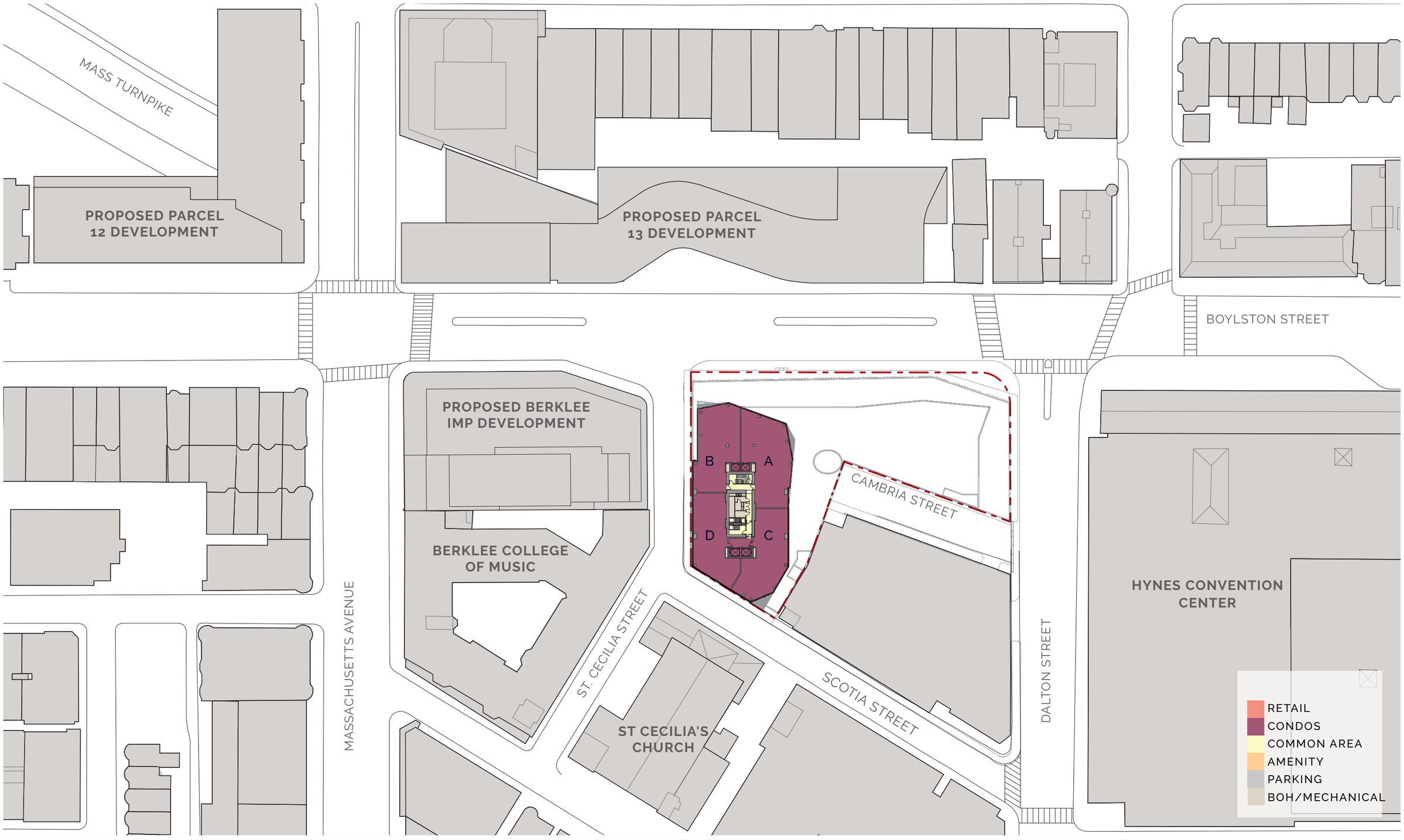
0 40 80 Feet

ELKUS | MANFREDI ARCHITECTS

Typical Floor Plan Floors 6-15
1000 Boylston Street
Boston, Massachusetts

Figure 3.6f

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Typical Floor Plan Floors 16-24
1000 Boylston Street
Boston, Massachusetts

Figure 3.6g

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MASS TURNPIKE

PROPOSED PARCEL 12 DEVELOPMENT

PROPOSED PARCEL 13 DEVELOPMENT

BOYLSTON STREET

PROPOSED BERKLEE IMP DEVELOPMENT

B

A

D

C

CAMBRIA STREET

BERKLEE COLLEGE OF MUSIC

ST. CECILIA STREET

SCOTIA STREET

DALTON STREET

HYNES CONVENTION CENTER

MASSACHUSETTS AVENUE

ST CECILIA'S CHURCH

RETAIL
CONDOS
COMMON AREA
AMENITY
PARKING
BOH/MECHANICAL

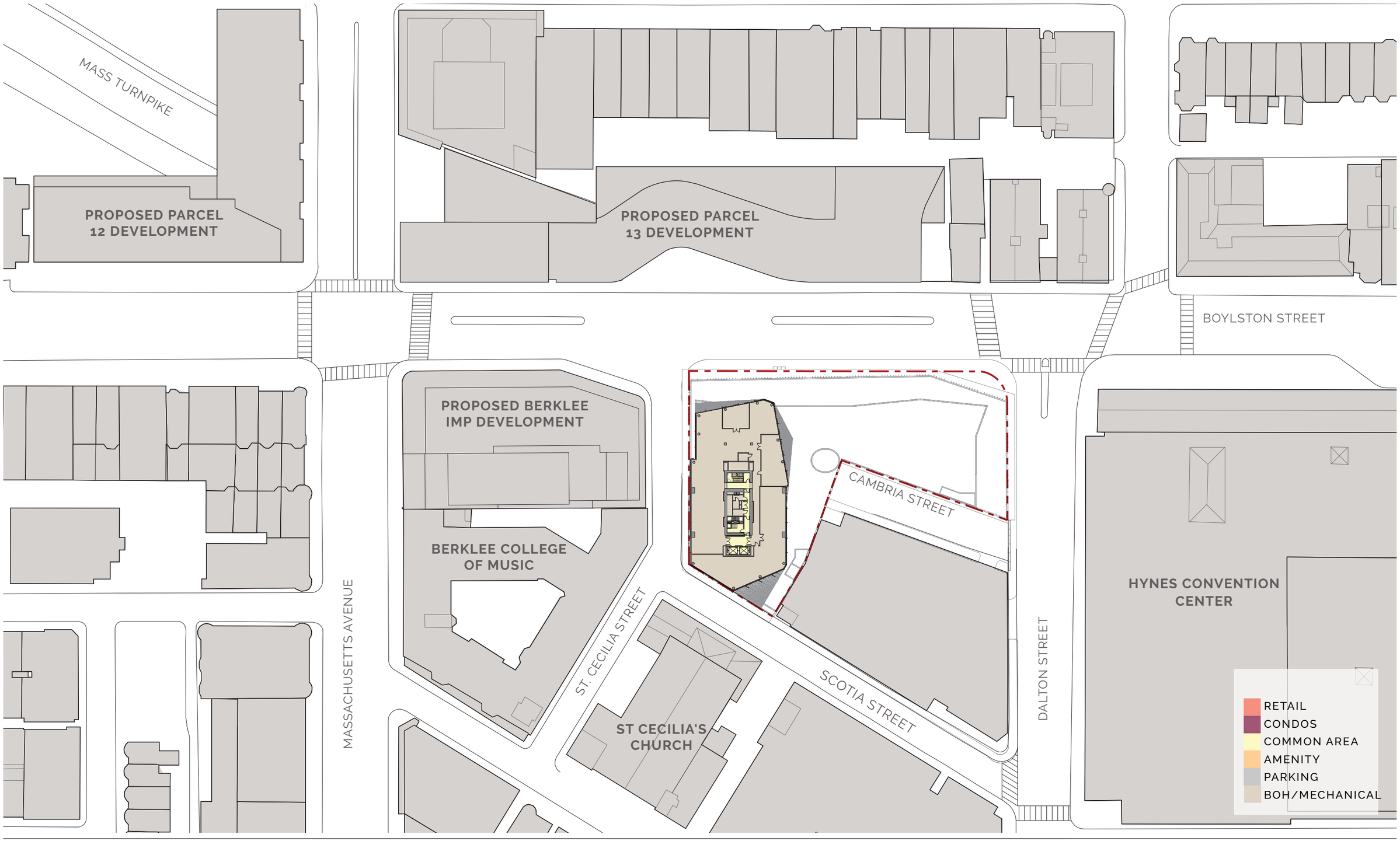
0 40 80 Feet

ELKUS | MANFREDI ARCHITECTS

Typical Floor Plan Floors 25-33
1000 Boylston Street
Boston, Massachusetts

Figure 3.6h

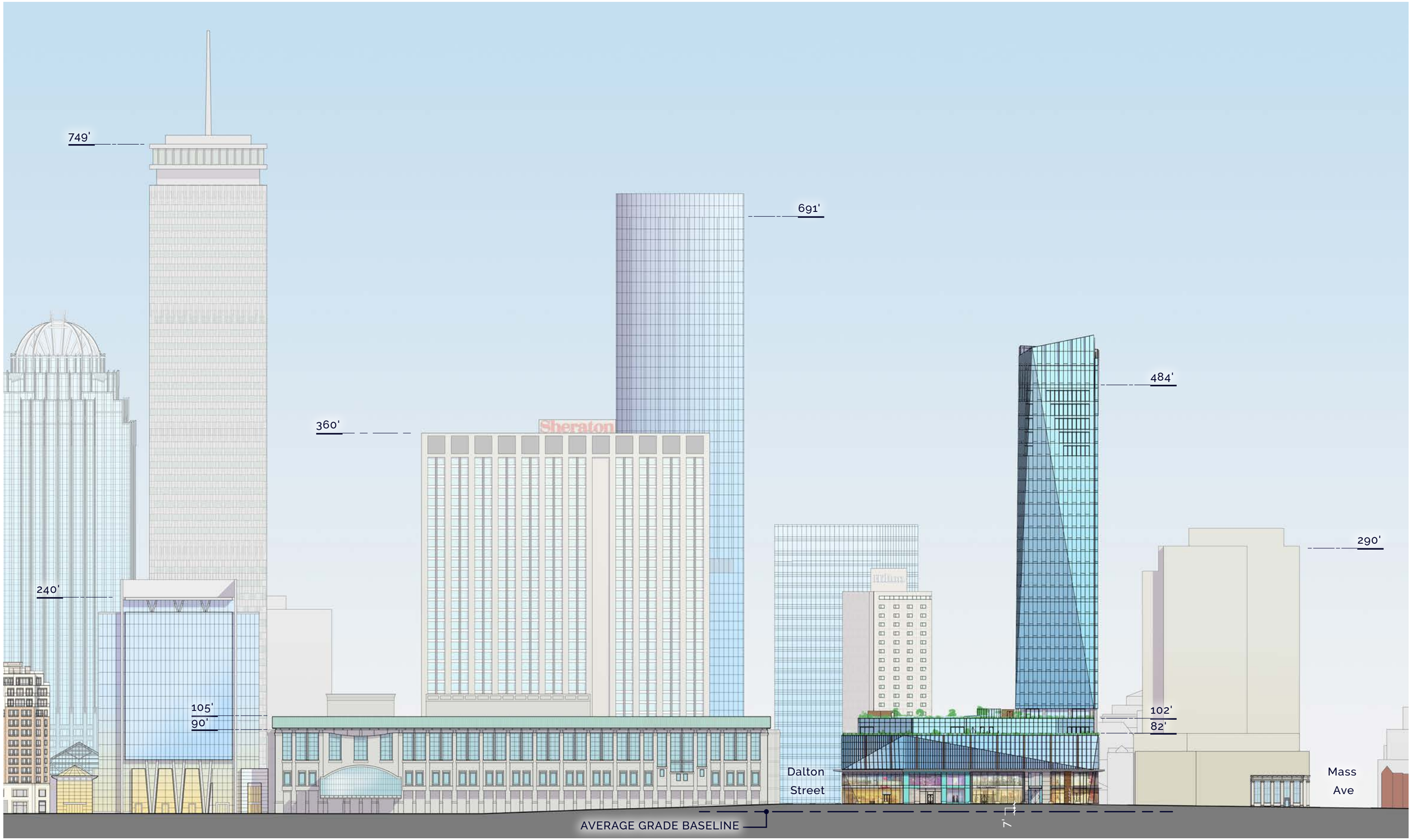
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Mechanical Penthouse Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.6i

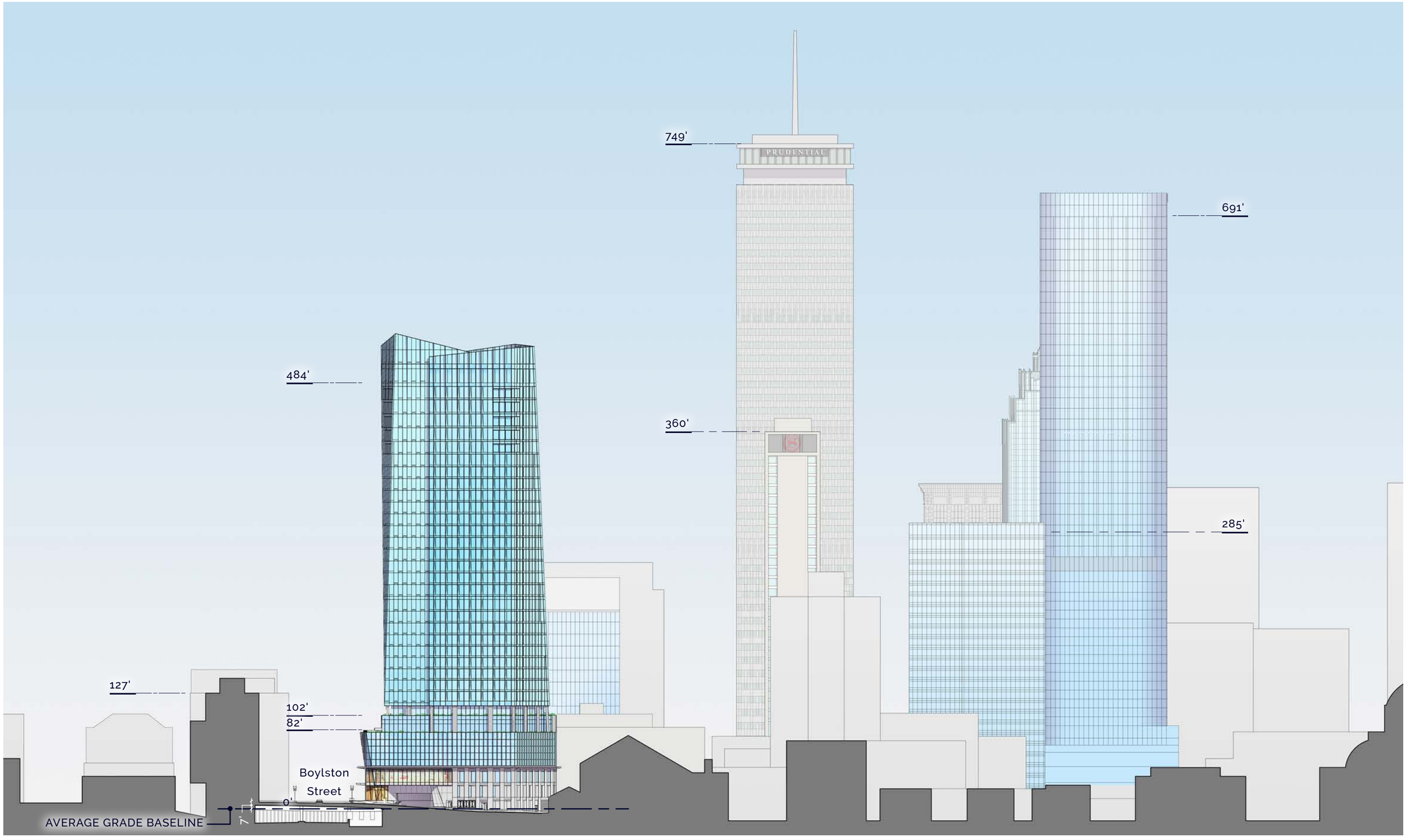


0 50 100 Feet

ELKUS | MANFREDI ARCHITECTS

North Elevation | Boylston Street
1000 Boylston Street
Boston, Massachusetts

Figure 3.7a



0 50 100 Feet

ELKUS | MANFREDI ARCHITECTS

West Elevation | St Cecilia's Street
1000 Boylston Street
Boston, Massachusetts

Figure 3.7b

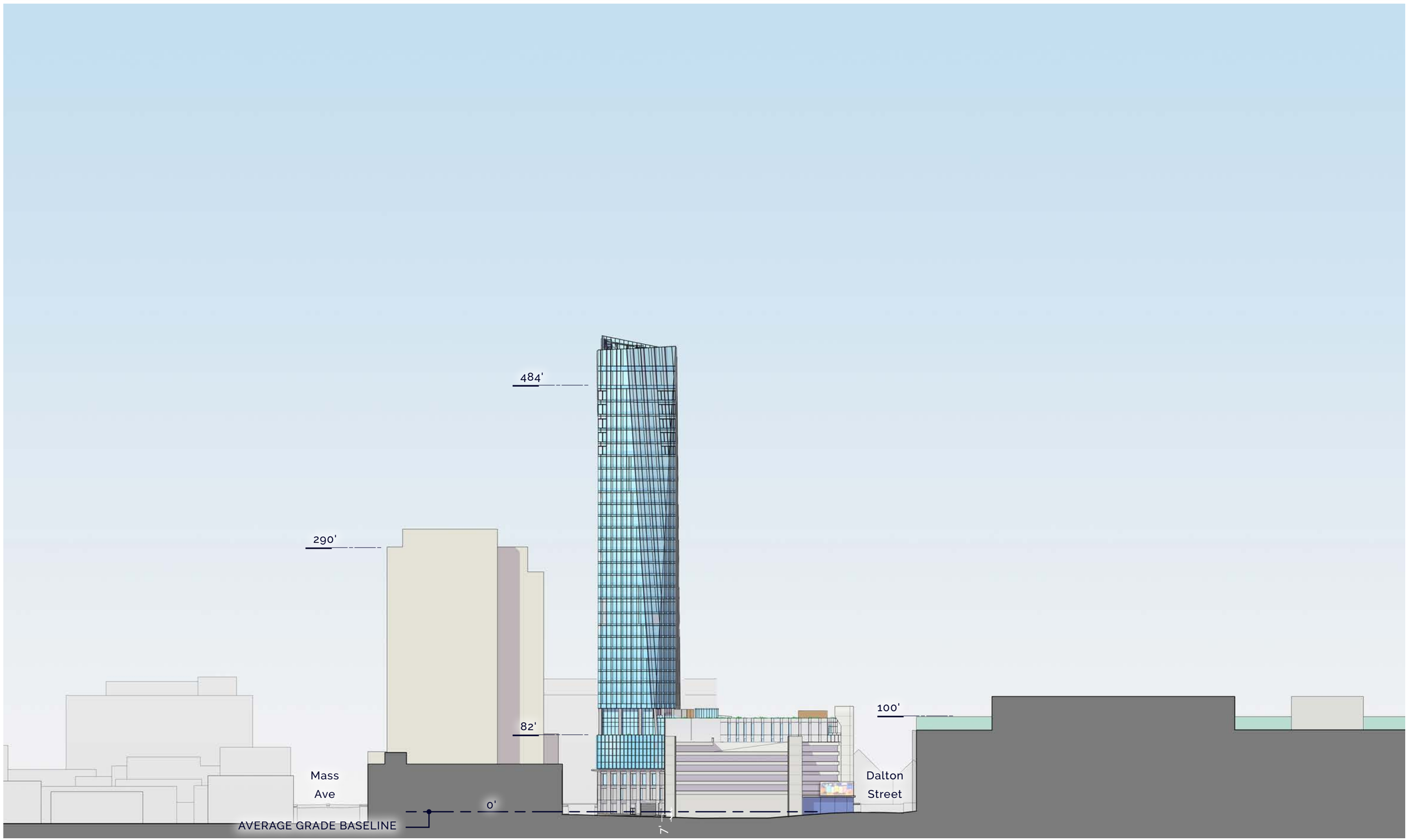


0 50 100 Feet

ELKUS | MANFREDI ARCHITECTS

East Elevation | Dalton Street
1000 Boylston Street
Boston, Massachusetts

Figure 3.7c

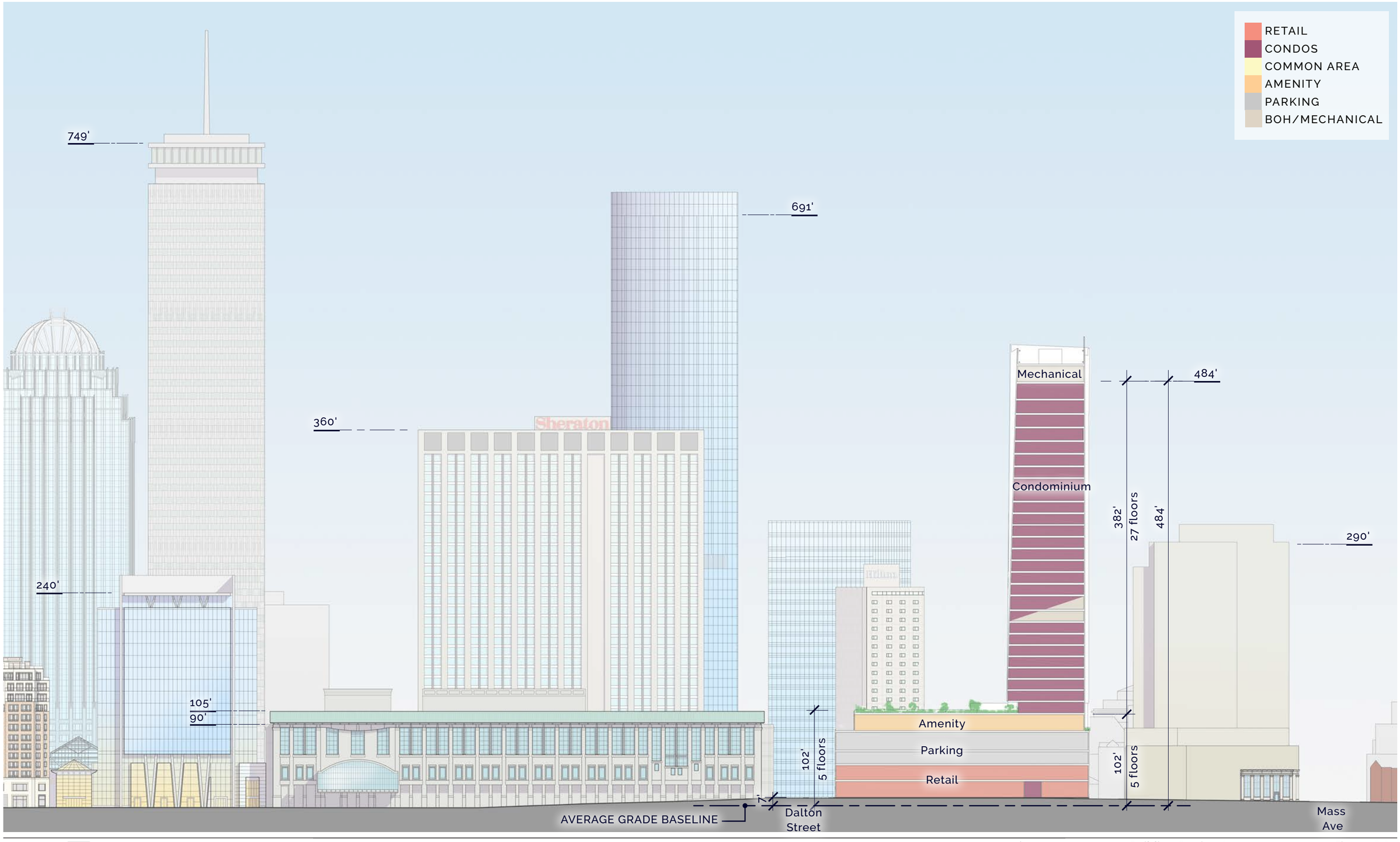


0 50 100 Feet

ELKUS | MANFREDI ARCHITECTS

South Elevation
1000 Boylston Street
Boston, Massachusetts

Figure 3.7d



ELKUS | MANFREDI ARCHITECTS

Building Section 1
1000 Boylston Street
Boston, Massachusetts

Figure 3.8a

RETAIL
CONDOS
COMMON AREA
AMENITY
PARKING
BOH/MECHANICAL

749'
PRUDENTIAL
691'
484'
Mechanical
360'
Condominium
285'
484'
382'
27 floors
Mech.
127'
Amenity
Parking
102'
5 floors
Retail
Loading / Mechanical
AVERAGE GRADE BASELINE
ACCESS TO HYNES CONVENTION CENTER VIA CAMBRIA STREET

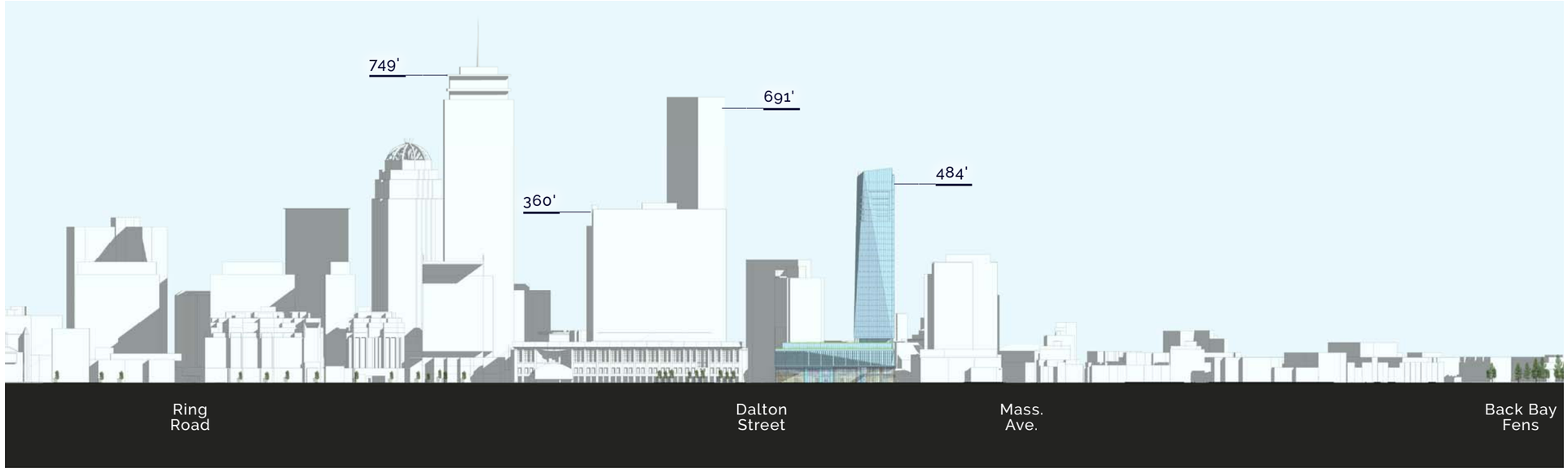
0 50 100 Feet

Boylston Street

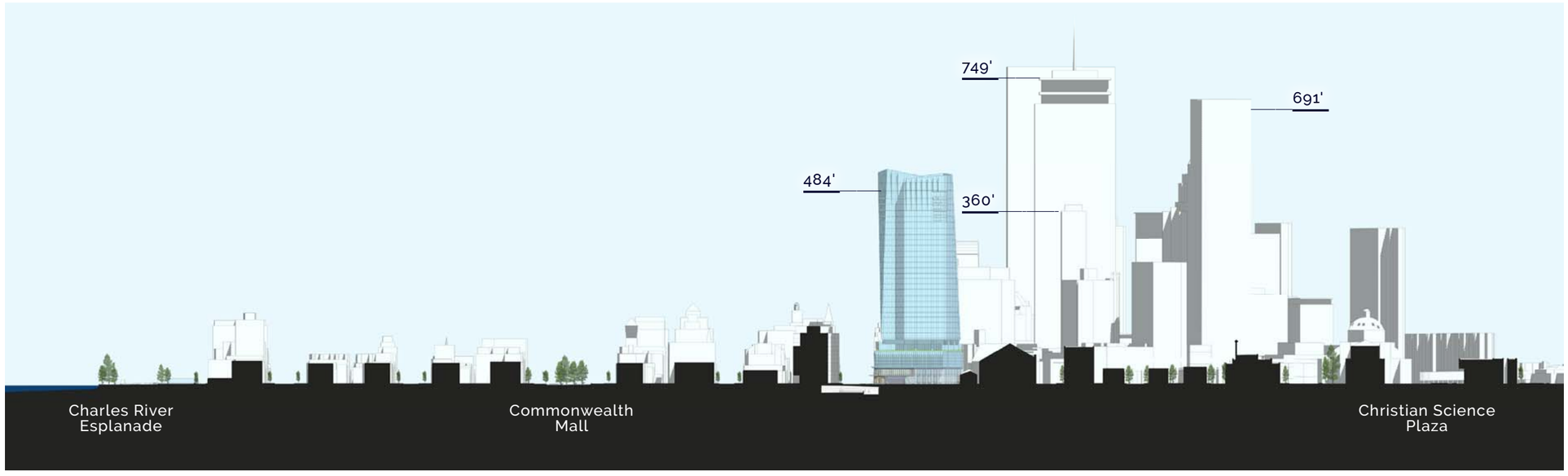
ELKUS | MANFREDI ARCHITECTS

Building Section 2
1000 Boylston Street
Boston, Massachusetts

Figure 3.8b



EAST-WEST NEIGHBORHOOD SECTION LOOKING SOUTH



NORTH-SOUTH NEIGHBORHOOD SECTION LOOKING EAST

0 150 300 Feet

ELKUS | MANFREDI ARCHITECTS

Neighborhood Sections
1000 Boylston Street
Boston, Massachusetts

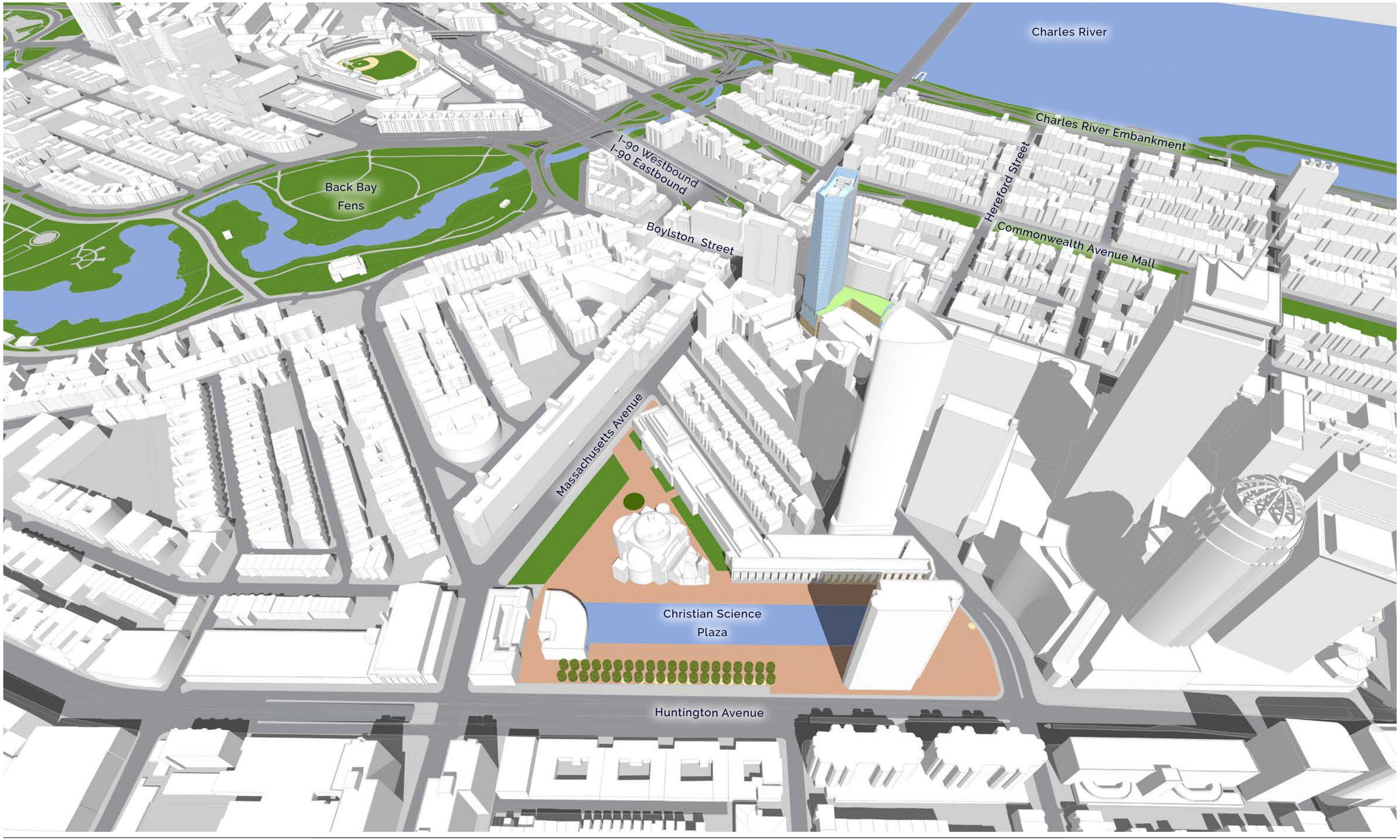
Figure 3.9



ELKUS | MANFREDI ARCHITECTS

3D model view from Northwest
1000 Boylston Street
Boston, Massachusetts

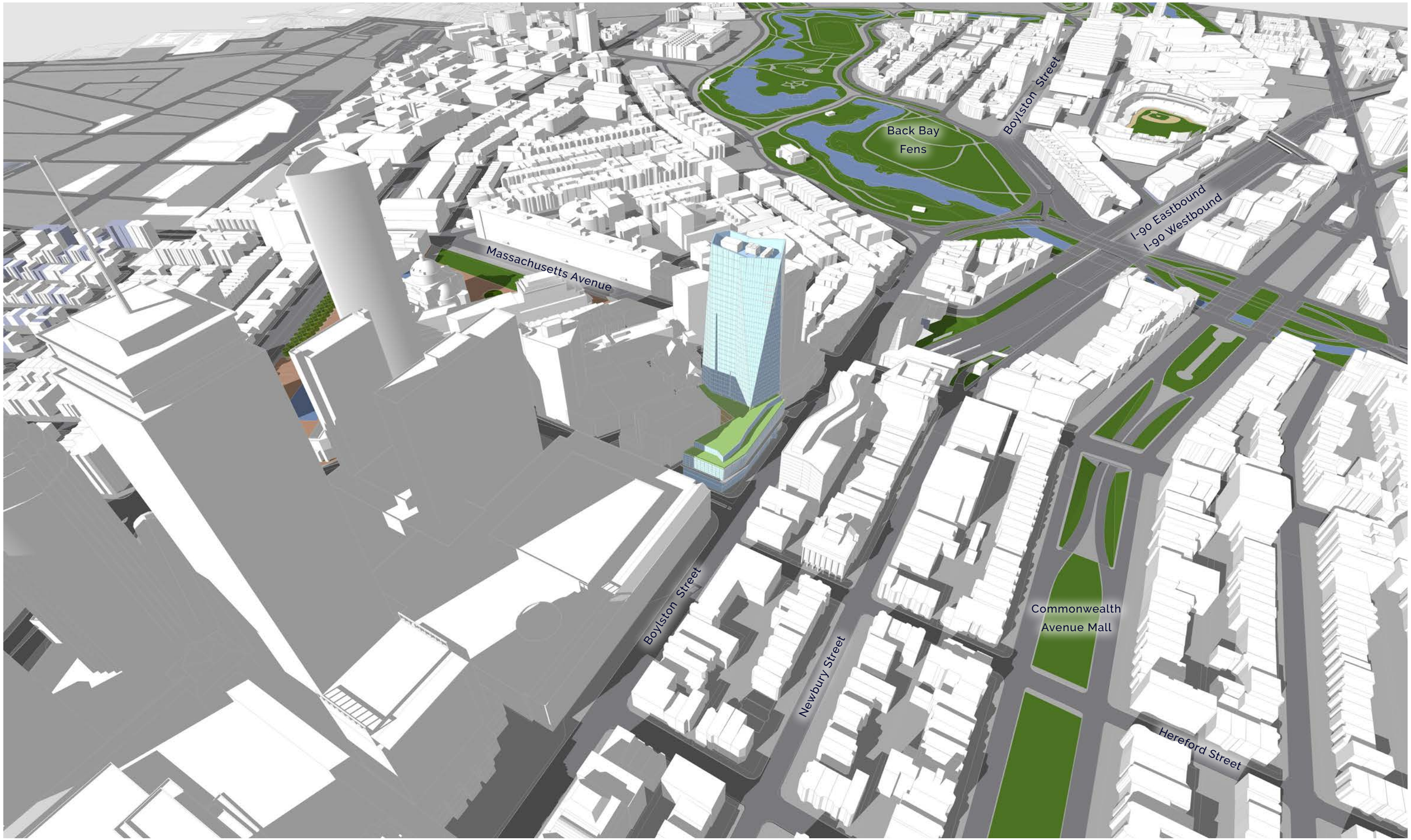
Figure 3.10a



ELKUS | MANFREDI ARCHITECTS

3D model view from Southeast
1000 Boylston Street
Boston, Massachusetts

Figure 3.10b



ELKUS | MANFREDI ARCHITECTS

3D model view from Northeast
1000 Boylston Street
Boston, Massachusetts

Figure 3.10c



ELKUS | MANFREDI ARCHITECTS

Existing View - Mass Ave Bridge
1000 Boylston Street
Boston, Massachusetts

Figure 3.11a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Mass Ave Bridge Figure 3.11b
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Existing View - Cambridge
1000 Boylston Street
Boston, Massachusetts

Figure 3.12a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Cambridge
1000 Boylston Street
Boston, Massachusetts

Figure 3.12b



ELKUS | MANFREDI ARCHITECTS

Existing View - Longfellow Bridge
1000 Boylston Street
Boston, Massachusetts

Figure 3.13a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Longfellow Bridge Figure 3.13b
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Existing View - Boston Common Figure 3.14a

1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Proposed View - Boston Common Figure 3.14b
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Existing View - Public Garden
1000 Boylston Street
Boston, Massachusetts

Figure 3.15a

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Public Garden
1000 Boylston Street
Boston, Massachusetts

Figure 3.15b



ELKUS | MANFREDI ARCHITECTS

Existing View - Copley Square
1000 Boylston Street
Boston, Massachusetts

Figure 3.16a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Copley Square
1000 Boylston Street
Boston, Massachusetts

Figure 3.16b

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ELKUS | MANFREDI ARCHITECTS

Existing View - Comm | Berkeley
1000 Boylston Street
Boston, Massachusetts

Figure 3.17a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Comm | Berkeley Figure 3.17b
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Existing View - Comm | Dartmouth Figure 3.18a
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Comm | Dartmouth Figure 3.18b
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Existing View - South End
1000 Boylston Street
Boston, Massachusetts

Figure 3.19a



ELKUS | MANFREDI ARCHITECTS

Proposed View - South End
1000 Boylston Street
Boston, Massachusetts

Figure 3.19b

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ELKUS | MANFREDI ARCHITECTS

Existing View - Mass Ave
1000 Boylston Street
Boston, Massachusetts

Figure 3.20a

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Mass Ave
1000 Boylston Street
Boston, Massachusetts

Figure 3.20b



ELKUS | MANFREDI ARCHITECTS

Existing View - Christian Science
1000 Boylston Street
Boston, Massachusetts

Figure 3.21a



ELKUS | MANFREDI
ARCHITECTS

Proposed View - Christian Science
1000 Boylston Street
Boston, Massachusetts

Figure 3.21b



ELKUS | MANFREDI ARCHITECTS

Existing View - Southwest Corridor Figure 3.22a
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Southwest Corridor Figure 3.22b
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Existing View - Fenway
1000 Boylston Street
Boston, Massachusetts

Figure 3.23a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Fenway
1000 Boylston Street
Boston, Massachusetts

Figure 3.23b

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ELKUS | MANFREDI ARCHITECTS

Existing View - Charlesgate West
1000 Boylston Street
Boston, Massachusetts

Figure 3.24a

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Charlesgate West Figure 3.24b
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Existing View - MassPike
1000 Boylston Street
Boston, Massachusetts

Figure 3.25a



ELKUS | MANFREDI ARCHITECTS

Proposed View - MassPike
1000 Boylston Street
Boston, Massachusetts

Figure 3.25b



ELKUS | MANFREDI ARCHITECTS

Existing View - Kenmore Square
1000 Boylston Street
Boston, Massachusetts

Figure 3.26a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Kenmore Square Figure 3.26b
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Existing View - Comm | Charlesgate Figure 3.27a
1000 Boylston Street
Boston, Massachusetts

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ELKUS | MANFREDI ARCHITECTS

Proposed View - Comm | Charlesgate Figure 3.27b
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Existing View - Back Bay
1000 Boylston Street
Boston, Massachusetts

Figure 3.28a



ELKUS | MANFREDI ARCHITECTS

Proposed View - Back Bay
1000 Boylston Street
Boston, Massachusetts

Figure 3.28b



ELKUS | MANFREDI ARCHITECTS

Bird's Eye Perspective North
1000 Boylston Street
Boston, Massachusetts

Figure 3.29

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ELKUS | MANFREDI ARCHITECTS

Bird's Eye Perspective South West Figure 3.30
1000 Boylston Street
Boston, Massachusetts



ELKUS | MANFREDI ARCHITECTS

Pedestrian View from Boylston
1000 Boylston Street
Boston, Massachusetts

Figure 3.31



ELKUS | MANFREDI ARCHITECTS

View from Boylston Street
1000 Boylston Street
Boston, Massachusetts

Figure 3.32

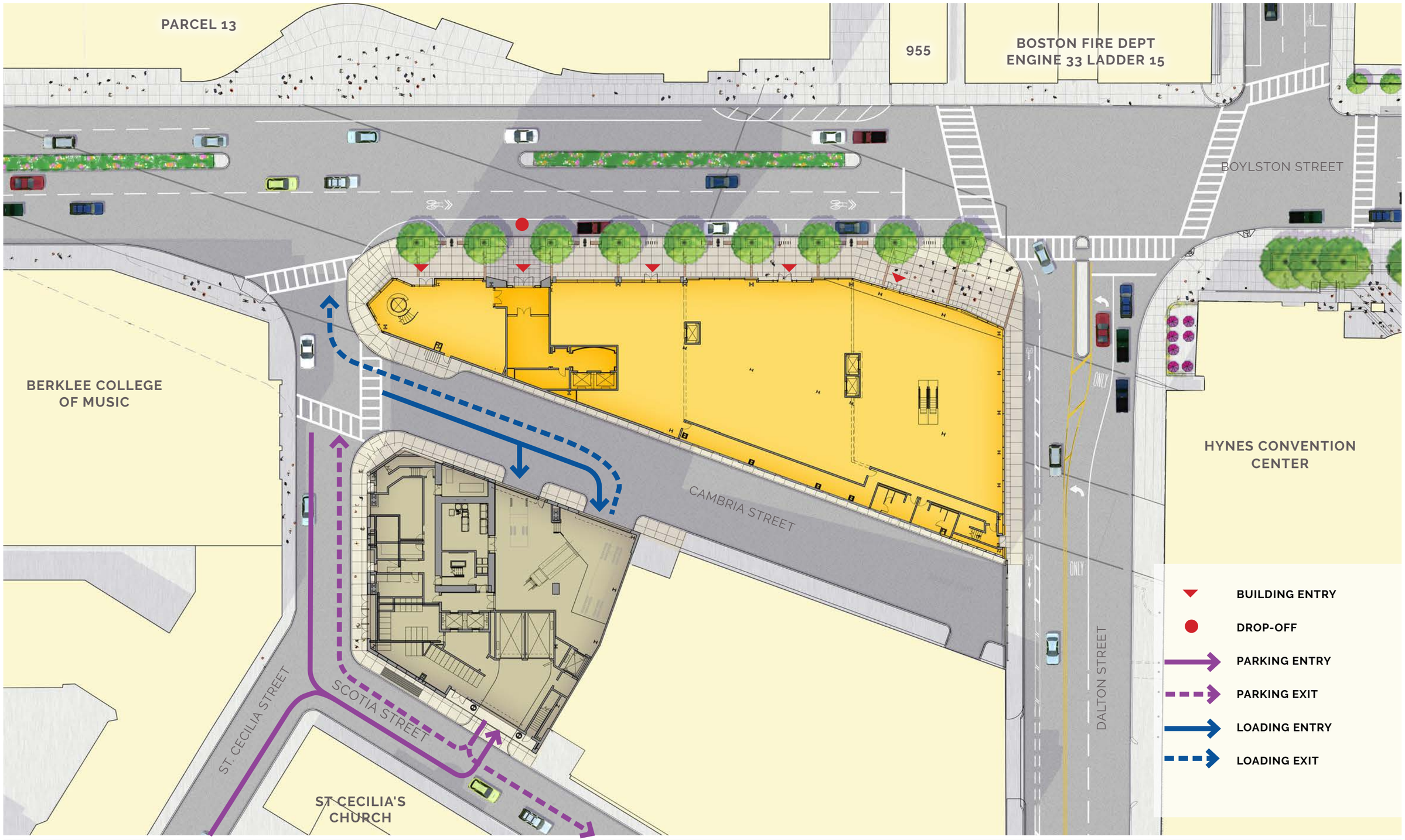
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ELKUS | MANFREDI ARCHITECTS

View from Massachusetts Avenue
1000 Boylston Street
Boston, Massachusetts

Figure 3.33



ELKUS | MANFREDI ARCHITECTS

Circulation Diagram
1000 Boylston Street
Boston, Massachusetts

Figure 3.34

PARCEL 13

SECTION 3

SECTION 2

SECTION 1

SEE FIGURE 3.37
FOR STREETSCAPE ENLARGEMENT

955

BOSTON FIRE DEPT
ENGINE 33 LADDER 15

BOYLSTON STREET

SECTION 4

BERKLEE COLLEGE
OF MUSIC

HYNES CONVENTION
CENTER

CAMBRIA STREET

ST. CECILIA STREET

SCOTIA STREET

DALTON STREET

ONLY

FLUSH CONDITION
FOR PEDESTRIANS AT
PARKING ENTRANCE

ST CECILIA'S
CHURCH

KEY PEDESTRIAN NODES

MAJOR PEDESTRIAN FLOW

0 20 40 Feet

ELKUS | MANFREDI ARCHITECTS

Streetscape Improvement Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.35

PARCEL 13

955

BOSTON FIRE DEPT
ENGINE 33 LADDER 15

CURB RAMP BY OTHERS
LOCATION TO BE
COORDINATED

BOYLSTON STREET

GRANITE PAVING TO DISTINGUISH
RESIDENTIAL ENTRY

NEW CURB
RAMPS WITH
TACTILE STRIP

PROPOSED STREET
TREES IN PLANTERS

BICYCLE RACKS

NEW CURB RAMP
WITH TACTILE STRIP

NEW CONCRETE PAVING

STREET LIGHTS

STREET FURNITURE

VALET
DROP-OFF

8'-6"

+/- 30'

5'

11'-6"

18'-0"

1'-6"

41'-6"

RESTAURANT

LOBBY

RETAIL SHOPS

EXISTING BIKE LANE

DALTON STREET

7'-9"

NEW CURB
RAMPS WITH
TACTILE STRIP

CAMBRIA STREET

7'-6"

0 10 20 Feet

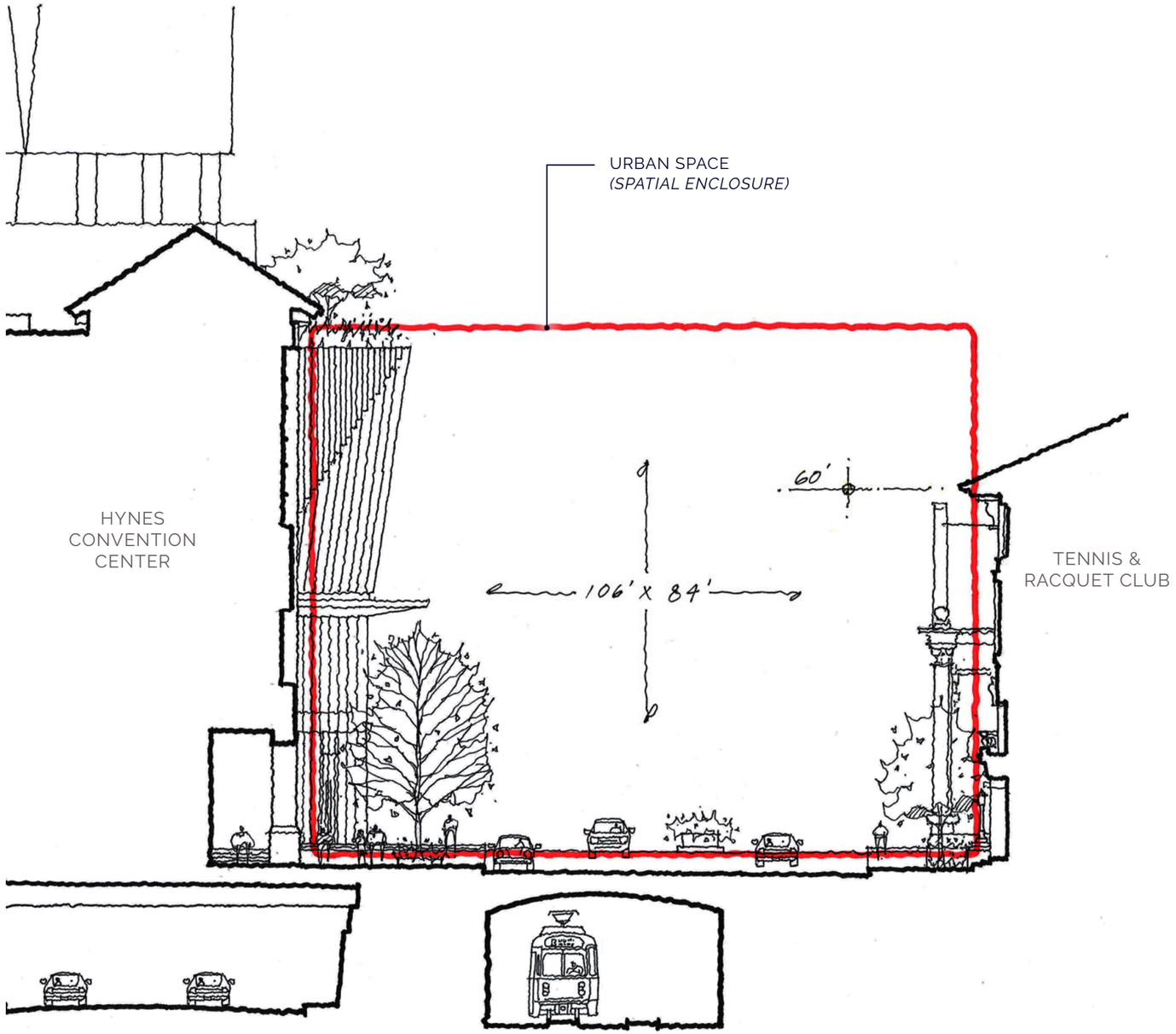
ELKUS | MANFREDI ARCHITECTS

Enlarged Streetscape Plan
1000 Boylston Street
Boston, Massachusetts

Figure 3.36

INFLUENCE OF ADJACENT PUBLIC REALM

- SCALE AND HORIZONTAL DATUM LINES OF THE HYNES CONVENTION CENTER ARE RECOGNIZED IN THE DESIGN OF THE PODIUM
- ANGLED EAST FLANK OF PODIUM TRANSITIONS TO THE HYNES STREET WALL SETBACK
- SETBACK OF GREEN TERRACES OF PODIUM ALIGN WITH HYNES GABLE
- ANGLED RETAIL STOREFRONTS ACKNOWLEDGE PEDESTRIAN FLOW



SECTION 1 | ADJACENT BOYLSTON STREET URBAN SPACE

0 10 20 Feet

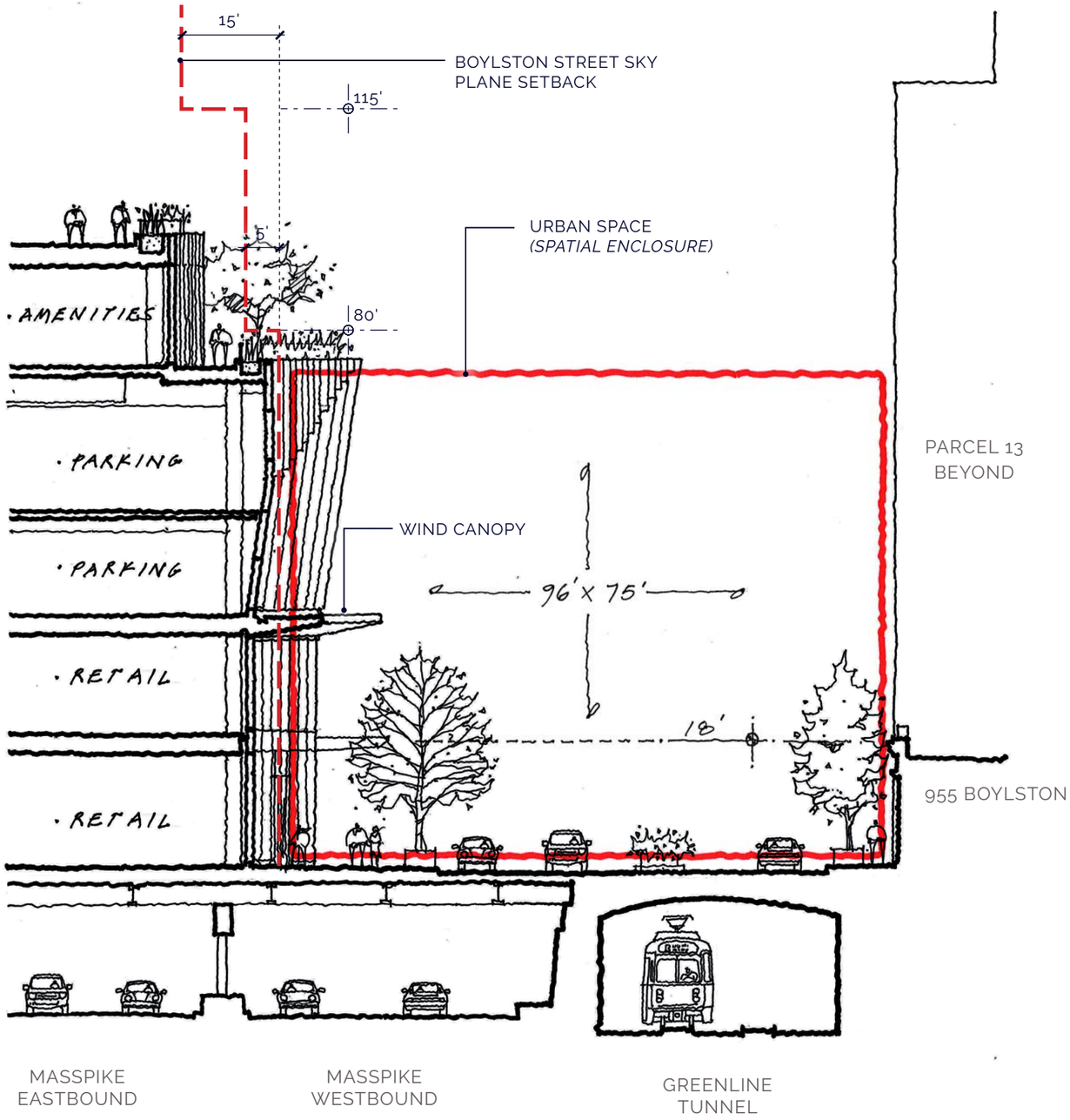
ELKUS | MANFREDI ARCHITECTS

Adjacent Public Realm Section
1000 Boylston Street
Boston, Massachusetts

Figure 3.37a

EAST PODIUM PUBLIC REALM

- PODIUM CREATES A CONTINUOUS STREET WALL FROM DALTON STREET TO ST CECILIA'S STREET, INFILLING THE ENTIRE GAP
- SCALE OF STREET WALL IS APPROPRIATE FOR BOYLSTON STREET AND COMPLIES WITH SKY PLANE SETBACK
- 2 LEVELS OF RETAIL ENHANCE STREET LIFE AND ENGAGE PEDESTRIANS
- SIDEWALK ZONE ADJACENT TO DALTON STREET WIDENS TO ACKNOWLEDGE HIGHER PEDESTRIAN FLOW
- STREETSCAPE DESIGN INCORPORATES POTTED TREES, BIKE RACKS, AND FURNITURE
- SITE LINES TO PARKING REDUCED BY WIND CANOPY AND FACADE TREATMENT



SECTION 2 | BOYLSTON STREET URBAN SPACE

0 10 20 Feet

ELKUS | MANFREDI ARCHITECTS

Public Realm Section Diagram
1000 Boylston Street
Boston, Massachusetts

Figure 3.37b

WEST PODIUM PUBLIC REALM

- PODIUM CREATES A CONTINUOUS STREET WALL FROM DALTON STREET TO ST CECILIA'S STREET, INFILLING THE ENTIRE GAP
- SCALE OF STREET WALL IS APPROPRIATE FOR BOYLSTON STREET AND COMPLIES WITH SKY PLANE SETBACK
- 2 LEVELS OF RETAIL ENHANCE STREET LIFE AND ENGAGE PEDESTRIANS
- STREETSCAPE DESIGN INCORPORATES POTTED TREES, BIKE RACKS, AND FURNITURE
- RESIDENTIAL ENTRY CANOPY ADDS SCALE AND DETAIL
- SITE LINES TO PARKING REDUCED BY WIND CANOPY, VERTICAL FINS AND FRITTED GLASS

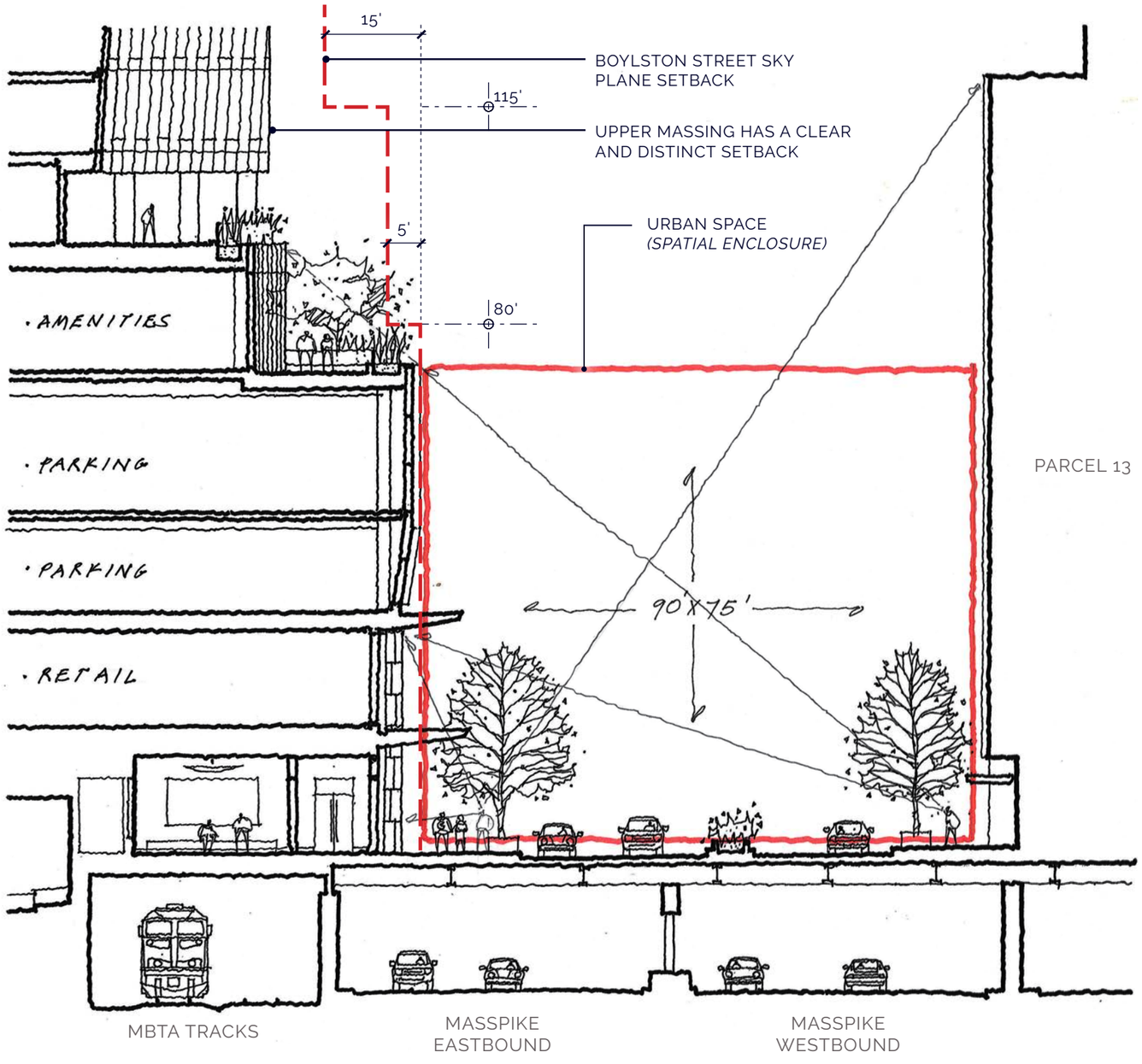


FRITTED GLASS



VERTICAL FINS

PARKING FACADE PRECEDENT IMAGERY



SECTION 3 | BOULSTON STREET URBAN SPACE

0 10 20 Feet

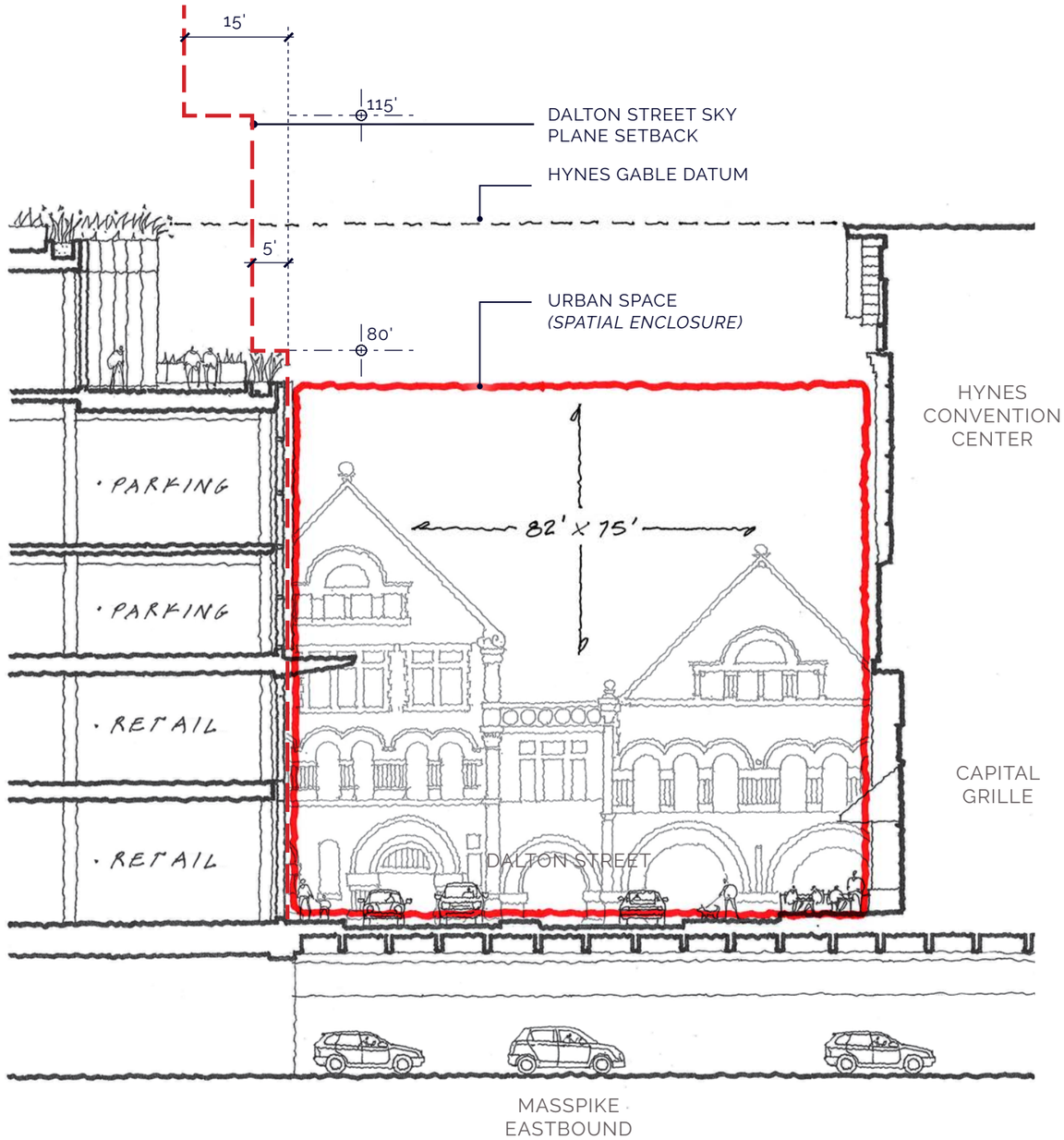
ELKUS | MANFREDI ARCHITECTS

Public Realm Section Diagram
1000 Boylston Street
Boston, Massachusetts

Figure 3.37c

EAST PODIUM PUBLIC REALM

- PODIUM CREATES A CONTINUOUS STREET WALL ALONG DALTON STREET, INFILLING THE ENTIRE GAP FROM CAMBRIA STREET TO BOYLSTON STREET
- SCALE OF STREET WALL IS APPROPRIATE FOR DALTON STREET AND COMPLIES WITH SKY PLANE SETBACK
- 2 LEVELS OF RETAIL ENHANCE STREET LIFE AND ENGAGE PEDESTRIANS
- SIDEWALK ZONE AT INTERSECTION OF DALTON STREET AND BOYLSTON STREET WIDENS TO ACKNOWLEDGE HIGHER PEDESTRIAN FLOW
- SITE LINES TO PARKING REDUCED BY WIND CANOPY, VERTICAL FINS AND FRITTED GLASS



SECTION 4 | DALTON STREET URBAN SPACE

0 10 20 Feet

ELKUS | MANFREDI ARCHITECTS

Public Realm Section Diagram
1000 Boylston Street
Boston, Massachusetts

Figure 3.37d

4

Sustainability/Green Building Design and Climate Change Resiliency

This chapter provides information regarding the Project's sustainability/ green building, and climate change preparedness and resiliency strategies, as applicable. It identifies the proposed U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED™) version 4 ("LEEDv4") rating system level based on early design, describes building-specific strategies for each LEED category, and explains how key credits will be achieved. It also discusses a framework for considering present and future climate conditions in project design.

In support of Boston's Greenhouse Gas ("GHG") emissions reductions goals, this chapter also presents the estimated Project energy usage and GHG emissions reductions. Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for additional detail on the Project energy model assumptions and results, as well as an evaluation of on-site clean/renewable energy opportunities and private utility company energy efficiency assistance programs that may be available to the Project.

4.1 Summary of Project Change

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project has decreased in size significantly since the ENF/PNF filing, including most notably, a reduction in residential units from 342 residential units to up to approximately 108 residential units by the elimination of the Apartments Building. Although the design has changed, the Project continues to incorporate a high level of sustainable elements, as demonstrated by the updated LEEDv4 checklist. The current design now achieves a certifiable Silver rating (56 LEED points) compared to the Certified level proposed in the PNF (46 LEED points). A Silver rating under LEEDv4 is substantially equivalent to a Gold rating under the prior LEED version. As the design and engineering are further advanced, the Proponent will aspire to achieve certifiability at LEED Gold level using the LEEDv.4 rating system, if feasible.

4.2 Summary of Key Findings and Benefits

The Project is inherently sustainable in that it utilizes an urban site in a densely-developed neighborhood of Boston by constructing new building area over a major highway (i.e., within air rights) and reusing an existing urban site. The Proponent is committed to building a livable, sustainable, and forward-thinking Project. In summary, the Project aims to:

- Utilize the opportunity to develop over a portion of the Turnpike and revitalize an underutilized urban site.
- Improve pedestrian access near multimodal, alternative transportation services.
- Exceed minimum energy performance requirements.
- Consider the feasibility of clean and renewable energy sources, including an evaluation of a building-integrated photovoltaic system ("PV").
- Minimize impact on municipal water supply by minimizing potable water consumption.
- Minimize impacts on stormwater systems and improve stormwater and effluent quality.
- Promote health and wellness with infrastructure to improve indoor air quality.
- Integrate climate change adaptations in building design that reduce vulnerability given future climate scenarios and natural events, such as flooding, severe precipitation and heat.
- Efficiently use materials and resources during construction and in Project operation.

The project team will use the USGBC's LEEDv4 rating system as a model for incorporating sustainable design strategies into the Project, and will also consider the health and wellness of its future occupants and users through consideration of the WELL Building Standard® ("WELL") principles in building design and during operation. As the Project design progresses, the Proponent will continue to research and consider additional green building strategies. The Project intends to be Leadership in Energy and Environmental Design version 4 ("LEEDv4") certifiable, aspiring to achieve a Gold level, or a minimum of 60 LEED points. Through the incorporation of a variety of sustainable design strategies, the Project will improve water quality and reduce the urban heat island effect, among other environmental benefits. Based on current design, the Project would be LEEDv4 certifiable at the LEED Silver level (equivalent to LEED Gold under prior LEED versions). As the design and engineering of the Project are further advanced, the Proponent will aspire to achieve certifiability at LEED Gold level using the LEEDv4 rating system, if feasible.

4.3 Regulatory Context

The following section provides an overview of the state and local regulatory context related to energy efficiency and GHG emissions

4.3.1 Article 37 Green Buildings

Through Article 37 – Green Buildings, the City of Boston encourages major building projects to be "planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston." Any project that is

subject to Article 80B, Large Project Review is also subject to the requirements of Article 37.

Article 37 requires all projects over 50,000 square feet to meet LEED certification standards by either certifying the proposed project or demonstrating that the project would meet the minimum requirements to achieve a LEED Certified level (i.e., all LEED pre-requisites and at least 40 points associated with credits listed on the LEED project checklist) without registering the project with the USGBC ("LEED certifiable"). With the LEEDv4 rating system effective as of October 31, 2016, the BPDA requires initial Article 80B Large Project Review submissions on or after November 1st to demonstrate LEED certifiability using LEEDv4.

Boston Green Building Credits

Appendix A of Article 37 lists "Boston Green Building Credits," which are credits that may be included in the calculation toward achieving a LEEDv4 certifiable project. These credits along with the prerequisites were developed by the City and are intended to address local issues unique to development within Boston. The credits include the following categories: Modern Grid; Historic Preservation; Groundwater Recharge; and Modern Mobility.

4.3.2 BPDA Climate Change Preparedness and Resiliency Policy

In conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the BPDA requires projects subject to Boston Zoning Article 80 Small and Large Project Review to complete a Resiliency Checklist to assess potential adverse impacts that might arise under future climate conditions, and any project resiliency, preparedness, and/or mitigation measures identified early in the design stage. The Resiliency Checklist is reviewed by the Interagency Green Building Committee ("IGBC").

4.3.3 MEPA Draft Climate Adaptation and Resiliency Policy

In September 2014, the MEPA Office issued a draft policy for addressing potential impacts associated with climate change. The policy's intent is to facilitate the consideration and assessment of risk and vulnerabilities of a project or action under foreseeable scenarios or conditions associated with climate change in order to identify potential mitigation measures.

4.4 Sustainability Approach

As demonstrated in Figures 4.1a and 4.1b, the Project has been designed based on a holistic approach to sustainability that promotes livability and economic development, while simultaneously mitigating the external impacts of energy, water, waste, and emissions. It seeks to incorporate sustainable features through the LEEDv4 rating system to demonstrate compliance with Article 37 (discussed further below in Section 4.4.1).

Site sustainability is enhanced with strategies that reduce urban heat island effect and stormwater runoff, including 100-percent covered vehicle parking, vegetated and highly-emissive[1] roofs, and stormwater detention and treatment.

The Project will save potable water by installing low-flow fixtures, drip-irrigation, and drought-tolerant landscaping, as well as conductivity meters and automatic controls for chemical treatment on cooling towers, reducing the need for additional make-up water demand.

Energy savings measures will include high-performance glazing, condensing boilers, high-efficiency chillers with variable speed compressors, low lighting power density and ventilation air heat recovery. Harmful refrigerants will not be used and the Project will be commissioned to help ensure that major energy-using equipment is installed correctly.

Environmental impacts of resource extraction, processing and transportation will be limited by specifying regional and recycled materials. Further impact reductions will be achieved by diverting construction waste from landfill and encouraging recycling at the building.

The Project will achieve excellent indoor environmental quality by specifying low-VOC materials, installing filtration media and entryway systems and designing spaces, for high levels of thermal comfort.

4.4.1 Compliance with Article 37

Consistent with the sustainability goals for the Project and requirements of Article 37, the Proponent and project design team intend to incorporate sustainable design and construction principles and practices into the Project. Based on preliminary design, the Project will achieve LEEDv4 certifiable Silver level, as demonstrated in the preliminary LEED scorecard presented in Figure 4.2. The Project is currently tracking 56 'Yes' points for a Certified rating and 30 'maybe' points. The 'maybe' points represent credits that will continue to be evaluated as design progresses. As the design and engineering of the Project are further advanced, the Proponent will aspire to achieve certifiability at a Gold level using the LEEDv4 rating system, if feasible.

The design team for the Project includes several LEED Accredited Professionals (AP), including the Architect of Record, Kevin Lennon, AIA, LEED AP with Elkus Manfredi Architects. Other team members with LEED accreditation include the MEP Principal in Charge, Thomas Burroughs, PE, Vidya Gowda, LEED AP with WSP, the sustainability consultant, Julia M. Rogers, LEED AP+, WSP's Built Ecology Group, and Lauren DeVoe, AICP, LEED AP, Senior Environmental Planner with VHB. The Proponent and project design team will continue to evaluate and incorporate sustainable design and energy conservation as the design process continues.

[1] The emittance of a material refers to its ability to release absorbed heat.

Integrative Process (IP)

The development team meets regularly to ensure the team members from the various disciplines involved are all known to each other and collectively communicating. Sustainable design focused workshops were held early on to assist the development team in establishing shared sustainable design and energy efficiency goals for the development. As the Project progresses, there will be multiple sustainable design-focused workshops to ensure that the entire development team is engaged throughout the design and construction process.

The development team has met with Eversource and National Grid to discuss the incentive programs and potential Energy Conservation Measures (ECMs) for the Project.

Location and Transportation (LT)

Located in the heart of the Back Bay neighborhood, the Project Site is surrounded by numerous amenities and services. High-rise residences and more than ten (10) publicly available diverse services[2] are located within a one-half mile radius of the Project Site.

As illustrated in Figure 5.4, public transportation via the B, C, D, E, and Orange lines and by bus are easily accessible from the Project Site. While the market demands for a luxury residential condominium building demands on-site parking for vehicles owned by residents, facilitating public transportation access reduces the number of vehicles traveling to and from this building on a daily basis and allows retail and restaurant patrons and building staff and employees to visit the Project using public transportation, thus reducing the greenhouse gas emissions linked to this building. Accessible public transportation can also reduce commuting costs and help attract and retain building staff and employees.

As described further in Chapter 5, *Transportation*, the Project will include improved sidewalks and new bicycle accommodations to support pedestrian and cyclist safety, as well as exterior short-term bike storage for visitors and retail patrons and enclosed secure bike storage areas within the parking garage for residents.

Sustainable Sites (SS)

- The Project is located in a dense neighborhood full of commercial and cultural activity. Site sustainability is enhanced with strategies that reduce the urban heat island effect and stormwater runoff, including covered vehicle parking, highly-emissive roofs, and stormwater detention and treatment;
- The Project Site is located within a previously developed densely developed Boston neighborhood with existing sufficient infrastructure and services. The approximately 1-acre Project Site, although located within a densely developed

[2] According to Appendix 1 of the LEED v4 Reference Guide, acceptable types and categories of diverse services (or uses) include: food retail, community-serving retail, civic and community facilities, community-anchor services (including commercial offices with 100+ full-time equivalent jobs), and other services (such as bank, restaurants, theaters, healthy club, salons, etc.)

urban area, has not itself been previously developed and will have a residential unit density of up to 108 units per acre; and

- A rain water management plan is in place to address the rate of run-off and the quality of the Site rainwater. Rainwater will be absorbed through on-grade landscaping and green roofs. Refer to Chapter 9, *Infrastructure*, for further information.

Water Efficiency (WE)

The Project will minimize potable water use for both sewage conveyance and irrigation needs. The development team plans to specify low-flow/high-efficiency domestic and commercial plumbing fixtures. Through the use of such plumbing fixtures, the building is expected to exceed a 30 percent annual potable water use reduction for interior water use and sewage conveyance.

Due to the constraints of the Project Site, landscaping on the Project Site is limited to streetscape improvements, including street trees and/or planters, and planters/green roof areas within the residential amenity rooftop spaces. The irrigation system will be designed to use at least 30 percent less potable water from the calculated baseline for the Site's peak watering month. In accordance with LEED, reductions will be achieved through plant species selection and irrigation system efficiency, as calculated by the Environmental Protection Agency (EPA) WaterSense Water Budget Tool.

Energy & Atmosphere (EA)

The proposed building will be designed with high-efficiency building systems and a high-performance building envelope. Alternative energy strategies may be considered for further investigation, such as photovoltaic arrays, geo-thermal and co-generation. The project design team is currently evaluating the following ECMs:

- High-performance glazing and efficient building materials (walls, roof, and windows);
- Condenser water plant that exceeds base energy code efficiency with variable speed technology, and energy recovery for exhaust;
- High-efficiency chillers with variable speed compressors;
- High-efficiency lighting;
- Ventilation air heat recovery; and
- High-efficiency domestic hot water heaters.

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment* for further information, including updated building energy model results.

Materials and Resources (MR)

The Project will specify materials and products that are environmentally responsible and are transparent regarding the harvest and extraction of raw materials and the

manufacturing processes. The development team will endeavor to specify materials and products with environmental and health product declarations to help support a reduced impact of the development on the environment.

Waste management will be addressed both during construction and occupancy. The construction manager (CM) will provide a construction waste management plan to divert a minimum 75 percent of the construction and demolition debris comprised of multiple waste streams.

During occupancy, collected recyclables will be accommodated on the ground floor near the loading docks. Retail tenants will bring their recyclables to a central storage room, which also will be available to residents. In addition, the Residences Building will incorporate trash and recycling chutes on each floor. A contracted waste management company will pick up the collected recyclables on a regular basis.

Indoor Environmental Quality (IEQ)

The building will have a healthy interior environment generated through the use of low-VOC containing interior construction and finish materials and maintained through an efficient ventilation system in compliance with ASHRAE 62.1-2010. In compliance with LEED requirements, the Residences Building will be non-smoking and no smoking will be allowed within 25 feet of the building including on residential terraces or decks and on the rooftop amenities area.

Additionally, during construction, the CM will develop and implement a compliant Indoor Air Quality Management Plan for the construction and pre-occupancy phases of the Project.

The conceptual building envelope design for the proposed building includes large areas of vision glazing with ample access to daylight and views for the anticipated regularly occupied spaces in both the residences and on the retail/restaurant floors.

Both the retail/restaurant and the residential building thermal comfort systems and controls will be designed to meet the requirements of ASHRAE 55-2010 for all applicable mechanically ventilated regularly occupied spaces.

Innovation in Design (ID)

The Proponent will explore innovative approaches to design, construction, and operations and maintenance, including considering specifying low-mercury lighting, integrating public green education, and implementing an integrated pest management plan, and/or a green housekeeping plan.

Regional Priority Credits (RPC)

Applicable regional priority credits for the Project Site may include:

- WE Cooling Tower Water Use
- EA Renewable Energy Production
- SS Rainwater Management

› MR Life Cycle Impact Reduction

Boston Green Building Credits

Based on an initial feasibility study, the Project is unlikely to achieve the Historic Preservation and Modern Grid credits. As discussed more fully in Section 5.14.2 of Chapter 5, *Transportation*, the Proponent will develop and implement a Transportation Demand Management ("TDM") plan, which may meet the Modern Mobility credit requirements. The applicability of this credit depends on future building operations and, therefore, its achievement will likely not be confirmed until final design.

As discussed in Chapter 9, *Infrastructure*, achievement of the Groundwater Recharge credit may be feasible. This credit will continue to be evaluated once soil boring information is obtained and as project design advances.

4.5 Climate Change Preparedness and Resiliency

This section discusses the approach to preparing for anticipated changes in climate, in accordance with Appendix 7 of the BPDA Development Review Guidelines. The required Climate Change Resiliency and Preparedness Checklist has been completed for the Project and is provided in Appendix C.

4.5.1 Sea Level Rise and Extreme Flooding

New England is expected to experience greater localized sea level rise due to climate change. There are many sources which have quantified the expected sea level rise and evaluated the various scenarios in the context of the City of Boston. The Massachusetts Office of Coastal Zone Management (CZM) has prepared the document *Sea Level Rise: Understand and Applying Trends and Future Scenarios for Analysis and Planning*, which provides projections of expected sea level rise for Boston at several points in the future under different emission scenarios: Lowest; Intermediate Low; Intermediate High; and Highest.

The CZM document gives planners and designers a resource for 'bathtub model' evaluations of assets and infrastructure. These elevations can be added to flood elevations provided by resources, such as the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) program. These maps provide the 1 and 0.2 percent annual probability (i.e., 100-year and 500-year flood elevations along U.S. waterways and coasts). These maps, when combined with sea level rise, can provide a basic flood elevation evaluation tool.

MassDOT and Federal Highway Administration (FHWA) have taken the CZM sea level rise information one-step further than the 'bathtub' model, by creating a dynamic flooding model. The *MassDOT-FHWA Pilot Project Report: Climate Change and Extreme Weather Vulnerability Assessments and Adaptation Options for the Central Artery* provides flood elevations generated by a hydrodynamic model coupled with a wave simulation model, over the topography and bathymetry of the greater Boston

area. This model provides the most accurate publicly available site-specific flooding model with sea level rise in Boston for certain planning years and emission scenarios.

Based on this report, the Project Site is not at high risk of inundation from sea level rise during its design life (approximately 50 years). Figures 4.4 and 4.5 show the 2030 and 2070 inundation probabilities from the high emissions scenario of the same flood risk model, developed by the Woods Hole Group. These figures show that there will be no flooding due to sea level rise in 2030 at or near the Project Site. In 2070, the projections show minimal risk to the immediate Project Site despite the potential flooding of I-90, which could result in substantial flooding of regional transportation systems and the surrounding area. The Project is approximately eight feet above the Turnpike at its lowest point (ground floor loading dock)). The *Climate Ready Boston* report, released in December 2016, indicated no change in sea level rise projections.

To protect against flood risk, however minimal, the Project is studying locating critical building systems above-grade and may consider physical measures, such as removable flood barriers, if deemed necessary at the appropriate future time.

4.5.2 Extreme Weather Conditions

This section examines how the Project may be affected by and will prepare for climate change-induced extreme weather events.

The 2011 *Massachusetts Climate Change Adaptation Report* projects an increase in extreme weather events which could consist of drought, tropical rainfall patterns (i.e., increased precipitation), extreme heat and cold stretches, an increase in the number of days with extreme heat (i.e., temperatures greater than 90°F and 100°F), and increased winter precipitation, yet fewer days of snow.

To understand the potential impacts of extreme weather conditions, the Proponent will use Whole Building Energy Simulation to analyze the performance of heating and cooling equipment under extreme cold (0ºF) and heat events (95ºF) and will assess occupant thermal comfort under extreme conditions lasting up to three consecutive days, including thermal comfort in the event of a power outage and loss of heating and cooling capacity.

The Proponent will also explore providing a Cool Room with dedicated cooling systems provided with back-up power where at-risk residents can take shelter.

Please refer to the Preparedness and Resiliency Checklist in Appendix C for additional details on how the Project will respond to extreme weather conditions.

4.5.3 Potential Resiliency Measures

The Proponent and project design team plan to evaluate potential design elements to mitigate the effects of climate change as the design of each Project component progresses. Potential Project sustainability and resiliency measures are summarized in Figures 4.1a and 4.1b.

Site Design Measures

- The Project looks to provide an adequately-sized stormwater conveyance infrastructure to effectively remove stormwater from the Project Site.
- Due to that nature of an air-rights development and the adjacent bridge decking, implementation of low impact development (LID) stormwater management techniques is limited. To help reduce runoff and mitigate heat island effects, the Project will include green roof areas within the residential amenity space and raised planters along the sidewalk, where feasible.

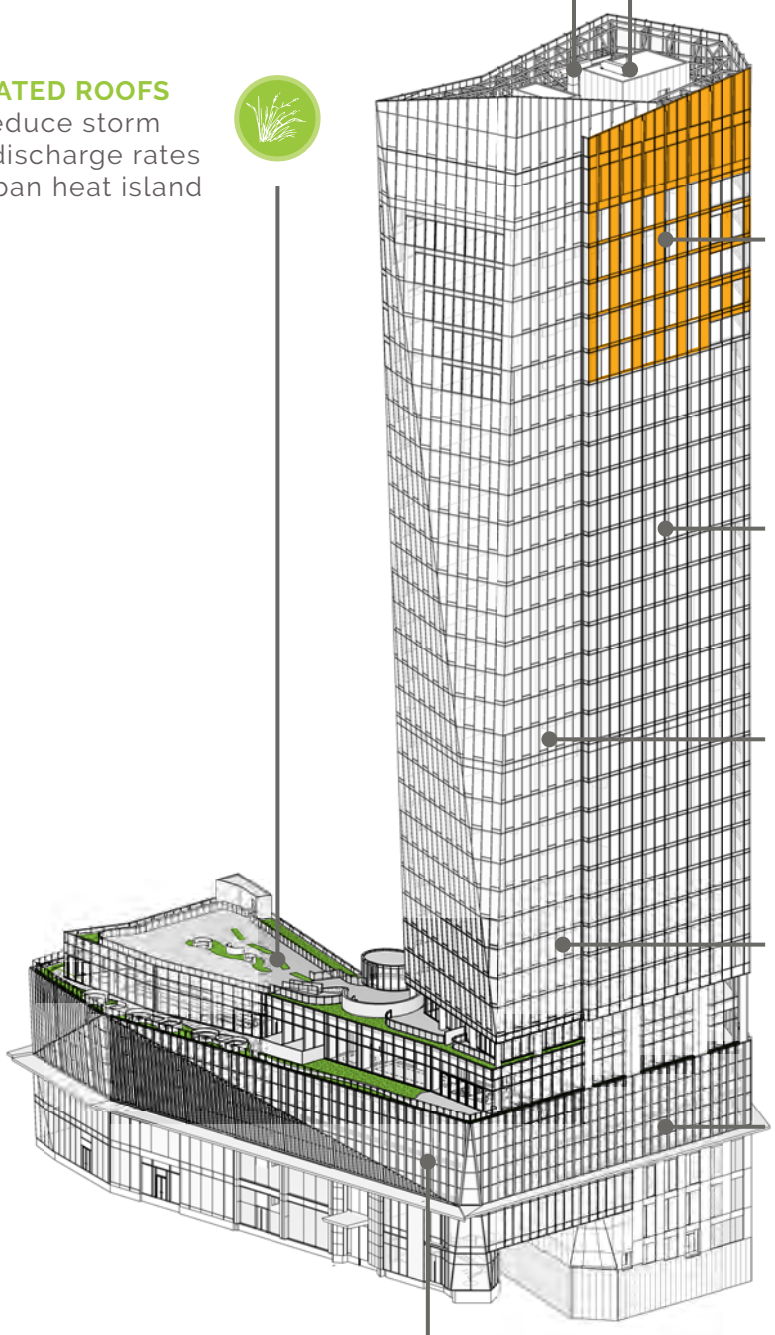
Building Design Measures

- The HVAC system has been evaluated for performance during extreme weather events and anthropogenic future climate change.
- A building-integrated solar PV are being studied to provide utility grid relief and resilient back-up power generation.
- Operable windows provide natural ventilation during a power loss.
- Redundant connections for domestic water and fire protection systems ensure functionality in case of damage or other problems caused by extreme weather events.
- Sewage backflow valves prevent backflow into building during rainstorms and floods to avoid building damage and maintain occupant safety and comfort.
- Elevated equipment, where feasible, will ensure continued functionality in case of flooding.
- Rainscreen cladding on the façade also improves building durability during typical and extreme rainfall events.
- The fuel system for the emergency generator will be located above the floodplain.

HIGHLY URBAN LOCATIONS
Provides access to public transportation and reduces car dependance.

VEGETATED ROOFS
Help reduce storm water discharge rates and urban heat island effect.

ELECTRIC VEHICLE CHARGING STATIONS



HIGH EFFICIENCY CONDENSING BOILERS AND MAGNETIC BEARING CHILLERS
Reduce energy costs and GHG emissions

COMBINED HEAT AND POWER
The design team will study the feasibility of CHP. Can provide utility grid relief and resilient back-up power generation

BUILDING INTEGRATED PHOTOVOLTAICS
The design team will study the feasibility of incorporating a BIPV system on the top of the building

OPERABLE WINDOWS
Provide natural ventilation and promote energy conservation during mild weather

DAYLIGHTING
Clear glazing on the north facade promotes daylighting

LOW-FLOW FIXTURES
Reduce water demand

REDUNDANT CONNECTIONS
for domestic and fire protection systems improve resiliency

SEWAGE BACKFLOW VALVES
Prevents backflow into building during rainstorms and floods

ELEVATED EQUIPMENT
all major equipment will be elevated to protect from flooding and improve resiliency

WSP | PARSONS BRINCKERHOFF

Sustainability and Resiliency Infographic Figure 4.1a
1000 Boylston Street
Boston, Massachusetts

HVAC SYSTEM
Evaluated for performance during extreme weather events and anthropogenic future climate change

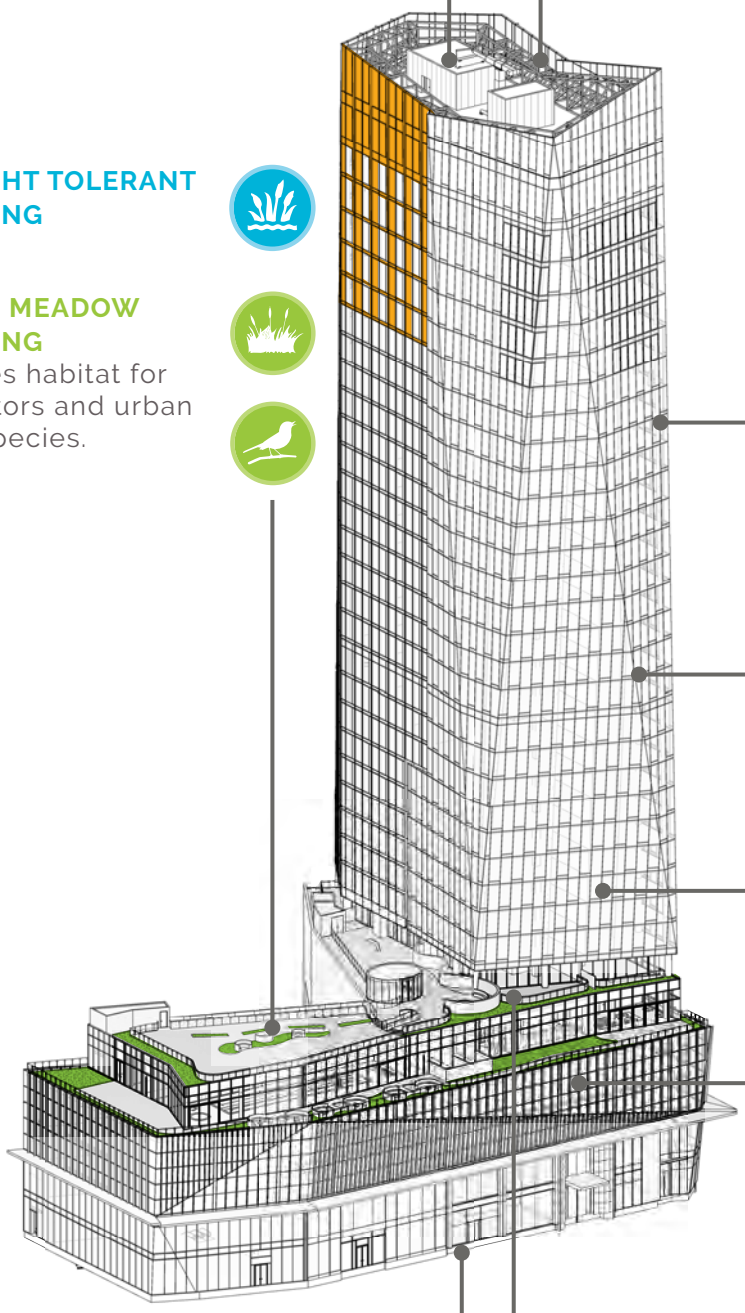
COMBINED HEAT AND POWER
The design team will study the feasibility. Can provide utility grid relief and resilient back-up power generation

OUTSIDE AIR MONITORING
Ensures adequate ventilation is provided to all areas of the building

DROUGHT TOLERANT PLANTING

MEASUREMENT AND VERIFICATION
Help manage long-term performance and promote accountability and conservation.

NATIVE MEADOW PLANTING
Provides habitat for pollinators and urban birds species.



HIGH PERFORMANCE GLAZING
low-E coating and low solar shading coefficient reduce cooling loads during the summer and heat loss during the winter

RECYCLED and REGIONAL MATERIALS
Reduce environmental impacts from development and transportation

RAIN SCREEN CLADDING
Improves envelope durability and performance

SECURE BICYCLE STORAGE and SHARED BICYCLE PROGRAM
Helps promote alternatives to cars.

BARRIER FREE ENTRANCES
Promotes inclusivity and mobility

RAINWATER HARVESTING
Reduces storm water runoff and aids groundwater recharge

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Sustainability and Resiliency Infographic Figure 4.1b
1000 Boylston Street
Boston, Massachusetts

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: 1000 Boylston Street, Boston
Date: AUGUST 2017

Y	?	N			
1			Credit	Integrative Process	1

14	1	1	Location and Transportation		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
	1	1	Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
5			Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

2	5	3	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
	1		Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
		1	Credit	Open Space	1
	3		Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

7	2	2	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1	1		Credit	Outdoor Water Use Reduction	2
3	1	2	Credit	Indoor Water Use Reduction	6
2			Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	3	16	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
4	2	12	Credit	Optimize Energy Performance *	18
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	1	2	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

5	6	2	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	2	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

9	7	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
2	1		Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

3	3	0	Innovation		6
2	3		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

1	3	0	Regional Priority		4
1			Credit	Regional Priority: Cooling Tower Water Use	1
	1		Credit	Regional Priority: Renewable Energy	1
	1		Credit	Regional Priority: Rainwater Management	1
	1		Credit	Regional Priority: Life Cycle Impact Reduction	1

56	30	24	TOTALS	Possible Points:	110

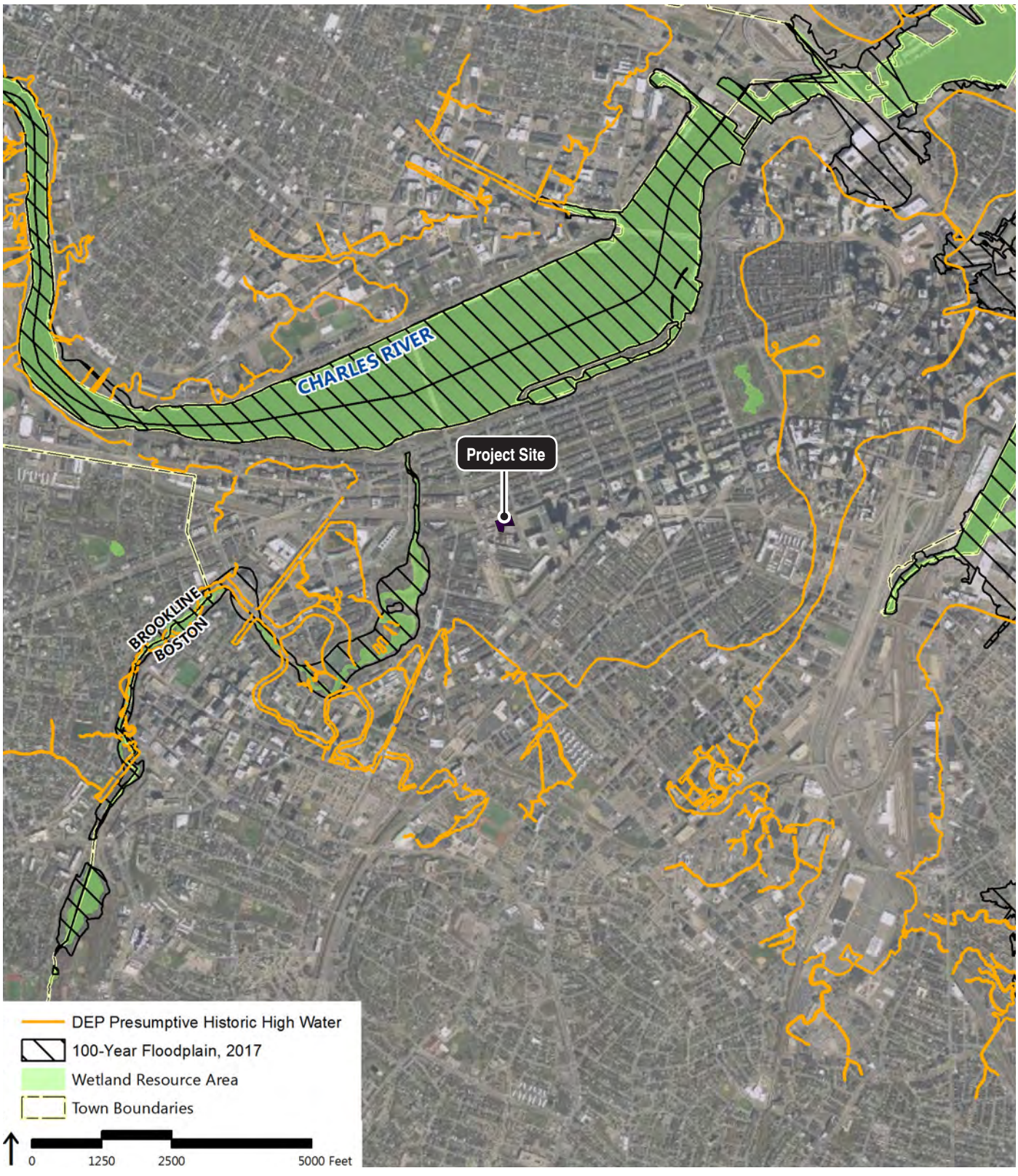
Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Source: WSP

*Energy cost savings are currently based on a comparison with an ASHRAE 90.1 2013 Baseline.

Figure 4.2
Draft LEED Scorecard

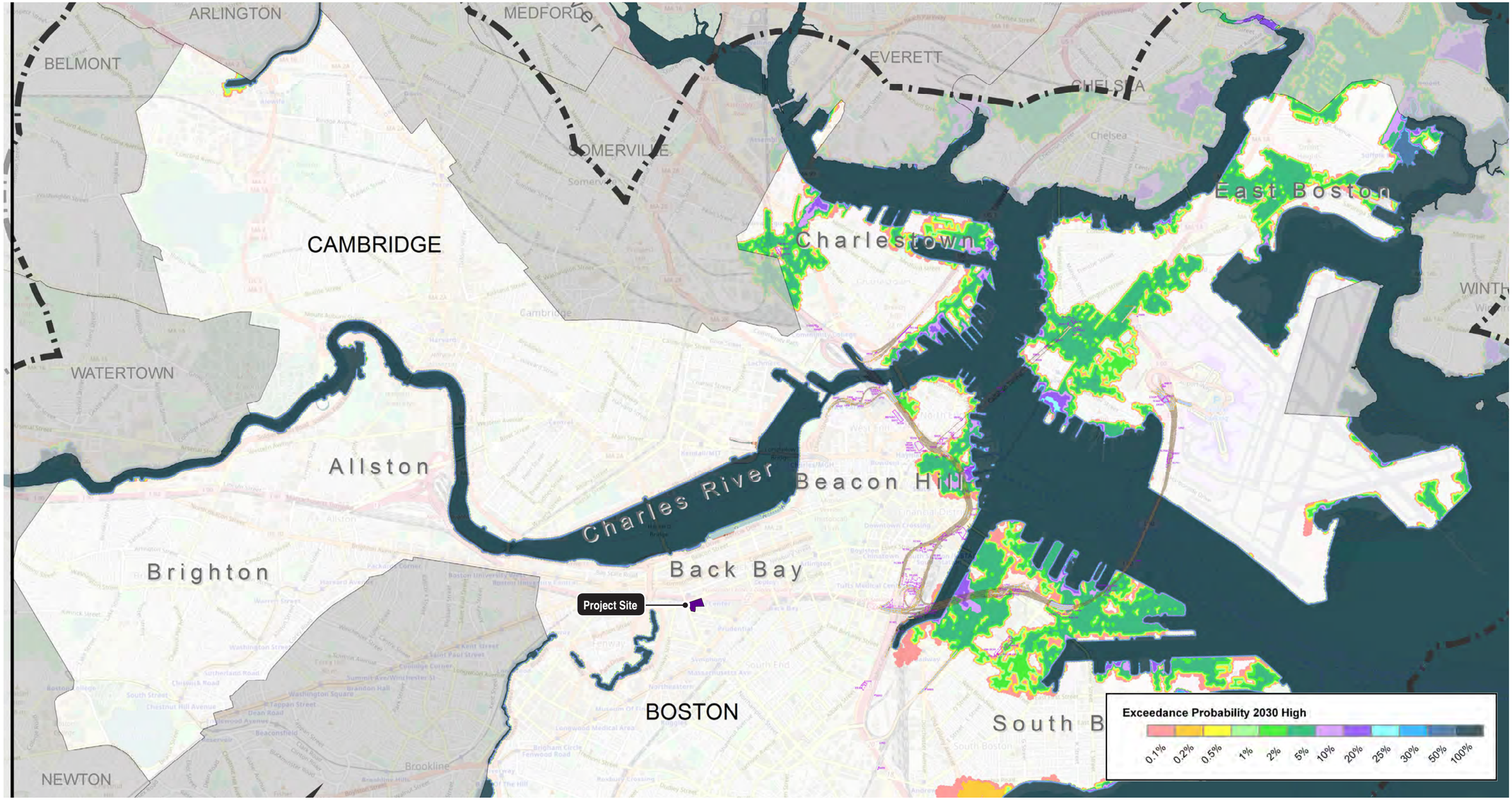
1000 Boylston Street
Boston, Massachusetts



Source: MassGIS

Figure 4.3
FEMA Flood Map

1000 Boylston Street
Boston, Massachusetts

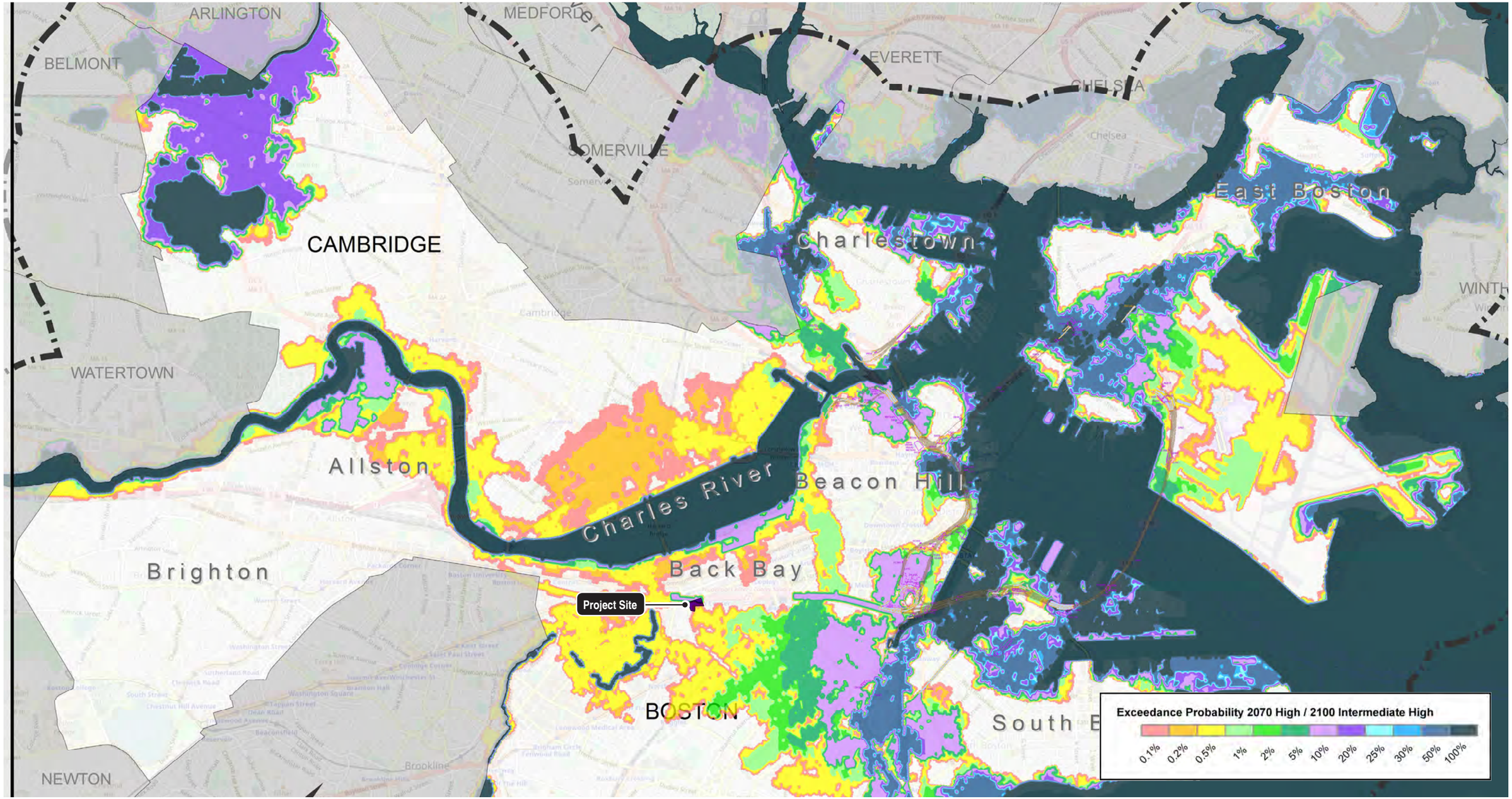


Source: MassDOT

Figure 4.4

2030 Coastal Flood Exceedance Probabilities (High Scenario)

1000 Boylston Street
Boston, Massachusetts



Source: MassDOT

Figure 4.5

2070 Coastal Flood Exceedance Probabilities (High Scenario)

1000 Boylston Street
Boston, Massachusetts

5

Transportation

This chapter presents the analysis of the transportation and parking aspects of the Project, as described in detail in Chapter 1, *Project Description and Alternatives*. Specifically, this evaluation includes the following elements:

- Definition and presentation of existing traffic, including roadway capacities, parking, transit, pedestrian and bicycle circulation, loading and overall Project Site conditions.
- An evaluation of the Project's long-term transportation impacts on those same topics.
- A detailed summary of the proposed transportation mitigation and improvements the Project will contribute to the Back Bay neighborhood to help reduce Project transportation impacts and improve overall accessibility to and from the area.

Additional detail and supporting information is provided in Appendix D of this DEIR/DPIR.

The Project Site is transit-oriented, being located directly adjacent to and over the Hynes Convention Center Station and a short walk to the Back Bay Station with immediate access to multiple public transportation services, including MBTA Commuter Rail, the Orange Line, local bus routes, and Amtrak. In addition, the Project Site enjoys excellent local and regional roadway access due to its central location in the Back Bay and its proximity to an on-ramp serving I-90 westbound. Thus, the mix of residential and retail uses in the Project will benefit from excellent transit accessibility.

Additionally, the Project will implement a robust program of TDM strategies to take full advantage of the multiple adjacent mobility options and its synergy with the surrounding vibrant mixed-use neighborhoods. To encourage bicycling, the TDM plan will incorporate long and short-term bicycle accommodations within the garage and elsewhere within the Project Site.

The Project's auto and loading access are now proposed to be on Scotia Street rather than Dalton Street. The Project's parking garage will be served by a modern elevator system and provide 175 parking spaces to serve the residential, retail and restaurant components.

5.1 Summary of Project Changes

Refer to Section 1.4.1 in Chapter 1, *Project Description and Alternatives,* for a complete summary of changes to the Project since the ENF/PNF filing. The reduction

in the proposed development program results in a significant reduction estimated trips generated by the Project. The number of Unadjusted daily vehicle trips for the Project represents a 20.5 percent reduction compared to the ENF/PNF Alternative (from 3,634 to 2,890 adt). Additionally, the parking capacity has been reduced significantly by over 40 percent from 303 spaces to 175 spaces. The currently proposed parking capacity is also less than the 240 spaces proposed under the 2013 Designation Alternative.

5.2 Summary of Key Findings and Benefits

The key impact assessment findings and benefits related to transportation include:

- Detailed analysis of the amount of new traffic that can be expected to be generated at 17 locations near or at the Project Site indicate that overall, the Project's traffic impacts will be modest – because of the residential nature of the proposed use.
- Overall, the analysis shows that the network impacts are driven by the background project trips, and the Project-generated trips will have minimal impact on Level-of-Service.
- The Project will enhance the pedestrian environment along Boylston Street significantly by covering "the hole" – the open area above the Turnpike and the railroad tracks that parallel the Turnpike. Further, the Proponent intends to construct an improved 18-foot-wide sidewalk (13-foot pedestrian zone with a 5-foot street furniture zone) with landscape amenities to the extent feasible and improved connections across to the north side of Boylston Street and the Hynes MBTA Green Line station.
- The Project-generated transit trips are not expected to create capacity issues for rail, bus or subway service.
- The Project will incorporate bicycle accommodations both along Boylston Street and within the project site. The Proponent supports the City's goals toward expanding the existing area bicycle network to encourage greater cycling and walking by building residents, staff and visitors and looks forward to working collaboratively with the Boston Transportation Department on project design elements.
- Off-street loading and trash removal will take place on Level B1 in a designated loading dock area served from Cambria Street.
- The Proponent intends to implement a program of TDM strategies to take full advantage of its multiple mobility options and the Project Site's synergy with the surrounding vibrant mixed-use neighborhoods.

5.3 Project Description

As described previously in Section 1.3, the Project is composed of four parcels: Parcel 15, the Prudential Parcel, the Cambria Street Air-Rights Parcel, and the Scotia Parcel. The proposed development program used in this transportation analysis is presented in Table 5-1.

Table 5-1 Proposed Development Program

Project Element	Size
Condominiums	108 units
Retail	Approximately 45,500 square feet (sf)
Restaurant	170 seat restaurant[1]
Parking	175 spaces

1 The space for the restaurant use is included in the Retail total above.

5.4 Existing Conditions Assessment

The Project Site is located in the Back Bay neighborhood of Boston with direct access to the major roadway arterials, public transit alternatives and a vast system of sidewalks and bike lanes to connect the Project Site with the surrounding community and adjacent neighborhoods. The Project Site has close access to the Hynes Convention Center Station with Green Line and MBTA bus services. The Back Bay Station is located nearby with additional services, which includes Amtrak, four Commuter Rail lines, the MBTA Orange Line, nine MBTA Bus routes and the MBTA Green Line located within minutes of the Project Site. The following sections provide details on the existing transportation infrastructure supporting the Project Site.

5.4.1 Roadways

The Project Site is bounded by Boylston, Dalton, Scotia, and St. Cecilia streets. Cambria Street passes through the Project Site, sloping down from grade at its intersection with St. Cecilia Street to the Hynes Convention Center loading area below Dalton Street. Each of these streets is briefly described in the sections below. In the interest of brevity, this section does not include a description of each and every roadway within the defined study area; instead it focuses on those that are closest to the Project.

Boylston Street

Boylston Street is an east/west roadway north of the Project Site that extends from Boston's Fenway neighborhood on the west to the Boston Common. Adjacent to the Project Site, Boylston Street accommodates two-way traffic separated by a raised median. Two travel lanes and metered parking are provided on each side. East of the Project Site, Boylston Street becomes one-way eastbound. Sidewalks are provided

along both sides of the street, and crosswalks are available at all of the signalized intersections.

Cambria Street

Cambria Street is a two-way, dead-end street connecting Boylston Street to the below-grade Hynes Convention Center loading docks. Adjacent to the Project Site, Cambria Street is approximately 25 feet wide and carries two-way traffic. There is parking along the southern side of Cambria Street from Boylston Street to St Cecilia Street, but as Cambria Street continues into the Hynes loading area, it is signed for "no stopping," A sidewalk is provided only on the south side of Cambria Street, adjacent to the on-street parking.

Dalton Street

Dalton Street is a north/south roadway adjacent to the Project Site that connects Boylston Street on the north with Clearway Street on the south. At the Project Site, Dalton Street provides two travel lanes northbound, one with a shared lane for bicycles, and one travel lane southbound and a bicycle lane. Parking is prohibited along the portion of Dalton Street adjacent to the Project Site. South of the Project Site, Back Bay resident parking is provided along a portion of the street. Sidewalks are provided along both sides of Dalton Street, and crosswalks are provided at the signalized intersections with Boylston Street.

Scotia Street

Scotia Street is designated as a one-way eastbound street connecting St. Cecilia Street on the west with Dalton Street on the east. Metered parking is available along the north side of Scotia Street and metered parking is available along its south side from St. Cecilia Street to the driveway for the St. Cecilia Roman Catholic Church. Parking is prohibited along most of the south side of the street. The eastern half of Scotia Street has loading docks along the southern side directly opposite the Kings Dining and Entertainment. Sidewalks are provided along both sides of the street, and a crosswalk is provided at the Scotia Street approach to Dalton Street.

St. Cecilia Street

St. Cecilia Street is a north/south roadway bordering the Project Site on its western edge. St. Cecilia Street extends from Boylston Street on the north to Belvidere Street on the south. St. Cecilia Street, from Boylston Street to Scotia Street, is two-way with one travel lane in each direction. From Scotia Street to Belvidere Street, St. Cecilia Street is one-way northbound. South of Scotia Street, St. Cecilia Street has metered parking along its west side and resident permit parking along its east side. The northern half of St. Cecilia Street has a loading zone from Scotia Street to Cambria Street along its west side, and parking is prohibited along the east side of the street. Sidewalks are provided along St. Cecilia Street, but no marked crosswalks are present.

5.4.2 Study Intersections

The Project study area was expanded from the eight (8) intersection study area proposed in the ENF and PNF to include intersections identified in the MassDOT comment letter submitted on the ENF and PNF, dated January 31, 2017, and the Boston Transportation Department's comment letter on the PNF, dated February 1, 2017. The study area includes the following 18 intersections, as shown in Figure 5.1. The intersections listed below are signalized unless otherwise noted.

1. Massachusetts Avenue at Beacon Street
2. Massachusetts Avenue at Marlborough Street
3. Massachusetts Avenue at Commonwealth Avenue
4. Commonwealth Avenue at Hereford Street
5. Commonwealth Avenue at Gloucester Street
6. Newbury Street at Mass Ave/I-90 Westbound On-Ramp
7. Newbury Street at Hereford Street *(unsignalized)*
8. Massachusetts Avenue at Boylston Street
9. Boylston Street at Dalton Street/Hereford Street
10. Boylston Street at Gloucester Street
11. Massachusetts Avenue at Belvidere Street/Haviland Street
12. Dalton Street at Scotia Street *(unsignalized)*
13. Dalton Street at Belvidere Street *(unsignalized)*
14. Massachusetts Avenue at Westland Avenue/St. Stephen Street
15. Massachusetts Avenue at Huntington Avenue
16. Huntington Avenue at Cumberland Street
17. Huntington Avenue at Belvidere Street/West Newton Street
18. Scotia Street at Proposed Driveway *(unsignalized)*

Existing vehicular traffic data was collected for all the study area intersections for the morning and evening weekday peak hours. Vehicle, bicycle, and pedestrian data was collected in February and March 2017. Based on the vehicular traffic count data, the existing weekday morning peak hour for the area occurs between 8:00 AM and 9:00 AM, while the existing weekday evening peak hour occurs between 4:45 PM and 5:45 PM. Counts for this area conducted by VHB for the ENF/PNF Alternative from May 2015 were also reviewed and found to be generally consistent with the data collected in 2017. Figures 5.2a and 5.2b present the 2017 Existing Conditions weekday peak hour traffic volumes. Traffic data collection information is provided in Appendix D.

5.4.3 Parking

Since the Project will be built primarily on undeveloped air-rights parcels, there is currently no parking at or on the Project Site.

Figure 5.3a identifies off-street parking facilities in the area. In total, there are seven (7) off-street parking facilities existing within an approximately five-minute walking distance of the Project Site. The largest is the VPNE Prudential Center Garage, and the closest is the adjacent Pilgrim Auditorium Garage. The Pilgrim Auditorium Garage is located adjacent to the Project Site and has the capacity to hold approximately 501 vehicles. However, it is unknown how many of these spaces are reserved or when the garage may be redeveloped. The Prudential Center Garage to the east of the Project Site can hold approximately 4,200 vehicles. However, with the various residential and commercial "nests" and valet parking programs, it is unclear how much of the parking is available for use by the general public. Several areas of the garage are reserved for valet parking, Zipcar, Enterprise, Avalon Exeter, 111 Huntington, The Mandarin and other private uses. Using the 2014 Boston Air Pollution Control Commission inventory, the approximate number of existing public spaces within these garages and lots are shown in Table 5-2 for a comparison of existing public and private parking at these surrounding facilities. Table 5-2 corresponds to the off-street parking facilities that are presented in Figure 5.3a.

Table 5-2 Off-street Parking Facilities

Parking Facility	Approximate Capacity (Spaces)	Approximate Number of Existing Public Spaces[1]
Pilgrim Parking, Somerset	400	Data Not Available
Harvard Club of Boston	105	0
SP Plus Parking	28	28
Patriot Haviland Street Garage	100	Data Not Available
Pilgrim Auditorium Garage	501	501
Hilton-Back Bay	256	0
VPNE Prudential Center Garage	4,200 +	2,067
Danker & Donohoe	500	500
Total	**6,090**	**2,596**

1 Information taken from 2017 Boston Air Pollution Control Commission inventory

Figure 5.3b presents existing on-street parking regulations within a quarter-mile (approximately five-minute walk) radius of the Project Site. The majority of on-street curbside uses north of the Project Site along Newbury Street is metered parking. Commonwealth Avenue has a mix of metered parking and resident parking, and as the streets continue north toward Storrow Drive, the on-street parking is permitted for residents only. South of the Project Site, there are segments of metered parking found along Massachusetts Avenue and Belvidere Street, but the on-street parking along St. Germain Street and Clearway Street is designated for residents only along one side of the street with no parking allowed along the opposite side.

In addition to the public and private parking facilities in the area, the Project Site is well serviced by the car-sharing service ZipCar. Figure 5.3c identifies ZipCar locations within a quarter-mile (approximately five-minute walk) radius of the Project Site.

5.4.4 Transit Facilities and Service

The Project Site is well served by public transportation, including the following:

- MBTA Green Line/Hynes Convention Center station
- MBTA Bus Routes 1, 39, 55, CT1

The transit services are summarized in Table 5-3. Figure 5.4 shows the Project Site in the context of the wider MBTA system. At the Hynes Convention Center Station, three Green Line branches are available for inbound and outbound travel (B, C, and D Branches). The E Branch is located southeast of the Project Site along Huntington Avenue. The Green Line provides transportation to many surrounding Boston area neighborhoods such as Brighton, West Newton, Chestnut Hill, and Mission Hill. The Green Line also stops at popular commuter destinations such as Longwood Medical and Academic Area, Boston University, Boston College, Copley Square, and Government Center. A short walk from the Project Site is the Back Bay Station which provides multiple commuter rail connections including the Franklin Line, Needham Line, Providence/Stoughton Line, and Framingham/Worcester Line. Additionally, the station services Amtrak trains.

5.4.5 Bicycle Facilities

The Project Site is served by bicycle lanes and shared lane pavement markings on the surrounding roadways. Shared lanes, indicated by arrows and bike lanes, are provided on segments of Massachusetts Avenue, Boylston Street (east of Massachusetts Avenue), Dalton Street, and Hereford Street. The marked bicycle lane on Boylston Street eastbound at the intersection of Massachusetts Avenue at Boylston Street does not continue as bicyclists travel across the intersection heading toward the Project Site, but rather it changes to a shared lane along the segment of Boylston Street from Massachusetts Avenue to Dalton Street, along the proposed Project frontage.

Five existing Hubway stations are located within a quarter-mile of the Project Site. The closest existing Hubway station provides 15 bicycle docks and is located on the northwest corner of the Massachusetts Avenue and Boylston Street intersection. To the north of the Project Site, the Hubway station at the Newbury Street intersection with Hereford Street has 18 bicycle docks. To the east of the Project Site, the station at the intersection of Boylston and Fairfield streets has 19 bicycle docks. Southeast of the Project Site, the station at the Prudential Center along Belvidere Street has 25 bicycle docks. Finally, south of the Project Site, the station at the Christian Science Plaza (Massachusetts Avenue at Westland Avenue) has 19 bicycle docks. Figure 5.5 identifies the existing bicycle facilities including bike lanes, shared lanes, and multi-use paths surrounding the Project Site.

Table 5-3 Transit Service Summary

Transit Service	Origin-Destination	Major Stops	Nearest Stop to Project Site	Peak Hour Headway (minutes)	Weekday Daily Ridership	Hours of Service
MBTA Subway Services						
Green Line B Branch	Boston College-Park Street	Park Street Copley Kenmore	Hynes Convention Center	6	227,645 [3]	Weekday: 5:01 AM – 12:52 AM Saturday: 4:45 AM – 12:52 AM Sunday: 5:20 AM – 12:52 AM
Green Line C Branch	Cleveland Circle - North Station	Park Street Copley Kenmore	Hynes Convention Center	6	227,645 [3]	Weekday: 5:01 AM – 12:46 AM Saturday: 4:50 AM – 12:46 AM Sunday: 5:30 AM – 12:46 AM
Green Line D Branch	Riverside – Park Street	Park Street Copley Fenway	Hynes Convention Center	6	227,645 [3]	Weekday: 4:56 AM – 12:49 AM Saturday: 4:55 AM – 12:49 AM Sunday: 5:25 AM – 12:49 AM
Green Line E Branch	Lechmere – Heath Street	Park Street Copley Kenmore	Prudential	6	227,645 [3]	Weekday: 5:01 AM – 12:55 AM Saturday: 5:01 AM – 12:47 AM Sunday: 5:35 AM – 12:47 AM
MBTA Bus Services						
Route 1	Harvard/Holyoke Gate/ Dudley Station via Massachusetts Avenue	Central Square, Cambridge Symphony Hall Boston Medical Center	Hynes Convention Center	8-10	13,214	Weekday: 4:37 AM – 1:27 AM Saturday: 4:40 AM – 1:40 AM Sunday: 6:00 AM – 1:32 AM
Route 39	Forest Hills Station – Back Bay Station	Copley Symphony Longwood Ave	Dalton @ Boylston Street	6 – 10	14,877	Weekday 4:42 AM – 1:24 AM Saturday: 4:37 AM – 1:23 AM Sunday: 5:45 AM – 1:17 AM
Route 55	Jersey & Queensberry Streets – Copley Square or Park & Tremont Streets	Arlington Prudential Fenway	Boylston Street @ Massachusetts Avenue	15 – 30	917	Weekday 4:55 AM – 11:10 PM Saturday: 6:00 AM – 11:11 PM Sunday: 8:15 AM – 11:09 PM
Route CT1	Central Square, Cambridge – BU Medical Center/Boston Medical Center via MIT	MIT Symphony Massachusetts Avenue	Hynes Convention Center	20 – 22	2,191	Weekday 6:30 AM – 7:41 PM Weekend: No Service

1 Based on the schedule provided on the MBTA website in February 2017
2 Ridership data from MBTA Ridership and Service Statistics, Fourteenth Edition, 2014
3 Green Line Weekday Daily Ridership is expressed as the total number Green Line riders for all branches.

Short-term Bicycle Parking

Bicycle racks are provided along the sidewalk on Boylston Street, east of the Project, for retail customers, and are intended for maximum two (2) bicycles to attach to either side of the lollipop rack structure. From Hereford Street to Gloucester Street, there are approximately six (6) bicycle racks (12 spaces total) along the northern side of Boylston Street. Outside of the 888 Boylston Street building, there are 17 bicycle racks (34 spaces total) available outside of the entrance. South of the Project Site, at the corner of Belvidere Street and Dalton Street, there are seven (7) bicycle racks (14 spaces total). On Belvidere Street near Massachusetts Avenue, there are 12 bicycle racks (24 spaces total), and along Massachusetts Avenue near Boylston Street, there are seven (7) bicycle racks (14 total).

Most of these racks operate at or near their capacity during a typical weekday mid-morning conditions, indicating a relatively high demand for short-term bicycle parking in the area. When bicycle racks are at capacity, bicyclists will often use street furniture, trees, or sign posts to secure a bicycle.

Long-term Bicycle Parking

A secure bicycle pavilion is provided by Berklee College of Music for use by faculty and students, but it is not open for public use. The pavilion includes bicycle parking for up to 75 bicycles and five charging stations for "electric light vehicles" such as scooters.

Bicycle Usage

Bicycle volumes were collected in coordination with the vehicle turning movement volumes and are shown in Figures 5.6a and 5.6b for the morning and evening peak hours, respectively. Bicycle activity within the study area is heaviest along Massachusetts Avenue and Commonwealth Avenue. On Boylston Street along the Project Site, there were approximately five (5) bicycles traveling eastbound during the morning peak hour and 12 bicycles traveling eastbound during the evening peak hour. It should be noted that counts were completed in February and March and volumes in warmer weather months are higher. The surrounding area has several options for bicycle travel including shared lanes and bicycle lanes. Figure 5.6c shows the provided travel lanes on roadways around the Project Site and within the study area.

5.4.6 Pedestrian Facilities

The Project Site is well served by pedestrian facilities including sidewalks along each of the local roadways, crosswalks at all study area intersections and activated streetscapes and building fronts. Sidewalks are provided on all the Project Site frontages. Crosswalks and pedestrian signals are provided at all study area signalized intersections.

Pedestrian volumes were collected in coordination with the vehicle turning movement volumes and are shown in Figures 5.7a and 5.7b for the morning and evening peak hours, respectively.

During peak times, the highest volumes of pedestrians in the study area were observed crossing the intersection of Massachusetts Avenue at Boylston Street. The intersection experiences a total of 1,850 pedestrians in the morning peak hour and 2,180 pedestrians in the evening peak hour. A considerable amount of this activity is driven by Berklee College of Music and the adjacent MBTA Green Line station. At the intersection of Boylston Street at Dalton and Hereford streets, approximately 175 pedestrians cross Dalton Street during the morning peak hour, and 370 pedestrians cross during the evening peak hour.

5.4.7 Truck Network

According to an interactive map of the trucking network within Massachusetts on the MassDOT website, there are no specified truck restrictions in the study area. The nearest roadway segments with restrictions are West Newton Street south of the Project Site (between Columbus Avenue and Tremont Street) and Bay State Road to the northwest of the Project Site (Granby Street to Beacon Street). On these two segments, there is a 24-hour exclusion for vehicles weighing 2.5 tons or more.

At the intersection of Boylston Street at Dalton Street/Hereford Street, during the morning peak hour, approximately 60 heavy vehicles (combination of box trucks, tractor trailers, and buses) arrive on the Boylston Street westbound approach and 63 heavy vehicles arrive on the Dalton Street northbound approach. During the evening peak hour, 13 heavy vehicles arrive on the Boylston Street westbound approach and 30 heavy vehicles arrive on the Dalton Street northbound approach. The evening peak hour heavy vehicle volumes were generally much lower than the morning peak hour heavy vehicle volumes.

With the Hynes Convention Center adjacent to the Project Site, truck traffic is generated due to the regular deliveries and loading for expositions and shows. As noted later in this section, the Proponent intends to work closely with the Hynes Convention Center management team to minimize delivery interruptions during both construction of the Project and during its operations.

5.4.8 Crash Analysis

A detailed crash analysis was conducted to identify potential vehicle accident trends and/or roadway deficiencies in the traffic study area. The most current vehicle accident data for the traffic study area intersections for the latest five years were obtained from MassDOT for the years 2010 to 2014. A summary of the study area intersections vehicle accident history is presented in Table 5-4.

Table 5-4 Crash Summary (2010-2014)

	Mass Ave at Beacon St	Mass Ave at Marlborough St	Mass Ave at Comm Ave	Comm Ave at Hereford St	Comm Ave at Gloucester St	Newbury St at Mass Ave/ I-90 Ramp	Newbury St at Hereford St	Mass Ave at Boylston St	Boylston St at Dalton St/ Hereford St	Boylston St at Gloucester St	Mass Ave at Belvidere St/ Haviland St	Dalton St at Scotia St	Dalton St at Belvidere St	Mass Ave at Westland Ave/ St. Stephen St	Mass Ave at Huntington Ave	Huntington Ave at Cumberland St	Huntington Ave at Belvidere St/ W Newton St
Currently Signalized?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
MassDOT ACR[1]	0.70	0.70	0.70	0.70	0.70	0.70	0.53	0.70	0.70	0.70	0.70	0.53	0.53	0.70	0.70	0.53	0.70
MassDOT CCR[2]	0.35	0.11	0.14	0.03	0.08	0.10	0	0.13	0.04	0	0	0.07	0	0.08	0.09	0	0.05
Exceeds?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Year																	
2010	8	2	3	1	1	3	0	0	0	0	0	1	0	1	1	0	0
2011	4	1	2	0	2	0	0	3	1	0	0	0	0	1	2	0	1
2012	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0
2013	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1
2014	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Total	17	4	6	1	3	4	0	6	1	0	0	1	0	3	4	0	2
Average	3.40	0.80	1.20	0.20	0.60	0.80	0	1.20	0.20	0	0	0.20	0	0.60	0.80	0	0.40
Collision Type																	
Angle	3	0	2	1	1	0	0	1	1	0	0	0	0	1	1	0	0
Head-on	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear-end	3	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1
Rear-to-Rear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sideswipe, opposite direction	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Sideswipe, same direction	4	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0
Single vehicle crash	5	1	0	0	0	1	0	0	0	0	0	1	0	0	1	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not reported	1	2	1	0	1	1	0	2	0	0	0	0	0	1	2	0	0
Total	17	4	6	1	3	4	0	6	1	0	0	1	0	3	4	0	2
Crash Severity																	
Fatal injury	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-fatal injury	9	2	0	0	2	4	0	4	0	0	0	1	0	1	1	0	1
Property damage only	3	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Not Reported	5	2	1	1	1	0	0	2	1	0	0	0	0	2	2	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	4	6	1	3	4	0	6	1	0	0	1	0	3	4	0	2

1 Average Crash Rate, per million entering vehicles by intersection type (MassDOT crash information queried on February 9, 2016 by MassDOT)
2 Calculated Crash Rate, by intersection type based on average daily traffic, average number of crashes per year, and "K" Factor ("K" Factor is the portion of annual average daily traffic occurring in an hour)

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Table 5-4 Crash Summary (2010-2014)

	Mass Ave at Beacon St	Mass Ave at Marlborough St	Mass Ave at Comm Ave	Comm Ave at Hereford St	Comm Ave at Gloucester St	Newbury St at Mass Ave/ I-90 Ramp	Newbury St at Hereford St	Mass Ave at Boylston St	Boylston St at Dalton St/ Hereford St	Boylston St at Gloucester St	Mass Ave at Belvidere St/ Haviland St	Dalton St at Scotia St	Dalton St at Belvidere St	Mass Ave at Westland Ave/ St. Stephen St	Mass Ave at Huntington Ave	Huntington Ave at Cumberland St	Huntington Ave at Belvidere St/ W Newton St
Time of Day																	
Weekday, 7:00 AM - 9:00 AM	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1
Weekday, 4:00 PM - 6:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Saturday, 11:00 AM - 2:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Weekday, other time	10	4	4	1	2	1	0	5	1	0	0	1	0	0	2	0	0
Weekend, other time	6	0	2	0	0	2	0	0	0	0	0	0	0	2	1	0	1
Total	17	4	6	1	3	4	0	6	1	0	0	1	0	3	4	0	2
Pavement Conditions																	
Dry	11	2	4	1	2	3	0	3	0	0	0	1	0	1	1	0	1
Wet	5	0	1	0	0	0	0	1	1	0	0	0	0	1	2	0	1
Snow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand, mud, dirt, oil, gravel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water (standing, moving)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slush	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not reported	1	2	1	0	1	1	0	2	0	0	0	0	0	1	1	0	0
Total	17	4	6	1	3	4	0	6	1	0	0	1	0	3	4	0	2
Non Motorist (Bike, Pedestrian)																	
Total	7	3	0	0	1	2	0	2	0	0	0	1	0	0	2	0	1

1 Average Crash Rate, per million entering vehicles by intersection type (MassDOT crash information queried on February 9, 2016 by MassDOT)
2 Calculated Crash Rate, by intersection type based on average daily traffic, average number of crashes per year, and "K" Factor ("K" Factor is the portion of annual average daily traffic occurring in an hour)

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Readers should recognize that the MassDOT database may not fully account for all crashes reported to the Boston Police Department (BPD) or Boston Emergency Medical Services (EMS). A request for additional data from these sources has been made but, as of the time of filing this document, no additional information has been received.

MassDOT has six districts within Massachusetts, and the study area falls under District 6[1]. The District 6 average crash rate, per million entering vehicles, for signalized intersections is 0.70, and the average crash rate for unsignalized intersections is 0.53. Using the data from the MassDOT database only, all of the study area intersections have a calculated crash rate that falls below the District 6 average values for signalized and unsignalized intersections.

Additionally, the study area intersections were compared to the MassDOT Highway Safety Improvement Plan (HSIP) map of the Commonwealth's top crash locations. Three (3) of the 17 intersections in the study area are included on this map. All are along Massachusetts Avenue including the following intersections: Massachusetts Avenue at Commonwealth Avenue, Massachusetts Avenue at Marlborough Street, and Massachusetts Avenue at Beacon Street. These three intersections fall within the 2005-2014 HSIP Bicycle Cluster—an area where high bicycle crashes occurred and strategies needed to be implemented to reduce bicycle crashes and improve bicycle safety. During these ten years, the cluster experienced 25 crashes, with 18 crashes resulting in a non-fatal injury and 7 property damage only crashes. From 2010-2014, this intersection experienced 17 crashes, with eight (8) of them occurring in 2010. Ten (10) of these crashes occurred during the weekday off-peak, and seven (7) crashes involved a non-motorist such as a pedestrian or bicyclist. None of the crashes resulted in a fatality. Over the years, the City improved this area along Massachusetts Avenue through the addition of bicycle facilities along Massachusetts Avenue for both the northbound and southbound direction. Additionally, bicycle boxes are provided at the Commonwealth Avenue approach to the Massachusetts Avenue to increase bicyclist visibility and protect bicyclists from turning vehicles.

The crash analysis based on the MassDOT data shows a relatively low number of crashes in the immediate area surrounding the Project Site.

At the nearby intersection of Massachusetts Avenue at Boylston Street, only one (1) crash out of six (6) crashes occurred during the weekday morning peak hour. The remaining five (5) crashes occurred on a weekday during off-peak hours. Two (2) of the crashes involved a non-motorist, and none of the crashes resulted in a fatal injury. At the intersection of Boylston Street at Dalton and Hereford streets, only one (1) non-fatal injury was reported from 2010-2014, and this crash occurred on a weekday during off-peak hours.

Crash analysis worksheets are provided in Appendix D.

1 MassDOT District 6 includes the following cities and towns as defined on the MassDOT website: Boston, Braintree, Brookline, Cambridge, Canton, Chelsea, Dedham, Dover, Milton, Needham, Newton, Quincy, Randolph, Watertown, Wellesley, Weston, Westwood, Weymouth, Winthrop.

5.4.9 Intersection Operations

An intersection capacity analysis was conducted for the 2017 Existing Conditions morning and evening peak hours to determine how well the roadway facilities serve the existing traffic demand. Intersection operating conditions are classified by a quantified level-of-service (LOS).

LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the poorest operating conditions. LOS D is typically considered acceptable in a downtown, urban environment, while LOS E indicates that vehicles experience significant delay and queuing, while LOS F condition suggest extremely long delays for the average driver. LOS designation is reported differently for signalized and unsignalized intersections. Longer delays at signalized intersections than at unsignalized intersections are perceived by most drivers as being acceptable.

For signalized intersections, the analysis considers the operations of each lane or lane group entering the intersection and the LOS designation is for the overall conditions at the intersection. For unsignalized intersections, however, this analysis assumes the traffic on the mainline is not affected by traffic on the side streets. The LOS is only determined for left turns from the main street and all movements from the minor street. The LOS designation is for the most critical movement, which is most often the left-turn out of the side street.

Synchro 9.0 software was used to evaluate the LOS operations at the study area intersection. This analysis is based on the 2000 Highway Capacity Manual (HCM). Table 5-5 below presents the LOS delay threshold criteria as defined in the HCM.

Table 5-5 Level of Service Criteria

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
LOS A	0 – 10	0 – 10
LOS B	> 10 – 20	> 10 – 15
LOS C	> 20 – 35	> 15 – 25
LOS D	> 35 – 55	> 25 – 35
LOS E	> 55 – 80	> 35 – 50
LOS F	> 80	> 50

Adjustments were made to the Synchro model to include the characteristics of each intersection, such as geometry, signal timings, heavy vehicles, bus operations, parking activity, bicycle conflicts, and pedestrian crossings. The overall intersection LOS results of the 2017 Existing Conditions analysis for the morning and evening peak hours are summarized in Tables 5-6 and 5-7 for signalized and unsignalized

intersections, respectively. For those interested in more information on these LOS analyses, more detailed tables are provided in Tables 5-23a through 5-23d at the end of Section 5.6 that shows additional information including V/C ratio, delay (seconds), LOS, 50th percentile queue (feet) and 95th percentile queue (feet).

Table 5-6 2017 Existing Conditions Signalized Intersection Vehicle LOS Morning and Evening Peak Hours

Intersection		AM Peak	PM Peak
1.	Massachusetts Avenue at Beacon Street	E	E
2.	Massachusetts Avenue at Marlborough Street	B	A
3.	Massachusetts Avenue at Commonwealth Avenue		
	Northern Intersection	B	B
	Southern Intersection	B	C
4.	Commonwealth Avenue at Hereford Street		
	Northern Intersection	A	A
	Southern Intersection	B	B
5.	Commonwealth Avenue at Gloucester Street		
	Northern Intersection	B	B
	Southern Intersection	A	A
6.	Newbury Street at Massachusetts Avenue/ I-90 Westbound On-Ramp	C	D
8.	Massachusetts Avenue at Boylston Street	C	C
9.	Boylston Street at Dalton Street/Hereford Street	D	E
10.	Boylston Street at Gloucester Street	B	C
11.	Massachusetts Avenue at Belvidere Street/Haviland Street	B	C
14.	Massachusetts Avenue at Westland Ave/ St. Stephen Street	C	C
15.	Massachusetts Avenue at Huntington Avenue		
	Northern Intersection	E	E
	Southern Intersection	B	B
16.	Huntington Avenue at Cumberland Street	A	A
17.	Huntington Avenue at Belvidere Street/ West Newton Street	D	D

Note: Intersection numbers correspond to numbering shown on Figure 5.1.

Table 5-7 2017 Existing Conditions Unsignalized Intersection Vehicle LOS Morning Peak Hour

Intersection		Approach	AM Peak	PM Peak
7.	Newbury Street at Hereford Street	Hereford Street Northbound	A	A
		Newbury Street Westbound	A	A
12.	Dalton Street at Scotia Street	Scotia Street Eastbound	B	B
13.	Dalton Street at Belvidere Street	Dalton Street Southbound	C	C
18.	Scotia Street at Proposed Garage	Proposed Garage Eastbound	-	-

Note: Intersection numbers correspond to numbering shown on Figure 5.1.

As indicated in the above tables, most of the study area intersections operate at LOS D or better during the morning and evening peak hours. Of the 17 intersections in the 2017 Existing Condition, the following three intersections operated at either LOS E or F during one or both peak hours:

- **#1: Massachusetts Avenue at Beacon Street** – During both the morning and evening peak hours, this intersection operates at an overall LOS E under the 2017 Existing Conditions. The Massachusetts Avenue northbound left/thru movement operates at LOS F during both peak hours due to heavy volumes in both directions and conflicting movements in the southbound direction. Although there is a phase for the northbound movement exclusively to allow for left turns, the demand exceeds the allotted time to process these vehicles. Additionally, the Beacon Street westbound right turn movement operates at LOS E due to a high number of conflicting pedestrians during the concurrent pedestrian phase.
- **#9: Boylston Street at Dalton and Hereford streets** – During the evening peak hour, this intersection operates at LOS E under the 2017 Existing Condition. This is due to approximately 390 vehicles turning right onto Boylston Street from Dalton Street, and about 170 of these 390 vehicles turn right onto Boylston Street and turn left onto Hereford Street. Because of this, the Dalton Street northbound right turn movement operates at LOS F during the evening, and this drives the overall intersection performance to LOS E.
- **#15: Massachusetts Avenue at Huntington Avenue (Northern Intersection)** – During both the morning and evening peak hours, this intersection operates at LOS E under the 2017 Existing Condition. This is due to approximately 700 vehicles traveling in the northbound and southbound direction along Massachusetts Avenue during both the morning and evening peak hours. The southbound movement operates at LOS F during both peak hours, and this brings the overall intersection performance to LOS E.

5.4.10 Queue Analysis

A queue length analysis for the 2017 Existing morning and evening peak hour conditions was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-8 for signalized intersections and Table 5-9 for unsignalized intersections for the 2017 Existing Condition. Figures 5.13a through 5.13d provide a graphical representation of the modeled queue lengths for all analyzed conditions.

Table 5-8 2017 Existing Conditions Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		AM Peak Hour		PM Peak Hour	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Massachusetts Avenue at Beacon Street	Beacon Street WB Left/Thru	93	137	119	163
	Beacon Street WB Right	118	#230	108	#209
	Mass Ave NB Left/Thru	158	#216	167	#323
	Mass Ave SB Thru/Right	~311	#458	~385	#516
2. Massachusetts Avenue at Marlborough Street	Marlborough Street EB Left/Thru/Right	120	160	95	162
	Mass Ave NB Thru/Right	61	75	53	52
	Mass Ave SB Left/Thru	8	m23	8	m8
3. Massachusetts Avenue at Commonwealth Avenue (Northern intersection)	Comm Ave WB Left	28	55	28	55
	Comm Ave WB Thru/Right	10	48	19	70
	Mass Ave NB Thru	73	88	64	77
	Mass Ave SB Thru/Right	47	88	68	131
3. Massachusetts Avenue at Commonwealth Avenue (Southern intersection)	Comm Ave EB Left/Thru	112	182	132	216
	Comm Ave EB Right	103	186	148	#297
	Mass Ave NB Thru/Right	157	214	192	180
	Mass Ave SB Left/Thru	26	32	22	26
4. Commonwealth Avenue at Hereford Street (Northern Intersection)	Comm Ave WB Thru/Right	41	54	36	41
	Hereford Street NB Left/Thru	7	18	13	26
4. Hereford Street at Commonwealth Avenue (Southern Intersection)	Comm Ave EB Left/Thru	145	194	152	204
	Hereford Street NB Thru/Right	30	51	36	68
5. Commonwealth Avenue at Gloucester Street (Northern Intersection)	Comm Ave WB Left/Thru	64	92	92	108
	Gloucester Street SB Thru/Right	37	57	30	55
5. Commonwealth Avenue at Gloucester Street (Southern Intersection)	Comm Ave EB Thru/Right	26	35	58	73
	Gloucester Street SB Left/Thru	11	23	33	53
6. Newbury Street at Mass Ave/I-90 Westbound On-Ramp	Newbury Street WB Left/Hard Left	90	158	136	#240
	Newbury Street WB Thru/Right	27	74	17	66
	Mass Ave NB Left/Hard Left	139	m#188	~249	m#382
	Mass Ave NB Thru	191	m280	187	364
	Mass Ave SB Thru/Right	127	166	108	m138
8. Massachusetts Avenue at Boylston Street	Boylston Street EB Thru/Right	187	257	182	231
	Boylston Street WB Thru	52	91	52	89
	Boylston Street WB Right	27	52	51	80
	Mass Ave NB Thru/Right	143	#299	208	#342
	Mass Ave SB Left	115	m175	127	m191
	Mass Ave SB Thru/Right	241	386	305	431

Table 5-8 2017 Existing Conditions Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour (Continued)

Intersection	Approach	AM Peak Hour 50th % Queue (feet)	AM Peak Hour 95th % Queue (feet)	PM Peak Hour 50th % Queue (feet)	PM Peak Hour 95th % Queue (feet)
9. Boylston Street at Dalton and Hereford streets	Boylston Street EB Thru/Right	142	201	147	207
	Dalton Street NB Left	121	203	150	242
	Dalton Street NB Right	~164	#325	~281	#459
10. Boylston Street at Gloucester Street	Boylston Street EB Thru	46	m58	63	m72
	Gloucester Street SB Left	0	3	1	51
11. Massachusetts Avenue at Belvidere Street/ Haviland Street	Belvidere Street WB Left/Thru/Right	71	102	131	163
	Mass Ave NB Left/Thru	47	292	138	215
	Mass Ave SB Thru/Right	46	100	163	229
14. Massachusetts Avenue at Westland Ave/St. Stephen Street/Falmouth St	Westland Ave EB Thru/Right	120	145	119	168
	Mass Ave WB Left/Thru	177	259	228	#395
	Mass Ave WB Right/Hard Right	19	40	5	6
	Mass Ave SB Left/Right	219	#287	193	263
	Falmouth Street SWB Left/Thru/Right	0	0	0	0
15. Massachusetts Avenue at Huntington Avenue (Northern Intersection)	Mass Ave SEB Thru/Right	~370	#494	~415	#547
	Mass Ave NWB Left	8	m17	13	m29
	Mass Ave NWB Thru	252	332	237	310
	Huntington Ave SWB Left/Thru	75	126	113	182
	Huntington Ave SWB Right	0	0	0	0
15. Massachusetts Avenue at Huntington Ave (Southern Intersection)	Mass Ave SEB Thru	2	m2	2	m5
	Mass Ave NWB Thru/Right	142	184	136	175
	Huntington Ave NEB Left/Thru/Right	31	58	25	56
16. Huntington Avenue at Cumberland Street	Cumberland Street NWB Right	0	0	0	0
	Huntington Ave NEB Thru/Right	26	87	22	73
	Huntington Ave SWB Thru	10	22	10	40
17. Huntington Avenue at Belvidere Street/West Newton Street	Belvidere Street SEB Left	62	121	69	#117
	Belvidere Street SEB Thru	46	77	100	134
	Belvidere Street SEB Right	0	16	0	20
	W Newton Street NWB Left/Thru/Right	249	330	223	285
	Huntington Ave NEB Left/Hard Left	114	#220	93	111
	Huntington Ave NEB Thru/Right	137	156	108	155
	Huntington Ave SWB Left/Hard Left	184	#357	225	#405
	Huntington Ave SWB Thru	170	223	158	247
	Huntington Ave SWB Right	197	#367	17	146

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-9 2017 Existing Conditions Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection		Approach	2017 Existing Condition AM Peak Hour 95th % Queue (feet)	2017 Existing Condition PM Peak Hour 95th % Queue (feet)
7	Newbury Street at Hereford Street	Hereford Street Northbound	n/a[1]	n/a
		Newbury Street Westbound	n/a	n/a
12.	Dalton Street at Scotia Street	Scotia Street Eastbound	30	42
13.	Dalton Street at Belvidere Street	Dalton Street Southbound	61	108

1 Intersection configurations such as all-way stop or two one-way streets at a two-way stop configuration cannot have V/C Ratios or 95th % Queue analyzed by the Synchro software. The unsignalized intersections have relatively short queues with the intersection of Dalton Street at Belvidere Street experiencing the longest queue during the evening peak hour (approximately 4-5 vehicles on the Dalton Street southbound approach). This approach is stop controlled and located in an area with heavy pedestrian activity across both Dalton and Belvidere streets. For unsignalized intersections, only the 95th percentile is reported by the Synchro software, and for certain intersection configurations (such as an all-way stop), the program cannot analyze the queues. For this reason, the intersection of Newbury Street at Hereford Street does not display queue values.

At the intersection of Boylston Street at Dalton and Hereford streets, the Dalton Street northbound approach experiences 95th percentile queues of approximately 325 feet during the morning peak hour and approximately 459 feet during the evening peak hour. As described previously, a large portion of the vehicles turning right from Dalton Street to Boylston Street then bear left onto Hereford Street. Dalton Street is a heavily used north/south connecting road for this area, and the analysis results echo the travel desire line.

5.5 2024 No-Build Conditions

The Future No-Build analysis considers the future transportation conditions within the Project study area with only other background projects and general traffic growth. It includes the effects of growth except for the proposed Project. The future condition looks seven (7) years into the future (to 2024). Traffic conditions for 2024 were forecast and then analyzed to help understand the effects of traffic volume growth on intersection operations.

5.5.1 Background Growth

A two-step process was used to estimate traffic impacts from other projects and from general traffic growth in the study area. First, a list of approved development projects was identified, along with others that are in the development pipe line ahead of the Project. The list of background projects presented below was confirmed with BPDA and BTD staff. Their traffic was estimated and applied to develop the 2024 forecast. Secondly, a general traffic growth estimate from all other potential sources was identified and applied to the 2017 Existing Conditions networks. This would account for other traffic growth that is not clearly associated with one of the known projects listed below.

The list of background projects includes:

- **One Dalton** – This project is currently under construction, and it will be a high-rise building located at One Dalton Street. The project includes approximately 290,000 square feet of hotel use (250 keys) and 422,500 square feet of residential space (188 units). Up to 400 parking spaces will be made available in the existing Christian Science Plaza underground garage and in the basement of 101 Belvidere Street.
- **30 Dalton** – This project is a mid-rise building comprised of approximately 237,500 square feet of residential use (255 units) and 21 below-grade parking spaces on site. Up to 60 spaces from the 400 allocated to the adjacent 1 Dalton building will be available for use. The construction for 30 Dalton was completed during Summer 2016, but the residential units were only about 50% occupied as of June 2017. Since the building was not fully occupied when traffic counts were completed in March 2017, the analysis has assumed that 30% of the project-generated trips from 30 Dalton were captured during the data collection effort. Therefore, for 2024 No-Build Conditions, 70% of the estimated 30 Dalton trips were applied to the traffic network.
- **40 Trinity Place** – This proposed project is located at the corner of Trinity Place and Stuart Street, adjacent to the Back Bay MBTA Station. The proposed project includes 115 residential units, 227 hotel keys, 11,300 square feet of restaurant use, 5,550 square feet of University Club expansion, and 100 parking spaces. The project will also demolish the existing Boston Common Hotel and Conference Center building.
- **Back Bay/South End Gateway Project** – This proposed project includes an expansion of the Back Bay MBTA Station and 165 Dartmouth Street Garage. It will consist of approximately 1.26 million square feet of mixed-use redevelopment—office, ground floor retail, residential. As part of the project, Back Bay MBTA Station will undergo station concourse and wayfinding improvements.
- **888 Boylston** – This project is located adjacent to the Hynes Convention Center and is connected to the Prudential Center's Boylston Street entrance, east of the proposed Project Site. The development is a 17-story mixed use office and retail building with two levels of underground parking. At the time that the traffic counts were completed, the retail component was open and occupied, but the office space was still under construction. Therefore, only the forecast new office trips were added in the development of the 2024 No-Build Condition volumes, and it was assumed that the retail trips were accurately captured in the data collection process.
- **Air Rights Parcel 12** – This proposed development site is located at the northwest corner of the Massachusetts Avenue/Boylston Street intersection, to the west of the proposed Project Site. The most recent publicly available proposal for this site includes 75 residential units and 40,000 square feet of retail use. This project has not advanced in the permitting process and there is not a traffic study yet. Instead, project-generated trips were calculated using the same methodology employed for the 1000 Boylston Street forecast. The Parcel 12 project-generated trips were included in the 2024 No-Build Condition based on these assumptions.
- **Viola (Air Rights Parcel 13)** – The proposed Viola project is located directly north of the proposed Project Site along the westbound side of Boylston Street. This project is proposed to include 85 apartment units, 88 condo units, a hotel with

156 keys, and 20,000 square feet of retail space. The Viola has not advanced in the permitting process and there is not a traffic study yet. Similar to Parcel 12, the same trip generation and distribution methodology was followed to account for potential future trips from this project for the 2024 No-Build Condition.

- **Berklee Crossroads** – As proposed in the Berklee College of Music Institutional Master Plan/Project Notification Form dated February 18, 2011, Berklee Crossroads is located directly west of and adjacent to the Project Site and it encompasses Air Rights Parcel 14. The project is proposed to include a renovated 65,000 square foot theater space to replace the existing Berklee Performance Center (seating count to remain 1,200 seats), the addition of a dormitory with approximately 450 beds, and an approximately 45,000 square foot student life and academic space. According to the IMP, the additional on campus housing will reduce commuter trips to campus, and only four (4) net-new faculty/staff trips will be created during the morning and evening peak hours. These trips were accounted for in the future analysis conditions.
- **2 Charlesgate West** – This proposed project is located west of the Project Site and is bound by Charlesgate West, Ipswich Street, and Private Alley 938. Trans National Properties currently occupies the existing site, and new office space would be created for them as part of this Project. The project includes 295 residential units (with a mix of rental and ownership), approximately 10,000 square feet of restaurant space, and approximately 7,500 square feet of office space (for Trans National Properties).

A general area-wide traffic growth rate was applied to the existing conditions peak hour traffic volumes to reasonably account for other, general future traffic growth in the Project study area. As confirmed by BTD, an annual growth rate of 0.25 percent per year for seven years was applied to the 2017 Existing Conditions vehicle volumes. These two sets of procedures were combined to create the 2024 No-Build Condition traffic networks described in the next section.

5.5.2 2024 No-Build Condition

The 2024 No-Build Condition includes the seven-year general area-wide background growth and the traffic associated with specific trips. Figures 5.8a and 5.8b present the 2024 No-Build Base Condition traffic volumes for the morning and evening peak hours, respectively.

5.5.3 2024 No-Build Intersection Operations

An intersection capacity analysis was conducted for the 2024 No-Build Condition for the morning and evening peak hours. The results have been compared to the 2017 Existing Condition LOS and are presented in Tables 5-10 and 5-11. Detailed LOS results including volume to capacity (V/C) ratio and delay for lane groups and approaches are provided in the Synchro presented at the end of Section 5.6.

Table 5-10 2023 No-Build Condition Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

Intersection	AM Peak Hour		PM Peak Hour	
	2017 Existing Condition	2024 No-Build Condition	2017 Existing Condition	2024 No-Build Condition
1. Massachusetts Avenue at Beacon Street	E	F	E	F
2. Massachusetts Avenue at Marlborough Street	B	B	A	A
3. Massachusetts Avenue at Commonwealth Avenue				
Northern Intersection	B	B	B	B
Southern Intersection	B	B	C	C
4. Commonwealth Avenue at Hereford Street				
Northern Intersection	A	A	A	A
Southern Intersection	B	B	B	B
5. Commonwealth Avenue at Gloucester Street				
Northern Intersection	B	B	B	B
Southern Intersection	A	A	A	A
6. Newbury Street at Massachusetts Avenue/ I-90 Ramp	C	C	D	D
8. Massachusetts Avenue at Boylston Street	C	C	C	C
9. Boylston Street at Dalton and Hereford streets	D	E	E	E
10. Boylston Street at Gloucester Street	B	F	C	C
11. Massachusetts Avenue at Belvidere Street/Haviland Street	B	B	C	C
14. Massachusetts Avenue at Westland Avenue/ St. Stephen Street	C	D	C	C
15. Massachusetts Avenue at Huntington Avenue				
Northern Intersection	E	F	E	F
Southern Intersection	B	B	B	B
16. Huntington Avenue at Cumberland Street	A	A	A	A
17. Huntington Avenue at Belvidere Street/West Newton Street	D	D	D	D

Table 5-11 2024 No-Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		2017 Existing Condition	2024 No-Build Condition	2017 Existing Condition	2024 No-Build Condition
7. Newbury Street at Hereford Street	Hereford Street Northbound	A	A	A	A
	Newbury Street Westbound	A	A	A	A
12. Dalton Street at Scotia Street	Scotia Street Eastbound	B	B	B	C
13. Dalton Street at Belvidere Street	Dalton Street Southbound	C	C	C	D

The future background growth in vehicle traffic in the study area will have an impact on the study area intersections under 2024 No-Build Conditions. As indicated above, most of the study area intersections will operate at the same LOS under both Existing and 2024 No-Build Conditions. There are seven locations where the LOS is expected to drop as a result of traffic growth from other projects. These seven intersection locations are:

- **#1: Massachusetts Avenue at Beacon Street** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection will see its LOS drop from LOS E to LOS F during the morning and evening peak hours.
- **#9: Boylston Street at Dalton and Hereford streets** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection will see a drop in LOS from D to E during the morning peak hour.
- **#10: Boylston Street at Gloucester Street** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection is expected to see its LOS from B to F during the morning peak hour.
- **#12: Dalton Street at Scotia Street** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection would see a change in LOS, dropping from B to C during the evening peak hour.
- **#13: Dalton Street at Belvidere Street** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection will see a decline in LOS from C to D during the evening peak hour.
- **#14: Massachusetts Avenue at Westland Avenue/St. Stephen Street** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection is forecast to see a decline in LOS from C to D during the morning peak hour.
- **#15: Massachusetts Avenue Huntington Avenue (Northern Intersection)** – From the 2017 Existing Condition to the 2024 No-Build Condition, this intersection is forecast to change from LOS E to LOS F during both the morning and evening peak hours. 2024 No-Build Queue Analysis

5.5.4 2024 No-Build Queue Analysis

A queue length analysis for the 2024 No-Build morning and evening peak hour conditions was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-12 for signalized intersections and Table 5-13 for unsignalized intersections for the 2024 No-Build Condition. Figures 5.13a through 5.13d provide a graphical representation of the modeled queue lengths for all analyzed conditions.

Table 5-12 2024 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection	Approach	2024 No-Build Condition AM Peak Hour 50th % Queue (feet)	2024 No-Build Condition AM Peak Hour 95th % Queue (feet)	2024 No-Build Condition PM Peak Hour 50th % Queue (feet)	2024 No-Build Condition PM Peak Hour 95th % Queue (feet)
1. Massachusetts Avenue at Beacon Street	Beacon Street WB Left/Thru	94	140	121	166
	Beacon Street WB Right	120	#236	110	#214
	Mass Ave NB Left/Thru	~194	#248	181	#463
	Mass Ave SB Thru/Right	~353	#483	~414	#547
2. Massachusetts Avenue at Marlborough Street	Marlborough Street EB Left/Thru/Right	122	163	98	165
	Mass Ave NB Thru/Right	64	78	41	57
	Mass Ave SB Left/Thru	10	m23	8	m8
3. Massachusetts Avenue at Commonwealth Avenue (Northern intersection)	Comm Ave WB Left	32	62	30	59
	Comm Ave WB Thru/Right	10	49	20	72
	Mass Ave NB Thru	73	88	63	77
	Mass Ave SB Thru/Right	47	101	74	148
3. Massachusetts Avenue at Commonwealth Avenue (Southern intersection)	Comm Ave EB Left/Thru	113	185	135	221
	Comm Ave EB Right	117	#223	154	#309
	Mass Ave NB Thru/Right	166	214	203	180
	Mass Ave SB Left/Thru	30	36	24	29
4. Commonwealth Avenue at Hereford Street (Northern Intersection)	Comm Ave WB Thru/Right	42	55	37	42
	Hereford Street NB Left/Thru	7	18	14	26
4. Hereford Street at Commonwealth Avenue (Southern Intersection)	Comm Ave EB Left/Thru	148	198	156	210
	Hereford Street NB Thru/Right	31	53	39	72
5. Commonwealth Avenue at Gloucester Street (Northern Intersection)	Comm Ave WB Left/Thru	67	95	95	112
	Gloucester Street SB Thru/Right	55	79	33	60
5. Commonwealth Avenue at Gloucester Street (Southern Intersection)	Comm Ave EB Thru/Right	27	35	60	75
	Gloucester Street SB Left/Thru	15	26	34	54
6. Newbury Street at Mass Ave/I-90 Westbound On-Ramp	Newbury Street WB Left/Hard Left	94	163	143	#256
	Newbury Street WB Thru/Right	30	77	18	68
	Mass Ave NB Left/Hard Left	151	m#182	~275	m#374
	Mass Ave NB Thru	205	m244	235	m350
	Mass Ave SB Thru/Right	144	223	112	m142
8. Massachusetts Avenue at Boylston Street	Boylston Street EB Thru/Right	218	#323	201	264
	Boylston Street WB Thru	53	93	51	91
	Boylston Street WB Right	29	54	48	82
	Mass Ave NB Thru/Right	224	#353	233	#370
	Mass Ave SB Left	146	m205	143	m205
	Mass Ave SB Thru/Right	245	400	336	462

Table 5-12 2024 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour (Continued)

Intersection	Approach	2024 No-Build Condition AM Peak Hour 50th % Queue (feet)	2024 No-Build Condition AM Peak Hour 95th % Queue (feet)	2024 No-Build Condition PM Peak Hour 50th % Queue (feet)	2024 No-Build Condition PM Peak Hour 95th % Queue (feet)
9. Boylston Street at Dalton and Hereford streets	Boylston Street EB Thru/Right	194	#304	174	#265
	Dalton Street NB Left	140	#251	181	#321
	Dalton Street NB Right	~224	#387	~303	#483
10. Boylston Street at Gloucester Street	Boylston Street EB Thru	69	m70	71	m75
	Gloucester Street SB Left	0	36	2	64
11. Massachusetts Avenue at Belvidere Street/ Haviland Street	Belvidere Street WB Left/Thru/Right	74	105	134	m164
	Mass Ave NB Left/Thru	68	314	154	239
	Mass Ave SB Thru/Right	45	m111	173	243
14. Massachusetts Avenue at Westland Ave/ St. Stephen Street/Falmouth St	Westland Ave EB Thru/Right	120	147	121	171
	Mass Ave WB Left/Thru	179	m261	232	#399
	Mass Ave WB Right/Hard Right	40	41	5	7
	Mass Ave SB Left/Right	~460	#569	204	276
	Falmouth Street SWB Left/Thru/Right	0	0	0	0
15. Massachusetts Avenue at Huntington Avenue (Northern Intersection)	Mass Ave SEB Thru/Right	~405	149	~438	#573
	Mass Ave NWB Left	8	m16	18	m38
	Mass Ave NWB Thru	279	362	257	335
	Huntington Ave SWB Left/Thru	93	151	148	#262
	Huntington Ave SWB Right	0	0	0	0
15. Massachusetts Avenue at Huntington Ave (Southern Intersection)	Mass Ave SEB Thru	2	m2	3	m5
	Mass Ave NWB Thru/Right	159	202	154	195
	Huntington Ave NEB Left/Thru/Right	38	69	31	64
16. Huntington Avenue at Cumberland Street	Cumberland Street NWB Right	0	0	0	0
	Huntington Ave NEB Thru/Right	29	96	24	82
	Huntington Ave SWB Thru	11	24	14	47
17. Huntington Avenue at Belvidere Street/ West Newton Street	Belvidere Street SEB Left	66	#139	73	#132
	Belvidere Street SEB Thru	47	79	103	139
	Belvidere Street SEB Right	0	29	6	31
	W Newton Street NWB Left/Thru/Right	262	351	234	301
	Huntington Ave NEB Left/Hard Left	115	#275	116	126
	Huntington Ave NEB Thru/Right	147	177	106	166
	Huntington Ave SWB Left/Hard Left	192	#364	178	262
	Huntington Ave SWB Thru	201	240	211	317
	Huntington Ave SWB Right	~310	#440	79	#293

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-13 2024 No-Build Condition Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection	Approach	2024 No-Build Condition AM Peak Hour 95th % Queue (feet)	2024 No-Build Condition PM Peak Hour 95th % Queue (feet)
7. Newbury Street at Hereford Street	Hereford Street Northbound	n/a[1]	n/a
	Newbury Street Westbound	n/a	n/a
12. Dalton Street at Scotia Street	Scotia Street Eastbound	33	47
13. Dalton Street at Belvidere Street	Dalton Street Southbound	70	138

1 Intersection configurations such as all-way stop or two one-way streets at a two-way stop configuration cannot have V/C Ratios or 95th % Queue analyzed by the Synchro software

Under the 2024 No-Build Condition, intersection of Boylston Street at Dalton and Hereford streets shows worsening queues from the 2017 Existing Condition. The Dalton Street northbound approach experiences 95th percentile queue increase from approximately 325 feet the under the 2017 Existing Condition to approximately 387 feet during the morning peak hour. The evening peak hour 95th percentile queue increases from approximately 459 feet under the 2017 Existing Condition to approximately 483 feet under the 2024 No-Build Condition.

5.6 Project Travel Forecast

The Project generated trips were estimated using the methodologies outlined in the ITE Trip Generation Handbook, 9th Edition (August 2014) and then refined through the application of Boston-specific data. The steps taken to estimate the number of Project-generated trips are as follows:

- Step 1 – Identify Project Land Use Codes and estimate ITE Unadjusted Vehicle Trips
- Step 2 – Convert ITE Unadjusted Vehicle Trips into Person Trips
- Step 3 – Calculate Trips by Mode using Mode Shares
- Step 4 – Convert Person-Vehicle Trips to Adjusted Vehicle Trips

The following details the inputs and calculations used to determine the Project generated trips. The trip generation has been presented in detail below.

5.6.1 Unadjusted ITE Vehicle Trips

The Project is comprised of both residential and retail land uses. The ITE Trip Generation Manual categorizes these land uses and provides daily, morning, and evening peak hour unadjusted vehicle trip generation rates. The average rates for each land use code were used in estimating the unadjusted ITE vehicle trips. The land use codes used and their respective trip generation rates are shown in Table 5-14.

Table 5-14 ITE Land Use Code (LUC) and Trip Rates

			Average Trip Rate		
Land Use	ITE LUC	Units	Daily	AM Peak Hour	PM Peak Hour
Restaurant	LUC 931 Quality Restaurant	ksf[1]	89.95	0.81	7.49
Retail	LUC 820 Shopping Center	ksf	42.70	0.96	3.71
Residential	LUC 230 Residential Condo/Townhouse	Residential Units	5.81	0.44	0.52

1 Thousand Square Feet

These rates were used to calculate the unadjusted vehicle trips for the Project and are presented in Table 5-15.

Table 5-15 Unadjusted ITE Vehicle Trips

	Daily	AM Peak Hour	PM Peak Hour
Restaurant			
In	270	0	30
Out	270	0	15
Total	540	0	45
Retail			
In	861	24	72
Out	861	15	78
Total	1,722	39	150
Residential – Condo			
In	314	8	38
Out	314	39	19
Total	628	47	57
Total Trips			
In	1,445	32	140
Out	1,445	54	112
Total	2,890	86	252

Source: ITE Trip Generation Handbook 9th Edition; LUC 931 – Quality Restaurant (average rate); LUC 820 – Shopping Center (average rate); LUC 230 – Residential Condo/Townhouse (average rate)

5.6.2 Person Trips

The unadjusted vehicle trips were converted into person trips by applying the national average vehicle occupancy (AVO) of 1.13 for residential uses and 1.78 for retail uses as presented in the 2009 National Household Travel Survey.

5.6.3 Mode Share

To account for alternative modes of transportation, mode shares were applied to the trip generation results. The mode shares used are consistent with the PNF, filed on January 3, 2017, and are based on BTD Guidelines for Zone 4. The BTD Zone 4 covers much of the Back Bay and Fenway neighborhood, as shown in Figure 5.9. The mode shares, by use, for the Project are presented in Table 5-16.

Table 5-16 Mode Shares

Mode	Residential	Restaurant/Retail
Vehicle	21%	33%
Transit	15%	31%
Walk/Bike/Other	64%	36%

5.6.4 Adjusted Project Trips

The mode shares discussed above were applied to the Project-generated person trips to generate the adjusted Project trips by mode.

Using the data from the 2009 National Household Travel Survey (NHTS), vehicle occupancy rates (VORs) were applied to restaurant/retail and residential uses. Restaurant/retail trips were classified as "Shopping" and assigned a VOR of 1.78. The residential trips were classified as "To or From Work" and assigned a VOR of 1.13.

A detailed trip generation worksheet is provided in Appendix D.

5.6.5 Project-generated Trips

Since the Project Site is vacant, there are no existing trips generated by the Project Site and therefore no trip credits were applied.

Upon completion, the Project is expected to generate approximately 896 daily (24-hour) vehicle trips, with approximately 23 and 77 vehicle trips being made during the morning and evening peak hours, respectively. Table 5-17 shows the adjusted Project-generated trips for vehicle, transit, and walk/bike/other.

The ENF/PNF alternative proposed more vehicle trips than the Project. A comparison table showing the daily, AM peak, PM peak, and percent reduction is shown below in Table 5-18.

Table 5-17 Adjusted ITE Vehicle Trips

	Vehicle			Transit			Walk/Bike/Other		
	In	Out	Total	In	Out	Total	In	Out	Total
Daily									
Restaurant	89	89	178	101	101	202	221	221	442
Retail	284	284	568	322	322	644	705	705	1,410
Residential – Condo	75	75	150	67	67	134	202	202	404
Total Trips	448	448	896	490	490	980	1,128	1,128	2,256
AM Peak Hour									
Restaurant	0	0	0	0	0	0	0	0	0
Retail	8	5	13	13	8	21	15	10	25
Residential – Condo	2	8	10	1	7	8	6	28	34
Total Trips	10	13	23	14	15	29	21	38	59
PM Peak Hour									
Restaurant	10	5	15	17	8	25	19	10	29
Retail	24	26	50	40	43	83	46	50	96
Residential – Condo	8	4	12	6	3	9	27	14	41
Total Trips	42	35	77	63	54	117	92	74	166

Table 5-18 ENF/PNF Alternative and Project Vehicle Trip Generation Comparison

	ENF/PNF Alternative	Proposed Program	Percent Reduction of Vehicle Trips
Daily			
In	504	448	11%
Out	504	448	11%
Total	1,008	896	11%

5.6.6 Trip Distribution and Assignment

The adjusted Project trips are assigned to the study area roadway network based on the Project trip distribution. The Regional Project trip distribution was generated based on the origin-destination data from BTD using the Area 4 rates. BTD's guidelines, based on 2000 census data, provide information on where area residents work and where area employees live. Using these data, the Project's estimated vehicle trips can then be assigned to the roadway network. Residential and retail uses follow slightly different trip distribution patterns based on the census data. Due to one-way street operations in the area, arrival and departure patterns will also affect the assignment of trips to and from the Project Site.

Table 5-19 and Figure 5.10a and 5.10b present the Regional Project trip distribution for both the retail and residential trips.

Table 5-19 Regional Project Trip Distribution

	Retail Distribution		Residential Distribution	
Primary Corridor	**In**	**Out**	**In**	**Out**
Boylston Street	4%	4%	6%	19%
Columbus Avenue	4%	4%	5%	5%
Commonwealth Avenue	3%	3%	5%	5%
Massachusetts Avenue	10%	10%	13%	13%
Huntington Avenue	38%	14%	44%	16%
Storrow Drive	26%	26%	18%	18%
Tremont Street	15%	15%	9%	9%
Turnpike (I-90)	0%	24%	0%	15%
Total	**100%**	**100%**	**100%**	**100%**

5.7 2024 Build Condition

The future 2024 Build Condition assessment builds upon the No-Build conditions with the addition of the fully occupied, proposed Project. The Project-generated Base Condition vehicle trips were assigned to the Project study area based on the distribution summarized above in Table 5-19. These Project-generated trips are shown in Figures 5.11a and 5.11b for the morning and evening peak hours, respectively. The cumulative 2024 Build Base Condition vehicle volumes are presented in Figures 5.12a and 5.12b for the morning and evening peak hours, respectively.

5.7.1 2024 Build Intersection Operational Analysis

Intersection capacity analyses were conducted for the 2024 Build Condition morning and evening peak hours. The results have been compared to the 2017 Existing Condition and 2024 No-Build Condition LOS and are presented in Table 5-20 for signalized intersections and Table 5-21 for unsignalized intersections. Synchro printouts are presented in Appendix D.

The Project-generated trips will have minimal impacts on the surrounding study area intersections under 2024 No-Build Conditions. As indicated above, all of the study area intersections will operate at the same LOS under both the 2024 No-Build Condition and the 2024 Build Condition. There is one location where the LOS changes as a result of traffic growth from other projects.

- **#17: Huntington Avenue at Belvidere Street/West Newton Street –** From the 2024 No-Build Condition to the 2024 Build Condition, this intersection will see its LOS drop from LOS D to LOS E during the morning peak hour. The change in LOS is due to a slight increase of 1.3 seconds—the increase causes the 2024 No-Build Condition delay of 54.8 seconds to increase to 56.1 seconds. The increase causes the intersection to fall into the LOS E threshold (55 to 80 seconds).

Table 5-20 2024 Build Condition Signalized Intersection Vehicle LOS Morning and Evening Peak Hour

Intersection	AM			PM		
	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition
1. Massachusetts Avenue at Beacon Street	E	F	F	E	F	F
2. Massachusetts Avenue at Marlborough Street	B	B	B	A	A	A
3. Massachusetts Avenue at Commonwealth Avenue						
Northern Intersection	B	B	B	B	B	B
Southern Intersection	B	B	B	C	C	C
4. Commonwealth Avenue at Hereford Street						
Northern Intersection	A	A	A	A	A	A
Southern Intersection	B	B	B	B	B	B
5. Commonwealth Avenue at Gloucester Street						
Northern Intersection	B	B	B	B	B	B
Southern Intersection	A	A	A	A	A	A
6. Newbury Street at Massachusetts Avenue/I-90 Ramp	C	C	C	D	D	D
8. Massachusetts Avenue at Boylston Street	C	C	C	C	C	C
9. Boylston Street at Dalton Street/Hereford Street	D	E	E	E	E	E
10. Boylston Street at Gloucester Street	B	F	F	C	C	C
11. Massachusetts Avenue at Belvidere Street/Haviland Street	B	B	B	C	C	C
14. Massachusetts Avenue at Westland Avenue/ St. Stephen Street	C	D	D	C	C	C
15. Massachusetts Avenue at Huntington Avenue						
Northern Intersection	E	F	F	E	F	F
Southern Intersection	B	B	B	B	B	B
16. Huntington Avenue at Cumberland Street	A	A	A	A	A	A
17. Huntington Avenue at Belvidere Street/ West Newton Street	D	D	E	D	D	D

Table 5-21 2024 Build Condition Unsignalized Intersection Vehicle LOS Morning and Evening Peak Hour

Intersection	Approach	AM Peak Hour			PM Peak Hour		
		2017 Existing Condition	2024 No-Build Condition	2024 Build Condition	2017 Existing Condition	2024 No-Build Condition	2024 Build Condition
7. Newbury Street at Hereford Street	Hereford Street Northbound	A	A	A	A	A	A
	Newbury Street Westbound	A	A	A	A	A	A
12. Dalton Street at Scotia Street	Scotia Street Eastbound	B	B	B	B	C	C
13. Dalton Street at Belvidere Street	Dalton Street Southbound	C	C	C	C	D	D
19. Scotia Street at Proposed Garage	Proposed Garage Southbound	-	-	A	-	-	B

5.7.2 2024 Build Queue Analysis

A queue length analysis for the 2024 Build morning and evening peak hour conditions was conducted in conjunction with the LOS analysis using Synchro software. Queue lengths for the 50th percentile and 95th percentile are provided in Table 5-22 for signalized intersections and Table 5-23 for unsignalized intersections for the 2024 Build Condition. Figures 5.13a through 5.13d provide a graphical representation of the modeled queue lengths for all analyzed conditions.

Table 5-22 2024 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour

		2024 Build Condition AM Peak Hour		2024 Build Condition PM Peak Hour	
Intersection	Approach	50th % Queue (feet)	95th % Queue (feet)	50th % Queue (feet)	95th % Queue (feet)
1. Massachusetts Avenue at Beacon Street	Beacon Street WB Left/Thru	94	140	121	166
	Beacon Street WB Right	120	#236	110	#214
	Mass Ave NB Left/Thru	~195	#249	183	#467
	Mass Ave SB Thru/Right	~354	#484	~417	#549
2. Massachusetts Avenue at Marlborough Street	Marlborough Street EB Left/Thru/Right	122	163	98	165
	Mass Ave NB Thru/Right	65	78	40	57
	Mass Ave SB Left/Thru	10	m23	8	m8
3. Massachusetts Avenue at Commonwealth Avenue (Northern intersection)	Comm Ave WB Left	32	62	31	60
	Comm Ave WB Thru/Right	11	50	23	75
	Mass Ave NB Thru	73	88	63	77
	Mass Ave SB Thru/Right	47	102	76	150
3. Massachusetts Avenue at Commonwealth Avenue (Southern intersection)	Comm Ave EB Left/Thru	113	185	135	221
	Comm Ave EB Right	117	#223	154	#309
	Mass Ave NB Thru/Right	166	216	202	180
	Mass Ave SB Left/Thru	30	36	24	30
4. Commonwealth Avenue at Hereford Street (Northern Intersection)	Comm Ave WB Thru/Right	42	55	37	42
	Hereford Street NB Left/Thru	7	17	13	26
4. Hereford Street at Commonwealth Avenue (Southern Intersection)	Comm Ave EB Left/Thru	148	198	156	210
	Hereford Street NB Thru/Right	32	54	40	74
5. Commonwealth Avenue at Gloucester Street (Northern Intersection)	Comm Ave WB Left/Thru	67	95	96	112
	Gloucester Street SB Thru/Right	55	79	33	60
5. Commonwealth Avenue at Gloucester Street (Southern Intersection)	Comm Ave EB Thru/Right	27	35	61	76
	Gloucester Street SB Left/Thru	15	26	34	54

Table 5-22 2024 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour (Continued)

Intersection	Approach	2024 Build Condition AM Peak Hour 50th % Queue (feet)	2024 Build Condition AM Peak Hour 95th % Queue (feet)	2024 Build Condition PM Peak Hour 50th % Queue (feet)	2024 Build Condition PM Peak Hour 95th % Queue (feet)
6. Newbury Street at Mass Ave/I-90 Westbound On-Ramp	Newbury Street WB Left/Hard Left	94	163	143	#256
	Newbury Street WB Thru/Right	30	77	18	68
	Mass Ave NB Left/Hard Left	153	m#186	~289	m#387
	Mass Ave NB Thru	205	m245	239	m347
	Mass Ave SB Thru/Right	144	224	112	m141
8. Massachusetts Avenue at Boylston Street	Boylston Street EB Thru/Right	220	#325	205	271
	Boylston Street WB Thru	55	95	54	96
	Boylston Street WB Right	30	55	51	87
	Mass Ave NB Thru/Right	223	#354	236	#372
	Mass Ave SB Left	147	m206	146	m#209
	Mass Ave SB Thru/Right	245	400	336	463
9. Boylston Street at Dalton Street/Hereford Street	Boylston Street EB Thru/Right	194	#304	174	#265
	Dalton Street NB Left	143	#259	194	#346
	Dalton Street NB Right	~227	#391	~310	#491
10. Boylston Street at Gloucester Street	Boylston Street EB Thru	69	m70	70	m75
	Gloucester Street SB Left	0	36	4	64
11. Massachusetts Avenue at Belvidere Street/Haviland Street	Belvidere Street WB Left/Thru/Right	76	107	135	m164
	Mass Ave NB Left/Thru	68	315	156	242
	Mass Ave SB Thru/Right	45	m111	174	244
14. Massachusetts Avenue at Westland Ave/St. Stephen Street/Falmouth St	Westland Ave EB Thru/Right	120	147	121	171
	Mass Ave WB Left/Thru	179	m261	231	#402
	Mass Ave WB Right/Hard Right	40	41	5	7
	Mass Ave SB Left/Right	~462	#571	205	278
	Falmouth Street SWB Left/Thru/Right	0	0	0	0
15. Massachusetts Avenue at Huntington Avenue (Northern Intersection)	Mass Ave SEB Thru/Right	~408	149	~440	#575
	Mass Ave NWB Left	8	m16	18	m38
	Mass Ave NWB Thru	279	362	256	335
	Huntington Ave SWB Left/Thru	93	151	148	#262
	Huntington Ave SWB Right	0	0	0	0
15. Massachusetts Avenue at Huntington Ave (Southern Intersection)	Mass Ave SEB Thru	2	m2	3	m6
	Mass Ave NWB Thru/Right	159	202	154	195
	Huntington Ave NEB Left/Thru/Right	39	69	32	65
16. Huntington Avenue at Cumberland Street	Cumberland Street NWB Right	0	0	0	0
	Huntington Ave NEB Thru/Right	29	97	25	82
	Huntington Ave SWB Thru	11	24	15	48

Table 5-22 2024 No-Build Condition Signalized Intersection Queues Morning Peak Hour and Evening Peak Hour (Continued)

Intersection	Approach	2024 Build Condition AM Peak Hour 50th % Queue (feet)	2024 Build Condition AM Peak Hour 95th % Queue (feet)	2024 Build Condition PM Peak Hour 50th % Queue (feet)	2024 Build Condition PM Peak Hour 95th % Queue (feet)
17. Huntington Avenue at Belvidere Street/West Newton Street	Belvidere Street SEB Left	66	#139	72	#133
	Belvidere Street SEB Thru	48	81	107	144
	Belvidere Street SEB Right	0	29	8	33
	West Newton Street NWB Left/Thru/Right	263	353	240	310
	Huntington Ave NEB Left/Hard Left	115	#275	120	128
	Huntington Ave NEB Thru/Right	148	175	107	166
	Huntington Ave SWB Left/Hard Left	193	#364	178	262
	Huntington Ave SWB Thru	202	240	214	320
	Huntington Ave SWB Right	~319	#449	97	#320

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

Table 5-23 2024 No-Build Condition Unsignalized Intersection Queues Morning Peak Hour and Evening Peak Hour

Intersection	Approach	2024 Build Condition AM Peak Hour 95th % Queue (feet)	2024 Build Condition PM Peak Hour 95th % Queue (feet)
7. Newbury Street at Hereford Street	Hereford Street Northbound	n/a[1]	n/a
	Newbury Street Westbound	n/a	n/a
12. Dalton Street at Scotia Street	Scotia Street Eastbound	37	69
13. Dalton Street at Belvidere Street	Dalton Street Southbound	73	161
18. Scotia Street at Proposed Garage Driveway	Proposed Garage Driveway Southbound	1	4

[1] Intersection configurations such as all-way stop or two one-way streets at a two-way stop configuration cannot have V/C Ratios or 95th % Queue analyzed by the Synchro software

Under the 2024 Build Condition, intersection of Boylston Street at Dalton and Hereford streets shows a 95th percentile queue increase of approximately 4 feet during the morning peak our and an increase of 8 feet during the evening peak hour. These increases are modest, and the Project-generated trips cause minimal impacts to this intersection movement. The comparison of all three analysis conditions can be seen in Tables 5-24a through 5-24d, and the queue illustrations are provided in Figures 5.13a through 5.13d.

Table 5-24a Signalized Intersection Operation Analysis – AM Peak Hour

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
1. Massachusetts Avenue at Beacon Street	Beacon Street WB Left/Thru	0.53	37.4	D	93	137	0.53	37.5	D	94	140	0.53	37.5	D	94	140
	Beacon Street WB Right	0.76	55.4	E	118	#230	0.78	56.5	E	120	#236	0.78	56.5	E	120	#236
	Mass Ave NB Left/Thru	1.17	101.9	F	158	#216	1.23	122.8	F	~194	#248	1.23	123.3	F	~195	#249
	Mass Ave SB Thru/Right	1.00	62.4	E	~311	#458	1.04	71.5	E	~353	#483	1.04	72.0	E	~354	#484
	OVERALL	**1.04**	**74.9**	**E**	-	-	1.08	87.2	**F**	-	-	1.08	87.6	**F**	-	-
2. Massachusetts Avenue at Marlborough Street	Marlborough Street EB Left/Thru/Right	0.75	48.9	D	120	160	0.75	49.4	D	122	163	0.75	49.4	D	122	163
	Mass Ave NB Thru/Right	0.63	9.2	A	61	75	0.66	9.8	A	64	78	0.66	9.8	A	65	78
	Mass Ave SB Left/Thru	0.52	1.6	A	8	m23	0.54	2.0	A	10	m23	0.54	2.0	A	10	m23
	OVERALL	**0.64**	**10.4**	**B**	-	-	0.66	10.8	**B**	-	-	0.66	10.8	**B**	-	-
3. Massachusetts Avenue at Commonwealth Avenue (Northern intersection)	Comm Ave WB Left	0.13	22.6	C	28	55	0.15	22.9	C	32	62	0.15	22.9	C	32	62
	Comm Ave WB Thru/Right	0.18	23.5	C	10	48	0.18	23.6	C	10	49	0.19	23.6	C	11	50
	Mass Ave NB Thru	0.53	11.2	B	73	88	0.54	11.0	B	73	88	0.54	11.0	B	73	88
	Mass Ave SB Thru/Right	0.56	7.1	A	47	88	0.58	8.0	A	47	101	0.58	8.0	A	47	102
	OVERALL	**0.42**	**11.2**	**B**	-	-	**0.43**	**11.5**	**B**	-	-	**0.43**	**11.5**	**B**	-	-
3. Massachusetts Avenue at Commonwealth Avenue (Southern intersection)	Comm Ave EB Left/Thru	0.45	28.1	C	112	182	0.46	28.2	C	113	185	0.46	28.2	C	113	185
	Comm Ave EB Right	0.62	35.9	D	103	186	0.68	39.2	D	117	#223	0.68	39.2	D	117	#223
	Mass Ave NB Thru/Right	0.51	17.9	B	157	214	0.53	18.3	B	166	214	0.53	18.2	B	166	216
	Mass Ave SB Left/Thru	0.73	7.7	A	26	32	0.77	9.4	A	30	36	0.77	9.5	A	30	36
	OVERALL	**0.72**	**16.9**	**B**	-	-	**0.78**	**18.2**	**B**	-	-	**0.78**	**18.2**	**B**	-	-
4. Commonwealth Avenue at Hereford Street (Northern Intersection)	Comm Ave WB Thru/Right	0.29	6.3	A	41	54	0.30	6.4	A	42	55	0.30	6.4	A	42	55
	Hereford Street NB Left/Thru	0.13	13.2	B	7	18	0.14	12.8	B	7	18	0.14	12.4	B	7	17
	OVERALL	0.24	8.0	A	-	-	0.25	7.9	A	-	-	0.25	7.8	A	-	-
4. Hereford Street at Commonwealth Avenue (Southern Intersection)	Comm Ave EB Left/Thru	0.53	10.9	B	145	194	0.54	11.0	B	148	198	0.54	11.0	B	148	198
	Hereford Street NB Thru/Right	0.22	25.3	C	30	51	0.23	25.4	C	31	53	0.23	25.4	C	32	54
	OVERALL	**0.43**	**13.7**	**B**	-	-	**0.44**	**13.8**	**B**	-	-	**0.44**	**13.8**	**B**	-	-
5. Commonwealth Avenue at Gloucester Street (Northern Intersection)	Comm Ave WB Left/Thru	0.30	8.6	A	64	92	0.31	8.7	A	67	95	0.31	8.7	A	67	95
	Gloucester Street SB Thru/Right	0.20	25.1	C	37	57	0.29	26.1	A	55	79	0.29	26.1	C	55	79
	OVERALL	**0.27**	**12.7**	**B**	-	-	**0.31**	**14.0**	**B**	-	-	**0.31**	**14.0**	**B**	-	-
5. Commonwealth Avenue at Gloucester Street (Southern Intersection)	Comm Ave EB Thru/Right	0.55	3.8	A	26	35	0.56	3.9	A	27	35	0.56	3.9	A	27	35
	Gloucester Street SB Left/Thru	0.18	11.9	B	11	23	0.26	10.1	B	15	26	0.26	10.1	B	15	26
	OVERALL	**0.43**	**5.4**	**A**	-	-	**0.47**	**5.3**	**A**	-	-	**0.47**	**5.3**	**A**	-	-
6. Newbury Street at Mass Ave/I-90 Ramp	Newbury Street WB Left/Hard Left	0.65	43.8	D	90	158	0.67	44.4	D	94	163	0.67	44.4	D	94	163
	Newbury Street WB Thru/Right	0.27	35.4	D	27	74	0.28	35.5	D	30	77	0.28	35.5	D	30	77
	Mass Ave NB Left/Hard Left	0.67	47.4	D	139	m#188	0.73	48.0	D	151	m#182	0.74	48.3	D	153	m#186
	Mass Ave NB Thru	0.54	15.2	B	191	m280	0.56	15.7	B	205	m244	0.57	15.7	B	205	m245
	Mass Ave SB Thru/Right	0.68	17.3	B	127	166	0.73	18.7	B	144	223	0.73	18.7	B	144	224
	OVERALL	**0.67**	**23.1**	**C**	-	-	**0.72**	**24.1**	**C**	-	-	**0.72**	**24.1**	**C**	-	-

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Table 5-24a Signalized Intersection Operation Analysis – AM Peak Hour (Continued)

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
8. Massachusetts Avenue at Boylston Street	Boylston Street EB Thru/Right	0.82	40.6	D	187	257	0.89	47.1	D	218	#323	0.90	47.6	D	220	#325
	Boylston Street WB Thru	0.26	28.5	C	52	91	0.26	28.2	C	53	93	0.27	28.2	C	55	95
	Boylston Street WB Right	0.26	14.2	B	27	52	0.26	14.0	B	29	54	0.27	14.1	B	30	55
	Mass Ave NB Thru/Right	0.85	18.1	B	143	#299	0.96	33.0	C	224	#353	0.97	33.5	C	223	#354
	Mass Ave SB Left	0.55	35.8	D	115	m175	0.67	39.5	D	146	m205	0.67	39.6	D	147	m206
	Mass Ave SB Thru/Right	0.57	11.3	B	241	386	0.60	12.1	B	245	400	0.60	12.1	B	245	400
	OVERALL	**0.75**	**24.6**	**C**	-	-	**0.83**	**31.8**	**C**	-	-	**0.84**	**32.1**	**C**	-	-
9. Boylston Street at Dalton Street/Hereford Street	Boylston Street EB Thru/Right	0.72	35.3	D	142	201	0.92	50.2	D	194	#304	0.92	50.2	D	194	#304
	Dalton Street NB Left	0.65	38.5	D	121	203	0.73	42.6	D	140	#251	0.74	43.4	D	143	#259
	Dalton Street NB Right	1.01	91.1	F	~164	#325	1.17	142.2	F	~224	#387	1.18	146.2	F	~227	#391
	OVERALL	**0.59**	**51.1**	**D**	-	-	**0.71**	**72.3**	**E**	-	-	**0.72**	**73.6**	**E**	-	-
10. Boylston Street at Gloucester Street	Boylston Street EB Thru	0.23	16.5	B	46	m58	0.31	18.3	B	69	m70	0.31	18.2	B	69	m70
	Gloucester Street SB Left	0.09	18.2	B	0	3	0.11	300.1	F	0	36	0.11	271.8	F	0	36
	OVERALL	**0.17**	**17.1**	**B**	-	-	**0.23**	**114.0**	**F**	-	-	**0.23**	**104.2**	**F**	-	-
11. Massachusetts Avenue at Belvidere Street/Haviland Street	Belvidere Street WB Left/Thru/Right	0.62	45.8	D	71	102	0.63	46.1	D	74	105	0.64	46.5	D	76	107
	Mass Ave NB Left/Thru	0.47	11.0	B	47	292	0.51	12.9	B	68	314	0.51	13.0	B	68	315
	Mass Ave SB Thru/Right	0.39	6.7	A	46	100	0.40	7.0	A	45	m111	0.40	7.0	A	45	m111
	OVERALL	**0.39**	**12.0**	**B**	-	-	**0.42**	**13.0**	**B**	-	-	**0.42**	**13.2**	**B**	-	-
14. Massachusetts Avenue at Westland Ave/St. Stephen Street/Falmouth St	Westland Ave EB Thru/Right	0.53	32.6	C	120	145	0.53	32.2	C	120	147	0.53	32.2	C	120	147
	Mass Ave WB Left/Thru	0.70	46.4	D	177	259	0.69	44.4	D	179	m261	0.69	44.4	D	179	m261
	Mass Ave WB Right/Hard Right	0.41	2.3	A	19	40	0.44	2.6	A	40	41	0.44	2.6	A	40	41
	Mass Ave SB Left/Right	0.59	24.4	C	219	#287	1.02	70.0	E	~460	#569	1.03	71.3	E	~462	#571
	Falmouth Street SWB Left/Thru/Right	0.02	37.6	D	0	0	0.02	37.6	D	0	0	0.02	37.6	D	0	0
	OVERALL	**0.53**	**21.6**	**C**	-	-	**0.75**	**35.2**	**D**	-	-	**0.75**	**35.6**	**D**	-	-
15. Massachusetts Avenue at Huntington Avenue (Northern Intersection)	Mass Ave SEB Thru/Right	1.17	114.4	F	~370	#494	1.22	150.0	F	~405	149	1.23	153.7	F	~408	149
	Mass Ave NW Left	0.04	41.4	D	8	m17	0.04	41.6	D	8	m16	0.04	41.5	D	8	m16
	Mass Ave NW Thru	0.66	26.0	C	252	332	0.70	27.7	C	279	362	0.70	27.6	C	279	362
	Huntington Ave SWB Left/Thru	0.49	37.1	D	75	126	0.59	39.6	D	93	151	0.59	39.6	D	93	151
	Huntington Ave SWB Right	0.06	33.8	C	0	0	0.07	33.6	C	0	0	0.07	33.6	C	0	0
	OVERALL	**0.77**	**68.0**	**E**	-	-	**0.82**	**84.1**	**F**	-	-	**0.83**	**85.8**	**F**	-	-
15. Massachusetts Avenue at Huntington Ave (Southern Intersection)	Mass Ave SEB Thru	0.54	0.6	A	2	m2	0.56	0.7	A	2	m2	0.56	0.7	A	2	m2
	Mass Ave NWB Thru/Right	0.50	20.1	C	142	184	0.54	21.1	C	159	202	0.54	21.1	C	159	202
	Huntington Ave NEB Left/Thru/Right	0.31	36.8	D	31	58	0.36	37.0	D	38	69	0.36	37.0	D	39	69
	OVERALL	**0.56**	**12.5**	**B**	-	-	**0.60**	**13.4**	**B**	-	-	**0.60**	**13.4**	**B**	-	-
16. Huntington Avenue at Cumberland Street	Cumberland Street NWB Right	0.06	43.6	D	0	0	0.06	43.7	D	0	0	0.06	43.7	D	0	0
	Huntington Ave NEB Thru/Right	0.24	2.6	A	26	87	0.26	2.6	A	29	96	0.26	2.6	A	29	97
	Huntington Ave SWB Thru	0.23	0.8	A	10	22	0.25	0.8	A	11	24	0.25	0.8	A	11	24
	OVERALL	**0.22**	**3.8**	**A**	-	-	**0.23**	**3.8**	**A**	-	-	**0.23**	**3.8**	**A**	-	-

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Table 5-24a Signalized Intersection Operation Analysis – AM Peak Hour (Continued)

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
17. Huntington Avenue at Belvidere Street/West Newton Street	Belvidere Street SEB Left	0.69	45.0	D	62	121	0.73	49.5	D	66	#139	0.73	49.4	D	66	#139
	Belvidere Street SEB Thru	0.18	28.5	C	46	77	0.18	28.1	C	47	79	0.19	28.1	C	48	81
	Belvidere Street SEB Right	0.04	27.2	C	0	16	0.06	27.0	C	0	29	0.06	26.9	C	0	29
	West Newton Street NWB Left/Thru/Right	0.81	44.8	D	249	330	0.83	46.8	D	262	351	0.83	46.7	D	263	353
	Huntington Ave NEB Left/Hard Left	0.79	74.4	E	114	#220	0.82	72.3	E	115	#275	0.82	72.3	E	115	#275
	Huntington Ave NEB Thru/Right	0.48	27.7	C	137	156	0.51	28.2	C	147	177	0.51	28.1	C	148	175
	Huntington Ave SWB Left/Hard Left	0.85	58.1	E	184	#357	0.88	64.8	E	192	#364	0.89	65.8	E	193	#364
	Huntington Ave SWB Thru	0.51	25.7	C	170	223	0.58	29.1	C	201	240	0.58	29.3	C	202	240
	Huntington Ave SWB Right	0.94	67.7	E	197	#367	1.15	132.5	F	~310	#440	1.17	139.8	F	~319	#449
	OVERALL	**0.90**	**42.8**	**D**	-	-	**1.01**	**54.8**	**D**	-	-	**1.02**	**56.1**	**E**	-	-

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

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Table 5-24b Signalized Intersection Operation Analysis – PM Peak Hour

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
1. Massachusetts Avenue at Beacon Street	Beacon Street WB Left/Thru	0.69	39.9	D	119	163	0.70	40.1	D	121	166	0.70	40.1	D	121	166
	Beacon Street WB Right	0.86	67.1	E	108	#209	0.88	69.7	E	110	#214	0.88	69.7	E	110	#214
	Mass Ave NB Left/Thru	1.11	81.1	F	167	#323	1.16	100.1	F	181	#463	1.16	101.4	F	183	#467
	Mass Ave SB Thru/Right	1.05	72.9	E	~385	#516	1.09	88.0	F	~414	#547	1.09	89.0	F	~417	#549
	OVERALL	**1.04**	**70.8**	**E**	-	-	**1.08**	**84.4**	**F**	-	-	**1.08**	**85.4**	**F**	-	-
2. Massachusetts Avenue at Marlborough Street	Marlborough Street EB Left/Thru/Right	0.64	42.4	D	95	162	0.65	43.0	D	98	165	0.65	43.0	D	98	165
	Mass Ave NB Thru/Right	0.56	6.3	A	53	52	0.59	5.9	A	41	57	0.59	5.9	A	40	57
	Mass Ave SB Left/Thru	0.56	2.9	A	8	m8	0.59	4.2	A	8	m8	0.59	4.4	A	8	m8
	OVERALL	**0.58**	**8.0**	**A**	-	-	**0.60**	**8.4**	**A**	-	-	**0.60**	**8.4**	**A**	-	-
3. Massachusetts Avenue at Commonwealth Avenue (Northern intersection)	Comm Ave WB Left	0.14	25.6	A	28	55	0.16	25.8	C	30	59	0.16	25.9	C	31	60
	Comm Ave WB Thru/Right	0.31	29.0	C	19	70	0.31	29.1	C	20	72	0.33	29.4	C	23	75
	Mass Ave NB Thru	0.46	8.1	A	64	77	0.47	7.8	A	63	77	0.47	7.8	A	63	77
	Mass Ave SB Thru/Right	0.53	10.3	B	68	131	0.55	10.8	B	74	148	0.55	10.9	B	76	150
	OVERALL	**0.46**	**11.9**	**B**	-	-	**0.47**	**12.0**	**B**	-	-	**0.48**	**12.2**	**B**	-	-
3. Massachusetts Avenue at Commonwealth Avenue (Southern intersection)	Comm Ave EB Left/Thru	0.59	35.0	D	132	216	0.60	35.4	D	135	221	0.60	35.4	D	135	221
	Comm Ave EB Right	0.91	69.3	E	148	#297	0.94	74.4	E	154	#309	0.94	74.4	E	154	#309
	Mass Ave NB Thru/Right	0.48	19.9	B	192	180	0.50	19.1	B	203	180	0.50	19.1	B	202	180
	Mass Ave SB Left/Thru	0.60	4.3	A	22	26	0.64	5.0	A	24	29	0.64	5.2	A	24	30
	OVERALL	**0.75**	**21.7**	**C**	-	-	**0.79**	**22.2**	**C**	-	-	**0.79**	**22.2**	**C**	-	-
4. Commonwealth Avenue at Hereford Street (Northern Intersection)	Comm Ave WB Thru/Right	0.43	5.3	A	36	41	0.44	5.4	A	37	42	0.44	5.4	A	37	42
	Hereford Street NB Left/Thru	0.19	14.3	B	13	26	0.21	13.7	B	14	26	0.21	13.2	B	13	26
	OVERALL	**0.35**	**7.5**	**A**	-	-	**0.36**	**7.5**	**A**	-	-	**0.36**	**7.4**	**A**	-	-
4. Hereford Street at Commonwealth Avenue (Southern Intersection)	Comm Ave EB Left/Thru	0.54	12.1	B	152	204	0.55	12.3	B	156	210	0.55	12.3	B	156	210
	Hereford Street NB Thru/Right	0.25	24.3	C	36	68	0.27	24.4	C	39	72	0.27	24.5	C	40	74
	OVERALL	**0.44**	**14.8**	**B**	-	-	**0.45**	**15.1**	**B**	-	-	**0.46**	**15.1**	**B**	-	-
5. Commonwealth Avenue at Gloucester Street (Northern Intersection)	Comm Ave WB Left/Thru	0.41	7.3	A	92	108	0.42	7.4	A	95	112	0.42	7.4	A	96	112
	Gloucester Street SB Thru/Right	0.21	28.9	C	30	55	0.23	29.1	C	33	60	0.23	29.1	C	33	60
	OVERALL	**0.36**	**10.8**	**B**	-	-	**0.37**	**11.1**	**B**	-	-	**0.37**	**11.1**	**B**	-	-
5. Commonwealth Avenue at Gloucester Street (Southern Intersection)	Comm Ave EB Thru/Right	0.52	4.8	A	58	73	0.53	4.8	A	60	75	0.53	4.9	A	61	76
	Gloucester Street SB Left/Thru	0.25	23.9	C	33	53	0.27	23.1	C	34	54	0.27	23.0	C	34	54
	OVERALL	**0.45**	**8.4**	**A**	-	-	**0.46**	**8.4**	**A**	-	-	**0.46**	**8.4**	**A**	-	-
6. Newbury Street at Massachusetts Avenue/I-90 Ramp	Newbury Street WB Left/Hard Left	0.78	49.1	D	136	#240	0.80	51.4	D	143	#256	0.80	51.4	D	143	#256
	Newbury Street WB Thru/Right	0.19	32.8	C	17	66	0.20	32.7	C	18	68	0.20	32.7	C	18	68
	Mass Ave NB Left/Hard Left	1.08	112.5	F	~249	m#382	1.16	137.2	F	~275	m#374	1.20	150.5	F	~289	m#387
	Mass Ave NB Thru	0.53	15.8	B	187	364	0.56	18.3	B	235	m350	0.56	18.1	B	239	m347
	Mass Ave SB Thru/Right	0.68	17.3	B	108	m138	0.72	17.5	B	112	m142	0.72	17.6	B	112	m141
	OVERALL	**0.79**	**35.1**	**D**	-	-	**0.83**	**39.8**	**D**	-	-	**0.84**	**42.2**	**D**	-	-

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Table 5-24b Signalized Intersection Operation Analysis – PM Peak Hour (Continued)

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
8. Massachusetts Avenue at Boylston Street	Boylston Street EB Thru/Right	0.77	36.4	D	182	231	0.81	37.7	D	201	264	0.82	38.2	D	205	271
	Boylston Street WB Thru	0.23	26.7	C	52	89	0.23	25.6	C	51	91	0.24	25.6	C	54	96
	Boylston Street WB Right	0.39	16.1	B	51	80	0.39	15.3	B	48	82	0.41	15.4	B	51	87
	Mass Ave NB Thru/Right	0.79	39.0	D	208	#342	0.87	46.2	D	233	#370	0.88	47.6	D	236	#372
	Mass Ave SB Left	0.64	41.5	D	127	m191	0.71	43.9	D	143	m205	0.73	44.5	D	146	m#209
	Mass Ave SB Thru/Right	0.65	15.7	B	305	431	0.71	18.3	B	336	462	0.72	18.5	B	336	463
	OVERALL	**0.75**	**30.3**	**C**	-	-	**0.81**	**33.5**	**C**	-	-	**0.82**	**34.1**	**C**	-	-
9. Boylston Street at Dalton Street/Hereford Street	Boylston Street EB Thru/Right	0.74	37.9	D	147	207	0.85	44.3	D	174	#265	0.85	44.3	D	174	#265
	Dalton Street NB Left	0.68	36.8	D	150	242	0.80	43.5	D	181	#321	0.84	47.2	D	194	#346
	Dalton Street NB Right	1.16	129.1	F	~281	#459	1.21	148.2	F	~303	#483	1.22	154.8	F	~310	#491
	OVERALL	**0.66**	**67.9**	**E**	-	-	**0.72**	**76.4**	**E**	-	-	**0.72**	**79.3**	**E**	-	-
10. Boylston Street at Gloucester Street	Boylston Street EB Thru	0.32	18.6	B	63	m72	0.35	19.4	B	71	m75	0.35	19.2	B	70	m75
	Gloucester Street SB Left	0.17	38.8	D	1	51	0.21	30.4	C	2	64	0.21	30.4	C	4	64
	OVERALL	**0.25**	**26.7**	**C**	-	-	**0.28**	**23.7**	**C**	-	-	**0.28**	**23.6**	**C**	-	-
11. Massachusetts Avenue at Belvidere Street/Haviland Street	Belvidere Street WB Left/Thru/Right	0.75	56.1	E	131	163	0.76	55.0	E	134	m164	0.76	54.2	D	135	m164
	Mass Ave NB Left/Thru	0.47	16.2	B	138	215	0.51	17.0	B	154	239	0.52	17.3	B	156	242
	Mass Ave SB Thru/Right	0.46	15.7	B	163	229	0.48	16.3	B	173	243	0.48	16.5	B	174	244
	OVERALL	**0.43**	**20.6**	**C**	-	-	**0.46**	**21.0**	**C**	-	-	**0.46**	**21.2**	**C**	-	-
14. Massachusetts Avenue at Westland Ave/St. Stephen Street/Falmouth Street	Westland Ave EB Thru/Right	0.52	33.5	C	119	168	0.53	33.4	C	121	171	0.53	33.4	C	121	171
	Mass Ave WB Left/Thru	0.92	73.5	E	228	#395	0.92	71.6	E	232	#399	0.92	71.4	E	231	#402
	Mass Ave WB Right/Hard Right	0.37	0.4	A	5	6	0.39	0.4	A	5	7	0.40	0.4	A	5	7
	Mass Ave SB Left/Right	0.68	27.8	C	193	263	0.71	28.9	C	204	276	0.71	29.0	C	205	278
	Falmouth Street SW Left/Thru/Right	0.07	36.5	D	0	0	0.08	36.5	D	0	0	0.07	36.5	D	0	0
	OVERALL	**0.63**	**28.3**	**C**	-	-	**0.65**	**28.1**	**C**	-	-	**0.65**	**28.0**	**C**	-	-
15. Massachusetts Avenue at Huntington Avenue (Northern Intersection)	Mass Ave SE Thru/Right	1.19	118.0	F	~415	#547	1.29	163.2	F	~438	#573	1.30	165.7	F	~440	#575
	Mass Ave NW Left	0.05	41.8	D	13	m29	0.08	42.6	D	18	m38	0.08	42.6	D	18	m38
	Mass Ave NW Thru	0.60	24.0	C	237	310	0.64	26.1	C	257	335	0.64	26.0	C	256	335
	Huntington Ave SW Left/Thru	0.72	46.5	D	113	182	0.85	59.8	E	148	#262	0.85	59.8	E	148	#262
	Huntington Ave SW Right	0.09	34.8	C	0	0	0.10	34.0	C	0	0	0.10	34.0	C	0	0
	OVERALL	**0.83**	**71.0**	**E**	-	-	**0.91**	**92.9**	**F**	-	-	**0.92**	**94.0**	**F**	-	-
15. Massachusetts Avenue at Huntington Avenue (Southern Intersection)	Mass Ave SE Thru	0.59	1.0	A	2	m5	0.63	1.3	A	3	m5	0.63	1.3	A	3	m6
	Mass Ave NW Thru/Right	0.46	18.8	B	136	175	0.52	20.3	C	154	195	0.52	20.3	C	154	195
	Huntington Ave NE Left/Thru/Right	0.31	37.2	D	25	56	0.35	37.3	D	31	64	0.36	37.4	D	32	65
	OVERALL	**0.60**	**11.7**	**B**	-	-	**0.64**	**12.8**	**B**	-	-	**0.65**	**12.8**	**B**	-	-
16. Huntington Avenue at Cumberland Street	Cumberland Street NW Right	0.07	43.7	D	0	0	0.07	43.7	D	0	0	0.07	43.7	D	0	0
	Huntington Ave NE Thru/Right	0.20	2.4	A	22	73	0.22	2.5	A	24	82	0.22	2.5	A	25	82
	Huntington Ave SW Thru	0.27	1.0	A	10	40	0.32	1.1	A	14	47	0.32	1.1	A	15	48
	OVERALL	**0.24**	**4.2**	**A**	-	-	**0.29**	**4.0**	**A**	-	-	**0.29**	**4.0**	**A**	-	-

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Table 5-24b Signalized Intersection Operation Analysis – PM Peak Hour

		2017 Existing Condition					2024 No-Build Condition					2024 Build Condition				
Intersection	Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
17. Huntington Avenue at Belvidere Street/West Newton Street	Belvidere Street SE Left	0.74	54.2	D	69	#117	0.80	61.9	E	73	#132	0.80	63.0	E	72	#133
	Belvidere Street SE Thru	0.37	31.9	C	100	134	0.38	31.9	C	103	139	0.40	31.9	C	107	144
	Belvidere Street SE Right	0.05	28.5	C	0	20	0.10	28.8	C	6	31	0.10	28.7	C	8	33
	West Newton Street NW Left/Thru/Right	0.80	46.8	D	223	285	0.84	50.7	D	234	301	0.86	53.3	D	240	310
	Huntington Ave NE Left/Hard Left	0.67	50.2	D	93	111	0.72	50.5	D	116	126	0.73	50.3	D	120	128
	Huntington Ave NE Thru/Right	0.41	28.0	C	108	155	0.38	24.5	C	106	166	0.38	24.7	C	107	166
	Huntington Ave SW Left/Hard Left	0.90	62.1	E	225	#405	0.82	56.6	E	178	262	0.82	56.6	E	178	262
	Huntington Ave SW Thru	0.46	23.5	C	158	247	0.59	27.6	C	211	317	0.59	28.2	C	214	320
	Huntington Ave SW Right	0.48	27.5	C	17	146	0.70	39.6	D	79	#293	0.75	44.1	D	97	#320
	OVERALL	**0.73**	**36.9**	**D**	-	-	**0.79**	**38.1**	**D**	**-**	**-**	**0.82**	**39.3**	**D**	**-**	**-**

= 95th percentile volume exceeds capacity, queue may be longer
~ = Volume exceeds capacity, queue is theoretically infinite
m = Volume for 95th percentile queue is metered by upstream signal

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Table 5-24c Unsignalized Intersection Operation Analysis – AM Peak Hour

		2017 Existing Condition				2024 No-Build Condition				2024 Build Condition			
Intersection	Approach	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)
7. Newbury Street at Hereford Street	Hereford Street Northbound	n/a[1]	8.6	A	n/a	n/a	8.8	A	n/a	n/a	8.8	A	n/a
	Newbury Street Westbound	n/a	8.2	A	n/a	n/a	8.3	A	n/a	n/a	8.3	A	n/a
12. Dalton Street at Scotia Street	Scotia Street Eastbound	0.29	13.1	B	30	0.31	13.6	B	33	0.34	14.2	B	37
13. Dalton Street at Belvidere Street	Dalton Street Southbound	0.46	16.6	C	61	0.50	17.4	C	70	0.51	17.9	C	73
18. Scotia Street at Proposed Garage	Proposed Garage Southbound	-	-	-	-	-	-	-	-	0.02	9.8	A	1

1 Intersection configurations such as all-way stop or two one-way streets at a two-way stop configuration cannot have V/C Ratios or 95th % Queue analyzed by the Synchro software

Table 5-24d Unsignalized Intersection Operation Analysis – PM Peak Hour

		2017 Existing Condition				2024 No-Build Condition				2024 Build Condition			
Intersection	Approach	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	95th % Queue (feet)
7. Newbury Street at Hereford Street	Hereford Street Northbound	n/a[1]	9.6	A	n/a	n/a	9.8	A	n/a	n/a	9.9	A	n/a
	Newbury Street Westbound	n/a	8.7	A	n/a	n/a	8.9	A	n/a	n/a	8.9	A	n/a
12. Dalton Street at Scotia Street	Scotia Street Eastbound	0.37	14.4	B	42	0.40	15.5	C	47	0.50	18.1	C	69
13. Dalton Street at Belvidere Street	Dalton Street Southbound	0.63	25.0	C	108	0.71	29.3	D	138	0.76	33.8	D	161
18. Scotia Street at Proposed Garage	Proposed Garage Southbound	-	-	-	-	-	-	-	-	0.06	10.5	B	4

1 Intersection configurations such as all-way stop or two one-way streets at a two-way stop configuration cannot have V/C Ratios or 95th % Queue analyzed by the Synchro software

5.8 2024 Build Mitigated Condition

Based on the vehicle level of service analysis presented, there are a few intersections that are forecast to cause a decline in level of service as a result of the addition of new Project traffic. To address these future impacts, possible traffic mitigation improvements have been identified as potential actions for further evaluation. The following three locations have been identified as candidates for implementing roadway improvement mitigation measures:

- Huntington Avenue at Belvidere Street/West Newton Street signal timing modifications
- Massachusetts Avenue at Beacon Street signal timing modifications
- Conversion of a short section of Scotia Street to two-way operation

These roadway improvement mitigation measures for these three locations were evaluated and the results are presented in detail below.

5.8.1 Huntington Avenue at Belvidere Street/West Newton Street

Huntington Avenue at Belvidere and West Newton streets is forecast to decline from LOS D to LOS E under the 2024 Build Condition during the morning peak hour. The LOS will remain unchanged with the addition of Project traffic during the evening peak hour. Through signal timing adjustments during the morning peak hour, it is possible to both reduce the overall intersection delay and improve the level of service while causing minimal disruptions to the intersection approaches. Using Synchro, the splits for each signal phase were adjusted (while the cycle length remained at 110 seconds). Two seconds were taken from the Huntington Avenue thru/right phase and added to the Huntington Avenue northeast and southwest left turn phase, and the Belvidere Street/West Newton Street phase remained unchanged. A summary of the analysis of these signal timing changes is shown in Table 5-25.

Table 5-25 Huntington Avenue at Belvidere Street/West Newton Street – Proposed Signal Timing Mitigation

Phase	Existing Signal Timing Splits	Proposed Mitigation Signal Timing Splits
Huntington Ave NEB/SWB Left Turns	22 seconds	24 seconds
Huntington Avenue NEB/SWB Thru/Right	42 seconds	40 seconds
Belvidere Street SEB Left/Thru/Right	46 seconds	46 seconds
West Newton NWB Left/Thru/Right		
Cycle Length	110 seconds	110 seconds

Although the shift of two seconds is minor, it helps improve the overall intersection performance by reducing delay and increasing LOS. A comparison of the 2024 Build Condition and the proposed mitigation is provided in Table 5-26.

Table 5-26 Huntington Avenue at Belvidere Street/West Newton Street – 2024 Build Mitigated Condition Intersection Operation (Morning Peak Hour)

	2024 Build Condition AM Peak Hour					2024 Build Mitigated Condition AM Peak Hour				
Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
Belvidere Street SEB Left	0.73	49.4	D	66	#139	0.73	49.4	D	66	#139
Belvidere Street SEB Thru	0.19	28.1	C	48	81	0.19	28.1	C	48	81
Belvidere Street SEB Right	0.06	26.9	C	0	29	0.06	26.9	C	0	29
West Newton Street NWB Left/Thru/Right	0.83	46.7	D	263	353	0.83	46.7	D	263	353
Huntington Ave NEB Left/Hard Left	0.82	72.3	E	115	#275	0.84	76.6	E	117	#257
Huntington Ave NEB Thru/Right	0.51	28.1	C	148	175	0.54	30.1	C	152	205
Huntington Ave SWB Left/Hard Left	0.89	65.8	E	193	#364	0.82	53.6	D	188	#345
Huntington Ave SWB Thru	0.58	29.3	C	202	240	0.58	28.9	C	198	246
Huntington Ave SWB Right	1.17	139.8	F	~319	#449	1.12	122.2	F	~295	#438
OVERALL	1.02	56.1	E	-	-	0.98	52.7	D	-	-

The proposed signal timing mitigation improves the intersection performance from LOS E in the 2024 Build Condition to LOS D in the 2024 Build Mitigated Condition. The intersection V/C ratio also improves from 1.02 to 0.98, and the delay decreases from 56.1 seconds to 52.7 seconds.

5.8.2 Massachusetts Avenue at Beacon Street

Massachusetts Avenue at Beacon Street does not experience a change in LOS from the 2024 No-Build Condition to the 2024 Build Condition, but mitigation at this intersection could help improve intersection performance. Massachusetts Avenue is an important corridor for the community and for the Project. Signal operations improvements, even minor ones will benefit motorists and help reduce congestion and delays.

A small change to the morning peak hour signal timings can improve the 2024 No-Build and 2024 Build Conditions to the same LOS as the 2017 Existing Condition (LOS E). The proposed signal timing mitigation reduces the Beacon Street westbound phase by two seconds and increases the Massachusetts Avenue northbound/southbound phase by two seconds. A summary of the signal timing changes is shown in Table 5-27.

Table 5-27 Massachusetts Avenue at Beacon Street – Proposed Signal Timing Mitigation (Morning Peak Hour)

Phase	Existing Signal Timing Splits	Proposed Mitigation Signal Timing Splits
Massachusetts Avenue NB/SB Thru	42 seconds	44 seconds
Massachusetts Avenue NB Thru/Left	24 seconds	24 seconds
Beacon Street WB Left/Thru/Right	34 seconds	32 seconds
Cycle Length	100 seconds	100 seconds

A comparison of the 2024 Build Condition and the proposed mitigation is provided in Table 5-28.

Table 5-28 Massachusetts Avenue at Beacon Street – 2024 Build Mitigated Condition Intersection Operation (Morning Peak Hour)

	2024 Build Condition AM Peak Hour					2024 Build Mitigated Condition AM Peak Hour				
Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
Beacon Street WB Left/Thru	0.53	37.5	D	94	140	0.59	40.5	D	97	144
Beacon Street WB Right	0.78	56.5	E	120	#236	0.85	69.1	E	124	#252
Massachusetts Avenue NB Left/Thru	1.23	123.3	F	~195	#249	1.16	98.0	F	172	#228
Massachusetts Avenue SB Thru/Right	1.04	72.0	E	~354	#484	0.98	55.8	E	315	#464
OVERALL	**1.08**	**87.6**	**F**	-	-	**1.07**	**72.3**	**E**	-	-

The proposed signal timing mitigation improves the intersection performance from LOS F in the 2024 Build Condition to LOS E in the 2024 Build Mitigated Condition. The intersection delay decreases from 87.6 seconds to 72.3 seconds.

For the evening peak hour, the same change in LOS occurs from the 2017 Existing Condition (LOS E) to the 2024 No-Build Condition (LOS F). By reducing the Massachusetts Avenue northbound thru/left phase by four seconds and reducing the Beacon Street westbound left/thru/right phase by three seconds, a total of seven seconds can be reallocated to the Massachusetts Avenue northbound/southbound thru phase to extend the green time. The proposed signal timing changes are shown in Table 5-29.

Table 5-29 Massachusetts Avenue at Beacon Street – Proposed Signal Timing Mitigation (Evening Peak Hour)

Phase	Existing Signal Timing Splits	Proposed Mitigation Signal Timing Splits
Massachusetts Avenue NB/SB Thru	42 seconds	49 seconds
Massachusetts Avenue NB Thru/Left	24 seconds	20 seconds
Beacon Street WB Left/Thru/Right	34 seconds	31 seconds
Cycle Length	100 seconds	100 seconds

The reallocation of these seven seconds would improve the overall intersection performance and LOS during the evening peak hour. A comparison of the 2024 Build Condition and the proposed mitigation is provided in Table 5-30.

Table 5-30 Massachusetts Avenue at Beacon Street – 2024 Build Mitigated Condition Intersection Operation (Evening Peak Hour)

	2024 Build Condition PM Peak Hour					2024 Build Mitigated Condition PM Peak Hour				
Approach	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)	V/C Ratio	Delay (s)	LOS	50th % Queue (feet)	95th % Queue (feet)
Beacon Street WB Left/Thru	0.70	40.1	D	121	166	0.74	42.7	D	126	173
Beacon Street WB Right	0.88	69.7	E	110	#214	0.97	95.6	F	116	#240
Massachusetts Avenue NB Left/Thru	1.16	101.4	F	183	#467	1.19	110.8	F	136	#275
Massachusetts Avenue SB Thru/Right	1.09	89.0	F	~417	#549	0.96	47.2	D	330	#484
OVERALL	**1.08**	**85.4**	**F**	-	-	**1.13**	**74.3**	**E**	-	-

With these changes, the overall delay for the intersection is forecast to drop from 85.4 seconds to 74.3 seconds. The intersection operations during the evening peak would improve from LOS F under the 2024 Build Condition to LOS E under the 2024 Build Mitigated Condition.

5.8.3 Proposed Two-way Segment on Scotia Street

As the Project has evolved, the proposed access point to the building's parking garage has changed. Originally proposed to be built on Dalton Street, the Project's driveway is now planned for Scotia Street. The conversion of Scotia Street (between the Project Site driveway west to St. Cecilia Street (a distance of approximately 100 feet) has been proposed by the Proponent to be designated as two-way.

If approved by the Boston Transportation Department and other City departments, it would allow Project-generated trips to turn right out of the Project Site driveway and travel towards Boylston Street, reducing the number of vehicles traveling along Dalton Street and arriving at the Boylston Street at Dalton Street/Hereford Street

intersection. It would also reduce the potential for congestion at the driveway if it were constructed along Dalton Street.

The Proponent looks forward to discussing this proposal further with the BTD as mitigation for the Project.

5.9 Access and Circulation

Figure 3.34 shows the proposed Project Site circulation. The parking garage is now proposed to feature two elevator bays. Drivers entering the Project Site will pull off Scotia Street into a designated loading/unloading area, where they will be greeted by a parking valet/attendant. The attendant will take the keys and using the elevator, will bring the vehicle to one of the parking levels. When a resident requires use of a vehicle to leave the Project Site, the valet will be contacted and the vehicle will be brought down to street level on Scotia Street, again using the parking garage elevator. As noted above, the Proponent has proposed making a short section of Scotia Street two-way to provide a relatively direct connection to Boylston Street. This will reduce the impact on Scotia Street by allowing traffic to exit the Project Site in two different directions.

5.9.1 Curbside Design

The proposed curbside design accounts for pedestrians, bicyclists, and on-street parking and valet activity. Two travel lanes would continue to be provided on Boylston Street eastbound: a shared vehicle/bicycle lane and a vehicle only lane. A parking lane is also proposed.

The Proponent is prepared to work closely with the BTD to refine and establish the details of the proposed cross section and configuration of Boylston Street along the frontage of the site. For the ENF/PNF Alternative, the Proponent previously proposed two valet/pick-up/drop-off areas along the Boylston Street curb. The Proponent is now proposing a single designated shared drop-off area along that same curb near the entrance to the residential building lobby and the proposed restaurant(s).

5.9.2 Loading, Service and Deliveries

Truck Loading

A designated truck loading for the Project is planned to be accessed from Cambria Street. As currently planned, two separate curb cuts/driveways will be provided. One will support large tractor-trailer trucks (WB-40 vehicles) and smaller, single unit trucks vehicles. A second loading dock is planned to accommodate single-unit trucks as well as deliveries by vans and passenger vehicles. The Proponent plans to require urban package deliveries to be completed through the loading dock. There are no plans or intentions to receive deliveries at curbside on Boylston Street at the Project Site. Commercial vehicles will also have the opportunity to use designated on-street loading zones in the area.

Trash collection will occur in this same location. A single large trash compactor will be located between the two loading docks. All truck maneuvering will occur on Cambria Street. Cambria Street, while carrying relatively low traffic volumes, performs a vital function for the Mass. Convention Center Authority (MCCA). The street serves the loading dock for the Hynes Convention Center and access will need to be maintained at all times. The Proponent has been in an ongoing dialogue with staff of the MCCA and intends to continue to do so, through the planning and design process, during construction and during building operations to minimize effects on the MCAA.

Service and delivery trucks will access the Project Site primarily relying on designated truck routes and major arterial streets, as outlined by the City of Boston. Regionally, trucks will use the Turnpike (I-90), I-93, Massachusetts Avenue and Boylston Street.

Daily Deliveries

The number of daily truck trips that would serve the Project Site were estimated based on the National Cooperative Highway Research Program (NCHRP) Synthesis 298 Report: Truck Trip Generation Data. This report, published by the Transportation Research Board (TRB), provides daily truck trip rates by land use for specific cities. The rates presented in the report are estimated for individual buildings and do not account for mixed-use developments, such as the Project, in which service and delivery trucks will serve multiple tenants, and land uses, with a single trip to the Project Site. A 25 percent reduction in individual building truck trip generation was applied with the rationale that trips to the building will service multiple condominium units at once rather than individual trips for each condominium unit. These estimates are therefore considered to be conservative. Table 5-31 shows the estimated daily number of truck trips each building and subsequent land use will generate. Detailed worksheets for each building and trip rates used are included in Appendix D.

Table 5-31 Daily Delivery/service vehicle Trip Generation Estimate

Project Component	Loading Dock Deliveries (SU-30 or larger)	Short-Term Deliveries (Small trucks, vans and cars)	Total # of Daily Deliveries
Restaurant	2	3	5
Retail	3	9	12
Residential	3	66	69
Total	8	78	86

Based on the NCHRP Report, the Project is estimated to generate 86 daily truck trips, eight (8) of which will be single-unit trucks or larger vehicles. The remaining 78 estimated truck trips will mainly include passenger vehicle, vans and pickup trucks. A portion of these trips will be for things such as food and flower deliveries, USPS, UPS, and FedEx, and other small packages Most of these will be of very short duration. All deliveries will be directed to the loading dock as no deliveries will be accepted in the building lobbies. As noted above, these delivery vehicle drivers may also choose to park in a nearby designated on-street loading area.

The Proponent will designate an individual to schedule and manage the loading dock. Where possible, deliveries in larger vehicles will be made during off-peak periods to limit the impacts of truck traffic on local streets. Trash and recycling pick-up will also be scheduled for off-hour servicing. Finally, move-in/move-out activities will be carefully managed and scheduled.

5.9.3 Pedestrian Access

The existing sidewalks surrounding the Project Site are in generally good condition, but the pedestrian connections at St. Cecilia Street and Boylston Street as well as St. Cecilia Street at Cambria Street lack adequate pedestrian crossings and ramps. The Proponent is currently proposing to enlarge the sidewalk at the corners of the building to reduce the crosswalk lengths. The sidewalk along the building frontage on Boylston Street will provide outdoor bicycle racks and street furnishings, creating a significantly improved pedestrian experience over the existing condition.

5.10 Parking

5.10.1 Project Parking Supply

In response to local transportation goals and the current trends in declining parking needs in Boston, the Project will implement a comprehensive package of Transportation Demand Management (TDM) strategies to help reduce auto trips and parking demand and will seek to minimize dependence on auto travel. This is reflected in the estimated trip generation for the Project, presented previously which will generate approximately 896 daily vehicle trips (448 in, 448 out) with only 23

vehicle trips (10 in, 13 out) estimated during the morning peak hour and 77 vehicle trips (42 in, 35 out) estimated during the evening peak hour.

The Proponent has significantly reduced the number of parking spaces within the Project. It should be noted that the parking plan for 175 spaces is considerably lower than both the 2013 Designation Alternative and the ENF/PNF Alternative (303 spaces). Managing these parking spaces will be challenging as only two floors of the building's podium are available to accommodate them. Accordingly, a mix of parking types is planned: 99 of the spaces will be "standard" spaces, 52 would be available using mechanical stackers and 24 would be designated as tandem spaces.

The parking facility will be professionally managed and open and available on a 24-hour basis. The Proponent intends to engage a professional parking management firm whose parking valets who will operate the proposed parking facility and elevator.

The Project's garage is being designed with a flat floor plate so that the parking areas could be converted to other uses if the demand for parking diminishes in the years after construction of the Project.

5.10.2 Project Parking Demand

The dynamic of parking supply to meet demand in an urban, transit-oriented location presents certain challenges because available methodologies are generally based on data from situations where there is low transit and limited alternative mode choice.

As requested in the MassDOT comment letter dated January 31, 2017, "The DEIR should clarify how the parking needs of the Project were determined and explain the methodology used to determine the total parking required. The Institute of Transportation Engineers' *Parking Generation* typically provides a reasonable basis for comparison to parking requirements under local zoning, but this reference does not present parking rates for this type of mixed-use." Therefore, analysis was performed for the Project parking demand using the ITE *Parking Generation* methodology.

ITE Parking Generation Analysis

ITE has published a Parking Generation Handbook to guide developments on the amount of parking that should be provided. This handbook is similar to the ITE Trip Generation Handbook used for estimating the number of unadjusted vehicle trips a development will generate. Like the Trip Generation Handbook, the ITE Parking Generation Handbook represents average national patterns for estimating parking generation. As shown below in Table 5-32 the ITE Parking Generation Handbook estimates the unadjusted parking demand of the Project is 412 parking spaces.

Table 5-32 Unadjusted ITE Parking Generation Estimate

Land Use	Size	Unadjusted Parking Spaces
Restaurant	6,000 SF	66
Retail (excluding restaurants)	39,,500 SF	201
Residential	108 units	145
Total ITE Estimate		**412**

However, the estimate above, like the ITE Trip Generation estimate, does not account for the urban environment of the Project Site. As demonstrated by the mode shares associated with this area and used for the Project, there are only a 21 and 33 percent SOV rate for residents and employees, respectively. Therefore, the unadjusted ITE Parking Generation estimate overstates the expected demand for this Project.

Similar to the ITE Trip Generation, the unadjusted parking demand estimate was adjusted for the vehicle occupancy rate and mode shares for the restaurant and retail uses only. The residential parking demand for this Project, based on the Proponent's proposed development plan, is 156. Table 5-33 provides the adjusted ITE parking demand of the Project.

Table 5-33 Adjusted Parking Generation Estimate

Land Use	Unadjusted Parking Spaces	Adjusted Parking Demand
Restaurant	66	22
Retail	201	66
Residential	145	156[1]
Total Parking Demand Estimate	**412**	**243**

1 The residential parking demand for this Project, based on the Proponent's proposed development plan, is 156.

Based on the preceding table, the adjusted parking demand estimates for the Project as a whole will have a peak parking demand of 243 spaces vs. a proposed supply of only 175 spaces.

5.10.3 Electric Vehicle Charging Stations

The proposed garage will initially provide fast electric vehicle (EV) charging stations for four (4) spaces. The garage is being designed to allow this number to expand as the demand increases over time.

5.10.4 Off-site Parking Opportunities

As presented previously in Section 5.4.1 and in Figure 5.3a, there are seven (7) off-street parking facilities existing within an approximately five-minute walking distance of the Project Site. The largest is the VPNE Prudential Center Garage, and the closest is the adjacent Pilgrim Auditorium Garage. The Pilgrim Auditorium Garage is located adjacent to the Project Site and has the capacity to hold approximately 501 vehicles. However, it is unknown how many of these spaces are reserved or when the garage may be redeveloped. The Prudential Center Garage to the east of the Project Site can hold approximately 4,200 vehicles, although with the various residential and commercial "nests" and valet parking programs, it is unclear how much of the parking is available for use by the general public. Several areas of the garage are reserved for valet parking, Zipcar, Enterprise, Avalon Exeter, 111 Huntington, The Mandarin and other private uses. Using the 2017 Boston Air Pollution Control Commission inventory, the approximate number of existing spaces within these garages and lots is 6,090 total spaces with only approximately 2,596 public parking spaces at these surrounding facilities (Table 5-2).

However, of the approximate number of publicly available spaces, it is unknown how many spaces are currently committed by long term leases, how many spaces the garage owners/operators desire to maintain as transient parking facilities on an hourly/daily basis, and how many spaces, if any, might be available for a long-term lease to new long-term users such as residents of the Project. Therefore, there do not appear to be appropriate/available off-site parking opportunities which could be leased for the 99-year lease term that would be required by condominium unit buyers.

5.10.5 Summary of Parking Analysis

The Civic Vision recognized that it would be important to find ways to incorporate parking in the air rights projects.

The Project will provide 175 parking spaces to meet the needs of the up to 108 condominium unit owners and visitors and the 45,500 SF of retail and restaurant space.

The Proponent recognizes that the proposed number of parking spaces exceeds the 1.0 space/condominium unit specified by BTD in its guidelines for the Back Bay area. However, while supportive of the City's general goals to reduce vehicle trips , extraordinary factors apply to this specific development, which do not generally apply to most other developments within the Back Bay. These include both the cost of the development and the size of condominium units (with a greater number of parking spaces appropriate for larger units).

The Project is subject to unique project costs and risks associated with construction over the Turnpike and must meet the requirements of investors and lenders in order to be successful. Thus, the Project must achieve a sufficient financial return to support its extraordinarily high costs, which involve both air rights construction over the Turnpike and site control costs for long-term leaseholds. Also, assuming that the

Project is developed to contain 108 condominium units and only the area within the units themselves is considered (in other words, excluding amenities and common area), the average condominium unit will contain 2,611 SF within the unit. This unit size is unusually large for a development within the downtown area and notably larger than most other projects. If the units were traditionally sized, there would be an increased unit count resulting in significantly greater parking spaces than the Project. For example, per BTD guidelines of 1.0 space/condominium unit, if the 282,000 square feet of residential use was developed as more "traditionally-sized" units (of 1,000 square feet/unit), the number of parking spaces would be 282 spaces, which is more than the 175 spaces proposed as part of the Project.

The Proponent's market analysis indicates that such a premier residential offering within the Back Bay will only be able to be successfully marketed at the required price points if sufficient parking spaces are available for each residential unit. Further, many of these spaces are expected to be used for vehicle storage by unit owners for a lightly used second vehicle and not contributing to traffic congestion.

At the same time, while the market for a luxury residential condominium building requires on-site parking for vehicles owned by residents, facilitating public transportation access will reduce the number of vehicles traveling to and from this building on a daily basis. The building's location and its proximity to transit will allow retail and restaurant patrons, building staff and employees to reach the Project using public transportation, thus reducing the greenhouse gas emissions linked to this building. Accessible public transportation can also reduce commuting costs and help attract and retain building staff and employees.

The Proponent also recognizes that parking trends are in flux and that it is hoped that the needs and desires for private vehicles will diminish over the useful life of this Project. Accordingly, the garage floors are being designed with flat floorplates which can be repurposed for other uses, if demand for the parking spaces lessens over the useful life of the Project.

5.11 Transit Analysis

As discussed in Section 5.4.4 – Transit Facilities and Service, the Project is well served by public transportation and has the added benefit of its adjacency to the Hynes Convention Center Station. As a result, the surrounding transit system will move many people to and from the Project Site. The Project trip generation analysis estimates that the Project will generate a total of 980 daily transit trips (490 in, 490 out), 29 (14 in, 15 out) of which will occur in the morning peak hour and 117 (63 in, 54 out) in the evening peak hour.

5.11.1 MBTA Analysis Methodology

To understand the Project trip impacts on the existing and future transit system an in-depth transit analysis was conducted. The analysis involved a three-step approach described below.

1. Describe Existing Transit System Capacity (ridership and utilization)
2. Present 2024 No-Build Condition (background growth & background project trips)
3. Evaluate 2024 Build Future Condition (Project-generated trips)

2017 Existing Condition

For each transit line/route the existing capacity and ridership was quantified using existing data provided by the MBTA. The capacity of a transit line depends on the number of trains or buses operating during a specified time period (frequency), the number of people that can be accommodated on a bus, and the number of individual cars in each train.

The study period for this transit analysis includes the morning and evening transit peak hours defined as 8:00 AM to 9:00 AM and 4:45 PM to 5:45 PM, respectively. Train and bus frequencies were compiled using the latest published MBTA schedules[2] and MBTA Bus ridership data from fall 2016. For the purposes of this study, the vehicle load standards (i.e. number of people safely and comfortably riding on a train car or bus) are based on the MBTA's Service Delivery Policy[2] and the MBTA Blue Book 14th Edition data (Green Line policy capacity of 101 passengers per car, with a standard operation of 2-car trains;[3] MBTA Bus policy capacity of 54 passengers per vehicle).

- **Policy Capacity** refers to the load standards or passengers per car volume defined by the MBTA's Service Delivery Policy which states the standards "establish the average maximum number of passengers allowed per vehicle to provide a safe and comfortable ride." Each vehicle type in the MBTA fleet has a defined "policy capacity" and is published in the MBTA Blue Book.
- **On-Time Performance (OTP)** refers to the MBTA's measure of Green Line Performance reliability – that is "the percentage of customers who wait no longer than the scheduled time between trains. OTP was incorporated into the Green Line analysis. Bus OTP data is not yet available through the MBTA.

Fall 2016 bus ridership data and spring 2016 Green Line ridership data were obtained from the MBTA to estimate peak hour ridership volumes at the impacted bus stops and stations.

2 MBTA Summer 2017 schedules accessed from mbta.com

3 VHB observed AM peak hour operations on Tuesday, August 8, 2017, to quantify the number of cars per peak hour Green Line train

A volume to capacity (V/C) ratio was calculated to determine the existing utilization of the line/route.

2024 No-Build Condition

Hub and Spoke,[4] an MBTA ridership resource, addresses core transit congestion and the future of transit and development in Greater Boston. The MBTA has forecast ridership growth that suggests a moderate growth rate of 1.5% annually. These rates were applied to the existing condition ridership numbers to estimate the future 2024 ridership, without the Project. A volume/capacity ratio (V/C) was calculated to determine the estimated 2024 future utilization of each line/route without the Project (the 2024 No-Build Condition). To determine the percent of transit trips that are likely to choose the bus vs. the subway, data from the 2006-2010 Census was used to calculate transit ridership for residents in this area of the Back Bay. It was determined that, out of the respondents who take transit, approximately 30% ride busses and 70% ride the subway system. Utilizing this information and the same list of background projects from the vehicle analysis, background projects were assigned to their respective mode (using 30% bus trips, 70% subway trips) and incorporated into the 2024 No-Build conditions for the transit analysis. Within the bus routes, ridership was distributed based on the existing ridership trends to one of the three bus routes (Route 1, Route 55, Route CT1) serving the area, and as requested by MassDOT in its scoping determination letter dated January 31, 2017. An analysis of the Route 39 service was not requested. The directional distribution on the Green Line was based on vehicle distribution patterns. The 2024 No-Build V/C ratios provide a baseline to which the Project impacts can be compared.

2024 Build Condition

The estimated Project transit trips were assigned to a transit mode based on local mode split data. These trips were assigned to the Inbound and Outbound transit directions based on existing transit volumes and were added to the 2024 No-Build ridership numbers to generate the 2024 Build ridership estimates. The capacity of each line/route was consistent with the capacity projected under the 2017 Existing Conditions and the 2024 No-Build Conditions. The V/C ratio and utilization of each line/route with the Project was calculated.

Project Impact Assessment

The 2024 Build Condition V/C ratio was compared to the 2024 No-Build Condition V/C ratio to understand the Project's impact on each line/route.

4 Hub and Spoke, June 2012. http://www.mbta.com/uploadedfiles/About_the_T/Panel/HubandSpoke.pdf

5.11.2 Existing Transit System Capacity – Step 1

Following the methodology explained previously the resulting system capacities for the Green Line and Bus Lines based on MBTA provided data is provided in Table 5-34. The Green Line runs approximately 30 vehicles inbound and outbound during the morning and evening peak hours at the Hynes Convention Center Station. A combination of two-car trains and three-car trains are used along this portion of the Green Line. Field observations conducted in August 2017 recorded the number of Green Line trains and the number of cars per train arriving at the station during the peak hours. The resulting cars per train was calculated to be 2.07 as most of the trains only had two cars with an occasional three-car train.

Table 5-34 System Peak Hour Capacity (per MBTA data)

Mode	AM Frequency[1]	PM Frequency[1]	OTP Factor[2]	# Passengers/ Vehicle[3]	# Cars / Train	AM Resulting Capacity[4] (# Passengers/ Peak Hour)	PM Resulting Capacity[4] (# Passengers/ Peak Hour)
Green Line at Hynes Convention Station							
Inbound	30	30	0.74	101	2.07	4,634	4,634
Outbound	30	30	0.74	101	2.07	4,634	4,634
MBTA Bus							
Route 1 Inbound	7	6	n/a	54	n/a	378	324
Route 1 Outbound	7	8	n/a	54	n/a	378	432
Route 55 Inbound	3	2	n/a	54	n/a	162	108
Route 55 Outbound	3	2	n/a	54	n/a	162	108
Route CT1 Inbound	3	3	n/a	54	n/a	162	162
Route CT1 Outbound	3	3	n/a	54	n/a	162	162

1 Number of vehicles or trains per hour, per MBTA published schedules, MBTA Ridership Spring 2016 (Green Line), and MBTA Ridership Fall 2016 (Buses)
2 On-Time Performance Factor from MBTA Dashboard (Green Line) as of April 30, 2016 (average OTP for the previous 30 days of service)
3 Number of policy level capacity per MBTA Blue Book 14th Edition (Green Line and Buses)
4 Calculated Capacity = # of Trains x OTP Factor x # passengers per vehicle x # of cars – shown as number of passengers per peak hour

The existing system capacity was developed using the provided MBTA ridership data for Green Line (spring 2016) and bus routes (fall 2016) for the morning peak hour of 8:00 – 9:00 AM and evening peak hour of 4:45 - 5:45 PM. The system's utilization rates, or volume to capacity ratios, for each route entering and exiting the Project Site area were calculated and are presented in Table 5-35.

The data shows that existing transit system ridership volumes at the stops servicing the Project Site do not exceed operating capacity of either the bus system or Green Line. Most of the V/C ratios for buses are low to moderate during both the morning and evening peak hours. The Green Line outbound movement during the evening

peak hour shows the heaviest directional demand, and it is slightly under capacity as it enters the Hynes Convention Center Station with a V/C ratio of 0.91 and exits the station with a reduced V/C ratio of 0.87 as people exit the transit system at the station.

Table 5-35 Existing Transit Service Utilization (per MBTA data)

Mode	AM Capacity	PM Capacity	Morning Peak Hour Ridership	Evening Peak Hour Ridership	Morning Peak Hour V/C	Evening Peak Hour V/C
Green Line at Hynes Convention Station						
Inbound Entering Hynes	4,641	4,634	3,236	2,991	0.70	0.64
Inbound Exiting Hynes	4,641	4,634	3,357	3,139	0.72	0.68
Outbound Entering Hynes	4,641	4,634	1,957	4,201	0.42	0.91
Outbound Exiting Hynes	4,641	4,634	1,746	4,050	0.38	0.87
MBTA Bus						
Route 1 Inbound Entering	378	324	274	205	0.72	0.63
Route 1 Inbound Exiting	378	324	219	175	0.58	0.54
Route 1 Outbound Entering	378	432	232	165	0.61	0.38
Route 1 Outbound Exiting	378	432	275	242	0.73	0.56
Route 55 Inbound Entering	162	108	121	27	0.75	0.25
Route 55 Inbound Exiting	162	108	116	25	0.72	0.23
Route 55 Outbound Entering	162	108	33	32	0.20	0.30
Route 55 Outbound Exiting	162	108	34	32	0.21	0.30
Route CT1 Inbound Entering	162	162	58	48	0.36	0.30
Route CT1 Inbound Exiting	162	162	52	43	0.32	0.26
Route CT1 Outbound Entering	162	162	49	66	0.30	0.41
Route CT1 Outbound Exiting	162	162	72	72	0.45	0.44

5.11.3 2024 No-Build Condition – Step 2

The next step of the transit analysis included an evaluation of the 2024 No-Build Condition. To distribute background project-generated transit trips, the bus and subway data was further broken down to assign these trips to specific routes and directions. The bus ridership distribution was calculated based on the existing ridership and utilization trends. To determine Green Line outbound vs. inbound trips, the vehicle distribution from Section 5.6.6 was used to determine approximate origin-destination trends. Approximately 50% of Green Line users travel inbound to destinations east of BTD Area 4, and the remaining 50% travel outbound on the

Green Line to destinations west of BTD Area 4 during the morning and evening peak hours. Table 5-36 provides a summary of the estimated transit trips distributions by mode, direction, and peak hour.

Table 5-36 Transit Trip Distribution

	Morning Peak Hour		Evening Peak Hour	
Route and Direction	**% OUT**	**% IN**	**% OUT**	**% IN**
Green Line at Hynes Convention Station				
Inbound	50%	50%	50%	50%
Outbound	50%	50%	50%	50%
MBTA Bus				
Route 1 Inbound	25%	60%	19%	47%
Route 1 Outbound	44%	18%	59%	23%
Route 55 Inbound	1%	4%	1%	2%
Route 55 Outbound	0%	0%	0%	0%
Route CT1 Inbound	8%	12%	6%	13%
Route CT1 Outbound	21%	7%	15%	15%
Total	**100%**	**100%**	**100%**	**100%**

Using these calculated transit distributions, the transit trips from background projects in the area that are planned to come on-line during the eight-year period were assigned to the respective routes. The same background projects that were incorporated into the 2024 No-Build Condition for the traffic volume analysis were used for this transit analysis condition. The morning and evening peak hour transit trips and the corresponding background projects are provided in Table 5-37.

Table 5-37 Background Project Trips

	Morning Peak Hour			Evening Peak Hour		
Project	**In**	**Out**	**Total**	**In**	**Out**	**Total**
One & 30 Dalton	18	35	53	38	24	62
40 Trinity	75	9	84	10	74	84
888 Boylston (office only)	214	29	243	38	186	224
Parcel 12	14	13	27	44	45	89
Parcel 13	10	15	25	31	28	59
Berklee Crossroads	6	6	12	6	6	12
2 Charlesgate West	12	15	27	23	24	47
TOTAL	**349**	**122**	**471**	**190**	**387**	**577**

As previously discussed, the MBTA fall 2016 existing transit data were grown by 1.5% per year, for eight years, and added to the background trips to produce the 2024 No-Build Condition transit trips. The distributed 2024 No-Build Condition transit trips are provided in Table 5-38.

Table 5-38 2024 No-Build Condition Transit Trips

Mode	AM Capacity	PM Capacity	Morning Peak Hour Ridership	Evening Peak Hour Ridership	Morning Peak Hour V/C	Evening Peak Hour V/C
Green Line at Hynes Convention Station						
Inbound Entering Hynes	4,641	4,641	3,767	3,437	0.81	0.74
Inbound Exiting Hynes	4,641	4,641	3,823	3,671	0.79	0.79
Outbound Entering Hynes	4,641	4,641	2,326	4,799	0.50	1.03
Outbound Exiting Hynes	4,641	4,641	2,009	4,698	0.43	1.01
MBTA Bus						
Route 1 Inbound Entering	378	324	371	256	0.98	0.68
Route 1 Inbound Exiting	378	324	256	218	0.68	0.58
Route 1 Outbound Entering	378	432	280	198	0.74	0.52
Route 1 Outbound Exiting	378	432	319	342	0.84	0.90
Route 55 Inbound Entering	162	108	140	31	0.86	0.19
Route 55 Inbound Exiting	162	108	141	29	0.87	0.18
Route 55 Outbound Entering	162	108	37	36	0.23	0.22
Route 55 Outbound Exiting	162	108	48	36	0.30	0.22
Route CT1 Inbound Entering	162	162	77	61	0.48	0.38
Route CT1 Inbound Exiting	162	162	69	55	0.43	0.34
Route CT1 Outbound Entering	162	162	62	83	0.38	0.51
Route CT1 Outbound Exiting	162	162	91	98	0.56	0.60

In the resulting 2024 No-Build Condition, ridership volumes at the stops servicing the Project Site increase. Though the bus operations remain well under their individual route capacities, the Green Line is forecast to exceed its capacity during the evening peak hour with a V/C ratio of 1.03 on the outbound route entering the Hynes Convention Center Station, and the ratio improves slightly to 1.01 exiting the station in the continued outbound direction. The 2024 No-Build Condition shows V/C ratios maintaining a low to moderate utilization as more popular routes such as the Route 1 and Route 55 will eventually approach the MBTA policy capacity, but do not yet exceed capacity under this condition.

5.11.4 2024 Build Condition – Step 3

To create the 2024 Build Condition, the Project-generated trips were distributed to the transit lines using the same methodology as the 2024 No-Build Condition. The Project-generated trips were split into bus and subway trips and then assigned to the respective route and direction based on existing ridership and utilization, as shown previously in Table 5-36. The Project-generated transit trip distribution is presented in Table 5-39.

Table 5-39 Project-Generated Transit Trips by Line

	Morning Peak Hour			Evening Peak Hour		
Route and Direction	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total	Trips OUT (Boardings)	Trips IN (Alightings)	Trips Total
Green Line at Hynes Convention Station						
Inbound	5	5	10	19	22	41
Outbound	5	5	10	19	22	41
MBTA Bus						
Route 1 Inbound	1	3	4	3	9	12
Route 1 Outbound	2	1	3	10	4	14
Route 55 Inbound	0	0	0	0	0	0
Route 55 Outbound	0	0	0	0	0	0
Route CT1 Inbound	0	1	1	1	3	4
Route CT1 Outbound	1	0	1	2	3	5
Total[1]	**14**	**15**	**29**	**54**	**63**	**117**

1 Total trips rounded to nearest whole number

The distributed Project-generated trips were then added to the 2024 No-Build Condition trips. The resulting 2024 Build Condition morning and evening peak hour capacity calculations are shown in Table 5-40.

By adding the Project-generated trips to the 2024 No-Build Condition transit system ridership volumes, the 2024 Build Condition transit volumes at the stops servicing the Project Site are forecast to increase slightly. The Green Line outbound utilization increase is forecast to grow from 1.03 to 1.04 entering the Hynes Convention Center Station. Leaving the station, the outbound V/C ratio is calculated to remain at 1.02. The bus routes do not exceed capacity during the morning or evening peak hours, although, the Route 1 bus traveling inbound (entering the Hynes Convention Center Station from Cambridge) during the morning peak hour is nearly at capacity with a V/C ratio of 0.99. This bus is a key route, and it travels inbound along Massachusetts Avenue from Cambridge to Boston and down to Dudley Square.

Table 5-40 2024 Build Condition Transit Trips

Mode	AM Capacity	PM Capacity	Morning Peak Hour Ridership	Evening Peak Hour Ridership	Morning Peak Hour V/C	Evening Peak Hour V/C
Green Line at Hynes Convention Station						
Inbound Entering Hynes	4,641	4,641	3,772	3,459	0.81	0.75
Inbound Exiting Hynes	4,641	4,641	3,828	3,690	0.82	0.79
Outbound Entering Hynes	4,641	4,641	2,331	4,821	0.50	1.04
Outbound Exiting Hynes	4,641	4,641	2,014	4,717	0.43	1.02
MBTA Bus						
Route 1 Inbound Entering	378	324	374	265	0.99	0.70
Route 1 Inbound Exiting	378	324	265	221	0.68	0.58
Route 1 Outbound Entering	378	432	281	202	0.74	0.53
Route 1 Outbound Exiting	378	432	321	352	0.85	0.93
Route 55 Inbound Entering	162	108	140	31	0.86	0.19
Route 55 Inbound Exiting	162	108	141	29	0.87	0.18
Route 55 Outbound Entering	162	108	37	36	0.23	0.22
Route 55 Outbound Exiting	162	108	48	36	0.30	0.22
Route CT1 Inbound Entering	162	162	78	64	0.48	0.40
Route CT1 Inbound Exiting	162	162	69	56	0.43	0.35
Route CT1 Outbound Entering	162	162	62	86	0.38	0.53
Route CT1 Outbound Exiting	162	162	92	100	0.57	0.62

5.11.5 Summary of Transit Analysis

Assuming that the transit system does not experience any supply changes that increase capacity between now and 2024, the bus system will be able to accommodate for the additional trips caused by growth, background, and Project-generated trips, but the Green Line may experience conditions that are slightly over capacity during the evening peak hour while entering and exiting the Hynes Convention Center Station.

5.12 Bicycle Analysis

The area surrounding the Project Site currently provides no bicycle parking along Boylston Street, Dalton Street, and St. Cecilia Street. The nearest public bicycle parking spaces are located along Massachusetts Avenue in front of the Berklee Performance Center. These bicycle parking spaces are heavily used and have been observed to be near or at parking capacity during the day. Boylston Street from Hereford Street to Fairfield Street has scattered, two-bicycle lollipop style parking racks to accommodate for the retail uses along the Boylston Street.

The segment of Boylston Street from Massachusetts Avenue to Dalton Street is served by shared bicycle lanes. The following sections describe the existing and proposed bicycle conditions in more detail.

5.12.1 Bicycle Access

5.12.2 Summary of Existing Conditions

As identified in Section 5.4.5 and illustrated in Figure 5.6c, the Project is close to a well-connected bicycle share network and within a quarter-mile of four existing Hubway stations. A variety of long-term spaces are provided in the surrounding garages, and Berklee College of Music provides a bicycle pavilion for faculty and student use, but it is not open for public use. The pavilion includes bicycle parking for up to 75 bicycles and five charging stations for "electric light vehicles" such as scooters.

Along Boylston Street, immediately adjacent to the Project Site, there are currently no bicycle racks provided on the street segments around the Project Site, with an observed demand for additional spaces. Bicycle racks are provided along the sidewalk on Boylston Street, to the east of the Project, for retail customers, and are intended for maximum two (2) bicycles to attach to either side of the lollipop rack structure. From Hereford Street to Gloucester Street, there are approximately six (6) bicycle racks (12 spaces total) along the northern side of Boylston Street. Outside of the 888 Boylston Street building, there are 17 bicycle racks (34 spaces total) available outside of the entrance. South of the Project Site, at the corner of Belvidere Street and Dalton Street, there are seven (7) bicycle racks (14 spaces total). On Belvidere Street near Massachusetts Avenue, there are 12 bicycle racks (24 spaces total), and along Massachusetts Avenue near Boylston Street, there are seven (7) bicycle racks (14 total).

Most of these racks operate at or near their capacity during a typical weekday mid-morning conditions, indicating a relatively high demand for short-term bicycle parking in the area. When bicycle racks are at capacity, bicyclists will often use street furniture, trees, or sign posts to secure a bicycle.

5.12.3 Project Bicycle Parking

The Project will provide a variety of bicycle parking options for employees, residents and visitors of the Project. Approximately 15 - 30 short-term, outdoor bicycle parking spaces will be provided on the Project Site.

Long-term, covered and secure bicycle parking will be provided in the garage. One (1) bicycle parking space per residential unit is planned.

Bicycle Parking Guidelines are published by the Boston Transportation Department. (BTD). For restaurant/retail uses, a ratio of 0.3 spaces per 1,000 square feet is suggested for secured/covered bicycle parking which would mainly be use by staff in these businesses. Additionally, the guidelines suggest providing one (1) space per

5,000 square feet as outdoor (covered or open) bicycle parking. For the residential use, a ratio of one (1) space per unit is suggested as secure/covered parking in an easily accessed dedicated storage area. One (1) outdoor (covered or open) bicycle space is suggested for every five units with a minimum of two (2) outdoor/covered or outdoor/open spaces per building. In total, the guidelines suggest that approximately 122 secured/covered indoor spaces and 31 outdoor spaces be provided. The breakdown of the bicycle space guidelines and their respective ratios are shown in Table 5-41.

Table 5-41 Bicycle Parking Space Guidelines

Land Use	Bicycle Parking Ratio[1]	Number of Spaces
Restaurant/Retail – Secured/Covered	0.3 per ksf	14 spaces
Restaurant/Retail – Outdoor	1 per 5 ksf	9 spaces
Residential – Secured/Covered	1 per unit	108 spaces
Residential – Outdoor	1 per 5 units	22 spaces
Total		**153 spaces**

1 Source: Boston Transportation Department, Boston Bikes: Bicycle Parking Guidelines

As shown previously in Figure 3.36, there are 15 lollipop style bicycle racks provided along the Boylston Street frontage, and this will provide outdoor parking for approximately 30 bicycles. The proponent will seek to provide additional bicycle parking if the demand exceeds the proposed supply.

5.12.4 Future Bicycle Infrastructure

Bicycle infrastructure improvements are planned to be implemented along Boylston Street adjacent to the Project Site. The Project will redesign the section of Boylston Street from Scotia Street to Dalton Street to accommodate a thru lane, a shared bike lane, and a drop-off area on the south side of the street. The Project will be well-served by the existing Hubway bicycle stations nearby, such as the station at the intersection of Massachusetts Avenue and Boylston Street.

The Proponent will continue to work with the City to implement the bike infrastructure improvements described herein. The Proponent will continue to work with the City as it formulates its long-term plans for bicycle improvements for the area.

5.13 Pedestrian Analysis

The Project Site is bounded by an active sidewalk environment. The proposed building massing will eliminate the opening above the MBTA tracks and the Turnpike below, creating a seamless ground floor plan. This will help improve pedestrian conditions in the area dramatically. The Project will install new sidewalks, landscaping, crosswalks, and street lighting around the perimeter of the Project Site, further improving the pedestrian realm.

5.13.1 Summary of Existing Conditions

As identified in Section 5.4.6, the Project Site is well served by pedestrian facilities including sidewalks along all local roadways, crosswalks at all study area intersections and activated streetscapes and building fronts. Sidewalks near the Project Site are in good condition and striped crosswalks and pedestrian signals are available at all study area signalized intersections.

5.13.2 Future Pedestrian Facilities/Infrastructure

The Project represents a substantial design and functional upgrade to the Project Site and provides a number of benefits to both the immediate neighborhoods and the City of Boston. The design for each of the Project and the proposed developments on Parcels 12 and 13 and Berklee Crossroads will dramatically improve the character of the public realm and neighborhood access at many levels, and the area will be significantly enhanced by the urban design and architectural character of the Project. Within the Project area, portions of Boylston Street will be repaved and restriped to accommodate bikes and a drop-off zone for the residential entrance and the retail/restaurant uses, subject to applicable City approvals.

Key urban design benefits include:

Improved Street and Pedestrian Environment

- Filling in the overlook to the MBTA tracks and the Turnpike
- Reduced noise at the pedestrian level
- Planting boxes along the sidewalk, to the extent feasible

Improved Accessibility

- Reconstructed sidewalks with ramps at crosswalks
- Street lighting along the sidewalk

5.13.3 Pedestrian LOS

Pedestrian level-of-service (PLOS) was analyzed using the methodology outlined in the latest HCM. PLOS at signalized intersections is dictated by the portion of the signal cycle dedicated to the pedestrian crossing. Accordingly, increasing pedestrian volumes does not alter PLOS at signalized intersections. As walk times and cycle lengths will not change between Existing, No-Build, and Build Conditions, PLOS will remain the same for signalized crosswalks under all conditions. Table 5-42 provides the PLOS at each signalized intersection crosswalks for morning and evening peak hours.

For unsignalized intersections, the PLOS is calculated using the crosswalk length and the conflicting vehicular flow rates for the morning and evening peak hours. Intersection geometry measurements and crosswalk lengths were documented on April 14, 2017. Table 5-43 provides the PLOS for each unsignalized intersection crosswalks for morning and evening peak hours.

Table 5-42 Signalized Pedestrian Level of Service (PLOS)

Intersection	Crosswalk	AM PLOS	PM PLOS
1. Massachusetts Avenue at Beacon Street	East	C	C
	West	D	D
	North	D	D
	South	D	D
2. Massachusetts Avenue at Marlborough Street	East	D	D
	West	D	D
	North	D	D
	South	D	D
3. Massachusetts Avenue at Commonwealth Avenue	East in North	D	D
	West in North	D	D
	South in North	D	D
	East in South	D	D
	West in South	D	D
	North in South	D	D
	South in South	D	D
4. Commonwealth Avenue at Hereford Street	East in North	D	D
	West in North	D	D
	North in North	A	A
	South in North	A	A
	East in South	D	D
	West in South	D	D
	North in South	A	A
	South in South	A	A
5. Commonwealth Avenue at Gloucester Street	East in North	C	C
	West in North	C	C
	North in North	A	A
	South in North	A	A
	East in South	C	C
	West in South	C	C
	North in South	A	A
	South in South	A	A
6. Newbury Street at Massachusetts Avenue/ I-90 Ramp	East	D	D
	West	D	D
	North	D	D
	South	D	D

Table 5-42 Signalized Pedestrian Level of Service (PLOS) (Continued)

Intersection	Crosswalk	AM PLOS	PM PLOS
8. Massachusetts Avenue at Boylston Street	East	D	D
	West	D	D
	North	D	D
	South	D	D
9. Boylston Street at Dalton and Hereford streets	East	D	D
	East Midblock	D	D
	West	D	D
	South	D	D
10. Boylston Street at Gloucester Street	North	B	B
	West	C	C
11. Massachusetts Avenue at Belvidere Street/ Haviland Street	East	D	D
	West	D	D
	North	D	E
	North Midblock	D	E
	South	D	E
14. Massachusetts Avenue at Westland Avenue/ St. Stephen Street	East	D	D
	West	D	D
	North	D	D
	South	D	D
15. Massachusetts Avenue at Huntington Avenue	East in North	D	D
	West in North	D	D
	North in North	D	D
	East in South	D	D
	West in South	D	D
	South in South	D	D
16. Huntington Avenue at Cumberland Street	Northeast	D	D
	Southeast	A	A
17. Huntington Avenue at Belvidere Street/ West Newton Street	Northeast	E	E
	Southwest	E	E
	Northwest	E	E
	Southeast	E	E

Table 5-43 Unsignalized Pedestrian Level of Service (PLOS) – Morning and Evening Peak Hour

Intersection	Crosswalk	Length (ft)	AM Peak Hour			PM Peak Hour		
			Existing	No-Build	Build	Existing	No-Build	Build
7. Newbury Street at Hereford Street	North	42	B	B	B	C	C	C
	East	44	C	C	C	C	C	C
	South	42	B	B	B	C	C	C
	West	41	B	C	C	C	C	C
12. Dalton Street at Scotia Street	South	51	F	F	F	F	F	F
	West	32	A	A	B	A	A	B
13. Dalton Street at Belvidere Street	North	46	F	F	F	F	F	F
	East	38	F	F	F	F	F	F
	West	24	A	A	A	A	A	A

Signalized Intersections

The signalized crosswalks function at LOS D or higher except at two study area locations: Massachusetts Avenue at Belvidere Street/Haviland Street during the PM peak hour and at Huntington Avenue at Belvidere/West Newton streets during the AM and PM peak hour.

Huntington Avenue at Belvidere/West Newton streets has a 110 second cycle length, and the concurrent pedestrian time does not extend through the entire green time of each phase causing pedestrian delay and resulting in LOS E.

Pedestrians crossing Massachusetts Avenue at the Massachusetts Avenue intersection with Belvidere/Haviland streets intersection must wait until the exclusive pedestrian phase, causing a high pedestrian delay and LOS E during the PM peak hour.

Unsignalized Intersections

Under 2017 Existing Conditions, the north and east crosswalks at the intersection of Dalton Street at Belvidere Street currently function at LOS F during the morning and evening peak hours. The south crosswalk at the intersection of Dalton Street at Scotia Street also functions as LOS F during the morning and evening peak hours. Approximately 200 southbound and 500 northbound vehicles travel along this segment of Dalton Street during the morning peak hour, and approximately 300 southbound and 465 northbound vehicles travel along this segment Dalton Street during the evening peak hour. Due to these vehicle volumes, it is difficult for pedestrians to find an ample gap in the traffic flow to cross at these locations.

While the Project is expected to increase overall pedestrian activity in the area, the public realm improvements summarized above and described in detail in Chapter 3, *Urban Design*, are designed to accommodate and benefit both existing and new pedestrians.

5.14 Mitigation Measures

5.14.1 Physical and Operational Transportation Improvements

Chapter 3, *Urban Design*, provides information on the planned public realm improvements associate with the Project. They include new ADA compliant sidewalks, street furniture, crosswalks and signage, enlarged pedestrian areas at the Project Site's Boylston Street corners, and the proposal to make a very short section of St. Cecilia's Street two-way.

In addition, a series of traffic signalization timing changes were proposed and analyzed in Section 5.7. To supplement these and other planned construction-related actions, an extensive Travel Demand Management (TDM) program is outlined in the following section.

5.14.2 Transportation Demand Management (TDM)

The intent of the proposed TDM measures is to help to reduce drive-alone trips, or single occupancy vehicles (SOVs). These actions, taken together will help encourage 1000 Boylston residents, visitors and staff to seek out and use alternative modes of transportation for their travel. The following TDM measures are proposed:

- Designation of a building staff member as on-site Transportation Coordinator. In addition to other building-related duties, the Transportation Coordinator will be responsible for:
  - Overseeing parking;
  - Serving as the point person for managing, communicating and promoting the use of alternative transportation measures with building residents and staff;
  - Developing an orientation packet to inform both new residents and retail/restaurant employees about all available transportation options; and
  - Designation of a loading dock manager responsible for overseeing loading/delivery and resident move-in/move-out operations.
- Membership in the A Better City Transportation Management Agency (TMA) that was established in 1996 to serve downtown Boston's financial district, Back Bay, and Fenway/Kenmore Square areas. The ABC TMA is a nonprofit transportation management association working to improve economic vitality in the district by supporting sustainable commute options through advocacy and commuter services.
- Transit information will be provided in building lobby/public spaces.
- With the assistance of MassRIDES, a website application will be employed to encourage use of alternative commuting modes and to provide ride matching services.
- Tenants will be encouraged to provide directions using public transportation on the individual retail/restaurant tenant's websites.

- At the appropriate time, the Proponent will consult with MassRIDES, the Commonwealth's Travel Options provider, to help implement elements of the TDM program. The proponent will also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips.
- Approximately 15 - 30 short-term public bicycle parking spaces will be provided. In addition, the Proponent intends to provide 108 secure bicycle spaces for building residents.
- The Proponent will establish a Hubway corporate membership and will consider providing subsidies for its staff. Further, the Proponent will encourage its tenants to offer their staff the same benefit.
- The Proponent will promote the use of a carsharing program for building residents and will encourage the building's retail/restaurant tenants to offer a carshare corporate membership.
- The Proponent anticipates providing numerous on-site amenities and conveniences that would reduce the need for automobile travel, including food service delivery from the on-site restaurants.
- Various amenities to commuters who walk and bike including on-site lockers and showers for building and tenant staff. The retail and restaurant tenants will be encouraged to do the same in their spaces.
- The Proponent will offer a transit pass subsidy to its own employees who will work in the building, and will encourage retail/restaurant tenants to subsidized transit passes for their staffs.
- Initially provide four (4) on-site electric vehicle ("EV") EV charging stations fir building residents with room to expand that number over time as the demand grows

This TDM program compares favorably with what the City's other leading developers are doing to address transportation and mobility challenges faced across the city.

5.14.3 Monitoring Program

The Proponent is committed to conducting transportation monitoring and producing annual reports following the completion of the Project. The purpose of the City-required Transportation Monitoring and Annual Report is to provide the Boston Transportation Department a regular update on transportation-related issues, such as the Project's performance on Travel Demand Management (TDM) measures. Elements of the Transportation Monitoring and Annual Report typically include counts or surveys to determine peak period travel patterns. This would typically include people who walk, use transit, are picked up or dropped off, those who drive and park on-site and those who drive and park off-site. The Proponent would also be expected to report on parking patterns and other issues that are relevant to the Project's transportation plan.

The Proponent's obligation to provide this annual report commitment will be specifically outlined in a Transportation Access Plan Agreement (TAPA) between the Proponent and the Boston Transportation Department.

5.14.4 Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a Transportation Access Plan Agreement (TAPAs) with the BTD. The TAPA will codify and document each of the Project's transportation mitigation commitments.

The Project's mitigation commitments are the result of the detailed transportation analyses and identification of Project impacts, as documented in the above chapter, and specific agreements made between the Proponent, the City of Boston and MassDOT. The Project's proposed transportation mitigation measures have not been discussed in detail with the City at this time. Upon the City's review and acceptance of the findings and conclusions of this transportation analysis and assessment of Project impacts and its acceptance of the Project's commitments and TDM actions, the TAPA will be executed.

5.14.5 Construction Management Plans

The Proponent's pre-construction contractor has begun development of a detailed construction management plan (CMP) that will address the temporary transportation impacts of the Project. Typically included in a CMP is a clear explanation of the phasing and timing of construction. Included are:

- Estimates of the number of workers on the site by phase,
- The associated expected amount of construction traffic,
- Construction vehicle routing and staging,
- Project Site entrance and egress points, and
- An explanation of how roadway operations, bicycle and pedestrian activities will be maintained throughout the construction period.

This Project is unique in that the CMP will need to address two separate issues because it requires air rights construction. The first is the interface with the local street system. This will address how the construction will interface with Boylston, St. Cecilia's, Cambria, Dalton and Scotia streets. Maintaining traffic operations and a safe environment for pedestrians and cyclists on this adjacent street system is an important issue for the Project Site's neighbors and for maintaining business operations at the Hynes Convention Center. As noted above, the pre-construction contractor has begun development of an initial CMP that indicates how at the street level these items will be addressed.

The second CMP element is how the actual construction of the Project, particularly the early phases of the structural support system will affect the Turnpike (I-90) and the active rail lines under the building. Periodic lane closures will be required on the

Turnpike and again, the pre-construction contractor has begun a dialogue with MassDOT staff within District 6 to begin to understand the requirements that will be placed on the Project. The Proponent and MassDOT have the same objective – that will be to minimize the potential impacts on the motoring public on I-90 and on commuter rail users on the Worcester Line. Recent experience gained during the Commonwealth Avenue bridge replacement Project just west to the Project Site will be invaluable to establish the requirements that will be applied to the Project.

The Proponent is committed to developing these two CMPs in concert with the BTD and MassDOT.

Construction Vehicle Traffic

Construction vehicles will be necessary to move construction materials to and from the Project Site. Every effort will be made to reduce noise, control fugitive dust, and minimize other disturbances associated with construction traffic. Truck staging and laydown areas for the Project will be carefully planned.

Construction Parking Issues

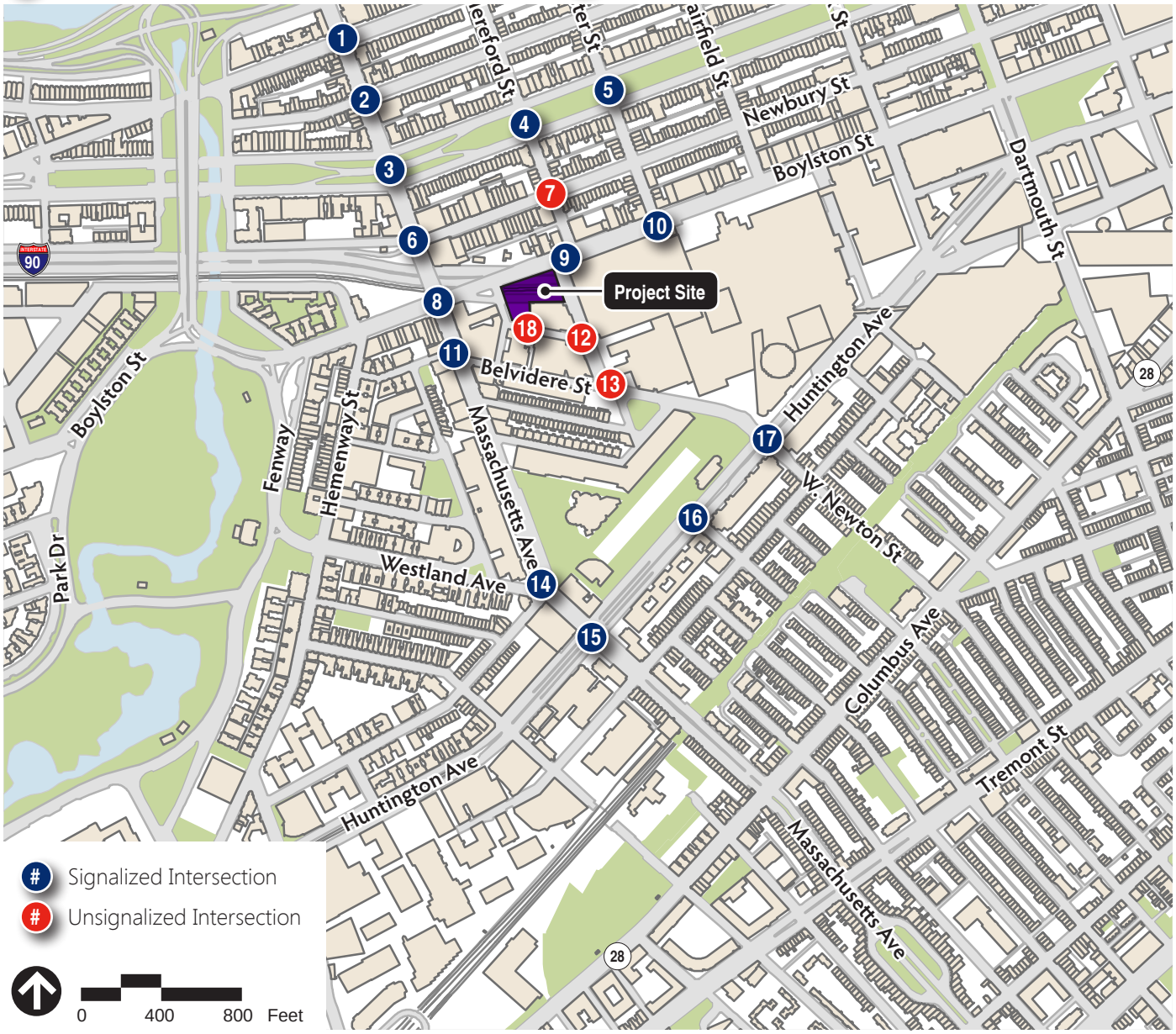
No construction worker parking is planned as part of the Project. As a result, all construction workers will be encouraged to use public transportation to travel to/from the Project Site. Because of the construction workers' relatively early arrival/departure pattern (typically 7:00 AM-3:00 PM), conflicts between construction traffic and commuters will be reduced.

The primary contractor and its sub-contractors, vendors and suppliers will be encouraged to develop access plans for their staff that deemphasizes private auto use. Actions may include seeking off-site parking, providing transit subsidies, and offering secure on-site lockers to reduce the need for driving.

Pedestrian Access during Construction

During the construction period, pedestrian activity adjacent to the Project Site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary walkways, appropriate lighting, and directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished pedestrian sidewalks will be permanently reconstructed and improved around the Project Site.

1. Massachusetts Avenue at Beacon Street
2. Massachusetts Avenue at Marlborough Street
3. Massachusetts Avenue at Commonwealth Avenue
4. Commonwealth Avenue at Hereford Street
5. Commonwealth Avenue at Gloucester Street
6. Newbury Street at Massachusetts Avenue/I-90 Ramp
7. Newbury Street at Hereford Street
8. Massachusetts Avenue at Boylston Street
9. Boylston Street at Dalton Street/Hereford Street
10. Boylston Street at Gloucester Street
11. Massachusetts Ave at Belvidere Street/Haviland Street
12. Dalton Street at Scotia Street
13. Dalton Street at Belvidere Street
14. Massachusetts Avenue at Westland Avenue/St. Stephen Street
15. Massachusetts Avenue at Huntington Avenue
16. Huntington Avenue at Cumberland Street
17. Huntington Avenue at Belvidere Street/West Newton Street
18. Scotia Street at Site Driveway



Source: BWSC Street Map

Figure 5.1

Study Area Intersections

1000 Boylston Street
Boston, Massachusetts

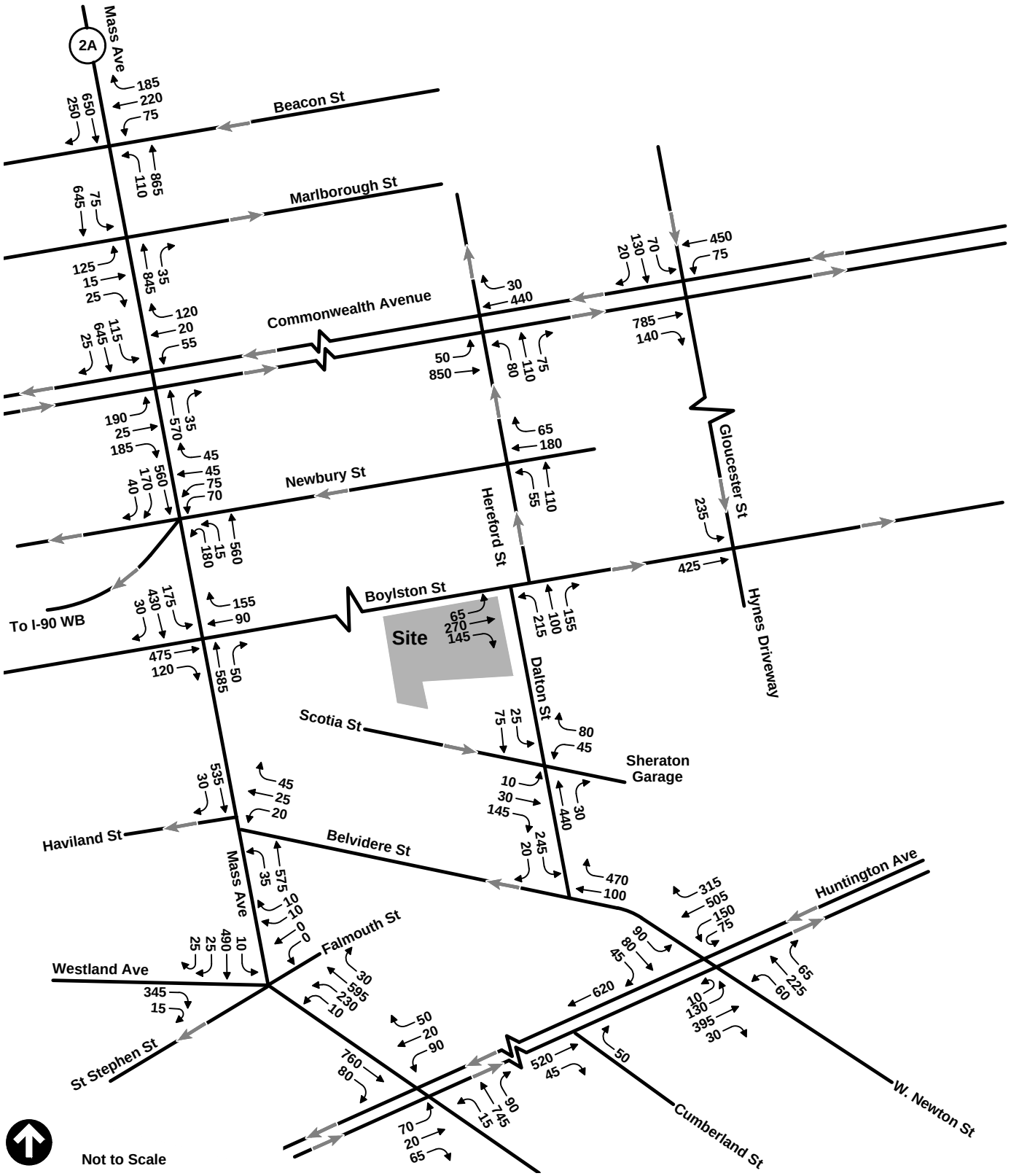


Figure 5.2a

2017 Existing Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

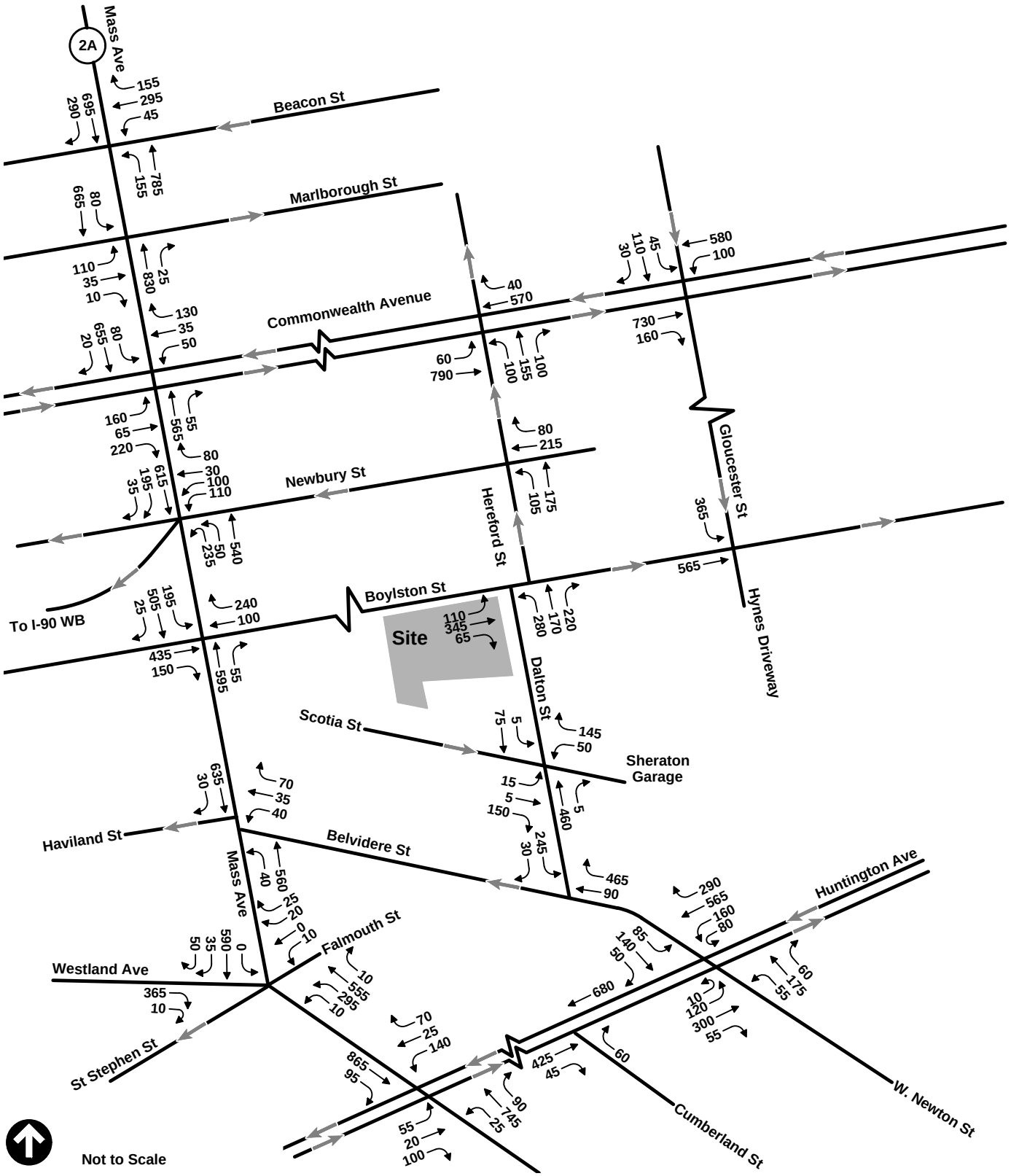
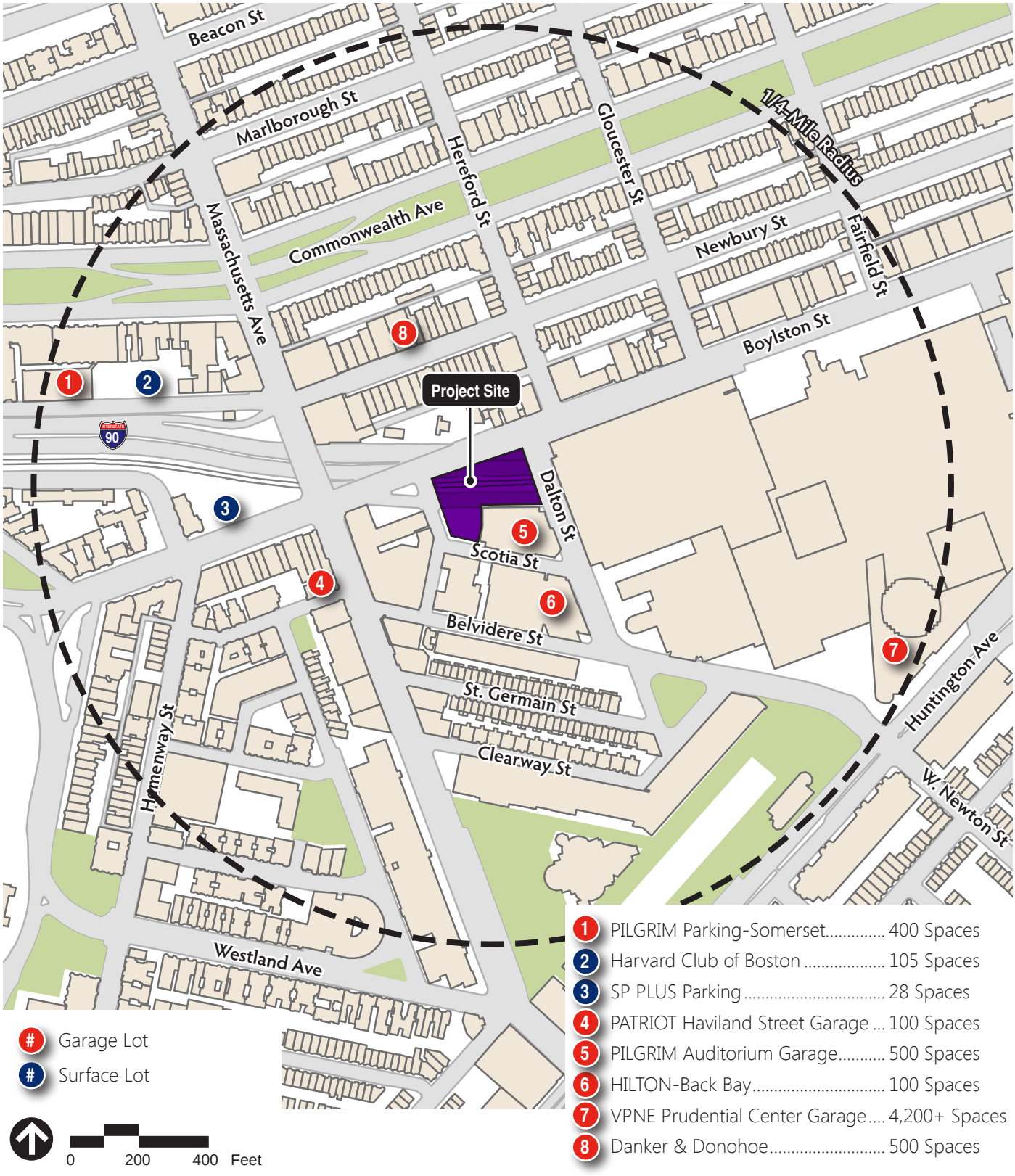


Figure 5.2b

2017 Existing Condition Traffic Volumes
PM Peak Hour (4:45 PM - 5:45 PM)

1000 Boylston Project
Boston, Massachusetts

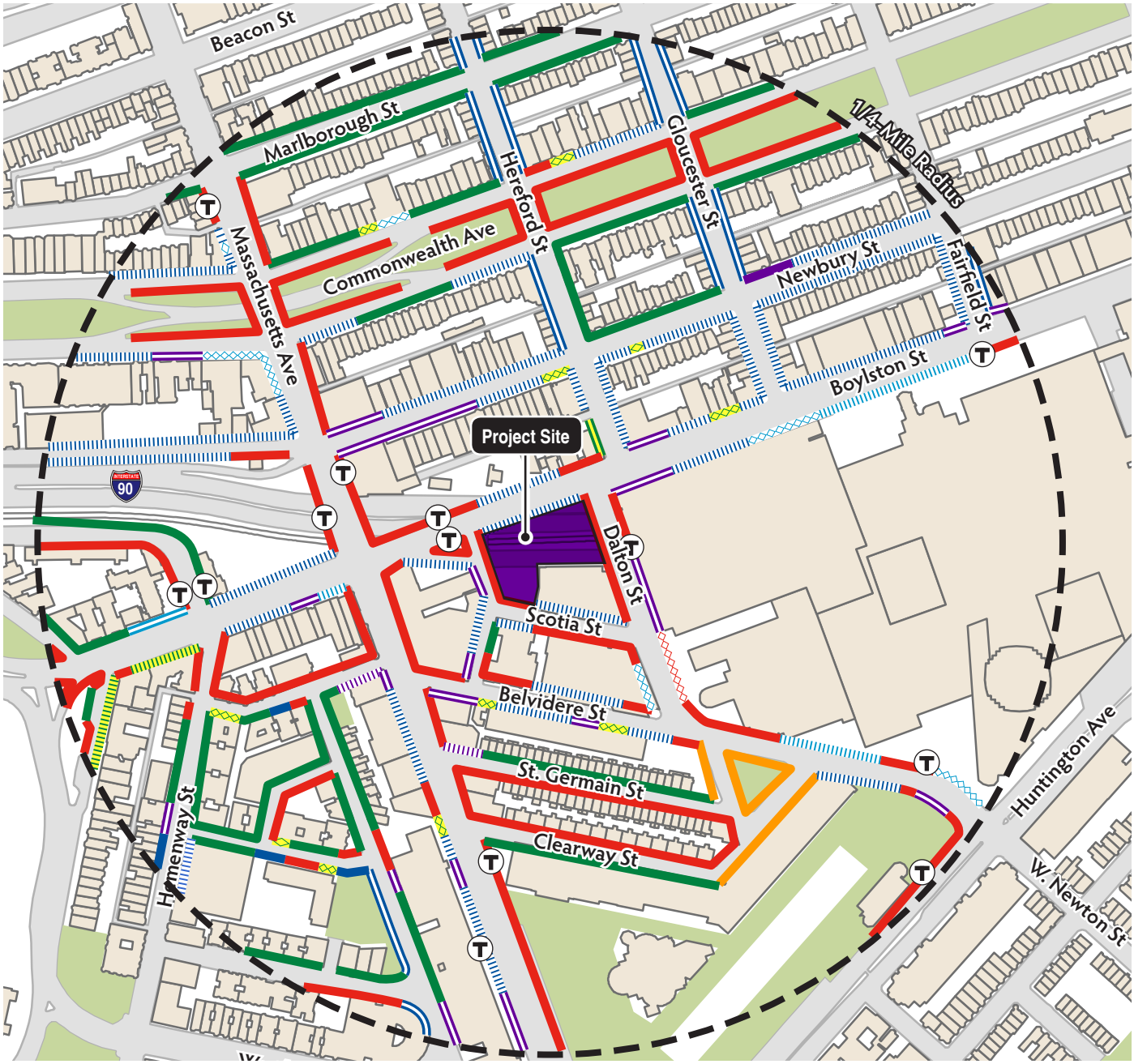


Source: BWSC Street Map

Figure 5.3a

Off-Street Parking Facilities

1000 Boylston Street
Boston, Massachusetts



- Meters Mon-Sat 8AM-6PM or 8AM-8PM. 2-Hour Limit
- Meters Mon-Fri 8AM-6PM, Resident Only 6PM-8AM
- 2-Hour Parking Mon-Fri 8AM-6PM
- No Parking
- Commercial Parking 8AM-6PM, Resident Only 6PM-8AM
- Commercial Vehicles 7AM-7PM 30-Minute Limit, ex. Sun
- Commercial Parking 8AM-4PM, Meters 4PM-8PM
- Boston Conservatory, Historical Society, Berklee Parking Only
- Resident Parking Only
- Reserved for Fire Department
- Handicap Only
- Valet Parking, 15-Minute Limit
- Cab Stand
- Church Permit Parking Only
- Tour Bus Stop
- Construction
- MBTA Bus Stop

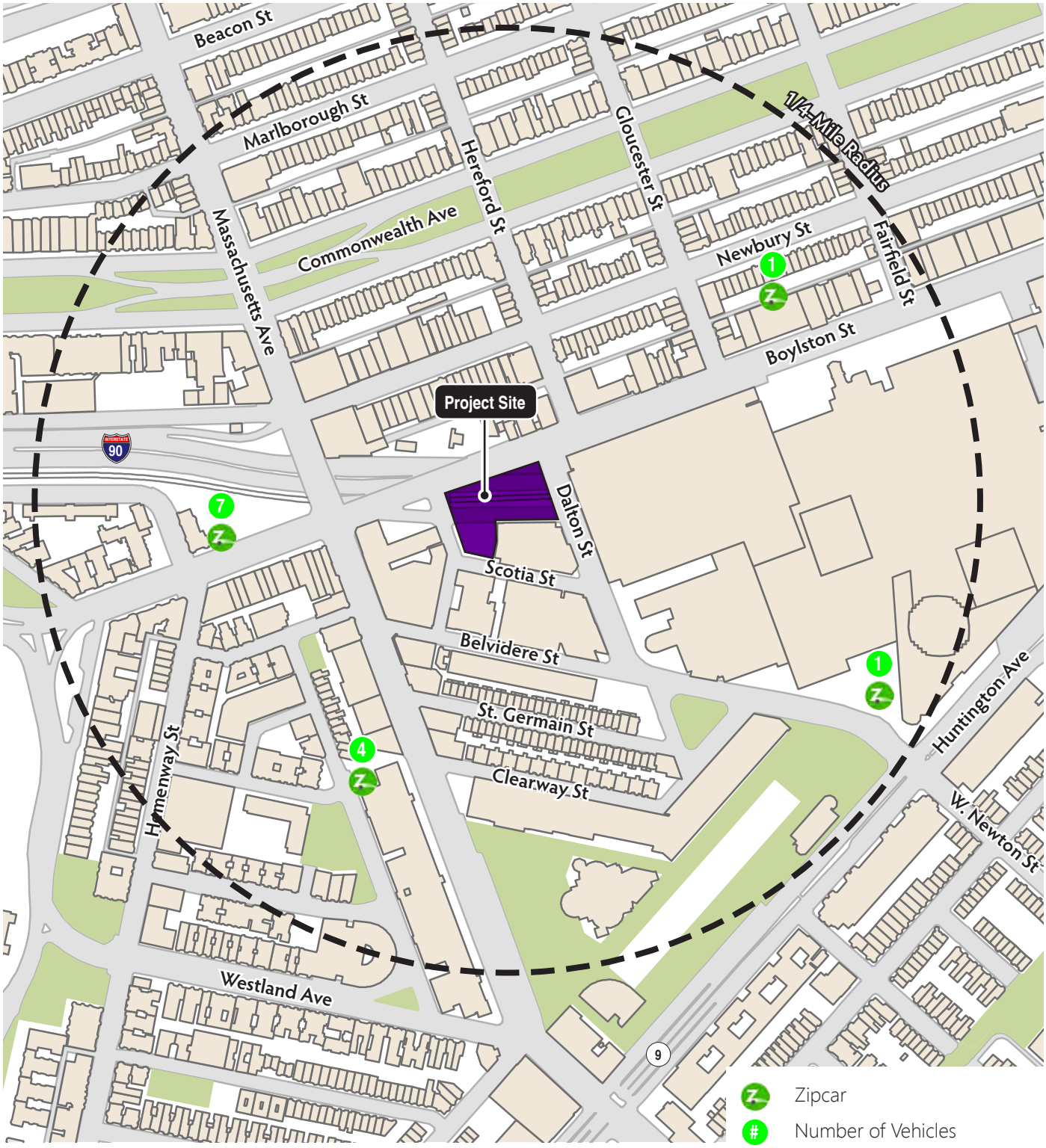
Source: BWSC Street Map

0 200 400 Feet

Figure 5.3b

On-Street Parking

1000 Boylston Street
Boston, Massachusetts

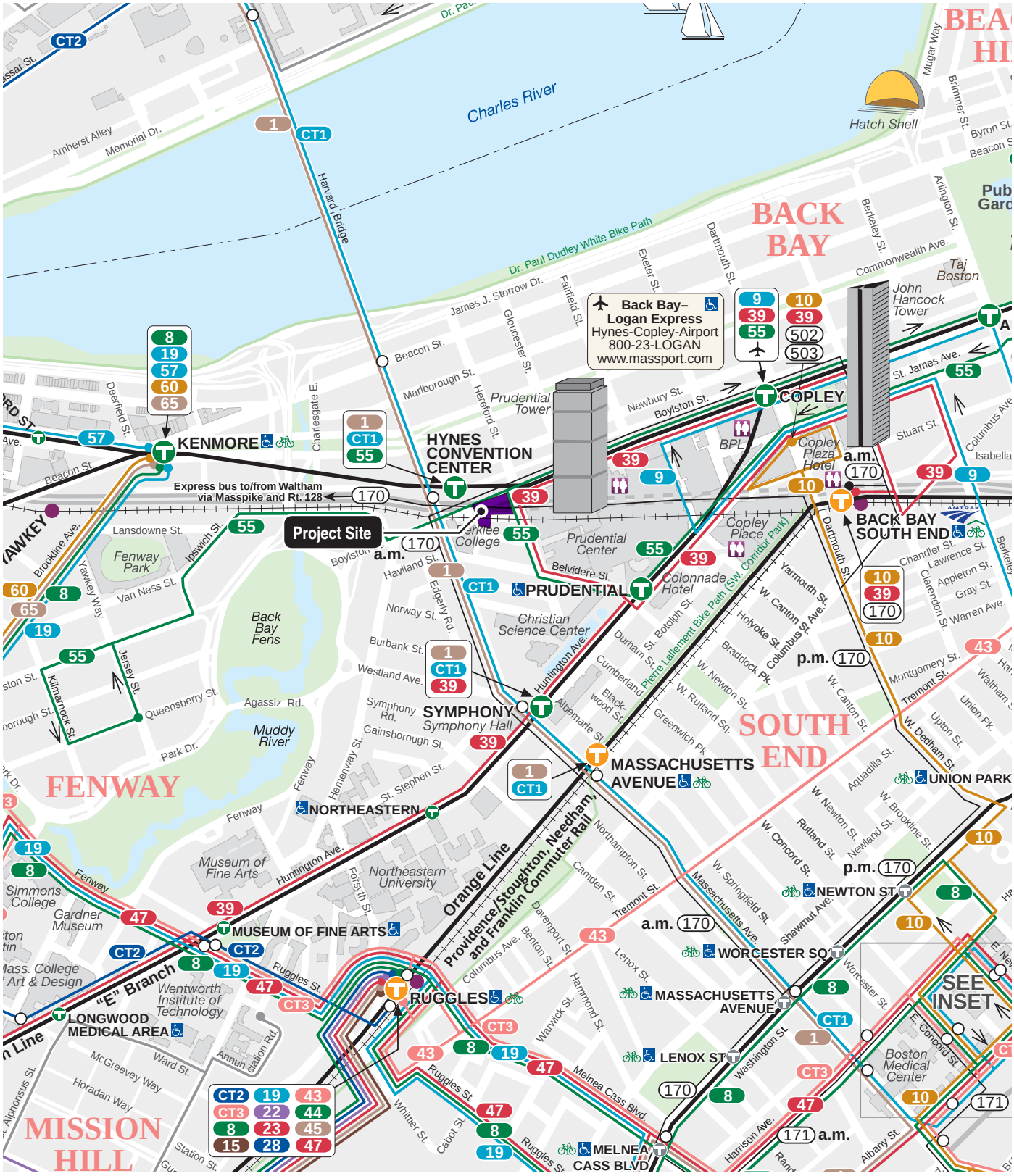


Source: BWSC Street Map

Figure 5.3c

Car-Share Locations

1000 Boylston Street
Boston, Massachusetts

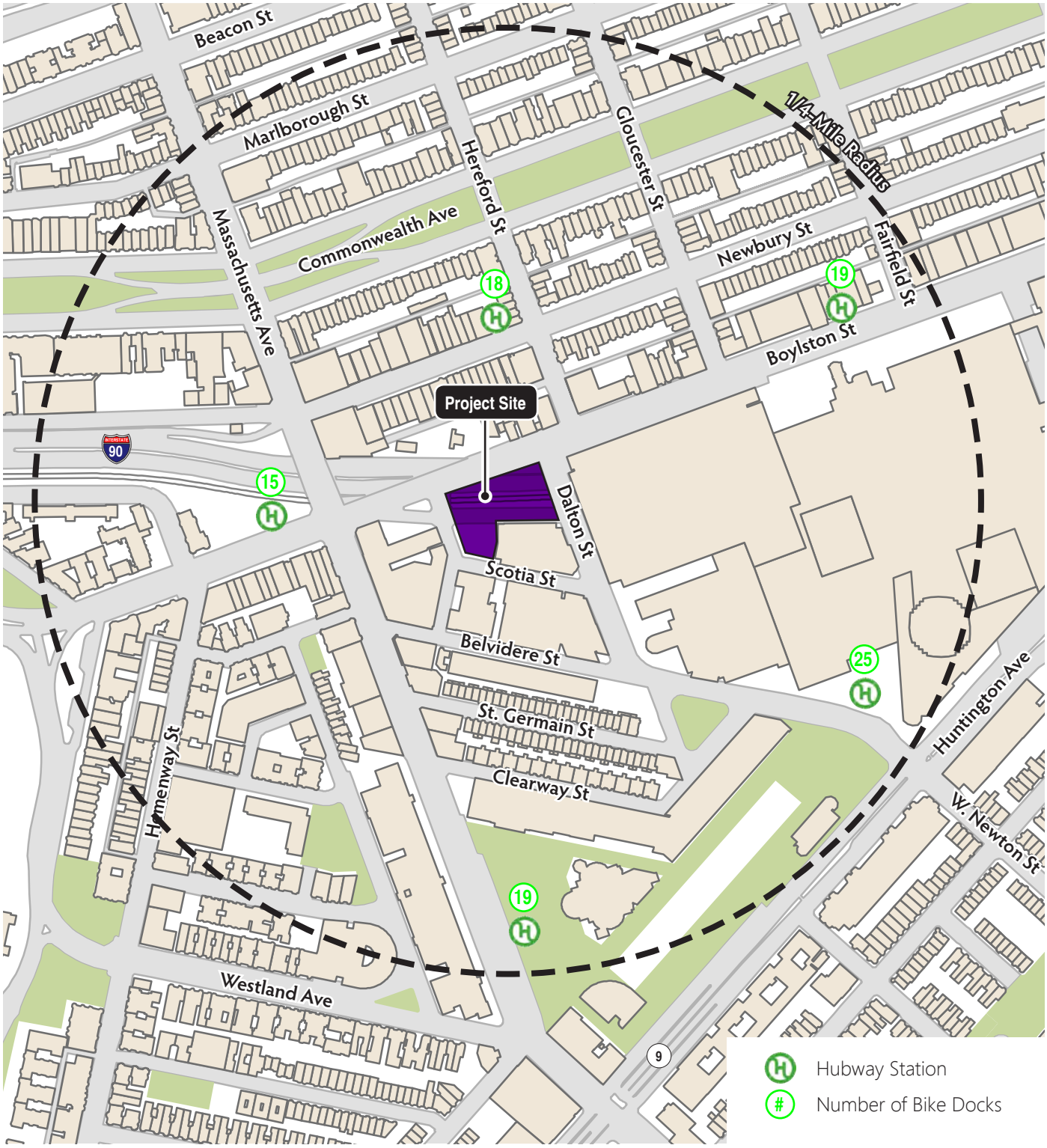


Source: MBTA

Figure 5.4

Existing Public Transportation

1000 Boylston Street
Boston, Massachusetts



Source: BWSC Street Map

Figure 5.5

Hubway Facilities

1000 Boylston Street
Boston, Massachusetts

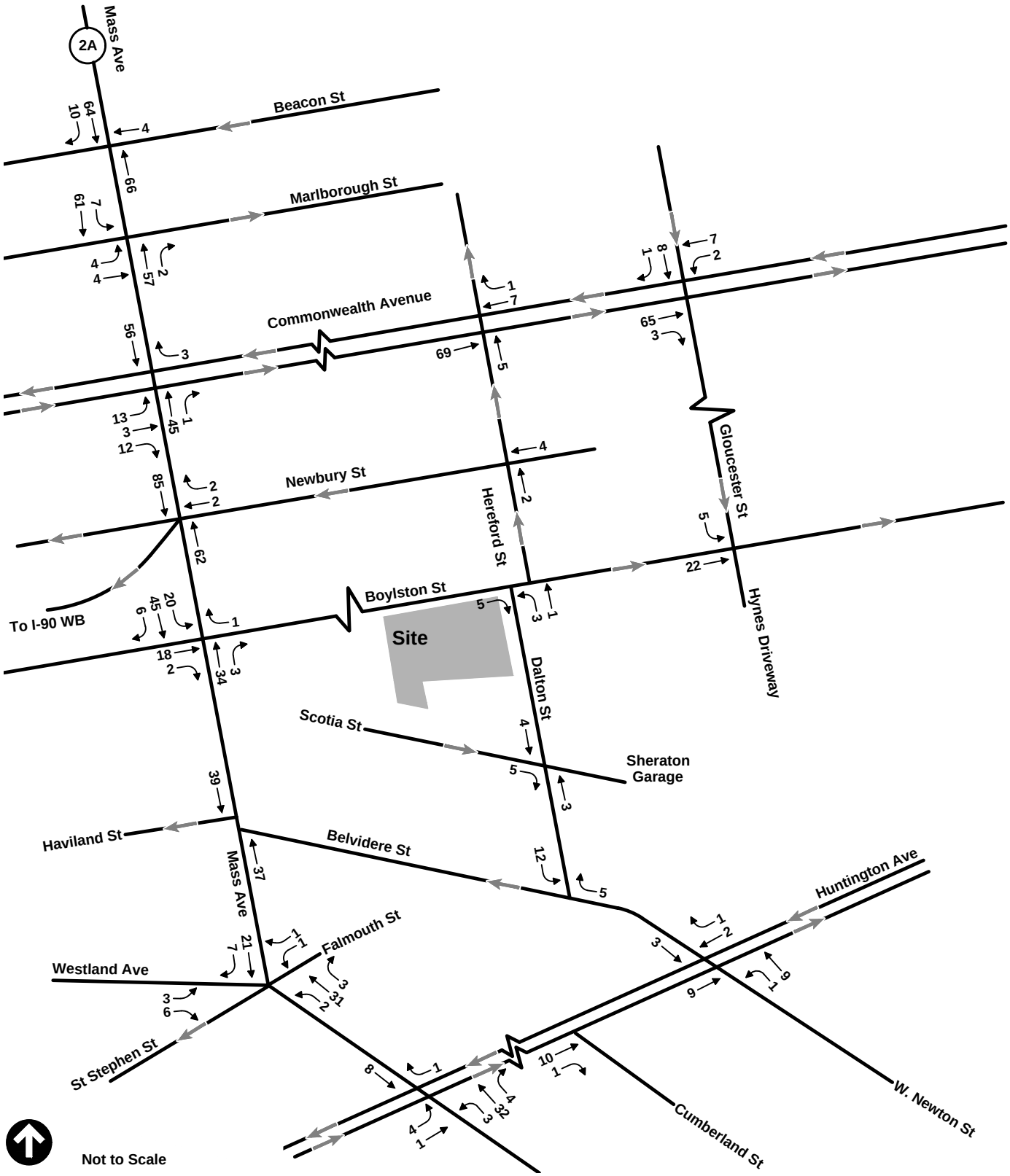


Figure 5.6a

2017 Existing Condition Bicycle Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

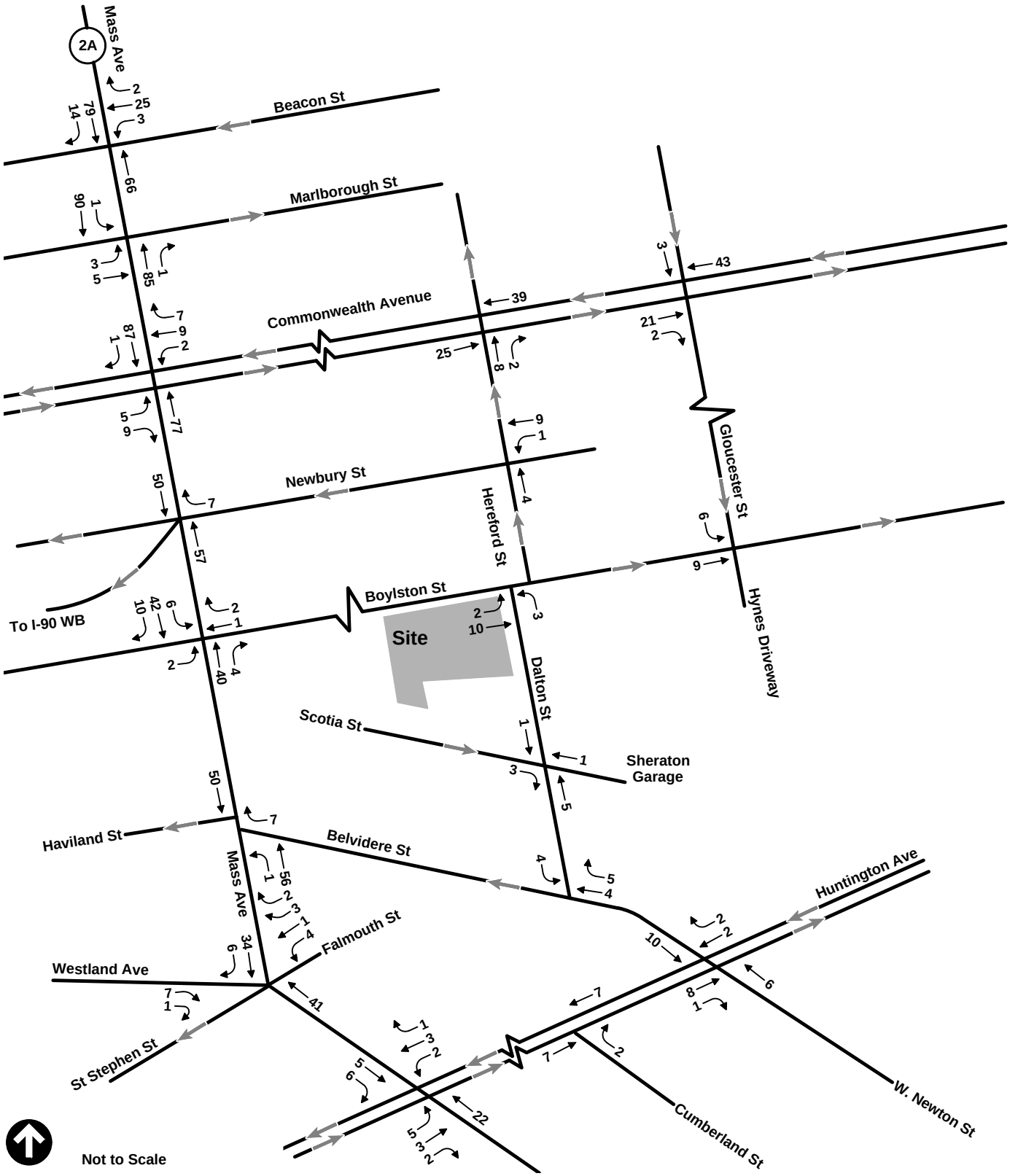
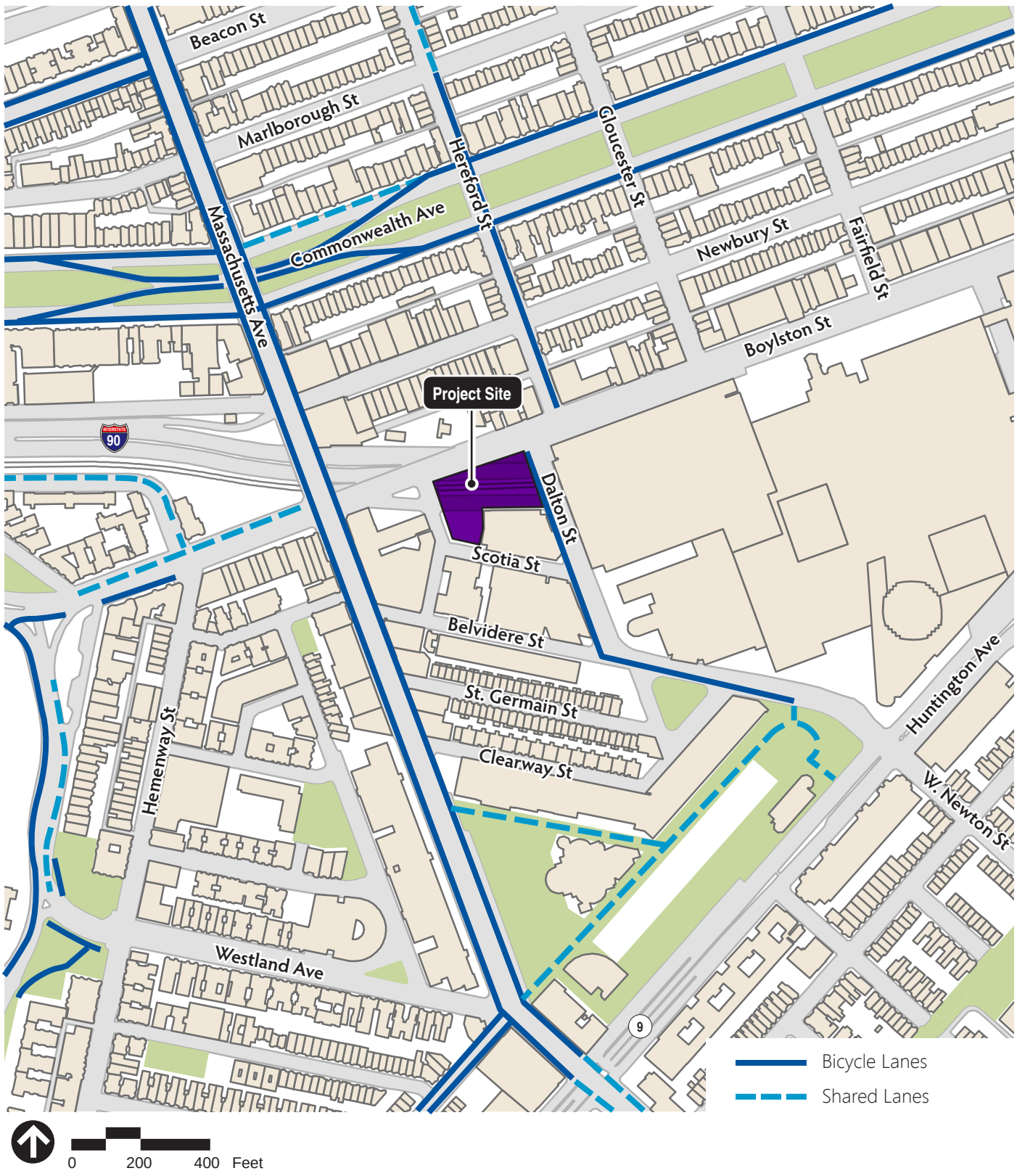


Figure 5.6b

2017 Existing Condition Bicycle Volumes
PM Peak Hour (4:45 PM - 5:45 PM)

1000 Boylston Project
Boston, Massachusetts



Source: BWSC Street Map

Figure 5.6c
Bicycle Network

1000 Boylston Street
Boston, Massachusetts

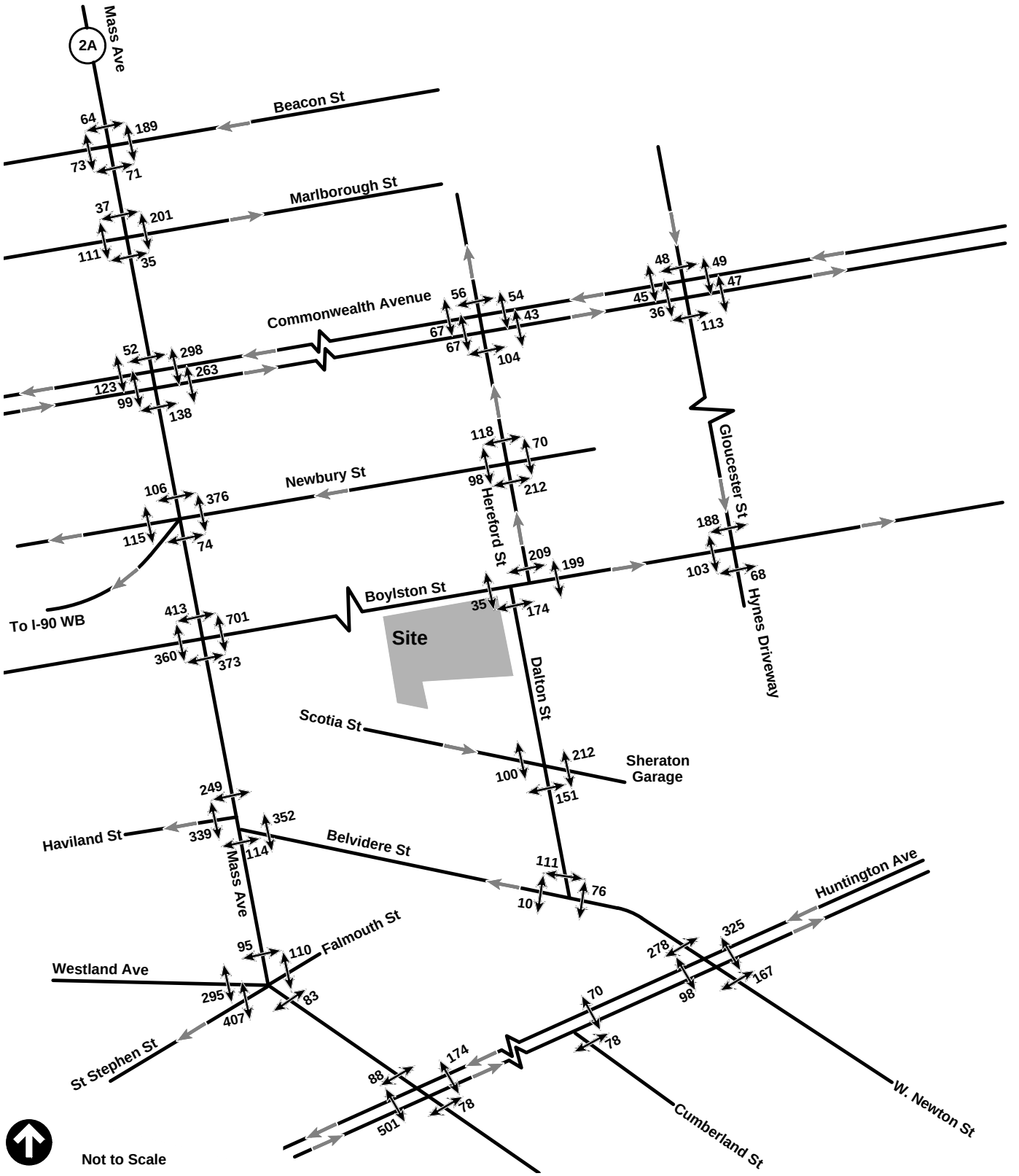


Figure 5.7a

2017 Existing Condition Pedestrian Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

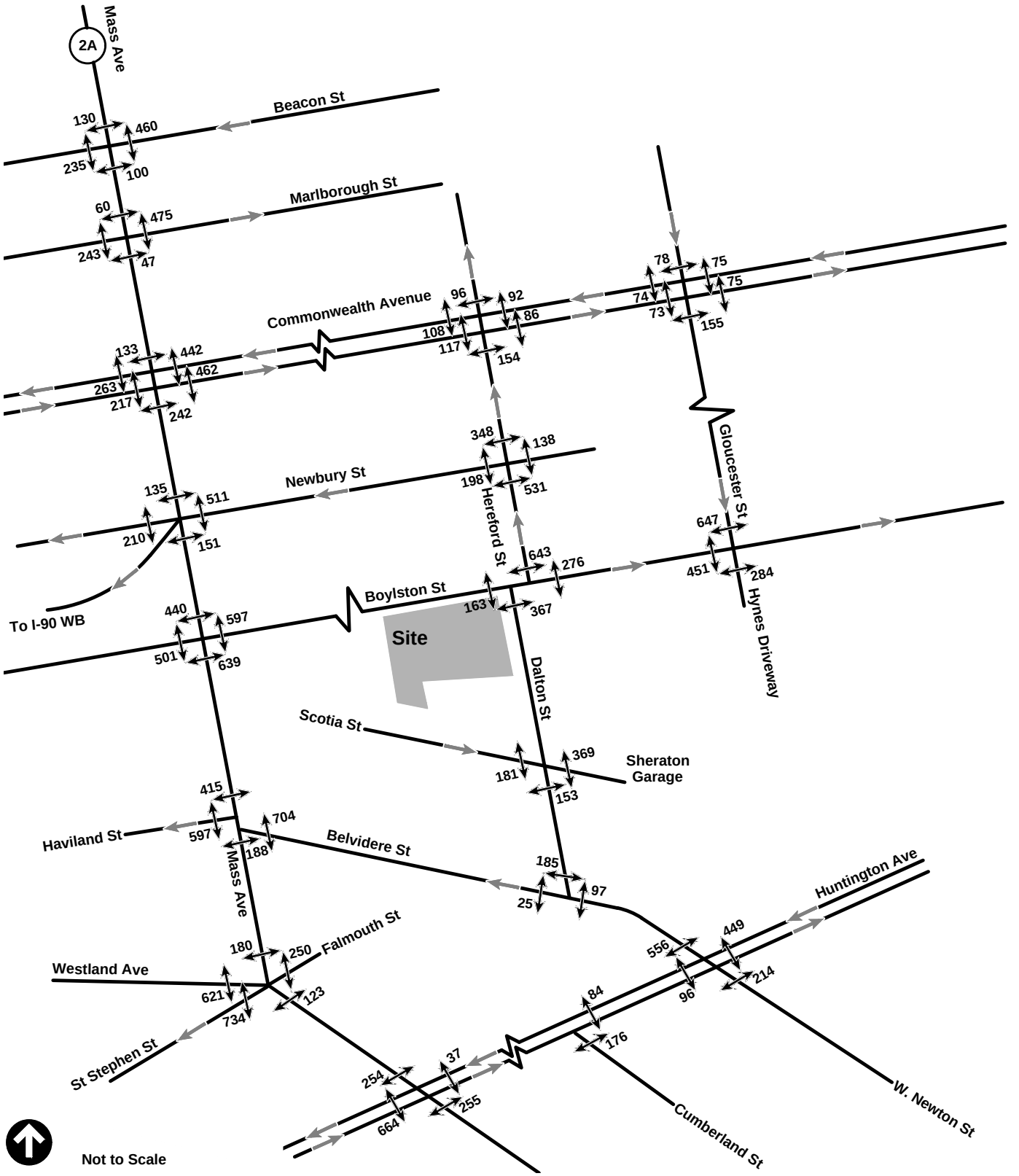


Figure 5.7b

2017 Existing Condition Pedestrian Volumes
PM Peak Hour (4:45 PM - 5:45 PM)

1000 Boylston Project
Boston, Massachusetts

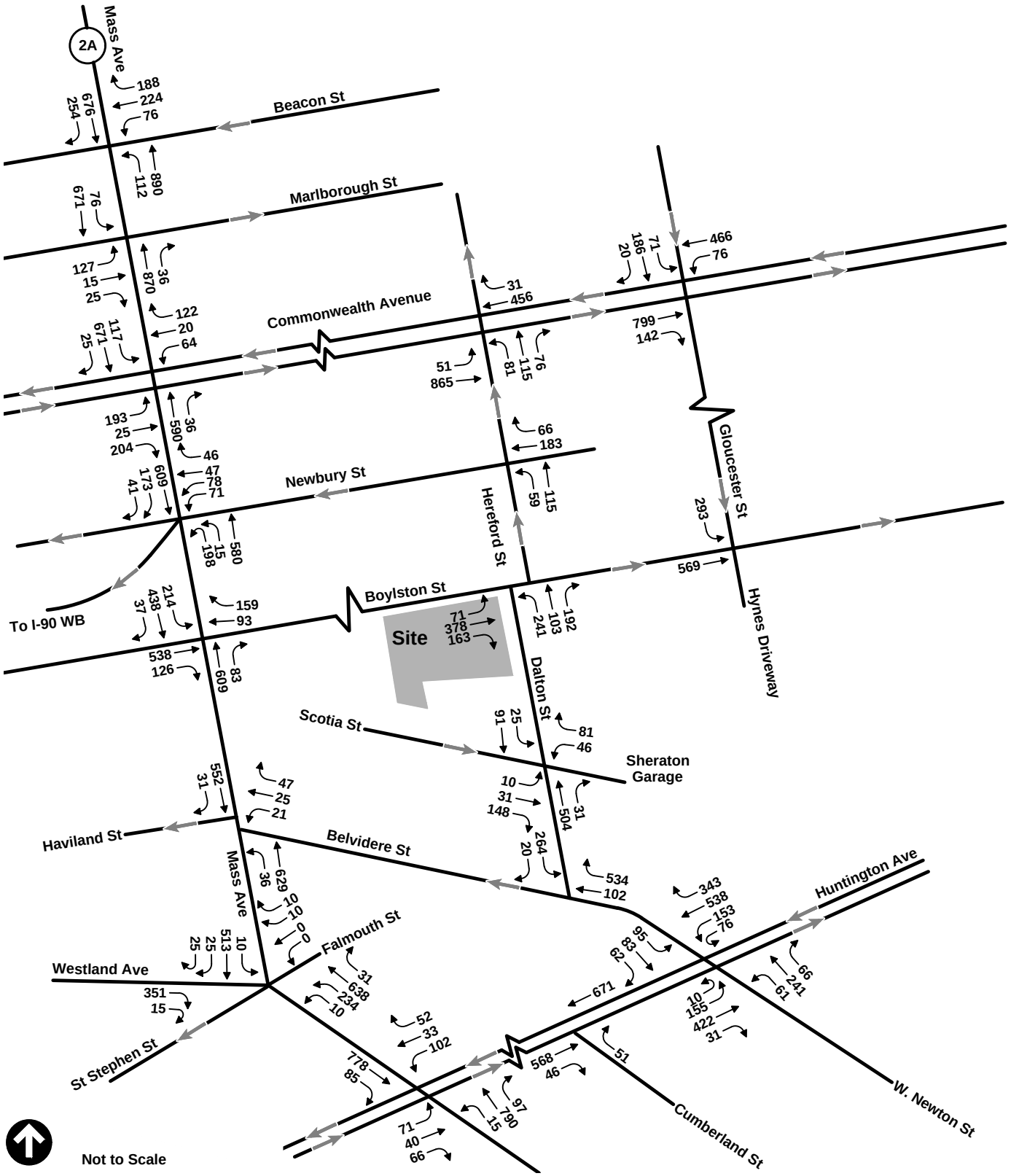


Figure 5.8a

2024 No-Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

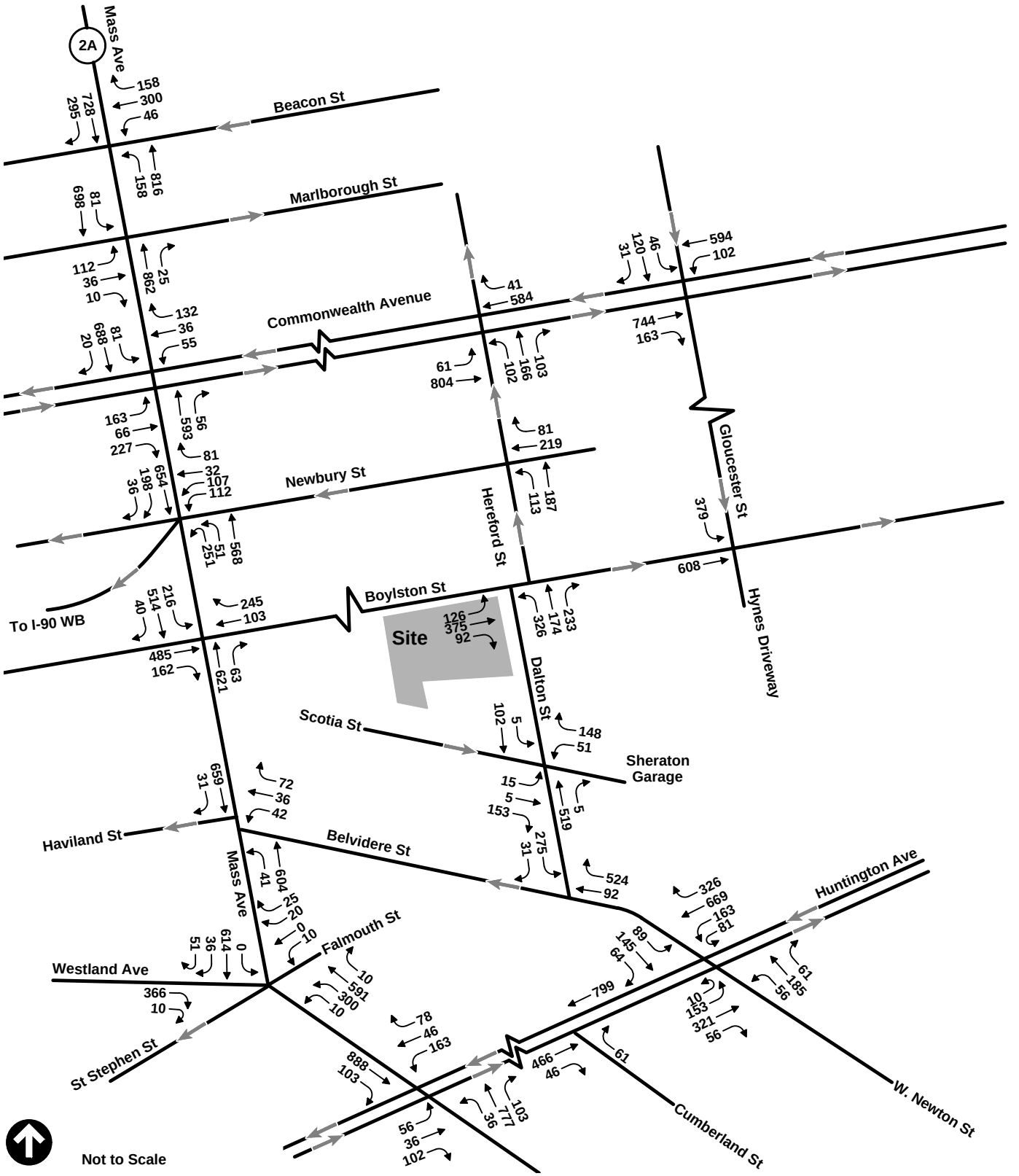
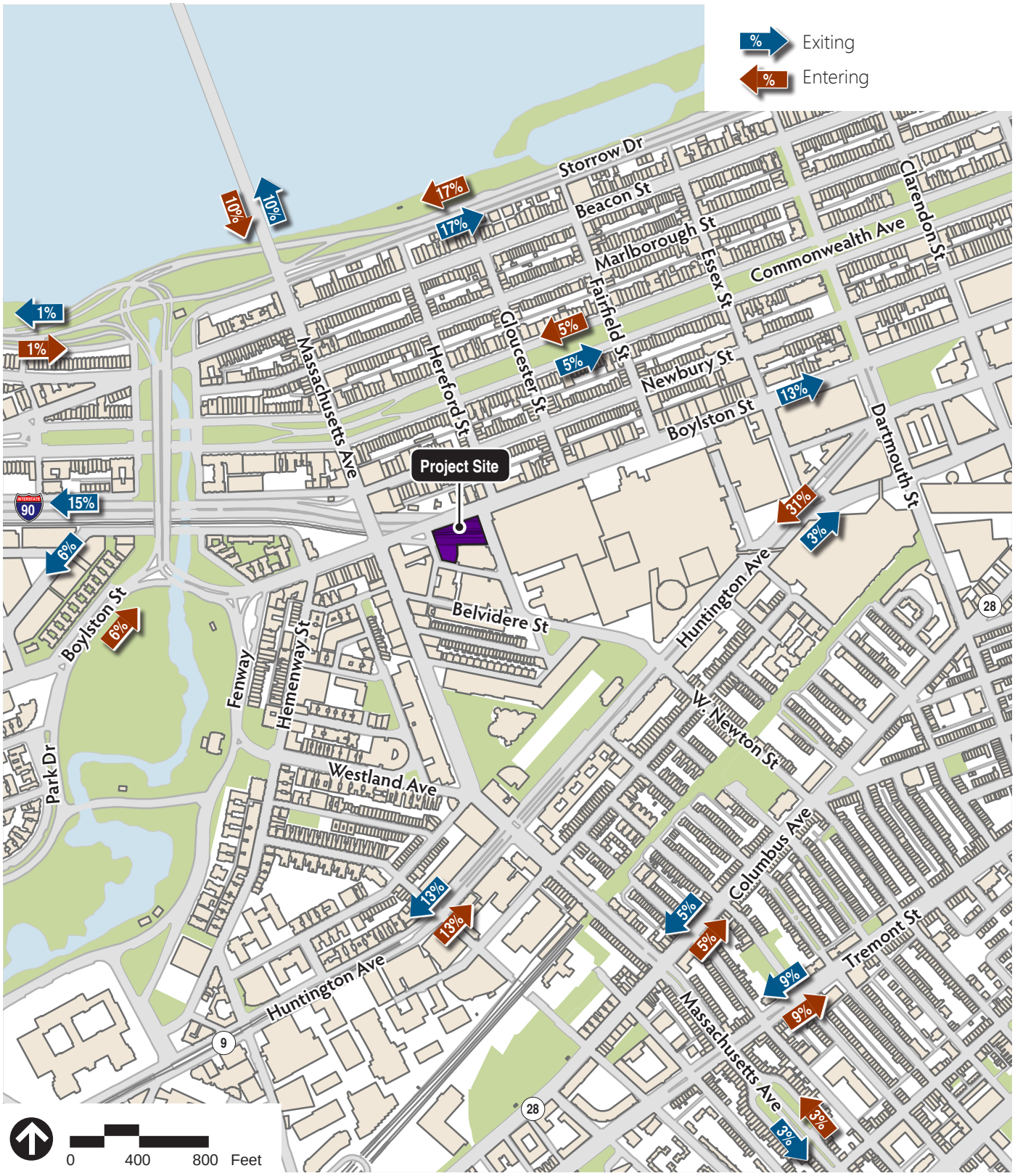


Figure 5.8b

2024 No-Build Condition Traffic Volumes
PM Peak Hour (4:45 PM- 5:45 PM)

1000 Boylston Project
Boston, Massachusetts

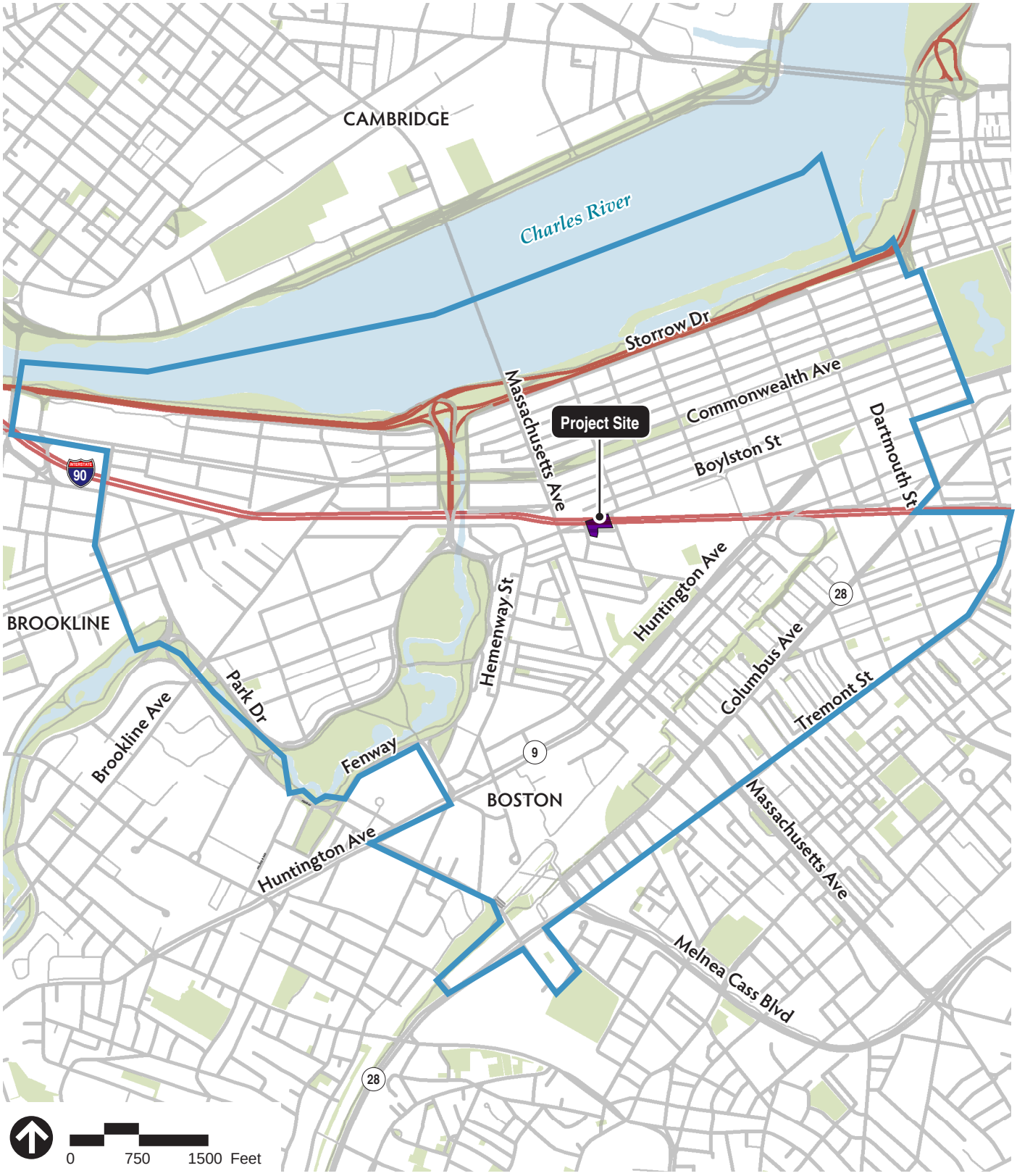


Source: BWSC Street Map

Figure 5.10a

Residential Trip Distribution

1000 Boylston Street
Boston, Massachusetts



Source: BWSC Street Map

Figure 5.9

BTD Zone 4 Map

1000 Boylston Street
Boston, Massachusetts

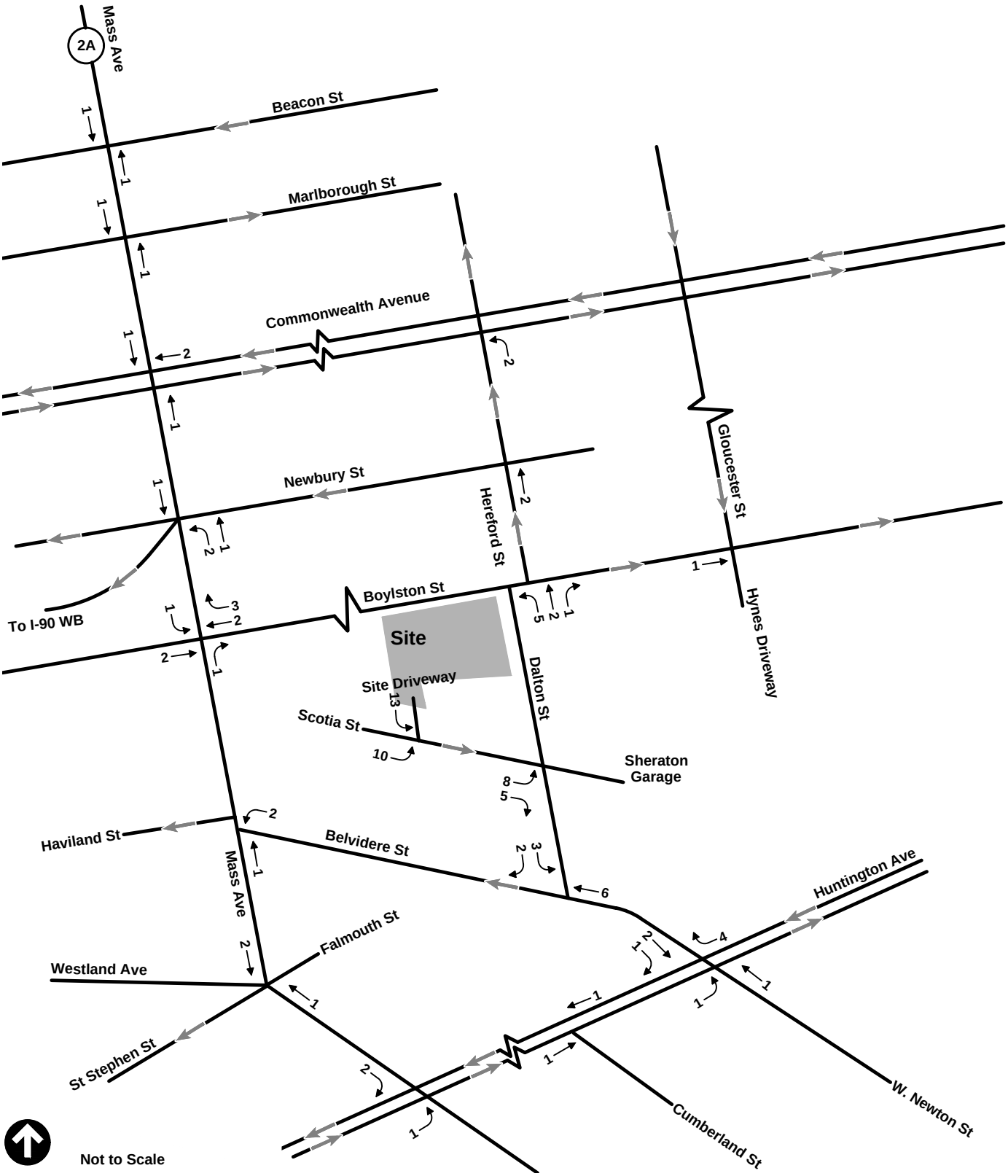


Figure 5.11a

Project-Generated Vehicle Trips
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

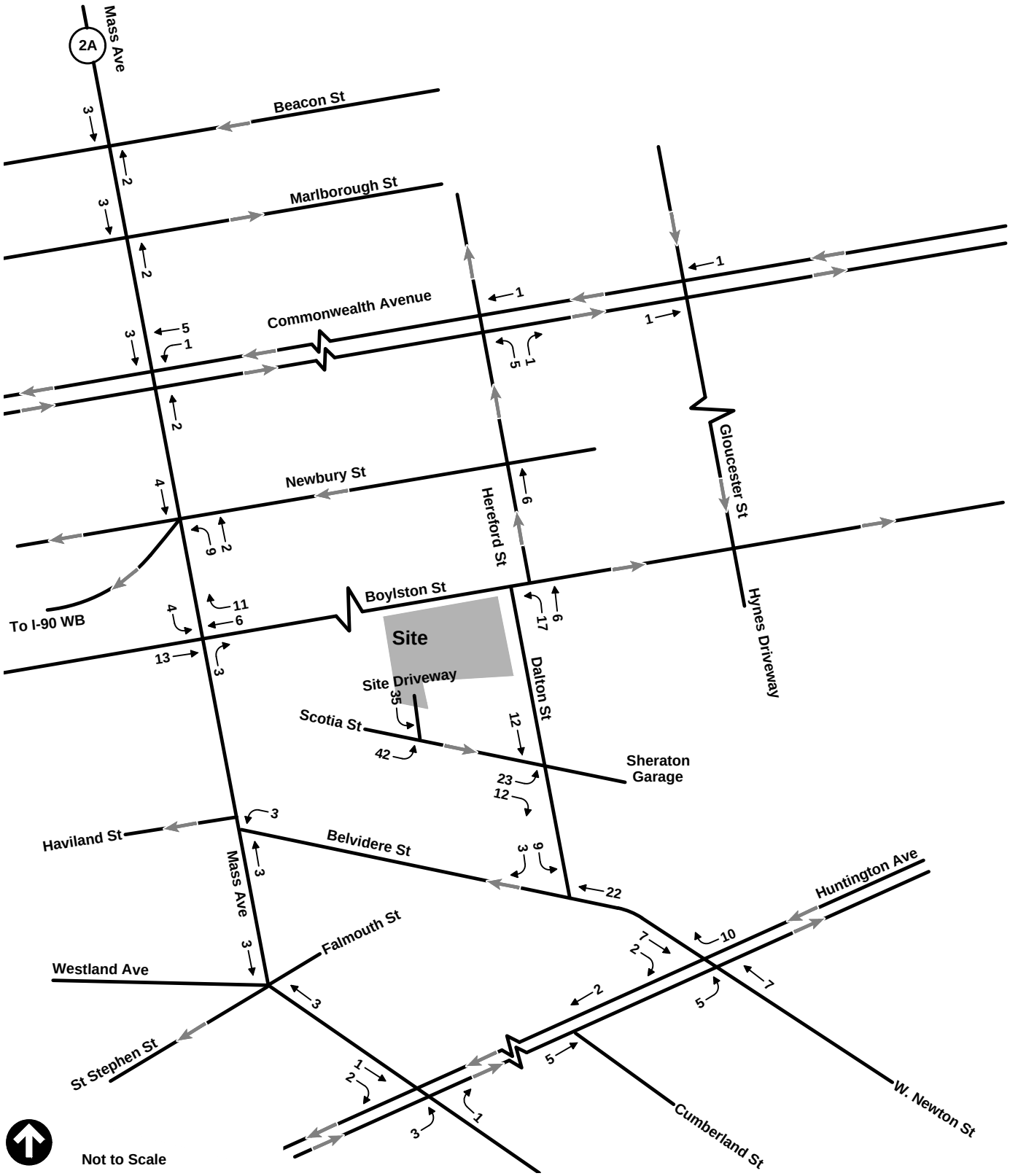


Figure 5.11b

Project-Generated Vehicle Trips
PM Peak Hour (4:45 PM - 5:45 PM)

1000 Boylston Project
Boston, Massachusetts

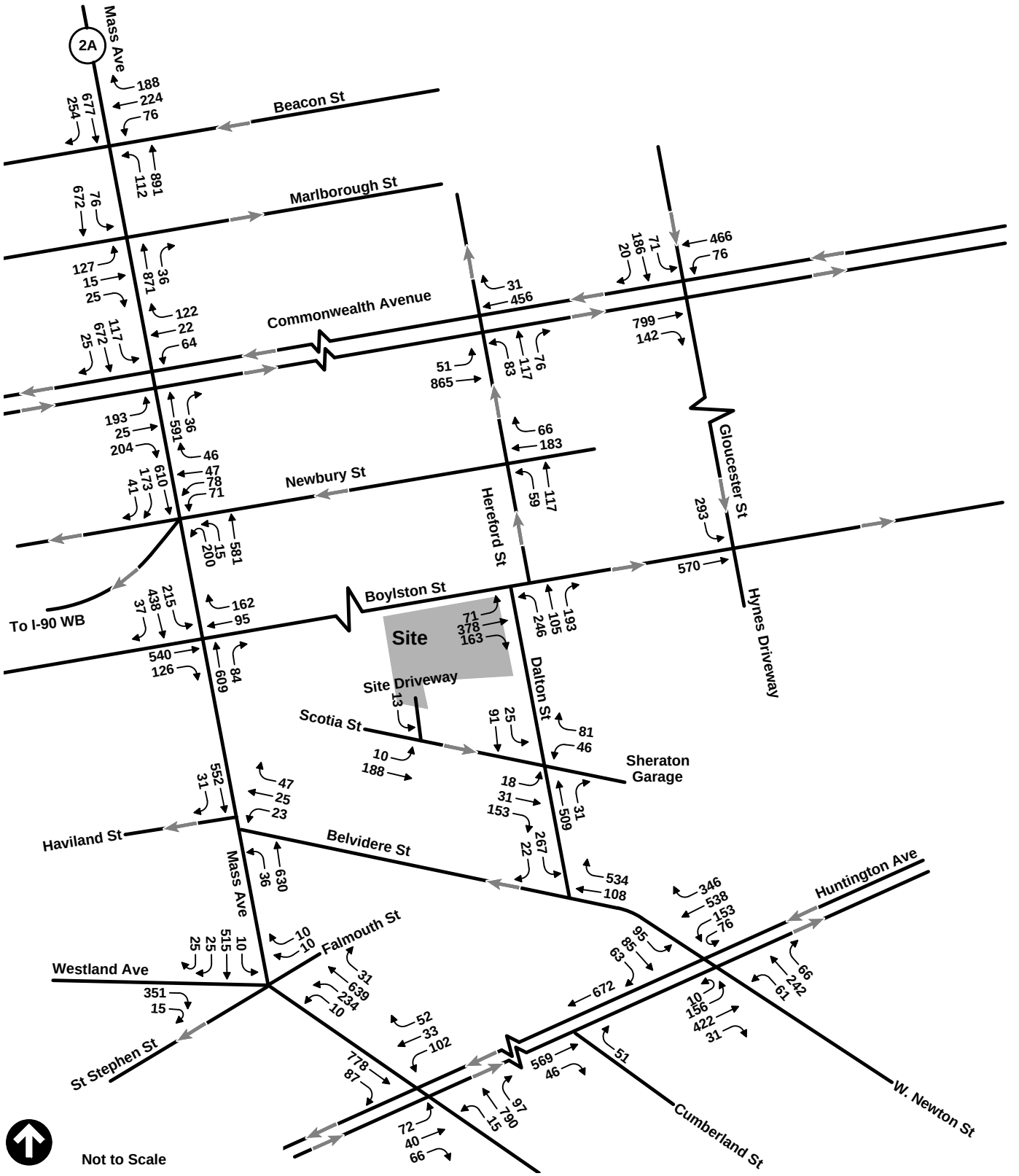


Figure 5.12a

2024 Build Condition Traffic Volumes
AM Peak Hour (8:00 AM - 9:00 AM)

1000 Boylston Project
Boston, Massachusetts

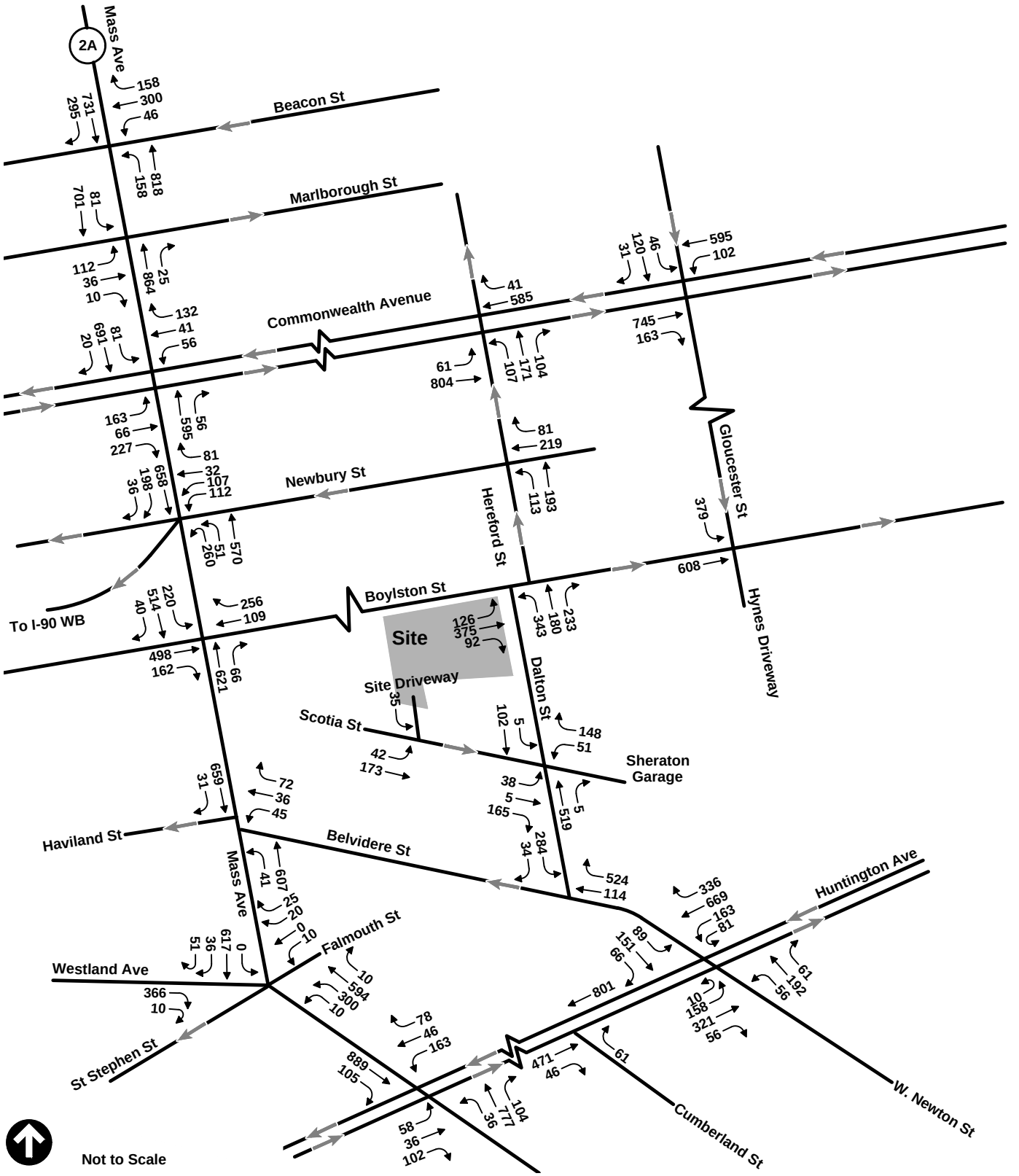


Figure 5.12b

2024 Build Condition Traffic Volumes
PM Peak Hour (4:45 PM- 5:45 PM)

1000 Boylston Project
Boston, Massachusetts

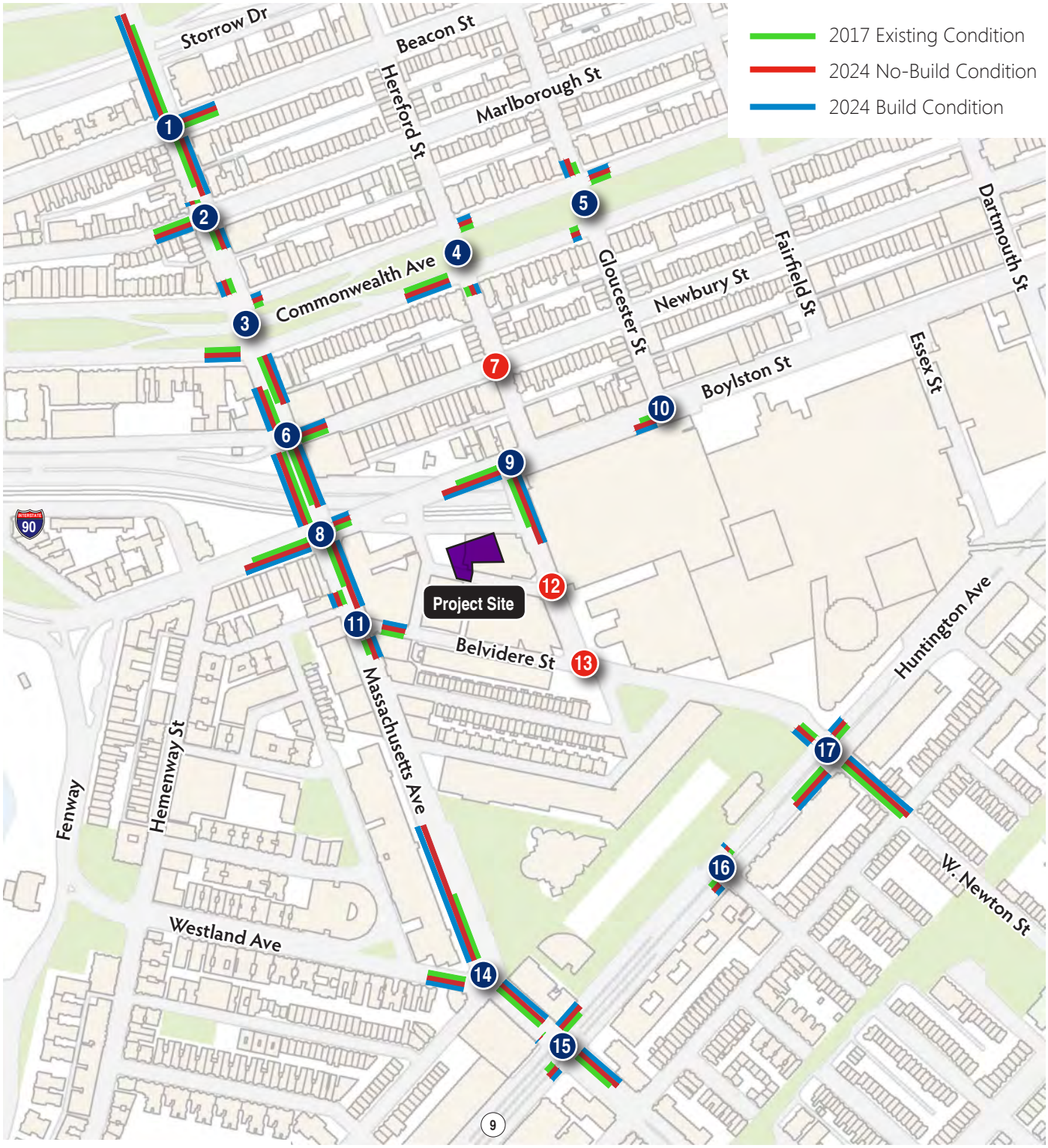


Source: BWSC Street Map

Figure 5.10b

Retail Trip Distribution

1000 Boylston Street
Boston, Massachusetts

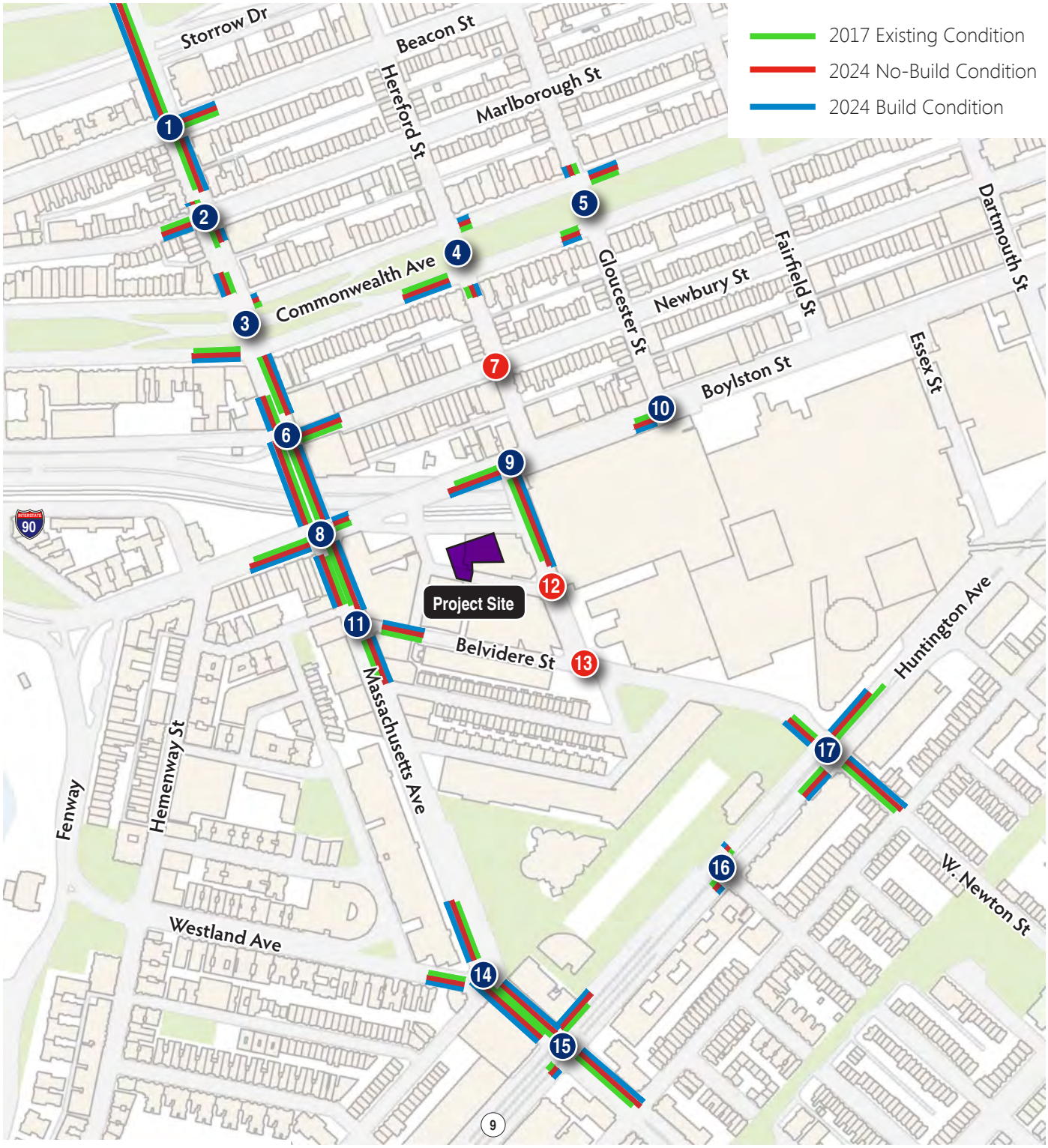


Source: BWSC Street Map

Figure 5.13a

50th Percentile Queue Lengths
AM Peak Hour

1000 Boylston Street
Boston, Massachusetts

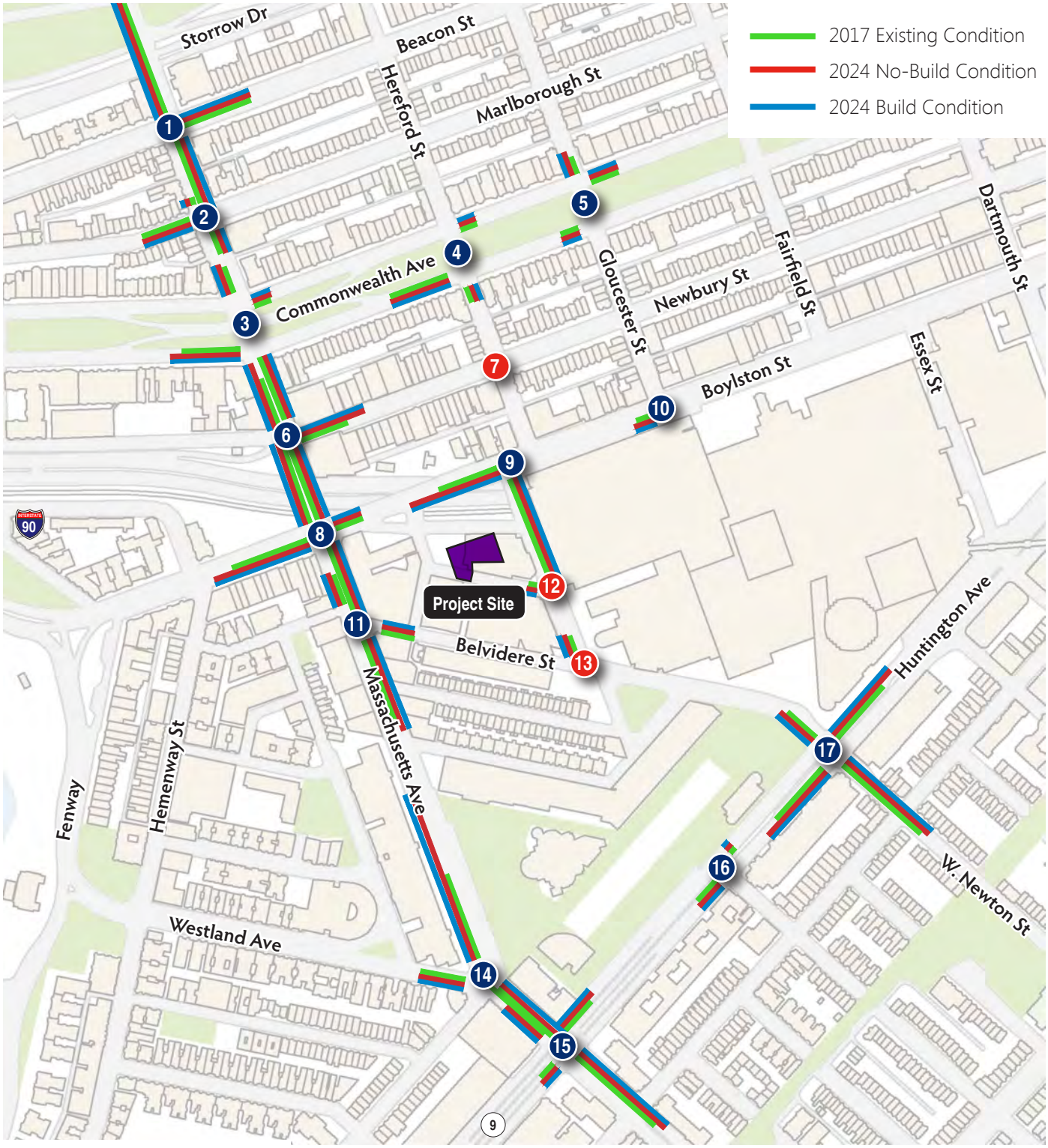


Source: BWSC Street Map

Figure 5.13b

50th Percentile Queue Lengths
PM Peak Hour

1000 Boylston Street
Boston, Massachusetts

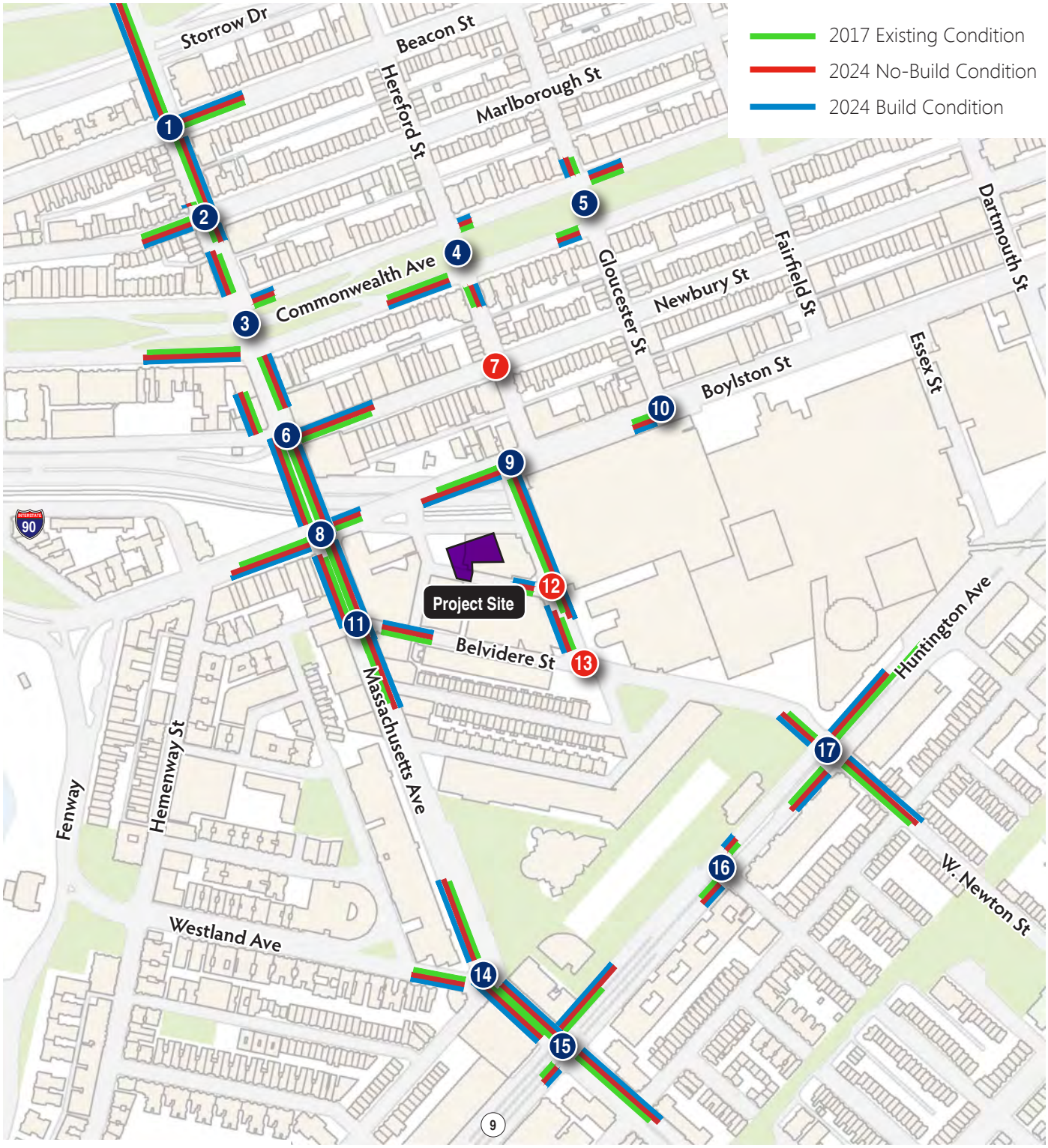


Source: BWSC Street Map

Figure 5.13c

95th Percentile Queue Lengths
AM Peak Hour

1000 Boylston Street
Boston, Massachusetts



Source: BWSC Street Map

Figure 5.13d

95th Percentile Queue Lengths
PM Peak Hour

1000 Boylston Street
Boston, Massachusetts

6

Environmental Protection

This chapter describes the existing environmental conditions near the Project Site and the potential changes that may occur as a result of the Project. A goal of the Project is to better utilize the Project Site and complement adjacent uses while avoiding, minimizing, and/or mitigating potential adverse environmental impacts to the surrounding area to the greatest extent feasible. As discussed in more detail below, the Project-related impacts, which are to be expected in any development of this scale, are counterbalanced by the significant benefits for the adjacent neighborhoods and the City. Temporary construction-period impacts will be managed to minimize disruption to the surrounding neighborhoods.

In compliance with the Secretary's Certificate and BPDA Scoping Determination, this chapter addresses potential environmental impacts in the following categories:

- Wind
- Shadow
- Daylight
- Solar Glare
- Air Quality (mesoscale)
- Noise
- Solid and Hazardous Waste
- Construction

6.1 Summary of Project Change

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project has decreased in overall size significantly (by 36 percent) since the ENF/PNF filing, including most notably a reduction in residential units from 342 residential units to up to approximately 108 residential units largely due to the elimination of the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets. Additionally, the Residences Building has been reduced by 82 feet in height. The reduction in building height and massing contributes to overall less environmental impacts, specifically net new shadow, daylight obstruction, air quality emissions from vehicular traffic, and noise.

6.2 Summary of Findings and Benefits

The key findings and benefits related to environmental protection include:

- **Wind** – The Project, with Air Rights Parcels 12 and 13, and the Berklee Crossroads assumed developments included, per guidance of the BPDA, will comply with the BPDA criteria established for the Build Condition studied and with the standards of Section 41-16(2) of the Code. The Project will not result in any new unacceptable or unsafe wind conditions in and around the Project Site.
- **Shadow** – The Project will result in new shadows as a result of the construction of a 33-story structure on what is currently undeveloped land and air rights parcel; however, less net new shadow is created as compared to the ENF/PNF Alternative due to the reduction in building height and massing. The Project with Air Rights Parcels 12 and 13 and the Berklee Crossroads assumed developments included per guidance of the BPDA will comply with the standards of Section 41-16(1) of the Code. The incremental net new shadows produced are consistent with the existing urban shadow patterns, and are not expected to have any material effect on pedestrian use patterns. Most of the net new shadow will land on existing buildings, creating minimal adverse effects on the pedestrian environment. The net new shadow will be offset by the substantial public realm improvements of the Project.

  The Project will also comply with the standards of the Boston Common and Public Garden Shadows Acts.
- **Daylight** – The Project will result in a reduction in the visible skydome when viewed from the adjacent public ways compared to the existing condition. These changes are consistent with introducing building massing and height to an undeveloped air-rights parcel, and will be offset by the substantial public realm improvements of the Project.
- **Solar Glare** – No high or damaging conditions or significant thermal impacts are predicted as a result of the Project.
- **Air Quality** – The air quality analysis demonstrates that the Project will conform to the National Ambient Air Quality Standards and will not have an adverse impact on regional or local air quality.
- **Water Quality** –The Project will improve water quality and reduce runoff through substantial upgrades to stormwater management and treatment systems, as well as an over 20 percent increase in pervious surface area.
- **Noise –** The sound levels associated with the Project's mechanical equipment will be attenuated with mechanical enclosures and screening located on the roof over 500 feet in height, and therefore will have no adverse noise impacts at nearby sensitive receptor locations. Potential noise impacts associated with loading and servicing of the building will happen within the building structure; thereby, containing noise associated with such activities.

  Since the ENF/PNF filing, a ventilation system associated with the I-90 tunnel located under the Project Site has been added to the Project. Noise associated with the ventilation system is not expected to adversely impact nearby sensitive receptor locations because the system will be contained within the tunnel which is below nearby sensitive receptors.

- **Solid and Hazardous Materials** – Solid waste management will be addressed both during construction and occupancy through a construction waste management plan aimed at diverting a minimum 75 percent of the construction and demolition debris comprised of multiple waste streams and incorporation of recycling facilities/space in building design, respectively.

  Any hazardous materials encountered at the Project Site will be addressed in accordance with the Massachusetts Contingency Plan, as applicable.
- **Construction Period Impacts** – Construction-related impacts are temporary in nature and are typically related to truck traffic, dust, noise, solid waste and vibration. All temporary construction-related impacts associated with the Project will be minimized in coordination with the appropriate agencies.

6.3 Pedestrian Wind

The Project includes a building greater than 150 feet high and, therefore, requires a quantitative (wind tunnel) analysis comparing existing and proposed wind conditions pursuant to the Section B.1 of the BPDA Development Review Guidelines.

6.3.1 Methodology

The wind study involved wind simulations on a 1:400 scale model of the proposed building and surroundings. These simulations were conducted in RWDI's boundary-layer wind tunnel at Guelph, Ontario, for the purpose of quantifying local wind speed conditions and comparing to appropriate criteria for gauging wind comfort in pedestrian areas. A list of the drawings used for the construction of the model can be found in Appendix E.

As shown in Figures 1a and 1b of the study provided in Appendix E, the wind tunnel model included the proposed development and all relevant surrounding buildings and topography within a 1,600-foot radius of the Project Site. The mean speed profile and turbulence of the natural wind approaching the modelled area were also simulated in the wind tunnel. Wind speeds were measured for 36 wind directions, in 10 degree increments, starting from true north. The measurements at each of the 90 sensor locations were recorded in the form of ratios of local mean and gust speeds to the reference wind speed in the free stream above the model. The results were then combined with long-term meteorological data, recorded during the years 1990 to 2015 at Boston's Logan International Airport to predict full scale wind conditions. The analysis was performed separately for each of the four seasons and for the entire year.

Wind Tunnel Conditions

A wind tunnel analysis was conducted for the following conditions:

- **No-Build Condition** – Based on guidance from the BPDA, this condition assumes future/planned developments, or background projects, surrounding the Project Site, including build-out of Air Rights Parcels 12 and 13 and the Berklee

College of Music Crossroads project. These future projects were based on the currently proposed building height and massing, which are subject to change.

› **Build Condition** – The No-Build Condition with the Project, as described in Chapter 1, *Project Description and Alternatives*.

(Note: This methodology is consistent with the other environmental impact studies being conducted including the traffic analysis and shadow studies.).

The BPDA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root-mean-square wind speed) of 31 mph should not be exceeded more than one percent of the time. The second set of criteria used by the BPDA to determine the acceptability of specific locations is based on the work of Melbourne[1]. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria, presented in Table 6-1 below, are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed).

Table 6-1 BPDA Mean Wind Criteria*

Comfort Category	Mean Wind Speed (mph)
Dangerous	> 27
Uncomfortable for Walking	> 19 and ≤ 27
Comfortable for Walking	> 15 and ≤ 19
Comfortable for Standing	> 12 and ≤ 15
Comfortable for Sitting	≤ 12

* Applicable to the hourly mean wind speed exceeded one percent of the time.

The wind climate found in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BPDA effective gust velocity criterion of 31 mph. However, without any mitigation measures, this wind climate is likely to be frequently uncomfortable for more passive activities, such as sitting.

In addition to the Large Project Review requirements set forth in Article 80B of the Code, the Project within the HAPC District, as a PDA, must comply with the HAPC District-specific wind criteria, as set forth in Section 41-16(2) of the Code. Section 41-16(2) provides that ground level ambient wind should not exceed the standards as set forth in Table 6-2 below.

[1] MELBOURNE, W.H., 1978, "CRITERIA FOR ENVIRONMENTAL WIND CONDITIONS", JOURNAL OF INDUSTRIAL AERODYNAMICS, 3 (1978) 241 - 249.

Table 6-2 Ground Level Ambient Wind Standards

Activity Area	Effective Gust Velocity[1]	Permitted Annual Occurrence Frequency
Limit for All Pedestrian Areas	13.8 m/sec (31 mph)	1%
Major Walkways - Especially Principal Egress Path for High-Rise Buildings	13.8 m/sec	1%
Other Pedestrian Walkways - Including Street and Arcade Shopping Areas	11.2 m/sec (25 mph)	5%
Open Plazas and Park Areas, Walking and Strolling Areas	6.3 m/sec (14.1 mph)	15%
Open Plaza and Park Areas, Open-Air Restaurants	4.0 m/sec (9 mph)	20%

1 The effective gust velocity (egv) is defined as egv = U + 1.5 fvc, where U is the mean windspeed at a particular location and fvc is the root mean square of the fluctuating velocity component measured at the same location over the same time interval.

Since both the 2013 Designation and BPDA Reduced Build Alternatives consist of a very similar building configuration as the Preferred Alternative (podium with single approximately 400-foot building), they can be expected to have similar wind conditions. Although a detailed wind analysis was not conducted for the ENF/PNF Alternative, it might be anticipated that this alternative, with greater heights and two buildings, would have greater wind impacts than the other alternatives considered. Removing the Apartments Building as part of the Preferred Alternative is expected to improve pedestrian wind conditions on Dalton Street and the corner of Boylston and Dalton Streets.

6.3.2 Pedestrian Wind Study Findings

The wind tunnel study demonstrates the Project, with Air Rights Parcels 12 and 13 and the Berklee Crossroads assumed developments included, complies with the BPDA criteria established for in the Build Condition studied and with the standards of Section 41-16(2) of the Code.

No-Build Condition

The No-Build Condition wind conditions (mean speed and effect gust speed) are show in Figures 6.1a and 6.2a, respectively. These wind conditions represent the baseline to which the Project is measured against.

Under the No-Build Condition, which was tested with the existing site conditions with existing and future development, per BPDA guidance, the mean wind speeds are comfortable for standing or better around the majority of the Project Site annually. There are several uncomfortable locations at the intersection of Belvidere and Dalton Streets (Locations 55, 56, and 58), one at the intersection of St. Cecilia and Scotia Streets (Location 62), one where St. Germain Street meets Massachusetts Avenue (Location 74) and one to the west along Boylston Street (Location 89). Refer to Figure 6.1a for the No-Build Condition mean wind speeds.

The effective gust criterion is met seasonally and annually at most locations with the exception of Location 55 in the spring, fall, winter and annually (Figure 6.2a).

Build Condition

The Build Condition wind conditions (mean speed and effect gust speed) are show in Figures 6.1b and 6.2b, respectively. With the Project, pedestrian-level wind conditions around the Project Site are expected to remain unchanged to the north and east, and a decrease in speed is expected to the south and west of the Project Site. The areas along Massachusetts Avenue, Boylston Street east of Dalton Street, Newbury Street and Dalton Street are similar to the No-Build Condition where wind conditions are comfortable for sitting, standing, and walking. In several locations along these corridors, wind conditions are improved with the Project except for Location 22 at Massachusetts Avenue and Boylston Street. A number of uncomfortable locations (Locations 55, 56, and 58) remain unchanged with the Project and Locations 62, 74 and 89 are improved from uncomfortable to comfortable for walking.

Immediately surrounding the Project Site, wind conditions are expected to be less comfortable than the No-Build Condition, with a number of uncomfortable locations (Locations 6, 19, 63 and 64); however, these changes are to be expected in a location where the existing Project Site has no buildings. Based on extensive testing and analysis of various wind mitigation strategies, the Project incorporates many positive design features to mitigate potential impacts due to wind. The cumulative effect of the design changes contributes to more comfortable pedestrian wind conditions around the Project Site. The positive design features include the following:

- A new faceted design of the Residences Building, which incorporates many faces to reduce the amount of downwashing from a single direction;
- A 5-foot-deep, two-story tall setback of the Podium along the west and south facades of the building;
- Elimination of the Apartments Building; and
- A continuous, horizontally projecting canopy, above the retail levels along Dalton Street, Boylston Street, and St. Cecilia Street.

Under the Build Condition, the number of annual exceedances compared to the No-Build Condition remains at one (Location 55), as shown in Figure 6.2b. This existing condition is on the outer southeast edge of the wind study area (at the Sheraton Convention Center).

6.4 Shadow

The shadow analysis for the Project has been updated since the ENF/PNF, in accordance with the requirements of Section B.2 of the BPDA Development Review Guidelines. In addition to the Large Project Review requirements set forth in Article 80B of the Code, the Project within the HAPC District, as a PDA, must comply with the HAPC District-specific shadow criteria, as set forth in Section 41-16(1) of the Code. This criteria requires the shadow analysis demonstrate that the Project within the HAPC District will not cast shadows for more than two hours between the hours of 8:00 a.m. and 2:30 p.m., on any day from March 21 through September 21 in any calendar year, on any portion of dedicated public parkland that either (a) is not cast in shadow during such period on such days by structures existing as of March 20, 1990, or (b) would not be cast in shadow during such period on such days by structures built to the as-of-right limits allowed Article 41, whichever structures cast the greater shadow. Additionally, as required by the BPDA Scoping Determination, shadow animations have been created to substantiate compliance with the shadow act protecting the Common and the Public Garden. The animation will be submitted to the BPDA shortly following the submission of this DEIR/DPIR.

With the reduction building height and mass from the ENF/PNF Alternative, the overall net new shadow created by the Project has been reduced, as demonstrated below.

6.4.1 Methodology

A shadow impact analysis was conducted at regular time intervals to investigate the effect that the Project will have throughout the year. In order to represent a variety of shadow conditions at various times of the day, and times of the year, three time intervals (9:00 AM, 12:00 PM, 3:00 PM) are represented for the Vernal Equinox (March 21st), Summer Solstice (June 21st), Autumnal Equinox (September 21st), and Winter Solstice (December 21st). 6:00PM was also run for June 21st and September 21st.

To meet the requirements of Article 41, the shadow study includes a spatial assessment of areas showing net new shadow lasting a duration equal to two hours or greater during the spring and summer months (March 21, June 21, and September 21) from 8:00 AM to 3:00 PM. In response to public comments on the PNF, additional overlap studies were conducted for April 21, May 21, July 21 and August 21.

The shadow study takes into consideration Daylight Savings Time and, therefore, times are presented in Eastern Standard Time ("EST") and Eastern Daylight Time ("EDT"), as identified in Table 6-3 below. The study shows both existing shadows in and around the Project Site, and the limited net new shadow impact of the Project. The shadow analysis focuses on dedicated public parkland, public open spaces, historic resources, major pedestrian areas, sidewalks, and plazas in the Project vicinity. Shadows were determined using the Boston altitude and azimuth data provided in Table 6-3 below.

Table 6-3 Azimuth and Altitude Data

		Solar Position	
Date	**Local Time**	***Altitude****	***Azimuth****
March 21	9:00 AM EDT	23.5	112.6
	12:00 PM EDT	46.6	161.2
	3:00 PM EDT	39.2	-136.6
June 21	9:00 AM EDT	39.9	93.5
	12:00 PM EDT	68.8	149.4
	3:00 PM EDT	56.5	-113.7
	6:00 PM EDT	23.9	-79.3
September 21	9:00 AM EDT	25.9	115.3
	12:00 PM EDT	47.4	166.0
	3:00 PM EDT	37.4	-132.9
	6:00 PM EDT	7.3	-96.0
December 21	9:00 AM EST	14.2	141.9
	12:00 PM EST	24.1	-175.6
	3:00 PM EST	10.0	-135.1

* Altitude is measured up from the horizon
** Azimuth is measured in degrees clockwise from the North
EST Eastern Standard Time
EDT Eastern Daylight Time

The incremental impact of net new shadow cast by the Project is shown in dark blue in Figures 6.3a through 6.3d, while existing shadows are shown in gray. The results of the Article 41 spatial assessment are shown in various shades of blue in Figures 6.4a through 6.4g. Based on guidance from the BPDA, the existing shadow condition assumes future/planned developments, or background projects, surrounding the Project Site, including build-out of Air Rights Parcels 12 and 1, and the Berklee College of Music Crossroads project. These future projects were based on the currently proposed building height and massing, which are subject to change. The net new shadows account for the full height of the Residences Building, including the mechanical space and equipment screen above last occupied floor totaling 544 feet for the Project.

6.4.2 Article 80B Shadow Study Results

As presented in the PNF, the updated shadow impact analysis looked at net new shadow created by the Project during 14 time periods (Table 6-3). The incremental net new shadows produced are consistent with the existing urban shadow patterns, and are not expected to have any material effect on pedestrian use patterns. Most of

the net new shadow will land on existing buildings, creating minimal adverse effects on the pedestrian environment.

Vernal Equinox (March 21)

The net new shadows associated with the Project for March 21 are illustrated in Figure 6.3a. March 21 is the vernal equinox, when the length of daytime and nighttime are equal. The sun rises on March 21 at 6:45 AM EDT in the southeastern sky and sets at 6:57 PM EDT.

At 9:00 AM on the vernal equinox, net new shadow from the Project will be cast on limited buildings across Boylston Street and extend over portions of Parcels 12 and 13, and Massachusetts Avenue. The Project will no longer cast net new shadow on a section of the Commonwealth Mall west of Massachusetts Avenue, as the ENF/PNF Alternative did during this time period.

At 12:00 noon, the Project will cast net new shadow across the portion of Boylston Street located directly north of the Project Site. The net new shadows cast by the Residences Building will extend over a small portion of the northern sidewalk of Newbury Street.

At 3:00 PM, net new shadow from the Project will extend northeast across Boylston Street toward the Hynes Convention Center. Incremental net new shadow will be cast on the northern and southern sidewalks on Boylston Street east of the Project Site.

Summer Solstice (June 21)

The net new shadows associated with the Project for June 21 are illustrated in Figure 6.3b. June 21 is the summer solstice and the longest day of the year. The sun rises at 5:07 AM EDT in the southeastern sky and sets at 8:24 PM EDT.

At 9:00 AM on the summer solstice, net new shadow from the Project will extend westward over portions of Boylston Street, extend over Air Rights Parcels 12 and 13, and the corner of Massachusetts Avenue and Boylston Street.

At 12:00 noon, the Project will cast new shadow directly north across a portion of Boylston Street, including sidewalks.

At 3:00 PM, net new shadows from the Project will extend east over portions of Dalton Street (and a small portion of sidewalk), Cambria Street, and the rooftop of the adjacent parking structure.

At 6:00 PM, shadows will extend southeast over a portion of Dalton Street and the rooftop of the adjacent parking structure, Hynes Convention Center, and other nearby building rooftops creating minimal net new shadow over the pedestrian environment.

September 21

The net new shadows associated with the Project on September 21 are depicted on Figure 6.3c. September 21 is the autumnal equinox and the daytime and nighttime hours are equal. The sun rises at 6:30 AM EDT in the southeastern sky and sets at 6:42 PM EDT. The shadows cast on this date are almost identical to those on March 21, the vernal equinox, as described above.

The sun sets at 6:42 PM on the autumnal equinox and, therefore, the majority of the project area will be in existing shadow at 6:00 PM. At this time, the Project will result in minimal net new shadow that extends east over building rooftops.

Winter Solstice (December 21)

The net new shadows associated with the Project on December 21 are depicted on Figure 6.3d. December 21 is the winter solstice and the shortest day of the year. The sun is at its lowest inclination above the horizon at each hour of the day. Even low buildings cast long shadows in northerly latitudes, such as Boston. The sun rises at 7:10 AM EST and sets at 4:14 PM EST in December.

At 9:00 AM on the winter solstice, the Project casts a shadow to the north extending over existing building rooftops creating minimal adverse effects on the pedestrian environment. The Residences Building will cast shadow over small portions of Boylston Street, the Commonwealth Mall, Storrow Drive and the Charles River Esplanade filling in gaps in the heavily shaded urban landscape.

At 12:00 noon, the Project will cast shadow in a northeastern direction extending toward Boylston Street. Net new shadow from the Project will cover a portion of the northern sidewalk on Boylston Street extending over a portion of the northern sidewalk on Commonwealth Avenue. Incremental net new shadow from the Project will be cast on a small portion of the Commonwealth Mall; however, the majority of net new shadows will land on existing buildings, creating minimal net new shadow on the pedestrian environment.

At 3:00 PM, net new shadow from the Project will extend northeast across Boylston Street towards Dartmouth Street filling in gaps in the heavily shaded urban landscape. Incremental net new shadow will be cast on Boylston Street, Commonwealth Avenue, and the Commonwealth Mall, but the majority of net new shadows will land on existing buildings, creating minimal adverse effects on the pedestrian environment.

6.4.3 Article 41 Shadow Overlap Study Results

In addition to the Large Project Review requirements set forth in Article 80B of the Code, a project in a Planned Development Area in the HAPC District must comply with shadow criteria set forth in Section 41-16(1) of the Code. As demonstrated in Figures 6.4a through 6.4g, the Project will conform to the foregoing restrictions of Section 41-16(1) of the Code because it will not cast shadows on any portion of dedicated public parkland for more than two hours between 8:00 AM and 2:30 PM

on any day from March 21 through September 21. As discussed previously in Section 6.4.1, the shadow studies assume other future developments as a background condition, or existing shadow shown in gray. The Project would remain in compliance with Article 41 of the Code even without consideration of other future developments as a background condition.

6.5 Daylight

The following section describes the anticipated effect on daylight coverage at the Project Site as a result of the Project. An analysis of the percentage of skydome obstructed under the No-Build and Build Conditions is a requirement of Article 80B (Section 80B-2(c)). The daylight analysis was prepared using the BRA's Daylight Analysis Program ("BRADA") and has been completed in accordance with the requirements of Article 80B. The results of the analysis are presented in Figures 6.5a through 6.5d.

6.5.1 Methodology

BRADA Software

The BRADA program was developed in 1985 by the Massachusetts Institute of Technology to estimate the pedestrian's view of the skydome taking into account the massing and building materials used. The software approximates a pedestrian's view of a site based on input parameters such as location of viewpoint, length and height of buildings, and the relative reflectivity of the building facades. The model typically uses the midpoint of an adjacent right-of-way or sidewalk as the analysis viewpoint. Based on these data, the model calculates the perceived skydome obstruction and provides a graphic depicting the analysis conditions.

The model inputs were taken from an existing conditions survey and schematic design plans prepared by the Project's architects. As described above, the BRADA software considers the relative reflectivity of building facades when calculating perceived daylight obstruction. Highly reflective materials are thought to reduce the perceived skydome obstruction when compared to non-reflective materials. For the purposes of this daylight analysis, the building facades are considered non-reflective, resulting in a conservative estimate of daylight obstruction.

Viewpoints

The following viewpoints were used for this daylight analysis:

- Boylston Street – This viewpoint is located on the centerline of Boylston Street, centered on the northern side of the Project Site.
- St. Cecilia Street – This viewpoint is located on the centerline of St. Cecilia Street, centered along the western side of the Project Site.
- Scotia Street – This viewpoint is located on the centerline of Scotia Street, centered on the southern side of the Project Site.

› Dalton Street – This viewpoint is located on the centerline of Dalton Street, centered on the eastern side of the Project Site.

These points represent existing and proposed building façades when viewed from the adjacent public ways.

6.5.2 Daylight Analysis Findings

Under the Existing/No-Build Condition, while the Project Site is undeveloped, a portion of the skydome is obstructed due to the existing six-story parking garage in close proximity to the study point. The existing skydome obstructed ranges, based on the viewpoint, from approximately zero percent at the Boylston Street and St. Cecilia Street study points to 77 percent on the Scotia Street study point and 30.5 percent at the Dalton Street study point. The existing above ground parking garage fronting Dalton Street is the only building contributing to the existing skydome obstruction.

Under the Project, which is the Preferred Alternative, the viewpoints along the four roadways are expected to experience an increase in skydome obstruction due to the increased height and massing of the new building, as would be expected when increasing the density of an urban site. The increase in skydome obstruction will be offset by substantial improvements to the public realm which are anticipated to improve the overall pedestrian experience as compared to existing conditions.

Table 6-4 compares the estimated skydome obstruction impacts of the BPDA Reduced Build Alternative and the ENF/PNF Alternative, as described in Section 1.6 of Chapter 1, *Project Description and Alternatives*, to the Project which is the Preferred Alternative.

Table 6-4 Existing/No-Build and Build Alternatives Daylight Conditions

Viewpoint	Existing/No-Build Daylight Obstruction	BPDA Reduced Build Alternative Daylight Obstruction	ENF/PNF Alternative Daylight Obstruction	Preferred Alternative Daylight Obstruction
Boylston Street	0%	71%	77%	73.1%
St. Cecilia Street	0%	94%	96.1%	95%
Scotia Street	77%	84.7%	87.4%	86.9%
Dalton Street	30.5%	53.3%	59.2%	53.3%

The Project changes since the ENF/PNF filing have resulted in a decrease in skydome obstruction impacts from all viewpoints. The skydome obstruction from all viewpoints are only slightly less for Boylston, St. Cecilia, and Scotia Streets under the BPDA Reduced Build Alternative compared to the Preferred Alternative. For Dalton Street, these alternatives would result in the same amount of skydome obstruction

(53.3%). Refer to Figures E.1a through E.1d in Appendix E for the BPDA Reduced Build Alternative daylight studies.

6.5.3 Daylight Alternatives Comparison

As requested in the BPDA Scoping Determination, the Proponent studied the impact on daylight for the existing Mandarin Oriental Hotel as a context example for comparison to the Project. This study demonstrates that from the viewpoint located on the centerline of Boylston Street the skydome obstruction is 100 percent compared to 73.1% for the Project. Refer to Figure E.2 in Appendix E for the daylight impact of the existing hotel.

6.6 Solar Glare

The BPDA Development Review Guidelines require projects undergoing Large Project Review to analyze the potential impacts from solar glare on the following areas to identify the potential for visual impairment or discomfort due to reflective spot glare:

- Potentially affected key roadways;
- Public open spaces; and
- Pedestrian areas.

Furthermore, projects must consider the potential for solar heat buildup in any nearby buildings receiving reflective sunlight from the Project, if applicable.

A detailed review of the potential impacts from solar glare on the project area are presented below.

6.6.1 Methodology

A computer model of the Project and surrounding urban area was developed using proprietary software called Eclipse (refer to the full solar glare study provided in Appendix E for additional information). Consistent with the wind and shadow methodologies, based on guidance from the BPDA, the solar glare study assumes future/planned developments, or background projects, surrounding the Project Site, including build-out of Air Rights Parcels 12 and 13 and the Berklee College of Music Crossroads project. These future projects were based on the currently proposed building height and massing, which are subject to change.

Several receptor locations with three types of receptors were utilized to understand the visual (glare) impacts on drivers, pedestrians and building façades. Refer to Section 6 of the solar glare study provided in Appendix E for the receptor locations and descriptions.

The solar glare analysis used "clear sky" solar data at Boston's Logan International Airport and assumed no cloud cover ever occurs to provide a "worst case" scenario showing the full extent of when and where glare could occur. Finally, a statistical

analysis was performed to assess the frequency, intensity and duration of the glare events. Reflections from existing structures were not accounted for; although shadows from these structures were factored in.

Glazed surfaces were modeled as coated silk-screened glass, which has a visible and full spectrum reflectance of 30 and 38 percent, respectfully.

Visual Glare Criteria

- **Low:** Either no significant reflections occur or the reflections will have a minimal effect on a viewer.
- **Moderate:** The reflections can cause some visual nuisance only to viewers looking directly at the source.
- **High:** The reflections can cause safety issues to viewers who are unable to look away from the source, such as drivers.
- **Damaging:** The brightest glare source is bright enough to permanently damage the eye for a viewer looking directly at the source.

Thermal Impact Criteria

- **Low:** Either no significant reflections occur or the reflection intensity is below the short-term exposure threshold of 1500 W/m^2.
- **Moderate:** The reflection intensity is above the short-term exposure threshold of 1500 W/m^2 but below the safety threshold of 2500 W/m^2. Such reflections would quickly cause thermal discomfort in people.
- **High:** The reflection intensity is above the safety threshold of 2500 W/m^2 but below 3500 W/m^2. This level of exposure to bare skin would lead to the onset of pain within 30 seconds.
- **Very High**: The reflection intensity is above 3500 W/m^2. This level of exposure would lead to second degree burns on bare skin within 1 minute.

6.6.2 Solar Glare Study Findings

Visual Glare

The study of visual glare found that moderate impacts would occur as a result of the Project in the afternoon from March to May and July to September. No high or damaging conditions are predicted as a result of the Project. During May, June, and July in the early morning the sun is also in the field of view of the observer and, therefore, any Project-related solar glare impacts during this time would not alter a driver's current experience. The results of the visual glare study are illustrated in Figure 6 of the complete solar glare study provided in Appendix E.

Most drivers traveling east on the Turnpike are not expected to experience reflections that would alter a driver's current experience. Drivers approaching the Parcel 12 building are expected to see some infrequent high visual impact reflections during early mornings in April, May, and August; however, these

reflections occur at most 27 days annually with a maximum duration of 7 minutes per day. Additionally, all high impacts disappear after 7:00am, which would reduce the number of people exposed to the reflections.

Drivers traveling northeast on Boylston at Massachusetts Avenue are predicted to experience high impact reflections in February, March, September and October in the late afternoon. Similar to on the Turnpike, these reflections are brief and infrequent. Drivers traveling northeast and southeast on Boylston Street are not predicted to experience any high visual impacts. Furthermore, the study does not predict any significant visual impact from the reflections within Mother's Rest Playground (P19) and Fenway Park (P24).

Thermal Impact on Drivers and Pedestrians

The study found that no significant thermal impacts are predicted at any of the study points (all points are rated as Low) as a result of the Project. The results of the visual glare study are illustrated in Figure 7 of the complete solar glare study provided in Appendix E.

Thermal Impact on Façade

Figure 8 of the complete solar glare study provided in Appendix E illustrates the annual heat impact diagram on a facade receptor. The diagrams illustrate the irradiance levels of all predicted reflection events along with their frequency and duration.

The format of the diagram is similar to the diagram described in the previous pages. The color of the plot for a given combination of date and time indicates the intensity of the reflected energy at that point in time. Additional information on RWDI's criteria for solar thermal is included in Appendix C.

The study found that frequent heat impacts may occur in the afternoon throughout the year. The intensity of the majority of the reflections are <300 W/m^2 and they may last up to two hours.

6.7 Air Quality

This section presents an updated overview of the air quality assessment for the Project. The purpose of the air quality assessment is to demonstrate that the Project will not result in a violation of applicable local, state, and federal air quality standards. Boston, in Suffolk County, is in attainment for all National Ambient Air Quality Standards (NAAQS) criteria pollutants except for the 8-hour (1997 Revoked) and 1-hour (1979 Revoked) Ozone standards. The county is also in maintenance for carbon monoxide. As such, the air quality analysis calculated emission inventories of the two pollutants that contribute to the violation of the Ozone NAAQS from mobile sources-VOC and NOx.

As demonstrated in Section 6.7.1, the Project will include reasonable and feasible mitigation measures to reduce volatile organic compounds (VOCs) and nitrogen

oxide (NO_x) emissions for the Build Condition, including TDM measures, and signal time optimization. Additionally, the air quality study considers the local effects of carbon monoxide (CO) emissions from the parking garage under Section 6.7.2. Lastly, a discussion of the CO microscale assessment is presented, per BPDA Development Review Guidelines under Section 6.7.3.

6.7.1 Mesoscale Analysis

The mesoscale analysis evaluated the change in emissions from Project-related traffic for the Existing, No-Build, and Build Conditions. The air quality analysis demonstrates that the Project will meet MassDEP air quality criteria of including all reasonable and feasible emission reduction mitigation measures.

Background

The purpose of the mesoscale analysis is to estimate the area-wide emissions of VOC and NO_x during a typical day in the peak ozone season (summer), consistent with the requirements of the State Implementation Plan (SIP). The mesoscale analysis evaluates the change in VOC and NO_x emissions from the average daily traffic volumes and vehicle emission rates. To demonstrate compliance with the SIP criteria, the air quality study must show the Project's change in daily (24-hour period) VOC and NO_x emissions.

MassDEP has established guidelines that define the modeling and review criteria for air quality studies prepared pursuant to review under the Massachusetts Environmental Policy Act (MEPA). These guidelines require that mesoscale analyses be prepared for proposed development projects to determine the change in Project-related ozone precursor emissions. The predominant source of ozone precursor emissions anticipated from the Project is emissions from Project-related traffic. Ozone is not directly emitted by motor vehicles, but is generated when VOC and NO_x emissions from motor vehicles, stationary sources, and area sources react in the atmosphere with sunlight and heat. Project-related ozone impacts are determined by assessing the changes in VOC and NO_x emissions of motor vehicles. MassDEP criteria require that proposed development projects include all reasonable and feasible emission reduction mitigation measures if the ozone emissions from the Build Condition are greater than the No-Build Condition. Massachusetts has incorporated this criterion into the SIP.

Methodology

The ozone mesoscale air quality analysis was conducted following procedures similar to the greenhouse gas mobile source analysis, presented in Section 7.4 of Chapter 7, *Greenhouse Gas Emissions Assessment*.

The mesoscale analysis evaluates the change in emissions with and without the Project, specifically, daily (24-hour period) VOC and NO_X emissions from the average daily traffic volumes and vehicle emission rates. MassDEP guidelines require that the air quality study utilizes traffic and emissions data for existing and future (No-Build

and Build) conditions. The traffic and emissions data are incorporated into the Environmental Protection Agency (EPA) and MassDEP air quality models to generate emission's estimates that demonstrate whether the Project will have air quality impacts.

The mesoscale air quality analysis utilizes developed traffic data (volumes, speeds, and roadway geometry) and emission factor data for Existing, No-Build, Build, and Build with Mitigation Conditions. The mesoscale study area includes all links studied by the traffic analysis. Some of the major roadways that were included in the mesoscale analysis include Massachusetts Avenue, Commonwealth Avenue, Newbury Street, Boylston Street, and Huntington Avenue.

The mesoscale analysis calculates the changes in VOC and NO_x emissions for the existing and future conditions within the study area. The mesoscale analysis traffic and emission factor data were developed for the aforementioned conditions. These data were incorporated into air quality model to evaluate the changes in VOC and NO_x emissions.

Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2017 Existing Condition; and 2024 future No-Build and Build Conditions. The analysis compares the future No-Build and Build Conditions in order to identify the anticipated changes in traffic conditions and mobile source VOC and NOx emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

Emission Factor Modeling

EPA's Office of Transportation and Air Quality (OTAQ) has developed the Motor Vehicle Emission Simulator (MOVES).[2] MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate VOCs, NOx, and other emissions from cars, trucks, buses, and motorcycles.

All the vehicle emission factors used in the mesoscale analysis were obtained using EPA's MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in mass per distance format (often grams per mile) for existing and future conditions and applies these factors to Vehicle Miles Travelled (VMT) data to obtain emissions inventories. The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine, and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance (I/M) Program.[3] These

1 MOVES2014a (Motor Vehicles Emission Simulator), November 2016, US EPA, Office of Mobile Sources, Ann Arbor, MI.

2 T*he Stage II Vapor Recovery System* is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to on-road travel. Links were created that used the appropriate speeds and grades for each roadway segment.

Traffic Data

The air quality study used traffic data (volumes) developed for each analysis condition. The mesoscale analysis uses typical daily peak and off-peak traffic volumes for the ozone summer season. The VMT data used in the air quality analysis were developed based on the traffic data analyzed in this DEIR/DPIR.

Existing Mesoscale Emissions

The mesoscale analysis calculated the existing VOC and NO_x emissions for the Project inventory. These emissions, estimated to be 38.2 kilograms per day (kg/day) of VOCs and 18.4 kg/day of NOx establish an Existing Condition to which future emissions can be compared.

Future Mesoscale Emissions

Future Project-related emission calculations are based upon changes in traffic and emission factor data. The traffic data includes traffic volumes that were used to calculate VMT on the study network. The emission factor data included emission reduction programs, shifts in vehicle populations, and other factors. Under the No-Build Condition, VOC emissions were estimated to be 29.2 kg/day and NOx emissions were estimated to be 8.6 kg/day. The 2024 VOC and NO_x emission factors are lower than the 2017 emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3), the Stage II Vapor Recovery System, and the Massachusetts Vehicle Inspection and Maintenance program.

Under the Build Condition, as presented in Table 6-5, the VOC emissions are estimated to be 29.4 kg/day and the NO_X emissions are estimated to be 8.7 kg/day. The Build Condition emissions inventory was developed by considering the effects of the Project generated trips on the No-Build network. The SIP requires that proposed projects with VOC and NO_X emissions under the Build Condition that are greater than the No-Build Condition include all reasonable and feasible emission reduction measures.

Table 6-5 Mesoscale Air Quality Analysis Results (kg/day)

Pollutant	Existing Conditions	No-Build Conditions[1]	Build Conditions	Project-Related Emissions[2]
Volatile Organic Compounds (VOCs)	38.22	29.24	29.45	0.21
Oxides of Nitrogen (NOx)	18.39	8.64	8.68	0.04

1 The future No-Build condition emission factors are lower than the Existing conditions emission factors due to the implementation of state and federal emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3) and the Stage II Vapor Recovery System, and the Massachusetts Inspection and Maintenance program.
2 Represents the difference in emissions between the Build and No-Build Conditions

Proposed Mitigation Measures

As discussed in Chapter 5, *Transportation,* the traffic improvements include minor signal phasing and timing modifications to the intersections of Massachusetts Avenue and Beacon Street as well as the intersection of Huntington Avenue at Belvidere Street/West Newton Street. The design also proposes to change Scotia Street west of the Site Driveway into a two-way flow to allow vehicles to exit right out of the Site and continue to Boylston Street. Dalton Street will remain one-way east of the site driveway.

In addition to the intersection improvements the Proponent anticipates implementing a TDM program. This program includes the following:

- Staggered work hours to allow a flexible work schedule to reduce weekday morning and evening peak hour trips on adjacent roadways;
- Shared trips provided by the wide variety of on-site uses that cater to adjacent street traffic or traffic that is already on the existing roadway;
- Pedestrian accommodations, including improved sidewalks along the adjacent roadways (see Figure 3.36) to encourage walking to/from the Project Site; and
- Bicycle accommodations, including on-site short- and long-term bike parking to encourage biking to/from the Project Site.

A full description of these measures is provided in Chapter 5*, Transportation*. The signal optimization improvements result in delay savings and consequentially a 0.14 kg/day reduction of VOCs and a 0.11 kg/day reduction of NOx. Previous estimates of similar TDM programs in a suburban area have ranged on the order of a two to five percent reduction in vehicles miles traveled (VMT), which is assumed to result in comparable pollutant emission savings. Assuming a two percent reduction, the TDM plan is expected to provide less than a 0.01 kg/day reduction of VOCs and NOx. This results in final Project-related emissions of 0.07 kg/day of VOCs. The mitigation measures will provide a 0.11 kg/day reduction of Project-related NOx, bringing the overall NOx emissions lower than the No Build Condition. A summary of the mitigation emissions reduction is provided in Table 6-6.

Table 6-6 Mitigation Analysis Results (kg/day)

Pollutant	Project-related Emissions[1]	Estimated Reductions Due to TDM Measures[2]	Estimated Reductions Due to Roadway Improvements[3]	Resulting Project-related Emissions
Volatile Organic Compounds (VOCs)	0.21	<0.01	0.14	0.07
Oxides of Nitrogen (NO_x)	0.04	<0.01	0.11	-0.07

1 Represents the difference in pollutant emissions between the Build and No-Build Conditions.
2 Mitigation from TDM Measures estimated as 2 percent of unmitigated Project-related emissions.
3 Mitigation from roadway improvement measures, such as signal optimization.

6.7.2 Stationary Source/Parking Garage Emissions Evaluation

The Project will include ventilation fans associated with the two levels of enclosed parking garage. A preliminary assessment of the air quality emissions related to the ventilation fans has been included for CO emissions. Each level of parking garage will have one 100 square feet (sf) exhaust louver with a minimum of 50 percent free area. Air will be exhausted from these vents at 500 feet per minute on the façade facing St. Cecilia's Street.

Parking Garage Emissions Analysis Methodology

The air emissions from the parking garage's exhaust system were calculated using EPA's air quality model AERMOD[4] to generate emission estimates that demonstrate if the Project will comply with the NAAQS. The AERMOD model is an air dispersion computer program designed to assess emissions generated by stationary sources and takes into consideration the complexities of multiple sources, meteorological data, and varying terrain geometry. AERMOD modeling procedures follow EPA guidance for evaluating stationary source emissions. AERMOD incorporates multiple sources, meteorological data, source emission data, stack and building geometry, and detailed surrounding land use and topography. These data were incorporated into AERMOD to generate concentrations that demonstrate whether or not the proposed project would comply with the NAAQS.

The parking garage's exhaust system was treated as a volume source. CO emissions from the garage were developed using MOVES2014a. The analysis calculated emission factors for vehicle starts, idling vehicles, and vehicles travelling within the garage. The emission factors account for both passenger cars and passenger trucks using the garage. Vehicles were assumed a "soak time" of at least 12 hours before starting.[5] Vehicles traveling to and from the elevator and parking spots were assumed to travel at five miles per hour and a distance of 320 feet (the distance

[4] AERMOD Version 15181. US Environmental Protection Agency.

[5] Soak time is the duration of time a vehicle's engine is at rest prior to being started. Emissions are generally higher when a vehicle's soak time is long, so the maximum soak time (at least 12 hours) has been assumed for the analysis.

from the furthest parking spot to the elevator). Vehicles on the elevator were assumed to idle for two minutes. Vehicles entering the garage were assumed to idle for one minute at their parking spots while vehicles exiting the garage were assumed to idle for two minutes. Only vehicles exiting the garage were assumed to have startup emissions.

The source data includes the emission rate and the exhaust release height. Table 6-7 presents the parameters used for the air quality analysis for the proposed ventilations fans associated with the Project's enclosed parking garage. The number of vehicles entering and exiting the garage during the evening peak hour were used in the analysis as they provided a higher CO emission rate than the morning activity.

Table 6-7 Individual Garage Ventilation Fan Parameters

Parameters	Values
Emission Factor	0.11570 g/s
Release Height	3rd Floor: 79 feet 4th Floor: 98 feet
Initial Lateral Dimension	62.3 feet
Initial Vertical Dimension	3rd Floor: 7.2 feet 4th Floor: 10.2 feet

The air dispersion model included five years of meteorological data (2011-2015) representative of the study area. The surface data and upper air data are obtained from the weather station located at Logan International Airport (Station 14739) and Gray, ME (Station 74389) respectively. Building downwash can cause increased impacts at nearby receptor locations. Downwash occurs when the stack height is not sufficient to allow the plume to rise and disperse into the atmosphere. Building downwash was included in the analysis.

The potential air quality impact was determined based upon potential emissions from the proposed parking garage ventilation fans operating at full load at sensitive receptor locations. The air quality analysis included 1,260 receptor locations in the vicinity of the Project. The receptor locations were placed in the form of a polar array, at every 10 degree in 5 to 10 meter increments, up to a radius of 250 meters around the Project/Garage.

Parking Garage Emissions Analysis Findings

AERMOD included a downwash component to represent the worst-case conditions for the Project. Even with downwash conditions, the air quality analysis indicated that the maximum predicted concentrations are all below the NAAQS. The annual emissions of the ventilation fans associated with the enclosed parking garage are projected to be 18.2 ug/m^3 and 7.4 ug/m^3 for the 1-hour and 8-hour CO emissions respectively. These emissions are well below the NAAQS standards of 40,000 ug/m^3 for the 1-hour and 10,000 ug/m^3 for the 8-hour CO emissions. Table 6-8 presents the results for the analysis of the resulting CO pollutant.

Table 6-8 Predicted Annual Emissions for the Garage Ventilation Fans [1]

Pollutants	National Ambient Air Quality Standards (NAAQS)	Project Emissions[1]
Carbon Monoxide (CO) 1-Hour	40,000 ug/m^3	18.2 ug/m^3
Carbon Monoxide (CO) 8-Hour	10,000 ug/m^3	7.4 ug/m^3

1. Represents emissions related to 42 entering and 35 exiting vehicles during Build evening peak hour condition.

6.7.3 Microscale Analysis

The BPDA Development Review Guidelines require a microscale analysis predicting localized carbon monoxide concentrations, including identification of any locations projected to exceed the NAAQS or MAAQS, for projects in which:

› Project traffic would impact intersections or roadway links currently operating at Level of Service (LOS) D, E, or F, or would cause LOS to decline to D, E, or F; or

› Project traffic would increase traffic volumes on nearby roadways by 10 percent or more (unless the increase in traffic volume is less than 100 vehicles per hour); or

› The Project will generate 3,000 or more new average daily trips (adt) on roadways providing access to a single location.

An evaluation of the traffic data, was conducted in accordance with the BPDA Development Review Guidelines for determination of potential for CO impacts, determined that a microscale analysis is not be required based on the following factors:

› Project traffic is not expected to impact intersections or roadway links currently operating at LOS D, E, or F, and is not expected to cause LOS to decline to D, E, or F. Project related vehicle trip generation rates are low and are not expected to cause impacts at the study area intersections. Detailed intersection analysis is presented in Chapter 5*, Transportation*.

› Project traffic would not increase traffic volumes on nearby roadways by 10 percent or more (the increase in traffic volume is less than 100 vehicles per hour). The Project is expected to generate 23 vehicle trips in the morning peak hour and 77 vehicle trips in the evening peak hour, an increase of fewer than 100 vehicles per hour.

› The Project will not generate 3,000 or more new adt on roadways providing access to a single location. Based on the BPDA/BTD administrative practice, this determination is based on Adjusted adt, which is adjusted to reflect the fact that Boston benefits from an excellent public transit system and pedestrian access.

The Project will generate approximately 900 adjusted daily vehicle trips, far less than the 3,000 adt threshold.

Under the BPDA Development Review Guidelines, the Project is not expected to cause or contribute to a violation of the NAAQS and, therefore, a quantitative microscale analysis is not required. The Project's traffic impacts are minor compared to the background traffic of the existing transportation network. Since CO emissions are directly correlated to vehicular traffic, it is probable that the Project will create similarly insignificant CO emissions when compared to the background concentrations and the NAAQS.

Violation of the CO standard set by the NAAQS has become increasingly infrequent. This is due to several factors. Primarily, the vehicular emission rates of CO have decreased and will continue to decrease with the passage of time due to newer, more controlled vehicles entering the fleet.[6] Additionally, the CO background concentration in Boston has decreased over time.[7]

Based on consideration of these three controlling factors for the determination of CO impact (Project traffic, background concentration, and emission rates), it is highly unlikely for CO impacts to exist or to be created with the introduction of the Project. The Project will generate minimal vehicular activity in the surrounding network. The CO emission rates of the fleet will decrease over time, and the background CO concentration is a relatively small 10 percent and four percent of the respective 1-hour and 8-hour NAAQS.

6.8 Noise

The change in the development program does not alter the original noise assessment conclusion of no adverse noise impacts from the PNF. With the elimination of the Apartments Building (and all associated equipment) the number of noise generators are reduced. As originally planned, the mechanical equipment associated with the Residences Building will be located within an enclosed mechanical penthouse on the roof of the building located over 500 feet high or within mechanical rooms. Therefore, sound levels associated with the Project's mechanical systems are not expected to adversely impact nearby sensitive receptor locations. Additionally, the loading/service area will also be located in an enclosed area within the building structure, thereby containing noise associated with the loading activities.

Since the ENF/PNF filing, a ventilation system associated with the I-90 tunnel located under the Project Site has been added to the Project. Noise associated with the ventilation system is not expected to adversely impact nearby sensitive receptor

[6] "Transportation Air Quality Facts and Figures" *Vehicle Emissions,* Federal Highway Administration. January 2006. <https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/page15.cfm.>

[7] "Massachusetts Annual Air Quality Report" *Department of Environmental Protection, Bureau of Air and Waste, Division of Air and Climate Programs.* Multiple Years.

locations because the system will be contained within the tunnel which is below nearby sensitive receptors.

6.9 Solid and Hazardous Waste

6.9.1 Solid Waste

Solid waste management will be addressed both during construction and occupancy. The Construction Manager ("CM") will provide a construction waste management plan to divert a minimum 75 percent of the construction and demolition debris comprised of multiple waste streams.

The building will include recycling facilities/space for all uses. Collected recyclables will be accommodated on the ground floor near the loading docks. The intent is that each residential and retail/restaurant spaces, as well as the parking garage, will have access to facilities and space for collection of recyclable materials. A contracted waste management company will pick up the collected residents' recyclables on a regular basis. The retail tenants will utilize disposal services that recycle waste off-site.

6.9.2 Hazardous Waste

An Environmental Site Assessment was completed for the Scotia Parcel in 2008 as part of due diligence prior to acquisition of the property. Additional assessment was conducted in 2014 for project planning. The assessment included the advancement of test borings, installation of monitoring wells, and laboratory analysis of soil and groundwater samples.

Research on environmental conditions relative to the potential presence of oil and hazardous materials has also been undertaken regarding Parcel 15, the Prudential Parcel and the Cambria Street Air Rights Parcel (collectively, the "Air Rights Parcels"). However, chemical testing of soil and groundwater for the Air Rights Parcels has not been undertaken due to access constraints. Planning for an additional subsurface exploration program is underway and will be conducted when appropriate permits are received from MassDOT.

It is the intention of the Proponent to adequately characterize any soils or groundwater that will be generated by the construction activity prior to construction. The Contract Documents will include a Soil Management Plan for proper management of any impacted soil or groundwater. Excavation below groundwater levels is not anticipated since the Project is essentially constructed on Air Rights, with subsurface supporting elements. A temporary construction dewatering permit will be obtained if needed to manage surface water or other seepage into localized excavations. At the Scotia Parcel, concentrations of chemical constituents in soil were either not detected or were below applicable reporting and background levels for urban fill soils. Analysis of groundwater identified concentrations of metals above applicable reporting thresholds and the release was reported under RTN 3-27939. A

Risk Characterization determined No Significant Risk existed at the site and a Class B-1 RAO was submitted to MA DEP in October 2008 to close the Project Site under the MCP.

Additional characterization of the environmental quality of soil and groundwater will be conducted prior to final design and preparation of Contract Documents. Management of soil and groundwater will be in accordance with applicable local, state, and federal laws and regulations. The Proponent's Environmental Consultant will evaluate Potential Indoor air impacts for the Scotia parcel which is the only portion of the development with building constructed over land. Response Actions if necessary will be undertaken in accordance with the Massachusetts Contingency Plan and will be incorporated into project planning and conducted as part of the construction. Any necessary regulatory filings will be made, and permits and approvals obtained, prior to start of construction to not impact the schedule of work or public safety.

6.10 Construction

There are many challenges associated with the construction on the air-rights parcels, which will be worked through as a team prior to the start of construction. Some of these challenges include working over an active railroad and interstate highway, building a foundation that is intertwined with an active highway requiring the need to coordinate lane shutdowns, removing existing abutments/structures on both sides of the railroad, coordinating the construction of the overbuild and coordination with property owners/abutters, such as MassDOT, Amtrak/MBTA, BTD and the MCCA (Hynes Convention Center). These challenges greatly constrain building massing and design, specifically the structural considerations due to the limitations for where the building core and support footings can be located.

Impacts associated with the Project construction activities are temporary in nature and are typically related to truck traffic, air (dust), noise, stormwater runoff, solid waste, and vibration. The Proponent will develop a detailed Construction Management Plan ("CMP") for approval by BTD and MassDOT prior to construction. A draft version of the CMP is provided in Appendix G of this DEIR/DPIR. The CMP outlines sub-phases and reflect the input of the regulatory authorities having jurisdiction over such plans, including the Boston Fire Department ("BFD"), BTD, and MassDOT. The CMP will include detailed information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans to minimize impact on the surrounding neighborhood and the Turnpike.

Construction methodologies that ensure public safety and protect nearby residents will be employed. Techniques, such as barricades, walkways, and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and control of noise and dust. The following section generally describes the potential construction-period impacts

and proposed CMP elements, which are subject to refinement and modification as the design of the Project progresses.

6.10.1 Overview of Construction Approach

Construction on air-rights parcels require extensive coordination with multiple authorities having jurisdiction (AHJs) so work can be planned in concert with other projects in and around the areas. Regarding the structural considerations, the CM will coordinate foundation activities closely with MassDOT on lane closures and work restrictions. Because there are limited places to install new foundations, those locations ultimately drive the building massing and design (refer to Section 3.5.1 for further information).

The CM will actively and regularly communicate construction activities, including closures and temporary routes of travel through the creation of a website. This aims to keep the community updated during construction.

Deck Construction

All work activities will be closely coordinated with the affected AHJs. Specifically, the foundations and structural overbuild will require alternate traffic patterns at certain days and times; however, it is imperative that the Project work is coordinated with other projects (e.g. South Station Air Rights, Commonwealth Avenue Bridge replacement) to fully understand the total impacts to vehicular/transit operations and best mitigate them.

6.10.2 Construction Sequencing

As described in Chapter 1, *Project Description and Alternatives*, the Project includes construction of up to approximately 439,500 square feet (exclusive of above-grade parking) of development consisting of up to approximately 108 residential units and up to 45,500 square feet of retail located along Boylston Street between St. Cecilia and Dalton Streets in the Back Bay neighborhood of Boston. The total construction duration is anticipated to be approximately 36 months with abatement activities starting upon completion of the permitting process followed by demolition and structure construction.

The 10% draft construction logistics plans are provided in Appendix G. The Project will be erected with two tower cranes and supplemental assist cranes which will periodically be required. The work zone will be confined by fencing and jersey barriers as well as covered pedestrian walkways along Boylston Street and Dalton Street. A total of four construction hoists will be utilized for temporary man and material vertical movement and access.

Typical hours of construction are from 7:00 AM to 6:00 PM, Monday through Friday. There may be occasions where work on selected Saturdays is necessary. In addition, the Proponent will coordinate with MassDOT with respect to the timing of deck construction and other work above the Turnpike. Any specific instances requiring

work outside of typical hours of construction will be identified and necessary permits will be obtained from the City of Boston. The Proponent will work with MassDOT, MBTA, and Amtrak to determine what restrictions may need to be in place before a plan is finalized and the impacts (work hours, lane closures, etc.) are identified.

6.10.3 Site Preparation and Staging

Construction site access will be from either Boylston Street, or St. Cecilia Street via Boylston Street, to be determined as part of the final CMP. The construction area work zone will be confined by fencing and jersey barriers as well as covered pedestrian walkways along Boylston Street and Dalton Street. Pedestrian foot traffic along Scotia Street and Dalton Street will be temporarily diverted via temporary signage and crosswalks.

Prior to the start of construction, existing utilities will be surveyed and mapped. No excavations will be performed until Dig Safe has been notified, and utilities marked. Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be in accordance with the MWRA, Boston Water and Sewer Commission ("BWSC"), Boston Public Works, Dig Safe, and the governing utility company requirements, as applicable. All necessary permits will be obtained before the commencement of the specific utility installation. Specific methods for constructing proposed utilities will be reviewed by BWSC as part of its Site Plan Review process.

6.10.4 Stormwater Runoff/Erosion Control

A federal National Pollutant Discharge Elimination System General Construction, or NPDES, Permit is not required because construction of the Project is not anticipated to disturb over one acre of land. An overall site-specific Stormwater Pollution Prevention Plan will be developed in accordance with local (BWSC) regulatory agency requirements.

During Project construction, Erosion and Sediment Control ("ESC") measures will be implemented to minimize the transport of Project Site soils to off-site areas and BWSC storm drain systems. The existing catch basins will be protected with filter fabric or silt sacks to provide for sediment removal from runoff. These ESC controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Other sediment controls, which will be implemented as needed during construction, will include the following:

› Staked hay bales and/or silt fence barriers will be installed at the base of stockpiled soils and at erosion-prone areas throughout the construction phase of the Project. The erosion controls will be maintained and replaced as necessary to assure their effectiveness;

- Where necessary, temporary sedimentation basins will be constructed to prevent the transport of sediment off-site;
- Measures to control dust will be implemented during construction. All debris will be properly contained on the Project Site; and
- Erosion controls will be maintained and replaced as necessary until the installation of pavement and the establishment of stabilized vegetation at the Project Site.

6.10.5 Pedestrian Safety and Access

Public safety is the primary consideration in all of Proponent's construction planning and building processes. Specific pedestrian crosswalks and re-routing measures will be taken to allow for adequate egress around the active construction zones.

The construction area work zone will be confined by fencing and jersey barriers as well as covered pedestrian walkways along Boylston Street and Dalton Street. Pedestrian foot traffic along Scotia Street and Dalton Street will be temporarily diverted via temporary signage and crosswalks.

A fenced lay down and work area will be established to separate construction activity from day-to-day pedestrian and vehicular traffic on the Project Site. Police detail will be provided, as required by the approved CMP.

6.10.6 Construction Traffic and Parking

Construction truck routes are expected to be Boylston Street, or St. Cecilia Street via Boylston Street, subject to the approved CMP. Best efforts will be made to schedule major deliveries on non-peak traffic hours. Signage will be prevalent throughout the Project Site and surrounding streets informing vehicular and construction truck traffic alike of detours, as needed. Also, a security detail will be utilized to safely direct and manage construction-related traffic as well as routine traffic. The intent of the construction truck route will be to minimize the impact of construction truck traffic in the Project area and on other nearby roadways.

Construction Worker Parking

Because the workforce will arrive and depart prior to peak commuter traffic periods, the workforce trips are not expected to have a large impact on the area's transportation system. Construction workers will be strongly encouraged to arrive at the Project Site via public transportation. There will be no construction parking available at the Project Site for the workforce.

6.10.7 Air Quality and Dust

Short-term air quality impacts from fugitive dust may be expected during the early phases of the Project Site preparation on the Scotia Parcel. The construction contract for the Project will require the contractor to reduce potential emissions and minimize air quality impacts. Mitigation measures are expected to include the use of

wetting agents where needed on a scheduled basis, covered trucks, minimizing exposed construction debris stored on-site, monitoring construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized, locating aggregate storage piles away from areas having the greatest pedestrian activity where and when possible, and periodic cleaning of streets and sidewalks to reduce dust accumulations.

The State's anti-idling law will be enforced during construction of the Project with the installation of on-site anti-idling signage at loading and drop-off/pick-up/waiting areas. In addition, the Proponent is committed to meeting the requirements of the DEP State Revolving Fund (SRF) for diesel construction equipment. These require that all non-road diesel equipment rated 50 horsepower or greater that will be used on a construction site meet EPA's Tier 4 emission limits or be retrofitted with appropriate emission reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified or DEP-approved diesel oxidation catalysts or diesel particulate filters.

6.10.8 Construction Noise

Intermittent increases in noise levels will occur in the short-term during construction of the Project. Efforts will be made to minimize the noise impact of construction activities, including appropriate mufflers on all equipment such as air compressors and welding generators, maintenance of intake and exhaust mufflers, turning off idling equipment, replacing specific operations and techniques with less-noisy ones, and scheduling equipment operations to synchronize the noisiest operations with times of highest ambient noise levels.

6.10.9 Construction Waste Management

The CM will take an active role regarding the processing and recycling of construction waste and will implement a Construction Waste Management Plan ("CWMP") for the Project. The CWMP will require the CM to contract with a licensed waste hauler that has off-site sorting capabilities. All construction debris will be taken off-site by the waste hauler, sorted as either recycled debris or waste debris and sent to the proper recycling center or waste facility. Construction debris will be wetted and covered to minimize air born dust particles. Prior to construction, in accordance with the LEED goals established (discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*) construction and demolition debris will be diverted away from landfills and incineration facilities, and will be sought to reuse materials. A 90 to 95 percent recycling/diversion rate will be targeted based on recent construction projects.

The Proponent does not anticipate any asbestos-containing material or other contaminated material on site.

6.10.10 Odor and Rodent Control

A significant effort will be made to minimize the potential for odor impact, if encountered, during the Project's construction activities. Mitigation measures that may be undertaken include:

- Vapor suppression sprays or foams;
- Remote air fresheners/filters placed around the Project Site; and
- Limiting the amount of open excavation at any one time.

The contractor will file a rodent extermination certificate as required with any building permit applications to the City. Rodent inspection, monitoring, and treatment will be carried out before, during, and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the Project Site. During the construction process, regular service visits will be made to maintain effective rodent control levels.

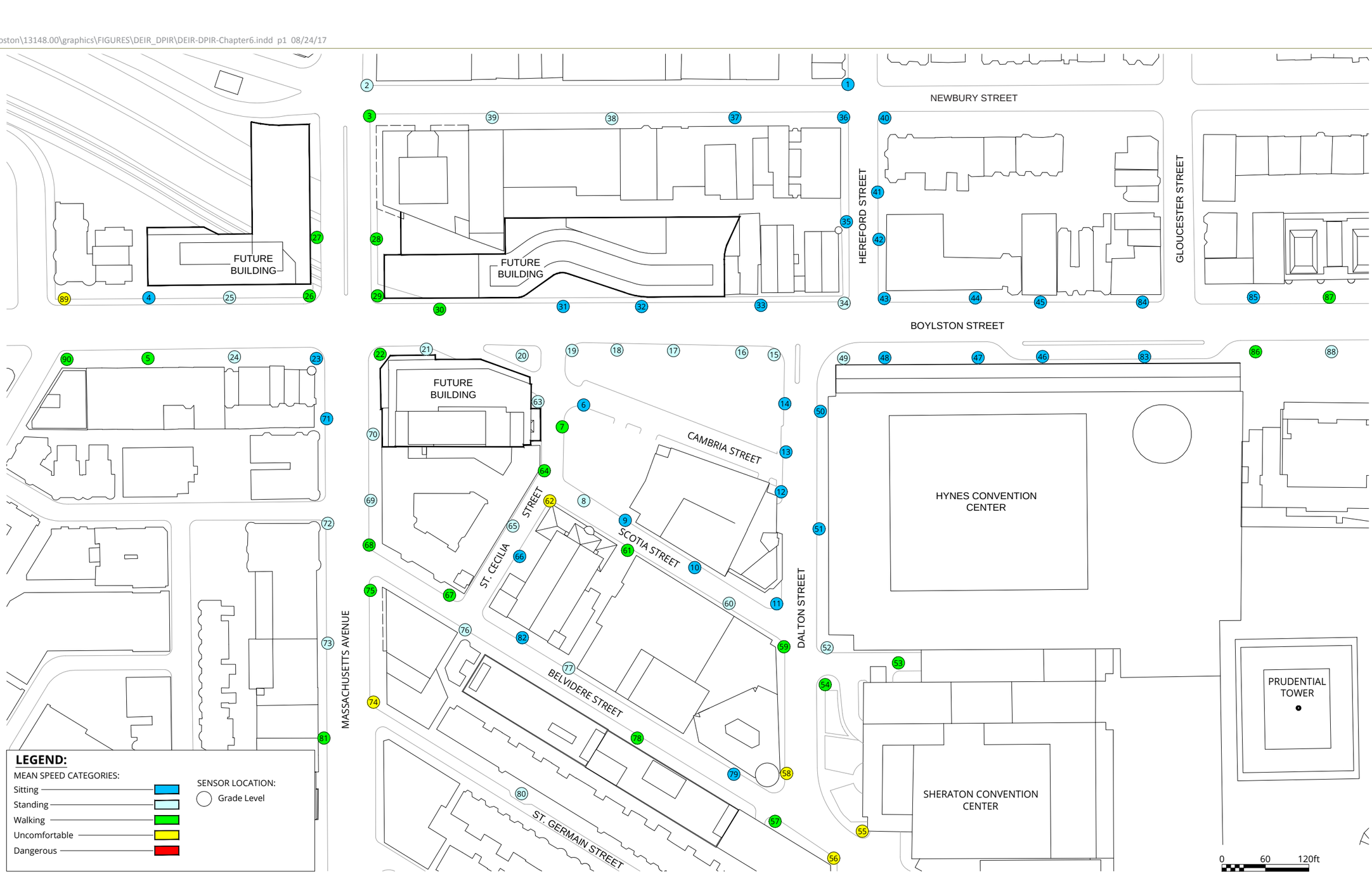


Figure 6.1a

No-Build Wind Condition
Mean Speed

1000 Boylston Street
Boston, Massachusetts

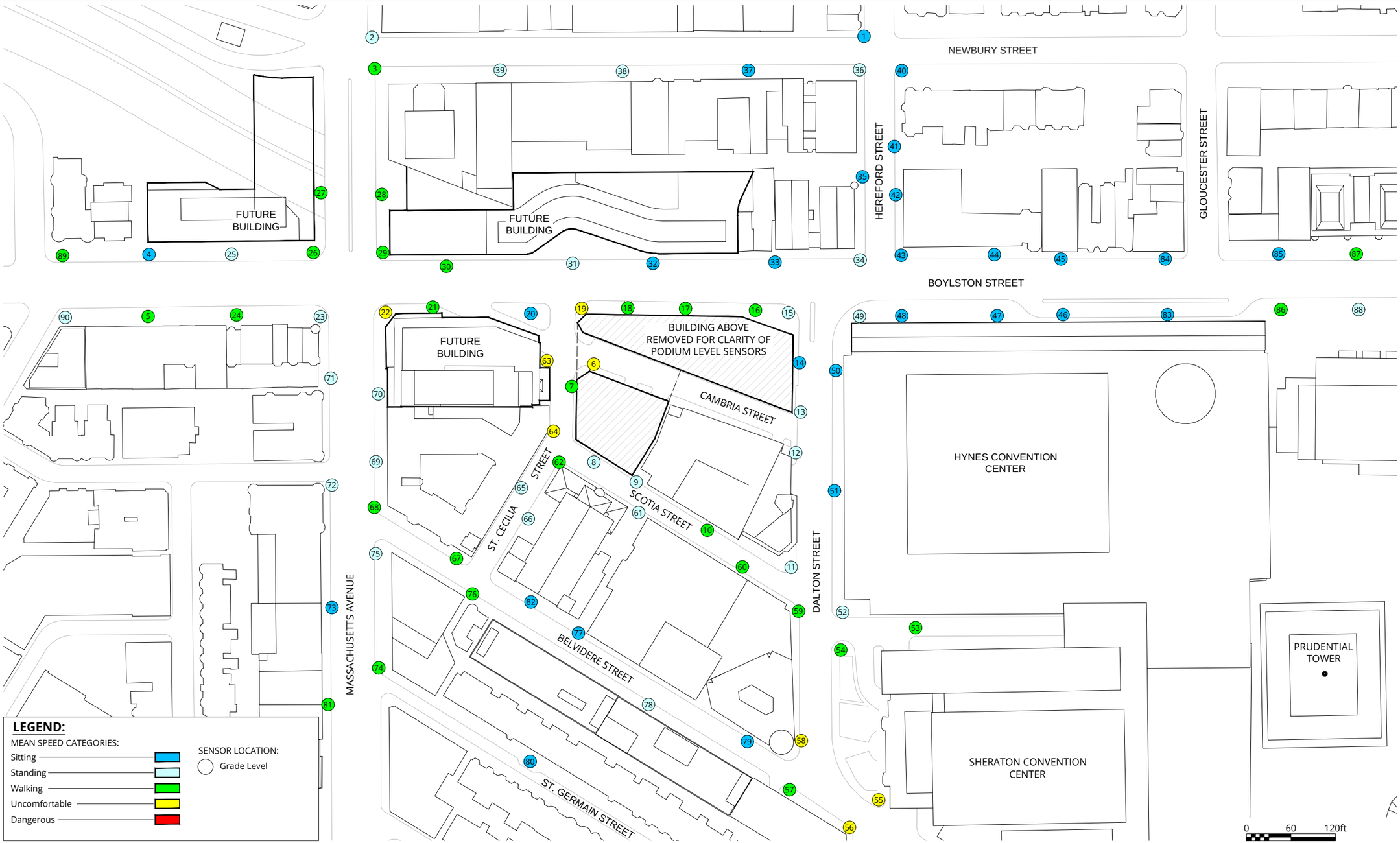


Figure 6.1b

Build Wind Condition
Mean Speed

1000 Boylston Street
Boston, Massachusetts

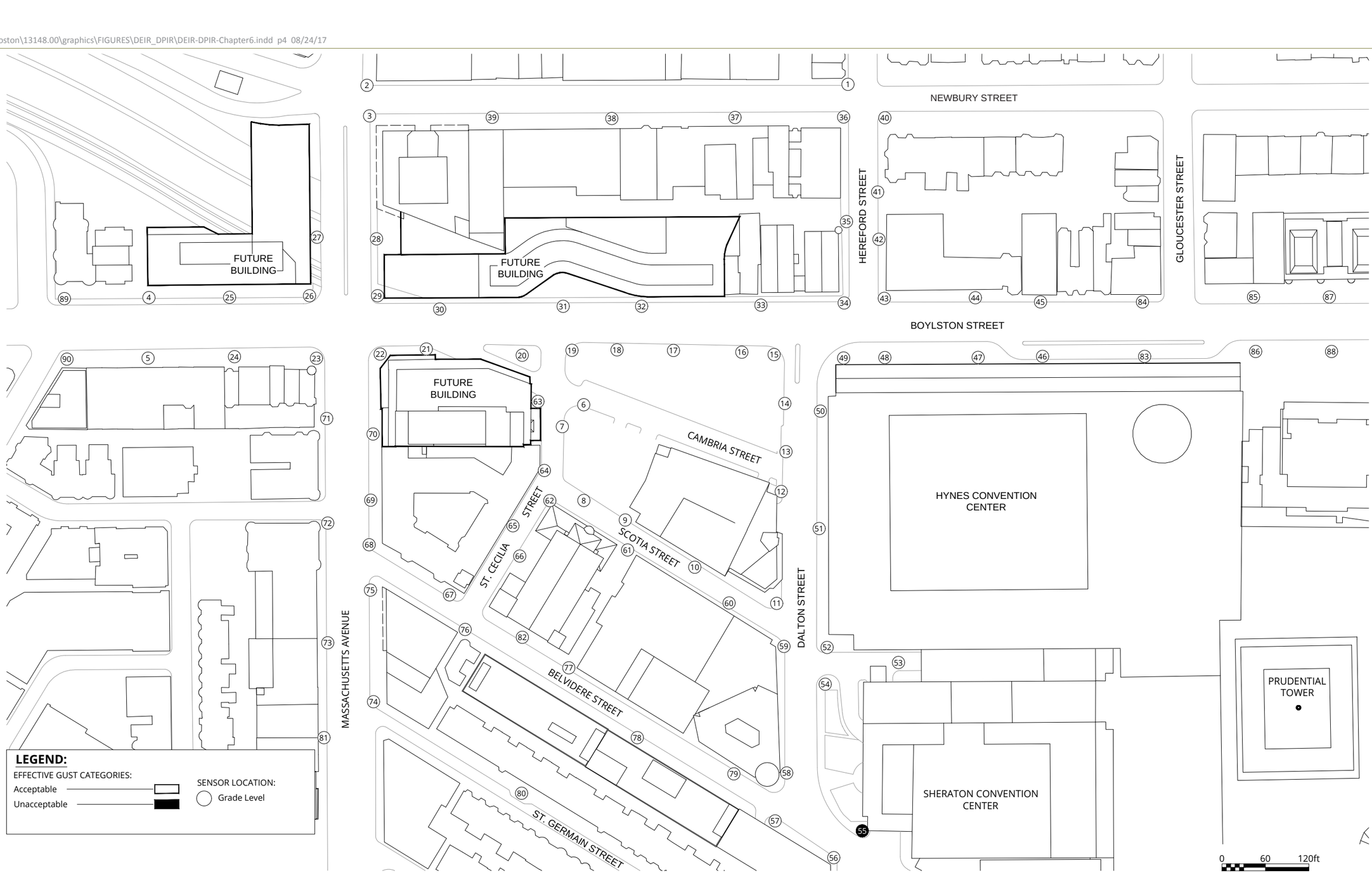


Figure 6.2a

No-Build Wind Condition
Effective Gust Speed

1000 Boylston Street
Boston, Massachusetts

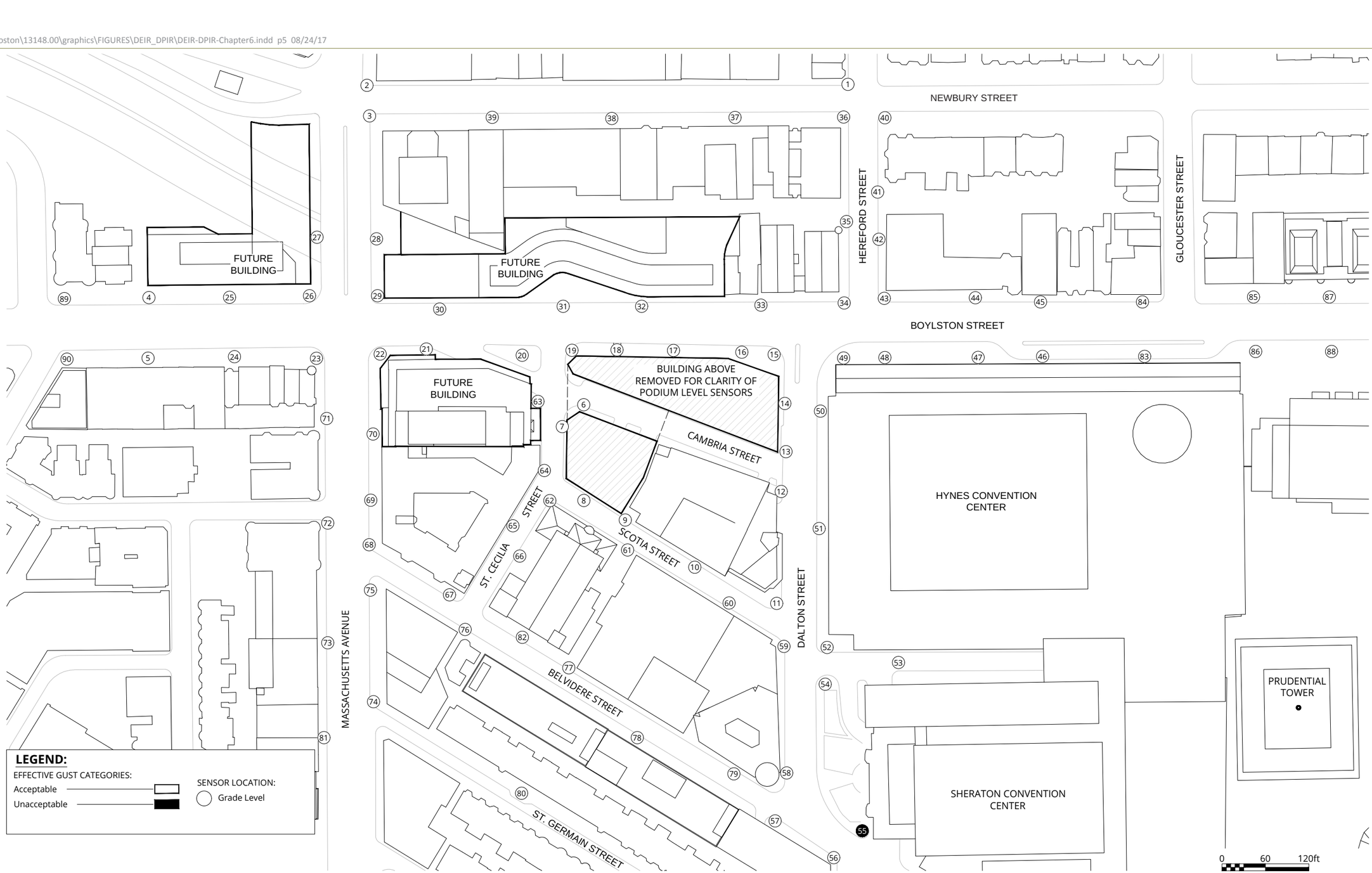


Figure 6.2b

Build Wind Condition
Effective Gust Speed

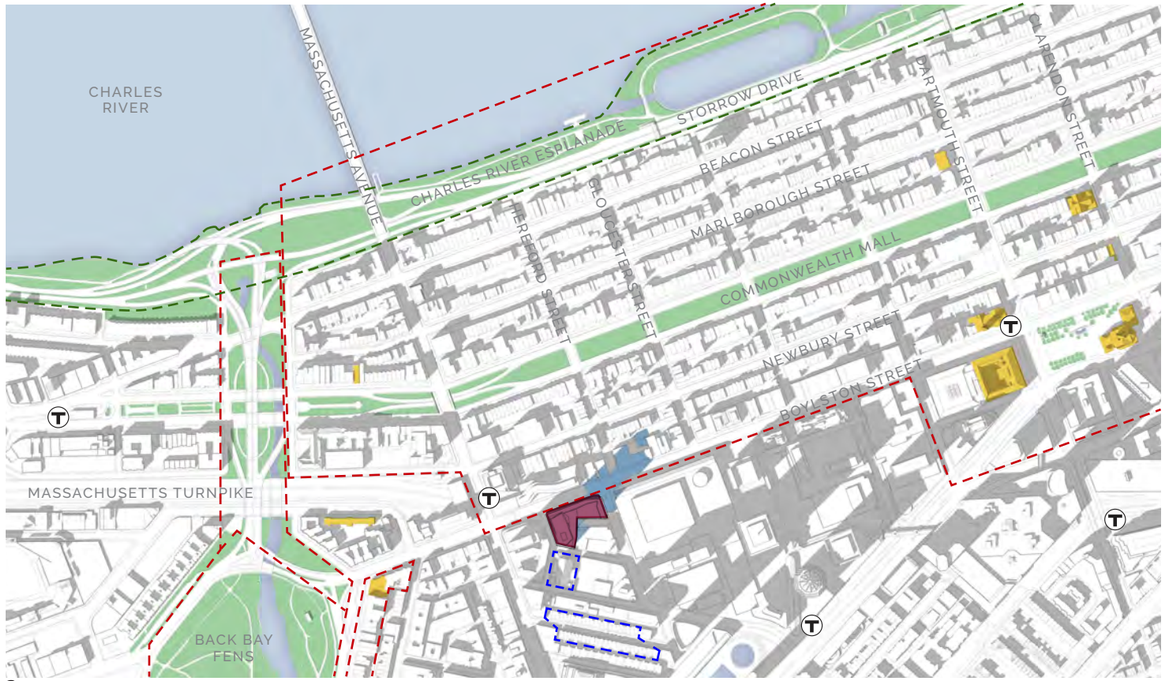
1000 Boylston Street
Boston, Massachusetts



9 am



12 pm



3 pm

- PROJECT
- NET NEW SHADOWS OF PROPOSED PROJECT (484')
- EXISTING SHADOWS
- NATIONAL HISTORIC LANDMARK
- NATIONAL REGISTER OF HISTORIC PLACES DISTRICT
- INVENTORIED AREA
- CHARLES RIVER BASIN HISTORIC DISTRICT
- PUBLIC OPEN SPACE

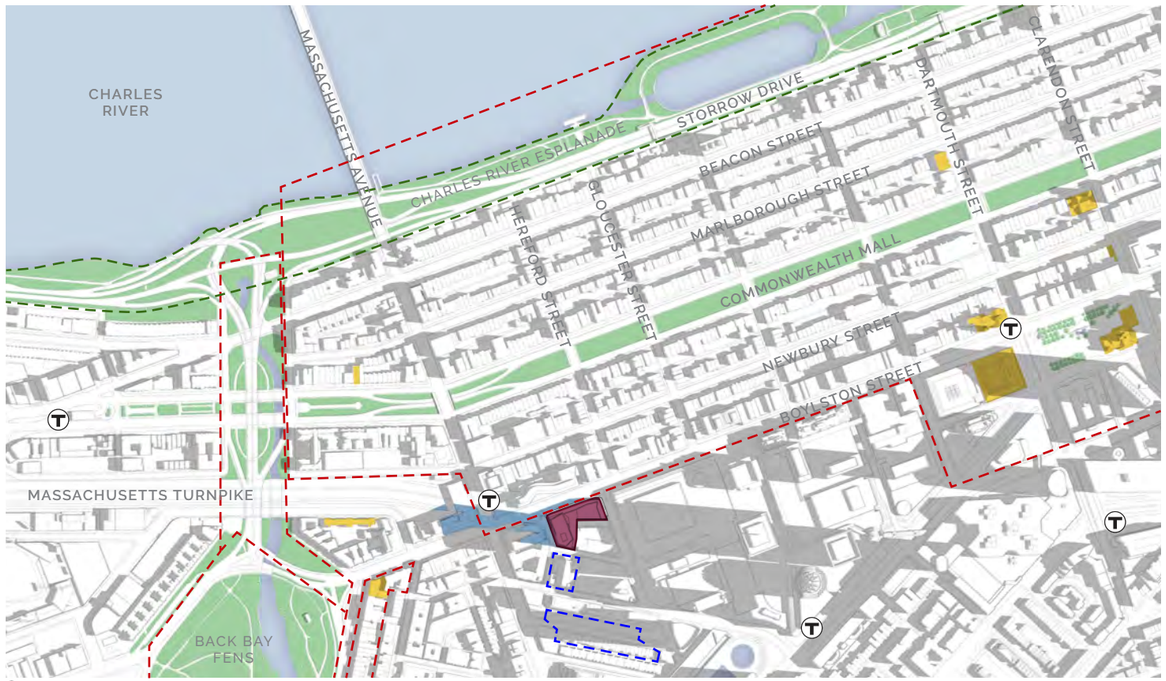
Note: Since the PNF, the shadow study for March 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.

0 400 800 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Studies - March 21
1000 Boylston Street
Boston, Massachusetts

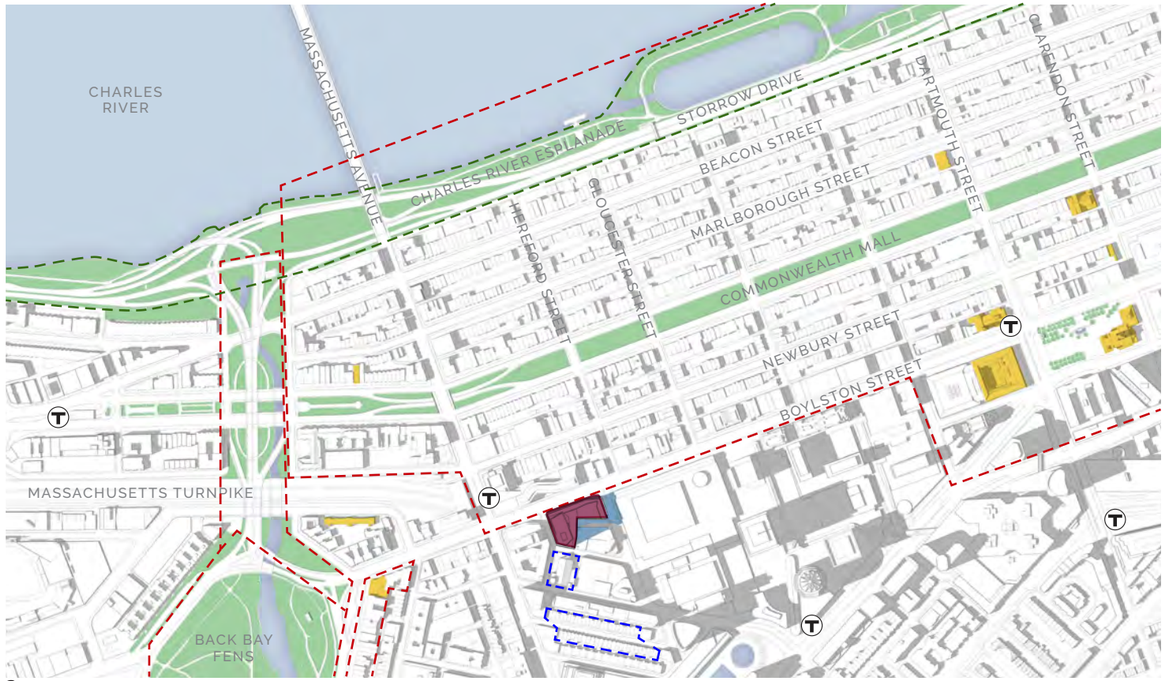
Figure 6.3a



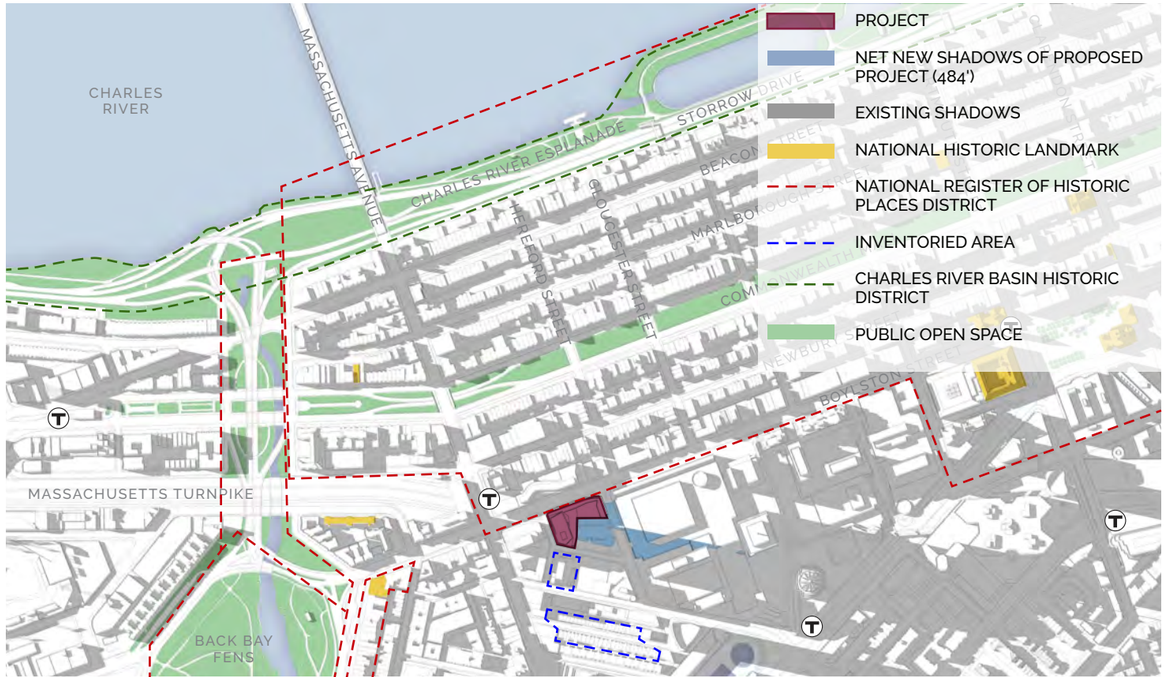
9 am



12 pm



3 pm



6 pm

Note: Since the PNF, the shadow study for June 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.

0 400 800 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Studies - June 21

1000 Boylston Street
Boston, Massachusetts

Figure 6.3b



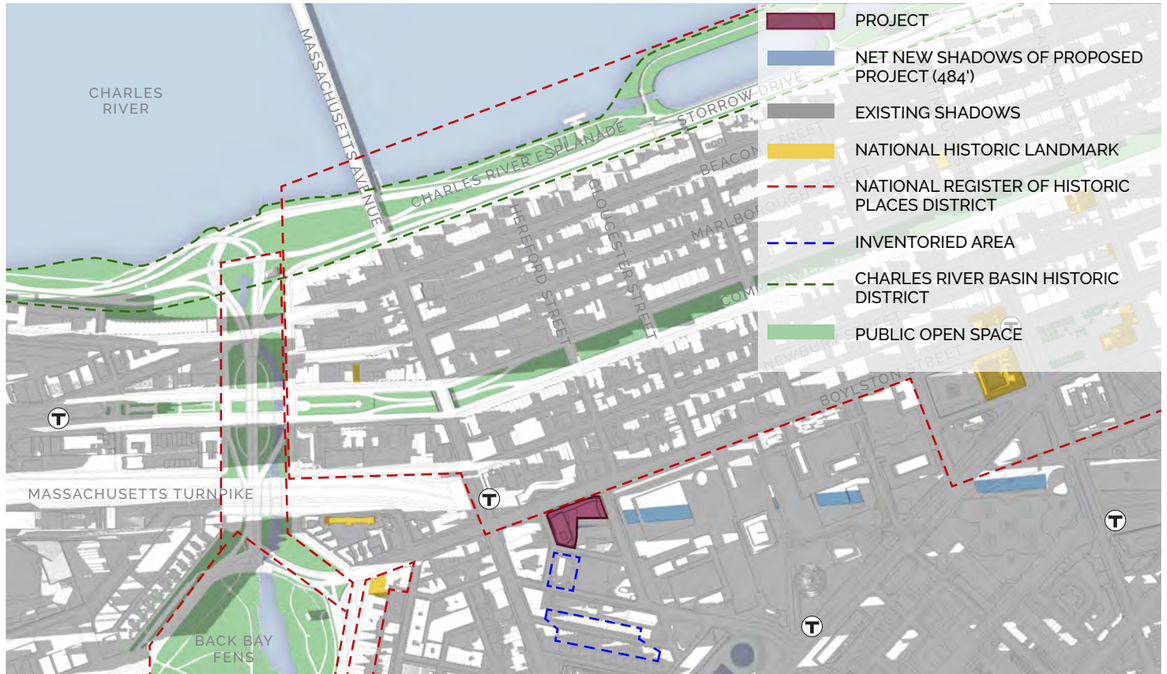
9 am



12 pm



3 pm



6 pm

Note: Since the PNF, the shadow study for September 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.

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ELKUS | MANFREDI ARCHITECTS

Shadow Studies - September 21 Figure 6.3c

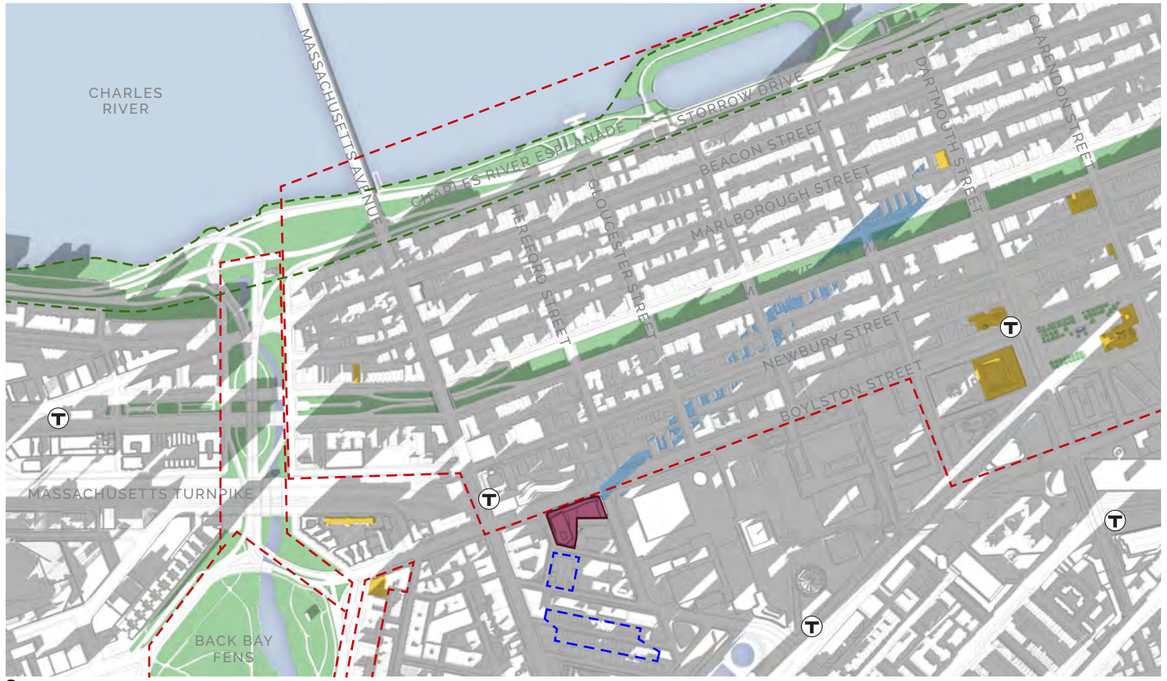
1000 Boylston Street
Boston, Massachusetts



9 am



12 pm



3 pm

- PROJECT
- NET NEW SHADOWS OF PROPOSED PROJECT (484')
- EXISTING SHADOWS
- NATIONAL HISTORIC LANDMARK
- NATIONAL REGISTER OF HISTORIC PLACES DISTRICT
- INVENTORIED AREA
- CHARLES RIVER BASIN HISTORIC DISTRICT
- PUBLIC OPEN SPACE

0 400 800 Feet

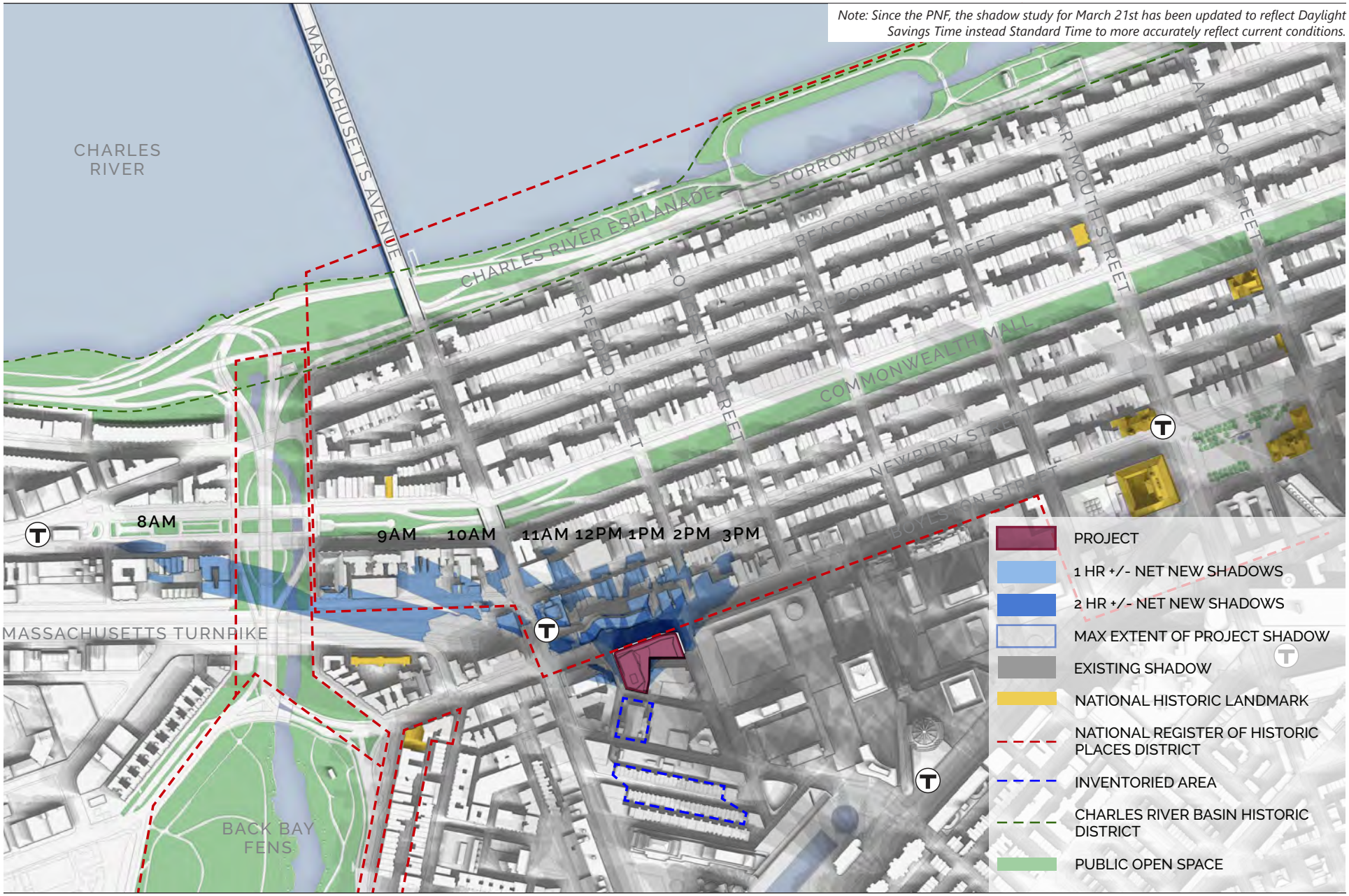
ELKUS | MANFREDI ARCHITECTS

Shadow Studies - December 21
1000 Boylston Street
Boston, Massachusetts

Figure 6.3d

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Note: Since the PNF, the shadow study for March 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.



0 300 600 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Study - March 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4a

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0 300 600 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Study - April 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4b

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0 300 600 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Study - May 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4c

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Note: Since the PNF, the shadow study for June 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.



0 300 600 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Study - June 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4d

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0 300 600 Feet

ELKUS | MANFREDI ARCHITECTS

Shadow Study - July 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4e

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0 300 600 Feet

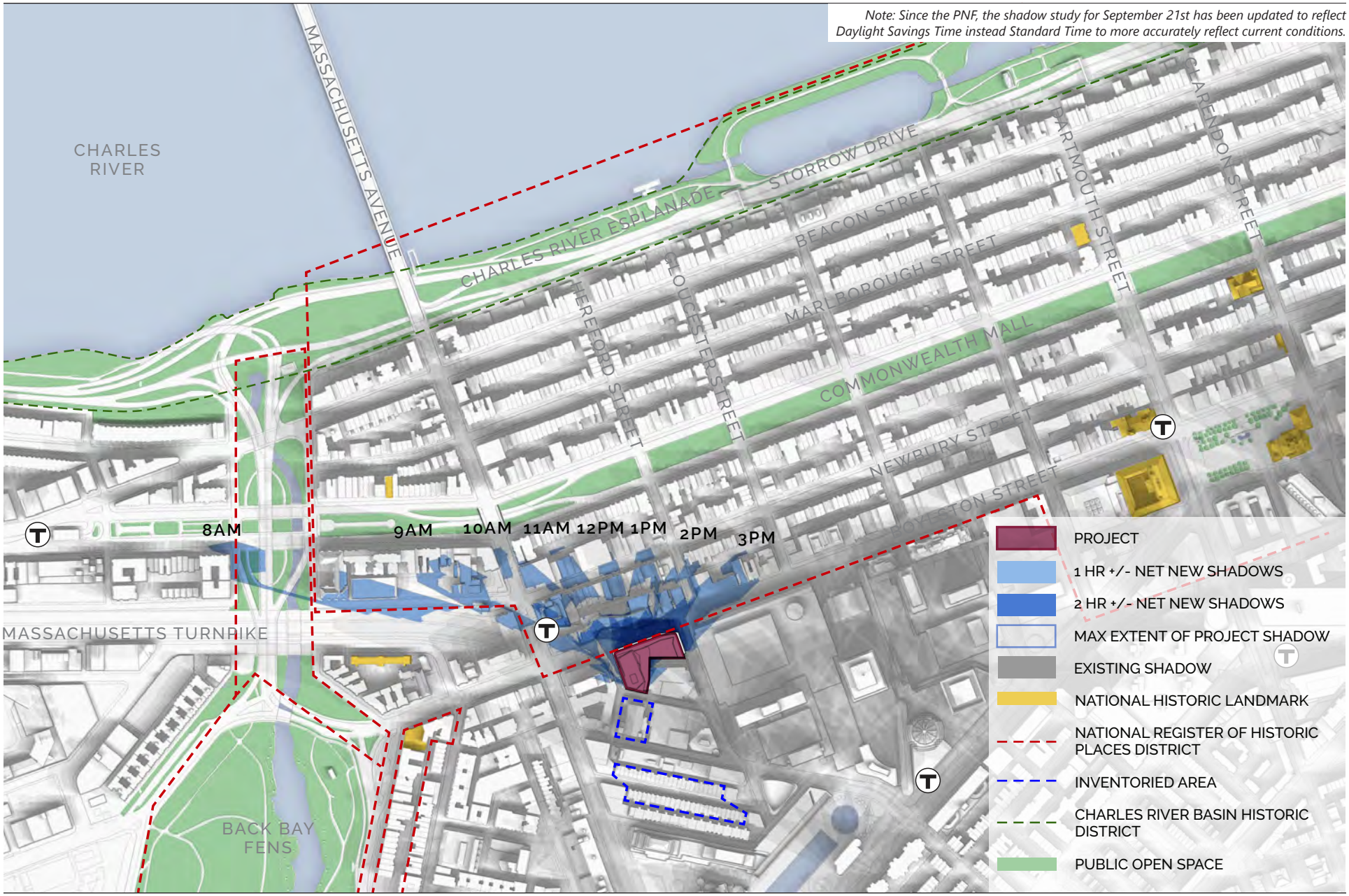
ELKUS | MANFREDI ARCHITECTS

Shadow Study - August 21 Overlap

1000 Boylston Street
Boston, Massachusetts

Figure 6.4f

Note: Since the PNF, the shadow study for September 21st has been updated to reflect Daylight Savings Time instead Standard Time to more accurately reflect current conditions.



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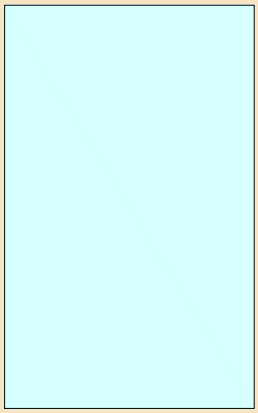
ELKUS | MANFREDI ARCHITECTS

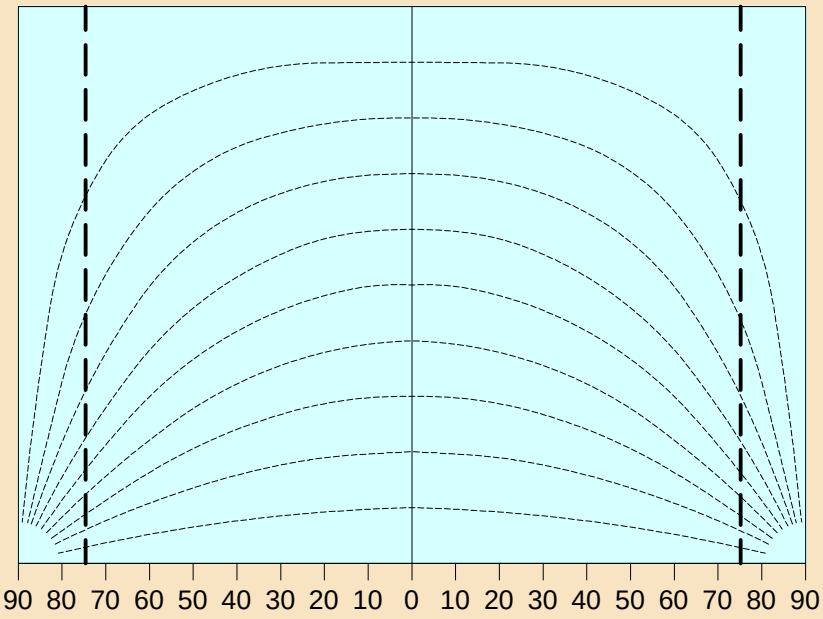
Shadow Study - September 21 Overlap Figure 6.4g

1000 Boylston Street
Boston, Massachusetts

Existing

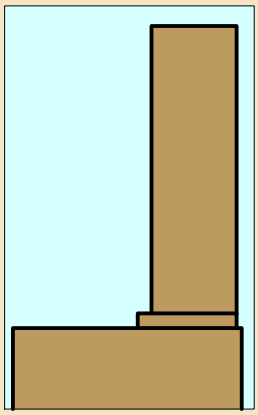
Obstruction of
Skyplane = 0.0%





Proposed

Obstruction of
Skyplane = 73.1%



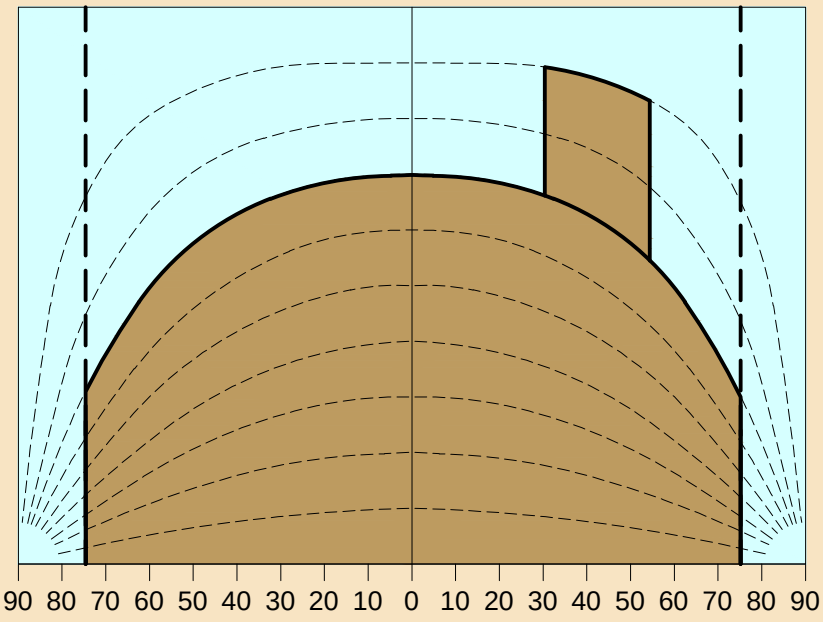


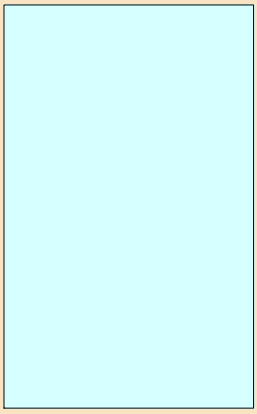
Figure 6.5a

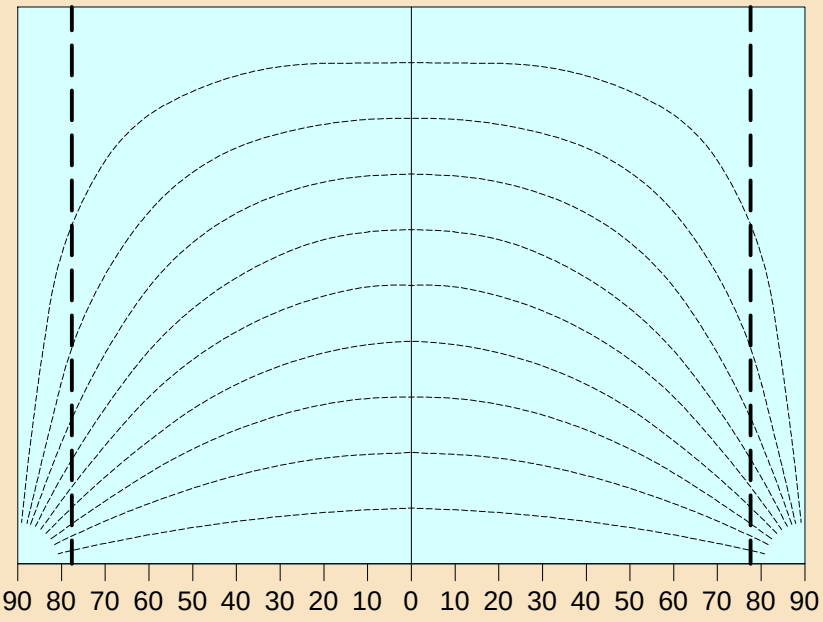
Daylight Analysis
Center of Boylston Street

1000 Boylston Street
Boston, Massachusetts

Existing

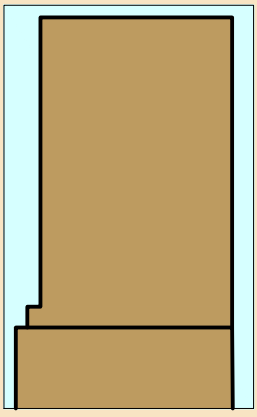
Obstruction of
Skyplane = 0.0%





Proposed

Obstruction of
Skyplane = 95.0%



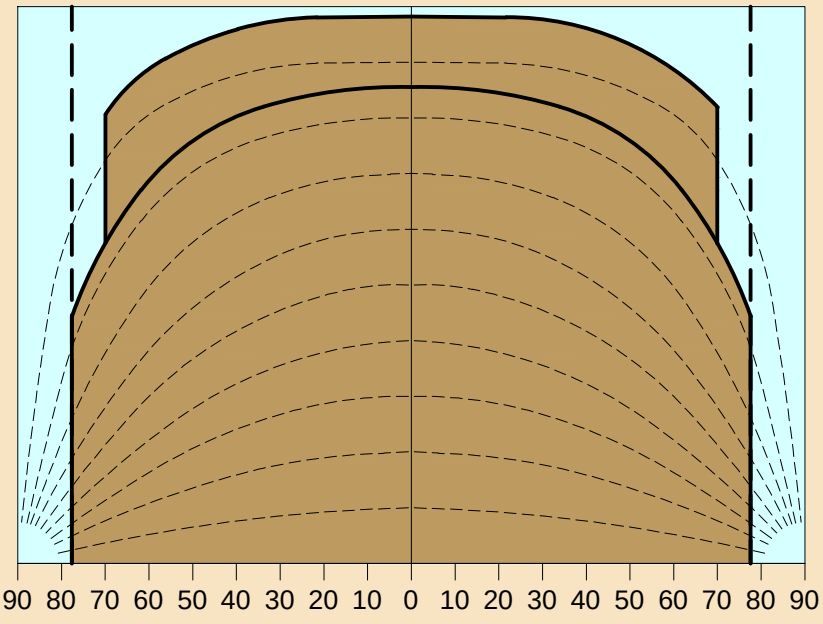


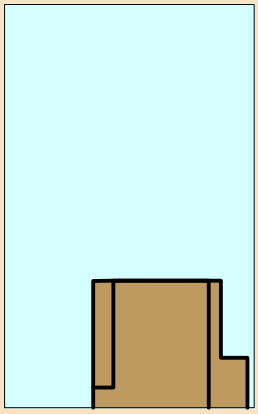
Figure 6.5b

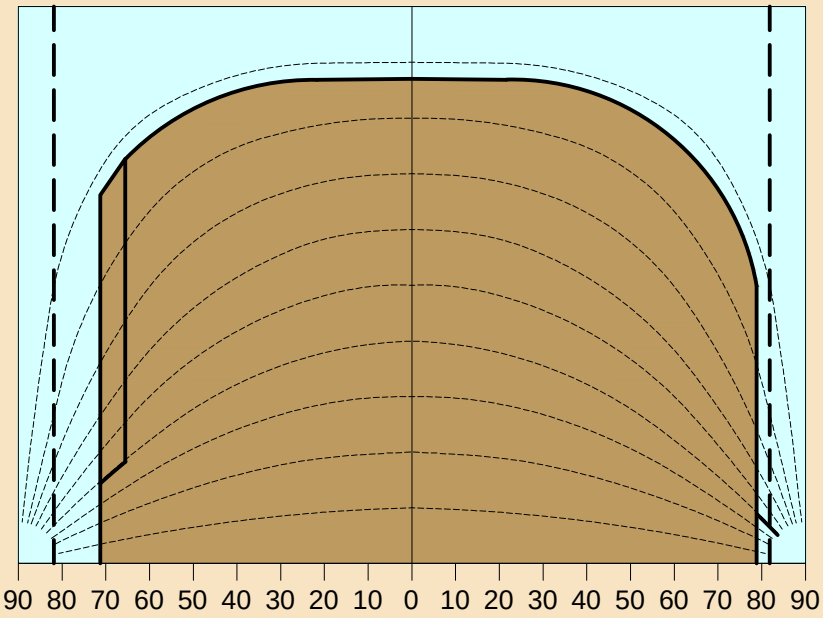
Daylight Analysis
Center of St. Cecilia Street

1000 Boylston Street
Boston, Massachusetts

Existing

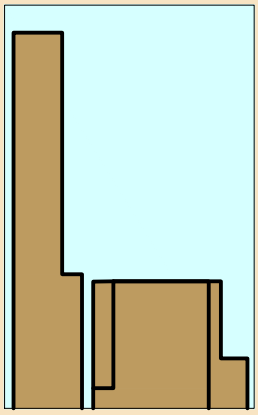
Obstruction of
Skyplane = 77.0%





Proposed

Obstruction of
Skyplane = 86.9%



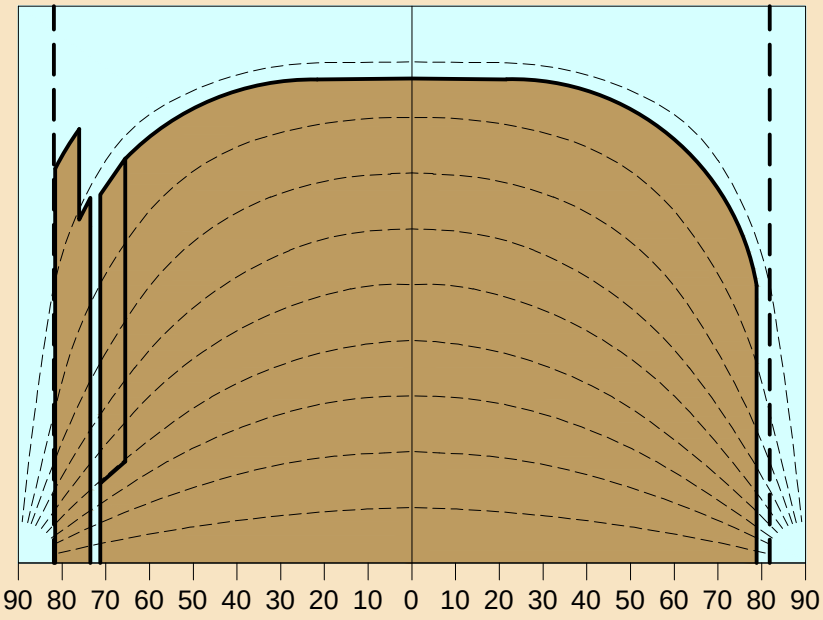


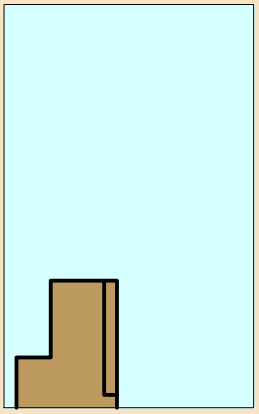
Figure 6.5c

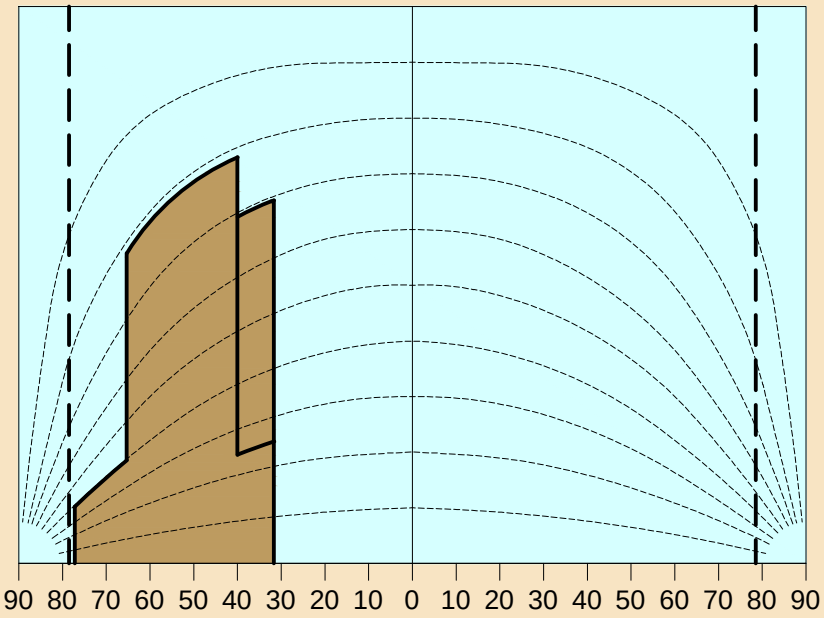
Daylight Analysis
Center of Scotia Street

1000 Boylston Street
Boston, Massachusetts

Existing

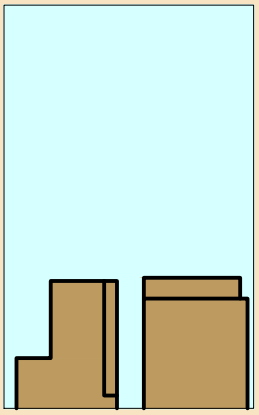
Obstruction of
Skyplane = 30.5%





Proposed

Obstruction of
Skyplane = 53.3%



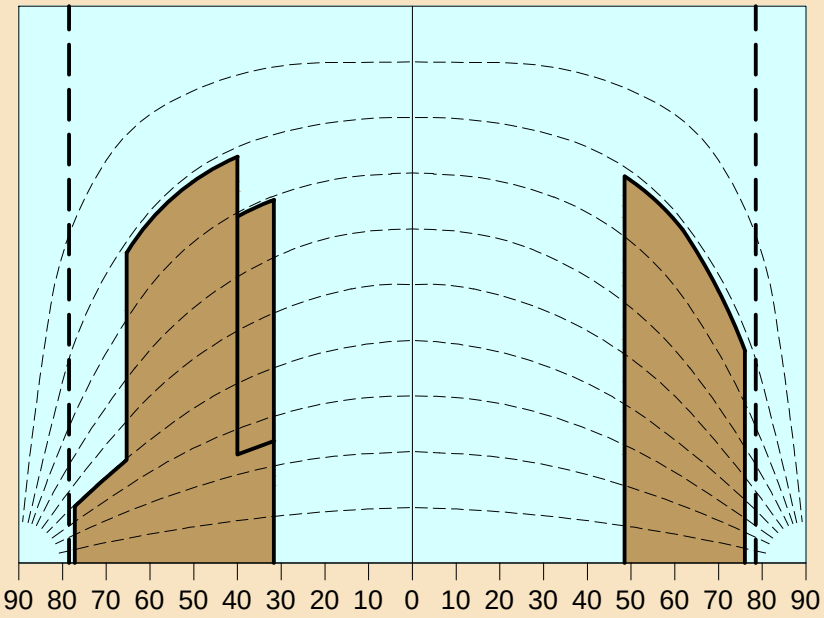


Figure 6.5d

Daylight Analysis
Center of Dalton Street

1000 Boylston Street
Boston, Massachusetts

7

Greenhouse Gas Emissions Assessment

This chapter provides an overview of the local and state regulatory context related to sustainable design and presents the results of the Greenhouse Gas (GHG) emissions assessment, in accordance with the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy").[1] The Proponent is committed to incorporating many key aspects of sustainability and high performance building design, as it is the Proponent's intent to operate the Project in a sustainable manner. The chapter highlights the expected Project-related GHG emissions from both stationary and mobile sources and details the planned mitigation measures to offset some of these emissions.

7.1 Summary of Project Change

The stationary source and mobile source analyses presented in this chapter have been updated to incorporate all project changes since the filing of the ENF/PNF. These project changes are detailed in Section 1.4.1. Some major changes that have been incorporated into the stationary and mobile source modeling that substantially effect building energy usage or vehicle trip generation are:

- The overall reduction of the development program (from 689,000 SF to 439,500 SF), including the reduction of 52 units from the Residences Building and reduced parking capacity from up to 303 spaces to 175 spaces;
- The reduced building height and massing, including elimination of the 182-unit Apartments Building;
- The increased retail space from approximately 35,000 SF to 45,500 SF; and
- The relocation of the parking garage entrance.

7.2 Summary of Key Findings and Benefits

The Project is a transit-oriented development with high-density housing and limited retail uses near the MBTA's Green Line Hynes Convention Center station. The key findings related to sustainable, high-performance design and stationary and mobile source greenhouse gas emissions include:

- Based on the preliminary design parameters assumed in the Design Case, the Project would achieve an energy savings of approximately 12 percent when

[1] MEPA Greenhouse Gas Policy and Protocol, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective May 5, 2010).

compared to the Base Case. This would result in a GHG emissions reduction of 12 percent (471 tons per year).

- The Design Case EUIs of the Project components fall well under the weighted EUI for the prototype buildings in the US Department of Energy (DOE) study. This would indicate that the Project is expected to perform better than prototype buildings of similar use.
- A variety of clean and renewable energy sources were analyzed including solar, solar thermal, wind, and cogeneration in the form of CHP. Based on the energy and payback analysis, facade-mounted, or BIPV solar panels is the most cost-effective potential strategy.
- A variety of additional energy saving measures are proposed as part of the Project including: building commissions, energy tracking and monitoring, plug reductions, green tenant guidelines, and solid/C&D waste reduction strategies.
- Additional transit services are available at the Back Bay Station including Amtrak service, MBTA Commuter Rail, Orange Line and additional bus routes are also available within walking distance of the Project Site.
- The Project-related mobile source CO_2 emissions are projected to be fully mitigated with the implementation of the proposed traffic improvements and TDM program, bringing the emission below the No-Build condition.
- Although market demands for a luxury residential condominium building demands on-site parking for vehicles owned by residents, these conditions will all contribute to having the Project Site generate a high proportion of its trips by transit, bike and walking rather than by private automobiles.

7.3 Regulatory Context

7.3.1 MEPA Greenhouse Gas Policy and Protocol

The Executive Office of Energy and Environmental Affairs (EEA) has developed the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy"), which requires project proponents to identify and describe the feasible measures to minimize both mobile and stationary source GHG emissions generated by their proposed project(s). Mobile sources include vehicles traveling to and from a project while stationary sources include on-site boilers, heaters, and/or internal combustion engines (direct sources) as well as the consumption of energy in the form of fossil fuels (indirect sources). Greenhouse gases include several air pollutants, such as carbon dioxide (CO_2), methane, hydrofluorocarbons, and perfluorocarbons. The MEPA GHG Policy calls for the evaluation of CO_2 emissions for a land development project because CO_2 is the predominant man made contributor to global warming. This evaluation makes use of the terms CO_2 and GHG interchangeably.

The MEPA GHG Policy states that all projects undergoing MEPA review requiring the submission of an Environmental Impact Report (EIR) must quantify the project's GHG emissions and identify measures to avoid, minimize, or mitigate such emissions. In

addition to quantifying project-related GHG emissions, the MEPA GHG Policy requires proponents to quantify the effectiveness of proposed improvements in terms of energy savings and, therefore, potential emissions reductions. The goal of the MEPA GHG Policy is to identify and implement measures to minimize or reduce the total GHG emissions anticipated to be generated by that respective project.

7.3.2 Stretch Energy Code

As part of the Green Communities Act of 2008, Massachusetts developed an optional building code, known as the "Stretch Energy Code," that gives cities and towns the ability to choose stronger energy performance in buildings than otherwise required under the state building code. Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the 8th edition Massachusetts Building Code, the Stretch Energy Code is an appendix to the Massachusetts building code, based on further amendments to the International Energy Conservation Code (IECC). The Stretch Energy Code increases the energy efficiency code requirements for new construction and major residential renovations or additions in municipalities that adopt it. The Stretch Energy Code applies to both residential and commercial buildings and, specifically, to new commercial buildings over 100,000 square feet in size, including multi-family residential buildings over three (3) stories. The City of Boston adopted the Stretch Energy Code, which became mandatory on July 1, 2011.

Effective January 1, 2017, the IECC 2015/ASHRAE 90.1-2013 standard became the new/updated state-wide energy code as an amendment to the 9th edition of the State Building Code, and the Stretch Energy Code was amended to require 10 percent greater energy efficiency compared to ASHRAE 90.1-2013. This DEIR/DPIR assesses the energy performance of the Project using the Stretch Energy Code requirements effective January 1, 2017 to demonstrate the Project can meet such requirements.

7.4 Stationary Source GHG Emissions Assessment

In support of Boston's GHG reduction goals, the Proponent has evaluated and incorporated strategies to minimize energy consumption associated with the Project through building energy modeling based on conceptual design as well as considered clean/renewable energy sources. Also, the Proponent is planning to engage utility providers to better understand available alternative/cleaner energy sources and grants/rebates.

7.4.1 Methodology

To provide for energy efficiency and reduced stationary source GHG emissions, the Proponent has evaluated the following key planning and design criteria:

1. Methods/strategies to reduce overall energy demand through appropriate design and sizing of building systems;

2. Evaluation and incorporation, where feasible, of cost-effective energy-optimizing and high-performance systems; and
3. Consideration of the ability to supplement the required energy demand with self-generated energy (i.e., on-Site clean and/or renewable energy source).

Direct stationary source CO_2 emissions include those emissions from the facility itself, such as boilers, heaters, and internal combustion engines. Indirect stationary source CO_2 emissions are derived from the consumption of electricity, heat, or cooling from off-site sources, such as electrical utility or district heating and cooling systems. The direct and indirect stationary source CO_2 emissions from the proposed building sources are calculated using the computer-based eQUEST v3.65 whole-building energy simulation software based on assumptions for the Project's building elements. eQUEST was used to estimate the energy consumed by the Project including the garage and retail space. Projected electricity and gas usage are based on assumptions for the Project's building elements, such as (but not limited to) the heating, cooling, ventilation, building configuration and architecture type, building envelope (walls/windows), interior fit-out, and equipment efficiency ratings. To estimate associated stationary source GHG emissions, the amount of consumed energy is then converted into the amount of CO_2 emitted using the standardized conversion factor.

For the purposes of the stationary source GHG emissions assessment, the Project has been designed to meet the current Stretch Energy Code requirements (the "Design Case"), or approximately 10 percent better than the Base Code (ASHRAE 90.1-2013) (the "Base Case"). The GHG mitigation measures can be divided into the building's construction materials, architecture, and the heating and cooling processes. The following presents the specific proposed building improvements (and their correlating energy modeling parameters for reference, where applicable) that are assumed to be included as part of the Project for this analysis. Since the design and future users of the Project Components are conceptual, the specific proposed improvements may be subject to design modifications, as necessary, where the stationary source GHG emissions reductions goals established by this assessment will be used to guide final building design.

7.4.2 Future Stationary Source GHG Emissions Measures

The Project consists of consist of a single residential tower containing first and second-story retail and restaurant space fronting Boylston Street, a two-story above-grade parking garage above the retail and an amenities floor for the condominium residents above the parking garage. A summary of the modeling inputs used in the analysis are presented in Table 7-1.

Table 7-1 Energy Modeling Inputs Summary

Building Component	Base Case[1]	Design Case
Square Footage/Usage		
Space Use Type	Condominiums, Retail, and Parking	Condominiums, Retail, and Parking
Conditioned Square Feet	553,000	553,000
Building Envelope (Construction Assemblies)		
Roof Type	R20ci Above Deck	R30ci Above Deck
Roof U-Factor	U-0.048	U-0.033
Wall Type and R-Factor	60% Steel Framed	Precast Panels and Rain-screen
Wall U-Factor	U-0.064	Average 0.039
Fenestration and Shading		
Vertical Fenestration Area	40%	67%
Vertical Glazing U-factor	U-0.55 (operable)	U-0.36 (operable)
Vertical Glazing SHGC	0.4	0.29
HVAC (Air-side)		
Primary HVAC Type (All spaces except for guest rooms)	System 7 - VAV With Reheat - System Per Floor	100% Outside Air Packaged Rooftop Units
Secondary HVAC Type (Apartments & Condos)	PTAC with hot water heat	Fan Coil Units (Condos)
Unitary Efficiency	PTACs: 14 SEER	N/A
Fan System Operation	Guestrooms - On continuously during occupied hours. Cycled to meet load during unoccupied hours. Common Areas - On 24 Hours	Apartments & Condos - Cycled to meet load. Common Areas - On 24 Hours
HVAC (Water-side)		
Number of Chillers	2	2 (For Condo CHW Loop)
Chiller Capacity (Per Chiller)	>300 Tons	769 Tons Each
Chiller Efficiency	.576 kW/Ton	0.514 kW/Ton
Number of Boilers	2	5
Boiler Capacity (Per Boiler)	N/A	3 @ 5,670 MBH 2 @ 3,800 MBH
Boiler Efficiency	82% Natural Draft	92% Condensing
Energy Recovery Ventilator		
Enthalpy Wheel Effectiveness	50%	70%
Domestic Water Heating		
DHW Equipment Type	Gas Storage	Gas Storage
Equipment Efficiency	80%	92%
Lighting		
Interior LPD by Building Area (W/SF)	Café - 0.65 Conference - 1.23 Corridor - 0.66 Fitness - 0.72 Kitchen - 1.21 Loading - 0.19	Café - 0.52 Conference - 0.98 Corridor - 0.53 Fitness - 0.58 Kitchen - 0.97 Loading - 0.15

Building Component	Base Case[1]	Design Case
Interior LPD by Building Area (W/SF) (continued)	Lobby - 0.9 Lounge -0.73 Mechanical - 0.42 Parking - 0.19 Residential - 0.7 Retail - 1.1 Stair - 0.69 Storage - 0.64	Lobby - 0.72 Lounge -0.58 Mechanical - 0.34 Parking - 0.15 Residential - 0.7 Retail - 1.1 Stair - 0.55 Storage - 0.50
Automatic Lighting Shutoff Method	Scheduled off during unoccupied hours	Scheduled off during unoccupied hours

1 Based case represents ASHRAE 90.1 2013 conditions.

The results of the preliminary energy model in Graph 7-1 and Table 7-2 demonstrate that it is feasible for the Project to comply with the Stretch Energy Code requirements effective January 1, 2017. Based on the preliminary design parameters assumed in the Design Case, the proposed residential building would achieve an energy savings of approximately 12 percent when compared to the Base Case.

Graph 7-1 Energy Usage Savings

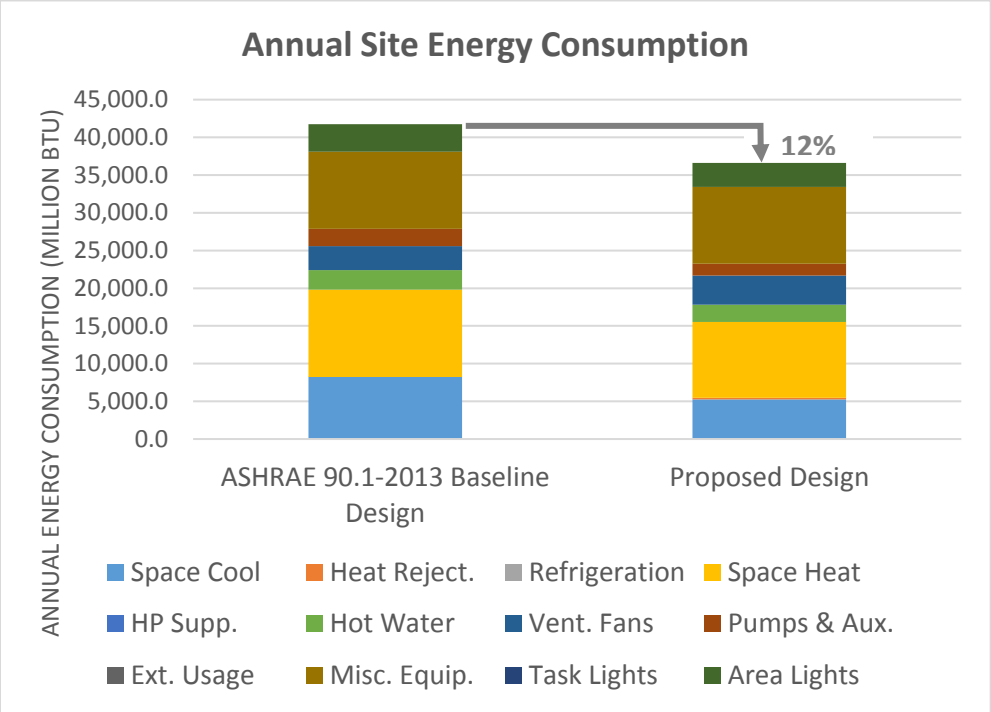


Table 7-2 Energy Usage Savings Summary

	Energy Consumption		
	Electricity (MBtu)	**Natural Gas (MBtu)**	**E.U.I. (kBtu/sf/yr)**
Base Case (ASHRAE 90.1-2013)	27,574 (66%)	14,187 (34%)	76
Design Case	24,253 (66%)	12,340 (34%)	66
Energy Usage Savings	3,321	1,847	10
Energy Usage Savings Target	-	-	10%
Percent Savings	**12%**	**13%**	**12%**

As seen in Graph 7-2 and Table 7-3, the energy savings result in a GHG emissions reduction of 12 percent (from an estimated 3,847 tons per year CO_2 emissions to 3,376 tons per year). While specific improvements may be subject to design modification as design progresses, the Proponent is committed to achieving the stationary source GHG emissions reductions estimated herein for the final building program and design.

Graph 7-2 Greenhouse Gas Emissions Reductions

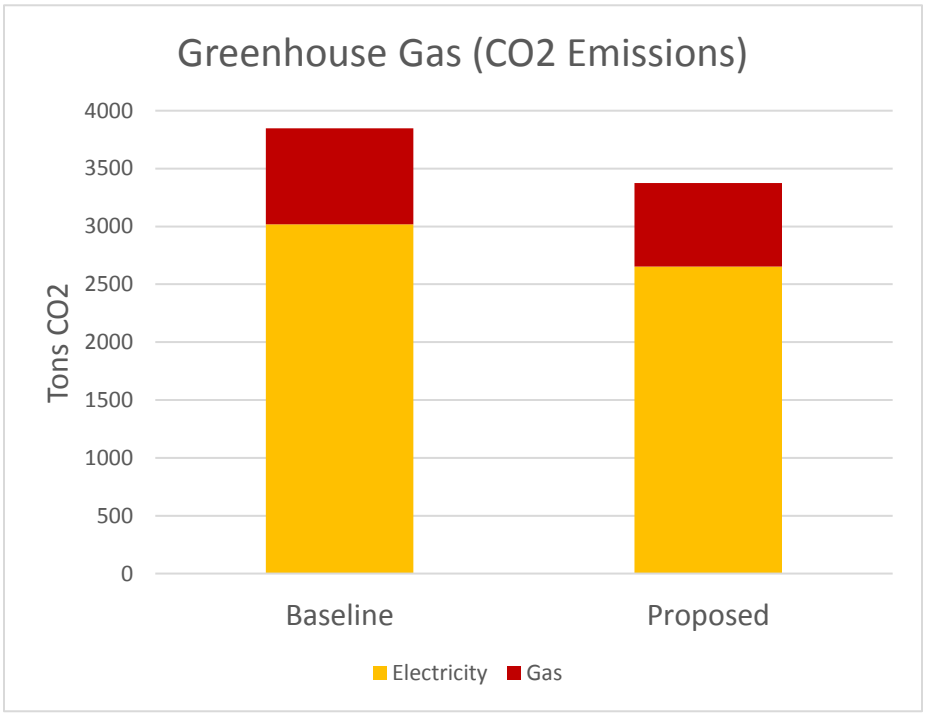


Table 7-3 Stationary Source Greenhouse Gas Emissions Reductions Summary

	Greenhouse Gas (CO_2) Emissions		
	Electricity (short tons)	**Natural Gas (short tons)**	**Total (short tons)**
Base Case (ASHRAE 90.1-2013)	3,018 (78%)	830 (22%)	3,847
Design Case	2,654 (79%)	722 (21%)	3,376
Savings	363	108	471
Percent Savings	**12%**	**13%**	**12%**

Note: 747 lb CO2/MWh was used to convert electricity consumption into the amount of CO2 emissions and 116.98 lb CO2/Mbtu was used to convert gas consumption into the amount of CO2 emissions (2015 ISO-New England Marginal Emissions Report).

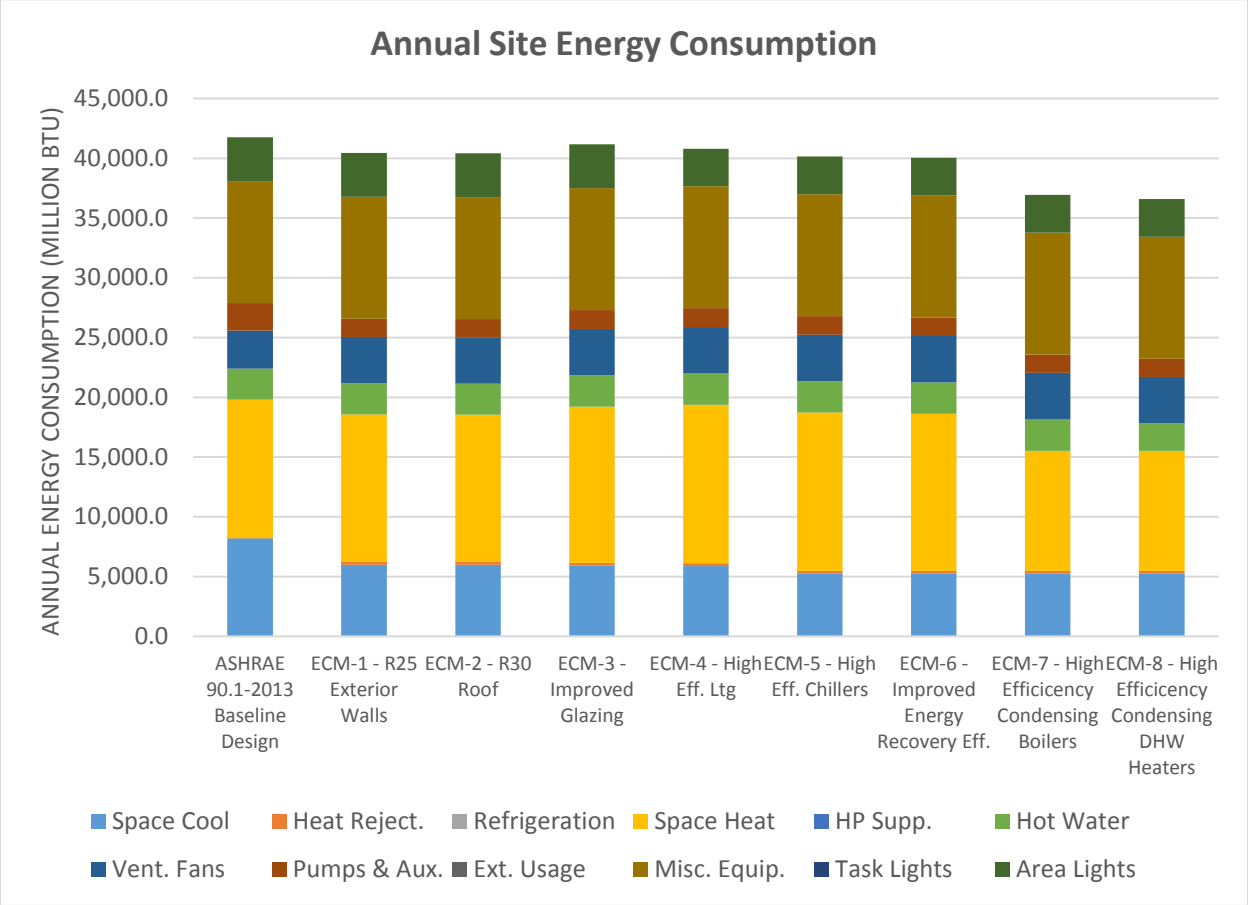
7.4.3 Energy Efficiency Measures

The energy savings calculated in the preliminary energy model were based on several key energy conservation measures for the Project that include:

- High-performance glazing and efficient building materials (walls, roof, and windows);
- Condenser water plant that exceeds base energy code efficiency with variable speed technology, and energy recovery for exhaust;
- High-efficiency chillers with variable speed compressors;
- High-efficiency lighting;
- Ventilation air heat recovery;
- High-efficiency domestic hot water heaters

Graph 7-3 demonstrates the annual energy consumption of these energy efficiency measures. As the Project's design develops, the design team will consider further load reduction where possible through additional strategies.

Graph 7-3 Energy Efficiency Measures



7.4.4 Energy Use Intensity

Energy Use Intensity, or (EUI), is a tool used to provide a common basis of comparison for energy use for various building uses. It is the total amount of energy used at a project over a one-year period, divided by the square footage of that building and represents the energy consumed by a building relative to its size. Based on a recent DOE research report, the median EUIs for prototype buildings in Climate Zone 5A representing Massachusetts are 54.1 kBtu/sf-yr for high-rise apartment buildings and 418.8 kBtu/sf-yr for restaurant, under ASHRAE 90.1-2013.[2] These values were weighted by the expected gross area of each use in the Project to determine a single Prototype Benchmark EUI. Table 7-4 below provides the as-modeled EUI for each component of the Project under the Base and Design Cases.

[2] "Cost-Effectiveness of the ASHRAE Standard 90.1-2013 for the State of Massachusetts". *US Department of Energy*. December 2015.

Table 7-4 Energy Use Intensity (kBtu/sf-yr)

Energy Use Index (kBtu/sf-yr)		Percent Improvement	Prototype Benchmark EUI[4]
Base Case[1]	Design Case		
76	66	12%	92

1 The Base Case represents current Base Energy Code ASHRAE 90.1-2013 standards.

2 Based on US DOE EUIs by End Use Tables. Weighted EUIs for High Rise Apartment and Restaurant buildings were determined based on the Proposed Development's Residential and Retail/Restaurant gross area split of 90% and 10%, respectively.

The Design Case EUIs of the Project components fall well under the weighted EUI for the prototype buildings in the DOE study. This would indicate that the Project is expected to perform better than prototype buildings of similar use. The Prototype Benchmark EUIs are for theoretical buildings with designs that do not exactly reflect the Project they are being compared against. As such, differences between the modeled EUIs and the Benchmarks are expected. The Design Case EUIs represent significant improvement over the Base Case EUIs, which is required by the Stretch Energy Code and demonstrate the Proponent's commitment to constructing a green Project.

7.4.5 Other Beneficial Stationary Source GHG Emissions Measures Assessed

Other beneficial measures are intended to be incorporated into the Project's design which cannot be incorporated into the energy modeling due to modeling limitations. These measures are described below.

Building Commissioning

Building commissioning will be conducted prior to and during occupancy to ensure the building systems are operating efficiently and as designed. This quality control process optimizes the energy performance of the building, reduces maintenance cost, and extends the lifespan of the building systems. Facilities staff will be trained on how to properly operate building systems, with special consideration to new high performance technologies. The period between audits depends on energy performance. The Proponent will conduct an enhanced commissioning process during the construction process, including functional testing of all major lighting and HVAC systems. The Proponent will benchmark the performance of the building against the performance of other buildings in its portfolio and national/local averages at least twice a year after the building is placed in service and stabilized. If underperformance is identified, the Proponent will audit major lighting and HVAC systems and address deficiencies.

Energy Tracking and Monitoring

The Proponent has an internal program for tracking building energy use over time, using Energy Star Portfolio Manager and Energy Intelligence Software.

The Proponent will implement a Measurement and Verification (M&V) plan that will utilize the base building energy management system to monitor operation of equipment or systems. The building will include a centrally monitored electronic metering network in the base building design that is capable of being expanded to accommodate and document future tenant sub-metering. Additionally, retail tenants shall be metered either via check meters or utility meters, depending on the utility.

The Proponent is a supporter of the City's Climate Action Plan, currently complies with the Building Energy Use Disclosure Ordinance, and will report whole building energy use for each component of the Project.

Plug Load Reduction

The Proponent commits to encouraging the use of ENERGY STAR appliances and equipment where available and reasonably practicable. The building energy model does not take credit for reduced plug loads as the eQUEST model conducted for the Design Case did not account for energy conservation measures related to plug-in equipment. The use of ENERGY STAR appliances and equipment has proven to result in a reduction in overall energy use and, therefore, a reduction in stationary source CO_2 emissions for the Project.[3] A 10 percent reduction was applied to the total annual electrical output of the Miscellaneous[4] category derived from the eQUEST model. By applying the 10 percent reduction to account for ENERGY STAR appliances and equipment, the total annual Miscellaneous electricity would be reduced from 2,990 MWh to 2,691 MWh which is equivalent to a difference of 112 tons of CO_2 emissions. This results in an overall stationary source CO_2 emissions reduction of 10 percent for the Project and overall energy reduction of 10 percent compared to the baseline code.

Green Tenant Guidelines

The Proponent will provide Tenant Design and Construction Guidelines to potential retail/restaurant tenants during the leasing process. The intent of these guidelines is to educate future tenants about implementing sustainable design and construction features in their tenant improvement build-outs as well as adopting green building practices that support the overall sustainability goals of the Project. The guidelines will also communicate the sustainable and resource-efficient features incorporated into the Project and provide suggested sustainable strategies enabling tenants to coordinate their leased space design and construction with the rest of the Project systems.

These lease guidelines may include the following information:

[3] Compared to standard office equipment and home appliances (non-ENERGY STAR rated), ENERGY START-qualified products use 30 to 75 percent less electricity according to the ENERGY STAR website: <https://www.energystar.gov/index.cfm?c=ofc_equip.pr_office_equipment>

[4] The Miscellaneous category is one of the six categories eQUEST breaks electrical use into and the most applicable to plug-in loads.

- Descriptions of sustainable design, construction, and operational features of the Project, including resource conservation goals and features (i.e., low-flow plumbing fixtures, sub-metered systems, lighting controls), as well as building certifications, such as LEED.
- Descriptions of current regulatory requirements that pertain to leasable spaces (i.e., Stretch Energy Code, City of Boston energy reporting requirements).
- A list of approved categories of fit-out materials with performance standards, such as recycled content, regional availability, VOC content limits for adhesives, sealants, paints and coatings, NAUF composite wood materials, and CRI and/or FloorScore compliant flooring materials.
- Waste reduction goals and recycling facilities/programs.
- Information on Green Cleaning guidelines/policies.
- Information regarding Project-wide features that aim to encourage alternative transportation and TDM measures.
- Information on how to train/inform maintenance staff and employees on sustainable design/operation features.

In addition, the Proponent is considering providing Green Tenant Guidelines for residential tenants which would provide information on utilizing the sustainable design features of the building and the individual units to their fullest potential. These could include information on how to use the heating and cooling systems, ways to conserve energy and water, plug load controls, waste reduction and recycling, green cleaning guidelines and products, non-automotive transportation and cycling options and identification of amenities within walking distance.

Solid/C&D Waste Reduction and potential GHG reductions

Recycling and reuse programs will be developed and implemented by all construction contractors to reduce the amount of waste that is sent to landfills throughout construction. Prior to the start of construction, the construction management team will prepare and submit a Construction Waste Management Plan (CWMP) which will be implemented on Site. The Project will target a minimum diversion rate of 75 percent of C&D waste.

Storage of collected recyclables will be accommodated in designated recycling areas of the Project. A contracted waste management company will collect the recyclables on a regular basis. The Project is targeting 100 percent of paper, corrugated cardboard, glass, plastic and metal to be recycled during operations. Information on recyclable materials and the recycling program will be distributed to residential tenants and the retail/restaurant Tenant Design and Construction Guidelines will include strategies to reduce waste through recycling and reuse programs.

Passive House

Passive House is a rigorous, voluntary standard for energy efficiency in a building, reducing its ecological footprint. It results in ultra-low energy buildings that require

little energy for space heating or cooling. Passive House is a design process that is integrated with architectural design that focuses on achieving very low energy use for heating and cooling buildings by implementing design solutions such as optimized orientation and shading, superinsulation, passive solar gains, air-tight envelope, elimination of thermal bridges and efficient HVAC. The program is relatively new in the United States but has been expanding across Europe.

Given the cost premium associated with the higher insulated and less air permeable envelope needed to achieve internal peak heating and cooling load requirements, Passive House Standard far exceeds the program of the Project. As such, neither the Passive House US (PHIUS) nor Passive House International (PHI) are being considered for the Project.

While the Proponent does not intend to seek PHIUS certification, many of the strategies of Passive House will be further developed during design phases. The most significant cost savings that result from implementing Passive House principles result from reduction in heating and cooling equipment sizing and operating costs. However, superinsulation in exterior envelope, reduced infiltration and air-sealing requirements result in a much higher first cost.

7.4.6 Clean and Renewable Energy Analysis

A variety of clean and renewable energy sources were analyzed including solar, solar thermal, wind, and cogeneration in the form of CHP. Based on the energy and payback analysis, facade-mounted, or BIPV solar panels is the most cost-effective potential strategy. While not included in the base design assumptions of the preliminary energy models, these systems will continue to be evaluated as the Project design advances. In other words, the base design is able to achieve the proposed energy savings and GHG reductions shown here without these systems included in the preliminary energy models.

Photovoltaic Panels

For the purposes of gaining a better understanding of their potential contribution to on-site power generation, a detailed analysis of roof top and façade locations for solar photovoltaic (PV) systems has been conducted for the Project. This evaluation determined that competing space requirements for the roof and the relatively small roof area compared to the building volume make roof-top generation unattractive.

Facade-mounted, or BIPV solar panels are an attractive choice for the Project given its relatively unobstructed south, east, and west exposure. BIPV panels will be further considered for the rooftop mechanical penthouse enclosure as well as integration into the spandrel façade system. Approximately 56,000 sf of panels could be installed in these areas for a total array size of approximately 300 kW. Based on the vertical tilt of the panels and the different façade orientations, this array could produce approximately 201,000 kWh per year (two (2) percent of the total building

consumption) and offset approximately 59 metric tons of CO_2 per year (the equivalent of taking 13 cars off the road each year).[5]

Combined Heat and Power

Combined heat and power (CHP) systems, also known as cogeneration, generate electricity and useful thermal energy in a single, integrated system. CHP systems are most advantageous for facilities that have a hot water demand year-round. The Proponent and project team have conducted a conceptual analysis of a CHP system to serve the Project. However, Eversource has indicated that it will not allow cogeneration while the building is connected to the utility network. The system could be run in island mode and transfer between the utility and the CHP to drive a selected load but this would preclude an important financial and efficiency element of a CHP, which is to sell electricity back to the grid during non-peak on-site demand. Therefore, a CHP system has been dismissed as a viable alternative/clean energy option for the Project.

Steam is available to the Project via a district energy plant located in downtown Boston, which is produced from a CHP system. The CHP District Steam plant is powered via natural gas and produces both electricity and steam. Experience has shown that using district steam will reduce the overall GHG emissions; however, it may not necessarily reduce the overall energy cost for the owner. The Proponent has continued to discuss with Veolia the possibility of utilizing steam for the Proposed Project. The evaluation of the proposal provided by Veolia based on the proposed program shows the use of district steam for heating as cost prohibitive when considered with required site gas utility improvements.

Due to the electric utility's policy on CHP, the Proponent is committed to investing in energy conservation measures through design, which, based on preliminary building energy modeling, is expected to exceed the Stretch Energy Code requirements effective January 1, 2017. In addition, given the Project phasing timeframe, it is anticipated that energy conservation technologies will advance providing additional, potentially more viable, options than a CHP system.

Steam

Steam is available to the Project via a district energy plant located in downtown Boston, which is produced from a CHP system. The CHP District Steam plant is powered via natural gas and produces both electricity and steam. Experience has shown that using district steam will reduce the overall GHG emissions; however, it may not necessarily reduce the overall energy cost for the Project.

The Proponent has continued to discuss with Veolia the possibility of utilizing steam for the Project. The evaluation of the proposal provided by Veolia based on the Project's program shows the use of district steam for heating as cost prohibitive when considered with required site gas utility improvements.

[5] Based on *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, EPA, 2016

Wind

The feasibility of generating electricity from wind sources was assessed and rejected for the following reasons:

- Competing roof area for mechanical equipment, vegetated roofs and amenities;
- Wind speed in Boston is too low for cost-effective electricity generation; and
- Small, vertical wind turbines provide insignificant electricity generation relative to total building demand.

Transpired Solar Collectors

The feasibility of using solar energy to preheat ventilation air was assessed and rejected for the following reasons:

- Transpired solar collectors are ideal for large opaque south-facing walls. Residential projects have too much glazing and not enough continuous opaque wall area to make this technology viable; and
- The Project includes energy recovery wheels to preheat all outside air entering the building. The energy recovery wheels recover heat from building return air that would otherwise be exhausted. Since the residential units are naturally ventilated with operable windows, installing a solar collector would not be a cost-effective solution.

Solar Thermal

The feasibility of generating thermal energy from solar thermal was assessed and rejected for the following reasons:

- Competing roof area for mechanical equipment, vegetated roofs and amenities; and
- Roof area is very small relative to high hot water demands in residential buildings.

Geothermal (Ground Source Heat Pumps)

The feasibility of generating electricity from geothermal sources was assessed and rejected for the following reasons:

- The Project is building over the Turnpike and adjacent rail corridor and there are significant space constraints for foundations and services;
- The little amount of available firm ground below the Project cannot provide any significant capacity relative to the Project heating and cooling demand; and
- Relatively low cost of natural gas and relatively high cost of electricity makes Geothermal much less cost-effective compared with other clean energy technologies.

Based on load estimates, the Project would require a well field of approximately 270,000 sf of open land area. The above conclusions are based on 500-square foot

per ton of cooling and 2.5 ton per well cooling available. To be able to provide cooling, 650 wells are required. Each well needs to be placed 20 feet apart and a total of 270,000 square feet area requirement, which is not feasible given the urban and Air Rights location of the Project Site.

7.4.7 Energy Efficiency Assistance

The Proponent is aware that the Project's electrical and natural gas service providers may potentially offer technical assistance and incentives for implementing energy efficiency measures. By working with these utilities throughout the design process, the Proponent will evaluate additional energy conservation strategies and, therefore, additional energy savings and associated GHG emissions reductions may be achieved.

Furthermore, the Proponent is committed to meeting the applicable requirements of the City of Boston Building Energy Reporting and Disclosure Ordinance, Section 7-2.2 of the Boston Ordinances, once the Project is in operation.

7.5 Mobile Source GHG Emissions Assessment

Mobile source GHG emissions are based upon the traffic volumes, the distance vehicles travel and GHG emission rates. The mobile source emissions are calculated by performing a mesoscale analysis to evaluate the changes in CO_2 emissions for the existing and future conditions within the traffic study area. The GHG mobile source analysis estimates the area-wide CO_2 emissions from vehicle traffic for a period of one year. Mobile source emissions were calculated by performing an annual GHG emissions mesoscale analysis to evaluate the estimated change in CO_2 emissions for the existing and future conditions within the study area.

Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2017 Existing Condition; and 2024 future No-Build and Build Conditions. The analysis compares the future No-Build and Build Conditions in order to identify the anticipated changes in traffic conditions and mobile source GHG emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

Mobile Source Emission Rates and Inventories

EPA's Office of Transportation and Air Quality (OTAQ) has developed the Motor Vehicle Emission Simulator (MOVES)[6]. MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate GHG and other emissions from cars, trucks, buses, and motorcycles.

12 MOVES2014a (Motor Vehicles Emission Simulator), December 2015, US EPA, Office of Mobile Sources, Ann Arbor, MI.

All the vehicle emissions used in mobile source GHG analysis were obtained using EPA's MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in a mass per distance format (often grams per mile) for existing and future conditions and applies these factors to Vehicle Miles Travelled (VMT) data to obtain emissions inventories. The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance (I/M) Program.[7] These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios. Input data for the model was obtained from MassDEP and used Project-specific developed inputs where appropriate.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to vehicles in the study area. Links were created that used the appropriate speeds and grades for each roadway segment.

Traffic Data

The air quality study used traffic data (volumes, delays, and speeds) developed for each analysis condition. The mesoscale analysis for CO_2 emissions considered a yearly traffic volume developed from weekday periods. The vehicle miles traveled data used in the air quality analysis were developed based on the traffic data analyzed in this report (Chapter 5, *Transportation)*.

Existing Mobile Source CO_2 Emissions

Table 7-5 presents CO_2 emissions from mobile sources under all conditions. The calculation of Existing Conditions mobile source emissions provides a base for which future years are evaluated. The mobile source analysis calculated the existing CO_2 emissions from the major roadways in the study area. These CO_2 emissions, estimated to be 13,589 tons per year, establish a baseline to which future emissions can be compared. Results are presented in short tons (2,000 lbs.) per year.

Future Mobile Source CO_2 Emissions

Future Project-related mobile source CO_2 emissions calculations are based upon changes in traffic and emission's factor data. The traffic data includes traffic volumes,

13 The Stage II Vapor Recovery System is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

vehicle miles traveled, roadway operations, and physical roadway improvements. The emission factor data includes emission reduction programs and years of analysis.

The mobile source analysis estimated the future study area CO_2 emissions due to the changes in traffic and emission data. Under the No-Build Condition, CO_2 emissions were estimated to be 12,689 tons per year. Under the Build Condition, the CO_2 emissions were estimated to be 12,749 tons per year.

The total Project-related mobile source GHG emissions are 60 tons per year, as presented in Table 7-5. The 60 tons per year increase in CO_2 emission represents a 0.5 percent increase in CO_2 emissions for the mesoscale study area for future 2024 conditions.

Table 7-5 Mobile Source CO_2 Emissions Analysis Results (tons per year)

Pollutant	2017 Existing Conditions	2024 No-Build Conditions	2024 Build Conditions	Project-related CO_2 Emissions[1]
Greenhouse Gas (CO_2)	13,589	12,689	12,749	60

1 Represents the difference in CO_2 emissions between the Build and No-Build Conditions.

Proposed Mitigation Measures

The mobile source GHG assessment calculated the GHG emissions for Project-related mobile sources. A comprehensive transportation mitigation program has been developed to mitigate impacts of Project-related traffic. Specifically, the traffic mitigation measures proposed by the Proponent to minimize the traffic impacts of the full build-out of the Project include TDM measures.

The Proponent is committed to implementing a comprehensive TDM program. A full description of the TDM program is detailed in Section 5.14.2 of Chapter 5, *Transportation*. Implementation of the TDM program is expected to improve air quality in the study area by promoting the use of alternative forms of transportation over the use of single-occupant motor vehicle (SOV) trips to the Project Site.

Although not easily modeled, previous estimates of similar TDM programs in an urban area have ranged on the order of two percent reduction in vehicle miles travelled from the Project-generated trips. Assuming a similar relationship to GHG emissions, this would correlate to an approximately one ton of CO_2 per year reduction in mobile source GHG based on estimated Project emissions.

In addition to the TDM program the Project will include traffic improvements. As discussed further in Chapter 5, *Transportation,* these improvements include minor signal phasing and timing modifications to the intersections of Massachusetts Avenue and Beacon Street as well as the intersection of Huntington Avenue at Belvidere Street/West Newton Street. The design also proposes to change Scotia Street from a one-way to a two-way street west of the site driveway to allow vehicles to exit right out of the parking garage. Scotia Street will remain one-way to Dalton Street east of the driveway.

The traffic mitigation measures will provide a reduction of approximately 227 tons per year (tpy) of Project-related CO_2 and an additional 1 tpy reduction from the TDM measures. This results in an overall lower amount of CO_2 emissions lower than the No Build Condition. A summary of the mitigation emissions reduction is included in Table 7-6.

Table 7-6 Mobile Source CO_2 Emissions Mitigation Analysis Results (tons per year)

Pollutant	Project-Related CO_2 Emissions[1]	Estimated Reductions Due to TDM Measures[2]	Estimated Reductions Due to Roadway Improvements[3]	Resulting Project-Related CO_2 Emissions
Greenhouse Gas (CO_2)	60	1	227	-167

1 Represents the difference in CO_2 emissions between the 2024 Build and No-Build Conditions

2 Mitigation from TDM Measures estimated as 2 percent of unmitigated Project-related emissions.

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Landlocked Tidelands

The Project is subject to the jurisdiction of the 2007 statute *An Act Relative to Licensing Requirements for Certain Tidelands* (2007 Mass. Acts ch. 168, sec 8) (the "Act") because it is located on tidelands associated with the Charles River. Based on MassDEP's presumptive line, the Project Site is located within landlocked, filled tidelands that are entirely separated by a public way or interconnected public ways from flowed tidelands, as defined by 301 CMR 9.02. Such filled tidelands are not subject to licensing under M.G.L. Chapter 91.

As required by the Secretary's Certificate on the ENF, this chapter describes the tidelands jurisdiction on the Project Site and the nature of the tidelands affected by the Project. A summary of environmental and community benefits of the Project is also provided, pursuant to 301 CMR 13.02.

8.1 Chapter 91 Jurisdiction

As part of the ENF filed on January 3, 2017, a permitting assessment was conducted to identify the jurisdictional limits for the Project Site. Based on MassDEP's presumptive historic high water line, as shown in Figure 8.1, the entire Project Site is located within landlocked, filled tidelands that are entirely separated by a public way or interconnected public ways from flowed tidelands, as defined by 301 CMR 9.02. The Proponent accepts MassDEP's presumptive line, and agrees that the Project Site is entirely located on filled, landlocked tidelands. Accordingly, the Project requires a Mandatory Public Benefit Review/Determination by the Secretary of EEA, per 301 CMR 13.02.

While the Project Site is located within landlocked tidelands adjacent to the Boston Fens and the Charles River, it is not located within any other type of filled tidelands that would be subject to licensing and permitting by MassDEP, pursuant to 310 CMR 9.04(2).

8.2 Nature of Tidelands Affected by the Project

As described in Chapter 1, *Project Description and Alternatives*, the Project consists of a single condominium tower rising from a Podium base, containing up to approximately 108 condominium units, approximately 45,500 square feet of first and second-story retail and restaurant space fronting on Dalton, Boylston and St. Cecilia Streets, and a two-story above-grade parking garage containing approximately 175 spaces. The Project will be constructed on a vacant site comprised of both land and air rights parcels above and adjacent to the Turnpike, and bounded by Boylston,

Dalton, Cambria, St. Cecilia and Scotia Streets in the Back Bay neighborhood of Boston.

The Project not only will provide for significant urban design and public realm improvements along the key commercial corridor of Boylston Street, but also will contribute to city's housing supply, expand sustenance retail options, create jobs and generate additional tax revenues. The Project will result in sustainable, smart growth by favoring development in a walkable and bikeable urban area that utilizes sufficient existing infrastructure that would otherwise need to be created or expanded in comparable suburban developments. The public benefits associated with the Project are summarized in Section 1.5 of Chapter 1 and are further described below. Further, Chapter 11, *Summary of Mitigation Measures/Draft Section 61 Findings* provides a detailed summary of the mitigation measures proposed to eliminate, minimize, and/or reduce environmental and community impacts associated with the Project.

8.3 Public Benefits Determination

The Project is subject to the jurisdiction of the Act, which requires the following consideration when making a Public Benefit Determination:

- Purpose and effect of the development;
- The impact on abutters and the surrounding community;
- Enhancement of the property;
- Benefits to the public trust rights in tidelands or other associated rights;
- Community activities on the development site;
- Environmental protection and preservation;
- Public health and safety; and
- General welfare.

In weighing the adequacy of the proposed public benefit, the Secretary is required to place particular emphasis on the benefit to the public trust rights in tidelands. The Secretary is further instructed by the Act to consider the differences between tidelands, landlocked tidelands, and great ponds when assessing the public benefit and to consider the practical impact of the public benefit on development.

The following sections describe how the Project provides appropriate public benefits, enhances the public use of landlocked filled tidelands and is adequately protective of the Public Trust rights inherent therein. All of the public benefits and improvements described below will occur within filled tidelands.

8.3.1 Purpose and Effect of the Development

The Project offers a holistic approach to transforming an undeveloped open-air highway overpass into a vibrant residential development with street-level retail and restaurant uses. Located in the heart of Boston's Back Bay neighborhood along Boylston Street, a major commercial corridor, the Project Site is a major gap in the public realm and cityscape created by the development of the Turnpike. It is situated

near the Hynes Convention Center and Prudential Center, the shops and residences of the Back Bay historic district, the bustling corridor of Massachusetts Avenue and the Christian Science Center Plaza. The Project will benefit both the immediate neighborhoods and the City at large by repairing the discontinuity in the urban street wall left behind by the Turnpike expansion through Boston through improving retail vitality and offering high-quality residential living, as well as creating a more cohesive link among the Back Bay, Fenway and South End neighborhoods.

8.3.2 Impact on Abutters and Community

The Project will have many positive impacts on abutters and the community related to transportation, stormwater management/water quality, sustainability, and social and economic development. As discussed in Chapter 5, *Transportation*, residential use is a low traffic-generating use.

Consistent with BTD's Complete Streets design principles, the Project will make significant improvements to the surrounding public realm and neighborhood access. Enhanced pedestrian accommodations around the Project Site, including repaved sidewalks, and new pedestrian lighting, plantings to the extent feasible, and/or furnishings will provide an improved and safer pedestrian environment.

The Project will provide approximately 45,500 square feet of first and second-floor retail and restaurant space fronting Boylston, Dalton, and St. Cecilia Streets, which will enhance pedestrian activity around the Project Site and provide amenities to neighbors and building residents. Additionally, the Project promotes a vibrant mixed-use neighborhood, and will draw customers to other restaurants, stores, and services in the area.

The Project will create an estimated 1,200 construction jobs in all trades and new permanent jobs, as well as annual local real estate tax revenue and state sales tax revenue.

8.3.3 Enhancement of the Property

The Project will use land efficiently through infill development, including the use of air rights parcels to create a mixed-use development that is responsive to the area's residential and retail needs. The Project will replace an eye sore that is the "hole" looking down onto the Turnpike along the key commercial corridor of Boylston Street. The Project offers a considerable opportunity to rejuvenate the currently vacant highway overpass, transform the adjoining public realm, create an attractive and appealing place worth of its highly visible and accessible location, and become an asset to the vibrant Back Bay and Fenway neighborhoods and the City.

8.3.4 Benefits to the Public Trust Rights in Tidelands or Other Associated Rights

The traditional public trust rights in tidelands (e.g., the right to fish, fowl and navigate) have long been precluded at the Project Site by the historic filling and

development of downtown Boston. However, the modern expression of these traditional public trust rights on filled land isolated from the existing water shed will be realized by the conversion from an undeveloped highway overpass into a hub of residential and retail mixed uses, which will help knit together the Back Bay and Fenway neighborhoods, and the City at large.

The Project Site has also been subject of extensive planning and review by the BPDA, MassDOT, design and planning experts, as well as the community that worked together to craft a vision for the air rights over the Boston Extension of the Turnpike (the "Civic Vision" plan). This proposed Project provides the opportunity to reactivate the Project Site by:

- Revitalizing an underutilized urban site by incorporating a moderate amount of density within the urban core;
- Improving the public realm by providing engaging ground and second floor uses (i.e., retail and restaurant) to create continuous street frontage and enhance pedestrian activity around the Project Site;
- Upgrading sidewalks consistent with the BTD's Complete Streets guidelines, wherever feasible;
- Enhancing bicycle accommodations around the Project Site; and
- Promoting health and wellness with sustainable a variety of sustainable design strategies, such as conservation of energy and water usage, and improvement of stormwater management and infiltration/water quality.

8.3.5 Community Activities on the Project Site

The Project will result in a substantial improvement to community activities by introducing more active uses to the Project Site. With approximately 45,500 square feet of first- and second-floor retail and restaurant space facing Dalton, Boylston, and St. Cecilia Streets, the Project will enhance the pedestrian activity around the Project Site and provide amenities to neighbors and building residents.

8.3.6 Environmental Protection/Preservation

The overall goal of the Project is to develop the Project Site with a variety of new uses while avoiding or minimizing potential adverse environmental and community impacts to the greatest extent feasible. Impacts will be mitigated in accordance with all applicable local, state and federal environmental protection regulations. Table 2-1 of Chapter 2, *Regulatory Context and General Information* provides a list of the local, state, and federal permits or approvals anticipated to be required.

In accordance with MEPA regulations and Article 80B of the Boston Zoning Code, the Proponent examined the potential for the Project to result in environmental impacts. This DEIR/DPIR includes detailed descriptions of how the Project has been designed to avoid, minimize, or mitigate potential impacts related to:

- Urban Design
- Traffic/Transportation
- Green Building/Sustainable Design
- Flood Hazard/Climate Change and Resiliency
- Pedestrian Wind
- Shadow
- Daylight
- Solar Glare
- Air Quality
- Solid and Hazardous Waste
- Construction
- Greenhouse Gas Emissions
- Infrastructure
- Historic Resources

8.3.7 Public Health and Safety

The Project will promote public health and safety through implementing a site design that provides a safe facility accessible from all directions. The design includes improvements to substantially increase pedestrian and bicyclist safety and accessibility in the neighborhood. Improvements include landscape and appropriate lighting and signage to provide a safe well-lit environment for on-site residents, visitors, and workers.

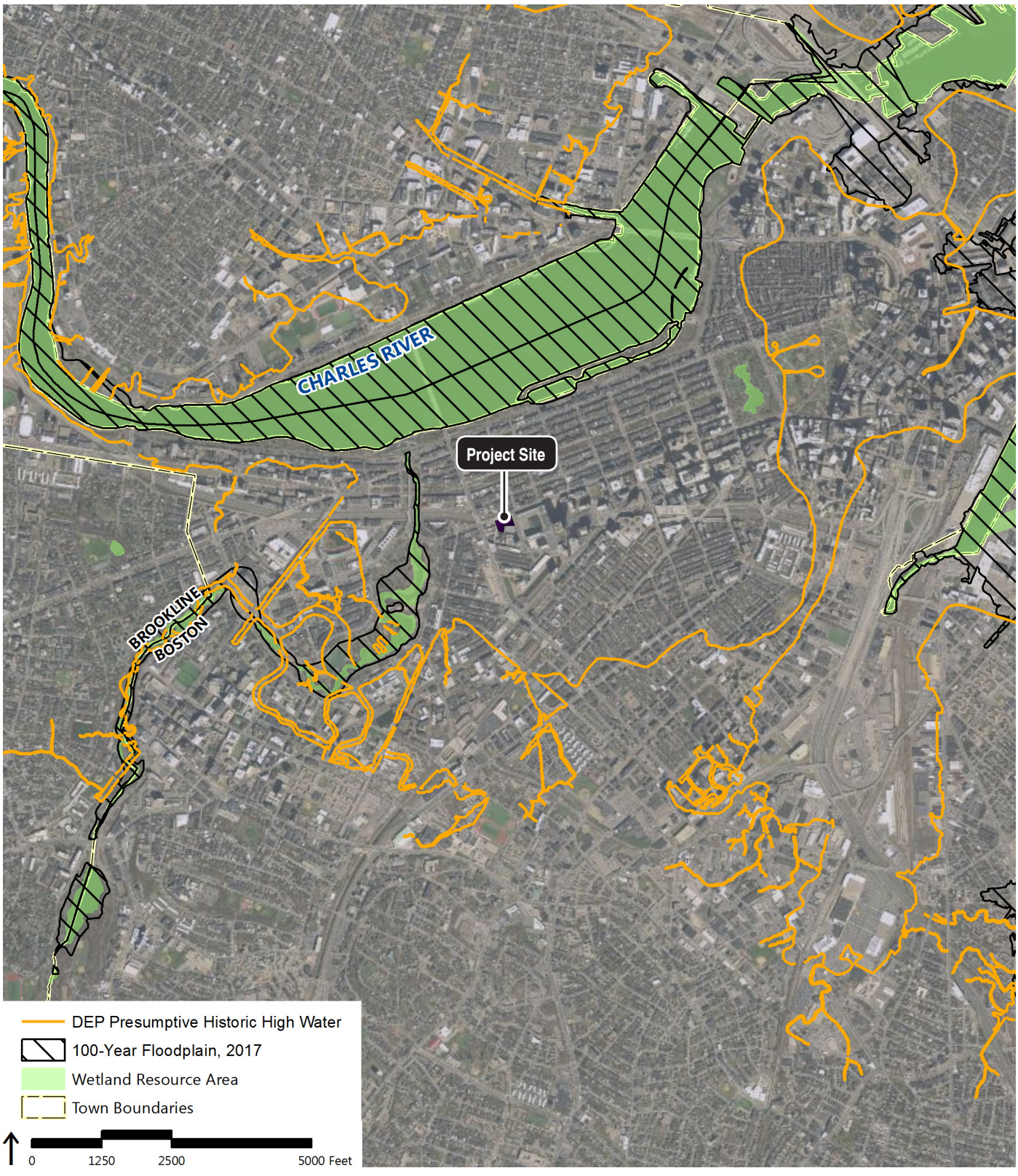
8.3.8 General Welfare

The Project will protect the general welfare by complying with applicable local, state, and federal environmental protection standards. The Project will be constructed in accordance with a detailed Construction Management Plans (CMP) for each phase of the Project once the phasing plan is finalized. The CMP will be designed to avoid, minimize and mitigate construction period impacts protecting the general welfare in a meaningful way. Refer to Appendix G for the preliminary CMP for the Project at 10 percent design.

8.3.9 Protection of Groundwater

The Project is located within the GCOD, as defined in Article 32 of the Zoning Code. To meet the requirements of this Article, the Project will retain the first inch of runoff and utilize it to replenish the groundwater table. The current design provides the required volume and utilizes injection wells within the sidewalk and infiltration chambers under the loading dock to achieve infiltration despite Site constraints. Conformance with GCOD is part of the BWSC Site Plan Review and approval process. Furthermore, the proposed infiltration system together with treatment chambers/filters will address stormwater treatment following the MassDEP phosphorous treatment and TMDL guidelines. Stormwater measures will be designed in accordance with MassDEP's Massachusetts Stormwater Management Handbook to the maximum extent practicable.

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Source: MassGIS

Figure 8.1

Chapter 91 Jurisdiction

1000 Boylston Street
Boston, Massachusetts

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Infrastructure

This chapter describes the infrastructure systems that will support the Project. The following utilities are evaluated: stormwater management, wastewater, domestic water and fire protection, natural gas, electricity and telecommunications. Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* discusses energy and water conservation measures being considered as part of the Project.

9.1 Summary of Project Change

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project has decreased in size significantly since the ENF/PNF filing, including most notably, as it relates to infrastructure, a reduction in residential units from 342 residential units to up to approximately 108 residential units. While the retail space has increased by 10,500 square feet, the reduction in residential units produces the most measurable decrease in water demand and wastewater generation, as well as demands on other utilities. Compared to the ENF/PNF Alternative, the Project will generate approximately 36 percent less sanitary sewage and require approximately 36 percent potable water.

9.2 Summary of Key Findings and Benefits

The key impact assessment findings and benefits related to infrastructure systems include:

- On-site drainage will be treated and infiltrated before discharging to a BWSC-owned and maintained drainage infrastructure in Scotia Street;
- The Proponent will work with BWSC to install a new drainage line in Scotia Street, which is currently only served by a combined drain/sewer system;
- The Project will not result in the introduction of any peak flows, pollutants, or sediments that would potentially impact the receiving waters of the local BWSC stormwater drainage system;
- The Project will comply with the 2008 *MassDEP Stormwater Management Policy and Standards* to the maximum extent practicable, and will improve the quality and quantity of site stormwater runoff compared to existing conditions;
- The Proponent will comply with the MassDEP infiltration/inflow (I/I) removal policy and develop an I/I mitigation plan through coordination with BWSC;
- Groundwater will be recharged in accordance with the Groundwater Conservation Overlay District (GCOD);

- The Project Site is currently serviced by the BWSC for domestic and fire protection water and sanitary sewage conveyance;
- The Project is estimated to generate approximately 44,775 gallons per day of sanitary sewage and will require approximately 49,252 gallons of water per day; and
- Appropriate low-flow and low-consumption plumbing fixtures will be installed in all residential units to achieve a reduction in water usage of 30 percent over the baseline to comply with Article 37 of the Boston Zoning Code.

9.3 Infrastructure Background

The Project will connect to existing city, state, and utility company systems in the public streets adjacent to the Project Site. The Proponent is committed to conducting all required engineering analyses. The final Project design will adhere to all applicable protocols and design standards ensuring that the proposed building is properly supported by and properly uses city, state, and utility company infrastructure. As design of the Project progresses, the availability and capacity of the existing utility systems will be assessed and coordinated with the applicable utility authorities and providers. Detailed design of the Project's utility systems will proceed in conjunction with the design of the building and interior mechanical systems.

The systems discussed in this chapter include those owned or managed by BWSC, MassDOT, private utility companies, and on-site infrastructure systems. There will be close coordination among these entities and the Project engineers/architects during the construction process of the Project. Figure 9.1 shows the existing infrastructure at the Project Site.

9.3.1 Complexities Associated with Air-Rights Construction

The Project's location over the Turnpike and MBTA commuter rail tracks, as well as its main access points along the Boylston Street and Dalton Street bridges, introduce many complexities into the Project design, including infrastructure design. As shown on Figure 9.1, there is no infrastructure along Boylston Street and limited infrastructure along Dalton Street to which the Project can connect. For this reason, all utility services for the Project will connect to mains along St. Cecilia, Cambria and Scotia streets. These external services will connect through the Project Site to the Project building along Boylston and Dalton Streets via the overbuild above Cambria Street.

The existing transportation infrastructure elements listed above create intricate design, engineering, and construction challenges for the Project. The key challenges include:

- Maintaining the functionality and operations of, while minimizing disturbances to the existing transportation infrastructure during construction of the Project;

- Air rights construction and limited terra firma requiring unique and extensive foundation systems; and
- Extensive construction period monitoring.

9.4 Regulatory Context

The following section discusses the regulatory framework of utility connection reviews and standards. All connections will be designed and constructed in accordance with city, state, and federal standards. A complete list of the state and local permits anticipated associated with Project-related infrastructure is included in Chapter 1, *Project Description and Alternatives*. With respect to infrastructure, the Project will need:

- BWSC Site Plan approval for all water, sewer, and stormwater systems;
- MassDOT approval for all storm drainage connections to the MassDOT system (if applicable);
- MassDEP Underground Injection Control permit (if applicable);
- Sewer connection permit self-certification with MassDEP;
- The Boston Fire Department (BFD) review of the Project with respect to fire protection measures such as siamese connections, hydrants, and standpipes;
- Design of the Project Site access, hydrant locations, and energy systems (gas and electric) to be coordinated with the respective system owners;
- Where new utility connections are needed and existing connections are to be capped, the excavation will be authorized by the Boston Public Works Department (BPWD) through the street opening permit process, as required; and
- Additional information on the regulatory framework for each utility system is included in subsequent sections of this chapter.

All improvements and connections to BWSC infrastructure will be reviewed by BWSC as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts. As design progresses, updated information on the proposed utility connections will be provided to the BPDA as requested.

9.5 Stormwater Management

The following section describes the stormwater management and infrastructure around the Project Site in the existing conditions and describes how this infrastructure will service the Project in the future.

9.5.1 Existing Drainage Conditions

Due to the varying grades, multiple parcels and the nature of the Air Rights Parcels, on-site drainage currently flows to multiple systems. These systems include:

- A 12-inch BWSC combined infrastructure along each Cambria and Scotia Streets. Both lines connect directly into the West Side Interceptor beneath Dalton Street and ultimately discharges to the Deer Island Waste Water Treatment Plant;
- Multiple 6-inch to 8-inch MassDOT drainage lines along the Turnpike and MBTA commuter rail tracks. It is believed that these also connect into the West Side Interceptor and ultimately discharges to the Deer Island Waste Water Treatment Plant; and
- There is no drainage infrastructure in the portions of Boylston, Dalton, and St. Cecilia Streets adjacent to the Project Site.

9.5.2 Proposed Drainage Conditions

The Project will require BWSC Site Plan Review and approval as well as approvals from MassDOT. The Proponent will continue to coordinate with BWSC and MassDOT on the design of any proposed connections and to ensure there is capacity in the storm drain systems. A capacity analysis of the existing public infrastructure will be conducted as part of the BWSC Site Plan Review. Mitigation measures to be provided by the Proponent will also be agreed upon with BWSC once the proposed design for the Project reaches an appropriate level of detail. The Project will also evaluate the use of BMP's during the BWSC Site Plan Review process.

Construction of the Project will incorporate stormwater management and treatment systems that will improve water quality and control peak rates of runoff in comparison to pre-development conditions. The current design of the Project incorporates a multi-step process to manage stormwater:

- Retention tanks will be used to control flow rates;
- Stormwater treatment chambers/filters will improve water quality and reduce phosphorus loads to comply with the MassDEP Total Maximum Daily Load (TMDL) threshold of 65 percent phosphorus removal; and
- Injection wells within the sidewalk along the perimeter of the Podium along with infiltration chambers under the loading dock will provide infiltration to replenish groundwater. The injections wells will be subject to the City of Boston's Public Improvement Commission (PIC) approval, as applicable, and issuance of a MassDEP Underground Injection Control permit.

The Project is also currently considering the use of green roofs to help reduce run-off.

Due to the limited existing (exclusive) drainage infrastructure in the Project Site area, the Project will also work with BWSC to install a new 15-inch drain line in Scotia Street. This new drain line will separate an existing 12-inch combined line and will tie into existing BWSC infrastructure in Dalton Street. A new 18-inch drainage connection serving the Project is anticipated to connect to this new drain line.

The proposed stormwater system will comply with all applicable city and state guidelines and standards to the maximum extent practicable. Stormwater runoff calculations will be done for existing and proposed conditions for the 2-, 10-, and

100-year storm events. During construction, measures will be implemented to minimize water quality impacts and avoid impacts to abutting properties.

9.5.3 Compliance with MassDEP Stormwater Standards

The Project will comply with the Massachusetts Stormwater Management Regulations to the maximum extent practicable consistent with its status as a Redevelopment Project (as defined in Standard 7 of the regulations).

The Project has been designed to fully comply with the following standards:

- Standard 1 – No proposed stormwater conveyances for the Project will discharge untreated stormwater directly to or cause erosion or scour to wetlands or receiving waters of the Commonwealth;
- Standard 2 – As a result of the improvements associated with the Project, the post-development peak discharge rates will not exceed the pre-development peak discharge rates;
- Standard 3 – Groundwater recharge will be provided through underground injection wells and infiltration chambers;
- Standard 4 – Stormwater runoff will be captured in a series of deep-sump hooded catch basins and/or directed to proprietary particle separators to provide 80% Total Suspended Solids (TSS) removal prior to discharging to the existing BWSC drainage systems;
- Standard 5 – The Project is not considered a land use with higher potential pollutant loads (LUHPPL). The proposed parking garage will be located above-grade and will drain via a gas/oil separator to the sanitary sewer system;
- Standard 6 – The Project is not located within and will not discharge untreated stormwater to a critical area, as defined by Standard 6;
- Standard 7 - The Project is considered a redevelopment project. The Project will comply with Stormwater Management Standards 1 through 6 to the maximum extent practicable and all other requirements of the Stormwater Management Standards and will thereby materially improve upon existing conditions;
- Standard 8 –Sediment and erosion controls will be incorporated as part of the design of this Project and employed during construction;
- Standard 9 – An operations and maintenance plan (O&M Plan), including long-term BMP operation requirements, will be prepared for the Project to ensure proper maintenance and functioning of the proposed stormwater management system. This O&M Plan will be prepared as part of the infrastructure design for the Project;
- Standard 10 – There will be no illicit connections associated with the Project.

9.5.4 Compliance with BWSC Standards and Groundwater Conservation Overlay District (GCOD)

The Project is located within the GCOD, as defined in Article 32 of the Zoning Code. This zoning article sets forth requirements promoting the infiltration of runoff from impervious site areas within the district for projects which exceed Article 32 thresholds. To meet the requirements of this Article, projects within the district must retain the first inch of runoff and utilize it to replenish the groundwater table. The current design provides the required volume and utilizes injection wells within the sidewalk and infiltration chambers under the loading dock to achieve infiltration despite Site constraints. Conformance with GCOD is part of the BWSC Site Plan Review and approval process.

The proposed infiltration system in concert with treatment chambers/filters will addresses stormwater treatment following the MassDEP phosphorous treatment and TMDL guidelines. Stormwater measures will be designed in accordance with MassDEP's *Massachusetts Stormwater Management Handbook* to the maximum extent practicable.

9.6 Sanitary Sewage

The following sections describe the sanitary sewer infrastructure around the Project Site and describe how this infrastructure will service the Project.

9.6.1 Existing Sewer System

The BWSC owns and maintains the sanitary sewer lines near the Project Site. The infrastructure along Boylston Street, Dalton Street, Scotia Street, Cambria Street and St. Cecilia Street surrounds the Project Site, as shown in Figure 9.1, which includes:

- The West Side Interceptor, a 60-inch combined sewer along Dalton Street that transitions into a 57-inch by 66-inch combined sewer and then to a 72-inch combined sewer. This flows in a southerly direction and ultimately flows to the Deer Island Waste Water Treatment Plant.
- A 54-inch combined sewer along Dalton Street that transitions to a 44-inch by 68-inch combined sewer, which increases to 51-inch by 60-inch and flows in a northerly direction. This line connects to the Boston Marginal Conduit and ultimately flows to the Deer Island Waste Water Treatment Plant.
- A 10-inch sanitary sewer under Boylston Street, which connects to the West Side Interceptor.
- A 12-inch sanitary sewer, which runs under portions of Boylston Street, St. Cecilia Street, and Cambria Street. This connects to the 54-inch combined sewer along Dalton Street.
- A 12-inch sanitary sewer under Scotia Street, which connects to the 54-inch combined sewer along Dalton Street.

9.6.2 Proposed Sewage Flow and Connection

New sanitary connections serving the Project are anticipated to connect to the 12-inch sewer line along Cambria Street. The exact location and size of the connections to the building will be determined as the design progresses. The Project will have a covered/enclosed parking garage and a loading dock. A gas/oil separator will treat the drainage from these vehicular areas before discharging to BWSC infrastructure. The Project will also have restaurants and/or coffee shops. Grease traps within the building will treat wastewater generated from commercial kitchens. Detail on both items will be included in the BWSC Site Plan Review. A capacity analysis of the existing public infrastructure will also be conducted as part of the BWSC Site Plan Review.

The Proponent will work with MassDOT to determine the drainage needs of the newly covered portions of the Turnpike. The goal of this efforts will be to ensure that groundwater and stormwater collecting in this portion of the Turnpike are not discharged to the sanitary sewer system, if feasible. If MassDOT determines that tunnel washing is necessary for the newly covered portion, separate piping systems will be evaluated for the tunnel washing wastewater and stormwater discharges.

For the purposes of estimating the sewage flow rates, the overall gross square footage (including mechanical space) is assumed instead of the zoning, or FAR, square footage in order to present a conservative analysis. Generation rates from the Massachusetts State Environmental Code (Title 5) were used. The Project's up to approximately 108 residential units (up to approximately 335 bedrooms) are projected to generate an estimated 36,850 gallons per day of sewage. The proposed restaurant (170 seats within up to approximately 6,500 square feet) will generate approximately 5,950 gallons per day. The proposed retail use (up to approximately 39,000 square feet, including mechanical space) will generate approximately 1,950 gallons per day. The total generation for the Project is estimated to be approximately 44,775 gallons per day.

The calculations for the wastewater generation are presented in Table 9-1.

Table 9-1 Estimated Future Sewer Generation

Program Type	Units	Generation Rate	Sewer Generation (GPD)
Residential	335 bedrooms	110 gallons/bedroom	36,850 GPD
Restaurant	170 seats (6,000 sf)	35 gallons/seat	5,950 GPD
Retail	39,500 sf	50 gallons/ksf	1,975 GPD
		TOTAL	**44,775 GPD**

Note: Based on MassDEP 310 CMR 15.203 flow calculation factors
GPD = gallons per day; sf = square feet; ksf = 1,000 square feet

Inflow and Infiltration (I/I) Mitigation

Since the Project is expected to generate new wastewater flows of approximately 44,775 gallons per day, certain regulatory thresholds are triggered. The BWSC

requires that new developments generating greater than 15,000 gallons per day of net new wastewater flow provide mitigation to offset clean flow inflow and infiltration (I/I) present in the collection system. I/I is the component of flows in sanitary sewer systems that does not come from wastewater generated by building. I/I includes groundwater infiltration from leaking/broken sewer infrastructure, as well as stormwater connections from roof leaders and drainage infrastructure. Following MassDEP and BWSC policy, projects that generate flows more than the 15,000-gallon threshold are responsible for mitigating I/I at a ratio of 4:1 relative to the net-new wastewater generated. This will result in a significant mitigation payment for the Project. The Proponent is committed to working with BWSC to define the appropriate I/I mitigation.

9.7 Domestic Water and Fire Protection

The following sections describe the domestic water infrastructure around the Project Site and how this infrastructure will service the Project.

9.7.1 Existing Water Supply System

The BWSC owns and maintains the water mains in the vicinity of the Project Site (Figure 9.1). BWSC record drawings show that streets surrounding the Project Site are serviced by mostly southern low-service pipes. These vary in size and include:

- A 12-inch main in portions of Cambria Street;
- A 12-inch main in St. Cecilia Street;
- An 8-inch main in Scotia Street; and
- Two 12-inch mains in Dalton Street. One of the mains in Dalton Street is a southern high service pipe, which is out of service along Dalton Street Bridge due to leaking.

The installation dates and materials of these pipes also vary, from pit-cast iron pipe installed in 1904 to 1919 (relined in 2011), cast iron cement lined installed in 1962 to 1965, and ductile iron cement lined installed in 2011. The existing water infrastructure provides a high level of service and diversity to the Back Bay neighborhood. Additionally, five fire hydrants are currently near the Project Site.

9.7.2 Proposed Water Demand and Connection

New domestic water services and fire service laterals for the Project are anticipated to connect to existing lines along St. Cecilia Street. The exact location and size of proposed water connections will be determined as the design progresses, but are planned to be redundant 6-inch domestic water and 8-inch fire protection connections.

Domestic water demand is based on estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other use. Based upon sewage generation rates outlined in the MassDEP Sewer Connection and Extension

Regulations, 310 CMR 15.203.f, the Project will require approximately 49,252 gallons per day. However, appropriate low-flow and low-consumption plumbing fixtures will be installed in all residential units to achieve a reduction in water usage of 30 to 35 percent over the baseline in compliance with Article 37 of the Boston Zoning Code (as LEEDv4 "certifiable"), as discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

New water connections will be designed in accordance with BWSC design standards and requirements. Water services to the new building will be metered in accordance with BWSC's Site Plan Requirements and Site Review Process. The review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections to ensure conformity with BWSC and BFD requirements. The Proponent will provide for the connection of the meter to BWSC's automatic meter reading system. Fire protection connections on the Project Site will also need approval of the BFD.

9.8 Landscaping and HVAC Makeup Water

The proposed HVAC make-up water serving the cooling tower is estimated at a peak demand of 38 gpm with peak of 55,000 gallons per day.

Irrigation demands for the Project are estimated to be approximately 18,140 gallons per day of water. As discussed in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*, the irrigation system will be designed to use at least 30 percent less potable water from the calculated baseline for the site's peak watering month. To reduce this overall demand:

- Irrigation will be metered separately from all other domestic water usage and will include a rain sensor;
- Plant species will be selected appropriately for hardiness, to minimize excessive watering needs; and
- All plant beds for trees, shrubs, perennials and groundcover shall be irrigated with drip lines and turf areas with spray heads.

9.9 Other Utilities

The following sections describe other utility infrastructure (natural gas, electrical, telephone and telecommunications) around the Project Site and describe how this infrastructure will service the Project.

9.9.1 Natural Gas Service

National Grid Energy (NGrid) owns and operates the gas mains and services in the vicinity of the Project Site (Figure 9.1). Survey plans indicate an 8-inch main under Dalton Street, a 4-inch main within Cambria Street, a 6-inch main along St. Cecilia

Street, and a 2-inch service beneath Scotia Street. The configuration of the proposed service will be developed with the utility company as the Project design progresses. The current design intent is for the Proposed Project to be supplied by a new NGrid IP gas main extension coming from the Belvedere and Dalton Street area. The Proponent is aware of this requirement and currently in negotiations with NGrid.

The estimated gas requirements for the proposed equipment is shown it Table 9-2.

Table 9-2 Natural Gas Requirements for Proposed Equipment

Description	Quantity	Cubic Feet/Hour (CFH)	Total (CFH)
Residences			
HVAC Boilers @ PH	4	3,000	12,000
Domestic Water Heaters @ PH	3	1,500	4,500
Condo-Gas Cooktop Allowance per shell space/unit	108	78	8,424
Condo-Fire Places Allowance per shell space/unit	108	78	8,424
Resident Amenity Spaces			
Pool Equipment – Level 5 (estimated)	1	400	400
Gas Fire Places –Level 5 & 6 (estimated)	5	75	375
Domestic Water Heaters @ Leve-5 Amenities	2	1,000	2,000
Shell Retail Spaces Provisions			
Restaurant #1 – Level 1 & 2 (estimated)	1	3,000	3,000
Retail 1a – Level 1/2	0	0	0
Retail 1b – Level 1/2	0	0	0
Retail 1c – Level 1/2	0	0	0
Total Connected Load			**39,123**

Notes: HVAC = heating, ventilation, and air conditioning

9.9.2 Electrical Service

Eversource owns and operates the electric facilities near the Project Site (Figure 9.1). Survey plans indicate underground power facilities along Dalton Street, Cambria Street, St. Cecilia Street, and Scotia Street along the frontage of the Project Site. Potential connections for the Project could be made from any of these public streets, but current planning looks to connect into a manhole at the intersection of St. Cecilia Street/Scotia Street. As the design of the Project progresses, the Proponent's electrical engineer and civil engineer will coordinate with Eversource on future configurations of the power system and connections.

New electrical service will be needed to serve the parking garage, the residential condominiums, residential amenity areas, and commercial retail spaces. The Project will include power and lighting for the building. Temporary service will be required during the construction period. The Proponent anticipates that the electrical service will be supplied from Eversource. The transformer vault will be located at the southwest corner of the building at the corner of Scotia Street and St. Cecilia Street. At this time, the Proponent is anticipating three-phase services, as shown in Table 9-3.

Table 9-3 Electric Service Requirements

	Connected kVA	Demand kVA
Residences Building / Garage	6960	2,811
Residences Building HVAC / Amenities	2,089	1671
Total	**9,049**	**4,482**

The preliminary equipment selections require a peak connected demand of approximately 4,482 thousand volt-amps (kVA).

9.9.3 Telephone Service

Verizon owns and operates the telephone facilities and services in the vicinity of the Project Site (Figure 9.1). Survey plans indicate that there are two manholes in St. Cecilia Street supporting laterals along St. Cecilia, Cambria, and Scotia Streets. The configuration of the proposed service will be developed with Verizon as the Project design progresses, but current planning looks to connect into a manhole at the intersection of St. Cecilia Street and Cambria Street.

9.9.4 Telecommunication Service

Comcast and RCN each owns and operates telecommunications facilities and services near the Project Site. Survey plans indicate that cable is located in Dalton Street and along portions of Scotia Street. Telecommunications for the Project Site could be provided from either of these streets. The configuration of the proposed service will be developed with the providers as design progresses.

9.9.5 Protection of Utilities

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be in accordance with BWSC, BPWD, MassDOT, the Dig-Safe Program and governing utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities which are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by the BWSC and MassDOT, as applicable, as part of the Site Plan Review process.

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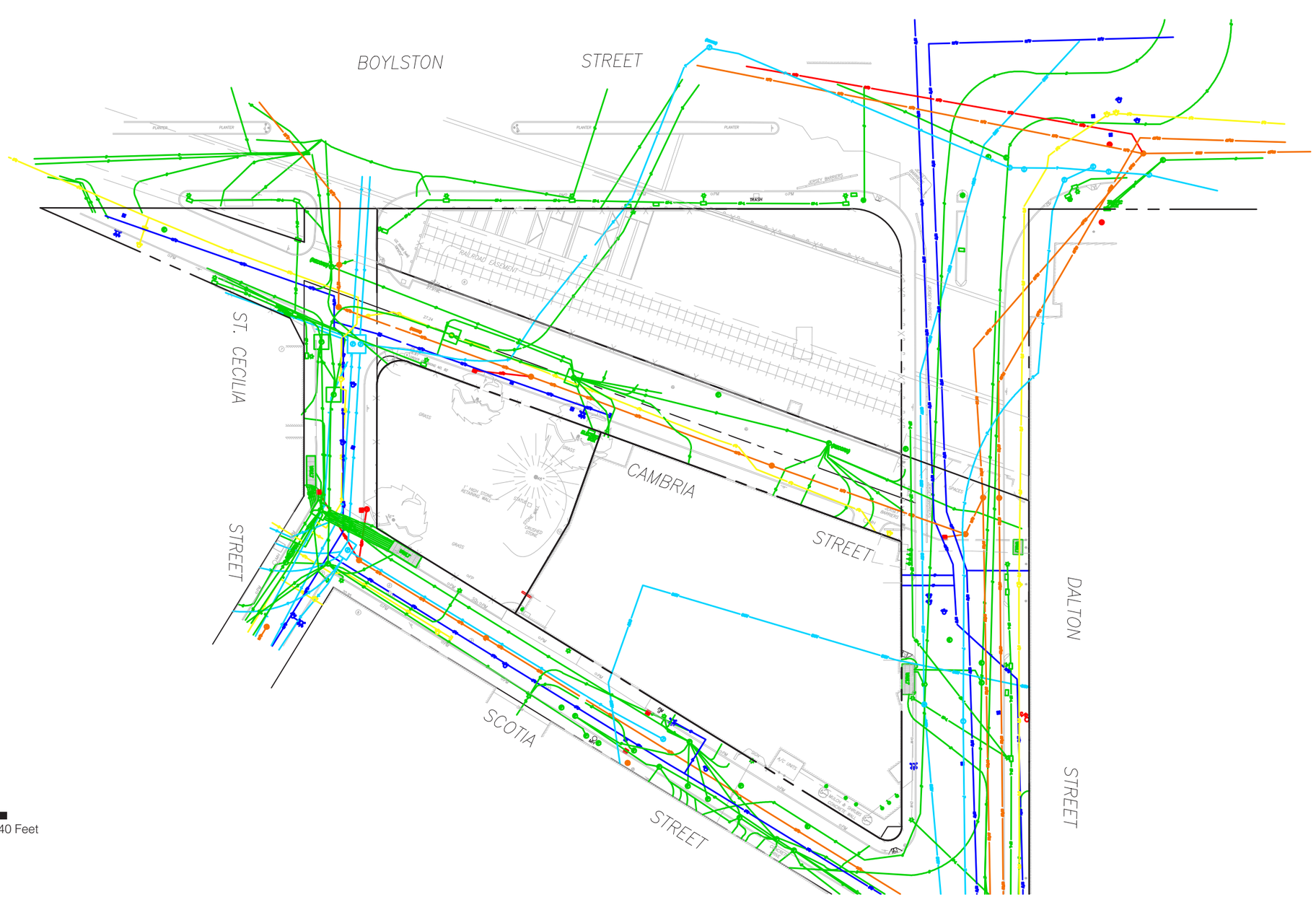


Figure 9.1
Existing Utility Infrastructure

1000 Boylston Street
Boston, Massachusetts

10

Historic Resources

This chapter discusses potential effects the Project may have on historic properties located within ¼-mile of the Project area. Historic resources were identified through the Massachusetts Historical Commission's ("MHC") Massachusetts Cultural Resource Information System ("MACRIS") database and mapping tool and are listed in Table 10-1. Figure 10.1 shows the location and the proximity to the Project Site of these resources. For a detailed description of these historic resources, see PNF Section 7.3.2.

10.1 Summary of Project Change

The Project has been re-designed since the ENF/PNF filings in response to community concerns about the overall density and height of the Project. As described previously in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the new design consists of a single residential building, the Residences Building, consisting of up to approximately 108 condominium units with a maximum height of approximately 484 feet above grade to the top of the highest occupiable floor, reduced from the ENF/PNF Alternative of two residential buildings with a maximum height of 566 feet. The five-story base podium will still house retail on the first and second floors with two parking levels above, as well as residential amenities on a fifth floor, which is set back from the fourth floor below. Overall, the proposed development program has been reduced from the ENF/PNF Alternative by approximately 36 percent, from 689,000 square feet to 439,500 square feet, while the maximum height of the Project has been decreased by 82 feet. A ground lease agreement for the Prudential Parcel permits a continuous deck to be constructed above the Turnpike, thus allowing the Project to close the long-time gap in the street wall along Boylston Street and Dalton Street while eliminating the second residential building which was to be constructed on the Prudential Parcel under the ENF/PNF Alternative.

10.2 Summary of Key Findings and Benefits

The key findings and benefits related to historic and cultural resources include:

- There are no designated or inventoried properties located on the Project Site;
- There are 37 above-ground historic resources, including individual properties and areas/districts, located within a one-quarter mile radius of the Project Site. These comprise resources listed in the National and State Registers as well as properties

appearing in the Inventory of Historic Assets of the Commonwealth that have not received historic designation;

- Of these, 12 properties within a ¼-mile radius are listed in the National and/or State Registers, including seven historic districts and five individually designated buildings;
- On January 31, 2017, the MHC determined the Project would have an "adverse effect" on the Back Bay Historic District, the Charles River Basin Historic District, and the Charles River Esplanade (950 CMR 71.05(c) and 950 CRM 71.07(2)(b)(3) through the introduction of new visual elements considered out of character with the districts and their setting, initiating the consultation process pursuant to 950 CMR 71.07(3). The Back Bay Historic District is within ¼-mile of the Project Site, and the Charles River Basin Historic District and Charles River Esplanade are more than ¼-mile from the Project Site. In their comment letter, MHC initiated its consultation process, pursuant to 950 CMR 71.07(3).
- As a continuation of the consultation process, in September 2017, the Proponent submitted a written response to MHC acknowledging the request for design alternatives and referring to this DEIR/DPIR for this evaluation.
- The alternative design for the Project is being presented to MHC as part of the consultation process with MHC. The Project, which is the Preferred Alternative, balances challenging site constraints, financial viability, and community concerns about density, while completing the streetscape connection between the Back Bay and Fenway neighborhoods and reducing impacts (shadows and visual) to historic resources; and
- As part of the consultation process, the Project has been developed as an alternative to the ENF/PNF Alternative to minimize adverse impacts to historic properties.

10.3 Regulatory Context

MHC has advisory review over projects requiring any state or federal action, such as land transfers, funding, licensing, permitting, and/or approvals, in order to evaluate potential direct or indirect impacts to properties listed in, or eligible for listing in, the National and State Registers of Historic Places, in compliance with State Register Review requirements (M.G. L. Chapter 9, Sections 27-27c, as amended by Chapter 254 of the Acts of 1988) and Section 106 of the National Historic Preservation Act of 1966. The submittal of the MEPA ENF initiated MHC's review of the Project, under the State Register Review requirements.

On January 31, 2017, the MHC determined the Project would have an "adverse effect" on the Back Bay Historic District, which is within ¼-mile of the Project Site, and the Charles River Basin Historic District and Charles River Esplanade, both of which are more than ¼-mile from the Project Site by introducing indirect visual elements out of character with the districts, altering their setting. MHC also expressed concern about net new shadow over the above-mentioned resources and

landscapes, as well as individual properties contributing to the Back Bay Historic District located directly across Boylston Street from the Project Site.

In its comment letter, MHC initiated the consultation process with MassDOT and the Proponent, pursuant to 950 CMR 71.07(3), to explore alternatives to avoid, minimize, or mitigate these adverse effects.

Consistent with the 950 CMR 71.00 et seq., the Proponent and Project team have explored various alternatives. The Project which is now the Preferred Alternative represents a prudent and feasible alternative to the ENF/PNF Alternative, to minimize adverse effects to State Register Properties. The Project has been redesigned with a reduced height and massing, which minimizes adverse impacts to historic resources. Specifically, for almost all conditions, net new shadow over the Back Bay Historic and Architectural Districts is reduced. As the consultation process with MHC continues, mitigation measures for any remaining adverse effects will be identified in consultation with MHC and MassDOT.

10.4 Historic Context

Located across the railroad tracks from the 19th century Back Bay residential neighborhood, the Project Site was part of a mostly industrial area until the mid-20th century, when the Boston & Albany Railyard was redeveloped. Prior to redevelopment, the north portion of the Project Site above the Turnpike contained tracks that ran through the railyard on the south side, which was depressed below street level; a series of sidings occupied much of the rest of the railyard. The south portion of the Project Site lining Cambria Street contained a series of one- to five-story commercial buildings, which by the 20th century were mostly occupied by carpenters, printers, and automobile-related businesses. At the sharply angled corner of St. Cecilia Street, a few buildings had storefronts on Boylston Street. For years, the expansive railyard was considered an obstacle to westward-trending development; however, in the 1960s the Project Site was adapted in response to the Turnpike expansion from Route 128. The former rail right-of-way became the Turnpike, while the tracks were moved to their current location immediately north of Cambria Street. The parking garage on the south side of Cambria Street and the adjacent vacant lot, the latter of which is located within the Project Site, were also redeveloped at this time. The transportation infrastructure remained below street level, as the railyard had been, and the east portion of the former railyard became the John B. Hynes Memorial Auditorium (rebuilt in 1988 as the Hynes Convention Center).

As a result, the Project Site is immediately surrounded by structures that were developed following the Turnpike extension, but this pocket is surrounded by an area that was developed much earlier. This wider area consists predominantly of blocks of brick rowhouses and large institutional buildings constructed in the late 19th century. Back Bay (the waterbody) to the north was filled beginning in 1857, with construction reaching Massachusetts Avenue in the 1880s. Although much of the neighborhood was residential, the block closest to the Project Site contained

large police and fire department buildings, with stables fronting Newbury Street that became auto shops in the 20th century. The land-making and settlement of the Back Bay spurred nearby development in the late 19th and early 20th century. To the south of the Project Site is St. Cecilia Roman Catholic Church, which was dedicated in 1894 and built by a largely working-class community that served the wealthier residents of the Back Bay. The intersection of Boylston Street and Massachusetts Avenue, to the west of the Project Site, is home to a small commercial district as well as the early 20th century bank and theater buildings now used by the Berklee College of Music. North of Boylston Street is the entrance to the Hynes Convention Center MBTA subway station. Completed in 1914 for the Boylston Street Subway, the station initially contained a street-level station and a turn-around facility below ground. The upper station was demolished during the railyard redevelopment, leaving the underground subway station.

10.5 Historic Resources

On-site historic resources, historic resources in the Project Site vicinity of a ¼-mile radius, and archaeological resources are summarized below. For detailed descriptions of these historic resources refer to PNF Section 7.3.2. Two additional National Register-listed districts, the Charles River Basin Historic District and the Charles River Esplanade, are located outside of the ¼-mile radius but have been noted in MHC's determination of effects due to the extent of new shadows anticipated to the north. Descriptions and the significance of these two districts are included below in Section 10.5.2.

10.5.1 On-Site Resources

There are no designated or inventoried properties located on the Project Site, which is undeveloped. The north portion of the Project Site currently consists of open air above the Turnpike and the MBTA commuter rail tracks, which are below street level. The south portion of the Project Site includes a grass lawn at the southeast corner of the Cambria Street and St. Cecilia Street intersection, adjacent to a six-story concrete parking garage.

10.5.2 Historic Resources in Project Site Vicinity

The area surrounding the Project Site has been heavily documented, resulting in numerous listed and inventoried historic resources as identified in Table 10-1 and shown on Figure 10.1. Within a ¼-mile radius are seven National Register and/or State Register-listed districts, which are partially or wholly contained within the radius, as well as five individually-designated resources. Two additional National Register-listed districts, the Charles River Basin Historic District and the Charles River Esplanade, are located outside of the ¼-mile radius but have been noted in MHC's determination of effects.

Table 10-1 Historic Resources in the Vicinity of the Project Site

Map No.	Resource Name	Location	MHC Inventory No.	Designation
BOS.BT	Back Bay Historic District		BOS.BT	NRDIS 8/14/1973
BOS.BW	Back Bay Architectural District	Outside ¼-mile radius	BOS.BW	LHD 9/3/1966
BOS.ZI*	Charles River Esplanade	Outside ¼-mile radius	BOS.ZI	NRDIS 12/22/1978, LL 7/29/2009
BOS.CA*	Charles River Basin Historic District		BOS.CA	NRDIS 12/22/1978
BOS.BX	Commonwealth Ave. Mall		BOS.BX	NRDIS 08/14/1973
BOS.JD	Back Bay Fens, Section of		BOS.JD	LL, NRDIS 12/08/1971
BOS.IO	Olmstead Park System		BOS.IO	NRDIS 12/8/1971
BOS.JF	Fenway-Boylston St. Historic District		BOS.JF	NRDIS 9/4/1984
BOS.VI	St. Cecilia Roman Catholic Church Complex		BOS.VI	N/A
BOS.ZR	Christian Science Center Complex		BOS.ZR	LL 7/14/2011
BOS.ABB	St. Germain St, 8-65		BOS.ABB	N/A
1	Ayer, Frederick Mansion	395 Commonwealth Ave	BOS.3663	NHL 4/5/2005; NRIND 8/14/1973
2	Fenway Studios Building	30 Ipswich St	BOS.7500	NHL 8/5/1998; NRIND 9/13/1978; PR 7/27/2000
3	Boylston Apartments	780 Boylston St	BOS.2628	N/A
4	Fenmore Apartments	1109 Boylston St	BOS.7354	N/A
5	Fenmore Apartments	1111 Boylston St	BOS.7355	N/A
6	Fenmore Apartments	64 Charlesgate East	BOS.7356	N/A
7	Church of the Redemption (Universalist)	1103 Boylston St	BOS.7353	N/A

Map No.	Resource Name	Location	MHC Inventory No.	Designation
8	State Street Trust Company Building	1046-1050 Boylston St	BOS.2629	N/A
9	State Street Trust Company Building	130-132 Mass. Ave	BOS.7518	N/A
10	Fenway Theater	136 Mass. Ave	BOS.7519	N/A
11	O'Reily, John Boyle Memorial	Boylston St	BOS.9274	NRIND 12/08/1971
12	Massachusetts Historical Society Building	1154 Boylston St	BOS.7352	NHL 10/15/1966; NRIND 10/15/1966; PR 6/27/1997
13	Webber, John P. Row House	12 Edgerly Rd	BOS.7371	N/A
14	Webber, John P. Row House	14 Edgerly Rd	BOS.7372	N/A
15	Webber, John P. Row House	16 Edgerly Rd	BOS.7373	N/A
16	Webber, John P. Row House	18 Edgerly Rd	BOS.7374	N/A
17	Webber, John P. Row House	20 Edgerly Rd	BOS.7375	N/A
18	Webber, John P. Row House	22 Edgerly Rd	BOS.7376	N/A
19	Webber, John P. Row House	24 Edgerly Rd	BOS.7377	N/A
20	Webber, John P. Row House	26 Edgerly Rd	BOS.7378	N/A
21	Webber, John P. Row House	28 Edgerly Rd	BOS.7379	N/A
22	Webber, John P. Row House	30 Edgerly Rd	BOS.7380	N/A
23	Smith, William H. Row House	179 Mass. Ave	BOS.7522	N/A
24	Smith, William H. Row House	181 Mass. Ave	BOS.7523	N/A
25	Mechanics – Prudential Subway Station	Huntington Ave	BOS.9020	N/A
26	Thomas, David W. Row House	57 Hemenway St	BOS.7477	N/A
27	Thomas, David W. Row House	59 Hemenway St	BOS.7478	N/A

Map No.	Resource Name	Location	MHC Inventory No.	Designation
28	Thomas, David W. Row House	61 Hemenway St	BOS.7479	N/A
29	New Riding Club, The	52 Hemenway St	BOS.7466	NRIND 8/20/1987
30	Bawford, A.J. Store	58 Burbank St	BOS.15525	N/A
31	Hemenway Chambers – Hotel Hemenway	91 Westland Ave	BOS.7708	N/A
32	Horticultural Hall		BOS.7521	NRIND 5/30/1975

Note: *Resource located outside ¼-mile radius
NRIND National Register of Historic Places, Individual Listing
NRDIS National Register of Historic Places, District
NHL National Historic Landmark
LHD Local Historic District (State Register of Historic Places)
LL Boston Local Landmark (State Register of Historic Places)
PR Preservation Restriction

Charles River Basin Historic District (BOS.CA)

This district, which is located outside the ¼-mile radius from the Project Site, is a key feature of Boston's metropolitan park system, serving the same recreational purpose for which it was established in the 19th century. Consisting of approximately 820 acres and extending six miles in length, the district includes parkways and landscaped areas on both the Boston and Cambridge sides of the river. In addition to parkways such as Memorial Drive in Cambridge and Soldiers' Field Road in Boston, the district includes the Charles River Dam, seven bridges, two canals, parkland, a freshwater basin, and dozens of associated structures.

Charles River Esplanade (BOS.ZI)

Located on the south side of the Charles River outside the ¼-mile radius from the Project Site, the Esplanade runs adjacent to the West End, Back Bay, Beacon Hill, and Kenmore Square neighborhoods of the city. A National Register form is not available for the district; however, the Boston Landmarks Commission's 2009 landmark report for the Esplanade notes its significance as an important work of landscape architecture, benefiting from the talents of three nationally-recognized practitioners: Frederick Law Olmsted Sr., Charles Eliot, and Arthur Shurcliff. Designed as an amenity for residents and visitors, it was a focal point of the Metropolitan Park System and retains several of the cultural landscape features that have distinguished the Esplanade throughout the 19th and 20th centuries.

10.5.3 Archaeological Resources

There are no known archaeological resources within the Project Site that are listed in the State and National Registers or included in the Inventory. The entire Project Site was redeveloped in the 1960s and much of it is currently located over the Turnpike;

therefore, it is unlikely that the Project will affect previously unidentified archaeological resources.

10.6 Potential Impacts to Historic Resources

10.6.1 Visual and Public Realm

As described in Chapter 1, *Project Description and Alternatives*, the Project has been re-designed from the ENF/PNF Alternative to eliminate the Apartments Building, increasing the preservation of light and air circulation in comparison to the ENF/PNF Alternative. Additionally, the Residences Building has been decreased in height from 566 feet to a maximum height of 484 feet above grade to the top of the highest occupiable floor, a reduction of 82 feet. The Project design retains the height and massing required to reinforce the existing "high spine" planning strategy in place for the Project Site. However, the reduced height and square footage of the Project, which is the new Preferred Alternative is designed to minimize wind and shadow impacts on surrounding neighborhoods and historic resources.

The Project repairs the discontinuity in the urban street wall left behind by the Turnpike extension through Boston, supports the design of high-quality, continuous street frontage and enhanced connectivity between the Back Bay and Fenway neighborhoods. The inclusion of the Prudential Parcel in the Project Site, notwithstanding the elimination of the Apartments Building, allows the Project to cover the entire open area over the Turnpike below, and complete the Boylston Street edge at street level. The inclusion of the Prudential Parcel will allow the Podium to span the entire Project Site, creating a continuous frontage of first and second-floor retail and dining leading to and from the historic Back Bay neighborhood, and the Charles River Basin Historic District and Esplanade Historic District beyond. This streetscape enhancement creates connectivity between the surrounding Back Bay and Fenway areas and an inviting pedestrian experience for both tourists and residents of the Back Bay.

10.6.2 Shadows

A shadow impact analysis was conducted for the Project, which is the Preferred Alternative, consistent with both Section 80B-2(c) and Section 41-16(1) of the Code. The results of the shadow analysis are provided in Section 6.4 of Chapter 6, *Environmental Protection*. Shadow impacts have been minimized to the maximum extent practicable to avoid any noticeable effect on pedestrian use patterns and historic resources. The single-building concept and reduction in Project height result in a noticeable reduction in the footprint of any new shadows, in comparison to the design presented as the ENF/PNF Alternative.

Shadow studies were conducted for three-hour intervals on the dates of March 21, June 21, September 21, and December 21, representing the days in the year when the midday sun is at its highest (June 21) and lowest point (December 21), and the dates when shadows are midway through a period of lengthening (March 21 and

September 21). The general pattern of new shadows primarily occurring north of the Project remains consistent; differences between the shadow impacts of the previous design and the current Project design are highlighted below.

For March 21st (Figure 6.3a), the elimination of the Apartments Building greatly reduces shadow impacts to resources located directly across Boylston Street and within the Back Bay Historic and Architectural Districts, mostly notably at 12:00 PM, when shadow impacts have been reduced to a narrow band. At 3:00 PM, the new shadow resulting from the Project occurs more to the north than previously, but only extends mid-way between Hereford Street and Gloucester Street, rather than extending past Gloucester Street as in the ENF/PNF Alternative.

The reduction in shadow impacts on historic resources resulting from the new design of the Project is less pronounced on June 21st, mainly due to the position of the sun at its highest point, meaning impacts were already limited in scale under the ENF/PNF Alternative (Figure 6.3b). New shadows resulting from the re-designed Project trend more westerly than under the ENF/PNF Alternative design at 9:00 AM and 12:00 PM, and new shadows at 3:00 PM have been reduced to occur almost entirely on the Project Site rather than extending onto adjacent parcels.

The analysis for September 21st shows the most perceptible evidence of the reduction in shadow under the Project new design (Figure 6.3c). At 9:00 AM, the new shadow impacts trend westerly toward Massachusetts Avenue, impacting less of the Back Bay Historic and Architectural Districts and no longer extending up to Commonwealth Mall. The single-building concept also makes a noticeable difference at 9:00 AM and 12:00 PM, resulting in a narrower footprint in the shadow that extends into these districts.

On December 21st (Figure 6.3d), the prevalence of shadows throughout the day due the position of the sun at its lowest point makes the differences in shadow impacts between the ENF/PNF Alternative design and the new Project design less distinct. Two appreciable exceptions include the extent of the shadow at 9:00 AM, which follows the same trajectory across the Back Bay Historic and Architectural Districts, but largely overlaps existing shadow in the Charles River Esplanade and Charles River Basin Historic District. Coupled with the reduction in length of the shadow correlating with the reduction in Project height, the new design greatly decreases shadow impacts to these river-based historic resources. At 12:00 PM, the elimination of the second building reduces net new shadow over the Back Bay Historic and Architectural Districts, erasing much of the shadow impacts east of Hereford Street which resulting in the ENF/PNF Alternative.

As with the ENF/PNF Alternative, net new shadow on individual historic properties within the affected districts are limited to one additional hour of new shadow daily; however, the number of affected individual historic resources has been greatly reduced under the Project redesign as compared to the ENF/PNF Alternative. Throughout the year, the extent of the arc of new shadow impacts much less area within the Back Bay Historic and Architectural Districts. Also, the duration of impacts to historic resources located near the Project on Boylston Street, Newbury Street,

and Massachusetts Avenue has been almost universally reduced to one hour throughout the year. West of the Project, the length of early-morning new shadows remains largely the same as resulting from the ENF/PNF Alternative; however, the 8:00 AM shadow falls more to the west, impacting fewer of the resources within the Back Bay Historic and Architectural Districts to the north.

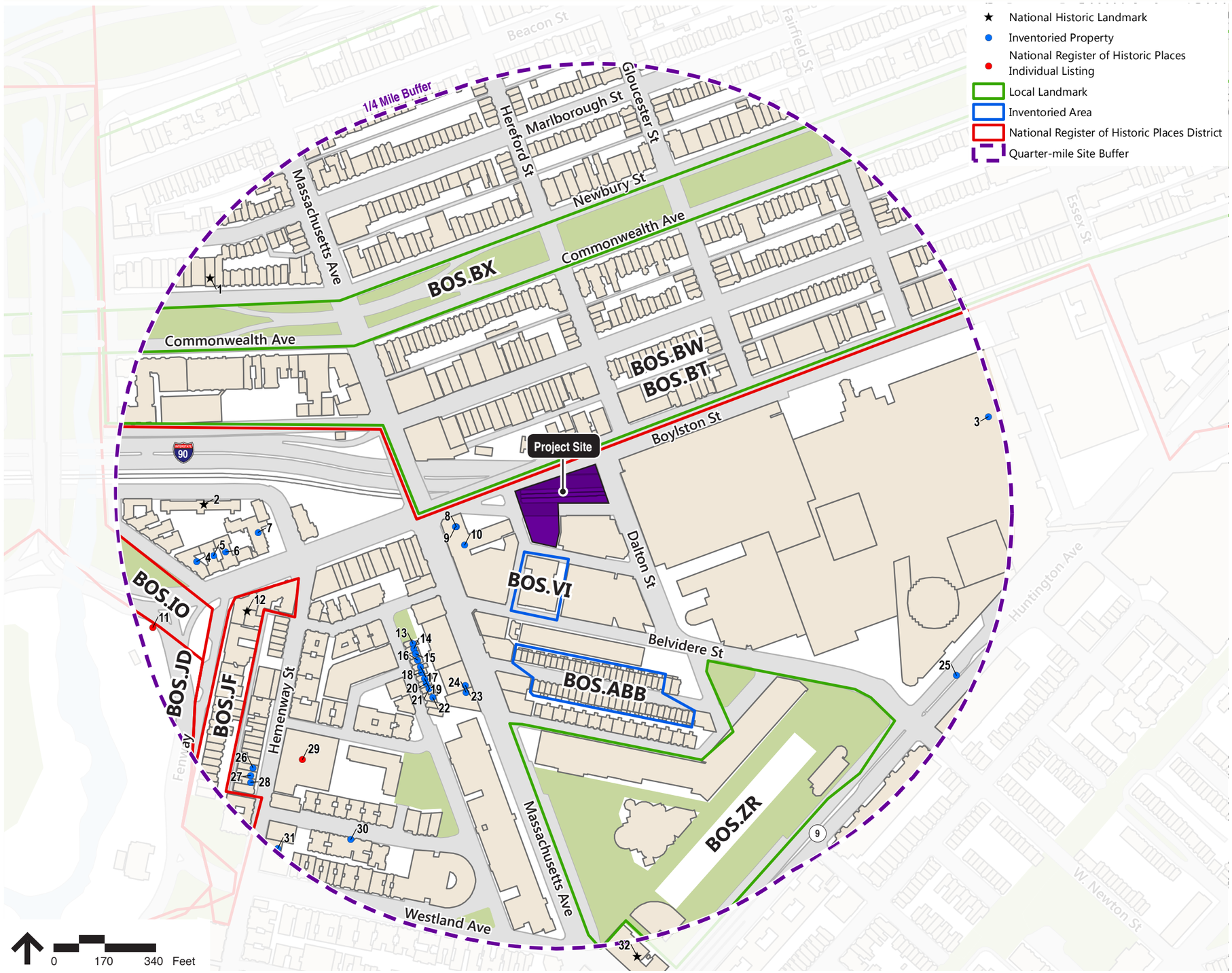
10.6.3 Wind

As demonstrated by the pedestrian wind study presented in Section 6.3 of Chapter 6, *Environmental Protection*, the Project will not result in any new unacceptable or unsafe wind conditions in and around the Project Site and, thus, compiles with the BPDA criteria established for in the Build Condition studied and with the standards of Section 41-16(2) of the Code.

The Build Condition wind conditions (mean speed and effect gust speed) are shown in Figures 6.1b and 6.2b, respectively. With the Project, pedestrian-level wind conditions around the Project Site are expected to remain unchanged to the north and east, and a decrease in speed is expected to the south and west of the Project Site. The areas along Massachusetts Avenue, Boylston Street east of Dalton Street, Newbury Street and Dalton Street are similar to the No-Build Condition (comfortable for sitting, standing, and walking). In several locations along these corridors, wind conditions are improved with the Project except for Location 22 at Massachusetts Avenue and Boylston Street. The proposed development has many positive design features that are contributing to the comfort conditions around the Project Site. These include the Podium setback along the west face of the building and the tower having many faces to reduce the amount of downwashing from a single direction.

10.6.4 Consultation Process with MHC

The Proponent has considered various alternatives to eliminate, minimize or mitigate the adverse effects of the ENF/PNF Alternative on State Register Properties (*See Section 1.6, Alternatives Analysis*). The Project, now the Preferred Alternative, is a prudent and feasible alternative to the ENF/PNF Alternative, which minimizes adverse effects of the Project on State Register Properties. The Proponent looks forward to finalizing the consultation process with MassDOT and MHC, and to entering into a Memorandum of Agreement (MOA) with MassDOT and MHC, pursuant to 950 CMR 71.07(3)(d).



Individual Properties Within 1/4 Mile Of Site

ID	Name
1	Ayer, Frederick Mansion
2	Fenway Studios Building
3	Boylston Apartments
4	Fenmore Apartments
5	Fenmore Apartments
6	Fenmore Apartments
7	Church of the Redemption (Universalist)
8	State Street Trust Company Building
9	State Street Trust Company Building
10	Fenway Theatre
11	O'Reily, John Boyle Memorial
12	Massachusetts Historical Society Building
13	Webber, John P. Row House
14	Webber, John P. Row House
15	Webber, John P. Row House
16	Webber, John P. Row House
17	Webber, John P. Row House
18	Webber, John P. Row House
19	Webber, John P. Row House
20	Webber, John P. Row House
21	Webber, John P. Row House
22	Webber, John P. Row House
23	Smith, William H. Row House
24	Smith, William H. Row House
25	Mechanics - Prudential Subway Station
26	Thomas, David W. Row House
27	Thomas, David W. Row House
28	Thomas, David W. Row House
29	New Riding Club, The
30	Bawford, A. J. Store
31	Hemenway Chambers - Hotel Hemenway
32	Horticultural Hall

Districts/Areas Within 1/4 Mile Of Site

ID	Name
BOS.BW	Back Bay Architectural District
BOS.JD	Back Bay Fens, Sections of
BOS.BT	Back Bay Historic District
BOS.ZR	Christian Science Center Complex
BOS.BX	Commonwealth Avenue Mall
BOS.JF	Fenway - Boylston Street Historic District
BOS.IO	Olmsted Park System
BOS.VI	Saint Cecilia Roman Catholic Church Complex
BOS.ABB	Saint Germain Street, 8-65

vhb

Figure 10.1
Historic Resources

1000 Boylston Street
Boston, Massachusetts

11

Summary of Mitigation Measures/Draft Section 61 Findings

In accordance with the ENF Certificate, this chapter presents an overview of measures taken to avoid, minimize, or mitigate environmental impacts of the Project and to provide public benefits.

The Proponent is committed to building a livable, sustainable, and forward-thinking Project. The Project is inherently sustainable in that it utilizes an urban site in a densely-developed neighborhood of Boston by constructing new building area over a major highway (i.e., within air rights) and reusing an existing urban site. As illustrated in Figures 4.1a and 4.1b, sustainable and high-performance building strategies are at the core of the design for the Project. In summary, these and other beneficial measures include:

- Exceeding minimum energy performance requirements through consideration of energy conservation measures and on-site renewable energy in the form of building-integrated photovoltaic system.
- Minimizing impact on municipal water supply by minimizing potable water consumption.
- Minimizing impacts on stormwater systems and improving stormwater and effluent quality.
- Implementing TDM measures to encourage the use of alternative modes of transportation, reduce auto-dependency, and promote healthy lifestyles consistent with the City's goals to reduce auto-dependency.
- Utilizing locally-sourced, recycled content, and non-toxic building materials.
- Reducing solid waste during both construction and operations.
- Improving pedestrian circulation and facilities on-site, including a new ADA-compliant sidewalk along Boylston Street.

11.1 Mitigation Summary

The following sections summarize the mitigation measures taken by the Project to avoid, minimize, or mitigate environmental impacts related to:

- Transportation;
- Air Quality
- GHG emissions;

- Landlocked Tidelands;
- Stormwater/Groundwater;
- Water and wastewater;
- Solid and Hazardous materials; and
- Construction.

11.1.1 Transportation

Physical and Operational Transportation Improvements

Chapter 3, *Urban Design*, provides information on the planned public realm improvements associated with the Project. They include new ADA-compliant sidewalks, street furniture, crosswalks and signage, enlarged pedestrian areas at the Project Site's Boylston Street corners, and the proposal to make a very short section of St. Cecilia's Street two-way.

Based on the vehicle level-of-service (LOS) analysis in Section 5.7 of Chapter 5, *Transportation*, there are a few intersections that are forecast to cause a decline in LOS as a result of the addition of Project-generated traffic. To address these future impacts, possible traffic mitigation improvements have been identified as potential actions for further evaluation. The following intersections have been identified for roadway improvements mitigation measures:

- Huntington Avenue at Belvidere Street/West Newton Street signal timing modifications
- Massachusetts Avenue at Beacon Street signal timing modifications
- Conversion of a short section of Scotia Street to two-way operation

These roadway improvement mitigation measures for these three locations were evaluated and the results are presented in Section 5.8. To supplement these and other planned construction-related actions, an extensive Travel Demand Management (TDM) program is outlined in the following section.

Transportation Demand Management (TDM)

The intent of the proposed TDM measures is to help to reduce drive-alone trips, or single occupancy vehicles (SOVs). These actions, taken together will help encourage 1000 Boylston residents, retail/restaurant tenants, visitors and staff to seek out and use alternative modes of transportation for their travel. The following TDM measures are proposed:

- Designation of a building staff member as on-site Transportation Coordinator. In addition to other building-related duties, the Transportation Coordinator will be responsible for:
  - Overseeing parking;

  - Serving as the point person for managing, communicating and promoting the use of alternative transportation measures with building residents, tenants and staff;
  - Developing an orientation packet to inform both new residents and retail/restaurant employees about all available transportation options; and
  - Designation of a loading dock manager responsible for overseeing loading/delivery and resident move-in/move-out operations.
- Membership in the A Better City Transportation Management Agency (TMA) that was established in 1996 to serve downtown Boston's financial district, Back Bay, and Fenway/Kenmore Square areas. The ABC TMA is a nonprofit transportation management association working to improve economic vitality in the district by supporting sustainable commute options through advocacy and commuter services.
- Transit information will be provided in building lobby/common areas.
- With the assistance of MassRIDES, a website application will be employed to encourage use of alternative commuting modes and to provide ride matching services.
- Individual retail/restaurant tenants will be encouraged to provide directions using public transportation on the individual retail/restaurant tenant's websites.
- At the appropriate time, the Proponent will consult with MassRIDES, the Commonwealth's Travel Options provider, to help implement elements of the TDM program. The Proponent will also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips.
- Approximately !0-12 short-term public bicycle parking spaces will be provided on Boylston Street. In addition, the Proponent intends to provide 108 secure bicycle spaces for building residents within the garage.
- The Proponent will establish a Hubway corporate membership and will consider providing subsidies for its staff. Further, the Proponent will encourage its tenants to offer their staff the same benefits.
- The Proponent will promote the use of a carsharing program for building residents and staff and will encourage the building's retail/restaurant tenants to offer a carshare corporate membership.
- The Proponent anticipates providing numerous on-site amenities and conveniences that would reduce the need for automobile travel, including food service delivery from the on-site restaurants.
- Various amenities to commuters who walk and bike including on-site lockers and showers for building and tenant staff. The retail and restaurant tenants will be encouraged to do the same in their spaces.
- The Proponent will offer a transit pass subsidy to its own employees who will work in the building, and will encourage retail/restaurant tenants to offer subsidized transit passes for their staffs.

› Initially provide four (4) on-site electric vehicle ("EV") EV charging stations for building residents with room to expand that number over time in the event the demand grows

This TDM program compares favorably with what the city's other leading developers are doing to address transportation and mobility challenges faced across the City.

Monitoring Program

The Proponent is committed to conducting transportation monitoring and producing annual reports following the completion of the Project. The purpose of the City-required Transportation Monitoring and Annual Report is to provide the Boston Transportation Department a regular update on transportation-related issues, such as the Project's performance on Travel Demand Management (TDM) measures. Elements of the Transportation Monitoring and Annual Report typically include counts or surveys to determine peak period travel patterns. This would typically include people who walk, use transit, are picked up or dropped off, those who drive and park on-site and those who drive and park off-site. The Proponent would also be expected to report on parking patterns and other issues that are relevant to the Project's transportation plan.

The Proponent's obligation to provide this annual report commitment will be specifically outlined in a Transportation Access Plan Agreement (TAPA) between the Proponent and BTD.

Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a TAPA with BTD. The TAPA will codify and document each of the Project's transportation mitigation commitments, which are the result of the detailed transportation analyses and identification of Project impacts, as documented in Chapter 5, *Transportation*, and specific agreements made between the Proponent, the City of Boston and MassDOT. The Project's proposed transportation mitigation measures have not been discussed in detail with the City at this time. Upon the City's review and acceptance of the findings and conclusions of this transportation analysis and assessment of Project impacts and its acceptance of the Project's commitments and TDM actions, the TAPA will be executed.

11.1.2 Air Quality

Vehicle Emissions (Mesoscale and Microscale)

For regional air quality impacts, as demonstrated in Section 6.7.1 of Chapter 6, *Environmental Protection*, the Project will include reasonable and feasible mitigation measures to reduce volatile organic compounds (VOCs) and nitrogen oxide (NO_x) emissions for the Build Condition, including TDM measures, and signal time optimization (described further above in Section 11.1.1).

A summary of the mitigation emissions reduction is provided in Table 6-6. The signal optimization improvements result in delay savings and consequentially a 0.14

kg/day reduction of VOCs and a 0.11 kg/day reduction of NOx. Additionally, estimates of similar TDM programs in a suburban area have ranged on the order of a two to five percent reduction in vehicles miles traveled (VMT), which is assumed to result in comparable pollutant emission savings. Assuming a two percent reduction, the TDM plan is expected to provide less than a 0.01 kg/day reduction of VOCs and NOx. This results in final Project-related emissions of 0.07 kg/day of VOCs. The mitigation measures will provide a 0.11 kg/day reduction of Project-related NOx, bringing the overall NOx emissions lower than the No Build Condition.

For localized air quality impacts, as demonstrated in Section 6.7.3 of Chapter 6, *Environmental Protection*, the Project traffic is not expected to impact intersections or roadway links currently operating at LOS D, E, or F, and is not expected to cause LOS to decline to D, E, or F. Project-related vehicle trip generation rates are low and are not expected to cause impacts at the study area intersections.

Parking Garage Emissions

The AERMOD model concluded that, even with downwash conditions (as a worst-case), the maximum concentrations of air emissions predicted from the parking garage vents are all below the NAAQS standards for CO.

11.1.3 Greenhouse Gas Emissions

The GHG emissions assessment provided in Chapter 7, *Greenhouse Gas Emissions Assessment*, demonstrates that the assessment satisfies the current MEPA GHG Policy because it estimates potential Project-related GHG emissions, and incorporates reasonable and feasible mitigation measures to reduce such emissions for the Build Condition.

Stationary Source GHG Emissions

The Project has been designed to meet the current Stretch Energy Code using guidance issued by DOER for MEPA GHG assessments to address the recent Stretch Energy Code updates (i.e., least 10 percent more efficient than the base requirements of ASHRAE 90.1-2013).

Based on the building energy model results, the estimated energy use reduction of 12 percent, which equates to a 12 percent reduction in stationary source CO2 emissions when compared to the Base Case. (Note, the percentages of energy use are different than emission reductions due to emissions conversion factors.) The key energy conservation measures for the Project include:

- High-performance glazing and efficient building materials (walls, roof, and windows);
- Condenser water plant that exceeds base energy code efficiency with variable speed technology, and energy recovery for exhaust;
- High-efficiency chillers with variable speed compressors;
- High efficiency lighting;

- Ventilation air heat recovery;
- High efficiency domestic hot water heaters

Table 7-1 of Chapter 7, *Greenhouse Gas Emissions Assessment*, provides a comprehensive summary of the energy conservation measures assumed as part of the energy model. As the Project's design develops, the design team will consider further load reduction where possible through additional strategies.

While not accounted for in the preliminary energy model, the Proponent will continue to consider and evaluate additional measures to further reduce stationary source GHG emissions, such as operational measures (e.g., continuous building system optimization and energy tracking for the life of the Project).

The Proponent will submit a self-certification, signed by an appropriate professional, to the MEPA Office that identifies the as-built energy conservation measures and documents the stationary source GHG emissions reductions from the baseline case for the Project post-construction, as required by the MEPA GHG Policy (see Section 11.2.3 below).

Mobile Source GHG Emissions

The mobile source GHG assessment calculated the GHG emissions for Project-related mobile sources. The Proponent is committed to implementing a comprehensive TDM program, as detailed above in Section 11.1. Implementation of the TDM program is expected to improve air quality in the study area by promoting the use of alternative forms of transportation over the use of single-occupant motor vehicle trips to the Project Site. Although not easily modeled, previous estimates of similar TDM programs in an urban area have been on the order of a two percent reduction in Vehicle Miles Travelled from Project-generated trips. Assuming a similar relationship to GHG emissions, this would correlate to an approximately one ton of CO_2 per year reduction in mobile source GHG based on estimated Project emissions.

In addition to the TDM program the Project is proposing traffic improvements (also discussed above in Section 11.1). The traffic mitigation measures will provide 227 tons per year (tpy) reduction of Project-related CO_2 and 1 tpy from the TDM measures bringing the overall CO_2 emissions lower than the No Build Condition. A summary of the mitigation emissions reduction is included in Table 7-6.

11.1.4 Stormwater/Groundwater

The Project will require BWSC Site Plan Review and approval as well as approvals from MassDOT. The Proponent will continue to coordinate with BWSC and MassDOT on the design of any proposed connections and to ensure there is capacity in the storm drain systems. A capacity analysis of the existing public infrastructure will be conducted as part of the BWSC Site Plan Review. Mitigation measures to be provided by the Proponent will also be agreed upon with BWSC once the proposed design for the Project reaches an appropriate level of detail. The Project will also evaluate the use of BMP's during the BWSC Site Plan Review process.

Construction of the Project will incorporate stormwater management and treatment systems that will improve water quality and control peak rates of runoff in comparison to pre-development conditions. The current design of the Project incorporates a multi-step process to manage stormwater:

- Retention tanks will be used to control flow rates;
- Stormwater treatment chambers/filters will improve water quality and reduce phosphorus loads to comply with the MassDEP Total Maximum Daily Load (TMDL) threshold of 65% phosphorus removal; and
- Injection wells within the sidewalk along the perimeter of the Podium along with infiltration chambers under the loading dock will provide infiltration to replenish groundwater. The injections wells will be subject to the City of Boston's Public Improvement Commission (PIC) approval, as applicable, and issuance of a MassDEP Underground Injection Control permit.

Where feasible, the Project will also include green roof areas to help reduce runoff.

Due to the limited existing (exclusive) drainage infrastructure in the Project area, the Project will also work with BWSC to install a new 15-inch drain line in Scotia Street. This new drain line will separate an existing 12-inch combined line and will tie into existing BWSC infrastructure in Dalton Street. A new 18-inch drainage connection serving the Project is anticipated to connect to this new drain line.

The proposed stormwater system will comply with all applicable city and state guidelines and standards to the maximum extent practicable. Stormwater runoff calculations will be done for existing and proposed conditions for the 2-, 10-, and 100-year storm events. During construction, measures will be implemented to minimize water quality impacts and avoid impacts to abutting properties.

As demonstrated in Section 9.5.3 and 9.5.4 of Chapter 9, *Infrastructure*, the Project will comply with both the MassDEP standards and local GCOD requirements related to stormwater, respectively.

11.1.5 Water and Wastewater

Water Conservation Measures

Overall water demand for the Project will be reduced through the use of appropriate low-flow and low-consumption plumbing fixtures, which will be installed in all residential units to achieve a reduction in water usage of 30 to 35 percent over the baseline in compliance with Article 37 of the Boston Zoning Code (as LEEDv4 "certifiable"), as discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

Irrigation demands for the Project are estimated to be approximately 18,140 gallons per day of water. As discussed in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*, the irrigation system will be designed to use at least 30

percent less potable water from the calculated baseline for the site's peak watering month. To reduce this overall demand:

- Irrigation will be metered separately from all other domestic water usage and will include a rain sensor;
- Plant species will be selected appropriately for hardiness, to minimize excessive watering needs; and
- All plant beds for trees, shrubs, perennials and groundcover shall be irrigated with drip lines and turf areas with spray heads.

Inflow and Infiltration (I/I) Mitigation

Since the Project is expected to generate new wastewater flows of approximately 44,750 gallons per day, certain regulatory thresholds are triggered. The BWSC requires that new developments generating greater than 15,000 gallons per day of net new wastewater flow provide mitigation to offset clean flow inflow and infiltration (I/I) present in the collection system. I/I is the component of flows in sanitary sewer systems that does not come from wastewater generated by building. I/I includes groundwater infiltration from leaking/broken sewer infrastructure, as well as stormwater connections from roof leaders and drainage infrastructure. Following MassDEP and BWSC policy, projects that generate flows more than the 15,000-gallon threshold are responsible for mitigating I/I at a ratio of 4:1 relative to the net-new wastewater generated. This will result in a significant mitigation payment for the Project. The Proponent is committed to working with BWSC to define the appropriate I/I mitigation.

Separation Improvements

The project site is currently only served by combined sewer and drain service mains. The Project is proposing to install approximately 450 linear feet of new drain line in Scotia Street from St. Cecilia Street to Dalton Street where the local infrastructure ties to the West Side Interceptor. This separated drain line will provide capacity to accommodate the new site runoff, create capacity in the existing sewer and establish a basis for further separation around the Project Site.

11.1.6 Solid and Hazardous Materials

Solid Waste

Solid waste management will be addressed both during construction and occupancy. The Construction Manager ("CM") will provide a construction waste management plan to divert a minimum 75 percent of the construction and demolition debris comprised of multiple waste streams.

The building will include recycling facilities/space for all uses. Collected recyclables will be accommodated on the ground floor near the loading docks. All residential floors will have trash chutes, which will also accept recycling. The intent is that each residential and retail/restaurant spaces, as well as the parking garage, will have

access to facilities and space for collection of recyclable materials. A contracted waste management company will pick up the collected residents' recyclables on a regular basis. The retail tenants will utilize disposal services that recycle waste off-site.

Hazardous Waste

An Environmental Site Assessment was completed for the Scotia Parcel in 2008 as part of due diligence prior to acquisition of the property. Additional assessment was conducted in 2014 for project planning. The assessment included the advancement of test borings, installation of monitoring wells, and laboratory analysis of soil and groundwater samples.

Research on environmental conditions relative to the potential presence of oil and hazardous materials has also been undertaken regarding Parcel 15, the Prudential Parcel and the Cambria Street Air Rights Parcel (collectively, the "Air Rights Parcels"). However, chemical testing of soil and groundwater for the Air Rights Parcels has not been undertaken due to access constraints. Planning for an additional subsurface exploration program is underway and will be conducted when appropriate permits are received from MassDOT.

It is the intention of the Proponent to adequately characterize any soils or groundwater that will be generated by the construction activity prior to construction. The Contract Documents will include a Soil Management Plan for proper management of any impacted soil or groundwater. Excavation below groundwater levels is not anticipated since the Project is essentially constructed on Air Rights, with subsurface supporting elements. A temporary construction dewatering permit will be obtained if needed to manage surface water or other seepage into localized excavations. At the Scotia Parcel, concentrations of chemical constituents in soil were either not detected or were below applicable reporting and background levels for urban fill soils. Analysis of groundwater identified concentrations of metals above applicable reporting thresholds and the release was reported under RTN 3-27939. A Risk Characterization determined No Significant Risk existed at the site and a Class B-1 RAO was submitted to MA DEP in October 2008 to close the Project Site under the MCP.

Additional characterization of the environmental quality of soil and groundwater will be conducted prior to final design and preparation of Contract Documents. Management of soil and groundwater will be in accordance with applicable local, state, and federal laws and regulations. The Proponent's Environmental Consultant will evaluate potential indoor air impacts for the Scotia Parcel which is the only portion of the development with building constructed over land. Response Actions if necessary will be undertaken in accordance with the Massachusetts Contingency Plan and will be incorporated into Project planning and conducted as part of the construction. Any necessary regulatory filings will be made, and permits and approvals obtained, prior to start of construction to not impact the schedule of work or public safety.

11.1.7 Construction Period Impacts

The Project will be constructed in a single phase. The Proponent anticipates commencing site preparation and utility relocation work in mid-2018. The deep foundation work for the Podium and residential building will follow the completion of the site preparation and utility work. Work on the Podium is expected to be complete by the third quarter of 2019, and work on the residential building is expected to be complete by early- to mid-2022.

Impacts associated with the Project construction activities are temporary in nature and are typically related to truck traffic, air (dust), noise, stormwater runoff, solid waste, and vibration. The Proponent will develop a detailed Construction Management Plan ("CMP") for approval by BTD and MassDOT prior to construction. A draft version of the CMP is provided in Appendix G of this DEIR/DPIR. The CMP outlines sub-phases and reflects the input of the regulatory authorities having jurisdiction over such plans, including the Boston Fire Department ("BFD"), BTD, and MassDOT. The CMP will include detailed information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans to minimize impact on the surrounding neighborhood and the Turnpike. The following elements will be incorporated in the CMP, which are subject to refinement and modification as the design of the Project progresses:

- Detailed construction schedule, including hours of construction activity.
- Construction methodology, including foundation construction, amount and method of excavation required, disposal of the excavate, description of foundation support, maintenance of groundwater levels, and measures to prevent any adverse effects or damage to adjacent structures and infrastructure.
- Identification of best management practices to control erosion and to prevent the discharge of sediments and contaminated groundwater or stormwater runoff into the City's drainage system during the construction period.
- Development of a Construction Waste Management Plan (CWMP) for the processing and recycling of construction waste.
- Measures to protect public safety, such as barrier, protected walkways, and signage.
- Identification of location of construction staging areas and construction worker parking.
- Measures to encourage carpooling and/or public transportation use by construction workers.
- Access routes for construction trucks and anticipated volume of construction truck traffic.
- Potential dust and pollutant emissions and mitigation measures to control these emissions.
- Potential noise generation and mitigation measures to minimize increase in noise levels.

› Measures to make construction fencing as attractive as possible to ensure the visual character of the streetscape.

11.2 Draft Section 61 Findings

As required by 301 CMR 11.07(6)(k) of MEPA, this chapter provides draft Section 61 Findings for each state agency action to be undertaken on the Project.

MGL Chapter 30, Section 61, requires that "[a]ll authorities of the Commonwealth … review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and … use all practicable means and measures to minimize [their] damage to the Environment. … Any determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required … [on a project]." MGL Chapter 30, Section 62A.

State agency actions for the Project include various permits from MassDOT. Section 61 findings for these actions are provided below to assist the agencies in meeting their obligations. The Proponents will be responsible for implementing all of the mitigation measures. Individual costs have not yet been determined because most are considered to be part of the overall Project design.

The BPDA is also considered a state agency under 301 CMR 11.02 when acting in accordance with G.L. c. 121B. It is anticipated that the BPDA will include Section 61 findings in its documents executed pursuant to G.L. c. 121B, and will establish mitigation to, among other matters, minimize environmental impacts to the extent feasible, in its Article 80B approvals and related documents.

11.2.1 Massachusetts Department of Transportation (MassDOT) Draft Section 61 Findings

D R A F T O N L Y

September 22, 2017

J. Lionel Lucien, P.E.
Manager - Public/Private Development Unit
Massachusetts Department of Transportation, Highway Division - Boston
10 Park Plaza, Room 4150
Boston, MA 02116

Re: EEA No. 15632 – 1000 Boylston Street Project, Boston, MA

These findings for the 1000 Boylston Street (the "Project"), (EEA No. 15632), have been prepared in accordance with the provisions of M.G.L. c. 30, Section 61 and 301 CMR 11.00. On *XXX*, the Secretary of Energy and Environmental Affairs issued a decision stating that the Project's Final Environmental Impact Report ("FEIR"), dated

XXX, adequately and properly complied with the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations.

Project Description

The proposed development program has been carefully considered and reflects the Proponent's consideration of community concerns in regard to Project density and height, balanced against the density required to mitigate the cost premiums associated with an Air Rights development, including the construction of up to approximately 23,000 square feet of deck over the Turnpike, as well as the site control costs of payments to both MassDOT and the Prudential Life Insurance Company of America. The proposed development program is presented in Table 1 below. (Note: all dimensions are approximate.)

Table 1 Proposed Development Program Summary

Project Element	Approximate Dimensions	Quantity
PDA Area	50,764 SF	NA
Project Site Lot Area	40,955 SF	NA
Residential Total	394,000 SF GFA	
Residential Unit SF	282,000 GFA	up to approximately 108 units
Residential Common/ Amenity Space	112,000 GFA	NA
Retail	45,500 GFA	NA
Total GFA	**439,500 GFA**	**up to approximately 108 units**
Parking	NA	175 spaces

NA=Not Applicable

SF= square feet of site area

GFA = gross floor area of building space gross floor area of building as defined in Article 2A of the Boston Zoning Code and as applicable to a Planned Development Area in the Huntington Avenue Prudential Center District under Article 41 of the Code.

Proposed Building Design Overview

The Project is consistent with several key urban design principles specific to the Project Site, the Back Bay and Fenway neighborhoods, and the Civic Vision, which include:

› Repair the discontinuity in the urban street wall left behind by the Turnpike expansion through Boston, to provide a cohesive link between the Back Bay and Fenway neighborhoods;

› Enliven the public realm with generous sidewalks and ground and second floor uses that engage pedestrians; and

› Respect the scale and character of the urban street wall and the Back Bay Architectural District by placing the Podium along Boylston Street and setting the Residences Building back from the Boylston Street edge.

The proposed building design is described in further detail in Chapter 3, *Urban Design*, of the DEIR/DPIR

Project Impacts

The Project is anticipated to generate approximately 2,890 (1,445 entering and 1,445 exiting) unadjusted daily vehicle trips. Once mode shares are applied, the Project is anticipated to generate approximately 896 (448 entering and 448 exiting) adjusted daily vehicle trips, 23 (10 entering and 13 exiting) morning peak hour vehicle trips, and 77 (42 entering and 35 exiting) evening peak hour vehicle trips. The Project will generate approximately 980 (490 entering, 490 exiting) daily transit trips, 29 (14 entering, 15 exiting) morning peak hour transit trips, and 117 (63 entering, 54 exiting) evening peak hour transit trips. Approximately 70% of the transit trips will occur by subway (Green Line) and 30% will occur by key bus routes.

Physical and Operational Transportation Improvements

The Project will provide public realm improvements associated with the Project. They include new ADA compliant sidewalks, street furniture, crosswalks and signage, enlarged pedestrian areas at the Project Site's Boylston Street corners, and the proposal to make a very short section of St. Cecilia's Street (a local city street) two-way.

In addition, a series of traffic signalization timing changes were proposed and will be analyzed. To supplement these and other planned construction-related actions, an extensive Travel Demand Management (TDM) program is outlined in the following section.

Transportation Demand Management (TDM)

The intent of the proposed TDM measures is to help to reduce drive-alone trips, or single occupancy vehicles (SOVs). These actions, taken together will help encourage 1000 Boylston residents, visitors and staff to seek out and use alternative modes of transportation for their travel. The following TDM measures are proposed:

› Designation of a building staff member as on-site Transportation Coordinator. In addition to other building-related duties, the Transportation Coordinator will be responsible for:
  - Overseeing parking;
  - Serving as the point person for managing, communicating and promoting the use of alternative transportation measures with building residents, retail/restaurant tenants and staff;
  - Developing an orientation packet to inform both new residents and retail/restaurant employees about all available transportation options; and

    - Designation of a loading dock manager responsible for overseeing loading/delivery and resident move-in/move-out operations.

- Membership in the A Better City Transportation Management Agency (TMA) that was established in 1996 to serve downtown Boston's financial district, Back Bay, and Fenway/Kenmore Square areas. The ABC TMA is a nonprofit transportation management association working to improve economic vitality in the district by supporting sustainable commute options through advocacy and commuter services.
- Transit information will be provided in building lobby/common areas.
- With the assistance of MassRIDES, a website application will be employed to encourage use of alternative commuting modes and to provide ride matching services.
- Individual retail/restaurant tenants will be encouraged to provide directions using public transportation on the individual retail/restaurant tenant's websites.
- At the appropriate time, the Proponent will consult with MassRIDES, the Commonwealth's Travel Options provider, to help implement elements of the TDM program. The Proponent will also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips.
- Approximately 15 to 30 short-term public bicycle parking spaces will be provided. In addition, the Proponent intends to provide 108 secure bicycle spaces for building residents.
- The Proponent will establish a Hubway corporate membership and will consider providing subsidies for its staff. Further, the Proponent will encourage its tenants to offer their staff the same benefit.
- The Proponent will promote the use of a carsharing program for building residents and will encourage the building's retail/restaurant tenants to offer a carshare corporate membership.
- The Proponent anticipates providing numerous on-site amenities and conveniences that would reduce the need for automobile travel, including food service delivery from the on-site restaurants.
- Various amenities to commuters who walk and bike including on-site lockers and showers for building and tenant staff. The retail and restaurant tenants will be encouraged to do the same in their spaces.
- The Proponent will offer a transit pass subsidy to its own employees who will work in the building, and will encourage retail/restaurant tenants to subsidized transit passes for their staffs.
- Initially provide four (4) on-site electric vehicle ("EV") EV charging stations for building residents with room to expand that number over time in the event the demand grows

This TDM program compares favorably with what the City's other leading developers are doing to address transportation and mobility challenges faced across the city.

Monitoring Program

The Proponent is committed to conducting transportation monitoring and producing annual reports following the completion of the Project. The purpose of the City-required Transportation Monitoring and Annual Report is to provide the Boston Transportation Department a regular update on transportation-related issues, such as the Project's performance on Travel Demand Management (TDM) measures. Elements of the Transportation Monitoring and Annual Report typically include counts or surveys to determine peak period travel patterns. This would typically include people who walk, use transit, are picked up or dropped off, those who drive and park on-site and those who drive and park off-site. The Proponent would also be expected to report on parking patterns and other issues that are relevant to the Project's transportation plan.

The Proponent's obligation to provide this annual report commitment will be specifically outlined in a Transportation Access Plan Agreement (TAPA) between the Proponent and the Boston Transportation Department.

Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a Transportation Access Plan Agreement (TAPA) with the BTD. The TAPA will codify and document each of the project's transportation mitigation commitments.

The project's mitigation commitments are the result of the detailed transportation analyses and identification of Project impacts, as documented in the above chapter, and specific agreements made between the Proponent, the City of Boston and MassDOT. Upon the City's review and acceptance of the findings and conclusions of this transportation analysis and assessment of Project impacts and its acceptance of the Project's commitments and TDM actions, the TAPA will be executed.

Construction Management Plan

The Proponent's pre-construction contractor has begun development of a detailed construction management plan (CMP) that will address the temporary transportation impacts of the project. Typically included in a CMP is a clear explanation of the phasing and timing of construction. Included are:

- Estimates of the number of workers on the site by phase,
- The associated expected amount of construction traffic,
- Construction vehicle routing and staging,
- Site entrance and egress points, and
- An explanation of how roadway operations, bicycle and pedestrian activities will be maintained throughout the construction period.

This Project is unique in that the CMP will need to address two separate issues because it requires air rights construction. The first is the interface with the local street system. This will address how the construction will interface with Boylston, St.

Cecilia's, Cambria, Dalton and Scotia Streets. Maintaining traffic operations and a safe environment for pedestrians and cyclists on this adjacent street system is an important issue for the Project Site's neighbors and for maintaining business operations at the Hynes Convention Center. As noted above, the pre-construction contractor has begun development of an initial CMP that indicates how at the street level these items will be addressed.

The second CMP element is how the actual construction of the Project, particularly the early phases of the structural support system, will affect the Massachusetts Turnpike (I-90) and the active rail lines under the building. Periodic lane closures will be required on the Turnpike; as noted, the pre-construction contractor has begun a dialogue with MassDOT staff within District 6 to begin to understand the requirements that will be placed on the Project. The Proponent and MassDOT have the same objective – that will be to minimize the potential impacts on the motoring public on I-90 and on commuter rail users on the Worcester Line. Recent experience gained during the Commonwealth Avenue bridge replacement project just west to the 1000 Boylston site will be invaluable to establish the requirements that will be applied to the Project.

The Proponent is committed to developing these two CMPs in concert with the BTD and MassDOT.

Construction Vehicle Traffic

Construction vehicles will be necessary to move construction materials to and from the Project Site. Every effort will be made to reduce noise, control fugitive dust, and minimize other disturbances associated with construction traffic. Truck staging and laydown areas for the Project will be carefully planned.

Construction Parking Issues

No construction worker parking is planned as part of the Project. As a result, all construction workers will be encouraged to use public transportation to travel to/from the Project Site. Because of the construction workers' relatively early arrival/departure pattern (typically 7:00 AM-3:00 PM), conflicts between construction traffic and commuters will be reduced.

The primary contractor and its sub-contractors, vendors and suppliers will be encouraged to develop access plans for their staff that deemphasizes private auto use. Actions may include seeking off-site parking, providing transit subsidies, and offering secure on-site lockers to reduce the need for driving.

Pedestrian Access during Construction

During the construction period, pedestrian activity adjacent to the Project Site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary walkways, appropriate lighting, and directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished

pedestrian sidewalks will be permanently reconstructed and improved around the site.

Findings

MassDOT finds that the environmental impacts resulting from construction of the proposed project are those impacts described in the Draft and Final Environmental Impact Report, which will be updated as necessary in permit applications submitted for compliance with federal and state environmental laws.

Further, MassDOT finds that, with implementation of the mitigation measures described herein, all feasible means and measures will have been taken to avoid or minimize adverse impacts to the environment relating to construction and operation of the proposed Project. Appropriate conditions will be included in permits issued for the Project to ensure implementation of the mitigation measures.

_____ _____

By Date

11.2.2 MEPA GHG Self-Certification Letter

In accordance with the MEPA GHG Policy, the Proponent will provide a self-certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) following completion of construction to demonstrate that the stationary source GHG emissions have been mitigated. A draft commitment letter for this self-certification submission is provided below.

DRAFT ONLY

September 22, 2017

Secretary Matthew A. Beaton
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

ATTN: Deirdre Buckley, Director, MEPA Office

Re: Letter of Commitment for Stationary Source Greenhouse Gas Emissions Self-Certification
EA No. 15632 - 1000 Boylston Street Project, Boston, MA

Dear Secretary Beaton and Director Buckley:

On behalf of ADG Scotia II LLC, VHB has prepared a summary of the estimated reduction in overall energy use and stationary source Greenhouse Gas (GHG) emissions for the 1000 Boylston Street Project in the Back Bay neighborhood of Boston (the "Project").

In accordance with the current MEPA Greenhouse Gas Emissions Policy and Protocol (the "GHG Policy") dated May 2010, the stationary source GHG assessment was provided to the MEPA Office as part of the joint Draft Environmental Impact Report/Draft Project Impact Report (the "DEIR/DPIR") filed on September 8, 2017. The design case assumed building design and system improvements that would result in energy reductions, in accordance with the GHG Policy.

The energy conservation measures for the full build-out of the Project are estimated to reduce the overall energy use by 12 percent resulting in a 12 percent reduction in stationary source CO_2 emissions when compared to the baseline case. The following table presents the estimated energy savings and CO_2 emissions reductions for the Project.

	Energy Consumption (MBtu)			CO_2 Emissions (tons/yr)[1]		
Project Component	Base Case[2]	Design Case	Percent Savings	Base Case[2]	Design Case	Percent Reduction
New Building	41,761	36,593	**12.0%**	3,848	3,376	**12.0%**

1 tons/yr = short tons per year

2 The Base Case represents current Base Energy Code IECC 2015 and ASHRAE 90.1-2013 standards.

The building energy model results/energy savings and estimated stationary source GHG emissions reductions are preliminary. Following completion of construction of each element, the Proponent will submit a self-certification to the MEPA Office, signed by an appropriate professional, which identifies the as-built energy conservation measures and documents the stationary source GHG emissions reductions from the baseline case.

If you have any questions, please contact me at (617) 607-0091 or via e mail at ldevoe@vhb.com.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Lauren DeVoe, AICP, LEED AP BD+C
Senior Environmental Planner

cc: Adam Weiner, ADG Scotia II LLC

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12

Response to ENF Comments

This chapter presents responses to the MEPA Certificate on the ENF and all public comments received on the ENF. Copies of the ENF Certificate and each comment letter received during the public review period of the ENF are included in this chapter. Each letter is assigned a number, as listed below in Table 12-1. Where appropriate, reference is made to a corresponding section of this DEIR/DPIR. The BPDA Scoping Determination and comments on the PNF are presented and addressed in Chapter 13, *Response to PNF Comments*.

Table 12-1 List of ENF Comment Letters

Letter No.	Commenter	Affiliation	Date Received
ENF Comments			
C	Secretary Matthew Beaton	Executive Office of Energy and Environmental Affairs/MEPA Office	February 10, 2017
1	J. Lionel Lucien	Massachusetts Department of Transportation	January 31, 2017
2	John D. Viola	Massachusetts Department of Environmental Protection	January 31, 2017
3	Paul F. Ormond	Massachusetts Department of Energy Resources	January 31, 2017
4	Brona Simon	Massachusetts Historical Commission	January 31, 2017
5	Marianne Connolly	Massachusetts Water Resources Authority	January 27, 2017
6	John P. Sullivan	Boston Water and Sewer Commission	January 26, 2017

ENF Certificate

Comment C.1

The DEIR should include a detailed description of the existing and proposed conditions and describe any changes to the project since the filing of the ENF.

Response

The existing and proposed conditions are described in Sections 1.3 and 1.4 of Chapter 1, *Project Description and Alternatives*, and the changes since the filing of the ENF are described in Section 1.4.1.

Comment C.2

Each section of the DEIR should contain an executive summary that identifies the specific revisions to project design or analyses that have occurred since the filing of the ENF.

Response

A section titled "Summary of Project Changes" has been included at the beginning of each chapter of this DEIR/DPIR to identify specific revisions to project design or analyses associated with the project changes.

Comment C.3

The DEIR should include updated site plans for existing and post- conditions at a legible scale. These conceptual plans should include on-site work and any off-site work for transportation or utility improvements.

Response

Refer to Figure 1.7 for updated site plan. Additionally, the Chapter 3, *Urban Design*, figures present updated conceptual project plans, and Chapter 5, *Transportation*, figures and Figure 9.1 present the transportation- and infrastructure-related plans, respectively.

Comment C.4

The DEIR should include an updated building program (including an updated summary of floor area by use, number of residential units and bedrooms, and overall number of stories and maximum height) and accompanying narrative that identifies changes to the building program.

Response

Refer to Table 1-1 for the updated building program.

Comment C.5

The DEIR should elaborate on the schedule for construction of various project elements and how mitigation will be provided in relation to project phasing.

Response

Section 1.4.7 of Chapter 1, *Project Description and Alternatives,* provides an updated construction schedule. Refer to Section 6.10 of Chapter 6, *Environmental Protection*, for a description of measures to mitigate temporary construction impacts.

Before each new phase of the Project begins, the construction team will meet to ensure that the proposed means, methods, logistics, etc. are consistent with approved plans to mitigate the effects of any necessary changes.

Comment C.6

The DEIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and describe how the project will meet those standards.

Response

Chapter 2, *Regulatory Context and General Information*, provides a description of the applicable statutory and regulatory standards and requirements, and of how the Project will meet these standards.

Comment C.7

The DEIR should include a list of required federal, state, and local permits and approvals and provide an update on the status of each permit and/or approval.

Response

Refer to Table 2-1 in Chapter 2, *Regulatory Context and General Information*, for a list of anticipated required federal, state, and local permits and approvals and an update on the status of each permit and/or approval.

Comment C.8

The DEIR should expand on the analysis of the three alternatives provided in the ENF. It should present an analysis of previous conceptual design plans to support the Proponent's conclusion that the Preferred Alternative avoids, minimizes, and mitigates Damage to the Environment.

Response

Section 1.6 of Chapter 1, *Project Description and Alternatives*, provides an analysis of the project alternatives considered, as required by both the MEPA Certificate and BPDA Scoping Determination.

Comment C.9

The DEIR should also evaluate a Zoning Compliant Alternative that complies with all existing zoning, including dimensional, design, parking, and loading requirements.

Response

Refer to Section 1.6.2 of Chapter 1, *Project Description and Alternatives*, for an evaluation of project alternatives. The ENF Certificate requested that a zoning-compliant alternative be evaluated. This alternative would reflect what is permitted by the underlining zoning, which in this case consists of a combination of the two zoning articles applicable to the Project Site. Because the zoning boundary line bisects Cambria Street, as a practical matter there is no realistic zoning-compliant alternative applicable to the Project Site. This was recognized by the BPDA Scoping Decision which suggested that an alternative with a 400-foot height on the Project Site be evaluated in lieu of a more literal zoning-compliant development. Accordingly, Section 1.6 of Chapter 1, *Project Description and Alternatives*, evaluates the BPDA Reduced Build Alternative with a 400-foot height as the closest to a zoning-compliant alternative, as suggested in the BPDA Scoping Decision.

Comment C.10

The DEIR should include a table of potential environmental impacts (including building heights, traffic, parking, water usage, and wastewater generation) and conceptual plans for the Zoning Compliant Alternative and each alternative described in the ENF to allow for a comparison of impacts between alternatives. This table, along with a supporting narrative and conceptual site plans, should provide a comparative analysis that clearly identifies differences between the environmental impacts associated with each of the alternatives.

Response

Table 1-2 of Chapter 1, *Project Description and Alternatives,* presents a quantitative impact analysis comparing the No-Build Alternative, 2013 Designation Alternative, BPDA Reduced Build Alternative, ENF/PNF Alternative, and Preferred Alternative.

Comment C.11

The DEIR should discuss consistency of project alternatives with the Civic Vision for Turnpike Air Rights in Boston. The DEIR should fully explain any trade-offs inherent in the alternatives analysis, such as an increased development footprint in order to reduce other environmental impacts (noise, air quality, etc.).

Response

Refer to Section 1.6.3 of Chapter 1, *Project Description and Alternatives,* for a discussion of consistency with the Civic Vision as it relates to the project alternatives.

Comment C.12

The DEIR should identify the challenges associated with construction on the air-rights parcels and how the structural considerations constrain the building massing and design.

Response

Refer to Section 6.10 of Chapter 6, *Environmental Protection*, for a description of the many challenges associated with the construction on air rights parcels. Section 3.5.1 of Chapter 3, *Urban Design*, includes a discussion of how the structural considerations constrain building massing and design of the Project, which is the Preferred Alternative. Refer to Section 1.6.3 of Chapter 1, *Project Description and Alternatives*, for a discussion of how the structural considerations lead to infeasibility of a BPDA Reduced Build Alternative, which would be required to have a wider footprint in order to contain sufficient density to make the project financially feasible.

Comment C.13

The DEIR should consider height and massing alternatives to reduce potential impacts to airspace and shadow impacts on the surrounding area, including historic resources. I encourage the Proponent to initiate the FAA review process and to consult with MHC prior to preparing the alternatives analysis.

Response

Refer to Section 1.6.3 of Chapter 1, *Project Description and Alternatives*, for the height and massing alternatives considered and their associated potential impacts.

Sections 2.1.6 and 2.1.7 of Chapter 2, *Regulatory Context,* describe the consultation with MHC and the FAA to date, respectively. The FAA review process will be initiated at the appropriate time once coordinates for the rooftop features and cranes are specifically determined.

Comment C.14

The ENF did not describe the potential work nor identify potential construction-period impacts to this state-jurisdictional roadway [MassPike]. This should be provided in the DEIR.

Response

Section 6.10 of Chapter 6, *Environmental Protection*, describes the work and temporary impacts associated with construction on the Turnpike air rights parcels.

Comment C.15

The project will span an area of the MassPike approximately 300 ft in length (between Dalton Street and St. Cecilia Street) and will construct approximately 23,500 sf of deck over the MassPike. The DEIR should address how the deck over the MassPike and MBTA commuter rail line will be constructed and whether construction will impact vehicular or transit operations.

Response

The Proponent will coordinate with MassDOT, MBTA, Amtrak and BTD to determine what the work hours will be. The current plan is to work off-hours to mitigate effects of construction.

As described in Section 6.10 of Chapter 6, *Environmental Protection*, the sequence of the construction will be first the foundation, then supports, then supports for the lid, then the lid, then mechanicals/electricals. A complete plan will be put together (CMPs, PTPs, JHAs, Work Plans, etc.) to detail out all operations.

Comment C.16

The DEIR should include a transportation study prepared in conformance with the MassDOT/EEA Transportation Impact Assessment (TIA) Guidelines. The Proponent should consult with appropriate MassDOT units during preparation of the DEIR to address MassDOT comments. I hereby incorporate by reference MassDOT's comment letter, dated January 31, 2017, into the DEIR scope. A major focus of this section of the DEIR should be a detailed analysis of existing conditions and measures the project could implement to encourage and facilitate transit, bicycle and pedestrian access to the buildings and MBTA transit system. The DEIR should provide an update on consultation with MassDOT and MBTA and on the local permitting process, particularly with respect to any transportation issues being addressed.

Response

Chapter 5, *Transportation*, presents the Transportation Impact Assessment (TIA) developed in accordance with both the MassDOT and BTD scopes.

Comment C.17

In addition to the trip generation estimates included in the ENF, the DEIR should provide estimates for the weekday AM and PM peak hours based on the ITE Trip Generation Manual (9th edition). Adjustments of the trip generation estimates should be calculated using applicable methodologies for pass-by and/or internal capture trips from the most recent editions of the ITE Trip Generation Manual and Trip Generation Handbook. The DEIR should include trip distribution for the project using a gravity model based on factors such as census data, origin-destination, travel time, and distance to determine trip characteristics for employees and residents of the project site. The Proponent should consult with MassDOT, the City of Boston, and the MBTA to

develop travel demand and trip generation characteristics in light of the difficulty in adequately modeling the transit trip generation and trip assignments for the project. The BTD mode split data for this area should be compared to the ITE values to better estimate the share of trips accomplished by walking, bicycling, and transit use. The DEIR should fully document how the trip generation estimates and trip assignments were derived. If appropriate, the study area defined below should be modified on the basis of these results.

Response

Chapter 5, *Transportation*, presents the Transportation Impact Assessment (TIA) developed in accordance with both the MassDOT and BTD scopes.

Comment C.18

The TIA should also include trips that will be generated by nearby planned and/or approved projects in establishing traffic volumes for the future No-Build and Build scenarios. In addition, an annual growth factor should be applied to existing traffic volumes prior to addition of project-specific background growth. The planning horizon for the TIA should be seven years from the filing of the DEIR.

Response

Section 5.5.1 of Chapter 5, *Transportation*, describes the methodology for establishing the traffic background growth assumed under the No-Build and Build Conditions. Close coordination with staff of the BPDA and BTD led to the establishment of the list of planned/approved projects in the area, as well as the non-project specific traffic growth rate.

Comment C.19

The TIA should include capacity analysis of existing conditions, future No-Build conditions, future Build conditions and future Build with Mitigation conditions for the weekday AM and PM peak hour conditions at study area intersections. The DEIR should depict the peak hour 50th (average) and 95th percentile queue lengths for each lane group/turning movement at each study area intersection for all scenarios. It should identify any area where the project will result in extended queues that would block vehicle movements to/from study area intersections, particularly those that involve state highways, and propose mitigation measures as appropriate.

Response

Chapter 5, *Transportation*, includes a comprehensive assessment of peak hour conditions and queue lengths at study area intersections.

Comment C.20

The TIA should include an analysis of any intersections in the study area that have crash rates higher than the State and/or MassDOT District 6 average, and discuss causality and potential mitigation measures to be implemented by the Proponent.

Response

The analysis contained in Section 5.4.8 of Chapter 5, *Transportation*, indicates that there are no intersections with crash rates higher than the state and/or MassDOT District 6 average.

Comment C.21

The DEIR should propose an integrated multimodal mitigation package intended to improve vehicular traffic operations while minimizing the use of single occupant vehicle (SOV) travel by employees, patrons, and residents.

Response

Section 5.14 of Chapter 5, *Transportation*, describes the comprehensive transportation mitigation program proposed. These measures are aimed, in part, at encouraging the use of alternatives to single-occupancy vehicles.

Comment C.22

The DEIR should include sufficiently detailed conceptual plans (preferably 80-scale) for any proposed roadway improvements in order to verify the feasibility of constructing improvements. The conceptual plans should show proposed lane widths and offsets, layout lines and jurisdictions, existing or proposed easements, and the land uses (including access drives and loading areas) adjacent to areas where improvements are proposed. These conceptual plans should demonstrate that improvements are consistent with a Complete Streets design approach and should incorporate green infrastructure into the design of streets and sidewalks.

Response

Chapter 5, *Transportation*, includes an analysis of potential transportation mitigation improvements. A set of modest traffic signalization timing changes have been found to adequately address most of the additional traffic congestion expected from background growth and the Project. Another approach to transportation mitigation includes implementation of a TDM plan aimed at encouraging the use of alternatives to single-occupancy vehicles. In addition, the Project includes modifications and improvements to the pedestrian environment with wider sidewalks, street furniture, improved crossings, and other pedestrian amenities. Chapter 5 and other sections of this DEIR/DPIR include detailed descriptions of the proposed configuration of Boylston Street along the frontage of the Project Site.

Comment C.23

The project includes construction of 303 parking spaces which will be located in an above-grade parking structure. The DEIR should discuss the rationale for determining the number of parking spaces to be provided. According to MassDOT, the most recent edition of ITE's Parking Generation document should be consulted, but it may not effectively predict parking rates for this mixed-use project. The DEIR should include a summary of the parking need and supply for comparable facilities using multiple data sources, including consultation with BTD. The DEIR should describe how occupancy of parking spaces at these facilities varies during the day and identify peak periods of use.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing the ENF/PNF the Project which is the Preferred Alternative has been revised, including the reduction of parking spaces to 175 from the 303 parking spaces proposed in the ENF/PNF Alternative. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

Comment C.24

The DEIR should estimate the additional demand that will be generated by the project and include a detailed transit capacity analysis to determine the existing conditions and potential impacts of the project on the transit system. The analysis should be developed in consultation with the MBTA Service Planning Department. The DEIR should evaluate the additional demand the project will place on public transportation facilities and services. The analysis should be based on the existing Green Line system and any planned service enhancements and include projected conditions upon completion of the project. The DEIR should address the expected additional ridership on the Green Line and the impact of the additional ridership throughout the day, including peak periods. The DEIR should include tables showing the peak period headway and the MBTA's Policy Load and Crush Load Capacity for both inbound and outbound directions on the Green Line. The data should be provided for future conditions upon completion of the project. This information should be shown graphically to indicate the project's added ridership in comparison to base ridership and the load capacities.

Response

As requested, Section 5.11 of Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Project Site.

Comment C.25

The DEIR should describe existing conditions; how employees, visitors, and residents will travel from the site to the Hynes Convention Center Station; and identify any measures that may be necessary to ensure a fully accessible path of travel or all of the customers. I refer the Proponent to MassDOT's comment letter for additional guidance on this issue.

Response

Section 5.13.2 of Chapter 5, *Transportation*, includes detailed descriptions of the proposed configuration of Boylston Street along the frontage of the Project Site. The Project will modify and improve the pedestrian environment with wider sidewalks, street furniture, improved crossings, and other pedestrian amenities, and such improvements will meet accessibility requirements.

Comment C.26

The DEIR should provide a detailed analysis of the project's impact to the MBTA bus network that serves the site, including Routes 1, CT1 and 55. The DEIR should review the capacity of bus service to the site under existing conditions and proposed Build and No-Build scenarios, taking into account other projects in the vicinity that are under construction or planned. Specifically, the DEIR should provide, in a tabular format, an assessment of which intersections are utilized by MBTA buses and how their timing or turning movements may be affected by the increased traffic and/or proposed roadway and bicycle/pedestrian changes to be generated by the project. The DEIR should identify whether additional service would need to be added in order to ensure that the MBTA bus routes will continue to comply with existing MBTA service standards. The Proponent should provide the analysis of impacts to bus service requested in MassDOT's comment letter.

Response

As requested, Section 5.11 of Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Project Site.

Comment C.27

The ENF has outlined a series of on-site pedestrian and bicycle improvements. The DEIR should expand upon the information presented in the ENF to demonstrate a clear commitment to promotion of pedestrian access throughout the project site and the ability to accommodate bicycle uses. The DEIR should provide an inventory of pedestrian and bicycle facilities in the study area and bicycle network in the vicinity of the project as requested in MassDOT's comment letter. The inventory should document the width and condition of sidewalks and crosswalks, bikeway types, bikeway widths, and number and speed of bicyclists. Travel routes of bicyclists through the area should

be identified and evaluated in terms of safety and origin- destination of potential employees and residents of the project site. The DEIR should identify measures for improving deficient pedestrian and bicycle facilities in the area and expanding or adding new bicycle routes.

Response

Pedestrian and bicycle counts were conducted in coordination with the vehicle turning movement counts. In addition, field measurements were also taken at the study area intersections and these observations were incorporated into the pedestrian LOS calculations presented in Section 5.13.3 of Chapter 5, *Transportation*.

An inventory of the existing bicycle facilities (marked lanes and sharrows, for example) was also conducted and is contained in Section 5.12 of Chapter 5, *Transportation*. The Proponent is fully committed and prepared to work with BTD to define the preferred treatment for accommodating bicyclists on Boylston Street at the Project Site.

Comment C.28

The ENF indicated that the Proponent will develop and implement a robust TDM Program to provide incentives for using alternative transportation and discourage SOV trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. The TDM plan should seek to maximize the use of pedestrian and bicycle facilities, offer incentives for using public transportation, and encourage the use of low-emissions vehicles. The Proponent should consider the following measures:

- *Designation of a full-time on-site TDM coordinator;*
- *Provision of commuter information for employees and visitors;*
- *Bicycle and pedestrian improvements within the project site and connections to adjacent streets, public transportations, and other destinations;*
- *Participation in programs providing alternative transportation;*
- *Participation in available fixed-route transit services that are or will become available in the vicinity;*
- *Subsidized transit passes;*
- *Support for ride-sharing matching/carpooling through the active promotion of NuRide, the Commonwealth's web-based trip planning and ride-matching system that allows users to earn rewards for taking greener trips;*
- *Limiting the parking supply and providing an appropriate number of parking spaces for a car-sharing program;*
- *Provide preferential parking for low-emission vehicles;*
- *Installing on-site electric vehicle (EV) and solar-powered EV charging stations;*
- *Implement a five-year monitoring program to determine the effectiveness of the TDM program, on an iterative basis as required by MassDOT; and*
- *Provide indoor, secure bicycle parking.*

The Proponent should consult with MassRIDES and A Better City Transportation Management Association (TMA) to discuss specific measures that have been successful in reducing trip generation for similar projects in Boston.

Response

As presented in Section 5.14 of Chapter 5, *Transportation*, the Proponent has developed and is committed to implementing a comprehensive transportation mitigation program aimed, in part, at encouraging the use of alternatives to single-occupancy vehicles by employees and visitors, as well as by residents.

Comment C.29

The project is subject to review under the May 5, 2010 MEPA Greenhouse Gas Emissions Policy and Protocol ("the Policy"). The DEIR should include an analysis of GHG emissions and mitigation measures in accordance with the standard requirements of this Policy.

Response

Refer to Chapter 7, *Greenhouse Gas Assessment*, for details on the GHG assessment conducted for the Project, in accordance with the MEPA GHG Policy.

Comment C.30

The DEIR should identify and commit to mitigation measures to reduce GHG emissions. The Proponent should refer to the Policy for additional guidance on the GHG analysis. MEPA, MassDEP, and the Department of Energy Resources (DOER) staff are available to assist with these efforts and the Proponent should consult with them regarding the analysis prior to submission of the DEIR.

Response

As presented in Section 7.4.2 of Chapter 7, *Greenhouse Gas Emissions Assessment*, the energy savings calculated in the updated energy model were based on several key energy conservation measures for the Project that generally include improved glazing and building materials, and high-efficiency building systems and lighting. As the project design advances, the design team will consider further load reduction where possible through additional strategies.

Comment C.31

The DEIR should include a GHG analysis that calculates and compares GHG emissions associated with 1) a Base Case corresponding to the 8th Edition of the Massachusetts Building Code with amendments; and 2) a Mitigation Alternative that incorporates additional energy saving measures which, at a minimum, demonstrate compliance with the Stretch Energy Code (SC). The 8th Edition of the Building Code incorporates the building energy provisions of the International Energy Conservation Code (IECC)

2015, which references the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 90.1-2013 standards. The GHG analysis should model energy use, emissions, and mitigation measures associated with the project in accordance with the GHG Policy and the Department of Energy Resource's (DOER) comment letter.

Response

Section 7.4.1 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents the methodology for the GHG analysis conducted for the Project.

Comment C.32

The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (direct, indirect and transportation). This information should be provided for each building in a format similar to the example table provided in DOER's comment letter.

Response

The results of the energy model (which was updated from the PNF to reflect the revised project) are presented in Table 7-2 of Chapter 7, *Greenhouse Gas Emissions Assessment*. The results demonstrate that it is feasible for the Project to comply with the Stretch Energy Code requirements effective January 1, 2017. Based on the preliminary design parameters assumed in the Design Case, the proposed residential building would achieve an energy savings of approximately 12 percent when compared to the Base Case. This would result in a 12 percent reduction in GHG emissions for the Project, as demonstrated in Table 7-3.

Comment C.33

The Proponent has demonstrated a preliminary commitment to energy efficiency and sustainability in building design. As such, I expect that the Proponent will consider additional feasible measures that could achieve greater reductions in energy use and GHG emissions than required by the Building Code and SC provisions. The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix and as further specified in the comments from the DOER. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures

that could provide significant GHG reductions were not selected – either because it is not applicable to the project or is deemed technically or financially infeasible.

Response

Section 7.4.5 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents an evaluation of mitigation measures that could result in energy savings and stationary source GHG emissions in addition to those assumed as part of the energy model. In addition, Section 7.4.6 presents an evaluation of clean/renewable energy sources (updated from the ENF/PNF) that could also result reduced stationary source GHG emissions.

Comment C.34

The DEIR should include a revised solar feasibility analysis that builds on the information provided in the ENF and considers the benefits of varying ownership structures (i.e., outright ownership or third party lease). The Proponent should contact the MEPA office or the DOER for recently updated data on solar installation costs and a solar financial modeling spreadsheet to develop this analysis. The analysis should:

- *Include an estimate of URA and total façade-area for development of solar PV;*
- *State the assumed panel efficiency;*
- *Estimate electrical or thermal output of the potential system; and*
- *Estimate annual GHG reductions due to the generation of electricity.*

The analysis should include a narrative and data to support the Proponent's adoption (or dismissal) of solar façade-mounted and roof-top mounted solar PV systems as a feasible measure to avoid, minimize or mitigate project-related GHG emissions and Damage to the Environment.

Response

Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents an updated solar feasibility analysis based on the revised program.

Comment C.35

If the Proponent should choose not to implement the use of solar in conjunction with the project, the analysis should include:

- *A commitment to construct the project as "solar-ready". At a minimum, this commitment should include design of a structure capable of supporting solar-related infrastructure. Such a commitment may also include provision of interconnection and inverter equipment, or other design features to facilitate future solar installations.*
- *Completion of cost analysis to determine the overall financial feasibility of installation of solar, including potential payback periods for first-party and third-party ownership systems.*

› *Discussion of potential environmental constraints (shading, available roof space, etc.) limiting the application of solar on-site.*

I encourage the Proponent to consider design options that will allow for cost-effective integration of efficiency or renewable energy measures in the future when such measures may become more financially or technically feasible.

Response

Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents an updated solar feasibility analysis based on the revised program. A roof-top solar PV system is not feasible for the Project due to the competing space requirements for the roof and the relatively small roof area that would create a low energy output compared to the building energy demand. The application of facade-mounted, or Building-Integrated (BIPV), panels is continuing to be evaluated for the Project as design evolves. Such systems need to be incorporated into the envelope system during the fabrication of the panels and are not suitable for retrofit applications in this situation.

Comment C.36

As recommended by DOER, the Proponent should evaluate the purchase of energy from the Veolia Combined Heat and Power (CHP) district steam network. The Proponent should consult with Veolia to identify the location of their infrastructure and determine whether an interconnection is feasible. The DEIR should include an update on this consultation, and include a commitment to continue evaluating this option, or explain, in reasonable detail, why purchasing energy from the Veolia Plant was not selected – either because it is not applicable to the project or is considered technically or financially infeasible.

Response

Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents an updated evaluation of a CHP system through the purchase of steam.

Comment C.37

The DEIR should clarify which uses or areas of the building will be fitted-out by the Proponent and which uses or areas of the building will be fitted out by future tenants. The DEIR should indicate if building systems (i.e., HVAC, etc.) will be completed as part of core and shell improvements or left to the tenant or future owner for installation. While I encourage the Proponent to adopt those GHG reduction measures that are integrated into the building's core, shell and infrastructure, I understand that some measures may be transient or dependent on operational procedures implemented by the future occupants. In those instances, the Proponent should consider reasonable measures to educate and create incentives for the tenants to adopt energy efficiency/renewable generation measures. The DEIR should address the Proponent's commitment to providing energy efficiency consulting services and information and

developing a tenant manual that requires or strongly supports GHG reduction measures.

Response

Cooling, heating, and ventilation systems will be provided for all residential units as part of the base building design and construction. The retail/restaurant space will be provided with the core and shell, and hot and chilled water. The retail/restaurant interior spaces will be fit-out by the future tenants, such as ventilation for louver on the exterior and terminal units, ductwork, lighting, equipment, etc. In addition, some residential units may include custom fit-outs for kitchens and bathrooms. Overall energy usage savings and stationary source GHG emissions reductions associated with fit-out design of these spaces will be negligible; however, the Proponent will encourage the use of energy-efficient lighting and equipment/appliances through Green Tenant Guidelines (described further in Section 7.4.5 of Chapter 7, *Greenhouse Gas Emissions Assessment*).

Comment C.38

The GHG analysis should include an evaluation of potential GHG emissions from mobile emissions sources. The DEIR should follow the guidance provided in the Policy for Indirect Emissions from Transportation to determine mobile emissions for Existing Conditions, Build Conditions, and Build Conditions with Mitigation. The GHG analysis in the DEIR should also demonstrate that mobile source GHG emissions can be avoided, minimized and mitigated to the maximum extent feasible through establishment of aggressive mode share goals supported by: strong transit user incentives (e.g. transit subsidies, shuttle services, etc.), right-sized parking supply, safe and convenient access and services for bicyclists and pedestrians, and a robust TDM program with clearly defined goals and monitoring. The Build with Mitigation model should incorporate roadway and transit improvements, if proposed, and TDM measures implemented by the project and document the reductions in GHG emissions associated with the mitigation.

Response

Section 7.5 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents the mobile source GHG emissions assessment, in accordance with the MEPA GHG Policy.

Comment C.39

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the project.

Response

Section 11.2.3 of Chapter 11, *Summary of Mitigation Measures/Draft Section 61 Findings,* presents the GHG Self-Certification letter of commitment.

Comment C.40

According to the ENF, the site is not at high risk of inundation from sea level rise during its design life according to data provided in the MassDOT-FHWA Pilot Project Report: Climate Change and Extreme Weather, Vulnerability Assessments and Adaptation Options for the Central Artery report. The DEIR should provide the maps or documentation to support this conclusion and should identify the design life of the project and the planning timeframe used in the analysis.

Response

Refer to Section 4.5.1 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, and Figures 4.3 through 4.5 for documentation that the Project Site is not vulnerable to sea level rise.

Comment C.41

I urge the Proponent to consider any additional design features that may provide resiliency and support adaptation under future climate scenarios, including but not limited to the following:

- *Ecosystem-based adaptation measures, such as integration of tree canopy cover, rain gardens, low impact development (LID) stormwater management techniques, to reduce the heat island effect and mitigate stormwater runoff.*
- *Incorporation of storm response actions and resiliency measures into leasing agreements or Tenant Manuals and be considered as part of guidance related to tenant fit-out of commercial space.*
- *Protection of emergency generator fuel supplies from effects of extreme weather and flood proofing.*

Response

Refer to Section 4.5.3 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, and the updated Climate Change Preparedness and Resiliency Checklist provided in Appendix C for potential resiliency measures. Resiliency design features will be explored as the building system design progresses; however, site/ecosystem-based adaptation measures will be difficult to incorporate due to the air-rights nature of the Project Site. Additionally, Dalton and Boylston Streets are bridge decks and there is no opportunity to install street trees or rain gardens.

Comment C.42

The DEIR should discuss sustainable design features of the project. Article 37 of the Boston Zoning Code requires that the project be certifiable by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The ENF included an outline of measures the project will implement that are creditable toward LEED certification. The DEIR should include a full evaluation of sustainable design

elements for the buildings and exterior site areas, including measures identified in the LEED rating system. The DEIR should also address the use of recycled building materials and incorporation of recycling and source reduction.

Response

Refer to Section 4.4.1 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, for details regarding sustainable design features of the Project.

Comment C.43

The DEIR should address the matter of tunnel ventilation and summarize guidance provided by MassDOT or MassDEP regarding permitting requirements, or supporting data clarifying the potential need for tunnel ventilation. If ventilation is needed, the DEIR should address how the project will comply with applicable permitting requirements and regulations, as well as outline how ventilation equipment can be accommodated on-site with minimal conflict to site usage.

Response

Refer to Section 2.1.5 in Chapter 2, *Regulatory Context and General Information,* for details regarding tunnel ventilation, which will continue to be analyzed in cooperation with MassDOT.

Comment C.44

Depending on the parking garage design (i.e., open air, enclosed, etc.), the DEIR should provide additional information on the location of parking garage emission vents and other combustion sources. The DEIR should demonstrate that these exhaust areas will not conflict with pedestrian routes or public gathering spaces. EPA's AERMOD model should be used to estimate potential impacts of parking garages and combustion source emissions (i.e., boilers, generators, etc.).

Response

Section 6.7.2 of Chapter 6, *Environmental Protection*, presents a preliminary assessment of the air quality emissions related to the ventilation fans associated with the structure parking.

Comment C.45

The MassDEP comment letter identifies potential certifications and permits that may be required for on-site energy sources such as boilers, emergency generators, etc. The DEIR should identify certification and/or permits that likely will be required for project elements.

Response

Specific boiler and generator sizes and models are not yet finalized and may change as the Project design progresses. Any boiler or generator that exceeds the thresholds of MassDEP's Environmental Results Program will submit the appropriate Self-Certification before installation for boilers and within 60 days of startup for emergency generators in compliance with 310 CMR 7.00.

Comment C.46

The Proponent should consult with MassDEP to determine the extent of tidelands jurisdiction on the project site. The MassDEP data is based on the farthest landward former high water shoreline using topographic and hydrographic surveys of the United States Coast Survey. To overcome this presumption, the Proponent should provide MassDEP with clear information that demonstrates seaward migration of the former shoreline occurred solely as a result of natural accretion. The DEIR should provide an update on this consultation.

Response

Refer to Chapter 8, *Landlocked Tidelands* and Figure 8.1 for a description of the extent of tidelands jurisdiction on the Project Site.

During preparation of the ENF, a permitting assessment was conducted, which examined two plans that provided an approximation of the historic high water mark, one of which differed from MassDEP's presumptive line. MassDEP may or may have taken these plans into account when developing their presumptive line. The Project does not require any licensing action and, therefore, the Proponent accepts MassDEP's presumptive line, and agrees that the Project Site is entirely located on filled, landlocked tidelands. Accordingly, the Project requires a Mandatory Public Benefit Review/Determination, as required by 301 CMR 13.02.

Comment C.47

The DEIR should include detailed information describing the nature of the tidelands affected by the project and the public benefit of the project.

Response

Section 8.2 of Chapter 8, *Landlocked Tidelands*, describes the nature of the tidelands affected by the Project. Section 8.3 presents the public benefits of the Project.

Comment C.48

The DEIR should discuss the impact of the project on abutters and the surrounding community, including effects of wind and shadow, enhancement to the property, and benefits to the public trust rights in tidelands and other rights.

Response

This information is discussed throughout the DEIR/DPIR, including in Section 1.6 of Chapter 1, *Project Descriptions and Alternatives,* Chapter 6, *Environmental Protection*, Chapter 8, *Landlocked Tidelands*, and Chapter 10, *Historic Resources*.

Comment C.49

The DEIR should address the criteria for non-water dependent projects including benefits to the public trust rights in tidelands provided through municipal permits, community activities on the site, environmental protection and preservation, public health and safety, and the general welfare.

Response

Section 8.3 of Chapter 8, *Landlocked Tidelands*, presents the public benefits of the Project.

Comment C.50

The DEIR should describe the stormwater management system (including off-site connections and ultimate discharge points), address compliance with any applicable Total Maximum Daily Load (TMDL) requirements, include calculations and plans at a readable scale, and describe BMPs.

Response

Section 9.5 of Chapter 9, *Infrastructure*, describes the Project's stormwater management system.

Comment C.51

The DEIR should identify the existing and proposed flows to the BWSC combined sewer system and provide supporting documentation or data to demonstrate that it will comply with the SMS and BWSC standards. I note that the City of Boston's Complete Streets Initiative requires the incorporation of green infrastructure into street design.

Response

Section 9.6.2 of Chapter 9, *Infrastructure*, presents information related to the Project's sewer flows and connections. The BWSC site plan review will include a review of compliancy with all applicable standards. To improve combined sewer separation, the Project will install a new drainage line on Scotia Street, which is currently on served by a combined line. The drainage flow into the system will also be reduced by the introduction of an infiltration system.

Comment C.52

The DEIR should outline measures to be taken during the project design and construction period to maintain groundwater levels in the area and limit displacement of groundwater… The DEIR should provide additional details about infiltration methods included in the stormwater management design and any necessary data and analysis to document the extent to which the project will meet the GCOD infiltration standard and should address MassDEP's comments regarding the nature and purpose of the wells. The DEIR should provide information regarding the engineering, design, and function of the underground portions of structures.

Response

Section 9.5 of Chapter 9, *Infrastructure*, provides information regarding the Project's stormwater management and infiltration system. Compliance with GCOD standards is part of the BWSC site plan review process.

Comment C.53

The DEIR should tabulate wastewater generation and water consumption by use, including estimates of peak and continuous maximum water demand for each proposed use and for landscape irrigation and air conditioning make-up water.

Response

Table 9-1 of Chapter 9, *Infrastructure*, presents the Project's estimated sewer flows (updated to reflect the current program). Section 9.7.2 presents information regarding the Project's water usage, and Section 9.8 provides estimates for the Project's HVAC make-up and landscape irrigation needs.

Comment C.54

The DEIR should describe the location and size of infrastructure, connections to the BWSC water and sewer systems, and the path and ultimate disposal of wastewater from the site. The DEIR should provide supporting documentation or data to demonstrate the water and wastewater systems have sufficient capacity to accommodate the project.

Response

Chapter 9, *Infrastructure*, describes the location and size of water and wastewater infrastructure, proposed connections, and the ultimate disposal of wastewater from the Project. A review of system capacities will be part of the BWSC site plan review process.

Comment C.55

The DEIR should describe water conservation efforts to be incorporated into the project. I refer the Proponent to BWSC's comment letter which identifies additional information to be provided during permitting.

Response

Water conservation strategies, including low-flow and low-consumption plumbing fixtures are discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

Comment C.56

The DEIR should identify any combined sewers along the project's wastewater flow path, discuss potential impacts to system capacity during dry and wet weather conditions, and identify opportunities to minimize combined sewer overflow (CSO) events within the system. The project will be required to fully offset new sanitary flows into the regional wastewater system. The DEIR should discuss how the project intends to meet the requirement to offset new flows on a 4:1 basis in accordance with MassDEP, MWRA, and BWSC policies and requirements.

Response

Please refer to Section 9.5 of Chapter 9, *Infrastructure*, for information regarding the Project's drainage connections and Section 9.6 for more information regarding the Project's sewer connections. To improve combined sewer separation, the Project will install a new drainage line on Scotia Street, which is currently on served by a combined line. The drainage flow into the system will also be reduced by the introduction of an infiltration system. The Proponent is committed to working with BWSC to define the appropriate I/I mitigation.

Comment C.57

I recommend that the Proponent work with MassDEP, MWRA, and the BWSC to develop a mitigation plan. The DEIR should discuss the outcome of these consultations, describe the I/I mitigation commitments, and identify any sewer system deficiencies within the sanitary sewer system serving the project site.

Response

Refer to Section 9.5 of Chapter 9, *Infrastructure*, for information regarding the Project's sewer connections. The Project will comply with MassDEP's I/I program requirements. The final form of the I/I mitigation will be defined with BWSC as the owner and operator of the system and will be part of the BWSC site plan review.

Comment C.58

Comments from MWRA encourage the Proponent to ensure the project will not increase stormwater flow to the combined sewer system. The project must also ensure that groundwater and stormwater collecting in the newly covered portions of the MassPike is not discharged to the sanitary sewer system. If tunnel washing is necessary for the newly covered portion of the MassPike, separate piping systems must be constructed for the tunnel washing wastewater and the groundwater and stormwater discharges. The DEIR should demonstrate that compliance with these requirements can be achieved.

Response

Please refer to Section 9.4 of Chapter 9, *Infrastructure*, for information regarding the Project's drainage connections and Section 9.5 for more information regarding the Project's sewer connections. To improve combined sewer separation, the Project will install a new drainage line on Scotia Street, which is currently on served by a combined line. The drainage flow into the system will also be reduced by the introduction of an infiltration system. Tunnel washing requirements are not know at this time. If applicable, a separate piping system will be included in the final design.

Comment C.59

Comments from MHC indicate the project will have an "adverse effect" on the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade through the introduction of new visual elements that are out of character with and will alter the setting of these State Register listed districts. I refer the Proponent to comments from MHC which request the Proponent evaluate alternatives that will reduce adverse impacts to historic resources and recommends consultation with MHC to identify potential mitigation measures. The DEIR should include an update on this process and describe any measures that have been incorporated into the design to avoid, minimize, and mitigate adverse impacts to historic resources.

Response

An evaluation of design alternatives is presented in Section 1.6 of Chapter 1, *Project Description and Alternatives*. This section demonstrates that the Proponent has explored development alternatives that would minimize such adverse effects through a reduction in building height and massing to identify a feasible and prudent development alternative. The Project, which is the Preferred Alternative, has been redesigned from the ENF/PNF Alternative with a reduced height and massing which eliminates one of the two buildings proposed in the ENF/PNF Alternative. Accordingly, the Project minimizes adverse impacts to historic resources compared to the ENF/PNF Alternative. Specifically, for almost all conditions, net new shadow over the Back Bay Historic District is reduced. Refer to Section 10.6 of Chapter 10, *Historic Resources*, for an updated evaluation of potential impacts to historic resources based on the revised program.

As the consultation process with MHC continues, mitigation measures for any remaining adverse effects will be identified and a Memorandum of Agreement will be finalized with MHC and MassDOT.

Comment C.60

The DEIR should characterize the solid waste expected to be generated by the project and should indicate whether any portion of the project may be subject to the recently enacted Organic Waste Ban (310 CMR 19.017) waste ban. The DEIR should also respond to MassDEP's recommendations regarding incorporation of recycling and source reduction measures into the project design. The Proponent should refer to MassDEP's comment letter for additional information and links to web sites providing technical assistance.

Response

Section 6.9.1 of Chapter 6, *Environmental Protection*, describes how solid waste will be handled for the Project during operations.

Comment C.61

The DEIR should include an update on any sampling or site assessment activities that have occurred since the ENF was filed and should propose mitigation measures as appropriate. I refer the Proponent to MassDEP's comment letter for additional guidance on this issue.

Response

Section 6.9.2 of Chapter 6, *Environmental Protection*, describes the site assessment activities that have occurred on-site. Additional characterization of the environmental quality of soil and groundwater will be conducted prior to final design and preparation of Contract Documents. Management of soil and groundwater will be in accordance with applicable local, state, and federal laws and regulations.

Comment C.62

According to the ENF, total construction duration is anticipated to be approximately 36 months. The DEIR should elaborate on the schedule for construction of various project elements and identify construction staging areas. It should identify construction-period impacts and mitigation relative to noise, air quality, water quality, vibration, and transportation/traffic, including pedestrians, bicyclists, and transit riders.

Response

Staging areas are shown in the proposed logistics plan provided in Appendix G. All other items are address in Section 6.10 of Chapter 6, *Environmental Protection*.

Comment C.63

The DEIR should provide drafts of the Construction Management Plan (CMP) and Transportation Access Plan Agreement (TAPA).

Response

A copy of the draft CMP is provided in Appendix G.

The Proponent will enter into a Transportation Access Plan Agreement (TAPA) with the BTD following Article 80B review and BPDA Board approval. The TAPA will codify and document each of the proposed transportation mitigation commitments based on specific agreements made among the Proponent, the City of Boston, and MassDOT. The Project's proposed transportation mitigation measures have not been discussed in detail with the City at this time. Upon the City's review and acceptance of the findings and conclusions of the transportation analysis and assessment of impacts provided herein, as well as acceptance of the transportation mitigation commitments and TDM actions, the TAPA will be executed.

Comment C.64

The DEIR should identify any construction period impacts to the MassPike and MBTA commuter rail and address how impacts will be avoided, minimized, or mitigated. The DEIR should confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters.

Response

The Proponent will coordinate with MassDOT and Amtrak/MBTA to determine what restrictions will be in place before a plan is finalized and the impacts (work hours, lane closures, etc.) are identified.

All construction contractors will be required to use Ultra-Low Sulfur Diesel fuel. The construction manager will work with subcontractors/suppliers on the after-engine emissions controls.

Comment C.65

The DEIR should describe potential construction period dewatering requirements, discuss how dewatering will be conducted in a manner consistent with applicable regulations/guidelines, and identify any necessary permits.

Response

Dewatering will be required during the foundation phase of the schedule. An engineered plan will be developed with the Project's subcontractor. The necessary permits (SWPPP, NOI (CGP), MWRA, etc.) will be finalized once the engineered plan is developed.

Comment C.66

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project. The DEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. If appropriate, the mitigation implementation schedule should clearly note how mitigation will be provided in relation to project phasing; tying commitments to either completion of project square footages or generation of a specific number of traffic trips based upon project build out.

Response

Chapter 11, *Summary of Mitigation Measures/Draft Section 61 Findings*, provides a summary of mitigation measures.

Comment C.67

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction.

Response

A copy of the ENF Certificate, as well as all comment letters received on the ENF during the public review period, are provided herein.

Comment C.68

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the DEIR should be made available for review at the Boston Public Library - Central Library in Copley Square. The DEIR submitted to the MEPA office should include a digital copy (e.g., CD-ROM, USB drive) of the complete document.

Response

Please refer to the DEIR Distribution List provided in Appendix A for more details.

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February 10, 2017

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: 1000 Boylston Street
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Charles River
EEA NUMBER	: 15632
PROJECT PROPONENT	: ADG Scotia II LLC, c/o Weiner Ventures LLC
DATE NOTICED IN MONITOR	: January 11, 2017

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Sections 11.03 and 11.06 of the MEPA regulations (301 CMR 11.00), I have reviewed the Environmental Notification Form (ENF) and hereby determine that this project **requires** an Environmental Impact Report (EIR). The Proponent should submit a Draft EIR (DEIR) in accordance with the Scope below. Because the project is subject to Article 80 review by the Boston Planning and Development Agency (BPDA), the Proponent may file a joint DEIR/Draft Project Impact Report (DPIR) that satisfies the requirements of both MEPA (Section 11.09 (4)(c)) and the BPDA (Section 80–6) and will support and facilitate public comment on the project.

Project Description

As described in the ENF, the project includes the construction of a 689,000-square-foot (sf) mixed-use building comprised of two residential towers ("West Building" with 160 condominium units and "East Building" with 182 apartment units) set atop a six-story podium. The podium will contain two-stories (35,000 sf) of retail and restaurant uses fronting on Boylston Street and St. Cecilia Street and four stories of above-grade parking (303 total spaces)

which will be accessed from Dalton Street. A portion of the project will be constructed over air rights above the Massachusetts Turnpike (MassPike) and Massachusetts Bay Transportation Authority (MBTA) commuter railroad tracks and will span Cambria Street. The project will include Land Transfers from the Massachusetts Department of Transportation (MassDOT) (a long-term air rights lease) and the BPDA (transfer of air rights).

According to the ENF, the project site (along with the remainder of the air rights corridor over the MassPike) has been the subject of extensive planning and review by the City and MassDOT which commenced in 1998. As the result of this process, in December 2000 the City adopted the *"Civic Vision for Turnpike Air Rights in Boston"* masterplan which outlined the vision for 23 air rights parcels, including a portion of the project site. The Proponent's proposal for the site was selected by MassDOT after a lengthy public process involving community review by the Citizens Advisory Committee (CAC) established for the project. According to the Proponent, the project incorporates feedback from the CAC and reflects the community's vision of a single project stretching from Scotia Street to Dalton Street, which will fill in the street wall on Dalton and Boylston Streets and complete the deck over the turnpike.

The Proponent submitted a separate Project Notification Form (PNF) with the BPDA and ENF with MEPA. The contents of the PNF was provided on a CD as Appendix D to the ENF. For the purposes of clarity, the term ENF throughout this document is inclusive of the PNF.

Project Site

The project site is bounded to the north by Boylston Street, to the east by Dalton Street and the Hynes Convention Center, to the south by Scotia Street and an above-ground garage, and to the west by St. Cecilia Street and the rear façade of buildings fronting on Massachusetts Avenue. The project site contains approximately 40,955-sf and is comprised of the following four parcels: (1) a 11,557-sf triangular parcel located above the MassPike at the corner of Boylston and Dalton Streets owned by the Prudential Insurance Company of America ("the Prudential Parcel"); (2) a 11,969-sf parcel located above the MassPike and MBTA commuter railroad tracks between the Prudential Parcel and Cambria Street owned by MassDOT ("Parcel 15"); (3) a 6,337-sf parcel comprised of above-grade air rights spanning Cambria Street owned by the City of Boston ("the Cambria Street Air-Rights Parcel"); and (4) a 11,082-sf vacant parcel located adjacent to Cambria Street owned by ADG Scotia LLC, an affiliate of the Proponent ("the Scotia Parcel").

The Cambria Street Air-Rights Parcel is subject to a public way easement that will be retained for continued use of the Cambria Street surface and subsurface by the public; the easement will be discontinued above a certain elevation for building construction. MassDOT has an easement for the operation and maintenance of the MassPike on the Prudential Parcel. MassDOT may place easements on Parcel 15 to ensure the continued operation and maintenance of the MassPike and adjacent railroad tracks within the boundaries of the parcel.

The project site contains landlocked tidelands subject to the Public Benefits Determination regulations at 301 CMR 13.00. The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth. There are a number of

historic districts and structures listed in the State and National Registers of Historic Places located within the project vicinity.

Environmental Impacts and Mitigation

According to the ENF, potential environmental impacts of the project will include creation of 22,215-sf of impervious area, generation of 3,634 new unadjusted average daily vehicle trips (adt), generation of an additional 69,645 gallons per day (gpd) of wastewater, and an increase in demand of 76,610 gpd of domestic water. The project will generate greenhouse gas (GHG) emissions associated with the project's energy use (heating, cooling, etc.) and transportation-related emissions.

The ENF identifies the following measures to avoid, minimize, and mitigate project impacts: design of a building that can be certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program; streetscape improvements to improve pedestrian access and safety; implementation of a Transportation Demand Management (TDM) program; and development of a Construction Management Plan to minimize construction-period impacts. These measures will be further refined in the EIR.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires preparation of a mandatory EIR pursuant to 301 CMR 11.03(6)(a)(6) because it requires Land Transfers and will generate 3,000 or more unadjusted new adt. The project also exceeds the ENF transportation threshold at 301 CMR 11.03(6)(b)(14).

The project requires one or more Highway Access Permits and an Approval for Construction on Former Railroad Land under M.G.L. c.30, §54A from MassDOT. It requires an Approval of Rail Vertical Clearance under M.G.L. c.160 §98 from the Massachusetts Department of Public Utilities (DPU). The project may require additional review or approval by the Massachusetts Department of Environmental Protection (MassDEP) and/or MassDOT to address tunnel ventilation or other improvements to the MassPike and/or railroad tunnels. It also requires one or more Injection Well Control Permits from MassDEP and a Construction Dewatering Permit from the Massachusetts Water Resources Authority (MWRA). The project may also require a Minor Modification to the Fenway Urban Renewal Plan from the Department of Housing and Community Development (DHCD). It also requires a Land Transfer in the form of an Air Rights Lease of Parcel 15 (11,969 sf) from MassDOT and the Cambria Street Air-Rights Parcel (6,337 sf) from the BPDA acting as an urban renewal authority under M.G.L. c.121B. The project is subject to the MEPA Greenhouse Gas Emissions Policy and Protocol (Policy). The project requires a Public Benefits Determination in accordance with Section 13.02(1) of the Public Benefit Determination regulations.

The project requires a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA). It will also be subject to review by several City of Boston agencies, including, but not limited to: Article 80B Large Project Review by BPDA, Site Plan Review by the Boston Water and Sewer Commission (BWSC), and Schematic Design Review by the Boston Civic Design Commission (BCDC). The CAC which was appointed in connection with MassDOT's original Request for Proposals (RFP) is serving as the Impact Advisory Group

(IAG) and will provide input to the BPDA during its review of the project. The Proponent will prepare and submit a Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP) in coordination with the Boston Transportation Department (BTD). The Proponent has indicated that they intend to apply to the City for the creation of a Planned Development Area (PDA) and Approval of a PDA Development Plan in connection with the Project.

Because the project requires a Land Transfer from MassDOT and the BPDA, MEPA jurisdiction is broad and extends to all aspects of the conveyance within the area subject to the Land Transfer that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations. As the area to be transferred consists of Parcel 15 (11,969 sf) and the Cambria Street Air-Rights Parcel (6,337 sf), broad scope jurisdiction extends to these parcels. The remainder of the project site (the Scotia Parcel and the Prudential Parcel) is not located within the area of the proposed Transfers. However, development of the proposed project on the separate parcels is not severable due to the integrated nature of the structural foundation. Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

SCOPE

General

The ENF included a copy of the PNF submitted to the BPDA that contained a significantly more detailed project description, analysis of the project and its impacts and mitigation measures. The PNF provided important context for the project, including a discussion of relevant zoning, urban design and planning goals and site constraints, which are critical to evaluation of the Preferred Alternative in comparison to other alternatives. Much of the review of the project reflected in this Certificate, including its impacts, and potential mitigation measures, is based on information provided in the PNF. To provide a full and self-contained description and analysis of the project for the MEPA record, the DEIR should include the information contained in the PNF, updated as relevant, and/or information contained in the Draft Project Impact Report (DPIR), in addition to the additional analyses and information required in this Scope.

The DEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope. Because the project is subject to Article 80 review, the planning for this project would be well served by a coordinated review and the submission of a single document to satisfy the requirements of both MEPA (Section 11.09 (4)(c)) and the BPDA (Section 80–6). I encourage the Proponent to submit a joint DEIR/DPIR to support and facilitate public comment on the project. If a joint DEIR/DPIR is filed, MEPA comment and review periods may be adjusted to align with the BPDA deadlines.

Project Description and Permitting

The DEIR should include a detailed description of the existing and proposed conditions and describe any changes to the project since the filing of the ENF. Each section of the DEIR should contain an executive summary that identifies the specific revisions to project design or C.1 C.2

analyses that have occurred since the filing of the ENF. The DEIR should include updated site plans for existing and post-development conditions at a legible scale. These conceptual plans should include on-site work and any off-site work for transportation or utility improvements. The DEIR should include an updated building program (including an updated summary of floor area by use, number of residential units and bedrooms, and overall number of stories and maximum height) and accompanying narrative that identifies changes to the building program. The DEIR should elaborate on the schedule for construction of various project elements and how mitigation will be provided in relation to project phasing. C.3 C.4 C.5

The DEIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and describe how the project will meet those standards. The DEIR should include a list of required federal, state, and local permits and approvals and provide an update on the status of each permit and/or approval. C.6 C.7

Alternatives Analysis

The ENF included a brief description of the following alternative designs and noted they would be assessed in greater detail in the subsequent DEIR: No-Build Alternative, Reduced-Build Alternative, and Preferred Alternative. According to the ENF, the No-Build would maintain existing conditions and would not achieve the City's planning goals for this area. The Reduced-Build Alternative was originally proposed by the Proponent in 2013 and included approximately 168,000 sf of residential uses (120 units); 194,400 sf of hotel space (270 rooms); 9,100 sf of retail space; and 240 parking spaces in a single building (398-ft in height) located on Parcel 15 and the Scotia Parcel. This alternative was dismissed as the BPDA and CAC requested the Proponent expand the project to include the Prudential Parcel and result in a deck over the entirety of the inbound MassPike lanes and continuation of the street wall on Dalton and Boylston Streets. According to the ENF, the Preferred Alternative increases the area of the project footprint that spans the MassPike from 25-percent to 60-percent, will infill the entire breach along the south side of Boylston Street between Dalton Street and St. Cecilia Street, and is consistent with the vision established in the *Civic Vision for Turnpike Air Rights in Boston.*

The DEIR should expand on the analysis of the three alternatives provided in the ENF. It should present an analysis of previous conceptual design plans to support the Proponent's conclusion that the Preferred Alternative avoids, minimizes, and mitigates Damage to the Environment. The Preferred Alternative will require modifications to the existing zoning for the project site, in the form of a PDA approved by the City. The DEIR should also evaluate a Zoning Compliant Alternative that complies with all existing zoning, including dimensional, design, parking, and loading requirements. The DEIR should include a table of potential environmental impacts (including building heights, traffic, parking, water usage, and wastewater generation) and conceptual plans for the Zoning Compliant Alternative and each alternative described in the ENF to allow for a comparison of impacts between alternatives. This table, along with a supporting narrative and conceptual site plans, should provide a comparative analysis that clearly identifies differences between the environmental impacts associated with each of the alternatives. C.8 C.9 C.10

The DEIR should discuss consistency of project alternatives with the *Civic Vision for Turnpike Air Rights in Boston.* The DEIR should fully explain any trade-offs inherent in the alternatives analysis, such as an increased development footprint in order to reduce other environmental impacts (noise, air quality, etc.). The DEIR should identify the challenges C.11

associated with construction on the air-rights parcels and how the structural considerations constrain the building massing and design. The DEIR should consider height and massing alternatives to reduce potential impacts to airspace and shadow impacts on the surrounding area, including historic resources. I encourage the Proponent to initiate the FAA review process and to consult with MHC prior to preparing the alternatives analysis. C.12 C.13

Traffic/Transportation

The ENF provided a description of existing traffic patterns, pedestrian and bicycle accommodations, parking supply, and public transportation service to the site. It included trip generation estimates and likely travel routes for pedestrians, bicyclists, and vehicles arriving to and departing from the site. The ENF indicated that the project will also include power, lighting, and ventilation fans for the MassPike tunnel and parallel rail tunnel. The ENF did not describe the potential work nor identify potential construction-period impacts to this state-jurisdictional roadway. This should be provided in the DEIR. The project will span an area of the MassPike approximately 300 ft in length (between Dalton Street and St. Cecilia Street) and will construct approximately 23,500 sf of deck over the MassPike. The DEIR should address how the deck over the MassPike and MBTA commuter rail line will be constructed and whether construction will impact vehicular or transit operations. C.14 C.15

The DEIR should include a transportation study prepared in conformance with the MassDOT/EEA *Transportation Impact Assessment (TIA)* Guidelines. The Proponent should consult with appropriate MassDOT units during preparation of the DEIR to address MassDOT comments. I hereby incorporate by reference MassDOT's comment letter, dated January 31, 2017, into the DEIR scope. A major focus of this section of the DEIR should be a detailed analysis of existing conditions and measures the project could implement to encourage and facilitate transit, bicycle and pedestrian access to the buildings and MBTA transit system. The DEIR should provide an update on consultation with MassDOT and MBTA and on the local permitting process, particularly with respect to any transportation issues being addressed. C.16

Traffic Operations and Mode Split

According to the ENF, the project will generate approximately 3,634 new unadjusted adt or 1,008 new adjusted adt. The adjusted trip generation calculations reflect credits for internal capture and mode share based on the BTD guidelines for this location. The ENF indicates that trip generation was derived from the Institute of Transportation Engineer's (ITE) Trip Generation manual using land use codes (LUC) 220 (Apartments), 230 (Condominiums), and 820 (Retail). In addition to the trip generation estimates included in the ENF, the DEIR should provide estimates for the weekday AM and PM peak hours based on the ITE *Trip Generation Manual* (9th edition). Adjustments of the trip generation estimates should be calculated using applicable methodologies for pass-by and/or internal capture trips from the most recent editions of the ITE *Trip Generation Manual* and *Trip Generation Handbook*. The DEIR should include trip distribution for the project using a gravity model based on factors such as census data, origin-destination, travel time, and distance to determine trip characteristics for employees and residents of the project site. The Proponent should consult with MassDOT, the City of Boston, and the MBTA to develop travel demand and trip generation characteristics in light of the difficulty in adequately modeling the transit trip generation and trip assignments for the project. The BTD mode split data for this area should be compared to the ITE values to better estimate C.17

the share of trips accomplished by walking, bicycling, and transit use. The DEIR should fully document how the trip generation estimates and trip assignments were derived. If appropriate, the study area defined below should be modified on the basis of these results. C.17

MassDOT has requested that additional locations be added to the study area proposed in the ENF. The TIA study area should include the following intersections and roadways:

- Belvidere Street/Route 9 (Huntington Avenue) intersection;
- Belvidere Street/Dalton Street intersection;
- Boylston Street/Dalton Street/Hereford Street intersection;
- Boylston Street at Dalton Street/Hereford Street;
- Boylston Street at Gloucester Street;
- Dalton Street at Scotia Street;
- Dalton Street at Belvidere Street;
- Huntington Avenue at Belvidere Street;
- Newbury Street at Massachusetts Avenue/I-90 ramp;
- Newbury Street at Hereford Street;
- Massachusetts Avenue at Boylston Street;
- Massachusetts Avenue/Newbury Street/I-90 westbound on-ramp intersection; and
- Massachusetts Avenue/Boylston Street intersection.

The TIA should also include trips that will be generated by nearby planned and/or approved projects in establishing traffic volumes for the future No-Build and Build scenarios. In addition, an annual growth factor should be applied to existing traffic volumes prior to addition of project-specific background growth. The planning horizon for the TIA should be seven years from the filing of the DEIR. C.18 The TIA should include capacity analysis of existing conditions, future No-Build conditions, future Build conditions and future Build with Mitigation conditions for the weekday AM and PM peak hour conditions at study area intersections. The DEIR should depict the peak hour 50th (average) and 95th percentile queue lengths for each lane group/turning movement at each study area intersection for all scenarios. C.19 It should identify any area where the project will result in extended queues that would block vehicle movements to/from study area intersections, particularly those that involve state highways, and propose mitigation measures as appropriate. The TIA should include an analysis of any intersections in the study area that have crash rates higher than the State and/or MassDOT District 6 average, and discuss causality and potential mitigation measures to be implemented by the Proponent. C.20 The DEIR should propose an integrated multimodal mitigation package intended to improve vehicular traffic operations while minimizing the use of single occupant vehicle (SOV) travel by employees, patrons, and residents. C.21

The DEIR should include sufficiently detailed conceptual plans (preferably 80-scale) for any proposed roadway improvements in order to verify the feasibility of constructing improvements. The conceptual plans should show proposed lane widths and offsets, layout lines and jurisdictions, existing or proposed easements, and the land uses (including access drives and loading areas) adjacent to areas where improvements are proposed. C.22 These conceptual plans should demonstrate that improvements are consistent with a Complete Streets design approach and should incorporate green infrastructure into the design of streets and sidewalks.

Parking

The project includes construction of 303 parking spaces which will be located in an above-grade parking structure. The DEIR should discuss the rationale for determining the number of parking spaces to be provided. According to MassDOT, the most recent edition of ITE's Parking Generation document should be consulted, but it may not effectively predict parking rates for this mixed-use project. The DEIR should include a summary of the parking need and supply for comparable facilities using multiple data sources, including consultation with BTD. The DEIR should describe how occupancy of parking spaces at these facilities varies during the day and identify peak periods of use. C.23

Public Transportation

The project site is located approximately 0.25-miles from the Green Line's Hynes Convention Center and multiple MBTA bus routes serve the immediate project area with several stops within a 0.5-mile radius of the site. The DEIR should estimate the additional demand that will be generated by the project and include a detailed transit capacity analysis to determine the existing conditions and potential impacts of the project on the transit system. The analysis should be developed in consultation with the MBTA Service Planning Department. The DEIR should evaluate the additional demand the project will place on public transportation facilities and services. The analysis should be based on the existing Green Line system and any planned service enhancements and include projected conditions upon completion of the project. The DEIR should address the expected additional ridership on the Green Line and the impact of the additional ridership throughout the day, including peak periods. The DEIR should include tables showing the peak period headway and the MBTA's Policy Load and Crush Load Capacity for both inbound and outbound directions on the Green Line. The data should be provided for future conditions upon completion of the project. This information should be shown graphically to indicate the project's added ridership in comparison to base ridership and the load capacities. C.24

The DEIR should describe existing conditions; how employees, visitors, and residents will travel from the site to the Hynes Convention Center Station; and identify any measures that may be necessary to ensure a fully accessible path of travel or all of the customers. I refer the Proponent to MassDOT's comment letter for additional guidance on this issue. C.25

The DEIR should provide a detailed analysis of the project's impact to the MBTA bus network that serves the site, including Routes 1, CT1 and 55. The DEIR should review the capacity of bus service to the site under existing conditions and proposed Build and No-Build scenarios, taking into account other projects in the vicinity that are under construction or planned. Specifically, the DEIR should provide, in a tabular format, an assessment of which intersections are utilized by MBTA buses and how their timing or turning movements may be affected by the increased traffic and/or proposed roadway and bicycle/pedestrian changes to be generated by the project. The DEIR should identify whether additional service would need to be added in order to ensure that the MBTA bus routes will continue to comply with existing MBTA service standards. The Proponent should provide the analysis of impacts to bus service requested in MassDOT's comment letter. C.26

Pedestrian and Bicycle Access

The ENF has outlined a series of on-site pedestrian and bicycle improvements. The DEIR should expand upon the information presented in the ENF to demonstrate a clear commitment to C.27

promotion of pedestrian access throughout the project site and the ability to accommodate bicycle uses. The DEIR should provide an inventory of pedestrian and bicycle facilities in the study area and bicycle network in the vicinity of the project as requested in MassDOT's comment letter. The inventory should document the width and condition of sidewalks and crosswalks, bikeway types, bikeway widths, and number and speed of bicyclists. Travel routes of bicyclists through the area should be identified and evaluated in terms of safety and origin-destination of potential employees and residents of the project site. The DEIR should identify measures for improving deficient pedestrian and bicycle facilities in the area and expanding or adding new bicycle routes. C.27

Transportation Demand Management (TDM)

The ENF indicated that the Proponent will develop and implement a robust TDM Program to provide incentives for using alternative transportation and discourage SOV trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. The TDM plan should seek to maximize the use of pedestrian and bicycle facilities, offer incentives for using public transportation, and encourage the use of low-emissions vehicles. The Proponent should consider the following measures:

- Designation of a full-time on-site TDM coordinator;
- Provision of commuter information for employees and visitors;
- Bicycle and pedestrian improvements within the project site and connections to adjacent streets, public transportations, and other destinations;
- Participation in programs providing alternative transportation;
- Participation in available fixed-route transit services that are or will become available in the vicinity; C.28
- Subsidized transit passes;
- Support for ride-sharing matching/carpooling through the active promotion of NuRide, the Commonwealth's web-based trip planning and ride-matching system that allows users to earn rewards for taking greener trips;
- Limiting the parking supply and providing an appropriate number of parking spaces for a car-sharing program;
- Provide preferential parking for low-emission vehicles;
- Installing on-site electric vehicle (EV) and solar-powered EV charging stations;
- Implement a five-year monitoring program to determine the effectiveness of the TDM program, on an iterative basis as required by MassDOT; and
- Provide indoor, secure bicycle parking.

The Proponent should consult with MassRIDES and A Better City Transportation Management Association (TMA) to discuss specific measures that have been successful in reducing trip generation for similar projects in Boston.

Greenhouse Gas Emissions

The project is subject to review under the May 5, 2010 MEPA Greenhouse Gas Emissions Policy and Protocol ("the Policy"). The DEIR should include an analysis of GHG emissions and mitigation measures in accordance with the standard requirements of this Policy. The Policy requires projects to quantify carbon dioxide (CO_2) emissions and identify measures to C.29

avoid, minimize or mitigate such emissions. The analysis should quantify the direct and indirect CO_2 emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct stationary source CO_2 emissions include those emissions from the facility itself, such as boilers, heaters, and internal combustion engines. Indirect stationary source CO_2 emissions result from the consumption of electricity, heat, or other cooling from off-site sources, such as electrical utility or district heating and cooling systems. Mobile CO_2 emissions include those emissions associated with vehicle use by employees, vendors, visitors, and others. The DEIR should identify and commit to mitigation measures to reduce GHG emissions. The Proponent should refer to the Policy for additional guidance on the GHG analysis. MEPA, MassDEP, and the Department of Energy Resources (DOER) staff are available to assist with these efforts and the Proponent should consult with them regarding the analysis prior to submission of the DEIR. C.30

Stationary Sources

I note that the City of Boston is a designated Green Community under the provisions of the *Green Communities Act of 2008*. As such, the City has adopted the Commonwealth of Massachusetts' Stretch Code (SC). Therefore, at a minimum, the project will be required to meet the applicable version of the SC in effect at the time of construction. The SC increases the energy efficiency code requirements for new construction (both residential and commercial) in municipalities that adopt it. The SC requires that projects demonstrate a 10-percent better energy efficiency than the State's base energy code by either meeting the standard of 10-percent better than ASHRAE 90.1-2013 Appendix G (energy only), or by using a prescriptive energy code.

The DEIR should include a GHG analysis that calculates and compares GHG emissions associated with 1) a Base Case corresponding to the 8th Edition of the Massachusetts Building Code with amendments; and 2) a Mitigation Alternative that incorporates additional energy saving measures which, at a minimum, demonstrate compliance with the Stretch Energy Code (SC). The 8th Edition of the Building Code incorporates the building energy provisions of the International Energy Conservation Code (IECC) 2015, which references the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 90.1-2013 standards. The GHG analysis should model energy use, emissions, and mitigation measures associated with the project in accordance with the GHG Policy and the Department of Energy Resource's (DOER) comment letter. C.31

The GHG analysis should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which Damage to the Environment can be avoided, minimized, and mitigated to the maximum extent feasible. The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (direct, indirect and transportation). This information should be provided for each building in a format similar to the example table provided in DOER's comment letter. C.32

The ENF identified those measures that will be incorporated into the site design and modeled in the GHG, measures that were dismissed as infeasible or inappropriate, and measures that will be studied further during the advanced design. A preliminary GHG emissions analysis indicates that the proposed energy efficiency measures would reduce stationary source emissions to 4,551 tpy which represents a twelve-percent (626 tpy) reduction below the baseline. The Proponent has demonstrated a preliminary commitment to energy efficiency and sustainability in building design. As such, I expect that the Proponent will consider additional feasible measures that could achieve greater reductions in energy use and GHG emissions than required by the Building Code and SC provisions. The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix and as further specified in the comments from the DOER. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures that could provide significant GHG reductions were not selected – either because it is not applicable to the project or is deemed technically or financially infeasible. At a minimum, the DEIR should consider the following GHG mitigation measures: C.33

- Minimize energy use through building orientation and evaluate its impacts on energy usage, including solar gain, day-lighting and viability of solar PV systems;
- Use of green roofs and/or high-albedo roofing materials;
- Install high-efficiency HVAC systems and adequate numbers of thermal zones to support temperature controls;
- Reduce energy use through peak shaving or load shifting strategies;
- Maximize interior day-lighting through floor-plates, increased building perimeter and use of skylights, clerestories and light wells;
- Incorporate envelope and glazing improvements to balance and optimize daylighting, heat loss and solar heat gain performance and evaluate, per DOER's recommendation, at least two above-code envelope/glazing scenarios;
- Incorporate roof and wall insulation to minimize heat loss and minimize uncontrolled infiltration through the building envelope;
- Incorporate lighting motion sensors, climate control and building energy management systems;
- Install energy efficient lighting, both exterior and interior, incorporate reduced lighting power density (LPD), and, per DOER's recommendation evaluate use of LED lights for structured parking areas and street lighting;
- Evaluate additional measures to reduce project plug loads, including the use of more efficient equipment, consider energy consumption as a factor in the selection of special equipment, and consider power management techniques;
- Low-flow plumbing fixtures and water conservation measures;
- Machine-roomless energy efficient elevators;
- Use of Water-Source heat pumps as recommended by DOER;
- Variable Refrigerant Flow (VRF) as recommended by DOER;
- Develop a tenant manual to encourage energy and water conservation, recycling, and use of Energy Star rated appliances to reduce plug loads; and
- Consider the development of a "green lease" program whereby tenants agree to pay the landlord recovery costs for energy efficiency improvements based on predicted cost savings to the tenant.

The project may lend itself to implementation of renewable energy technologies to reduce project-related GHG emissions. As recommended by DOER, at a minimum, the DEIR should continue to evaluate the use of on-site renewable energy including solar PV. The ENF provided a preliminary evaluation of installing a façade-mounted solar PV system on the West Building. Based on this analysis, the façade-mounted solar PV array has the potential to offset an additional 120 tpy of GHG emissions. The ENF did not include a commitment to install the façade-mounted solar PV array. The ENF also indicates that roof-top solar PV is not considered due to the small roof area; however the ENF does not identify the potentially useable roof area (URA). The DEIR should include a revised solar feasibility analysis that builds on the information provided in the ENF and considers the benefits of varying ownership structures (i.e., outright ownership or third party lease). The Proponent should contact the MEPA office or the DOER for recently updated data on solar installation costs and a solar financial modeling spreadsheet to develop this analysis. The analysis should:

- Include an estimate of URA and total façade-area for development of solar PV;
- State the assumed panel efficiency;
- Estimate electrical or thermal output of the potential system; and
- Estimate annual GHG reductions due to the generation of electricity.

C.34

The analysis should include a narrative and data to support the Proponent's adoption (or dismissal) of solar façade-mounted and roof-top mounted solar PV systems as a feasible measure to avoid, minimize or mitigate project-related GHG emissions and Damage to the Environment. If the Proponent should choose not to implement the use of solar in conjunction with the project, the analysis should include:

- A commitment to construct the project as "solar-ready". At a minimum, this commitment should include design of a structure capable of supporting solar-related infrastructure. Such a commitment may also include provision of interconnection and inverter equipment, or other design features to facilitate future solar installations.
- Completion of cost analysis to determine the overall financial feasibility of installation of solar, including potential payback periods for first-party and third-party ownership systems.
- Discussion of potential environmental constraints (shading, available roof space, etc.) limiting the application of solar on-site.

C.35

I encourage the Proponent to consider design options that will allow for cost-effective integration of efficiency or renewable energy measures in the future when such measures may become more financially or technically feasible.

As recommended by DOER, the Proponent should evaluate the purchase of energy from the Veolia Combined Heat and Power (CHP) district steam network. The Proponent should consult with Veolia to identify the location of their infrastructure and determine whether an interconnection is feasible. The DEIR should include an update on this consultation, and include a commitment to continue evaluating this option, or explain, in reasonable detail, why purchasing energy from the Veolia Plant was not selected – either because it is not applicable to the project or is considered technically or financially infeasible.

C.36

The DEIR should clarify which uses or areas of the building will be fitted-out by the Proponent and which uses or areas of the building will be fitted out by future tenants. The DEIR should indicate if building systems (i.e., HVAC, etc.) will be completed as part of core and shell improvements or left to the tenant or future owner for installation. While I encourage the Proponent to adopt those GHG reduction measures that are integrated into the building's core, shell and infrastructure, I understand that some measures may be transient or dependent on operational procedures implemented by the future occupants. In those instances, the Proponent should consider reasonable measures to educate and create incentives for the tenants to adopt energy efficiency/renewable generation measures. The DEIR should address the Proponent's commitment to providing energy efficiency consulting services and information and developing a tenant manual that requires or strongly supports GHG reduction measures. C.37

Mobile Sources

The GHG analysis should include an evaluation of potential GHG emissions from mobile emissions sources. The DEIR should follow the guidance provided in the Policy for *Indirect Emissions from Transportation* to determine mobile emissions for Existing Conditions, Build Conditions, and Build Conditions with Mitigation. The GHG analysis in the DEIR should also demonstrate that mobile source GHG emissions can be avoided, minimized and mitigated to the maximum extent feasible through establishment of aggressive mode share goals supported by: strong transit user incentives (e.g. transit subsidies, shuttle services, etc.), right-sized parking supply, safe and convenient access and services for bicyclists and pedestrians, and a robust TDM program with clearly defined goals and monitoring. The Build with Mitigation model should incorporate roadway and transit improvements, if proposed, and TDM measures implemented by the project and document the reductions in GHG emissions associated with the mitigation. C.38

Mitigation

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the project. It should be signed by an appropriate professional (e.g. engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. The Proponent should refer to the Policy for additional guidance on the GHG analysis. C.39

Climate Change Adaptation

The DEIR should provide an analysis of potential effects of climate change that could affect the project and identify and describe resiliency measures that will be incorporated into the project design. The ENF included an evaluation of the project's climate change preparedness and a copy of the BRA Climate Change Resiliency and Preparedness Checklist. According to the ENF, the site is not at high risk of inundation from sea level rise during its design life according to data provided in the *MassDOT-FHWA Pilot Project Report: Climate Change and Extreme Weather, Vulnerability Assessments and Adaptation Options for the Central Artery* report. The DEIR should provide the maps or documentation to support this conclusion and should identify the design life of the project and the planning timeframe used in the analysis. The Proponent is considering incorporating the following features into the project design to increase resiliency C.40

from climate change-induced flooding and more frequent and intense storms and extreme heat events:

- "Cool Room" with dedicated cooling systems with back-up power for at-risk residents;
- Building-mounted solar PV system to provide back-up power generation;
- Operable windows in residential buildings to provide natural ventilation;
- Redundant connections for domestic water and fire protection to ensure functionality in case of damage;
- Sewage backflow valves to prevent backflow into the building;
- Energy-efficient equipment; and
- Implementing flood barriers in the future, if necessary.

I urge the Proponent to consider any additional design features that may provide resiliency and support adaptation under future climate scenarios, including but not limited to the following:

- Ecosystem-based adaptation measures, such as integration of tree canopy cover, rain gardens, low impact development (LID) stormwater management techniques, to reduce the heat island effect and mitigate stormwater runoff.
- Incorporation of storm response actions and resiliency measures into leasing agreements or Tenant Manuals and be considered as part of guidance related to tenant fit-out of commercial space.
- Protection of emergency generator fuel supplies from effects of extreme weather and flood proofing.

C.41

The DEIR should discuss sustainable design features of the project. Article 37 of the Boston Zoning Code requires that the project be certifiable by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The ENF included an outline of measures the project will implement that are creditable toward LEED certification. The DEIR should include a full evaluation of sustainable design elements for the buildings and exterior site areas, including measures identified in the LEED rating system. The DEIR should also address the use of recycled building materials and incorporation of recycling and source reduction.

C.42

Air Quality

The DEIR should clarify if the project will create a short tunnel section over the MassPike and should determine the need for tunnel ventilation. The Proponent should consult with MassDOT and MassDEP to determine whether the project is subject to the tunnel ventilation system regulation at 310 CMR 7.38. The DEIR should address the matter of tunnel ventilation and summarize guidance provided by MassDOT or MassDEP regarding permitting requirements, or supporting data clarifying the potential need for tunnel ventilation. If ventilation is needed, the DEIR should address how the project will comply with applicable permitting requirements and regulations, as well as outline how ventilation equipment can be accommodated on-site with minimal conflict to site usage.

C.43

Depending on the parking garage design (i.e., open air, enclosed, etc.), the DEIR should provide additional information on the location of parking garage emission vents and other combustion sources. The DEIR should demonstrate that these exhaust areas will not conflict with

C.44

pedestrian routes or public gathering spaces. EPA's AERMOD model should be used to estimate potential impacts of parking garages and combustion source emissions (i.e., boilers, generators, etc.). C.44

The MassDEP comment letter identifies potential certifications and permits that may be required for on-site energy sources such as boilers, emergency generators, etc. The DEIR should identify certification and/or permits that likely will be required for project elements. C.45

Landlocked Tidelands

The ENF indicates that the project is at least partially located within landlocked tidelands that are subject to the provisions of *An Act Relative to Licensing Requirements for Certain Tidelands* and the Public Benefit Determination regulations. The legislation requires that I issue a Public Benefit Determination for projects in tidelands that are required to file an EIR. The ENF notes that the Proponent disagrees with MassDEP's Chapter 91 Tidelands Jurisdiction data (which depicts the entire site within landlocked tidelands) and refers to a 1903 Map of Historic Shoreline and Waterways in western Back Bay (which depict the western portion of the site in landlocked tidelands). The Proponent should consult with MassDEP to determine the extent of tidelands jurisdiction on the project site. The MassDEP data is based on the farthest landward former high water shoreline using topographic and hydrographic surveys of the United States Coast Survey. To overcome this presumption, the Proponent should provide MassDEP with clear information that demonstrates seaward migration of the former shoreline occurred solely as a result of natural accretion. The DEIR should provide an update on this consultation. C.46

The DEIR should include detailed information describing the nature of the tidelands affected by the project and the public benefit of the project. The DEIR should discuss the impact of the project on abutters and the surrounding community, including effects of wind and shadow, enhancement to the property, and benefits to the public trust rights in tidelands and other rights. The DEIR should address the criteria for non-water dependent projects including benefits to the public trust rights in tidelands provided through municipal permits, community activities on the site, environmental protection and preservation, public health and safety, and the general welfare.. C.47 C.48 C.49

Stormwater and Groundwater

The project includes installation of a new drainage line along Scotia Street to serve the project and tie into BWSC infrastructure in Dalton Street. Comments from MWRA indicate that this system conveys stormwater flows, along with sanitary sewage, to the MWRA sewer system. Although the project is not subject to the stormwater management standards (SMS) provisions of the Wetlands Protection Act, it is subject to review by the BWSC, which will influence system design and selection of stormwater best management practices (BMPs). The DEIR should describe the stormwater management system (including off-site connections and ultimate discharge points), address compliance with any applicable Total Maximum Daily Load (TMDL) requirements, include calculations and plans at a readable scale, and describe BMPs. The DEIR should identify the existing and proposed flows to the BWSC combined sewer system and provide supporting documentation or data to demonstrate that it will comply with the SMS and BWSC standards. I note that the City of Boston's Complete Streets Initiative requires the incorporation of green infrastructure into street design. C.50 C.51

The DEIR should outline measures to be taken during the project design and construction period to maintain groundwater levels in the area and limit displacement of groundwater. The project is located in the City of Boston's Groundwater Conservation Overlay District (GCOD). Projects within this area must promote the infiltration of rainwater into the ground with an infiltration system and the design must be capable of capturing one inch of rain across the existing impervious area. The ENF indicates it will comply with this standard through the use of injection wells located within the sidewalk along the perimeter of the building but did not provide supporting documentation or calculations. The DEIR should provide additional details about infiltration methods included in the stormwater management design and any necessary data and analysis to document the extent to which the project will meet the GCOD infiltration standard and should address MassDEP's comments regarding the nature and purpose of the wells. The DEIR should provide information regarding the engineering, design, and function of the underground portions of structures. C.52

Water and Wastewater

The project will consume approximately 76,610 gpd of water and will generate 69,645 gpd of wastewater. The DEIR should tabulate wastewater generation and water consumption by use, including estimates of peak and continuous maximum water demand for each proposed use and for landscape irrigation and air conditioning make-up water. C.53 The project will connect to BWSC water and sewer infrastructure along St. Cecilia and/or Scotia Streets. The DEIR should describe the location and size of infrastructure, connections to the BWSC water and sewer systems, and the path and ultimate disposal of wastewater from the site. C.54 The DEIR should provide supporting documentation or data to demonstrate the water and wastewater systems have sufficient capacity to accommodate the project. The DEIR should describe water conservation efforts to be incorporated into the project. I refer the Proponent to BWSC's comment letter which identifies additional information to be provided during permitting. C.55

The DEIR should identify any combined sewers along the project's wastewater flow path, discuss potential impacts to system capacity during dry and wet weather conditions, and identify opportunities to minimize combined sewer overflow (CSO) events within the system. C.56 The project will be required to fully offset new sanitary flows into the regional wastewater system. The DEIR should discuss how the project intends to meet the requirement to offset new flows on a 4:1 basis in accordance with MassDEP, MWRA, and BWSC policies and requirements. I recommend that the Proponent work with MassDEP, MWRA, and the BWSC to develop a mitigation plan. The DEIR should discuss the outcome of these consultations, describe the I/I mitigation commitments, and identify any sewer system deficiencies within the sanitary sewer system serving the project site. C.57 Comment letters from MWRA, MassDEP, and BWSC provide additional guidance on this issue.

Comments from MWRA encourage the Proponent to ensure the project will not increase stormwater flow to the combined sewer system. The project must also ensure that groundwater and stormwater collecting in the newly covered portions of the MassPike is not discharged to the sanitary sewer system. If tunnel washing is necessary for the newly covered portion of the MassPike, separate piping systems must be constructed for the tunnel washing wastewater and the groundwater and stormwater discharges. The DEIR should demonstrate that compliance with these requirements can be achieved. C.58

Historical Resources

The project must complete the State Register Review consultation process with the Massachusetts Historical Commission (MHC). Comments from MHC note that the project site is adjacent to the Back Bay Historic District (BOS.BT) which is listed in the State and National Register of Historic Places and is adjacent to the Back Bay Architectural District (BOS.BW) which is listed in the State Register of Historic Places. Historic resources in the project area include the Commonwealth Avenue Mall (BOS.BX), the Charles River Basin Historic District (BOS.CA), and the Charles River Esplanade (BOS.ZI) all of which are listed in the State and National Registers of Historic Places. The ENF indicates that the project will create new shadow on historic resources and landscapes within the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade.

Comments from MHC indicate the project will have an "adverse effect" on the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade through the introduction of new visual elements that are out of character with and will alter the setting of these State Register listed districts. I refer the Proponent to comments from MHC which request the Proponent evaluate alternatives that will reduce adverse impacts to historic resources and recommends consultation with MHC to identify potential mitigation measures. The DEIR should include an update on this process and describe any measures that have been incorporated into the design to avoid, minimize, and mitigate adverse impacts to historic resources. C.59

Solid/Hazardous Waste

The DEIR should characterize the solid waste expected to be generated by the project and should indicate whether any portion of the project may be subject to the recently enacted Organic Waste Ban (310 CMR 19.017) waste ban. The DEIR should also respond to MassDEP's recommendations regarding incorporation of recycling and source reduction measures into the project design. The Proponent should refer to MassDEP's comment letter for additional information and links to web sites providing technical assistance. C.60

The ENF indicates that the Scotia parcel is regulated under M.G.L. c.21E and the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) due to the presence of metals in groundwater. The site has been assigned a Release Tracking Number (RTN) 3-27939 and was closed with a Class B-1 Response Action Outcome under the MCP. The ENF indicates that site assessment activities have not occurred at the other project parcels due to access constraints. The DEIR should include an update on any sampling or site assessment activities that have occurred since the ENF was filed and should propose mitigation measures as appropriate. I refer the Proponent to MassDEP's comment letter for additional guidance on this issue. C.61

Construction Period Impacts

According to the ENF, total construction duration is anticipated to be approximately 36 months. The DEIR should elaborate on the schedule for construction of various project elements and identify construction staging areas. It should identify construction-period impacts and mitigation relative to noise, air quality, water quality, vibration, and transportation/traffic, including pedestrians, bicyclists ,and transit riders. The DEIR should provide drafts of the C.62

Construction Management Plan (CMP) and Transportation Access Plan Agreement (TAPA). The DEIR should identify any construction period impacts to the MassPike and MBTA commuter rail and address how impacts will be avoided, minimized, or mitigated. The DEIR should confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. C.63 C.64

The DEIR should describe potential construction period dewatering requirements, discuss how dewatering will be conducted in a manner consistent with applicable regulations/guidelines, and identify any necessary permits. The draft CMP should include appropriate erosion and sedimentation control BMPs. I encourage the Proponent to adopt erosion and sedimentation controls consistent with a Stormwater Pollution Prevention Plan prepared in accordance with the NPDES Construction General Permit requirements. C.65

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project. The DEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. If appropriate, the mitigation implementation schedule should clearly note how mitigation will be provided in relation to project phasing; tying commitments to either completion of project square footages or generation of a specific number of traffic trips based upon project build out. To ensure that all GHG emissions reduction measures adopted by the Proponent in the Preferred Alternative are actually constructed or performed by the Proponent, I require Proponents to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings. C.66

Response to Comments/Circulation

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to enlarge the Scope of the DEIR beyond what has been expressly identified in this Certificate. I recommend the Proponent employ an indexed response to comments format, supplemented as appropriate with direct narrative response. C.67

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the DEIR should be made available for review at the Boston Public Library - Central Library in Copley Square. The DEIR submitted to the MEPA office should include a digital copy (e.g., CD-ROM, USB drive) of the complete document. C.68

February 10, 2017
Date

Matthew A. Beaton

Comments received:

1/26/2017	Boston Water and Sewer Commission (BWSC)
1/27/2017	Massachusetts Water Resources Authority (MWRA)
1/31/2017	Department of Energy Resources (DOER)
1/31/2017	Massachusetts Department of Environmental Protection (MassDEP)
1/31/2017	Massachusetts Historical Commission (MHC)
1/31/2017	Massachusetts Department of Transportation (MassDOT)

MAB/PRC/prc

ENF Letter 1: Massachusetts Department of Transportation

Comment 1.1

The Draft Environmental Impact Report (DEIR) should include a Transportation Impact Assessment (TIA) prepared in conformance with the current MassDOT/EOEEA Transportation Impact Assessment Guidelines. The study should include a comprehensive multimodal assessment of the transportation impacts of the project. The TIA should provide capacity analyses of existing conditions, future No-Build conditions, and future Build conditions in the study area. The future Build conditions should include an analysis of operations both with and without any improvements suggested to mitigate project impacts. The study should propose an integrated multimodal mitigation package intended to improve vehicular traffic operations while supporting increased use of walking, bicycling, and transit by employees, patrons, and residents. Items listed below should be accounted for in preparing the TIA.

Response

Chapter 5, *Transportation*, contains a comprehensive transportation impact assessment of the Project. It includes an evaluation of existing conditions, future no-build conditions, and future build conditions with the Project in place. The study includes an assessment of traffic, parking, transit usage, pedestrian activity, and bicycle usage. It concludes with a comprehensive set of mitigation measures to reduce the transportation impact of the Project.

Comment 1.2

The DEIR should include estimates for the weekday AM Peak and PM Peak hours. The trip rates should be obtained from the ITE Trip Generation Manual (9th edition). Trip reduction estimates resulting from pass-by and/or internal capture trips should be determined using applicable methodologies from the most recent editions of ITE's Trip Generation Manual and Trip Generation Handbook.

Response

Section 5.6 of Chapter 5, *Transportation*, presents unadjusted and adjusted trip generation.

Comment 1.3

The DEIR should' provide a trip distribution for the project based on a gravity model or similar model that uses factors such as census data, origin-destination, travel time, and distance to determine trip characteristics for employees and residents of the project. The DEIR should provide all appropriate back up documentation to verify how the different percentages are calculated and assigned to the roadway network and the transit system.

Response

The trip distribution for the Project was based on the BTD's Area 4 (Back Bay and Fenway) origin-destination data, as described in Section 5.6.6 of Chapter 5, *Transportation*.

Comment 1.4

The DEIR should contain an analysis of what additional demand will be generated by the project and its impacts on the Hynes Convention Center station.

Response

Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Site, as requested.

Comment 1.5

Since the ENF estimates that this project would have a very high share of walking, bicycling, and transit use, the ITE numbers should be compared to BTD mode splits for this district of the City of Boston. The EIR should then present not just the result of that analysis but a full and complete presentation on how the trip generation estimates and trip assignment rates were developed and what research was done to support these rates. The DEIR should include all back up data used to arrive at any trip generation estimates to corroborate any assumptions included in the DEIR.

Response

Chapter 5, *Transportation*, includes a detailed presentation of the trip generation estimates and methodology.

Comment 1.6

The TIA should include trips generated by other nearby planned and/or approved projects as part of the background growth in developing future no-build and build traffic volumes. ITE trip rates should be used to estimate the vehicle trip generation of un-built and/or yet to be occupied space. In addition, an annual growth factor should be superimposed on existing traffic volumes prior to the addition of the volumes associated with background project-specific growth.

Response

Section 5.5.1 of Chapter 5, *Transportation*, describes the methodology for establishing the traffic background growth assumed under the No-Build and Build Conditions. Close coordination with the staff of the BPDA and BTD led to the establishment of the list of planned/approved projects in the area, as well as the non-project specific traffic growth rate.

Comment 1.7

Vehicle crash data was not included in the ENF but should be included in the DEIR. Specifically, the DEIR should conduct analysis for any study area intersections having crash rates higher than the State and/or District 6 average. The analysis should include a discussion of causality, suggestions for mitigation, and commitment to implementing this mitigation.

Response

Section 5.4.8 of Chapter 5, *Transportation*, indicates that there are no intersections with crash rates higher than the State and/or MassDOT District 6 average.

Comment 1.8

Capacity analyses should be conducted for the weekday AM and PM for both existing and future conditions. In addition, capacity analyses for Build with mitigation conditions should be provided for all intersections, particularly those with impact to the state highway system. Of particular concern are the areas where Boston Transportation Department jurisdictional roadways interact with MassDOT controlled locations.

Response

Chapter 5, *Transportation*, presents a comprehensive assessment during the morning and evening peak hour for existing, future no-build, and future build conditions.

Comment 1.9

The DEIR should provide illustrations depicting the peak hour 50th (average) and 95th percentile queue lengths for each lane group/turning movement at each study area intersection, for all analysis scenarios. The info1mation contained in these illustrations should clearly demonstrate that the project would not result in any extended queues that would block vehicle movements to/from study area intersections, particularly those involving state highways.

Response

Chapter 5, *Transportation*, presents a comprehensive assessment of peak hour conditions and queue lengths at study area intersections.

Comment 1.10

The DEIR should include sufficiently detailed conceptual plans (minimum of 80-scale) for proposed roadway improvements in order to verify the feasibility of constructing such improvements. These plans should clearly show proposed lane widths and offsets, layout lines and jurisdictions, and land uses adjacent to areas where improvements are proposed.

Response

Section 5.8 of Chapter 5, *Transportation*, includes an analysis of potential transportation mitigation improvements. The key finding is that a set of modest traffic signalization timing changes can address most of the additional traffic congestion expected from background growth and the Project's impacts.

Comment 1.11

…the MBTA currently operates extensive rapid transit and bus service near the site. The DEIR should contain an analysis of what additional demand will be generated by the project.

Response

Section 5.11 of Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Project Site, as requested.

Comment 1.12

The DEIR should contain an assessment of how riders, particularly during the MBTA peak period, are expected to access the facility via transit. The DEIR should estimate what additional new ridership can be anticipated on the Green Line and what time of day those impacts will occur. The Proponent should work with the MBTA Service Planning Department to ensure that it has access to the most recent and most relevant ridership and operational statistics for the Green Line.

Response

Section 5.11 of Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Project Site, as requested.

Comment 1.13

The DEIR should also provide information as to how the Proponent plans demonstrating how employees, residents, and customers who choose to use the Green Line will get from the site to the rapid transit station.

Response

Employees, residents, and customers who choose to use the Green Line will use the proposed crosswalk along St. Cecilia Street at Boylston Street or take advantage of the signalized intersections with crosswalks and pedestrian crossing phases available in the surrounding area.

Comment 1.14

Of particular importance to the MBTA are all codes and standards related to the Americans with Disabilities Act (ADA), the Massachusetts Architectural Access Board (MAAB) along with Federal Transit Administration (FTA) regulations and guidance. The Proponent should present in the DEIR the existing conditions and how those conditions should be upgraded/improved so as to ensure a fully accessible path of travel for all of the customers.

Response

Section 5.13 of Chapter 5, *Transportation*, and the completed Accessibility Checklist provided in Appendix C include descriptions of the existing and proposed pedestrian facilities immediately surrounding the Project Site. Sidewalks within the project limit of work will be replaced and/or reconstructed. The Project will modify and improve the pedestrian environment with wider sidewalks, street furniture, improved crossings, and other pedestrian amenities, and such improvements will meet accessibility requirements.

Comment 1.15

Other local private transportation providers should be accounted for as they service the study area.

Response

The detailed analysis contained in Chapter 5, *Transportation,* considers the use of taxis or the emerging trend toward usage of car sharing services such as Uber and Lyft. Such services, in and of themselves, are not expected to generate additional trips as compared to those reported in this DEIR/DPIR. The designation of an open curb area along Boylston Street will help accommodate the very short-term curb use, and move such vehicles out of the traffic stream.

Comment 1.16

As part of the DEIR, the Proponent should provide a detailed presentation of the impact to the MBTA bus network. Specifically, the DEIR should identify the future Build Demand for the #1, #CT1 and #55 buses and its comparison to the Future No Build Demand for local bus services. Based on this assessment, the DEIR should present the anticipated demand in terms of MBTA Service Standards for bus volumes, capacity, etc. to dete1mine what the impacts to the MBTA bus network will be. The DEIR should determine what if any additional service would need to be added to the bus network in order to ensure that the MBTA bus routes would meet existing MBTA service standards.

Response

Section 5.11 of Chapter 5, *Transportation*, includes an extensive evaluation of the capacity of the public transportation services available near the Project Site, as requested.

Comment 1.17

The DEIR should provide an inventory of existing sidewalks and crosswalks within the study area, and should address the quality and condition of those facilities. The DEIR should include a commitment to improvements in any areas that are structurally deficient or not meeting current codes for accessibility. Special attention should be given to linking the proposed development to adjacent complementary land uses and to transit facilities.

Response

Section 5.13 of Chapter 5, *Transportation*, includes descriptions of the existing and proposed pedestrian facilities immediately surrounding the Project Site. The Project will modify and improve the pedestrian environment with wider sidewalks, street furniture, improved crossings, and other pedestrian amenities.

Comment 1.18

The DEIR should include a detailed inventory of the bicycle network to include bikeway types, bikeway widths, and bicycle number and speeds. The proponent should identify the likely travel routes for bicyclists within the study area. The degree to which these routes can safely support bicycle travel should also be examined. The DEIR should reevaluate these routes based on the origin-destination of potential employees and residents. Based on this analysis, the Proponent should consider the feasibility of expanding some of these existing routes or consider new routes to encourage bicycle travel in and around the site. Similarly, the project should work closely with MassDOT and the City of Boston to provide a seamless connection between the existing and planned bicycle facilities in the study area.

Response

As discussed in Section 5.13 of Chapter 5, *Transportation*, field measurements were taken at the study area intersections and were incorporated into the pedestrian level of service calculations. Pedestrian and bicycle counts were conducted in coordination with the vehicle turning movement counts. An inventory of the existing bicycle facilities (marked lanes and sharrows, for example) was also conducted and is contained in Chapter 5. The Proponent is prepared to continue to work with the Boston Transportation Department to define an appropriate treatment for accommodating bicyclists on Boylston Street at the Project Site.

Comment 1.19

The DEIR should clarify how the parking needs of the project were determined and explain the methodology used to determine the total parking required. The Institute of Transportation Engineers' Parking Generation generally provides a reasonable basis for comparison to parking requirements under local zoning, but this reference does not present parking rates for this type of mixed-use. The DEIR should include a summary of parking need and supply for comparable facilities based on multiple data sources. It should also determine the number of parking spaces occupied at various times of the day and identify the periods of peak use.

Response

A key project change from the ENF/PNF Alternative is a reduction in the overall parking capacity by 128 spaces. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

Comment 1.20

The DEIR should include a comprehensive Travel Demand Management (TDM) program that would implement measures aimed at reducing site trip generation. The TDM program should further investigate measures that would maximize usage of existing and new pedestrian, bicycle, and transit facilities… We urge the Proponent to meet with MassRIDES and A Better City Transportation Management Association to discuss TDM measures that have been successful in limiting single occupant vehicle trips at similar projects within the urban core of Boston. The Proponent should also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips. The Proponent should provide information on the substance and outcomes of its consultations in the DEIR, along with a summary of the revised TDM program proposal.

Response

Section 5.14.2 of Chapter 5, *Transportation*, describes the proposed TDM measures, the intent of which is to reduce drive-alone trips, or single occupancy vehicles (SOVs). These actions, taken together, will help encourage project residents, visitors, and staff to seek out and use alternative modes of transportation for their travel.

Comment 1.21

The Proponent will be required to conduct an annual traffic monitoring program for a period of five years, beginning six months after occupancy of the full-build project. It would include:

› *Simultaneous automatic traffic recorder (ATR) counts at each garage entrance for a continuous 24-hour period on a typical weekday and Saturday;*

- *Travel survey of employees and patrons at the site (to be administered by the Transportation Coordinator);*
- *Weekday AM and PM and Saturday peak hour turning movement counts (TMCs) and operations analysis at "mitigated" intersections, including those involving garage entrances; and*
- *An update on TDM effectiveness and transit ridership*.

The goals of the monitoring program will be to evaluate the assumptions made in the Environmental Impact Report (EIR) and the adequacy of the mitigation measures, as well as to determine the effectiveness of the TDM program.

Response

Section 5.14.3 of Chapter 5, *Transportation*, describes the transportation monitoring program.

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

January 31, 2017

Matthew Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: Boston: 1000 Boylston Street Project – ENF
(EEA #15632)

ATTN: MEPA Unit
Page Czepiga

Dear Secretary Beaton:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the proposed 1000 Boylston Street Project in Boston, as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

Robert Enright FOR

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

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Tel: 857-368-4636, TTY: 857-368-0655
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cc: Thomas J. Tinlin, Administrator, Highway Division
Patricia Leavenworth, P.E., Chief Engineer, Highway Division
Walter Heller, P.E., District 6 Highway Director
Kirk Jackson, Assistant General Manager, OREAD
Neil Boudreau, State Traffic Engineer
Boston Transportation Department
Boston Region Metropolitan Planning Organization
PPDU Files

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

MEMORANDUM

TO: David J. Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E., Manager
Public/Private Development Unit

DATE: January 31, 2017

RE: Boston – 1000 Boylston Street Project – ENF
(EEA #15632)

The Public/Private Development Unit (PPDU) has reviewed the Environmental Notification Form (ENF) for the proposed 1000 Boylston Street Project in Boston. The project site consists of approximately 0.94 acres of land and air rights bounded by Boylston Street to the north, Dalton Street and the Hynes Convention Center to the east, Scotia Street and an existing above-ground garage to the south, and St. Cecilia Street and the rear façade of building fronting on Massachusetts Avenue to the west. The site consists primarily of a vacant grass lot, and an open air rights portion of Interstate 90 (I-90) running under the site.

MassDOT has entered into a Development Agreement with ADG Scotia II, LLC (the Proponent) based on an Air Rights Lease. The project is also subject to other Ground and Air Rights Leases from the Boston Redevelopment Authority (now Boston Planning and Development Authority) and other private entities. MassDOT has conditionally approved the Air Rights Development Project Development Plan, which is intended to provide MassDOT with an understanding of the project, for which the Proponent will be seeking permits and approvals. The MassDOT Development Agreement establishes procedures under which the Proponent will prepare a full development plan and seek all required permits and approvals for the Development Plan within certain proscribed milestones. The MassDOT Development Agreement requires full execution of the Lease upon successful completion of the MEPA/NEPA review process as applicable, the receipt of any required approvals, and the satisfaction of other conditions precedent for closing the Lease. The Proponent has been working with the Office of Real Estate and Asset Development (OREAD) and the MBTA for several months on site development and site planning.

The proposed Development Plan for the site would include up to 685,000 square feet of mixed use development space consisting to 342 units in two residential buildings, 35,000 square feet of first and second story retail and restaurant space, and approximately 303 above grade parking spaces.

The project requires a MassDOT Vehicular Access Permit because the site is partially over I-90. The project may also require a permit for construction in accordance with M.G.L c.

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40, Section 54A, MBTA approvals and/or consent, and finalization and execution of Air Rights Lease(s). This project is categorically included for the preparation of an Environmental Impact Report because it would generate in excess of 3,000 unadjusted daily vehicle trips and requires a MassDOT Vehicular Access Permit.

The following scope of work for the transportation section of the required DEIR is recommended and described as follows:

Scope of Work

The Draft Environmental Impact Report (DEIR) should include a Transportation Impact Assessment (TIA) prepared in conformance with the current MassDOT/EOEEA *Transportation Impact Assessment Guidelines*. The study should include a comprehensive multimodal assessment of the transportation impacts of the project. The TIA should provide capacity analyses of existing conditions, future No-Build conditions, and future Build conditions in the study area. The future Build conditions should include an analysis of operations both with and without any improvements suggested to mitigate project impacts. The study should propose an integrated multimodal mitigation package intended to improve vehicular traffic operations while supporting increased use of walking, bicycling, and transit by employees, patrons, and residents. Items listed below should be accounted for in preparing the TIA. 1.1

Trip Generation

Based on the information presented within the ENF, the project at full build would generate 3,634 unadjusted new vehicle trips on an average weekday. This estimate is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual based on trip rates for the appropriate land use codes. The DEIR should include estimates for the weekday AM Peak and PM Peak hours. The trip rates should be obtained from the ITE Trip Generation Manual (9th edition).

Trip reduction estimates resulting from pass-by and/or internal capture trips should be determined using applicable methodologies from the most recent editions of ITE's Trip Generation Manual and Trip Generation Handbook. 1.2

Trip Distribution

The DEIR should provide a trip distribution for the project based on a gravity model or similar model that uses factors such as census data, origin-destination, travel time, and distance to determine trip characteristics for employees and residents of the project. The DEIR should provide all appropriate back up documentation to verify how the different percentages are calculated and assigned to the roadway network and the transit system. 1.3

Mode Split

The project is located in close proximity public transportation services, including the MBTA Green Line at the Hynes Convention Center Station that provides access to Lines B, C, and D, and a number of local bus routes. The DEIR should contain an analysis of what additional demand will be generated by the project and its impacts on the Hynes Convention Center station. 1.4
The Proponent should work closely with the MassDOT Office of Transportation Planning and the MBTA Service Planning Department to develop appropriate transit trip generation and trip assignments for the project. Since the ENF estimates that this project would have a very high share of walking, bicycling, and transit use, the ITE numbers should be compared to BTD mode splits for this district of the City of Boston. The EIR should then present not just the result of that analysis but a full and complete presentation on how the trip generation estimates and trip assignment rates were developed and what research was done to support these rates. The DEIR should include all back up data used to arrive at any trip generation estimates to corroborate any assumptions included in the DEIR. 1.5

Once the trip generation, the modal split, and the trip distribution and assignment estimates are developed, the study area should be used and updated as defined below to create network maps for the different peak-hour analysis and the different modes.

Study Area

Pending the application of modal split and pass-by credits to establish the traffic volumes assigned to the roadway network, MassDOT recommends that the following locations be part of the study area:

- the Massachusetts Avenue/Newbury Street/I-90 westbound on-ramp intersection;
- the Massachusetts Avenue/Boylston Street intersection;
- the Boylston Street/Dalton Street/Hereford Street intersection;
- the Belvidere Street/Route 9 (Huntington Avenue) intersection; and
- the Belvidere Street/Dalton Street intersection.

Background Growth

The TIA should include trips generated by other nearby planned and/or approved projects as part of the background growth in developing future no-build and build traffic volumes. ITE trip rates should be used to estimate the vehicle trip generation of un-built and/or yet to be occupied space. In addition, an annual growth factor should be superimposed on existing traffic volumes prior to the addition of the volumes associated with background project-specific growth. 1.6

The planning horizon year for the TIA should be seven years from the time of submittal of the DEIR. It is expected that this will allow a reasonable planning horizon "time window" when the project reaches the design stage for improvements.

Vehicle Crash Data

Vehicle crash data was not included in the ENF but should be included in the DEIR. Specifically, the DEIR should conduct analysis for any study area intersections having crash rates higher than the State and/or District 6 average. The analysis should include a discussion of causality, suggestions for mitigation, and commitment to implementing this mitigation. 1.7

Traffic Operations

Capacity analyses should be conducted for the weekday AM and PM for both existing and future conditions. In addition, capacity analyses for Build with mitigation conditions should be provided for all intersections, particularly those with impact to the state highway system. Of particular concern are the areas where Boston Transportation Department jurisdictional roadways interact with MassDOT controlled locations. 1.8

The DEIR should provide illustrations depicting the peak hour 50th (average) and 95th percentile queue lengths for each lane group/turning movement at each study area intersection, for all analysis scenarios. The information contained in these illustrations should clearly demonstrate that the project would not result in any extended queues that would block vehicle movements to/from study area intersections, particularly those involving state highways. 1.9

Conceptual Plans

The DEIR should include sufficiently detailed conceptual plans (minimum of 80-scale) for proposed roadway improvements in order to verify the feasibility of constructing such improvements. These plans should clearly show proposed lane widths and offsets, layout lines and jurisdictions, and land uses adjacent to areas where improvements are proposed. 1.10

Public Transportation

As described above, the MBTA currently operates extensive rapid transit and bus service near the site. The DEIR should contain an analysis of what additional demand will be generated by the project. Once those travel demand and transit trip generation rates are developed and applied to the project, the DEIR should address the following issues: 1.11

The DEIR should contain an assessment of how riders, particularly during the MBTA peak period, are expected to access the facility via transit. The DEIR should estimate what additional new ridership can be anticipated on the Green Line and what time of day those impacts will occur. The Proponent should work with the MBTA Service Planning Department to ensure that it has access to the most recent and most relevant ridership and operational statistics for the Green Line. 1.12

The DEIR should also provide information as to how the Proponent plans demonstrating how employees, residents, and customers who choose to use the Green Line will get from the site to the rapid transit station. Of particular importance to the MBTA are all codes and standards related to the Americans with Disabilities Act (ADA), the Massachusetts Architectural Access Board (MAAB) along with Federal Transit Administration (FTA) regulations and guidance. The Proponent should present in the DEIR the existing conditions and how those conditions should be upgraded/improved so as to ensure a fully accessible path of travel for all of the customers. 1.13 1.14

In addition to Green Line service, the area is also served by a series of MBTA bus routes, predominantly the CT1 (Central Square, Cambridge - B.U. Medical Center/Boston Medical Center via M.I.T.); the Route 1 (Harvard/Holyoke Gate - Dudley Station via Mass. Ave.); the Route 39 (Forest Hills Station-Back Bay via Huntington Avenue); the Route 55 (Jersey & Queensberry - Copley Sq. or Park & Tremont Sts. via Ipswich St.); and the Route 57 (Watertown Yard - Kenmore Sta. via Newton Corner & Brighton Center). Other local private transportation providers should be accounted for as they service the study area. 1.15

As part of the DEIR, the Proponent should provide a detailed presentation of the impact to the MBTA bus network. Specifically, the DEIR should identify the future Build Demand for the #1, #CT1 and #55 buses and its comparison to the Future No Build Demand for local bus services. Based on this assessment, the DEIR should present the anticipated demand in terms of MBTA Service Standards for bus volumes, capacity, *etc.* to determine what the impacts to the MBTA bus network will be. The DEIR should determine what if any additional service would need to be added to the bus network in order to ensure that the MBTA bus routes would meet existing MBTA service standards. 1.16

Pedestrian Access

Because the project is expecting a high mode share of pedestrian access, the Proponent should provide a mitigation package that ensures that walking and bicycling will be an attractive way to access the site. The DEIR should provide an inventory of existing sidewalks and crosswalks within the study area, and should address the quality and condition of those facilities. The DEIR should include a commitment to improvements in any areas that are structurally deficient or not meeting current codes for accessibility. Special attention should be given to linking the proposed development to adjacent complementary land uses and to transit facilities. 1.17

Any proposed mitigation within the state highway layout and all internal site circulation must be consistent with a Complete Streets design approach that provides adequate and safe accommodation for all roadway users, including pedestrians, bicyclists, and public transit riders. Complete Streets design guidelines are included in the MassDOT *Project Development and Design Guide*. Where these criteria cannot be met, the Proponent should provide justification, and should work with the MassDOT Highway Division to obtain a design waiver.

Bicycle Access

The ENF should also propose improvements to the existing bicycle network within the vicinity of the project. The DEIR should include a detailed inventory of the bicycle network to include bikeway types, bikeway widths, and bicycle number and speeds. The proponent should identify the likely travel routes for bicyclists within the study area. The degree to which these routes can safely support bicycle travel should also be examined. The DEIR should reevaluate these routes based on the origin-destination of potential employees and residents. Based on this analysis, the Proponent should consider the feasibility of expanding some of these existing routes or consider new routes to encourage bicycle travel in and around the site. Similarly, the project should work closely with MassDOT and the City of Boston to provide a seamless connection between the existing and planned bicycle facilities in the study area. 1.18

Parking

According to the ENF, the project at full built would include the provision of a parking garage to accommodate up to 303 vehicles. The DEIR should clarify how the parking needs of the project were determined and explain the methodology used to determine the total parking required. The Institute of Transportation Engineers' *Parking Generation* generally provides a reasonable basis for comparison to parking requirements under local zoning, but this reference does not present parking rates for this type of mixed-use. The DEIR should include a summary of parking need and supply for comparable facilities based on multiple data sources. It should also determine the number of parking spaces occupied at various times of the day and identify the periods of peak use. 1.19

Transportation Demand Management

The DEIR should include a comprehensive Travel Demand Management (TDM) program that would implement measures aimed at reducing site trip generation. The TDM program should further investigate measures that would maximize usage of existing and new pedestrian, bicycle, and transit facilities. Such measures may include subsidizing transit passes, limiting the available parking supply, providing on-site amenities and conveniences that would reduce the need for automobile travel, and providing seamless pedestrian access to the Hynes Convention Center Station and nearby bus stops.

We urge the Proponent to meet with MassRIDES and A Better City Transportation Management Association to discuss TDM measures that have been successful in limiting single occupant vehicle trips at similar projects within the urban core of Boston. The Proponent should also promote ridesharing through NuRide, the Commonwealth's web-based trip planning and ridematching service that enables participants to earn rewards for taking "green" trips. The Proponent should provide information on the substance and outcomes of its consultations in the DEIR, along with a summary of the revised TDM program proposal. 1.20

Transportation Monitoring Program

The Proponent will be required to conduct an annual traffic monitoring program for a period of five years, beginning six months after occupancy of the full-build project. It would include:

- Simultaneous automatic traffic recorder (ATR) counts at each garage entrance for a continuous 24-hour period on a typical weekday and Saturday;
- Travel survey of employees and patrons at the site (to be administered by the Transportation Coordinator);
- Weekday AM and PM and Saturday peak hour turning movement counts (TMCs) and operations analysis at "mitigated" intersections, including those involving garage entrances; and
- An update on TDM effectiveness and transit ridership.

1.21

The goals of the monitoring program will be to evaluate the assumptions made in the Environmental Impact Report (EIR) and the adequacy of the mitigation measures, as well as to determine the effectiveness of the TDM program.

The Proponent is encouraged to continue consultation with MassDOT PPDU, OREAD, the MBTA, and the District 6 office during the preparation of the DEIR. If you have any questions regarding these comments, please contact me at (857) 368-8862.

ENF Letter 2: Massachusetts Department of Environmental Protection

Comment 2.1

The ENF indicates that the proposed project will generate an estimated 69,645 gallons per day (gpd) of wastewater flow... Accordingly the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met.

Response

The Project, which is the Preferred Alternative, has been reduced in size from the ENF/PNF Alternative and is now estimated to generate 44,750 GPD of wastewater. Since this reduced flow is still over the MassDEP threshold for I/I mitigation, the Project will comply with MassDEP's I/I program requirements. The final form of the I/I mitigation will be defined with BWSC as the owner and operator of the system and will be part of the BWSC site plan review.

Comment 2.2

…the EIR should also identify any deficiencies in the wastewater system serving the project site and confirm that the system has sufficient capacity to accept the flow.

Response

A review of system capacities will be part of the BWSC site plan review process. System capacity will be increase and combined sewer separation will be improved by the Project's installation of a new drainage line on Scotia Street, which is currently on served by a combined line. The drainage flow into the system will also be reduced by the introduction of an infiltration system.

Comment 2.3

The ENF also indicates that the project will require a MassDEP Injection Well Permit. The EIR should describe in more detail the nature and purpose of the proposed injection well.

Response

Refer to Section 9.5 of Chapter 9, *Infrastructure*, for more information regarding the Project's stormwater management system. Injection wells within the sidewalk along the perimeter of the Podium building, along with infiltration chambers under the loading dock, will provide infiltration to replenish groundwater. The injections wells will be subject to the City of Boston's Public Improvement Commission (PIC) approval, as applicable, and issuance of a MassDEP Underground Injection Control permit.

Comment 2.4

The project includes demolition and construction that will generate a significant amount of construction and demolition (C&D) waste. MassDEP encourages the project proponent to make a specific commitment to recycling and sustainable practices in the EIR rather than the ENF commitment which is undefined.

Response

The Construction Manager (CM) will take an active role in the processing and recycling of construction waste and will have a specific Construction Waste Management Plan (CWMP) for the Project. The CWMP requires the CM to contract with a licensed waste hauler that has off-site sorting capabilities. All construction debris will be taken off-site by the waste hauler, sorted as either recycled debris or waste debris, and sent to the proper recycling center or waste facility. As required, construction debris will be wetted and covered to minimize air born dust particles.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

January 31, 2017

Matthew A. Beaton, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: Boston
1000 Boylston Street Project
1000 Boylston Street
EEA # 15632

Attn: MEPA Unit

Dear Secretary Beaton:

The Massachusetts Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Environmental Notification Form (ENF) submitted by ADG Scotia II LLC to develop up to 689,000 (sf) on four parcels of land into a mixed-use development that includes two residential buildings built on top of a six-story podium, (two residential buildings with 342 residential units, 654,000 (sf), (retail and restaurant space, 35,000 (sf)), on a .94 acre site in Boston (EEA #15632). Parking will be above ground parking provided for 303 vehicles on site. MassDEP provides the following comments.

Wastewater

The ENF indicates that the proposed project will generate an estimated 69,645 gallons per day (gpd) of wastewater flow. MassDEP regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including the Boston Water & Sewer Commission (BWSC), to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gallons per day of new wastewater flows will be generated. Accordingly the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met. 2.1

In addition, the EIR should also identify any deficiencies in the wastewater system serving the project site and confirm that the system has sufficient capacity to accept the flow. 2.2

The ENF also indicates that the project will require a MassDEP Injection Well Permit. The EIR should describe in more detail the nature and purpose of the proposed injection 2.3

well. There is more information about MassDEP requirements for Underground Injection Control (UIC) wells at http://www.mass.gov/eea/agencies/massdep/water/approvals/uic-class-v-well-category-and-well-type-descriptions.html. Questions about the MassDEP requirements for the proposed well should be directed to Joe Cerutti, who oversees the UIC program. Joe can be reached at (617) 292-5859.

Recycling

The project includes demolition and construction that will generate a significant amount of construction and demolition (C&D) waste. MassDEP encourages the project proponent to make a specific commitment to recycling and sustainable practices in the EIR rather than the ENF commitment which is undefined. 2.4

Waste Ban Regulation – 310 CMR 19.017

Section 310 CMR 19.017 *Waste Bans* of the Massachusetts Solid Waste regulations prohibit the disposal of certain wastes in Massachusetts. These wastes include, but are not limited to, recyclable paper (including cardboard). On October 1, 2014, the Massachusetts Organics Waste Ban on the disposal of commercial organic wastes by businesses and institutions takes effect. It prohibits the disposal of organic wastes from businesses and institutions that generate a ton or more of organic materials per week, which necessitates the composting, conversion (such as anaerobic digestion), recycling or reuse of organic the waste.

As the lead state agencies responsible for helping the Commonwealth achieve its waste diversion goals, MassDEP and EEA have strongly supported voluntary initiatives by the private sector to institutionalize source reduction and recycling into their operations. Adapting the design, infrastructure, and contractual requirements necessary to incorporate reduction, recycling and recycled products into existing large-scale developments has presented significant challenges to recycling proponents. Integrating those components into developments such as the Parcel Q1 project at the planning and design stage enable the project's management and occupants to establish and maintain effective waste diversion programs. For example, facilities with minimal obstructions to trash receptacles and easy access to main recycling areas and trash chutes allow for implementation of recycling programs and have been proven to reduce cleaning costs by 20 percent to 50 percent. Other designs that provide sufficient space and electrical services will support consolidating and compacting recyclable material and truck access for recycling material collection.

By incorporating recycling and source reduction into the design, the proponent has the opportunity to join a national movement toward sustainable design. Sustainable design was endorsed in 1993 by the American Institute of Architects with the signing of its *Declaration of Interdependence for a Sustainable Future.* The project proponent may be aware of organizations that provide additional information and technical assistance, including Reuse Marketplace (http://www.reusemarketplace.org/), USEPA's WasteWise Program (www.epa.gov/wastewise/), and MassRecycle (http://www.massrecycle.org/). The listed organizations and programs are notable for offering valuable and effective waste reduction and recycling assistance, web-based resources, case studies, and tools for C&D projects.

Massachusetts Contingency Plan (MCP)/M.G.L. c.21E

The proponent is reminded that excavating, removing and/or disposing of contaminated soil, pumping of contaminated groundwater, or working in contaminated media must be done under the provisions of MGL c.21E (and, potentially, c.21C) and OSHA. If permits and approvals under these provisions are not obtained beforehand, considerable delays in the project can occur. The project proponent cannot manage contaminated media without prior submittal of appropriate plans to MassDEP, which describe the proposed contaminated soil and groundwater handling and disposal approach, and health and safety precautions. If contamination at the site is known or suspected, the appropriate tests should be conducted well in advance of the start of construction and professional environmental consulting services should be readily available to provide technical guidance to facilitate any necessary permits. If dewatering activities are to occur at a site with contaminated groundwater, or in proximity to contaminated groundwater where dewatering can draw in the contamination, a plan must be in place to properly manage the groundwater and ensure site conditions are not exacerbated by these activities. Dust and/or vapor monitoring and controls are often necessary for large-scale projects in contaminated areas. The need to conduct real-time air monitoring for contaminated dust and to implement dust suppression must be determined prior to excavation of soils, especially those contaminated with compounds such as metals and PCBs. An evaluation of contaminant concentrations in soil should be completed to determine the concentration of contaminated dust that could pose a risk to health of on-site workers and nearby human receptors. If this dust concentration, or action level, is reached during excavation, dust suppression should be implemented as needed, or earthwork should be halted.

Potential Indoor Air Impacts: MassDEP is aware of a number of nearby disposal sites which could be a source of contaminated groundwater migration onto the project site. Parties constructing and/or renovating buildings in contaminated areas should evaluate whether chemical or petroleum vapors in subsurface soils and/or groundwater could impact the indoor air quality of the buildings. All relevant site data, such as contaminant concentrations in soil and groundwater, depth to groundwater, and soil gas concentrations should be evaluated to determine the potential for indoor air impacts to existing or proposed building structures. Particular attention should be paid to the vapor intrusion pathway for sites with elevated levels of chlorinated volatile organic compounds such as tetrachloroethylene (PCE) and trichloroethylene (TCE). MassDEP has additional information about the vapor intrusion pathway on its website at http://www.mass.gov/dep/cleanup/laws/vifs.htm.

New Structures and Utilities: Construction activities conducted at a disposal site shall not prevent or impede the implementation of likely assessment or remedial response actions at the site. Construction of structures at a contaminated site may be conducted as a Release Abatement Measure if assessment and remedial activities prescribed at 310 CMR 40.0442(3) are completed within and adjacent to the footprint of the proposed structure prior to or concurrent with the construction activities. Excavation of contaminated soils to construct clean utility corridors should be conducted for all new utility installations.

Air Quality

Pre-installation approval from MassDEP, pursuant to regulation 310 CMR 7.02, is required if the project will include any boiler regulated under 310 CMR 7.26(30)-(37), inclusive. Natural gas or distillate fuel oil-fired boilers with an energy input capacity less than 10,000,000 British thermal units per hour (Btu/hr) are exempt from the above listed regulations. In addition, if the project will be equipped with emergency generators equal to or greater than 37 kW, then each of those emission units must comply with the regulatory requirements in 310 CMR 7.26(42).

The MassDEP Northeast Regional Office appreciates the opportunity to comment on this proposed project. Please contact Kevin.Brander@state.ma.us at (978)694-3236 on wastewater issues, and Frank.Taormina@state.ma.us at (617) 292-5551 to discuss waterways, chapter 91 licensing requirements. If you have any general questions regarding these comments, please contact John.D.Viola@state.ma.us , or at (978) 694-3304.

Sincerely,

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Kevin Brander, MassDEP-NERO

ENF Letter 3: Massachusetts Department of Energy Resources

Comment 3.1

The current mitigated design is essentially a code building. We recommend above-code mitigation measures be thoroughly evaluated to maximize all feasible GHG avoidance, including:

- *District Steam: We recommend evaluating use of district steam for hot water, heating, and (with adsorption chillers) cooling. We recommend confirming with Veolia whether district steam is available and, if so, quantify associated GHG reduction.*
- *Envelope: We recommend at least two above-code envelope mitigation measures be evaluated.*
- *PV: We were pleased to see an evaluation of PV, including façade-mounted PV. Based on the analysis submitted, the planned PV would increase the current GHG reduction by 20%. We recommend PV continue to be evaluated.*
- *Water Source Heat Pump: Water source heat pumps may be an effective strategy, providing highly efficient cooling and heating while also enabling trading of concurrent heating and cooling. We recommend heat pumps be evaluated.*
- *Variable Refrigerant Flow: We recommend an evaluation of VRF, which also provide highly-efficient cooling and heating as well as trading of concurrent heating and cooling.*
- *Building Lighting: We recommend a thorough examination of reduced lighting power densities for both interior and exterior lighting.*
- *Restaurant Equipment: If a restaurant is planned in the pedestal space, equipment loads for this portion of the program will likely make up a majority of building energy consumption for the restaurant. We recommend a thorough examination of reduced equipment loads.*
- *Energy Recovery; High Efficiency Equipment: Where not already required by code, we recommend energy recovery options be investigated. Above code heating, cooling, pumping, and fan equipment also typically provide effective GHG reduction approaches.*
- *LED Parking and Exterior Lighting: LED lighting for the below-grade parking lots and street lights is usually an effective GHG mitigation strategy. We recommend this scenario be investigated.*
- *Responsive Systems and Controls: Responsive HVAC systems, where not already required by Code, such as economizers and demand controlled ventilation usually are effective GHG mitigation strategies which we recommend be investigated.*

Response

The project MEP has reviewed the recommended measures for additional energy savings and stationary source GHG emissions reductions.

- As discussed in Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, district steam is not viable because the residential program demands for natural gas outweigh the advantages of steam. Due to the need for natural gas and the cost related to the infrastructure to bring to the Project Site, the use of steam is not cost effective.
- Envelope design is being evaluated.
- As discussed in Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, façade-mounted, or Building-Integrated (BIPV), panels continue to be evaluated.
- The incorporation of Water Source Heat Pumps and Variable Refrigerant Flow were evaluated and determined not to meet the program needs of the unit types.
- Lighting power density is being targeted at a 26% reduction.
- The retail space will be fit-out in the future as tenants are identified. While these spaces are being delivered in shell condition, as discussed in Section 7.4.5 of Chapter 7, *Greenhouse Gas Emissions Assessment*, the Proponent will encourage tenants to implement sustainable design and construction features, as well as adopt green building practices that support the overall sustainability goals of the Project.
- Energy Recovery Units are utilized in the design.
- The use of LED lighting within the parking garage is currently being investigated.
- Air-side economizers are not a viable strategy with DOAS systems.
- Water Side economizers will be investigated on 4PFCUs.

Comment 3.2

Another design approach which can result in significant GHG reduction is Passive Building design… Has the design team considered a Passive Building approach?

Response

As discussed in Section 7.4.5 of Chapter 7, *Greenhouse Gas Emissions Assessment*, the high-performance building certifications like Passive House are not economically feasible for the Project.

Comment 3.3

In order to expedite the DOER review, we recommend the following accompany the submission:

- *A table similar to the example* [provided] *should be included:*

Response

Please refer to response to Comment 3.5 below.

Comment 3.4

› *A description of the proposed building envelop assembly: report both component R-values and whole assembly U-factor. Utilize the pre-calculated relationships between R-Value and U-factor contained in Appendix A in the code.*

Baseline buildings' total wall (and roof) assemblies shall match the applicable U value as required in Appendix G, table G3.1 part 5b of the code.

Response

Below is a summary of the envelope constructions for the ASHRAE 90.1 2013 Baseline and Design Cases used in the energy model for the Project. Envelope constructions have yet to be finalized, Appendix A calculations for the proposed will be performed on the final proposed systems.

Envelope Component	Baseline	Design
Wall	R-15	R-25.6
Roof	R-20.8	R-30.3

Comment 3.5

› *Submit the following:*

- *A description of the building energy simulation model and procedures utilized.*
- *A detailed and complete table of modeling inputs showing the item and the input value for both the base and as-designed scenarios. The area of the building should be included.*
- *The output of the model showing the monthly and annual energy consumption, totalized and by major end use system.*
- *Baseline (as defined above) energy use intensity and proposed mitigated building energy use intensity.*
- *Project modeling files are to be submitted to the DOER with the submittal on a flash drive or may be transmitted via electronic file transfer to paul.ormond@massmail.state.ma.us.*
- *Separate "side calcs" may be required for non-building energy consuming site improvements which are not included in the building energy modeling software (e.g. parking lot lighting).*

Response

As described in Section 7.4.1 of Chapter 7, *Greenhouse Gas Emissions Assessment*, eQUEST v3.65 whole-building energy simulation software was used to estimate the energy consumed by the proposed residential building, including the Podium with parking garage and retail spaces. The energy model results (energy usage savings and stationary source GHG emissions reductions) are presented in Graph 7-1 and Table 7-2, and Graph 7-2 and Table 7-3, respectively. Section 7.4.4 provides the EUI for the Project.

Project energy model files will be provided directly to the DOER following submission of this DEIR/DPIR.

Comment 3.6

› *Estimate area of roof potentially usable for solar development (e.g. 'Usable Roof Area" (URA)). Estimate resulting power production and associated GHG reduction if all this URA was utilized.*

Response

Refer to Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment,* for an evaluation of solar energy.

Comment 3.7

› *A description of the proposed project building usage and size, including a site plan and elevation views, should be included.*

Response

Refer to Chapter 1, *Project Description and Alternatives*, for a description of proposed building uses and size. Figure 1.7 presents the proposed conditions site plan. Figures 3.7a through 3.7d illustrates the Project's elevation views.

Comment 3.8

› *Provide a summary of discussions with MassSave.*

Response

The Proponent has not yet had discussions with MassSave, but intends to work with them and other utilities throughout the design process to evaluate additional energy conservation strategies with the goal of achieving additional energy savings and associated GHG emissions reductions beyond those reflected in Chapter 7, *Greenhouse Gas Emissions Assessment*.

Comment 3.9

› *We recommend cross-examining produced model results' total and individual end uses with representative, prototype buildings developed by Pacific Northwest National Labs/Department of Energy.*

Response

The following table provides a comparison of the Project to the PNNL prototype building, as requested.

PNNL reference[1]	Baseline (kBtu/sf/yr)	Proposed (kBtu/sf/yr)
47.6	75.5	66.2

1. Pacific Northwest National Laboratory study, Massachusetts Zone 5A,

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COMMONWEALTH OF MASSACHUSETTS
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Governor

Karyn E. Polito
Lt. Governor

Matthew A. Beaton
Secretary

Judith F. Judson
Commissioner

31 January 2016

Matthew Beaton, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114

Attn: MEPA Unit

RE: 1000 Boylston Street, Boston, Massachusetts, EEA #15632

Cc: Arah Schuur, Director of Energy Efficiency Programs, Department of Energy Resources
Judith Judson, Commissioner, Department of Energy Resources

We've reviewed the Environmental Notification Form for the above-referenced project. We are pleased to see many efficiency and renewable measures being considered for this significant project.

Consisting of over **340 units** and over **0.6 million square feet** this project has the size, scale, and density necessary to powerfully mobilize efficiency and renewables toward cost-effectively achieving GHG reduction.

Emendations for Future Submissions

Future submissions should demonstrate that the project is taking all feasible measures to *avoid, minimize and mitigate* GHG emissions. The GHG Policy and supporting documentation is available at http://www.mass.gov/eea/agencies/mepa/greenhouse-gas-emissions-policy-and-protocol-generic.html

The current mitigated design is essentially a code building[1]. We recommend above-code mitigation measures be thoroughly evaluated to maximize all feasible GHG avoidance, including:

- *District Steam*: We recommend evaluating use of district steam for hot water, heating, and (with adsorption chillers) cooling. We recommend confirming with Veolia whether district steam is available and, if so, quantify associated GHG reduction.

- *Envelope:* We recommend at least two above-code envelope mitigation measures be evaluated.

- *PV*: We were pleased to see an evaluation of PV, including façade-mounted PV. Based on the analysis submitted, the planned PV would increase the current GHG reduction by 20%. We recommend PV continue to be evaluated.

- *Water Source Heat Pump:* Water source heat pumps may be an effective strategy, providing highly efficient cooling and heating while also enabling trading of concurrent heating and cooling. We recommend heat pumps be evaluated.

- *Variable Refrigerant Flow:* We recommend an evaluation of VRF, which also provide highly-efficient cooling and heating as well as trading of concurrent heating and cooling. 3.1

- *Building Lighting:* We recommend a thorough examination of reduced lighting power densities for both interior and exterior lighting.

- *Restaurant Equipment:* If a restaurant is planned in the pedestal space, equipment loads for this portion of the program will likely make up a majority of building energy consumption for the restaurant. We recommend a thorough examination of reduced equipment loads.

- *Energy Recovery; High Efficiency Equipment:* Where not already required by code, we recommend energy recovery options be investigated. Above code heating, cooling, pumping, and fan equipment also typically provide effective GHG reduction approaches.

- *LED Parking and Exterior Lighting:* LED lighting for the below-grade parking lots and street lights is usually an effective GHG mitigation strategy. We recommend this scenario be investigated.

- *Responsive Systems and Controls:* Responsive HVAC systems, where not already required by Code, such as economizers and demand controlled ventilation usually are effective GHG mitigation strategies which we recommend be investigated.

[1] The proposed design has an EUI which is 12% lower than ASHRAE 90.1 2013 while an EUI which is 10% lower than ASHRAE 90.1-2013 is required by Code, a difference of 2%.

Another design approach which can result in significant GHG reduction is Passive Building design. (See http://www.phius.org/home-page). The following are two projects that are very similar in program (urban residential tower) which are using this design approach:

- Roosevelt Island (dormitory tower): http://nypassivehouse.org/cornells-new-campus-breaks-ground-and-passive-house-is-main-attraction/
- Mott Haven (affordable-housing residential tower): http://ny.curbed.com/2016/4/29/11540744/nyc-largest-passive-house-mott-haven-241-affordable-apartments

3.2

Has the design team considered a Passive Building approach?

Recommendations for Submission:

In order to expedite the DOER review, we recommend the following accompany the submission:

3.3

- A table similar to the example below should be included:

Measure/Area	2013 90.1 App. G	Proposed	% Change	Comment
Roof Assembly U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
(Additional rows for each bldg.)	*code value*	*design value*	%	
Wall Assembly U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Area Window/Area Wall (%)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Window U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
AC Efficiency (EER)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
ERV Effectiveness (%)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Boiler (% efficiency)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
LPD (Watts/sq ft)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
(continue to include service water, equipment, etc)				

- A description of the proposed building envelop assembly: report both component R-values and whole assembly U-factor. Utilize the pre-calculated relationships between R-Value and U-factor contained in Appendix A in the code.

  Baseline buildings' total wall (and roof) assemblies shall match the applicable U value as required in Appendix G, table G3.1 part 5b of the code

  3.4

- Submit the following:

  - A description of the building energy simulation model and procedures utilized.
  - A detailed and complete table of modeling inputs showing the item and the input value for both the base and as-designed scenarios. The area of the building should be included.
  - The output of the model showing the monthly and annual energy consumption, totalized and by major end use system.
  - Baseline (as defined above) energy use intensity and proposed mitigated building energy use intensity.
  - Project modeling files are to be submitted to the DOER with the submittal on a flash drive or may be transmitted via electronic file transfer to paul.ormond@massmail.state.ma.us.
  - Separate "side calcs" may be required for non-building energy consuming site improvements which are not included in the building energy modeling software (e.g. parking lot lighting).

  3.5

- Estimate area of roof potentially usable for solar development (e.g. 'Usable Roof Area" (URA)). Estimate resulting power production and associated GHG reduction if all this URA was utilized.

  3.6

- A description of the proposed project building usage and size, including a site plan and elevation views, should be included.

  3.7

- Provide a summary of discussions with MassSave.

  3.8

- We recommend cross-examining produced model results' total and individual end uses with representative, prototype buildings developed by Pacific Northwest National Labs/Department of Energy found here:

  - https://www.energycodes.gov/sites/default/files/documents/BECP_901_2013_Progress_Indicator_0_0.pdf

  3.9

- http://www.energycodes.gov/sites/default/files/documents/2013EndUseTables.zip
- https://www.energycodes.gov/commercial-energy-cost-savings-analysis

Sincerely,



Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

ENF Letter 4: Massachusetts Historical Commission

Comment 4.1

After review of MHC's files and the information submitted, MHC has determined that the proposed project will have an "adverse effect" (950 CMR 71.05(c) and 950 CMR 71.07(2)(b)(3)) on the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade through the introduction of new visual elements that are out of character with and will alter the setting of these State Register listed districts. Pursuant to 950 CMR 71.07(3), the MHC looks forward to consulting with ADG Scotia LLC and MassDOT to explore alternatives that would eliminate, minimize, or mitigate the adverse effect of the proposed construction. The MHC hereby initiates its consultation process pursuant to 950 CMR 71.07(3).

Response

An evaluation of design alternatives is presented in Section 1.6 of Chapter 1, *Project Description and Alternatives*. This section demonstrates that the Proponent has explored development alternatives to identify a prudent and feasible development alternative that would minimize such adverse effects through a reduction in building height and massing. The Project, which is the Preferred Alternative, has been redesigned form the ENF/PNF Alternative with a reduced height and massing, which minimizes adverse impacts to historic resources compared to the ENF/PNF Alternative. Specifically, for almost all conditions, net new shadow over the Back Bay Historic District is reduced. Refer to Section 10.6 of Chapter 10, *Historic Resources*, for an updated evaluation of potential impacts to historic resources based on the revised program.

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The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

January 31, 2017

Secretary Matthew A. Beaton
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn: Page Czepiga, MEPA Analyst – MEPA UNIT

RE: 1000 Boylston Street by ADG Scotia II c/o Weiner Ventures, Boston (Back Bay), MA; MHC# RC.61525; **EEA# 15632**

Dear Secretary Beaton:

Staff of the Massachusetts Historical Commission (MHC) have reviewed the Environmental Notification Form (ENF) and Boston Planning & Development Agency (BPDA) Project Notification Form (PNF) that were submitted, received at this office on January 6, 2017 and January 11, 2017, for the proposed new construction at 1000 Beacon Street in Boston. The staff of the MHC have reviewed the information submitted and have the following comments.

The proposed project consists of the construction of two residential buildings set atop a six-story podium (the "Podium"). The Podium is proposed to be 99 feet tall. Two residential buildings are proposed to be constructed atop the Podium. The West Building is proposed to 566 feet tall from grade to the top of the highest occupiable floor. The East Building is proposed to be 283 feet tall from grade to the top of the highest occupiable floor. The two residential buildings atop the six-story podium will be constructed on an area comprised of four different parcels. The project site is bounded to the north by Boylston Street, to the east by Dalton Street and the Hynes Convention Center, to the south by Scotia Street and an existing above-ground garage, and to the west by St. Cecilia Street and the rear façade of buildings fronting on Massachusetts Avenue.

The proposed project site is adjacent to the Back Bay Historic District (BOS.BT) which is listed in the State and National Registers of Historic Places. The proposed project site is also adjacent to the Back Bay Architectural District (BOS.BW) which is listed in the State Register of Historic Places. In addition, the project site is within proximity to the Commonwealth Avenue Mall (BOS.BX), the Charles River Basin Historic District (BOS.CA), and the Charles River Esplanade (BOS.ZI), all of which are listed in the State and National Registers of Historic Places.

The PNF submitted to the BPDA illustrates new net shadows created by the proposed project on historic resources and landscapes within the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade. The Boston Ladder 15 & Engine 33 Firehouse (BOS.2691), historic Back Bay Police Station, now known as the Boston Architecture College (BOS.2692) and the historic Boston Division 16 Police Station (BOS.2693) are located directly across Boylston Street facing the project site. These three historic buildings are listed in the State and National Register of Historic Places as contributing resources to the Back Bay Historic District. According to the PNF (Section 7.4.2) these

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www.sec.state.ma.us/mhc

historic buildings, "located directly across Boylston Street from the project site will receive approximately three to four hours daily of new shadows thoughout the year."

After review of MHC's files and the information submitted, MHC has determined that the proposed project will have an "adverse effect" (950 CMR 71.05(c) and 950 CMR 71.07(2)(b)(3)) on the Back Bay Historic District, Charles River Basin Historic District, and the Charles River Esplanade through the introduction of new visual elements that are out of character with and will alter the setting of these State Register listed districts. Pursuant to 950 CMR 71.07(3), the MHC looks forward to consulting with ADG Scotia LLC and MassDOT to explore alternatives that would eliminate, minimize, or mitigate the adverse effect of the proposed construction. The MHC hereby initiates its consultation process pursuant to 950 CMR 71.07(3). 4.1

These comments are offered to assist in compliance with M.G.L. Chapter 9, sections 26-27C (950 CMR 71.00) and MEPA (301 CMR 11). Please do not hesitate to contact Elizabeth Sherva of my staff if you have any questions.

Sincerely,

Brona Simon

Brona Simon
State Historic Preservation Officer
Executive Director
Massachusetts Historical Commission

xc: ADG Scotia II LLC c/o Weiner Ventures LLC
Walter Heller, MassDOT
Lauren DeVoe, VHB
Boston Landmarks Commission
Esplanade Association
Boston Preservation Alliance
Boston Architectural College
Neighborhood Association of the Back Bay

ENF Letter 5: Massachusetts Water Resources Authority

Comment 5.1

In the Draft Environmental Impact Report ("DEIR"), the Proponent should describe the proposed stormwater collection and management systems in more detail and report the existing and proposed quantities of stormwater directed to the BWSC combined sewer system. MWRA urges the Proponent to ensure that the Project does not increase stormwater flow to the sewer system.

Response

Section 9.5 of Chapter 9, *Infrastructure*, for more information regarding the Project's drainage connections. To improve combined sewer separation, the Project will install a new drainage line on Scotia Street, which is currently only served by a combined line. The drainage flow into the system will also be reduced by the introduction of an infiltration system.

Comment 5.2

To ensure that the Project' s wastewater flow does not increase system surcharging or overflows in large storms, the Proponent and BWSC should ensure a 4:1 offset of the Project 's wastewater flow by removing stormwater and/or infiltration and inflow (I/I) from a hydraulically related system(s)… In the ENF, the Proponent reports that it is working with BWSC to determine a monetary amount the Project will contribute to BWSC's I/I removal program toward the 4:1 offset of the Project's wastewater flow. More information about the offset plan should be presented in the DEIR.

Response

The Project will comply with MassDEP's I/I program requirements. The final form of the I/I mitigation will be defined with BWSC as the owner and operator of the system and will be part of the BWSC site plan review. The Project's final design will incorporate agreed upon commitments.

Comment 5.3

The Proponent will need to ensure that any groundwater and storm water collecting in the tunnels at the site is not discharged into the sanitary sewer system. If tunnel washing is necessary for the covered street portions of the project, a separate piping system will need to be constructed for the tunnel washing wastewater and the groundwater and storm water discharges.

Response

Comment noted.

Comment 5.4

[T]he Proponent must also comply with 360 C.M.R. 10.016, if it intends to install gas/oil separators in its internal above grade parking garage. In addition to complying with 360 C.M.R. 10.000, the Proponent must conform to the regulations of the Board of State Examiners of Plumbers and Gas Fitters, 248 C.M.R. 2.00 (State Plumbing Code), and all other applicable laws. The installation of the proposed gas/oil separators will require MWRA approval and may not be back filled until inspected and approved by the MWRA and the Local Plumbing Inspector.

Response

The Project will be designed to comply with the above-referenced regulations.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

January 27, 2017

Matthew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge St, Suite 900
Attn: MEPA Office, Page Czepiga
Boston, MA 02114

Subject: EOEEA #15632 – Environmental Notification Form
1000 Boylston Street, Boston, MA

Dear Secretary Beaton:

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted by ADG Scotia II LLC (the "Proponent") for 1000 Boylston Street (the "Project") in Boston, Massachusetts. The site is bounded by Boylston Street, Dalton Street, Hynes Convention Center, Scotia Street, and Cecilia Street, in Boston, Massachusetts.

The Proponent proposes to construct a mixed use development consisting of two residential buildings, with first and second story retail and restaurant, and above grade parking located partially over air rights above the Extension of the Massachusetts Turnpike and partially over the vacant terra firma lot. The two residential buildings will be set atop a six-story podium. The Podium which will be the height of the Hynes Convention Center at 99-feet, will provide retail in two stories fronting Boylston Street and Cecilia Street, and four stories containing up to 303 above-grade parking spaces. Atop of the Podium will contain 342 residential units split between two residential (condominium/apartment) buildings.

MWRA's comments focus on Stormwater and Wastewater issues emphasizing the need for Infiltration/Inflow (I/I) Removal, Discharge Permitting from the Toxic Reduction and Control (TRAC) Department.

Stormwater

The ENF states that all of the stormwater collection systems in the area of the Project Site convey flows to combined sewer systems beneath Dalton Street. These systems, in turn, convey the stormwater flows, along with sanitary sewage, to MWRA's sewer system. The ENF also states that, due to limited existing drainage infrastructure in the Project area, the Project team will work with the Boston Water & Sewer Commission (BWSC) to install a new storm drain line along Scotia Street. The Proponent anticipates that new drainage connections serving the Project will connect to the proposed new drain line, which, in turn, will tie into "existing BWSC infrastructure in Dalton Street," which BWSC sewer and storm drain plans show is limited to the

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combined sewer systems mentioned above. Therefore, the Project's stormwater will be conveyed through a BWSC combined sewer and MWRA's sewer system to the Deer Island treatment plant. The ENF reports that some of the Project's stormwater will be infiltrated into the ground to meet the groundwater conservation requirements in the Boston Zoning Code. The ENF also reports that other means will be employed to manage stormwater flows. In the Draft Environmental Impact Report ("DEIR"), the Proponent should describe the proposed stormwater collection and management systems in more detail and report the existing and proposed quantities of stormwater directed to the BWSC combined sewer system. MWRA urges the Proponent to ensure that the Project does not increase stormwater flow to the sewer system. 5.1

Wastewater

The ENF reports that the Project will generate approximately 69,645 gallons per day of new wastewater flow. The ENF also reports that new sanitary connections serving the Project are anticipated to connect to a BWSC sanitary sewer line(s) along St. Cecilia and/or Scotia streets, and that these sanitary sewers tie into a BWSC 54-inch combined sewer in Dalton Street. The 54-inch BWSC combined sewer increases in size as it travels across Boylston Street and along Hereford Street, eventually connecting as a 96-inch by 102-inch combined sewer to BWSC's West Side Interceptor at the intersection of Hereford Street and Beacon Street. The West Side Interceptor conveys combined flows to MWRA's Ward Street Headworks, which directs the flows to the Deer Island Treatment Plant. During large storms, flows in the West Side Interceptor can overflow to MWRA's Boston Marginal Conduit, which carries overflows to MWRA's Prison Point CSO treatment facility at North Point, Cambridge. Overflows treated at the Prison Point facility are pumped to Boston Harbor immediately below the Charles River Dam. The Boston Marginal Conduit can also become surcharged and overflow to the Charles River Basin in larger storms.

To ensure that the Project's wastewater flow does not increase system surcharging or overflows in large storms, the Proponent and BWSC should ensure a 4:1 offset of the Project's wastewater flow by removing stormwater and/or infiltration and inflow (I/I) from a hydraulically related system(s). That is, there should be four gallons of extraneous flow removal for every gallon of new wastewater flow, in compliance with Massachusetts Department of Environmental Protection regulation. Increasing wastewater flow to the BWSC and MWRA sewer systems without offset can compromise the sewer system and the Charles River and Boston Harbor water quality benefits of MWRA's $907 million region-wide combined sewer overflow (CSO) control plan. In the ENF, the Proponent reports that it is working with BWSC to determine a monetary amount the Project will contribute to BWSC's I/I removal program toward the 4:1 offset of the Project's wastewater flow. More information about the offset plan should be presented in the DEIR. 5.2

TRAC Discharge Permitting

The ENF reports that the project will require an MWRA Temporary Construction Dewatering Permit during the construction phase, pursuant to 360 C.M.R. 10.091-10.094. For assistance in obtaining this permit, both the Owner and the Contractor (the individual responsible for the construction) should contact Keary Simmerman, Industrial Coordinator within the TRAC

Department at (617) 305-5638. This permit must be issued by MWRA and the Boston Water & Sewer Commission (BWSC) prior to the Proponent/Contractor discharging groundwater into the sanitary sewer system.

The Proponent will need to ensure that any groundwater and storm water collecting in the tunnels at the site is not discharged into the sanitary sewer system. If tunnel washing is necessary for the covered street portions of the project, a separate piping system will need to be constructed for the tunnel washing wastewater and the groundwater and storm water discharges. 5.3

Lastly, the Proponent must also comply with 360 C.M.R. 10.016, if it intends to install gas/oil separators in its internal above grade parking garage. In addition to complying with 360 C.M.R. 10.000, the Proponent must conform to the regulations of the Board of State Examiners of Plumbers and Gas Fitters, 248 C.M.R. 2.00 (State Plumbing Code), and all other applicable laws. The installation of the proposed gas/oil separators will require MWRA approval and may not be back filled until inspected and approved by the MWRA and the Local Plumbing Inspector. For assistance in obtaining this approval, the Proponent should contact Mr. Steve Howard, Source Coordinator within the TRAC Department at (617) 305-5675. 5.4

Sincerely,

Marianne Connolly

Marianne Connolly
Senior Program Manager
Environmental Review and Compliance

cc: David Kubiak, E&C
Solomon Wondimu, E&C
Kattia Thomas, TRAC
Adam Horst, BWSC

C:156321000BoylstonBostonENF.docx

ENF Letter 6: Boston Water and Sewer Commission

Comment 6.1

All new or relocated water mains, sewers and storm drains must be designed and constructed at ADG Scotia II LLC's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations.

Response

The Proponent is committed to the BWSC site plan review process. New or relocated services will be addressed during that review.

Comment 6.2

In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulation [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4: 1for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan.

Response

The Proponent is committed to the BWSC site plan review process and working with BWSC to define the appropriate I/I mitigation.

Comment 6.3

The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins,

and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure.

Response

"Green infrastructure" will be difficult to incorporate due to the air-rights nature of the Project Site. For example, Dalton and Boylston Streets are bridge decks and there is no opportunity to install street trees or rain gardens. As described in Section 9.5.2 of Chapter 9, *Infrastructure*, the current design of the Project incorporates a multi-step process to manage stormwater:

- Retention tanks will be used to control flow rates;
- Stormwater treatment chambers/filters will improve water quality and reduce phosphorus loads to comply with the MassDEP Total Maximum Daily Load (TMDL) threshold of 65% phosphorus removal; and
- Injection wells within the sidewalk along the perimeter of the Podium along with infiltration chambers under the loading dock will provide infiltration to replenish groundwater. The injections wells will be subject to the City of Boston's Public Improvement Commission (PIC) approval, as applicable, and issuance of a MassDEP Underground Injection Control permit.

Comment 6.4

ADG Scotia II LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, ADG Scotia II LLC will be required to apply for a RGP to cover these discharges

Response

Comment noted.

Comment 6.5

The project site is located within Boston's Groundwater Conservation Overlay District (GCOD). The district is intended to promote the restoration of groundwater and reduce the impact of surface runoff. Projects constructed within the GCOD are required to include provisions for retaining stormwater and directing the stormwater to the groundwater table for recharge.

Response

Refer to Section 9.5 of Chapter 9, *Infrastructure*, for more information regarding the Project's stormwater management system. The Project incorporates retention and infiltration to meet GCOD requirements.

Comment 6.6

ADG Scotia II LLC is advised that the Commission will not allow buildings to be constructed over any of its water lines. Also, any plans to build over Commission sewer facilities are subject to review and approval by the Commission. The project must be designed so that access, including vehicular access, to the Commission's water and sewer lines for the purpose of operation and maintenance is not inhibited.

Response

The building elements in Cambria Street are above-grade. The Proponent will coordinate with BWSC through early phase design coordination and will continue through site plan review.

Comment 6.7

It is ADG Scotia II LLC' s responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, ADG Scotia II LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response

A review of system capacities will be part of the BWSC site plan review process.

Comment 6.8

ADG Scotia II LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. ADG Scotia II LLC should also provide the methodology used to estimate water demand for the proposed project.

Response

Section 9.7.2 of Chapter 9, *Infrastructure*, provides estimates of water demand by use, and Section 9.8 provides the estimated water demand for HVAC make-up water and irrigation needs.

Comment 6.9

ADG Scotia II LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, ADG Scotia II LLC should consider outdoor landscaping which requires minimal use of water to maintain. If ADG Scotia II LLC plans to install in-ground sprinkler systems, the

Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response

As discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. appropriate low-flow and low-consumption plumbing fixtures will be installed in all residential units to achieve a reduction in water usage of 30 to 35 percent over the baseline in compliance with Article 37 of the Boston Zoning Code (as LEED "certifiable"). The Proponent will continue to consider and evaluate methods to conserve water as building design evolves. The irrigation system will be designed to use at least 30 percent less potable water from the calculated baseline for the site's peak watering month. To reduce this overall demand:

- Irrigation will be metered separately from all other domestic water usage and will include a rain sensor;
- Plant species will be selected appropriately for hardiness, to minimize excessive watering needs; and
- All plant beds for trees, shrubs, perennials and groundcover shall be irrigated with drip lines and turf areas with spray heads.

Comment 6.10

ADG Scotia II LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. ADG Scotia II LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

Response

Comment noted.

Comment 6.11

In conjunction with the Site Plan and the General Service Application ADG Scotia II LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.*
- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.*

› *Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete*.

Response

Comment noted.

Comment 6.12

Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. ADG Scotia II LLC is responsible for determining if such a permit is required and for obtaining the permit.

Response

The Proponent will develop a Stormwater Pollution Prevention Plan for the proposed work and submit it as part of the BWSC site plan review package. However, since the site disturbance is expected to be less than one-acre, the Project will not require submission of an EPA NPDES General Permit for Construction Notice of Intent.

Comment 6.13

The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. ADG Scotia II LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, ADG Scotia II LLC will be reqi1ired to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response

Comment noted.

Comment 6.14

ADG Scotia II LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

Response

Please refer to Section 9.5 of Chapter 9, *Infrastructure*, for information regarding the Project's drainage connections and infiltration. Construction of the Project will incorporate stormwater management and treatment systems that will improve water quality and control peak rates of runoff in comparison to pre-development conditions. The current design of the Project incorporates a multi-step process to manage stormwater, including retention tanks to control flow rates, stormwater treatment chambers/filters to improve water quality and reduce phosphorus loads and injection wells and infiltration chambers to replenish groundwater.

Comment 6.15

In addition to Commission standards, ADG Scotia II LLC will be required to meet MassDEP Stormwater Management Standards.

Response

Refer of Section 9.5.3 of Chapter 9, *Infrastructure,* for details regarding compliance with MassDEP Stormwater Management Standards.

Comment 6.16

Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

Response

Comment noted.

Comment 6.17

The Commission requests that ADG Scotia II LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project.

Response

Comment noted.

Comment 6.18

If a cafeteria or food service facility is built as part of this project; grease traps will be required in accordance with the Commission's Sewer Use Regulations.

Response

Comment noted.

Comment 6.19

The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations.

Response

Comment noted.

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Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

January 26, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Page Czepiga, EEA No. 15632
100 Cambridge Street, Suite 900
Boston, MA 02114

and

Phil D. Cohen
Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Re: 1000 Boylston Street
Environmental Notification Form/Project Notification Form

Dear Secretary Beaton and Mr. Cohen:

The Boston Water and Sewer Commission (Commission) has reviewed the Environmental Notification Form (ENF) and the Project Notification Form (PNF) for the proposed 1000 Boylston Street project in the Back Bay neighborhood of Boston.

The proposed approximately 40,995 acre site consists of four existing parcels located partially over the Boston Extension of the Massachusetts Turnpike and partially over vacant terra firma. The proponent, ADG Scotia II LLC, proposes to construct a mixed use development of up to approximately 685,000 square feet (sf) (exclusive of above grade parking) and consisting of two residential buildings with up to 342 units, first and second floor retail and restaurant space, and above grade parking. There will be 303 above grade vehicle parking spaces. The site is bounded to the north by Boylston Street, to the east by Dalton Street and the Hynes Convention Center, to the south by Scotia Street and an existing above-ground garage, and to the west by St. Cecilia Street and the rear façade of buildings fronting on Massachusetts Avenue.

According to the ENF/PNF, the proposed water demand is 76,610 gallons per day (gpd). The Commission owns and maintains a 12-inch Southern Low and a 12-inch Southern High water main in Dalton Street, an 8-inch Southern Low water main in Scotia Street, a 12-inch Southern Low water main in Cambria Street and St. Cecilia Street.

According to the ENF/PNF, the proposed sewage generation is 69,645 gpd. For sewage and storm drainage service, the site is served by a 12-inch sanitary sewer in Scotia Street and a 12-inch combined sewer in Cambria Street. Dalton Street contains a 54-inch combined sewer and a 60-inch combined sewer (the West Side Interceptor).

The Commission has the following comments regarding the proposed project:

General

1. All new or relocated water mains, sewers and storm drains must be designed and constructed at ADG Scotia II LLC's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations. 6.1

2. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan. 6.2

3. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. 6.3

Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/ 6.3

4. ADG Scotia II LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, ADG Scotia II LLC will be required to apply for a RGP to cover these discharges. 6.4

5. The project site is located within Boston's Groundwater Conservation Overlay District (GCOD). The district is intended to promote the restoration of groundwater and reduce the impact of surface runoff. Projects constructed within the GCOD are required to include provisions for retaining stormwater and directing the stormwater to the groundwater table for recharge. 6.5

6. ADG Scotia II LLC is advised that the Commission will not allow buildings to be constructed over any of its water lines. Also, any plans to build over Commission sewer facilities are subject to review and approval by the Commission. The project must be designed so that access, including vehicular access, to the Commission's water and sewer lines for the purpose of operation and maintenance is not inhibited. 6.6

7. It is ADG Scotia II LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, ADG Scotia II LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems. 6.7

Water

1. ADG Scotia II LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. ADG Scotia II LLC should also provide the methodology used to estimate water demand for the proposed project. 6.8

2. ADG Scotia II LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, ADG Scotia II LLC should consider outdoor landscaping which requires minimal use of water to maintain. If ADG Scotia II LLC plans to install in-ground sprinkler systems, the 6.9

Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered. 6.9

3. ADG Scotia II LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. ADG Scotia II LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit. 6.10

4. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, ADG Scotia II LLC should contact the Commission's Meter Department.

Sewage / Drainage

1. In conjunction with the Site Plan and the General Service Application ADG Scotia II LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

   - Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction. 6.11

   - Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

2. Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. ADG Scotia II LLC is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required, it is required that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above. 6.12

3. The Commission encourages ADG Scotia II LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

4. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. ADG Scotia II LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, ADG Scotia II LLC will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge. 6.13

5. ADG Scotia II LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer. 6.14

6. The Massachusetts Department of Environmental Protection (MassDEP) established Stormwater Management Standards. The standards address water quality, water quantity and recharge. In addition to Commission standards, ADG Scotia II LLC will be required to meet MassDEP Stormwater Management Standards. 6.15

7. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system. 6.16

8. The Commission requests that ADG Scotia II LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. ADG Scotia II LLC should contact the Commission's Operations Division for information regarding the purchase of the castings. 6.17

9. If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. ADG Scotia II LLC is advised to consult with the Commission's Operations Department with regards to grease traps. 6.18

10. The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators. 6.19

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/afh

C: Adam Weiner, ADG Scotia II LLC c/o Weiner Ventures LLC
M. Connolly, MWRA via e-mail
M. Zlody, BED via e-mail
P. Larocque, BWSC via e-mail

13

Response to PNF Comments

This chapter presents responses to the BPDA Scoping of Determination on the PNF, as well as all public comments received on the PNF. Copies of the Scoping of Determination, and each comment letter received during the public review period of the PNF are included in this chapter. These letters are addressed in Section 13.1.

Nearly 100 letters were also submitted from members of the public. Responses to these letters are provided by topic in Section 13.2, as many of the letters had duplicative comments and/or expressed a similar array of concerns.

The MEPA ENF Certificate and comments on the ENF are presented and addressed in Chapter 12, *Response to ENF Comments*.

13.1 Agency and Organization Comment Letters

Each letter from an agency or organization received during the public comment period was been assigned a number, as listed in Table 13-1 below.

Table 13-1 List of PNF Comment Letters from Agencies and Organizations

Letter No.	Commenter	Affiliation	Date Received
SD	Development Review Department	Boston Redevelopment Authority d/b/a Boston Planning and Development Agency (BPDA)	July 5, 2017
1	Joshua A. Weiland, Transportation Planner	Boston Transportation Department (BTD)	February 1, 2017
2	Unknown	BPDA Planning & Urban Design	Unknown
3	Katie Pedersen	BPDA Environmental Review/Interagency Green Building Committee (IGBC)	July 2, 2017
NA[1]	John P. Sullivan	Boston Water and Sewer Commission	January 26, 2017
4	Carrie Marsh, Executive Secretary	Boston Parks and Recreation Commission	February 3, 2017
5	Kristen McCosh, Commissioner	Mayor's Commission for Persons with Disabilities	March 13, 2017
6	Christian Simonelli, Executive Director	Boston Groundwater Trust	February 23, 2017

Letter No.	Commenter	Affiliation	Date Received
7	Members of the Impact Advisory Group	Citizens' Advisory Committee for MassDOT Turnpike Parcels 12-15 in its capacity as 1000 Boylston Street Impact Advisory Group (CAC/IAG)	March 17, 2017
8	Greg Galer, Executive Director	Boston Preservation Alliance	March 17, 2017
9	Vicki C. Smith, Chair	Neighborhood Association of the Back Bay (NABB)	March 7, 2017
10	Vicki C. Smith, Chair	Neighborhood Association of the Back Bay (NABB)	March 17, 2017
11	Steven Wolf, Richard Giordano, Eric Daniel, Brenda Lew	Fenway Community Development Corporation (Fenway CDC)	March 17, 2017
12	David Gibbons, Executive Director	Massachusetts Convention Center Authority (MCCA)	March 16, 2017
13	Elizabeth Vizza, Executive Director	Friends of the Public Garden	February 17, 2017
14	Sherley Gardner Smith and Jolinda Taylor, Co-Presidents	Garden Club of the Back Bay	March 17, 2017
15	Art Byers, Associate Vice President of Facilities	Boston Architectural College	March 17, 2017
16	William D. Whitney, Vice President for Real Estate	Berklee College of Music	March 17, 2017
17	Michael W. Gery, Managing Partner	Cambria-Scotia Company	March 17, 2017
18	Margaret Pokorny, Chair	Commonwealth Avenue Mall Committee	N/A
19	State Representative Jay Livingstone	Commonwealth of Massachusetts House of Representatives	April 6, 2017

1 Duplicate comment letter. Refer to Chapter 12, *Response to ENF Comments* for the delineated comments and corresponding responses.

Individual comments from the agency and community organization letters are addressed below. Where appropriate, reference is made to corresponding section of the DEIR/DPIR.

BPDA Scoping Determination

Comment SD.1

1. Applicant/Proponent Information

a. Development Team

(1) Names

(a) Proponent (including description of development entity and type of corporation, and the principals thereof)

(b) Attorney

(c) Project consultants and architects

(2) Business address, telephone number, FAX number and e-mail, where available for each

(3) Designated contact for each

Response

Refer to Section 2.4 of Chapter 2, *Regulatory Context and General Information*, for the list of development team members and their contact information.

Comment SD.2

b. Legal Information

(1) Legal judgments or actions pending concerning the Proposed Project

(2) History of tax arrears on property owned in Boston by Applicant

(3) Evidence of site control over Project Site, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.

(4) Nature and extent of any and all public easements into, through, or surrounding the site.

Response

Refer to Section 2.5 of Chapter 2, *Regulatory Context and General Information,* for the legal information for the Project Site.

Comment SD.3

2. Project Site

a. An area map identifying the location of the Proposed Project

b. Description of metes and bounds of Project Site or certified survey of the Project Site.

c. Current zoning

Response

Refer to Figures 1.1 through 1.3 for project location and Section 2.1.1 of Chapter 2, *Regulatory Context and General Information,* for details on current zoning. Appendix B provides the metes and bounds of the Project Site.

Comment SD.4

The DPIR shall contain a full description of the Proposed Project and its components, including, its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to illustrate clearly the Proposed Project shall be required.

Response

Refer to Section 1.4 of Chapter 1, *Project Description and Alternatives*, for the proposed development program of the Project. Chapter 3, *Urban Design,* discusses the planning principles and design goals for the Project, and includes site and building plans that illustrate the Project.

Comment SD.5

A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

Response

Refer to Section 1.6 of Chapter 1, *Project Description and Alternatives*, for the alternatives analysis.

Comment SD.6

4. Public Benefits

a. Anticipated employment levels including the following:

(1) Estimated number of construction jobs

(2) Estimated number of permanent jobs

b. Current and/or future activities and program which benefit adjacent neighborhoods of Boston and the city at large, such as, child care programs, scholarships, internships, elderly services, education and job training programs, etc.

c. Other public benefits, if any, to be provided.

Response

Refer to Section 1.5 of Chapter 1, *Project Description and Alternatives*, for a summary of public benefits. In addition, the Proponent will develop a mitigation package with the BPDA and the City, which will balance the requests and needs of various community groups and City agencies, within the confines of financial feasibility for the Project.

Comment SD.7

A list of meetings held and proposed with interested parties, including public agencies, abutters, and business and community groups.

Response

Refer to Section 1.7 of Chapter 1, *Project Description and Alternatives*, for a summary of community outreach conducted for the Project.

Comment SD.8

Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

Response

Appendix H provides a list of abutters that, in the opinion of the Proponent, may be substantially interested in or affected by the Project. Project area owners and community groups that, in the opinion of the Proponent, may be substantially interested in or affected by the Project are included in the community outreach discussed in Section 1.7 of Chapter 1, *Project Description and Alternatives*.

Comment SD.9

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR.

Response

Table 2-1 of Chapter 2, *Regulatory Context and General Information,* presents a list of permits and approvals from local, state, and federal governmental agencies, which are anticipated to be required for the Project. It is possible that not all permits or actions

listed will be required, or that additional permits or actions may be needed, based on determinations during Project design and development.

Comment SD.10

A statement on the applicability of the Massachusetts Environmental Policy Act (MEPA) should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BPDA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the secretary of Environmental Affairs, and the proposed schedule for coordination with BPDA procedure.

Response

Refer to Section 2.1.3 of Chapter 2, *Regulatory Context and General Information*, for a statement of applicability of MEPA review.

Comment SD.11

The analysis included in the DPIR must utilize as its framework the scope as outlined in the comments of the Boston Transportation Department ("BTD"), dated February 1, 2017 and included in Appendix A.

The BTD comment letter focuses on Transportation Mitigation, Curbside details on Boylston Street, Parking, Transportation Demand Management, Public Realm Improvements, Loading, Traffic, a Detailed Site Plan, and a Construction Management Plan

Response

Chapter 5, *Transportation*, presents the Transportation Impact Assessment (TIA) developed in accordance with both the MassDOT and BTD scopes.

Comment SD.12

The DPIR must address the comments of the BPDA Environmental Review/IGBC, dated July 1, 2017, included in Appendix A and must include the most up to date Article 37/Interagency Green Building Committee documents.

Response

Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, addresses comments from the BPDA Environmental Review/IGBC comment letter (refer also to direct responses provided under Letter 3 below). Section 4.4.1 of Chapter 4 demonstrates compliance with Article 37.

Comment SD.13

The DPIR must address the comments of the Boston Parks and Recreation Department, dated February 3, 2017 and included in Appendix A.

Response

Section 6.4 of Chapter 6, *Environmental Protection*, provides an updated shadow study, which demonstrates the reduction in net new shadow due to the project changes (refer also to direct responses provided under Letter 4 below).

Comment SD.14

This project is located several blocks from the parks of the Emerald Necklace, particularly the Commonwealth Avenue Mall and the Back Bay Fens. The building will cast shadows on the Commonwealth Avenue Mall in December, and this needs to be considered. Further, the scale of this project and the limited onsite open space will create a need for active recreational open space to serve the residents. The residents will look to the already overutilized public parks in the neighborhood to meet this need. BPRD therefore respectfully requests that mitigation be provided for impacts to existing public open spaces in the neighborhood, such as the Back Bay Fens.

Response

The Project will not eliminate existing open spaces and future residents will be served by the on-site amenities areas, including the green roof on top of the Podium on-site. The Proponent will develop a mitigation package with the BPDA and the City, which will balance the requests and needs of various community groups and City agencies, within the confines of financial feasibility for the Project.

Comment SD.15

The DPIR must address the comments of the BPDA's Urban Design and Planning Department, dated July 6, 2017 included in Appendix A. In addition to this, the standard list of urban design materials should be included in the DPIR for the Proposed Project, included in Appendix A.

Response

Chapter 3, *Urban Design,* addresses comments received by the BPDA's Urban Design and Planning Department (refer also to direct responses provided under Letter 2 below).

Comment SD.16

… we do request that the proponent work to minimize the massing of the project on the corner of Dalton and Boylston Streets to the extent possible, a concern that has been echoed by the community.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated. In addition, the 5th floor of the Podium has been set back to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets.

Comment SD.17

The DPIR must address the comments of the Boston Groundwater Trust, dated February 23, 2017 and included in Appendix A.

Response

Chapter 9, *Infrastructure,* addresses comments received by the Boston Groundwater Trust (refer also to direct responses provided under Letter 6 below).

Comment SD.18

The DPIR must address the comments of the Boston Water and Sewer Commission, dated January 26, 2017 and included in Appendix A.

Response

Chapter 9, *Infrastructure,* addresses comments received by the BWSC (refer also to direct responses provided under ENF Letter 6 in Chapter 12, *Response to ENF Comments*).

Comment SD.19

Based on the number of residential units outlined in the Project Notification Form and the zoning actions necessary for approval, the Proposed Project will be subject to the Inclusionary Development Policy of 2015. Therefore, a full proposal on how the development team intents on complying with the Inclusionary Development Policy should be submitted as part of the DPIR.

Response

Refer to Section 2.1.1 for a discussion of the requirements of the IDP.

BOSTON PLANNING & DEVELOPMENT AGENCY

SCOPING DETERMINATION
1000 BOYLSTON STREET

SUBMISSION REQUIREMENTS
FOR DRAFT PROJECT IMPACT REPORT (DPIR)

PROPOSED PROJECT:	1000 BOYLSTON STREET PROJECT
PROJECT SITE:	LOCATED IN BOSTON'S BACK BAY NEIGHBORHOOD, THE PROJECT SITE IS IN AN UNDEVELOPED LOCATION NEAR THE HYNES CONVENTENTION CENTER AND PRUDENTIAL CENTER, THE SHOPS AND RESIDENCES OF THE BACK BAY, THE BUSTLING CORRIDOR OF MASSACHUSETTS AVENEU AND THE CHRISTIAN SCIENCE CENTER PLAZA.
PROPONENT:	ADG SCOTIA II LLC c/o WEINER VENTURES LLC
DATE:	JULY 7, 2017

The Boston Redevelopment Authority d/b/a Boston Planning & Development Agency ("BPDA") is issuing this Scoping Determination pursuant to Section 80B-5 of the Boston Zoning Code ("Code"), in response to a Project Notification Form ("PNF") which ADG Scotia II LLC c/o Weiner Ventures LLC (the "Proponent"), filed for the 1000 Boylston Street project on January 3, 2017. Notice of the receipt by the BPDA of the PNF was published in the Boston Herald on January 3, 2017, which initiated a public comment period with a closing date of February 2, 2017; the public comment period was subsequently extended until March 17, 2017. Comments received since then have subsequently been added as well.

On November 16, 2016, the Proponent filed a Letter of Intent in accordance with the Executive Order regarding Provision of Mitigation by Development Projects in Boston. On January 3, 2016 the Proponent filed a Project Notification Form (PNF) pursuant of Article 80 Large Project Review for a proposal, which includes the development of two new residential buildings at 1000 Boylston St in the Back Bay.

Pursuant to Section 80B-5.3 of the Code, a Scoping Session was held on February 1, 2017 with the City's public agencies, where the proposal was reviewed and discussed. The PNF was sent to the City's public agencies pursuant to Section 80A-2 of the Code.

A Citizens Advisory Committee (CAC) was established in 2011 to advise the City and State prior to the Massachusetts Department of Transportation (MassDOT)'s disposition process for each of the Back Bay Turnpike Air Rights Parcels (12-15). Letters soliciting nominations to the CAC were delivered to following elected officials in office at the time: City Councilor Michael Ross, City Councilor Bill Linehan, all at large City Councilors, State Senator Sonia Chang-Diaz, State Senator Steven Tolman, State Representative Byron Rushing, and State Representative Martha Walz.

BPDA staff conferred with then Mayor Thomas M. Menino's Office of Neighborhood Services to finalize the CAC nominees and the Mayor's Office approved the final list of members in June 2011.

The Citizens Advisory Committee (CAC) members are:

- Brandon Beatty, Resident
- Kathleen Brill, Fenway Civic Association
- Fritz Casselman, Neighborhood Association of the Back Bay
- Brian Doherty, Building & Construction Trades Council of the Metropolitan District
- David Gamble, Boston Society of Architects
- Valerie Hunt, Resident
- David Lapin, Community Music Center / Millennium CAC (SDSC)
- Meg Mainzer-Cohen, Back Bay Association
- Teri Malo, Fenway Studios
- Barbara Simons, Berklee TF/Symphony United Neighbors
- Gil Strickler, St Cecilia Parish
- Steve Wolf, Fenway CDC

The ex-officio members are:

- Senator Brownsberger
- Councillor Essaibi-George
- Councillor Flaherty
- Councillor Linehan
- Representative Livingstone
- Councillor Pressley
- Representative Rushing
- Councillor Wu
- Councillor Zakim

All CAC members were notified of and invited to the scoping session held on February 1, 2017.

A total of twenty CAC meetings, all of which were advertised via the BPDA website and standard email notifications, have been held, two of which fall under Article 80 Large Project review for this Project. The majority of the CAC meetings were at held at the St. Cecilia Parish, 18 Belvidere Street, Boston, 02115 and took place on:

1. August 9, 2011
2. September 20, 2011
3. October 13, 2011
4. November 10, 2011
5. December 1, 2011
6. January 11, 2012
7. February 15, 2012
8. April 5, 2012
9. April 24, 2012
10. May 18, 2012
11. June 15, 2012
12. April 4, 2013
13. March 27, 2014
14. November 20, 2014
15. December 4, 2014
16. December 11, 2014
17. October 25, 2016
18. December 20, 2016
19. February 14, 2017
20. March 7, 2017

As part of the Article 80 Large Project review of the project, the BPDA hosted a public meeting on February 28, 2017 at St. Cecilia Parish, 18 Belvidere Street, Boston, 02115. The public meeting was advertised in the Fenway News as well as through the BPDA website and the Back Bay and Fenway neighborhood email distribution lists.

Written comments in response to the PNF received by the BPDA from agencies of the City of Boston and elected officials are included in **Appendix A**. Comments from the public are included in **Appendix B**. Comments from the Citizens Advisory Committee ("CAC") are included in **Appendix C.** All comments must be answered in their entirety. The DPIR should include complete responses to all comments included in **Appendices A, B and C** within the framework of the criteria outlined in the Scoping Determination.

Appendix A includes comments from agencies of the City of Boston and elected officials, specifically:

- BPDA Planning and Urban Design
- BPDA Environment
- Carrie Marsh, Boston Parks and Recreation Department
- Christian Simonelli, Boston Groundwater Trust
- John Sullivan, Boston Water and Sewer Commission
- Joshua Weiland, Boston Transportation Department

Appendix B includes comments from the public, including:

- Back Bay Association
- Boston Preservation Alliance
- Fenway CDC
- Friends of the Public Garden
- Garden Club of the Back Bay
- Massachusetts Convention Center Authority
- Neighborhood Association of the Back Bay

Appendix C includes comments from the Citizens Advisory Committee:

The Scoping Determination requests information that the BPDA requires for its review of the proposed project in connection with Article 80 of the Code, Development Review and Approval and other applicable sections of the Code.

I. PROJECT DESCRIPTION

Located in Boston's Back Bay neighborhood, the Project Site is undeveloped and exists as a major gap in the cityscape created by the nearby Hynes Convention Center and Prudential Center, the shops and residences of the Back Bay, the bustling corridor of Massachusetts Avenue, and the Christian Science Center Plaza. Large-scale development in this area has historically included construction along the "High Spine," tracing from the Project Site generally along the Turnpike right-of-way from the Prudential Center eastward to Copley Place and Stuart Street. The Project aims to fill this gap and provide a new connection to the surrounding areas, strengthened by street-level retail, an improved streetscape, and new residents who will enliven the area on a 24/7 basis.

The Project consists of two residential buildings rising above a 6- to 7-story podium that spans the Project Site (the "Podium"). The Podium, which is 6 stories tall fronting Boylston Street and 7 stories tall along Scotia Street, will contain up to approximately 35,000 square feet of first and second-story retail, including restaurant space facing Boylston and St. Cecilia Streets above which will be a four-story, above-grade, parking garage accessible from Dalton Street containing up to approximately 303 parking spaces, lobbies for the

condominium and rental residential components, and amenity space for the residential uses in the Project. Atop the Podium, and set back from the street wall along Boylston Street, are up to approximately 342 residential units split among two slender residential buildings: the "West Building", or the "Residences Building"; and the "East Building", or the "Apartments Building." The West Building rises 32 stories above the Podium to a height of up approximately 566 feet from grade to the top of the highest occupiable floor and contains up to approximately 160 condominium units. The East Building rises 17 stories above the Podium to a height of up to approximately 283 feet from grade to the top of the highest occupiable floor and contains up to approximately 182 residential rental units.

II. PREAMBLE

The Proposed Project is being reviewed pursuant to Article 80, Development Review and Approval, which sets forth a comprehensive procedure for project review of the following components: transportation, environmental protection, urban design, historic resources, infrastructure systems, site plan, tidelands, and Development Impact Project, if any. The Proponent is required to prepare and submit to the BPDA a Draft Project Impact Report ("DPIR") that meets the requirements of the Scoping Determination by detailing the Proposed Project's impacts and proposed measures to mitigate, limit or minimize such impacts. The DPIR shall contain the information necessary to meet the specifications of Section 80B-3 (Scope of Large Project Review; Content of Reports) and Section 80B-4 (Standards for Large Project Review Approval), as required by the Scoping Determination. After submitting the DPIR, the Proponent shall publish notice of such submittal as required by Section 80A-2. Pursuant to Section 80B-4(c) (i) (3), the BPDA shall issue a written Preliminary Adequacy Determination ("PAD") within ninety (90) days. Public comments, including the comments of public agencies, shall be transmitted in writing to the BPDA no later than fifteen (15) days prior to the date by which the BPDA must issue its PAD. The PAD shall indicate the additional steps, if any, necessary for the Proponent to satisfy the requirements of the Scoping Determination. If the BPDA determines that the DPIR adequately describes the Proposed Project's impacts and, if appropriate, proposed measures to mitigate, limit or minimize such impacts, the PAD will announce such a determination and that the requirements of further review are waived pursuant to Section 80B-5.4(c) (iv). Section 80B-6 requires the Director of the BPDA to issue a Certification of Compliance indicating the successful completion of the Article 80 development review requirements before the Commissioner of Inspectional Services can issue any building permit for the Proposed Project.

III. REVIEW/SUBMISSION REQUIREMENTS

In addition to full-size scale drawings, 15 copies of a bound booklet and an electronic copy (PDF format) containing all submission materials reduced to size 8-1/2" x 11", except where otherwise specified, are required. The electronic copy should be submitted to the BPDA via

the following website: https://attachments.bostonredevelopmentauthority.org/. The booklet should be printed on both sides of the page. In addition, an adequate number of copies must be available for community review. A copy of this Scoping Determination should be included in the booklet for reference.

A. General Information

1. Applicant/Proponent Information
   a. Development Team
      (1) Names
         (a) Proponent (including description of development entity and type of corporation, and the principals thereof)
         (b) Attorney
         (c) Project consultants and architects
      (2) Business address, telephone number, FAX number and e-mail, where available for each
      (3) Designated contact for each

   SD.1

   b. Legal Information
      (1) Legal judgments or actions pending concerning the Proposed Project
      (2) History of tax arrears on property owned in Boston by Applicant
      (3) Evidence of site control over Project Site, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.
      (4) Nature and extent of any and all public easements into, through, or surrounding the site.

   SD.2

2. Project Site

a. An area map identifying the location of the Proposed Project
b. Description of metes and bounds of Project Site or certified survey of the Project Site.
c. Current zoning

SD.3

3. Project Description and Alternatives

a. The DPIR shall contain a full description of the Proposed Project and its components, including, its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to illustrate clearly the Proposed Project shall be required.

SD.4

b. A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

SD.5

4. Public Benefits

a. Anticipated employment levels including the following:
(1) Estimated number of construction jobs
(2) Estimated number of permanent jobs
b. Current and/or future activities and program which benefit adjacent neighborhoods of Boston and the city at large, such as, child care programs, scholarships, internships, elderly services, education and job training programs, etc.
c. Other public benefits, if any, to be provided.

SD.6

5. Community Process

a. A list of meetings held and proposed with interested parties, including public agencies, abutters, and business and community groups.

SD.7

b. Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

SD.8

B. REGULATORY CONTROLS AND PERMITS

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR. SD.9

A statement on the applicability of the Massachusetts Environmental Policy Act (MEPA) should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BPDA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the secretary of Environmental Affairs, and the proposed schedule for coordination with BPDA procedure. SD.10

C. TRANSPORTATION COMPONENT

The analysis included in the DPIR must utilize as its framework the scope as outlined in the comments of the Boston Transportation Department ("BTD"), dated February 1, 2017 and included in ***Appendix A.*** SD.11

The BTD comment letter focuses on Transportation Mitigation, Curbside details on Boylston (?) Street, Parking, Transportation Demand Management, Public Realm Improvements, Loading, Traffic, a Detailed Site Plan, and a Construction Management Plan

Given the complexity of the project and its potential long term impacts, BTD recommends that the proponent prepare a Draft Project Impact Report (DPIR) and provide new information and analysis below.

The full text of the BTD Comments can be viewed in ***Appendix A.***

D. ENVIRONMENTAL PROTECTION COMPONENT

The DPIR must address the comments of the BPDA Environmental Review/IGBC, dated July 1, 2017, included in ***Appendix A*** *and must include the most up to date Article 37/Interagency Green Building Committee documents.* SD.12

The full text of the BPDA Environmental Review/IGBC Comments can be viewed in ***Appendix A****.*

The DPIR must address the comments of the Boston Parks and Recreation Department, dated February 3, 2017 and included in ***Appendix A.*** SD.13

This project is located several blocks from the parks of the Emerald Necklace, particularly the Commonwealth Avenue Mall and the Back Bay Fens. The building will cast shadows on the Commonwealth Avenue Mall in December, and this needs to be considered. Further, the scale of this project and the limited onsite open space will create a need for active recreational open space to serve the residents. The residents will look to the already over-utilized public parks in the neighborhood to meet this need. BPRD therefore respectfully SD.14

requests that mitigation be provided for impacts to existing public open spaces in the neighborhood, such as the Back Bay Fens. SD.14

The full text of the Boston Parks and Recreation Department Comments can be viewed in ***Appendix A.***

E. URBAN DESIGN/PLANNING COMPONENT

The DPIR must address the comments of the BPDA's Urban Design and Planning Department, dated July 6, 2017 included in ***Appendix A****. In addition to this, the standard list of urban design materials should be included in the DPIR for the Proposed Project, included in* ***Appendix A****.* SD.15

Though there have been many attempts to develop the parcels identified in the 2000 Civic Vision for Turnpike Air Rights ("Civic Vision"), no project has yet to break ground. The BPDA commends this Proponent for their perseverance in pursuing the redevelopment of Parcel 15, a project that began nearly a decade ago. The proposal depicted in this PNF has changed from that first described in pursuing a tentative designation from MassDOT for redevelopment of the parcel; the Proponent's original proposal was a single building of nearly 400' on Parcel 15 and the Cambria Street Air Rights parcel, with the "Scotia parcel" (adjacent to St. Cecilia's) providing some *terra firma*. Based on requests made by the BPDA and echoed to some extent by the CAC, the Proponent negotiated a deal with the owners of the "Prudential parcel" (a parcel comprised entirely of air rights at the corner of Dalton and Boylston, which is thus undevelopable on its own) to assemble a larger, more readily developable and far more urbanistically cohesive site, comprised of the four smaller parcels.

The BPDA recognizes the inherent difficulty in the development of Parcel 15 without these adjacent parcels, and supports the main features of the revised proposal on this larger site. These features include: breaking down a single building mass into two buildings of variable height to provide more residential uses; filling in all the gaps in the urban fabric with nearly 550' of new continuous building streetwall on the south side of Boylston Street (made possible by the addition of the Prudential parcel); concentrating density proximate to the Hynes Convention Center MBTA Station; and conceiving a project of significant height that relates to the well-established "High Spine," as well as the concentration of larger institutional buildings to the west and south. With that being said, we do request that the proponent work to minimize the massing of the project on the corner of Dalton and Boylston Streets to the extent possible, a concern that has been echoed by the community. Overall, though the conceptual building form and streetscape design are still under development and will require further refinement, the possible achievement of the original goal of linking Back Bay to the Fenway is an opportunity that should not be missed. SD.16

The full text of the BPDA's Urban Design and Planning Department Comments can be viewed in ***Appendix A****.*

F. INFRASTRUCTURE SYSTEMS COMPONENT

The DPIR must address the comments of the Boston Groundwater Trust, dated February 23, 2017 and included in ***Appendix A****.* SD.17

The project is located in the Groundwater Conservation Overlay District (GCOD) established under Article 32 of the Zoning Code. As stated in the PNF and confirmed at the scoping session the project is proposed to be designed and constructed to comply with the requirements of Article 32. Also stated in the PNF and confirmed at the scoping session, due to the limited amount of terra firma the proponent will request a license from the Public Improvement Commission for maintenance of a portion of a recharge system beneath the city street.

Also stated in the PNF and confirmed at the scoping session compliance with the GCOD requires both the installation of a recharge system and a demonstration that the project cannot cause a reduction in groundwater levels on site or on adjoining lots. The PNF states that the proposed new building will be supported on rock socketed drilled shaft (caissons and load bearing elements) with total lengths in the range of approximately 150 to 200 feet. Deep foundation construction will utilize drilling methods that do not generate vibrations. No pile driving is planned. No below grade basement levels are planned and excavation for construction will be limited in depths needed to construct shallow pile caps and pits or below grade vaults.

The full text of Boston Groundwater Trust Comments can be viewed in ***Appendix A****.*

The DPIR must address the comments of the Boston Water and Sewer Commission, dated January 26, 2017 and included in ***Appendix A****.* SD.18

G. INCLUSIONARY DEVELOMPENT POLICY COMPONENT

Based on the number of residential units outlined in the Project Notification Form and the zoning actions necessary for approval, the Proposed Project will be subject to the Inclusionary Development Policy of 2015. Therefore a full proposal on how the development team intents on complying with the Inclusionary Development Policy should be submitted as part of the DPIR. SD.19

H. PUBLIC NOTICE

The Proponent will be responsible for preparing and publishing in one more newspapers of general circulation in the City of Boston a Public Notice of the submission of the DPIR to the

BPDA as required by Section 80A-2. This Public Notice shall be published within five (5) days after the receipt of the DPIR by the BPDA. Therefore, public comments shall be transmitted to the BPDA within seventy five (75) days of the publication of this Public Notice. Sample forms of the Public Notice are attached as **Appendix D**.

Following publication of the Public Notice, the Proponent shall submit to the BPDA a copy of the published Public Notice together with the date of publication.

PNF Letter 1: Boston Transportation Department (BTD)

Comment 1.1

BTD encourages the proponent to analyze transit services in the area based not only upon what services are supplied, but also peak capacity, and how the project's generated transit trips will impact that supply.

Response

Chapter 5, *Transportation,* includes an extensive evaluation of the capacity of the public transportation services available near the Site, as requested.

Comment 1.2

If the proponent's trips will impact a transit, pedestrian or bicycle facility, the proponent should assess options to facilitate safe, convenient and attractive access. This may include (but is not limited to) sidewalks, crossings, bus stops, bike facilities and/or subway stops. BTD encourages the proponent to think creatively in this regard.

Response

Chapter 5, *Transportation*, includes an analysis of potential transportation mitigation improvements. The key finding is that a set of modest traffic signalization timing changes can address most of the additional traffic congestion expected from background growth and the Project's impacts. Chapter 5 and elsewhere in the document include detailed descriptions of the proposed configuration of Boylston Street along the frontage of the Project Site. The Project will modify and improve the pedestrian environment with wider sidewalks, street furniture, improved crossings, and other pedestrian amenities.

Comment 1.3

The proponent should design in a protected bicycle facility (with flexposts if possible) on their side of Beacon Street. If parking can be fit in as well, that is acceptable.

Response

The Proponent is fully committed and prepared to work with the BTD to define the feasible treatment for accommodating bicyclists on Boylston Street at the Project Site.

Comment 1.4

If there are parking facilities on Boylston, BTD would look for at most one valet area, and does not permit drop off zones. The DPIR should spell out the rational for a curb cut at the valet.

Response

The Project proposes one curbside drop-off area on Boylston Street (reduced from two, as previously proposed in the ENF/PNF Alternative), which does not incorporate a curb cut.

Comment 1.5

As part of the DPIR, BTD would like the proponent to discover how many publicly available parking spaces are within a quarter mile, and whether any spaces might be made available through agreement, thereby lessening the need for parking at this location.

Response

Chapter 5, *Transportation*, presents an off-street parking inventory within a quarter mile of the Project Site, but concludes that spaces do not exist which can be made available through agreement for the Project, which would meet the requirements of condominium unit owners for parking rights for the 99-year lease term.

Comment 1.6

The Boston Transportation Department (BTD) policy maximum for Back Bay is 0.5 to 1; because of the project's transit-oriented location, BTD would recommend a parking ratio at the lower end of this scale. The proponent should spell out how these spaces would be distributed, and whether they would be bundled with units or sold / rented separately. We encourage the project to look into working with a car share provider to dedicate some of the spaces to car share.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the PNF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. See Section 5.10 of Chapter 5, *Transportation,* for a discussion of parking needs and proposed arrangements.

Comment 1.7

BTD would like to thank the proponent for committing to 1:1 ratio of bicycle parking for residential units, but notes that there are guidelines for both residential and retail developments in the City of Boston Bicycle Parking Guidelines. The Guidelines spell out the city's policy for development provision of secure/covered bicycle parking, on-street bicycle parking, shower/change facilities for employees and bike share provision. Any bicycle repair facilities proposed should be spelled out as well. BTD notes and supports the development's proposal for on-site bicycle sharing.

Response

The Project will provide approximately one (1) secure bicycle space per unit for residents inside the garage (for a total of up to approximately 108 bicycle spaces). Additionally, 10 to 12 outdoor bicycle parking spaces will be provided for public use. As shown on Figure 3.35, the bicycle racks are proposed outside of the building along Boylston Street.

Comment 1.8

The proponent should spell out how it plans to meet the City's Electric Vehicle Charging standards, which include that at a minimum 5% of all spaces must be EV spaces, and that at least 15% of spaces must be constructed with EV-ready electrical capacity.

Response

The proposed garage will initially provide four (4) fast electric vehicle (EV) charging stations. The garage is being designed to allow this number to expand to meet demand, if the demand increases over time.

Comment 1.9

BTD noted that the PNF suggests that the developer will "encourage retail tenants to join" a Transportation Management Association (TMA). BTD encourages the project to look into whether the building itself can join a TMA, and if possible to do so.

Response

Section 5.14.2 in Chapter 5, *Transportation*, contains details of the TDM plan, which includes the Proponent's intent of joining the A Better City TMA and of encouraging the retail/restaurant tenants to do so as well.

Comment 1.10

We also encourage the project to require retail tenants to subsidize transit, bike share and car share membership for employees, as well as to bundle subsidized transit, bike share and car share membership for residents through residential leases, as well as for the first year of any condo sales.

Response

Section 5.14.2 in Chapter 5, *Transportation*, contains details of the Project's extensive TDM program.

Comment 1.11

Finally, BTD encourages the proponent to propose inclusion of real-time transportation (transit, bikeshare, carshare, transportation network services, wayfinding, walk/bike distance) display technology in all lobbies.

Response

Section 5.14.2 of Chapter 5, *Transportation*, presents the proposed TDM plan, which aims at encouraging residents, visitors, and employees to seek out and use alternative modes of transportation to reduce single-occupancy vehicles.

Comment 1.12

BTD encourages the proponent to explore smaller curb radii as well as curb extensions.

Response

Comment noted. There are no curb extensions proposed along Boylston, Scotia, St. Cecilia or Dalton Streets.

Comment 1.13

Any long-term maintenance by the proponent of median greenery and street trees should be spelled out, as well as and street furniture (e.g. benches) proposed for the abutting sidewalk.

Response

The long-term viability and beauty of the pedestrian and vehicular experience is vital to the success of the Project. All plant material within the greenscape zone will be pro-actively managed and maintained by the owner with a certified horticulturalist to ensure that the planted nature of Boylston Street will be enhanced and prominent throughout all seasons. This will include fertilization, irrigation, proper pruning and soil monitoring. Similarly, the street furnishing selection and specifications will conform to the urban and climactic constraints in Boston.

Comment 1.14

The DPIR should provide details on the width of the proposed sidewalk around the site, including widths of pedestrian zones, furniture zones and/or curbs.

Response

Section 3.6.1 of Chapter 3, *Urban Design*, describes the proposed sidewalks and streetscape in detail. The text provides descriptions and dimensions of the sidewalk zones. Figure 3.36 provides an enlarged plan of the sidewalk along the full length of the Boylston Street frontage with dimensions and descriptions. Section diagrams

describing the new public realm along Boylston Street are shown in Figures 3.37a through 3.37d.

Comment 1.15

All trucks reversing should occur on Cambria Street and not St. Cecilia.

Response

A designated truck loading for the Project is planned to be accessed from Cambria Street. All truck maneuvering will occur on Cambria Street.

Comment 1.16

In addition, the DPIR should include a strategy of how urban packages delivery, which has seen a huge increase in small truck trips, will be accommodated. Will delivery companies be locating local pick up "warehouses" in the development?

Response

Chapter 5, *Transportation*, provides loading trip generation forecasts based on the National Cooperative Highway Research Program (NCHRP) Synthesis 298 Report: Truck Trip Generation Data. All loading/deliveries are planned to take place at the Project's loading dock on Cambria Street. There will not be a local pick up "warehouse" contained in the development.

Comment 1.17

BTD requests the study area be expanded to include the following intersections in addition to those already in the PNF:

- *The proposed driveway (In particular, the impact of a left ins and left outs on Dalton Street should be documented.)*
- *Massachusetts and Marlborough*
- *Massachusetts and Commonwealth*
- *Massachusetts and Westland/St. Stephen*
- *Commonwealth and Hereford*
- *Massachusetts and Huntington*
- *Commonwealth and Gloucester*
- *Massachusetts and Belvedere/Haviland*
- *Massachusetts and Beacon*
- *Huntington and Cumberland*

Response

The listed intersections were all added to the proposed intersections found in the PNF and each has been analyzed as part of the TIS presented in Chapter 5, *Transportation*.

Comment 1.18

The proponent needs to submit an engineered site plan within the context of the surrounding roadways at 1:20

scale depicting:

- *Vehicular access and circulation*
- *Parking layout and circulation*
- *Pedestrian access and circulation*
- *Bicycle access and circulation*
- *Area shuttle/van pool pickup and drop-off*
- *Parking spaces for car sharing services*
- *Service and loading (Trash compactors/dumpsters need to be depicted as well.)*
- *Roadways and sidewalks*
- *Building layout*
- *Bicycle parking locations and types (covered, indoor, bike share, etc)*
- *Transit stops and connections*
- *Electric vehicle charging stations and ev-ready spaces*

Response

The Proponent is committed to work with BTD to define all identified items as part of the TAPA review and approval process.

Comment 1.19

As the project in the DPIR advances, the proponents will be required to develop and submit a detailed Construction Management Plan (CMP) to BTD for review and approval. The CMP will address TDM measures for construction workers, proposed street occupancies, equipment staging, sidewalk and bike-lane relocations and hours of construction work. BTD will work with the proponents to execute the CMP.

Response

Refer to Section 6.10 of Chapter 6, *Environmental Protection,* for details on the CMP. A copy of the draft CMP and construction logistics plans are provided in Appendix G.

BOSTON
TRANSPORTATION
DEPARTMENT

ONE CITY HALL SQUARE • ROOM 721
BOSTON, MASSACHUSETTS 02201
617-635-4680 • FAX 617-635-4295

February 1, 2017

Brian Golden, Director
Boston Planning & Development Agency
One City Hall Square, 9th Floor
Boston, MA 02201

RE: Project Notification Form: 1000 Boylston Street

Dear Mr. Golden,

Thank you for the opportunity to comment on the 1000 Boylston Street Project Notification Form (PNF). The project includes the development of three air-rights parcels and one terra-firma parcel comprising residential and retail uses totaling approximately 689,000 gross square feet. The project consists of approximately 342 residential units (approximately 182 rental and 160 for-sale) and approximately 35,000 square feet of retail. The project proposes approximately 303 off street parking spaces, which will be dedicated to residential use. This is a residential parking ratio of 0.89.

Due to the complexity of the project, BTD supports the PNF's proposal to prepare a Draft Project Impact Report (DPIR) and provide new information and analysis as described below.

Transportation Mitigation

BTD looks forward to working with the proponent on developing an appropriate transportation mitigation package, which should be informed by the trips generated as well as peak hour mode share. BTD encourages the proponent to analyze transit services in the area based not only upon what services are supplied, but also peak capacity, and how the project's generated transit trips will impact that supply. If the proponent's trips will impact a transit, pedestrian or bicycle facility, the proponent should assess options to facilitate safe, convenient and attractive access. This may include (but is not limited to) sidewalks, crossings, bus stops, bike facilities and/or subway stops. BTD encourages the proponent to think creatively in this regard. 1.1 1.2

Curbside

The proponent should design in a protected bicycle facility (with flexposts if possible) on their side of Beacon Street. If parking can be fit in as well, that is acceptable. If there are parking facilities on Boylston, BTD would look for at most one valet area, and does not permit drop off zones. The DPIR should spell out the rational for a curb cut at the valet. 1.3 1.4

Parking

The area around the project is extensively served by MBTA transit service, as well as other transit services such as Massport and Partners Healthcare services. As part of the DPIR, BTD would like the proponent to discover how many publically available parking spaces are within a quarter mile, and whether any spaces might be made available through agreement, thereby lessening the need for parking at this location. 1.5

The Boston Transportation Department (BTD) policy maximum for Back Bay is 0.5 to 1; because of the project's transit-oriented location, BTD would recommend a parking ratio at the lower end of this scale. The proponent should spell out how these spaces would be distributed, and whether they would be bundled with units or sold / rented separately. We encourage the project to look into working with a car share provider to dedicate some of the spaces to car share. 1.6

BTD would like to thank the proponent for committing to 1:1 ratio of bicycle parking for residential units, but notes that there are guidelines for both residential and retail developments in the City of Boston Bicycle Parking Guidelines. The Guidelines spell out the city's policy for development provision of secure/covered bicycle parking, on-street bicycle parking, shower/change facilities for employees and bike share provision. Any bicycle repair facilities proposed should be spelled out as well. BTD notes and supports the development's proposal for on-site bicycle sharing. 1.7

The proponent should spell out how it plans to meet the City's Electric Vehicle Charging standards, which include that at a minimum 5% of all spaces must be EV spaces, and that at least 15% of spaces must be constructed with EV-ready electrical capacity. 1.8

Transportation Demand Management

BTD noted that the PNF suggests that the developer will "encourage retail tenants to join" a Transportation Management Association (TMA). BTD encourages the project to look into whether the building itself can join a TMA, and if possible to do so. We also encourage the project to require retail tenants to subsidize transit, bike share and car share membership for employees, as well as to bundle subsidized transit, bike share and car share membership for residents through residential leases, as well as for the first year of any condo sales. Finally, BTD encourages the proponent to propose inclusion of real-time transportation (transit, bikeshare, carshare, transportation network services, wayfinding, walk/bike distance) display technology in all lobbies. 1.9 1.10 1.11

Public Realm

BTD encourages the proponent to explore smaller curb radii as well as curb extensions. Any long-term maintenance by the proponent of median greenery and street trees should be spelled out, as well as and street furniture (eg benches) proposed for the abutting sidewalk. The DPIR should provide details on the width of the proposed sidewalk around the site, including widths of pedestrian zones, furniture zones and/or curbs. 1.12 1.13 1.14

Loading

The PNF locates loading zones within the building footprint. All trucks reversing should occur on Cambria Street and not St. Cecilia. In addition, the DPIR should include a strategy of how urban packages delivery, which has seen a huge increase in small truck trips, will be accommodated. Will delivery companies be locating local pick up "warehouses" in the development? 1.15 1.16

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Traffic

BTD requests the study area be expanded to include the following intersections in addition to those already in the PNF:

- The proposed driveway (In particular, the impact of a left ins and left outs on Dalton Street should be documented.)
- Commonwealth and Hereford
- Commonwealth and Gloucester
- Massachusetts and Beacon
- Massachusetts and Marlborough
- Massachusetts and Commonwealth
- Massachusetts and Westland/St. Stephen
- Massachusetts and Huntington
- Massachusetts and Belvedere/Haviland
- Huntington and Cumberland

1.17

Site Plan

The proponent needs to submit an engineered site plan within the context of the surrounding roadways at 1:20 scale depicting:

- Vehicular access and circulation
- Parking layout and circulation
- Pedestrian access and circulation
- Bicycle access and circulation
- Area shuttle/van pool pickup and drop-off
- Parking spaces for car sharing services
- Service and loading*
- Roadways and sidewalks
- Building layout
- Bicycle parking locations and types (covered, indoor, bike share, etc)
- Transit stops and connections
- Electric vehicle charging stations and ev-ready spaces

**Trash compactors/dumpsters need to be depicted as well.*

1.18

Construction Management Plan

As the project in the DPIR advances, the proponents will be required to develop and submit a detailed Construction Management Plan (CMP) to BTD for review and approval. The CMP will address TDM measures for construction workers, proposed street occupancies, equipment staging, sidewalk and bike-lane relocations and hours of construction work. BTD will work with the proponents to execute the CMP.

1.19

The issues raised above should be addressed in the DPIR. BTD looks forward to working collaboratively with the proponents and the community in the review of these projects and to address any outstanding concerns in the permitting process.

Sincerely,

Joshua A. Weiland

Joshua A. Weiland
Transportation Planner
Boston Transportation Department

Cc: Vineet Gupta, Director of Policy and Planning
John DeBenedictis, Director of Engineering

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PNF Letter 2: BPDA Planning and Urban Design

Comment 2.1

…we do request that the proponent work to minimize the massing of the project on the corner of Dalton and Boylston Streets to the extent possible, a concern that has been echoed by the community.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated from the Project, which is the Preferred Alternative. In addition, the 5th floor of the Podium has been set back to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets.

Comment 2.2

…more study is needed on the interface with pedestrians, cyclists, and automobiles. The inclusion of a valet drop-off for residents is in conflict with pedestrian movements and volume. The relatively small number of condo residents (160 units) is not sufficient to warrant interference with a public sidewalk at this location.

Response

The Project includes one curbside drop-off area (reduced from two, as previously proposed in the ENF/PNF Alternative), and this does not incorporate a curb cut, as shown on Figure 3.35.

Comment 2.3

… though there is not a specific plan in place for bicycle accommodations on Boylston Street, recent efforts by Boston Bikes and BTD have identified the need for better bicycle connections through the Back Bay, and for improved bicycle facilities along this stretch of Boylston Street. A "sharrow" is not sufficient. Additionally, with Massachusetts Avenue having been identified as a Priority Corridor under the City's recent Vision Zero initiative, the need to incorporate bicycle and pedestrian improvements down to Dalton Street is even more imperative. The proponent should work with BTD and Boston Bikes to ensure that current thinking about bicycle connections and improvements are reflected in the next iteration of streetscape design.

Response

The Proponent is prepared to work with BTD to define a feasible treatment for accommodating bicyclists on Boylston Street at the Project Site.

Comment 2.4

An uninterrupted, level grade sidewalk is the preferred treatment along the length of Boylston Street, with street trees, although it is understood that the 'bridge' condition makes plantings difficult to achieve well.

Response

The design of the sidewalks adjacent to the Project will include a paving material that produces a level and uninterrupted surface from the face of building to the back of curb. Since Boylston Street is a bridge structure owned by MassDOT, the Proponent is in the process of reviewing with MassDOT the feasibility of improving the public realm through the use of street trees in raised planters.

Comment 2.5

A notable feature proposed for the Boylston Street facade is the single, multi-story garage separating the ground floor retail from residential towers above. The impact this large garage will have is considerable, not only from a parking and use standpoint, but also given its high visibility on the public street "face." Though the design provisionally specifies a patterned glass exterior curtain wall as camouflage, the garage presence will be unmistakable. Strong attempts should be made to improve the relationship of any parking uses within the project (including consideration of a reduction of parking) with the aim of maximizing active uses at the façade and minimizing any visible parking use. At a minimum, garage floors should be scaled and planned so that they are reasonably and economically convertible to different uses in the future.

Response

Sections 3.5.1 and 3.5.2 of Chapter 3, *Urban Design,* describe the project changes made to the building massing and height, as well as how the parking will be screened from view. Figures 3.32 and 3.33 provide pedestrian-level views of the redesigned garage façade, which will be clad in a veil of variably fritted glass designed to filter light and partially screen parking activities during the day. In addition to the fritted glass cladding, vertical glass fins at 5-foot and 2.5-foot intervals will add richness to the Podium while greatly reducing solar glare at certain street locations. Precedent imagery for the fritted patterning and fins is shown on Figure 3.37c.

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives,* the density of the Project has been greatly reduced with the elimination of the Apartments Building on the corner of Boylston and Dalton Streets resulting in a significant reduction in parking capacity from 303 spaces to 175 spaces. The proposed 175 parking spaces will be provided in a valet serviced, enclosed, above-grade garage accessed via two vehicle elevators from Scotia Street. The parking levels will include stackers. The parking levels have been scaled and planned to be capable of

conversion to alternative uses in the future after construction is completed in the event of a decrease in parking demand and usage.

Comment 2.6

We do ask that any parking be kept to an absolute minimum, preferably at an overall maximum ratio of 0.75 spaces per unit.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF/PNF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

Comment 2.7

How the plinth or podium relates to the retail storefronts at the ground floor must also be further refined. Should multistory retail be incorporated, consideration of signage and ground floor entries should be identified and coordinated with BPDA staff as early as possible in the design process.

Response

Sections 3.5.1 and 3.5.2 of Chapter 3, *Urban Design,* describe the project changes made to the massing and design of the Podium. Figures 3.32 and 3.33 provide pedestrian-level views of the re-designed Podium. Precedent imagery for the garage enclosure wall is shown on Figure 3.37c. (Refer to the response to Comment 2.5 above for further details on the design approach to the garage façade.)

Comment 2.8

The Dalton Street facade and ground floor design is also important. Here, too, is an opportunity to improve the character and operation of a street that serves as a critical link to Back Bay from the South End and vice versa. Curb cuts along this street should be minimized, and designed in such a manner as to privilege pedestrian movement, including an elevated, smooth path of travel. Garage openings should have doors - preferably attractive, high-speed doors with appropriate warning features.

Response

While the Apartments Building at the corner of Boylston and Dalton Streets on the Prudential parcel is no longer a part of the Project, the Podium still completes the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets. As shown on Figure 3.34, the parking garage access has been relocated to Scotia Street turning a short-section of Scotia Street into two-way for a direct connection to Boylston Street.

Comment 2.9

Coordination of accommodation for cyclists both along the street [Dalton Street] and in the building should be incorporated in consultation with BTD and Boston Bikes.

Response

The Proponent is fully committed and prepared to work with the BTD to define a feasible treatment for accommodating bicyclists on Boylston Street at the Project Site.

Comment 2.10

It is assumed that the Preferred Alternative will be as proposed - but amended pursuant to explorations of comments contained herein and additionally made by other agencies, groups, and citizens.

Response

Significant changes have been made to the massing and the program of the ENF/PNF Alternative in response to feedback from the community and public agencies in their review of the ENF and PNF filings, which has resulted in the Project which is the Preferred Alternative. Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, summarizes the project changes.

Comment 2.11

Alternatives typically include a no-build (existing conditions), which nevertheless should include for analysis any projects approved or already in the public review process. This might reasonably be extended to include the publicly discussed versions of the projects proposed for Parcels 12 and 13 nearby, although neither has started the Article 80 process. This background should be included for all studies, inclusive of traffic and environmental studies.

Response

Refer to Section 1.6 of Chapter 1, *Project Description and Alternatives*, for the alternatives analysis. Background projects, including build-out of Air Rights Parcels 12 and 13 and the Berklee Crossroads project, among others, are included under the No-Build Conditions for the technical analyses, inclusive of traffic and environmental studies.

Comment 2.12

The notion of an 'as-of-right' Alternative for this location might be one that complies with the Civic Vision. However, this is not absolutely defined dimensionally in the way that it would be if encoded in zoning (see above). We would suggest studying as an

alternative a single tower covering the same parcel assembly, with a use and SF density that might allow realistic development, at the earlier proposed height of 400'.

Response

As discussed in Section 1.6 of Chapter 1, *Project Description and Alternatives*, as recognized in the BPDA Scoping Decision, because the zoning boundary line bisects Cambria Street, as a practical matter there is no realistic zoning-compliant alternative applicable to the Project Site. Accordingly, a Reduced Build alternative consisting of a single tower covering the entire Project Site with a 400-foot height and with a use similar to the Preferred Alternative has been evaluated in lieu of a more literal Zoning Compliant Alternative (the "BPDA Reduced Build Alternative").

Comment 2.13

The following urban design materials for the Proposed Project's schematic design must be submitted for the DPIR:

1. Written description of program elements and space allocation (in square feet) for each element, as well as project totals.

Response

Table 1-1 of Chapter 1, *Project Description and Alternatives*, summarizes the development program elements and space allocations.

Comment 2.14

2. Neighborhood plan, elevations and sections at an appropriate scale (1"=100' or larger as determined by the BPDA) showing relationships of the proposed project to the neighborhood context:

a. Massing

b. Building height

c. Scaling elements

d. Open space

e. Major topographic features

f. Pedestrian and vehicular circulation

g. Land use

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.15

3. Color, or black and white 8"x10" photographs of the site and neighborhood.

Response

Figure 1.5 provides photographs of the existing conditions of the Project Site.

Comment 2.16

4. Sketches and diagrams to clarify design issues and massing options.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.17

5. Eye-level perspective (reproducible line or other approved drawings) showing the proposal (including main entries and public areas) in the context of the surrounding area. Views should display a particular emphasis on important viewing areas such as key intersections, pathways, or public parks/attractions. A few of such viewpoints have already been used in presentations to the public. Long-ranged (distanced) views of the proposed project must also be studied to assess the impact on the skyline or other view lines. At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) at least both the build and no-build conditions; any alternatives proposed should be compared as well. The BPDA should approve the view locations before analysis is begun. We suggest at least the following viewpoints - from: Copley Square on Boylston Street, the Massachusetts Avenue Bridge, across the Charles River (along Memorial Drive), Charlesgate West and Boylston (at the Fens), the Commonwealth Avenue Mall at Berkeley Street, the Boston Common, the edge of the Public Garden on Boylston Street, the inbound Pike, the Christian Science Center, the Longfellow Bridge, the southwest corridor, and from the South End, Fenway, and Back Bay neighborhoods generally. View studies should be cognizant of light and shadow, massing and bulk.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.18

6. Additional aerial or skyline views of the project, if and as requested.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.19

7. Site sections at 1"=20' or larger (or other scale approved by the BPDA) showing relationships to adjacent buildings and spaces.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.20

8. Site plan(s) at an appropriate scale (1"=20' or larger, or as approved by the BPDA) showing:

a. General relationships of proposed and existing adjacent buildings and open spaces

b. Open spaces defined by buildings on adjacent parcels and across streets

c. General location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features

d. Pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas

e. Survey information, such as existing elevations, benchmarks, and utilities

f. Phasing possibilities

g. Construction limits

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for items a through e, and refer to the construction logistics plans provided in Appendix G for items f and g.

Comment 2.21

9. Massing model (ultimately in basswood) at 1":40'0" for use in the Agency's Downtown Model (Back Bay portion)

Response

The Proponent will submit to the BPDA a massing model shortly following the submission of this DEIR/DPIR.

Comment 2.22

10. Study model(s) at 1" = 16' or 1" = 20' showing preliminary concept of setbacks, cornice lines, fenestration, facade composition, etc. are recommended

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.23

11. Drawings at an appropriate scale (e.g., 1":16'0", or as determined by BPDA) describing architectural massing, facade design and proposed materials including:

a. Building and site improvement plans

b. Neighborhood elevations, sections, and/or plans showing the

c. Development in the context of the surrounding area

d. Sections showing organization of functions and spaces, and relationships to adjacent spaces and structures

e. Preliminary building plans showing ground floor and typical upper floor(s).

f. Phasing, if any, of the Proposed Project

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for items a through e.

The Project will be constructed in a single phase. Refer to the construction logistics plans provided in Appendix G for item f.

Comment 2.24

12. A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.25

13. Electronic files describing the site and Proposed Project.

Response

An electronic version of this DEIR/DPIR has been uploaded to the BPDA website for public to access/download, review, and comment.

Comment 2.26

14. Full responses, which may be in the formats listed above (and more), to any urban design-related issues raised in preliminary reviews or specifically included in the BPDA

scoping determination, preliminary adequacy determination, or other document requesting additional information leading up to BPDA Board action, inclusive of material required for Boston Civic Design Commission review.

Response

Direct responses to all urban-design related comments are provided herein.

Comment 2.27

15. Proposed schedule for submission of all design or development-related materials.

Response

The Proponent will submit to the BPDA all other design-related materials, as requested herein, shortly following the submission of this DEIR/DPIR.

Comment 2.28

16. Diagrammatic sections through the neighborhood (to the extent not covered in item #2 above) cutting north-south and east-west at the scale and distance indicated above.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.29

17. True-scale three-dimensional graphic representations of the area indicated above either as aerial perspective or isometric views showing all buildings, streets, parks, and natural features.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*.

Comment 2.30

A daylight analysis for both build and no-build conditions shall be conducted by measuring the percentage of skydome that is obstructed by the Proposed Project building(s) and evaluating the net change in obstruction. If alternative massing studies are requested (which see above) or result as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study should treat three elements as controls for data comparisons: existing conditions, the 'as-of-right' massing as loosely defined above, and context examples (here, one context example for comparison might be the Mandarin Oriental, and the Hynes). The areas of interest include Dalton, Boylston, and Scotia streets. Daylight

analyses should be taken for the major building facade(s) fronting these public ways / spaces. The midpoint of each public roadway should be taken as the study points. The BRADA program must be used for this analysis.

Response

Refer to Section 6.5 of Chapter 6, *Environmental Protection,* for the daylight analysis, including the context example (the Mandarin Oriental Hotel).

Comment 2.31

An infrastructure impact analysis must be performed.

The discussion of Proposed Project impacts on infrastructure systems should be organized system-by-system as suggested below. The applicant's submission must include an evaluation of the Proposed Project's impact on the capacity and adequacy of existing water, sewerage, energy (including gas and steam), and electrical communications (including telephone, fire alarm, computer, cable, etc.) utility systems, and the need reasonably attributable to the Proposed Project for additional systems facilities.

Response

Refer to Chapter 9, *Infrastructure*, for information regarding the Project's utility systems. The Proponent is committed to working with all applicable utility company to assess capacity and Project-related demands.

Comment 2.32

Any system upgrading or connection requiring a significant public or utility investment, creating a significant disruption in vehicular or pedestrian circulation, or affecting any public or neighborhood park or streetscape improvements, comprises an impact which must be mitigated. The DPIR must describe anticipated impacts in this regard, including specific mitigation measures, and must include nearby Proposed Project build-out figures in the analysis.

Response

Refer to Section 9.9.5 of Chapter 9, *Infrastructure*, for more information regarding the Project's protection of utilities.

Comment 2.33

a. Estimated water consumption and sewage generation from the Proposed Project and the basis for each estimate. Include separate calculations for air conditioning system make-up water

Response

Table 9-1 of Chapter 9, *Infrastructure*, presents the Project's estimated sewer flows (updated to reflect the current program). Section 9.7.2 presents information regarding the Project's water usage, and Section 9.8 provides estimates for the Project's HVAC make-up.

Comment 2.34

b. Description of the capacity and adequacy of water and sewer systems and an evaluation of the impacts of the Proposed Project on those systems; sewer and storm drain systems should include a tributary flow analysis as part of this description

Response

Chapter 9, *Infrastructure*, includes information regarding the Project's sewer and water connections. A review of system capacities will be part of the BWSC site plan review process.

Comment 2.35

c. Identification of measures to conserve resources, including any provisions for recycling or 'green' strategies, including green roofs

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for a description of sustainable design measures, including waste reduction/recycling strategies.

Comment 2.36

d. Description of the Proposed Project's impacts on the water quality of Boston Harbor or other water bodies that could be affected by the project, if applicable

e. Description of mitigation measures to reduce or eliminate impacts on water quality

f. Description of impact of on-site storm drainage on water quality

Response

As described in Section 9.5 of Chapter 9, *Infrastructure*, construction of the Project will incorporate stormwater management and treatment systems that will improve water quality and control peak rates of runoff in comparison to pre-development conditions. The current design of the Project incorporates a multi-step process to manage stormwater, including retention tanks to control flow rates, stormwater treatment chambers/filters to improve water quality and reduce phosphorus loads and injection wells and infiltration chambers to replenish groundwater.

Comment 2.37

Information on how the Proposed Project will conform to requirements of the Ground Water Trust under Article 32, if applicable, by providing additional recharge opportunities

Response

As described in Section 9.5 of Chapter 9, *Infrastructure*, the Project will comply with GCOD requirements. The Project includes retention tanks to control flow rates and injection wells and infiltration chambers to replenish groundwater.

Comment 2.38

Detail methods of protection proposed for infrastructure conduits and other artifacts, including the MBTA tunnels and station structures, and BSWC sewer lines and water mains, during construction

Response

Section 9.9.5 of Chapter 9, *Infrastructure*, describes how utilities will be protected during construction of the Project.

Comment 2.39

Detail the energy source of the interior space heating; how obtained, and, if applicable, plans for reuse of condensate.

Response

Space heating will be provided via the heating hot water plant. There are no current plans to re-use condensate although applications in irrigation and toilet flushing are being considered.

Comment 2.40

Energy Systems

a. Description of energy requirements of the project and evaluation of project impact on resources and supply

b. Description of measures to conserve energy usage and consideration of the feasibility of including solar energy provisions or other on-site energy provisions, including wind, geothermal, and cogeneration.

Response

The results of the energy model (which was updated from the PNF to reflect the revised project) are presented in Table 7-2 of Chapter 7, *Greenhouse Gas Emissions*

Assessment. The results demonstrate that the Project will comply with the Stretch Energy Code requirements effective January 1, 2017. Based on the preliminary design parameters assumed in the Design Case, the proposed residential building would achieve an energy savings of approximately 12 percent when compared to the Base Case.

Section 7.4.5 of Chapter 7 presents an evaluation of mitigation measures that could result in energy savings and stationary source GHG emissions in addition to those assumed as part of the energy model. In addition, Section 7.4.6 presents an evaluation of clean/renewable energy sources (updated from the PNF) that could also result reduced energy usage.

Comment 2.41

Any other system (emergency systems, gas, steam, optic fiber, cable, etc.) impacted by this development should also be described in brief.

The location of transformer and other vaults required for electrical distribution or ventilation must be chosen to minimize disruption to pedestrian paths and public improvements both when operating normally and when being serviced, and must be described. If necessary, storm drain and sewage systems should be separated or separations provided for in the design of connections.

Response

Section 9.9 of Chapter 9, *Infrastructure,* describes the Project's utility systems.

Limited options exist for the location of the vault due to the small amount of actual terra firma included in the Project Site. Intake and exhaust louvers will be sized and located to limit disruption to pedestrians. Additional acoustical mitigation measures may be required and implemented (sound attenuators, etc.).

Comment 2.42

The Proponent should investigate energy strategies that take advantage of this scale of construction, including those that incorporate green roof strategies as well as solar orientation and materials/systems that maximize efficiencies, daylighting strategies, wind, solar, and geothermal systems, and cogeneration. Maximize the LEED standards sought. Are there implications for energy, LEED, and other impacts given the complexity of the infrastructure system the Proposed Project will interface with?

Response

Refer to Section 4.4.1 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, for details regarding sustainable design features of the Project.

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1000 Boylston Street / MassDOT Turnpike Air Rights Parcel 15 PNF
Planning & Urban Design Scoping Comments

Though there have been many attempts to develop the parcels identified in the 2000 Civic Vision for Turnpike Air Rights ("Civic Vision"), no project has yet to break ground. The BPDA commends this Proponent for their perseverance in pursuing the redevelopment of Parcel 15, a project that began nearly a decade ago. The proposal depicted in this PNF has changed from that first described in pursuing a tentative designation from MassDOT for redevelopment of the parcel; the Proponent's original proposal was a single building of nearly 400' on Parcel 15 and the Cambria Street Air Rights parcel, with the "Scotia parcel" (adjacent to St. Cecilia's) providing some *terra firma*. Based on requests made by the BPDA and echoed to some extent by the CAC, the Proponent negotiated a deal with the owners of the "Prudential parcel" (a parcel comprised entirely of air rights at the corner of Dalton and Boylston Streets, which is thus undevelopable on its own) to assemble a larger, more readily developable and far more urbanistically cohesive site, comprised of the four smaller parcels.

The BPDA recognizes the inherent difficulty in the development of Parcel 15 without these adjacent parcels, and supports the main features of the revised proposal on this larger site. These features include: breaking down a single building mass into two buildings of variable height to provide more residential uses; filling in all the gaps in the urban fabric with nearly 550' of new continuous building streetwall on the south side of Boylston Street (made possible by the addition of the Prudential parcel); concentrating density proximate to the Hynes Convention Center MBTA Station; and conceiving a project of significant height that relates to the well-established "High Spine," as well as the concentration of larger institutional buildings to the west and south. With that being said, we do request that the proponent work to minimize the massing of the project on the corner of Dalton and Boylston Streets to the extent possible, a concern that has been echoed by the community. Overall, though the conceptual building form and streetscape design are still under development and will require further refinement, the possible achievement of the original goal of linking Back Bay to the Fenway is an opportunity that should not be missed. 2.1

CIVIC VISION FOR TURNPIKE AIR RIGHTS (2000)

The BPDA notes that the Proponent has endeavored to comply with both the general guidelines for all air rights parcels, as well as the guidelines specific to Parcel 15. These are included below.

General Guidelines for all parcels

- Fill the gaps between neighborhoods and along major public streets
- Create a variety of new pedestrian connections
- Buildings should be designed so as to enhance the public realm
- Promote the use of public transportation and minimize parking
- Create architecture that combines respect for Boston's unique historical character and expresses the vitality of our era

Guidelines Specific to Parcel 15

- Uses that foster a lively, pedestrian-friendly public realm along Boylston Street
- Emphasis on housing and other low-traffic generating uses, with careful attention to transportation improvements and impacts in this highly congested area
- Minimize traffic impacts

- Create no more than one taller building (over 15 stories) on Parcels 12-15
- Respect the Back Bay Architectural District

It also bears noting that the Civic Vision acknowledged that it would only be possible to build on these parcels during a strong economy. As *terra firma* parcels become more scarce in certain neighborhoods, only then do air rights parcels become viable redevelopment opportunities. Though there was a strong real estate market in 1999, it was evidently not strong enough, as no air rights projects have since proceeded beyond the planning phase.The Civic Vision also makes it clear that none of these parcels would be appropriate for open space. Lastly, the limitations of the Prudential parcel were not fully realized in the Civic Vision. Given the long history of failed attempts of the air rights parcels and the current strength of Boston's economy, the BPDA supports a timely resolution of this project, which still upholds the original *spirit* of the Civic Vision over 15 years later, while proposing modifications specific to the present day context. The BPDA's comments will focus primarily on the specific modifications to the streetscape/public realm and to the revised building massing strategy.

PUBLIC REALM + STREETSCAPE

The extension of the streetwall on the south side of Boylston Street from Dalton Street to the intersection of Massachusetts Avenue will transform this side of the street into a pedestrian-friendly, active retail corridor and is an incontrovertible benefit of this project. Boylston Street's character is well-established in the Back Bay, beginning at the corner of Arlington Street, but truncated by the now-dated colonnade of the Hynes Convention Center, and then petering out altogether at the intersection of Dalton Street. A mix of larger, taller, and mixed use buildings are typical of the south side of Boylston Street, characteristics which also accurately describe this project. The previous program also contained a hotel, with potentially more active usage; the residential use in its (partial) place are supported by BPDA staff, so long as the City's affordability goals are met and there is significant ground floor activation.

On the primary/front face of the building (Boylston Street), it is important that adequate provision be made for sidewalks with durable street furniture and plantings. A width of 24' is suggested in the Civic Vision, though the Complete Streets minimum for Downtown Mixed-Use streets (the street typology most closely aligned with Boylston Street) is 10', with a preferred width of 18'-6" (20'6" for Commercial streets). Boylston Street has an 80' right-of-way, with 15' sidewalks on either side generally; widths on some blocks vary according to setbacks from the property line. Additionally, more study is needed on the interface with pedestrians, cyclists, and automobiles. The inclusion of a valet drop-off for residents is in conflict with pedestrian movements and volume. The relatively small number of condo residents (160 units) is not sufficient to warrant interference with a public sidewalk at this location. Moreover, though there is not a specific plan in place for bicycle accommodations on Boylston Street, recent efforts by Boston Bikes and BTD have identified the need for better bicycle connections through the Back Bay, and for improved bicycle facilities along this stretch of Boylston Street. A "sharrow" is not sufficient. Additionally, with Massachusetts Avenue having been identified as a Priority Corridor under the City's recent Vision Zero initiative, the need to incorporate bicycle and pedestrian improvements down to Dalton Street is even more imperative. The proponent should work with BTD and Boston Bikes to ensure that current thinking about bicycle connections and improvements are reflected in the next iteration of streetscape design. An uninterrupted, level grade sidewalk is the preferred treatment along the length of Boylston Street, with street trees, although it is understood that the 'bridge' condition makes plantings difficult to achieve well.

2.2

2.3

2.4

A notable feature proposed for the Boylston Street facade is the single, multi-story garage separating the ground floor retail from residential towers above. The impact this large garage will have is considerable, not only from a parking and use standpoint, but also given its high visibility on the public street "face." Though the design provisionally specifies a patterned glass exterior curtain wall as camouflage, the garage presence will be unmistakable. Strong attempts should be made to improve the relationship of any parking uses within the project (including consideration of a reduction of parking) with the aim of maximizing active uses at the facade and minimizing any visible parking use. At a minimum, garage floors should be scaled and planned so that they are reasonably and economically convertible to different uses in the future. 2.5

We do ask that any parking be kept to an absolute minimum, preferably at an overall maximum ratio of 0.75 spaces per unit. How the plinth or podium relates to the retail storefronts at the ground floor must also be further refined. Should multistory retail be incorporated, consideration of signage and ground floor entries should be identified and coordinated with BPDA staff as early as possible in the design process. 2.6 2.7

The Dalton Street facade and ground floor design is also important. Here, too, is an opportunity to improve the character and operation of a street that serves as a critical link to Back Bay from the South End and vice versa. Curb cuts along this street should be minimized, and designed in such a manner as to privilege pedestrian movement, including an elevated, smooth path of travel. Garage openings should have doors - preferably attractive, high-speed doors with appropriate warning features. Coordination of accommodation for cyclists both along the street and in the building should be incorporated in consultation with BTD and Boston Bikes. 2.8 2.9

While the Proponent has been conscientious in their engagement of their abutters to the east with the inclusion of the Prudential parcel and discussion of Cambria Street access for the Hynes Convention Center and loading logistics, equal consideration of relationships to the south (St. Cecilia Parish) and west (Berklee College of Music) are likewise critical and should be factored into studies for the DPIR. Berklee has a new residential tower at 160 Massachusetts Avenue, as well as an approved IMP Project to the west (which specifically will require coordination), and both help with the urban diagram.

BUILDING MASSING AND FORM

This is a project that seems to have been designed largely from the vantage point of Boylston Street, which is appropriate, but its full 3-D visualization and dynamic quality needs to be more evident in the DPIR. The two towers are an unexpected outcome of the development of the full air-rights parcels here, but appropriate given that urban and economic context. The case for the heights (566' and 283' now, versus 398' previously) as architecturally appropriate for this side of Boylston Street needs to be made more clearly, and should include a reference to the current proposals for Parcels 12 and 13 in the immediate vicinity. The Civic Vision and the older High Spine concepts advocated for height here to define the the broader area of this part of the City, and to place density and height appropriately at a slight remove from the more historic neighborhood fabrics of the South End, Back Bay and Fenway. The density here, within walking range of several major MBTA transit routes, is also appropriate for this edge of the urban core. The Berklee 'Crossroads' proposal should fit well as a continuation of this grouping. See the standard requirements for Urban Design submissions below; more views will be required.

Critical to the concept of Boylston Street for these taller buildings is the notion of the podium, and a setback that allows a clear distinction and separation of the lower and upper

volumes. Podium heights and typologies vary, but a height of 90' has been suggested as a 'norm,' with a maximum of 120' (the zoning maximum generally along the Boylston Street edge). This aspect of the Proposed Project will also require further study.

ZONING

The Civic Vision did not result in zoning, but it was envisioned that all parcels would pursue their zoning as Planned Development Areas (PDAs). (As State Turnpike parcels, they are exempt from Boston Zoning). Given the scale of the project, and complexity involved with the parcels' ownership, we believe a PDA to be the best route forward. The PDA process allows for additional public input and serves as a means of codifying the planning work that has been done over the past two decades.

ALTERNATIVES

It is assumed that the Preferred Alternative will be as proposed - but amended pursuant to explorations of comments contained herein and additionally made by other agencies, groups, and citizens. Alternatives typically include a no-build (existing conditions), which nevertheless should include for analysis any projects approved or already in the public review process. This might reasonably be extended to include the publicly discussed versions of the projects proposed for Parcels 12 and 13 nearby, although neither has started the Article 80 process. This background should be included for all studies, inclusive of traffic and environmental studies. 2.10 2.11

The notion of an 'as-of-right' Alternative for this location might be one that complies with the Civic Vision. However, this is not absolutely defined dimensionally in the way that it would be if encoded in zoning (see above). We would suggest studying as an alternative a single tower covering the same parcel assembly, with a use and SF density that might allow realistic development, at the earlier proposed height of 400'. 2.12

STANDARD URBAN DESIGN SUBMISSION MATERIALS

We reserve the right to add additional concerns during the course of the process of combined BPDA Staff, CAC, and BCDC review, which may affect the responses detailed in the DPIR. The following urban design materials for the Proposed Project's schematic design must be submitted for the DPIR: 2.13

1. Written description of program elements and space allocation (in square feet) for each element, as well as project totals.
2. Neighborhood plan, elevations and sections at an appropriate scale (1"=100' or larger as determined by the BPDA) showing relationships of the proposed project to the neighborhood context: 2.14
   a. Massing
   b. Building height
   c. Scaling elements
   d. Open space
   e. Major topographic features
   f. Pedestrian and vehicular circulation
   g. Land use
3. Color, or black and white 8"x10" photographs of the site and neighborhood. 2.15
4. Sketches and diagrams to clarify design issues and massing options. 2.16

5. Eye-level perspective (reproducible line or other approved drawings) showing the proposal (including main entries and public areas) in the context of the surrounding area. Views should display a particular emphasis on important viewing areas such as key intersections, pathways, or public parks/attractions. A few of such viewpoints have already been used in presentations to the public. Long-ranged (distanced) views of the proposed project must also be studied to assess the impact on the skyline or other view lines. At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) at least both the build and no-build conditions; any alternatives proposed should be compared as well. The BPDA should approve the view locations before analysis is begun. We suggest at least the following viewpoints - from: Copley Square on Boylston Street, the Massachusetts Avenue Bridge, across the Charles River (along Memorial Drive), Charlesgate West and Boylston (at the Fens), the Commonwealth Avenue Mall at Berkeley Street, the Boston Common, the edge of the Public Garden on Boylston Street, the inbound Pike, the Christian Science Center, the Longfellow Bridge, the southwest corridor, and from the South End, Fenway, and Back Bay neighborhoods generally. View studies should be cognizant of light and shadow, massing and bulk.	2.17
6. Additional aerial or skyline views of the project, if and as requested.	2.18
7. Site sections at 1"=20' or larger (or other scale approved by the BPDA) showing relationships to adjacent buildings and spaces.	2.19
8. Site plan(s) at an appropriate scale (1”=20’ or larger, or as approved by the BPDA) showing: a. General relationships of proposed and existing adjacent buildings and open spaces b. Open spaces defined by buildings on adjacent parcels and across streets c. General location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features d. Pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas e. Survey information, such as existing elevations, benchmarks, and utilities f. Phasing possibilities g. Construction limits	2.20
9. Massing model (ultimately in basswood) at 1":40'0" for use in the Agency’s Downtown Model (Back Bay portion)	2.21
10. Study model(s) at 1" = 16' or 1" = 20' showing preliminary concept of setbacks, cornice lines, fenestration, facade composition, etc. are recommended	2.22
11. Drawings at an appropriate scale (e.g., 1":16'0", or as determined by BPDA) describing architectural massing, facade design and proposed materials including: a. Building and site improvement plans b. Neighborhood elevations, sections, and/or plans showing the c. Development in the context of the surrounding area d. Sections showing organization of functions and spaces, and relationships to adjacent spaces and structures e. Preliminary building plans showing ground floor and typical upper floor(s). f. Phasing, if any, of the Proposed Project	2.23
12. A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development.	2.24
13. Electronic files describing the site and Proposed Project.	2.25
14. Full responses, which may be in the formats listed above (and more), to any urban design-related issues raised in preliminary reviews or specifically included in the BPDA scoping determination, preliminary adequacy determination, or other document requesting additional information leading up to BPDA Board action, inclusive of material required for Boston Civic Design Commission review.	2.26
15. Proposed schedule for submission of all design or development-related materials.	2.27

16. Diagrammatic sections through the neighborhood (to the extent not covered in item #2 above) cutting north-south and east-west at the scale and distance indicated above. 2.28

17. True-scale three-dimensional graphic representations of the area indicated above either as aerial perspective or isometric views showing all buildings, streets, parks, and natural features. 2.29

Daylight Component

A daylight analysis for both build and no-build conditions shall be conducted by measuring the percentage of skydome that is obstructed by the Proposed Project building(s) and evaluating the net change in obstruction. If alternative massing studies are requested (which see above) or result as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study should treat three elements as controls for data comparisons: existing conditions, the 'as-of-right' massing as loosely defined above, and context examples (here, one context example for comparison might be the Mandarin Oriental, and the Hynes). The areas of interest include Dalton, Boylston, and Scotia streets. Daylight analyses should be taken for the major building facade(s) fronting these public ways / spaces. The midpoint of each public roadway should be taken as the study points. The BRADA program must be used for this analysis. 2.30

If a Proponent wishes to substitute a more contemporary computer program for the 1985 BRADA program, its equivalency must first be demonstrated to the satisfaction of BPDA staff before it is utilized for inclusion in the DPIR, and it must be commonly available to Boston development team users.

Wind and Shadow Comments

Please refer to comments from Katie Pedersen of BPDA staff. Wind studies should specifically include proposed mitigation for any unacceptable points or worsening of conditions. Shadow analyses may wish to reference animations for potential resource impact duration information. Please reference the shadow controls in the Huntington/Prudential district.

Infrastructure Systems Component

An infrastructure impact analysis must be performed.

The discussion of Proposed Project impacts on infrastructure systems should be organized system-by-system as suggested below. The applicant's submission must include an evaluation of the Proposed Project's impact on the capacity and adequacy of existing water, sewerage, energy (including gas and steam), and electrical communications (including telephone, fire alarm, computer, cable, etc.) utility systems, and the need reasonably attributable to the Proposed Project for additional systems facilities. 2.31

Any system upgrading or connection requiring a significant public or utility investment, creating a significant disruption in vehicular or pedestrian circulation, or affecting any public or neighborhood park or streetscape improvements, comprises an impact which must be mitigated. The DPIR must describe anticipated impacts in this regard, including specific mitigation measures, and must include nearby Proposed Project build-out figures in the analysis. The standard scope for infrastructure analysis is given below: 2.32

1. Utility Systems and Water Quality

a. Estimated water consumption and sewage generation from the Proposed Project and the basis for each estimate. Include separate calculations for air conditioning system make-up water 2.33

b. Description of the capacity and adequacy of water and sewer systems and an evaluation of the impacts of the Proposed Project on those systems; sewer and storm drain systems should include a tributary flow analysis as part of this description 2.34

c. Identification of measures to conserve resources, including any provisions for recycling or 'green' strategies, including green roofs 2.35

d. Description of the Proposed Project's impacts on the water quality of Boston Harbor or other water bodies that could be affected by the project, if applicable
e. Description of mitigation measures to reduce or eliminate impacts on water quality
f. Description of impact of on-site storm drainage on water quality

2.36

g. Information on how the Proposed Project will conform to requirements of the Ground Water Trust under Article 32, if applicable, by providing additional recharge opportunities

2.37

h. Detail methods of protection proposed for infrastructure conduits and other artifacts, including the MBTA tunnels and station structures, and BSWC sewer lines and water mains, during construction

2.38

i. Detail the energy source of the interior space heating; how obtained, and, if applicable, plans for reuse of condensate.

2.39

Thorough consultation with the planners and engineers of the utilities will be required, and should be referenced in the Infrastructure Component section.

2. Energy Systems

a. Description of energy requirements of the project and evaluation of project impacts on resources and supply
b. Description of measures to conserve energy usage and consideration of the feasibility of including solar energy provisions or other on-site energy provisions, including wind, geothermal, and cogeneration.

2.40

Additional constraints or information required are described below. Any other system (emergency systems, gas, steam, optic fiber, cable, etc.) impacted by this development should also be described in brief.
The location of transformer and other vaults required for electrical distribution or ventilation must be chosen to minimize disruption to pedestrian paths and public improvements both when operating normally and when being serviced, and must be described. If necessary, storm drain and sewage systems should be separated or separations provided for in the design of connections.

2.41

The Proponent should investigate energy strategies that take advantage of this scale of construction, including those that incorporate green roof strategies as well as solar orientation and materials/systems that maximize efficiencies, daylighting strategies, wind, solar, and geothermal systems, and cogeneration. Maximize the LEED standards sought. Are there implications for energy, LEED, and other impacts given the complexity of the infrastructure system the Proposed Project will interface with?

2.42

BCDC - Excerpted from Draft Minutes online - February 7, 2017 Monthly Meeting:

David Manfredi and Paul McDonough were recused from the next item. The next item was a presentation of the **1000 Boylston Street (MTA Parcel 15) Project**. Mike Davis (MD) asked that the presentation be kept to a limit of 15-20 minutes. Adam Weiner (AW, the developer) introduced himself and the Project. Kevin Lennon (KL) of Elkus/Manfredi presented the design, noting first the location and area. KL: There are several air rights sites here; it's very important to create a continuity. (Broadens plan view, then zooms in, and returns to the three sites.) This is part of an attempt to repair and restore the urban fabric, knitting the neighborhoods together. (Shows a birds-eye aerial of the site, noting the terra firma owned by his client.) At the time of the RFP, the proposal only considered Parcel 15 and our terra firma. We did not consider the corner. After designation, the CAC urged us to include the corner Prudential parcel. It's just good urban design, and our project would have reduced the value of that - and the chance of ever doing anything there. The overall site is 46,000 SF (shows parcel ownerships). (Shows a set of site photos, then a series of diagrams showing how they generated the forms - with

bearing lines, and the notion of a streetwall podium.) Above the podium, we have two footprints, 11,000 and 13,000 SF. These are slender residential buildings with light and air and space around them. The diagram lines show how the structure below informs the facade lines above. The taller tower twists to align with the grid of the Back Bay, then twists some more. It's further broken down by inserting balconies, giving the opportunity to bring green to the tower. (Shows an axon/section diagram explaining the program. Shows a series of plans - the loading, the ground floor retail. Notes the curb cut, then the second floor shift, and four levels of parking above, using stackers. Notes the amenity floor, with a transfer to the elevators for the condo building. Shows upper floors, green roofs. Shows the streetscape and drop-off area.) We are widening the Boylston sidewalk from 9 to 18'. We are investigating whether we can actually do the trees shown. (Shows a neighborhood elevation, with the heights of the nearby towers.) Our buildings are of unitized curtainwall, 540', and panelized metal with punched windows, 283', with interlocking volumes (points to model). (Shows an aerial view photo-inset and several perspective views, ending on a podium view.)

William Rawn (WR): Is the garage totally enclosed? The Commission has not been happy with 3-4 floors of garage above retail. Your intention to fully enclose needs to be checked. AW confirmed that the garage was necessary because they have no ability to go below grade, but they do not want the cars to be perceived. David Hacin (DH): Bring more information. We have also been talking about the future of cars, so that [floor] plates could be designed to accommodate other uses in the future. You've taken a really difficult site and made a lot of it. I like your explanation of the extrusion of the two forms. I know there are community questions on the height, but I like the difference. I'd like to see more views of the tower. I find the twisting form AND the cut-outs to be - a lot. I understand the idea, but in a city challenged with elegant, slender towers, that might be worth thinking about. Andrea Leers (AL): The extrusion is really intelligent. I share Bill's comments about your decision to make those floors parking. I wonder if you might bring the potential of some liner spaces there - one of the ways we've raised of addressing the issue. A larger issue is the relationship between the two towers. They are very different, but both are growing from the same podium. Look for a strategy where there's one idea, one block. I know it's purposeful. Think of them as family members, both part of the whole. Is there a common language you might look for?

Deneen Crosby (DC): Show more views along the street - from Mass Ave, how does this relate to your neighbors. And along Dalton Street, too. Linda Eastley (LE): St. Cecilia's Church is a beautiful piece of this neighborhood; I want to understand how this relates to that. Also, the opening for Cambria Street - how does that work? I'm not sure you need an opening that large, if there are no pedestrians there. Along Boylston, congratulations on thinking about it - it's bad now. You're looking at trees, but is there a sculptural piece you could introduce to augment (or replace, if need be) the trees. Kirk Sykes (KS): On the podium, I'd like to see an analysis of that typology for a couple of blocks. Some projects create open space (Prudential, i.e.) - how is that punctuated. The Hynes is a block long, but the other side of the street is different. How to break this down? Some modulation, still its own, that does something of interest. A quid pro quo for the public realm. WR: If you look at Boylston, its entire length, there's a datum relating to the Back Bay. This breaks that, with the two towers. Should such a tall building be this close to Boylston? We should understand your rationale.

MD asked for public comments. Susan Prindle of NABB: It's important to look at the Civic Vision document from 2000. That calls for one tower, not four (including around the corner). I have photos... (passes out some). You should show the buildings set back so they don't canyonize Boylston. Mandarin is not set back, and is uncomfortable. But 500 Boylston is set back 150',

and 888 Boylston, about 100'. I hope the BCDC will take into account the impact of height and shadows, even on Newbury Street. Alan Mackintosh (AM): You've done a really great job with the podium, it enlivens the block. This is not so much in a low rise district, it's near skyscrapers. This is not totally unreasonable, especially given the cost. The payoff is incredible. With that, the 1000 Boylston Street Project was sent to Design Committee.

PNF Letter 3: BPDA Environmental Review/Interagency Green Building Committee (IGBC)

Comment 3.1

A quantitative (wind tunnel) analysis of the potential pedestrian level wind impact shall be required, as the proposed buildings are designed to be 283 and 566 feet in height. The analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the Proposed Project and shall identify wind velocities that are expected to exceed acceptable levels, including the Boston Planning & Development Agency's (the "BPDA") guideline of an effective gust velocity of 31 miles per hour (mph) not to be exceeded more than 1% of the time.

The Proponent shall be required to demonstrate compliance with both Article 80 and Article 41, as the Proposed Project is on the boundary of the Huntington Avenue/Prudential Center District.

Response

Refer to Section 6.3 in Chapter 6, *Environmental Protection,* for the results of the pedestrian level wind analysis conducted for the Project.

Comment 3.2

Particular attention shall be given to public and other areas of pedestrian use, including, but not limited to, entrances to the Proposed Project and existing and proposed buildings in the vicinity of the Proposed Project, the existing and proposed sidewalks and walkways within and adjacent to the Proposed Project and existing and proposed plazas, park areas and other open space areas within and in the vicinity of the Proposed Project, including but not limited to the Commonwealth Avenue Mall, the Back Bay Fens, the Esplanade and the Christian Science Center Plaza.

Response

Refer to Section 6.3 in Chapter 6, *Environmental Protection,* for the results of the pedestrian level wind analysis conducted for the Project.

Comment 3.3

The wind impact analysis shall evaluate the following conditions:

1. No-Build - the existing condition of the Proposed Project site and environs to establish the baseline condition.

2. Build Condition – the Proposed Project as described in the PNF

3. As-of-Right – the Zoning Compliant Configuration

4. Alternative Build Condition-any alternative development concepts to the preferred Build Condition required to be studied.

Wind speeds shall be measured in miles per hour (mph) and for areas where wind speeds are projected to be dangerous or to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impact(s) shall be identified and, if appropriate, tested.

Response

Refer to Section 6.3.1 in Chapter 6, *Environmental Protection,* for details regarding the wind study methodology.

Comment 3.4

The Proponent shall be required to generate an animation of the incremental effects of both the existing and net new shadows and the incremental effects on existing and proposed public open spaces, so as best understand the extent to which shadows from the Proposed Project are anticipated to affect the overall shadow conditions with the surrounding area. The results will support the Proponent's assertion that Proposed Project will be in compliance with both Article 80 and Article 41 (Proposed Project is on the boundary of the Huntington Avenue/Prudential Center District).

Response

Refer to Section 6.4 in Chapter 6, *Environmental Protection,* for details regarding the shadow analysis. Shadow animations have been created and will be submitted to the BPDA shortly following the submission of this DEIR/DPIR in order to substantiate compliance with the shadow act protecting the Common and the Public Garden and with Article 41-16(1).

Comment 3.5

The Proponent shall be required to conduct a solar glare analysis. The analysis shall measure potential impact of the potential reflective glare from the Proposed Project onto potentially affected streets and public open spaces. Mitigation measures to eliminate any adverse reflective glare shall be identified.

However, a balance may be found, as reflective solar control glass has the ability to limit the solar penetration into a building and thus potentially lowering the HVAC usage.

Response

Refer to Section 6.6 in Chapter 6, *Environmental Protection,* for details regarding the solar glare analysis conducted for the Project.

Comment 3.6

The PNF indicates that the Proposed Project will use the LEED v4 for BD+C: New Construction and Major Renovations 2009 Rating System with the intent to achieving LEED Certified with 46 points. However, as the Proposed Project is new construction there are many opportunities to achieve a much higher outcome and thus shall be required to continue to investigate measures to achieve LEED Gold. Additionally, the Proponent shall be required to submit individual LEED Checklists for each of the Proposed Project buildings.

Response

As presented in Section 4.4.1 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, the Project is currently projected to attain 56 points (with 30 additional 'maybe' points) to meet the requirements for LEEDv4 certifiable Silver level. As the design and engineering of the Project is further advanced, the Proponent will aspire to achieve LEEDv4 certifiable Gold level, to the extent feasible.

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Boston Planning & Development Agency Memorandum

TO: Michael Rooney

FROM: Katie Pedersen

DATE: July 1, 2017

RE: 1000 Boylston Street
Boston, Massachusetts
Project Notification Form

I have reviewed the Project Notification Form (the "PNF") dated January 3, 2017 and submit the following comments for the Environmental Protection component. ADG Scotia proposes the construction of two residential buildings containing a total of up to 342 residential units (consisting of up to approximately 182 rental units and up to approximately 160 for-sale units), up to approximately 35,000 square feet of first and second floor retail and restaurant space fronting on Boylston Street and St. Cecilia Street as well as a four-story 303-space above-grade parking garage (the "Proposed Project").

Wind

A quantitative (wind tunnel) analysis of the potential pedestrian level wind impact shall be required, as the proposed buildings are designed to be 283 and 566 feet in height. The analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the Proposed Project and shall identify wind velocities that are expected to exceed acceptable levels, including the Boston Planning & Development Agency's (the "BPDA") guideline of an effective gust velocity of 31 miles per hour (mph) not to be exceeded more than 1% of the time. 3.1

The Proponent shall be required to demonstrate compliance with both Article 80 and Article 41, as the Proposed Project is on the boundary of the Huntington Avenue/Prudential Center District.

Section 41-16 states that "Buildings shall be designed to avoid excessive and uncomfortable downdrafts on pedestrians. Each Proposed Project shall be shaped, or other wind-baffling measures shall be adopted, so that the Proposed Project will not cause ground-level ambient wind speeds to exceed the standards found in Table A of Section 41-16."

Particular attention shall be given to public and other areas of pedestrian use, including, but not limited to, entrances to the Proposed Project and existing and proposed buildings in the vicinity of the Proposed Project, the existing and proposed sidewalks and walkways within and adjacent to the Proposed Project and existing and proposed plazas, park areas and other open space areas within and in the vicinity of the Proposed Project, including but not limited to the Commonwealth Avenue Mall, the Back Bay Fens, the Esplanade and the Christian Science Center Plaza. 3.2

The wind impact analysis shall evaluate the following conditions:

1. No-Build - the existing condition of the Proposed Project site and environs to establish the baseline condition.

2. Build Condition – the Proposed Project as described in the PNF

3. As-of-Right – the Zoning Compliant Configuration

4. Alternative Build Condition-any alternative development concepts to the preferred Build Condition required to be studied.

3.3

Wind speeds shall be measured in miles per hour (mph) and for areas where wind speeds are projected to be dangerous or to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impact(s) shall be identified and, if appropriate, tested.

Shadow

The results of the of the shadow analysis have been included in the PNF an analysis that was conducted for existing (no-build) and build conditions for the hours and days as follows: 9:00 a.m., 12:00 noon, and 3:00 p.m. for the March 21st, June 21st, September 21st, and December 21st and for 6:00 p.m. in the September and June 21st.

The Proponent shall be required to generate an animation of the incremental effects of both the existing and net new shadows and the incremental effects on existing and proposed public open spaces, so as best understand the extent to which shadows from the Proposed Project are anticipated to affect the overall shadow conditions with the surrounding area. The results will support the Proponent's assertion that Proposed Project will be in compliance with both Article 80 and Article 41 (Proposed Project is on the boundary of the Huntington Avenue/Prudential Center District).

3.4

Section 41-16 states that "Each Proposed Project shall be arranged and designed in a way to assure that it does not cast shadows for more than two hours from 8:00 a.m. through 2:30 p.m., on any day from March 21 through September 21, in any calendar year, on any portion of dedicated public parkland that either (a) is not cast in shadow during such period on such days by whichever structures cast the greater shadow. In addition, shadow studies shall be conducted in connection with any Proposed Project demonstrating that shadows will be minimized to the extent practicable in public open spaces created as part of the Proposed Project. Structures existing as of the effective date of this article or (b) would not be cast in shadow during such period on such days by structures built to the as-of-right limits allowed by this article."

Solar Glare

The Proponent shall be required to conduct a solar glare analysis. The analysis shall measure potential impact of the potential reflective glare from the Proposed Project onto potentially affected streets and public open spaces. Mitigation measures to eliminate any adverse reflective glare shall be identified. 3.5

However, a balance may be found, as reflective solar control glass has the ability to limit the solar penetration into a building and thus potentially lowering the HVAC usage.

Daylight

(Please refer to Urban Design's comments)

Air Quality

The Proponent conducted a mobile source assessment as well as a microscale analysis, the results of which demonstrate that the Proposed Project is anticipated to be in compliance with all applicable regulatory requirements, including the 1990 Clean Air Act Amendments, Commonwealth of Massachusetts Department of Environmental Protection requirements, the National Ambient Air Quality Standards and the U.S. Environmental Protection Agency policies and procedures.

Noise

The results of the noise analysis demonstrate that the Proposed Project, inclusive of rooftop mechanical equipment and other noise sources (e.g., emergency generators), is anticipated to be in compliance with the City of Boston noise regulations and applicable state and federal regulations and guidelines. Due to the fact that the Proposed Project is in close proximity to residential buildings, the Proponent was required to evaluate and demonstrate compliance with the Interior Design Noise Level (not to exceed day night average sound level of 45 decibels) established by the U.S. Department of Housing and Urban Development (Subpart B Noise Abatement and Control of 24 CFR Part 51).

Sustainable Design/Green Buildings

Article 37 to the Boston Zoning Code requires any proposed project which is subject to or shall elect to comply with Section 80B of Zoning Code of the City of Boston, Large Project Review, shall be subject to the requirements of Article 37. Proposed Projects shall be "certifiable" under the most appropriate United States Green Building Counsel (USGBC) Leadership in Energy and Environmental Design (LEED) Rating System. The purpose of Article 37 is to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in the City of Boston.

The PNF indicates that the Proposed Project will use the LEED v4 for BD+C: New Construction and Major Renovations 2009 Rating System with the intent to achieving LEED Certified with 46 points. However, as the Proposed Project is new construction there are many opportunities to achieve a much higher outcome and thus shall be required to continue to investigate measures to achieve LEED Gold. Additionally, the Proponent shall be required to submit individual LEED Checklists for each of the Proposed Project buildings. 3.6

Prior to the Inspectional Services Department's (ISD) issuance of a building permit, all proposed projects must demonstrate compliance with Article 37 and have obtained approval of the requisite submissions from the Interagency Green Building Committee (IGBC). In order to demonstrate compliance, the IGBC requires the submission of a Draft Green Building Report (Draft Report), Energy Model and Design Affidavit. The Draft Report shall provide a comprehensive narrative describing the proposed strategies and paths that will be used to meet all LEED prerequisites and achieve the selected credits.

PNF Letter 4: Boston Parks and Recreation Commission

Comment 4.1

This project is located several blocks from the parks of the Emerald Necklace, particularly the Commonwealth Avenue Mall and the Back Bay Fens. The building will cast shadows on the Commonwealth Avenue Mall in December, and this needs to be considered.

Response

Section 6.4 of Chapter 6, *Environmental Protection*, presents the updated shadow studies. During December, incremental net new shadow will be cast on Boylston Street, Commonwealth Avenue, and the Commonwealth Mall, but the majority of net new shadows will land on existing buildings, creating minimal adverse effects on the pedestrian environment.

Comment 4.2

Further, the scale of this project and the limited onsite open space will create a need for active recreational open space to serve the residents. The residents will look to the already over-utilized public parks in the neighborhood to meet this need. BPRD therefore respectfully requests that mitigation be provided for impacts to existing public open spaces in the neighborhood, such as the Back Bay Fens.

Response

The Project will not eliminate existing open spaces and future residents will be served by the on-site amenities areas, including the green roof on top of the Podium on-site. The Proponent will develop a mitigation package with the BPDA and the City, which will balance the requests and needs of various community groups and City agencies, within the confines of financial feasibility for the Project.

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---------- Forwarded message ----------
From: **Carrie Marsh** <carrie.marsh@boston.gov>
Date: Fri, Feb 3, 2017 at 3:04 PM
Subject: Comments from BPRD for 1000 Boylston Street
To: Teresa Polhemus <teresa.polhemus@boston.gov>, Jonathan Greeley <jonathan.greeley@boston.gov>, Michael Christopher <michael.christopher@boston.gov>, Phil Cohen <Phil.Cohen@boston.gov>
Cc: Christopher Cook <christopher.cook@boston.gov>

Hello - Please accept this email in response to the request for comments for 1000 Boylston. This project is located several blocks from the parks of the Emerald Necklace, particularly the Commonwealth Avenue Mall and the Back Bay Fens. The building will cast shadows on the Commonwealth Avenue Mall in December, and this needs to be considered. Further, the scale of this project and the limited onsite open space will create a need for active recreational open space to serve the residents. The residents will look to the already over-utilized public parks in the neighborhood to meet this need. BPRD therefore respectfully requests that mitigation be provided for impacts to existing public open spaces in the neighborhood, such as the Back Bay Fens. Thank for your consideration.

4.1

4.2

CARRIE MARSH
Executive Secretary
Boston Parks and Recreation Commission
1010 Massachusetts Avenue, 3rd floor
Boston, Massachusetts 02118
617-961-3074 (direct) 617-635-4505 (main)

---------- Forwarded message ----------
From: **Phil Cohen** <phil.cohen@boston.gov>
Date: Tue, Jan 10, 2017 at 2:06 PM
Subject: 1000 Boylston Street - Project Notification Form
To: Phil Cohen <phil.cohen@boston.gov>

Good Afternoon,

Linked below for your review is an electronic copy of the 1000 Boylston Street Project Notification Form ("PNF") received by the Boston Planning & Development Agency (“BPDA”) on January 3, 2017.

- 1000 Boylston Street - PNF

The PNF describes the proposal to construct two residential towers with approximately 689,000 square feet of residential space including approximately 182 rental units and approximately 160

ownership units, and with approximately 35,000 square feet of retail space above 303 parking spaces.

The BPDA solicits comments from public agencies and the public. Written comments on the attached PNF should be received by the BPDA no later than February 2, 2017. Please use the contact information below for any comments or clarification.



--

boston planning & development agency

Phil D Cohen
Project Manager
617.918.4280

Boston Planning & Development Agency (BPDA)
One City Hall Square | Boston, MA 02201
bostonplans.org

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boston planning & development agency

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PNF Letter 5: Mayor's Commission for Persons with Disabilities

Comment 5.1

Will the Inclusionary Development Program residential units be provided on-site? If not, please indicate the location of the off-site IDP units. We support on-site accessible Group 2 units to be part of the Inclusionary Development Policy.

Response

As discussed in Section 2.1.1 of Chapter 2, *Regulatory Context and General Information*, the Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.

Since the Apartments Building has been eliminated from the Project, there is no requirement for units to be accessible Group 2 units. However, as required by 521 CMR, it is anticipated that the for-sale units will be adaptable for accessibility (under Group 1). Additionally, these units will be designed to comply with the Fair Housing Act's design and construction requirements.

Comment 5.2

We ask for more details on accessible Group 2 units, including the location, type and floor plans.

Response

Refer to the response to Comment 5.1 above.

Comment 5.3

We request that the missing pedestrian ramp on Boylston Street (in front of 951-955 Boylston Street) be included in the proposed street improvements, to bring the crosswalk into compliance with MAAB 521 CMR Section 21: Curb Cuts and MAAB 521 CMR Section 22.8: Walkways.

Response

The Proponent will develop a mitigation package with the BPDA and the City, which will balance the requests and needs of various community groups and City agencies, within the confines of financial feasibility for the Project.

Comment 5.4

Renderings show the use of unit pavers for a "welcome mat" feature in the pedestrian right-of-way. We support the use of cast-in-place concrete to ensure that the surface texture is smooth and continuous (minimize joints), for the ease of maintenance and wayfinding benefits.

Response

Comment noted.

Comment 5.5

We request more information on any alternative means of improving the public realm, if the installation of tree pits along Boylston Street is not feasible.

Response

The Proponent is still exploring the option of improving the public realm through the use of street trees in raised planters. Since Boylston Street is a bridge structure owned by MassDOT, the Proponent is in the process of reviewing with MassDOT the feasibility of various alternatives.

Comment 5.6

Is this project providing any funding or improvements to the surrounding neighborhood?

Response

Refer to Section 1.5 of Chapter 1, *Project Description and Alternatives*, for a summary of public benefits. In addition, the Proponent will develop a mitigation package with the BPDA and the City, which will balance the requests and needs of various community groups and City agencies, within the confines of financial feasibility for the Project.

Comment 5.7

- *We support the inclusion of ground-level accessible public open space, as part of the development design.*
- *What inclusion elements does this development provide for persons with disabilities in common social and open spaces?*
- *Are any restrooms planned for the common public spaces in the lobby or retail areas? If yes, will any be single-stall, accessible and designated as "Family" or "Companion" restrooms? If no, explain why not.*

Response

No publicly-accessible open space is being provided as part of the Project. Resident amenity space (outdoor and indoor) will be provided on the upper level and rooftop of the Podium and will be designed to be ADA-accessible.

Comment 5.8

Do you have a Wayfinding Package to better understand wayfinding strategies within the scope of the proposed project?

Response

Wayfinding signage has not been developed to date for the Project.

Comment 5.9

Do you anticipate filing for any variances with the Massachusetts Architectural Access Board? If so, please identify and explain.

Response

The proponent does not anticipate any variances will be required for compliance with MAAB 521 CMR.

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Mayor's Commission for Persons with Disabilities

Martin J. Walsh, Mayor

March 13th 2017

RE: 1000 Boylston Street, Boston, MA 02115
Project Notification Form
Boston Planning and Development Agency

The Disability Commission has reviewed the Project Notification Form that was submitted for 1000 Boylston Street in Back Bay. Since the proposed project is planned to be a vibrant destination area for housing and retail, I would like to encourage a scheme that allows full and equal participation of persons with disabilities through *ideal design which meets as well as exceeds compliance* with accessibility building code requirements. It is crucial that the site layout, buildings, open spaces, parking, and circulation routes be developed with access in mind.

Therefore, in order for my Commission to give its full support to this project, I would like to ask that the following accessibility issues be considered and/or explained:

- **Accessible Group 2 Units:**
  - We support the accessible Group 2 condominium units as part of proposed housing program.
  - Will the Inclusionary Development Program residential units be provided on-site? If not, please indicate the location of the off-site IDP units. We support on-site accessible Group 2 units to be part of the Inclusionary Development Policy. 5.1
  - We ask for more details on accessible Group 2 units, including the location, type and floor plans. 5.2

- **Accessible Parking:**
  - We support locating the proposed accessible parking on the closest accessible route to the parking vestibule/elevator lobby.

- **Accessible Sidewalks, Route and Entry:**
  - We request that the missing pedestrian ramp on Boylston Street (in front of 951-955 Boylston Street) be included in the proposed street improvements, to bring the crosswalk into compliance with MAAB 521 CMR Section 21: Curb Cuts and MAAB 521 CMR Section 22.8: Walkways. 5.3
  - Renderings show the use of unit pavers for a "welcome mat" feature in the pedestrian right-of-way. We support the use of cast-in-place concrete to ensure that the surface texture is smooth and continuous (minimize joints), for the ease of maintenance and wayfinding benefits. 5.4

- **Accessible Sidewalks, Route and Entry (Continued):**
  - We request more information on any alternative means of improving the public realm, if the installation of tree pits along Boylston Street is not feasible. 5.5
  - We look forward to continuing to work with the BDPA, Boston Transportation Department and the Massachusetts Department of Transportation to discuss further proposed sidewalk improvements.

- **Community Benefits:**
  - Is this project providing any funding or improvements to the surrounding neighborhood? 5.6
  - We support the inclusion of ground-level accessible public open space, as part of the development design.
  - What inclusion elements does this development provide for persons with disabilities in common social and open spaces? 5.7
  - Are any restrooms planned for the common public spaces in the lobby or retail areas? If yes, will any be single-stall, accessible and designated as "Family" or "Companion" restrooms? If no, explain why not.

- **Wayfinding:**
  - Do you have a Wayfinding Package to better understand wayfinding strategies within the scope of the proposed project? 5.8

- **Variances:**
  - Do you anticipate filing for any variances with the Massachusetts Architectural Access Board? If so, please identify and explain. 5.9

Commission's General Statement on Access:

The Mayor's Commission for Persons with Disabilities supports barrier-free design and construction in all buildings throughout Boston, including renovation projects as well as new structures. We work with City departments and developers to ensure compliance with local, state, and federal building codes including Boston Complete Streets, Massachusetts Architectural Access Board (MGL, 521 CMR) and the Americans with Disabilities Act (ADAAG, 28 CFR). Designing or constructing structures that are non-compliant with these requirements is a violation of the law unless it can be demonstrated that it would be structurally infeasible to do so.

Priorities for accessibility other than building design and construction include: ensuring maintenance and upkeep of accessibility features; posting signage for way-finding; utilizing compliant barricades throughout construction; designating appropriate location and amount of accessible parking spaces; and removing barriers in existing buildings wherever "readily achievable" (*"easily accomplishable and able to be carried out without much difficulty or expense"*).

Proponents are encouraged to meet with Commission staff who are available for technical assistance and design review to help achieve accessibility compliance and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to all of Boston's diverse residents, including those with physical, sensory, intellectual, and communication disabilities.

Thank You.



Kristen McCosh, Commissioner
Mayor's Commission for Persons with Disabilities
kristen.mccosh@boston.gov
617-635-3682

Reviewed by:

Patricia Mendez AIA, Architectural Access Specialist
Mayor's Commission for Persons with Disabilities
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617-635-2529

Sarah Leung, Architectural Access Project Coordinator
Mayor's Commission for Persons with Disabilities
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617-635-3746

PNF Letter 6: Boston Groundwater Trust

Comment 6.1

Before the GCOD zoning approval can be put in place, the proponent must provide the BPDA and the Trust a letter stamped by a professional engineer registered in Massachusetts that details how it will accomplish what is stated in the PNF and meets the GCOD requirement for no reduction in groundwater levels on site or on adjoining lots.

Response

Comment noted.

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Boston
Groundwater Trust

229 Berkeley St, Fourth Floor, Boston, MA 02116
617.859.8439
www.bostongroundwater.org

Board of Trustees

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William Moy

Executive Director

Christian Simonelli

February 23rd, 2017

Phil Cohen, Project Manager
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201-1007

Subject: 1000 Boylston Street Project Notification Form

Dear Mr. Cohen:

Thank you for the opportunity to comment on the 1000 Boylston Street project notification form (PNF) located in the Back Bay. The Boston Groundwater Trust was established by the Boston City Council to monitor groundwater levels in sections of Boston where the integrity of building foundations is threatened by low groundwater levels and to make recommendations for solving the problem. Therefore my comments are limited to groundwater related issues.

The project is located in the Groundwater Conservation Overlay District (GCOD) established under Article 32 of the Zoning Code. As stated in the PNF and confirmed at the scoping session the project is proposed to be designed and constructed to comply with the requirements of Article 32. Also stated in the PNF and confirmed at the scoping session, due to the limited amount of terra firma the proponent will request a license from the Public Improvement Commission for maintenance of a portion of a recharge system beneath the city street.

Also stated in the PNF and confirmed at the scoping session compliance with the GCOD requires both the installation of a recharge system and a demonstration that the project cannot cause a reduction in groundwater levels on site or on adjoining lots. The PNF states that the proposed new building will be supported on rock socketed drilled shaft (caissons and load bearing elements) with total lengths in the range of approximately 150 to 200 feet. Deep foundation construction will utilize drilling methods that do not generate vibrations. No pile driving is planned. No below grade basement levels are planned and excavation for construction will be limited in depths needed to construct shallow pile caps and pits or below grade vaults.

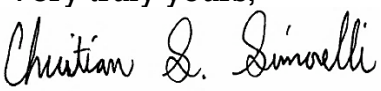
Temporary support of excavation will be installed where needed based on site constraints. A soldier pile and lagging system can be used for the shallow excavations.

The PNF also states that construction will be above area groundwater levels and no temporary or permanent groundwater pumping will be required. Geotechnical instrumentation and monitoring program will be developed prior to final design to monitor adjacent structures and mitigate potential impacts.

Before the GCOD zoning approval can be put in place, the proponent must provide the BPDA and the Trust a letter stamped by a professional engineer registered in Massachusetts that details how it will accomplish what is stated in the PNF and meets the GCOD requirement for no reduction in groundwater levels on site or on adjoining lots. 6.1

I look forward to continuing to work with the proponent and the Agency to assure that this project can have only positive impacts on area groundwater levels.

Very truly yours,



Christian Simonelli
Executive Director

CC: Kathleen Pederson, BPDA
Maura Zlody, BED

PNF Letter 7: CAC/IAG

Comment 7.1

The IAG requests additional clarification on the height of the towers and the podium.

Response

Refer to Table 1-1 of Chapter 1, *Project Description and Alternatives*, for the updated building program.

Comment 7.2

(Some) asked whether the need for a second tower could be revisited, and wondered whether an analysis might show that the East Tower may not be financially essential to completely cover the Turnpike and train tracks below. Access to the Proponent's financial model for the Project would be needed to complete that analysis.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated.

Comment 7.3

Some IAG members expressed concern about the four levels of visible parking that will rise above the two retail levels.

Response

The parking has been reduced from four levels to two levels. Section 3.5.2 of Chapter 3, *Urban Design,* describes how the parking will be screened from view. Figures 3.32 and 3.33 provide pedestrian-level views of the redesigned garage façade, which will be clad in a veil of variably fritted glass designed to filter light and partially screen parking activities during the day. In addition to the fritted glass cladding, vertical glass fins at 5-foot and 2.5-foot intervals will add richness to the Podium while greatly reducing solar glare at certain street locations. Figures 3.37a-3.37d provide section diagrams illustrating the how the design of the Podium will screen parking from the public realm. Precedent imagery for the fritted patterning and fins is shown on Figure 3.37c.

Comment 7.4

One member expressed concern about how the Project will relate to the 29-story Berklee Crossroads project to be located nearby as well as the other adjacent buildings.

This member expressed a request for an enhancement of the urban design discussion to address the relationship of the Project to this building and the other buildings in the immediate vicinity.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for elevations and view perspectives of the Project with adjacent buildings as well as build-out of Air Rights Parcels 12 and 13 and the planned Berklee Crossroads project included, as currently proposed.

Comment 7.5

Another member expressed concern regarding the representation that the podium level of the Project is aligned (vertical and horizontal) with the Hynes Auditorium. This member requested visual renderings showing that alignment.

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for elevations and view perspectives of the Project in relation to the Hynes Auditorium.

Comment 7.6

Some members of the IAG would like to better understand the setback that is proposed for the new iteration of the Project and its towers… These members asked whether additional design options could be explored that would maximize the setback from Boylston Street.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the fifth floor of the Podium has been set back from the fourth floor of the Podium to more closely align with the height of the cornice of the Hynes Auditorium (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets. The Project is consistent with the Civic Vision by placing the lower-scale elements of the Project closest to Boylston Street and setting back the taller of the Project element (the Residences Building) to respect the scale and character of the urban street wall and the Back Bay Architectural District.

Comment 7.7

One IAG member notes that St. Cecilia Park will be removed from the public realm in conjunction with the development of the Project. Noting the high and increasing population density in this area, this IAG member requests analysis of whether the Proponent could incorporate a park into the development.

Response

The St. Cecilia Parcel has been a privately-owned parcel since the Proponent purchased it in 2008 and is not currently a public park. Before the Proponent purchased the parcel, it was a fenced-in, problematic wasteland of trash, empty liquor bottles, and a few dying trees, despite the St Cecilia Church's attempt to keep the area clean and regularly maintained. Since acquisition of the St. Cecilia Parcel, the Proponent has also attempted to keep the area clean and regularly maintained, but it has not been a park in the public realm.

Leaving the Prudential Parcel undeveloped as public open space cannot be implemented in a financially feasible manner since it would not create sufficient revenue to support the construction of the required deck. The public realm/streetscape improvements, filling in the hole over the Turnpike, and other public benefits, as listed in Section 1.5 of Chapter 1, *Project Description and Alternatives*, far outweigh the construction on this undeveloped privately-owned vacant parcel.

Comment 7.8

IAG members would like to see renderings from these additional viewpoints to get a better sense of how pedestrians will experience the Project:

Looking towards Project from the following locations:

- Back Bay Fens – War Memorial
- Back Bay Fens – Rose Garden
- Back Bay Fens – Victory Gardens
- Boylston Street at Park Drive
- Newbury Street from Sonsie
- Christian Science Plaza
- Prudential Center Plaza (greenspace)
- Northeast corner of Hereford and Boylston
- Boylston Street at Massachusetts Avenue (north sidewalk)
- Boylston Street at halfway point down block (north sidewalk)
- Boylston Street at Hereford (north sidewalk)
- Boylston Street at approximate lot line between fire station and former police station (now the architectural college)

View Corridors:

- Boylston St at Fire Station looking down Dalton Street
- Dalton St at Hilton looking north down Dalton Street
- Belvidere Street from St. Cecilia Parish
- Boylston St corridor (from north and south sides of Boylston looking east towards downtown)

› Massachusetts Avenue corridor

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for elevations and view perspectives of the Project, as required by the BPDA Scoping Determination.

Comment 7.9

Some IAG members have requested a clear timeline for all zoning and planning approvals. IAG members also requested clarification of precisely which requirements of underlying applicable zoning the Project would fail to meet (and to the degree to which the Project would exceed any numerical requirements.)

Response

Refer to Section 2.1.1 of Chapter 2, *Regulatory Context and General Information*, for how the Project will comply with zoning.

Comment 7.10

Some encouraged the Proponent to identify what items on the LEED sustainability checklist the Proponent had not checked as feasible and identify how they might achieve them. Others encouraged the Proponent to design to achieve Gold certification and to complete the certification and commissioning process.

Some members recommended the Proponent incorporate bird-safe building design components, which are the subject of a LEED pilot credit.

Response

An updated LEED checklist is provided as Figure 4.2, which demonstrates that the Project as currently designed would achieve LEEDv4 certifiable Silver level. As the design and engineering of the Project is further advanced, the Proponent will aspire to achieve a LEEDv4 certifiable Gold level, to the extent feasible.

Comment 7.11

Other IAG members raised concerns about the potentially premature dismissal of nearly all clean and renewable energy options explored. In particular, IAG members asked questions about combined heat and power. Has the Proponent investigated what would be required to connect the Project to a portion of the grid that can support the sale of electricity back to the grid?

One IAG member requested that the Proponent commit to further analysis of the viability of air source heat pumps and solar rather than natural gas to heat and cool the buildings.

Response

Section 7.4.6 of Chapter 7, *Greenhouse Gas Emissions Assessment*, presents an updated evaluation of the feasibility of on-site clean/renewable energy sources, including CHP and solar PV systems.

Comment 7.12

…many members requested that the Proponent re-evaluate whether such a significant amount of parking is truly required – particularly when the Proponent's own analysis shows that only than 1/3 of expected Project-related trips are expected to occur in a personal automobile.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF/PNF, the Project which is the Preferred Alternative, has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

Comment 7.13

Members requested clarification on where the bicycle parking spaces would be located and how cyclists would access them.

Response

The Project includes one (1) secure, indoor bicycle space per unit for residents inside the garage. Additionally, outdoor bicycle racks for public use are proposed outside of the building along Boylston Street, as shown on Figure 3.36. Refer to Section 5.12.3 in Chapter 5, *Transportation,* for additional details regarding Project bicycle parking.

Comment 7.14

Some members expressed concern that the valet/drop-off uses, given their rapid turnover, would reduce safety along Boylston Street. The intersection of Boylston Street and Dalton Street already poses multiple problems for cyclist. Cars waiting to turn right on Dalton are often unaware of cyclists attempting to travel straight through the intersection heading east on Boylston. Equipment entering and exiting the fire station create additional complications… Some members of the IAG believe the PIR provides a good forum for creative proposals for improving the operation of this intersection.

Response

The Project has been reduced from two drop off zones on Boylston Street to one. Additionally, the Proponent is prepared to work closely with BTD to provide appropriate and feasible improvements along Boylston Street.

Comment 7.15

Some IAG members appreciated that the garage entrance would now be on Dalton Street, instead of on side streets. Other members expressed concern that Dalton Street is already congested, particularly at peak hours. Some members expressed concern that vehicles queuing to enter and trying to make left turns while exiting the garage will create further congestion. Some urged the Proponent consider making the garage exit right-turn-only, thereby allowing southbound traffic on Dalton Street to proceed unimpaired. The Proponent could also consider making the entrance a right-in only, thereby preventing a backup of northbound drivers waiting to turn left against traffic into the garage.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, with the redesign of the Project, the garage driveway is now proposed to be located on Scotia Street, away from Dalton Street.

Comment 7.16

Some members of the IAG wanted more detail on how the loading would operate on Cambria Street. For example, would restaurant deliveries or trash removal occur there?

Response

A designated truck loading for the Project is planned to be accessed from Cambria Street. Trash collection will occur in this same location. A single, large trash compactor will be located between the two loading docks. All truck maneuvering will occur on Cambria Street and all deliveries will be required to be made at this location.

Comment 7.17

One IAG member requested that the impact of the Project on peak hour public transportation capacities be provided.

Response

Section 5.11 in Chapter 5, *Transportation,* includes an extensive evaluation of the capacity of the public transportation services available near the Project Site.

Comment 7.18

Given the high percentage of project trips expected to occur by walking, some IAG members also recommend that a baseline pedestrian count be conducted along with the baseline vehicle counts and that a pedestrian impact analysis be conducted along with a vehicle impact analysis

Response

Pedestrian and bicycle counts were conducted in coordination with the vehicle turning movement counts. Refer to Sections 5.12 and 5.13 in Chapter 5, *Transportation,* for the bicycle and pedestrian analyses, respectively.

Comment 7.19

At the March Meeting, the Proponent and the IAG discussed preparing a three-level analysis for the wind study: no-build, the interim build-condition, and the build-condition with all permitted and proposed development.

Some members of the IAG expressed an intent to pursue modifications of the design if the wind studies show significant adverse wind impacts at street level.

Response

Refer to Section 6.3 in Chapter 6, *Environmental Protection,* for the results of the pedestrian level wind analysis conducted for the Project.

Comment 7.20

The Project will deck over additional portions of the tunnel, potentially enhancing any existing "tunnel effect" and creating new focal points for emissions. IAG members have requested an explanation of what the Proponent and/or MassDOT will do to address this issue. Others asked whether extra ventilation will be created. If so, where will that ventilation system be located? Where will the captured air be ventilated to? Who will be responsible for funding, building, operating and maintaining the ventilation? Who will be responsible for monitoring the quality of the air ventilated?

Response

As discussed in Section 2.1.5 of Chapter 2, *Regulatory Context and General Information*, MassDOT's Engineering Division is currently in the process of evaluating the Project's impact on ambient air quality in the vicinity of the Project Site. The issues raised by BPDA and the IAG will be addressed once the results of this study are known.

Comment 7.21

One IAG member asked whether the Project was being constructed over a water main and, if so, how that the conflict with existing infrastructure would be addressed.

Response

The portion of the building in Cambria Street is located above-grade. The Proponent will coordinate with BWSC to address any conflicts.

Comment 7.22

The Proponent notes in the PNF that it has completed environmental due diligence for the Scotia parcel, but not for the air rights parcel, due to a lack of access.

Some members of the IAG requested clarification on when such diligence will be conducted and how the Project will proceed if conditions required reporting to MassDEP or remediation are encountered on the air rights parcels.

Response

Refer to Section 6.7 of Chapter 6, *Environmental Protection*, for an update on environmental assessments at the Project Site.

Comment 7.23

The PIR scope should call for the Proponent to outline an odor control plan.

Response

Refer to Section 6.10.10 of Chapter 6, *Environmental Protection*, for an odor control plan, if odor is encountered during the Project's construction activities.

Comment 7.24

The Proponent has stated that it will "temporarily" divert pedestrian foot traffic on Scotia Street and Dalton Street. The Proponent has not stated whether foot traffic along Boylston will also be diverted, but has noted that staging will occur from Boylston… Other IAG members recommended active and regular communication with the community during construction through the establishment and upkeep of a website.

Response

Boylston Street will not be closed during construction of the Project and overhead protection will be provided for pedestrians. The CM will actively and regularly communicate construction activities, including closures and temporary routes of travel through the creation of a website. This aims to keep the community updated during construction.

Citizens' Advisory Committee
for
MassDOT Turnpike Parcels 12-15
in its capacity as
1000 Boylston Street Impact Advisory Group

Appointed
Brandon Beatty
Kathleen Brill
Fritz Casselman
Co-Chair
Brian Doherty
David Gamble
Valerie Hunt
David Lapin
Meg Mainzer-Cohen
Co-Chair
Teri Malo
Barbara Simons
Gil Stricker
Steve Wolf

Ex Officio
William Brownsberger
Senator
Byron Rushing
Representative
Jay Livingstone
Representative
William Linehan
City Councilor
Josh Zakim
City Councilor

March 17, 2017 By Email

Brian Golden, Executive Director
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

Re: Comments relating to 1000 Boylston Street Scoping Determination

Dear Mr. Golden:

Introduction

The 1000 Boylston Street Impact Advisory Group ("IAG") has reviewed the Project Notification Form ("PNF") submitted by ADG Scotia II LLC c/o Weiner Ventures LLC (the "Proponent") for the project proposed to be located at 1000 Boylston Street (the "Project"). The Impact Advisory Group met with the Proponents on February 14th, 2017 (the "February IAG Meeting") and March 7, 2017 (the "March IAG Meeting") to review the PNF. IAG members and the constituencies they represent have a variety of opinions, questions, and concerns related to the Project, but the goal of this letter is to assist the Boston Planning and Development Agency ("BPDA") in making its scoping determination detailing which Project impacts require more detailed study in the forthcoming Project Impact Report ("PIR"). This comment letter reflects the collected comments of the IAG members and the constituencies they represent. Where significant disagreements or multiple viewpoints exist among IAG members, those are noted.

Urban Design / Project Development – Chapters 1 & 2

The Project has changed considerably from that which was originally proposed and presented to the IAG when it sat as the Community Advisory Committee (CAC) for the Air Rights Parcels 12-15. There have been changes to the height, massing, uses, footprint, and even the development team. The original concept, as updated by the Proponent prior to the CAC's recommended designation (the "2012 Proposal"), was to be a joint venture of the Weiner team and the Samuels team. The parties have since divided responsibility, with Samuels taking the lead on Parcel 12 and Weiner taking the lead on Parcel 15.

Height, Size, and Massing

Compared to current proposal, the 2012 Proposal was significantly shorter (398') and smaller (465,000 gfa); included fewer parking space (240); and included both hotel and residential uses within its single tower. The current version of the Project is taller (566' and larger (689,000 gfa); includes more parking spaces (303); eliminates the hotel component in favor of residential apartments and condominiums; and adds a second tower. The gross floor area provided by the Proponent in Table 1-1 of the PNF is difficult to compare to the 2012 Proposal, because the 2012 Proposal included parking within the GFA of approximately 465,000 sf. Table 1-1 does not include any square footage for parking. Since the project shows four floors of parking at nearly the entire site footprint, we can estimate that we have roughly 160,000 square feet of parking (Four floors times 40,000 GSF). That yields a total project size of 849,000 GSF, and a project that is approximately 82% larger than the 2012 Proposal.

Table 1-1 of the PNF is similarly unclear about the height of the Project, making an apples-to-apples comparison difficult. For example, Table 1-1 lists the top of the highest occupiable floor at 566', with mechanicals reaching another 20' for a total of 586'. This height is measured from 'average grade' between Boylston / Dalton / St. Cecilia / Scotia and Cambria Streets. As the grade change is significant, the building would appear significantly taller than the average height from some abutting streets. In addition, the Proponent represented at the March IAG Meeting that there is an additional 35' screen on top of the 20' enclosed mechanical penthouse, placing the total average height at least 611'. Some IAG members expressed concern that scaling the drawing included at Figure 2.7b indicates the west tower would actually be closer to 635'. One IAG member noted that if this were the case, that would place this building among one of the 10 tallest in the City of Boston. At minimum, it appears that the Project represents at least a 47% increase over the height of the 2012 Proposal. The IAG requests additional clarification on the height of the towers and the podium. 7.1

At the February and the March IAG Meeting s, members expressed a variety of viewpoints. Some favored the size of the Project, expressing the view that allowing more height here would help preserve low-rise development elsewhere in the neighborhood and the city of Boston. Some called the size an appropriate tradeoff for needed infrastructure improvements and for knitting together the seams of the Back Bay and the Fenway. Others noted that they liked both the height and the two-tower approach. Some noted that the height on this parcel fits in with the "high spine" concept.

Some expressed a mixed view, liking the two-tower approach, but objecting to the height and related environmental impacts, including shadow and wind. The increase in size and related environmental impacts created concern for some members. Some feel that the project is simply too tall or too dense, creating too much congestion along Boylston and Dalton. These members noted that the significant increase in massing. They objected to the second tower, noting that the "high spine" concept, when originally developed, was not endorsed by all neighborhood groups and, at least by some accounts, placed the "spine" well south of Boylston Street. They criticized the East Tower for appearing to be a vertical extension of the street wall and blocking the view corridor between the Berklee's 160 Mass. Ave. building and the Christian Science Center. They asked whether the need for a second tower could be revisited, and wondered whether an analysis might 7.2

show that the East Tower may not be financially essential to completely cover the Turnpike and train tracks below. Access to the Proponent's financial model for the Project would be needed to complete that analysis. 7.2

Some members noted that the Proponent had stated in Component I of its response to MassDOT's Request for Proposals that the 2012 Proposal would comply with the Air Rights Civic Vision in part by "creating no more than one taller building." Other IAG members pointed out the Civic Vision is dated and does not have a good track record of producing successful projects since no projects have been completed based on the Civic Vision in the 17 years since it was finalized.

Architecture

The design of the revised Project includes the new East Tower (consisting of rental residences) and the West Tower (a new design consisting of condominiums), both set atop a 6-7 story podium that faces Boylston Street and Dalton Streets. The podium defines the street wall, with the towers set back at varying distances from the podium. The Project will include retail space on the first two levels, parking on the next four, and residential amenities on the seventh.

Some members expressed enthusiasm for the design. Others liked the overall approach, but found it overdesigned – meaning that there was too much variation between the architectural languages of the towers, the base of the building and the podium. Some recommended changes that would make it feel more as though the entire project was designed by a single hand and speaks a single language – with more restraint and commonality between the base and the towers. There was a recommendation for a simplified skin and a reconsideration of the twisting feature of the West Tower, which might lessen the feeling that it looms over the street. The twisting feature also diminishes the tower's setback from Boylston Street, since the corner of the tower moves closer to the property line as the building gets taller, as Figure 2.8b shows. There was a recommendation to modify the base, which emphasizes the horizontal, as opposed to a more vertical rhythm that reflects the series-of-bays articulation seen throughout the Back Bay.

Some IAG members expressed concern about the four levels of visible parking that will rise above the two retail levels. While the parking cannot be placed underground for obvious reasons, some members requested that the Proponent consider design alternatives that would reduce the amount of space required for parking and/or wrap the Boylston-facing parking in another use. If these options are not feasible, members recommended consideration of treatments that make the garage levels more visually interesting. One member suggested using the skin of the parking levels as a canvas for public art or artistic lighting. 7.3

One member expressed concern about how the Project will relate to the 29-story Berklee Crossroads project to be located nearby as well as the other adjacent buildings. This member expressed a request for an enhancement of the urban design discussion to address the relationship of the Project to this building and the other buildings in the immediate vicinity. 7.4

Another member expressed concern regarding the representation that the podium level of the Project is aligned (vertical and horizontal) with the Hynes Auditorium. This member requested visual renderings showing that alignment. 7.5

Pedestrian Realm

The Project proposes to improve the pedestrian realm with new sidewalks, street lighting, and other improvements along Boylston, Dalton, St. Cecilia and Scotia streets. The layout of these improvements differs from the 2012 Proposal in that Project now wraps around to Dalton Street, adding a residential entrance for the second tower on Boylston Street and a garage entrance/exit on Dalton Street. IAG members recognized the valuable improvements to the pedestrian realm that the Project intends to implement.

The 2012 Proposal touted the project's 40-foot setback from the street edge to the tower component as a benefit for the pedestrian experience. Some members of the IAG expressed a view that setbacks, wide sidewalks, and plaza spaces are important to accommodating the heavy foot traffic in the area. Some members of the IAG would like to better understand the setback that is proposed for the new iteration of the Project and its towers. The original proposal included a setback for 40' from the street edge to the tower component. IAG members would like to know is the depth of the setback from building edge and street edge for each of the towers that are currently proposed, and how that setback changes as one follows the stories of the twisting tower. One member noted that, even though the setback dimensions were unknown, the renderings suggest that the East Tower is set back only slightly from the podium's Dalton Street frontage and would likely be perceived as essentially one wall. Furthermore, while the East Tower is set back from the podium's Boylston Street frontage in varying distances (owing to the shape of the tower), the Proponent's renderings appear to show a minimal setback for the northern-most edge of the tower, at least when viewed from the west. Some IAG members noted that while the twisting form is dynamic, it appears to have the effect of reducing the setback from Boylston Street. These members asked whether additional design options could be explored that would maximize the setback from Boylston Street. 7.6

Other IAG members have focused on the experience of pedestrians on the Boylston Street sidewalk in front of the Project. They have recommended installing street furniture, including benches, so as to give elderly and mobility-challenged residents a place to rest. Others asked whether the proponent would consider an atrium that would be accessible to the public, providing a sheltered form of respite and a break from the glass wall. Others asked whether street trees would be installed, and whether their installation would leave sufficient space for an ample sidewalk. Comments on street-level wind appear in the discussion of Environmental impacts, below; generally, IAG members expressed concern about creating more wind at street level.

One IAG member notes that St. Cecilia Park will be removed from the public realm in conjunction with the development of the Project. Noting the high and increasing population density in this area, this IAG member requests analysis of whether the Proponent could incorporate a park into the development. 7.7

Residential Use

The use of the Project is now entirely residential, apart from retail and parking in the podium levels.

The IAG generally supports the change in use from hotel to residential. The neighborhoods adjacent to the Project suffer from an inadequate supply of housing, and home ownership opportunities are rare. Many IAG members have asked for details about how the Proponent intends to comply with the City's Inclusionary Development Policy ("IDP"). The Proponent has stated that it is too early to make such a determination. IAG members hold a range of strong viewpoints on the provision of affordable housing. Some members advocate for creating such housing on-site, with the benefits for community diversity and affordability preservation that will bring to the neighborhoods. Others advocate for off-site creation, where lower land values could increase the amount of housing created and the number of individuals impacted per dollar spent. Still others advocate for off-site creation within the neighborhood, a compromise for which there is no clear pathway under the IDP. The IAG will remain keenly interested in this issue as the design development progresses, and expects that the Proponent will engage with the IAG on the issue.

Some members expressed a preference for a green space or pocket park in the location of the "Prudential Parcel"; others did not see this as an appropriate location for a park, reinforcing the notion that greater definition of Boylston Street should be the goal of an enhanced public space.

Views

The PNF presented views of the Project from certain vantage points. Additional views were generated and shared with the IAG at the March IAG Meeting. IAG members would like to see renderings from these additional viewpoints to get a better sense of how pedestrians will experience the Project:

Looking towards Project from the following locations:

- Back Bay Fens – War Memorial
- Back Bay Fens – Rose Garden
- Back Bay Fens – Victory Gardens
- Boylston Street at Park Drive
- Newbury Street from Sonsie
- Christian Science Plaza
- Prudential Center Plaza (greenspace)
- Northeast corner of Hereford and Boylston
- Boylston Street at Massachusetts Avenue (north sidewalk)
- Boylston Street at halfway point down block (north sidewalk)
- Boylston Street at Hereford (north sidewalk)
- Boylston Street at approximate lot line between fire station and former police station (now the architectural college)

7.8

View Corridors:

- Boylston St at Fire Station looking down Dalton Stree
- Dalton St at Hilton looking north down Dalton Street
- Belvidere Street from St. Cecilia Parish
- Boylston St corridor (from north and south sides of Boylston looking east towards downtown)
- Massachusetts Avenue corridor

7.8

Zoning Relief

The Proponent has said it will seek zoning relief in the form of a Planned Development Area ("PDA") Special Purpose Overlay District designation. The Project site spans two zoning districts and the City will have to amend one of them (the Huntington Avenue/Prudential Center ("HAPC") District) to permit a PDA at the Project site. At the March IAG Meeting, the Proponent stated an intent to seek an amendment of the boundary of the HAPC District to encompass the entire Project site. The Proponent has also indicated that the Project will likely exceed the maximum permitted floor area ratio and height in both districts, and may not meet some of the design requirements in the HAPC District.

The neighborhoods adjacent to the Project have experience with projects that rewrite underlying zoning through the PDA process in order to permit the projects to proceed as proposed – experience that leaves some IAG members wary of this process. When not executed in the appropriate order, text and map amendments can legally authorize a proposed project (through the PDA approval process) prior to the project's impacts being analyzed and mitigated through the Article 80 process. Some IAG members have requested a clear timeline for all zoning and planning approvals. IAG members also requested clarification of precisely which requirements of underlying applicable zoning the Project would fail to meet (and to the degree to which the Project would exceed any numerical requirements.)

7.9

Project Agreements

The Proponent has stated that a modification to the 2014 Development Agreement with MassDOT will be required for the Project to proceed. Some IAG members expressed concern that the addition of the Prudential component has been too costly in terms of the height and massing it has added to the 2012 Proposal. IAG members asked whether some of the value generated from this additional development will return to MassDOT through the amended Development Agreement. Other IAG members asked what value the City of Boston will realize from the sale of the Cambria Street air rights. The Proponent stated that no legislation is pending to change the conveyance of the parcel from a 99-year lease to fee simple ownership; the IAG wants to be apprised of any change in the form of conveyance.

_____

Sustainability – Chapter 3

The Proponent has prepared an analysis of anticipated sustainability design components and says the Project will be able to achieve LEED certification.

Some IAG members expressed the view that LEED certification is a very low bar and fairly easy to obtain. Others recommended that the Proponent look to create a highly sustainable project, act with more ambition on energy efficiency and sustainability, and aim to achieve better than 12% above energy code. Some encouraged the Proponent to identify what items on the LEED sustainability checklist the Proponent had not checked as feasible and identify how they might achieve them. Others encouraged the Proponent to design to achieve Gold certification and to complete the certification and commissioning process. 7.10

Some members recommended the Proponent incorporate bird-safe building design components, which are the subject of a LEED pilot credit. The Project's location near the Back Bay Fens, an important stopover for migratory birds, and its primarily glass cladding, which by reflecting the sky can cause birds to fly into the building in low light, both suggest the importance of exploring this option carefully.

Other IAG members raised concerns about the potentially premature dismissal of nearly all clean and renewable energy options explored. In particular, IAG members asked questions about combined heat and power. Has the Proponent investigated what would be required to connect the Project to a portion of the grid that can support the sale of electricity back to the grid? 7.11

One IAG member requested that the Proponent commit to further analysis of the viability of air source heat pumps and solar rather than natural gas to heat and cool the buildings.

Transportation and Parking – Chapters 2 (Design) & 4 (Impact)

The Project is expected to generate a significant number of new trips per day in an area where the roadway network is already heavily congested and where public transportation is often at capacity during peak commuting hours. The Project is larger than and will generate more trips than the 2012 Proposal would have. The Project is now proposed to have entrances and exits on Dalton Street, where previously no such access was proposed because the project did not have frontage on Dalton Street. The Proponent must take care to minimize impacts through thoughtful design and programming.

Automobile Garage Parking

The Proponent proposes to build 303 parking spaces, up from the 240 in the 2012 Proposal. These spaces, located on levels 3-6, would serve only the building's residents, according to the Proponents representations at the March IAG Meeting.

Some IAG members questioned whether the Project really requires 303 spaces occupying four levels. Some felt that the provision of more parking spaces would just encourage more automobile traffic. Others encouraged the BPDA to require the Proponent to develop strategies to encourage bicycle and transit use

instead of automobile use. The IAG members appreciate the fact that the design of the garage floors would allow their conversion to other uses in the future. However, many members requested that the Proponent re-evaluate whether such a significant amount of parking is truly required – particularly when the Proponent's own analysis shows that only than 1/3 of expected Project-related trips are expected to occur in a personal automobile. The Proponent can amend underlying parking requirements through its already-planned request for a PDA designation. The HAPC district requires a minimum of .7 parking spaces per residential unit, for a total of 240 spaces based on the Project program. The Fenway Urban renewal plan recommends 0.75 spaces per dwelling unit and one parking space per 400 square feet of retail, for a total of 345 spaces based on the Project Program. As was discussed at the March IAG meeting, many feel that these parking requirements are already outdated. 7.12

Bicycle Parking and Access

The Proponent plans to provide bicycle parking equivalent to the number of anticipated residents. The Proponent has also stated that it will provide shared bicycles for the Project's residents. Bike racks will be available in front of the building on Boylston Street for public use.

Some members of the IAG strongly applauded the anticipated number of bike parking spaces. Members requested clarification on where the bicycle parking spaces would be located and how cyclists would access them. Using steep garage-style ramps to reach parking levels may not be safe and certainly would discourage some users. Bicycle infrastructure should be easily and safely accessed, so that both experienced and less-confident riders will feel comfortable choosing this mode of transportation. 7.13

In response to the proposed resident-only bikeshare program, some members of the IAG recommend that the Project sponsor a Hubway station as part of its reconstruction of the site's sidewalks. This would make the bikeshare benefit available to all, including those who might want to visit restaurants or retail at the Project site. One IAG member requested that the Proponent consider a design for a Hubway station that is usable year-round.

Boylston Street Changes: On-Street Parking and Valet

The Proponent proposes removing all existing metered parking in front of the Project along Boylston Street, replacing these spaces with valet parking spots and two drop-off areas near the residential entrances. The Proponent proposes installing a bike line adjacent to these functions. Some members of the IAG questioned whether the Project needs so many valet spots and suggested a single drop off area located between the two residential entrances could suffice. Some members expressed concern that the valet/drop-off uses, given their rapid turnover, would reduce safety along Boylston Street. The intersection of Boylston Street and Dalton Street already poses multiple problems for cyclist. Cars waiting to turn right on Dalton are often unaware of cyclists attempting to travel straight through the intersection heading east on Boylston. Equipment entering and exiting the fire station create additional complications. In the Proponent's January 12, 2012 written response to CAC questions, the Proponents suggested that if it were able to acquire rights in the Prudential parcel, it "could more effectively address potential improvements to [the Boylston/Dalton 7.14

intersection.]" Some members of the IAG believe the PIR provides a good forum for creative proposals for improving the operation of this intersection. 7.14

Dalton Street Changes: Garage Entrance and Exit

The Proponent proposes to have vehicles enter and exit the garage from Dalton Street. Vehicles will enter from both the northbound and southbound lanes of Dalton Street. Vehicles will exit and be permitted to turn both left (north) and right (south) onto Dalton Street.

Some IAG members appreciated that the garage entrance would now be on Dalton Street, instead of on side streets. Other members expressed concern that Dalton Street is already congested, particularly at peak hours. Some members expressed concern that vehicles queuing to enter and trying to make left turns while exiting the garage will create further congestion. Some urged the Proponent consider making the garage exit right-turn-only, thereby allowing southbound traffic on Dalton Street to proceed unimpaired. The Proponent could also consider making the entrance a right-in only, thereby preventing a backup of northbound drivers waiting to turn left against traffic into the garage. Extending the existing median further down along Dalton would accomplish this. 7.15

Cambria Street Changes: Loading Access

Some members expressed appreciation for relocating the loading from Scotia Street (in the 2012 Proposal) to Cambria Street (in the current Project), and the resulting reduction of impact on St. Cecilia's church. Some members of the IAG wanted more detail on how the loading would operate on Cambria Street. For example, would restaurant deliveries or trash removal occur there? 7.16

Public Transportation

The Project is located close to the Hynes Convention Center T stop as well as stops for multiple bus routes. Since approximately 25% of projected trips (approximately 1,000 of those trips) are expected to occur on transit, some members of the IAG recommend the Proponent consider ways to mitigate the impact of those additional trips on the already stressed public transportation network.

One member suggested creation of a new stop for the 55 bus heading inbound in front of the Project Site. The current bus stop closest to the project sits on a less-than-fully-accessible traffic island, and appears to be included within Berklee's redevelopment plans for Parcel 14. The bus stop could be moved to the block in front of the Project. Bus traffic might create less hazard for bicycle travel than valet parking and drop-off.

One IAG member requested that the impact of the Project on peak hour public transportation capacities be provided. 7.17

Traffic Impact Analysis

The Proponent will conduct a traffic impact analysis in the PIR. The proposed Study Area intersections are shown on Figure 4.3.

IAG recommendations for additional specific intersections to be analyzed include: Stuart Street at Huntington Avenue; Commonwealth Avenue at Berkley St; all Charlesgate (East and West) intersections.

IAG members expressed an overall preference that planning and mitigation for pedestrian and cyclist flow and safety be given as much attention as that given to vehicle traffic. Given the high percentage of project trips expected to occur by walking, some IAG members also recommend that a baseline pedestrian count be conducted along with the baseline vehicle counts and that a pedestrian impact analysis be conducted along with a vehicle impact analysis

7.18

IAG members also expressed concern about the significant number of special events that occur in the vicinity of the Project that impact traffic flow during off-peak but high-volume hours. IAG members recommended that baseline vehicle and pedestrian counts be conducted during these special events, and that the traffic impact study include an analysis of how the Project would impact conditions during these special events.

The special events identified by IAG members include: the hours before and after a Red Sox home game, event-day traffic when major conventions are taking place at the Hynes Convention Center, event-day traffic when major events are taking place at Berklee, and emergencies at the Fire Station. The Traffic Impact Analysis should project the impact during these peak events as well as normal days.

Environmental Protection – Chapter 5

The PNF discusses environmental impacts in the areas of wind, shadow, daylight, solar glare, air quality, water quality, flood hazard, noise, solid/hazardous waste, groundwater/geotechnical, construction, and rodent control. Some analyses are complete, while others are to be studied further in the PIR.

Wind

The Proponent will prepare a quantitative wind tunnel analysis for the PIR.

Figure 5.1 of the PNF shows preliminary wind sensor locations. As discussed at the February IAG Meeting, the area of wind impact analysis will be expanded. The Proponent represented that an area from 888 Boylston Street to Hemenway Street would be studied. IAG members also specifically request that the wind impacts on side streets be analyzed and that the wind study area be expanded generally. IAG members requested that the following locations be analyzed:

- Highest outdoor space on each tower in the Project;
- Podium level outdoor spaces;
- Eataly proposed outdoor eating space at Prudential;

- MBTA station entrances and bus stops within 300 feet radius of Project;
- Each corner of all Massachusetts Avenue intersections between Huntington Avenue and Charles River;
- Each corner of all Boylston Street intersections between Massachusetts Avenue and Dartmouth Street;
- Each corner of all Hereford Street intersections between Boylston Street and Charles River;
- Each corner of all intersections on Dartmouth Street between Boylston Street and the Christian Science Center.

Some members noted that the sidewalks in and around the project site carry significant pedestrian traffic. Some IAG members expressed concern that the height proposed will create significant adverse wind impacts at the ground level. They note that new development projects in the West Fens that are shorter than the proposed Project have created unpleasant sidewalk conditions for all pedestrians, but especially those who are elderly or mobility-challenged.

Some expressed concern that the west-facing façade has no setbacks, and that the lack of setback would create adverse wind impacts. There was a suggestion that if a setback were created, it might minimize the wind impact on St. Cecilia Street. One IAG member asked whether changing the shape and orientation of the towers might affect wind flow and wind velocity. Another member expressed an ongoing concern that the BPDA continues to accept wind studies using a methodology that has never been validated for these purposes.

At the February IAG Meeting, the Proponent described a plan to conduct the wind analysis to reflect a build condition that includes the development of Parcels 12 and 13. Because this is the first air rights parcel to move forward, and because air rights development in Boston has proceeded slowly, IAG members requested that the Proponent conduct an analysis that does not include the buildout of these parcels. This analysis would reflect the interim condition that pedestrians would actually experience for what could be a number of years. At the March Meeting, the Proponent and the IAG discussed preparing a three-level analysis for the wind study: no-build, the interim build-condition, and the build-condition with all permitted and proposed development.

7.19

Some members of the IAG expressed an intent to pursue modifications of the design if the wind studies show significant adverse wind impacts at street level.

Shadow

The Proponent has prepared a shadow analysis to meet both the general requirements of both BPDA Development Review under Article 80 and specific HAPC District shadow criteria. The analysis shows net new shadow created by the Project and compares the impacts of the Project and the 2012 Proposal. The additional 150-plus feet of height would extend shadows to areas not affected by the 2012 Proposal. Wider swaths of the Commonwealth Mall will now experience shadow from the Project, as will the Prudential Center

Plaza and the Esplanade. The Proponent has represented that the shadow analysis is complete. At the March IAG meeting, a question was asked as to whether the shadow analysis used "zoning height" or the actual height of all buildings including mechanicals. The Proponent confirmed that the actual building heights were used. One IAG member requested that this be documented in writing in an expanded shadow analysis.

Some IAG members requested that the shadow analysis be expanded to cover additional dates and times. An IAG member requested a December 21 overlap study be generated and the Proponent indicated that data were available to do so. Another IAG member requested that shadow studies be generated covering the November through January time periods. Another IAG member requested that the hours 6 pm and sunset (which varies by season) be analyzed.

Members of the IAG expressed concerns regarding the impact of the shadows on the historic Commonwealth Mall and how those shadows may impact the park experience. Others requested analysis of the impact on other public open spaces including the Dartmouth Street Mall, the Boston Public Library (including the Courtyard and interior spaces), the Esplanade and the Charles River.

One member requested that the overlapping shadow analysis included in the ENF be expanded to include the hours of dawn to dusk and to include the month of December (as well as March, June, and September).

One member recommended that an expanded shadow analysis should accurately reflect all of the impact of shadows cast by the proposed building regardless of what it hits: the ground, the walls of historic buildings, and building roofs so individuals can make decisions about what is important. This member also requested that the visualizations illustrate the existing shadows and the incremental shadow cast by the proposed structure (in outline form) at each of the times studied.

Daylight

The Proponent prepared an analysis of the percentage of skydome obstructed by the Project. Skydome obstruction will increase substantially from viewpoints along Boylston Street (from 0% to 77%), St. Cecilia Street (from 0% to 96.1%), and Dalton Street (from 30.5% to 59.2%). The Proponent has represented that the shadow analysis is complete.

Solar Glare

The Proponent will prepare a solar glare analysis to identify potential visual impairment or discomfort as the Project is viewed from key roadways, public open spaces, and pedestrian areas. The IAG recommends that the scope require analysis of solar glare from these specific areas:

- Key Roadways: Massachusetts Avenue approaching the Project from both east and west; Boylston Street from both east and west
- Public Open Spaces: Back Bay Fens, Fenway Park, Commonwealth Avenue Mall; Christian Science Plaza
- Pedestrian Areas: Boylston Street sidewalks; Massachusetts Avenue sidewalks

Air Quality

The Proponent included a microscale analysis of air quality impacts in the PNF. The Proponent found that Project will not cause or contribute to violations of the NAAQS. The Proponent has represented that the air quality impact analysis is complete.

One topic of discussion at CAC meetings about air rights development has been the "tunnel effect" and the need to ensure that emissions from automobiles travelling through the Turnpike tunnel do not escape in significant concentrations at the tunnel entrances. The Project will deck over additional portions of the tunnel, potentially enhancing any existing "tunnel effect" and creating new focal points for emissions. IAG members have requested an explanation of what the Proponent and/or MassDOT will do to address this issue. Others asked whether extra ventilation will be created. If so, where will that ventilation system be located? Where will the captured air be ventilated to? Who will be responsible for funding, building, operating and maintaining the ventilation? Who will be responsible for monitoring the quality of the air ventilated? 7.20

Water Quality

The Proponent has represented that the Project will collect and treat stormwater to comply with MassDEP standards and will recharge clean runoff to replenish groundwater. One IAG member asked whether the Project was being constructed over a water main and, if so, how that the conflict with existing infrastructure would be addressed. 7.21

Noise

The Proponent analyzed existing and future noise conditions near the Project site. The Proponent found that noise already exceeds City of Boston Residential District Noise Criteria in each measured location during both daytime (64-66 dB(A) vs. standard of 60) and nighttime (56-62dB(A) vs. standard of 50). The Proponent has represented that the Project will not create any appreciable increase in noise levels.

Solid and Hazardous Waste

The Proponent notes in the PNF that it has completed environmental due diligence for the Scotia parcel, but not for the air rights parcel, due to a lack of access.

Some members of the IAG requested clarification on when such diligence will be conducted and how the Project will proceed if conditions required reporting to MassDEP or remediation are encountered on the air rights parcels. 7.22

Groundwater/Geotechnical

The Proponent has described the subsurface soil and groundwater conditions and planned construction methods for the Project. The Proponent notes that there is a layer of organic soils approximately 4 – 10 feet thick at the Project site.

Given the Project's location in former filled tidelands and the depth of organic soils at the site, some IAG members recommended that the Proponent develop a plan to address potential odors resulting from release of hydrogen sulfide. At nearby construction sites where soils included fibrous peat mixed with organic soils, excavation activities that disturbed this mix produced a hydrogen sulfide odor, commonly noted as a rotten-egg smell experienced in swamps or at low tide. Hydrogen sulfide has a very low odor threshold, with its smell being easily perceptible at low concentrations. At construction sites without advance planning, the smell lingered for weeks before it could be controlled. The PIR scope should call for the Proponent to outline an odor control plan. 7.23

Construction

The Proponent has described expected construction period impacts and intends to develop a detailed construction management plan ("CMP") for approval by the Boston Transportation Department and MassDOT prior to construction.

The Proponent has stated that it will "temporarily" divert pedestrian foot traffic on Scotia Street and Dalton Street. The Proponent has not stated whether foot traffic along Boylston will also be diverted, but has noted that staging will occur from Boylston. Noting the high daily volume of foot traffic that travels Boylston in front of the site every day, the IAG recommends making every effort to interfere with this flow as little as possible. The IAG also notes that during Red Sox home games, the volume of pedestrian traffic along this stretch is even higher. 7.24

Other IAG members recommended active and regular communication with the community during construction through the establishment and upkeep of a website.

Chapter 7 – Historic Resources

Members of the IAG expressed concerned about the impact of shadows that may be cast by the Project on the Commonwealth Avenue Mall and other historic open spaces.

Sincerely,

Members of the Impact Advisory Group

PNF Letter 8: Boston Preservation Alliance

Comment 8.1

As noted by the Massachusetts Historical Commission in their January 31, 2017 letter to Secretary Matthew Beaton at the Executive Office Energy & Environmental Affairs, the towers proposed for this site will cast approximately three to four hours daily of new shadows throughout the year on three historically significant buildings- the Boston Ladder 15 & Engine 22 Firehouse, historic Back Bay Police Station (now known as Boston Architectural College), and the Boston Division 16 Police Station which are all listed in the State and National Register of Historic Places as contributing resources to the Back Bay Historic District. This degree of new shadow is unacceptable and we encourage the proponent to present alternatives that would minimize these specific shadows as well as other shadows across the Back Bay Historic District, the Commonwealth Avenue Mall, and the Charles River Esplanade. Shadows create more than visual impacts but can cause significant long-term damage to historic buildings, particularly masonry buildings such as these, by altering micro-climates and preventing stone and mortar from drying as designed. Often these impacts cannot be mitigated.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project has been redesigned as a single-building concept, with reduced shadow impacts to historic resources within the Back Bay and along the Charles River. As summarized in Section 10.6.2 in Chapter 10, *Historic Resources*, the new design restricts both the length and width of net new shadow resulting from the Project. Although shadows on historic resources cannot be entirely eliminated, the number of individual resources within the nearby historic districts affected by new shadow has been greatly reduced. In addition, new shadow on the Charles River Esplanade and Charles River Basin Historic District has been minimized with the revised design, largely overlapping current shadows.

Comment 8.2

The proponent should be required to produce thorough wind and shadow studies so that all of the project's potentially detrimental impacts to the neighborhood can be fully understood, especially with the knowledge that other towers with similar impacts have been, and will continue to be, proposed for this area. We ask that the proponent produce renderings of the project site from several pedestrian perspectives throughout the affected historic areas.

Response

Detailed pedestrian-level wind and shadow studies have been performed for the Project, as presented in Sections 6.3 and 6.4 of Chapter 6*, Environmental Protection,*

respectively. Based on guidance from the BPDA, these studies consider the other towers with similar impacts which has been proposed for this area. Section 10.6 of Chapter 10, *Historic Resources,* discusses wind and shadow impacts to historic resources, based on the results of these studies.

Refer to the supporting figures of Chapter 3, *Urban Design*, for view perspectives, as required by the BPDA Scoping Determination. These include views of the Project and surrounding area from the Back Bay, Commonwealth Mall, and points along and near the Charles River historic districts.

Comment 8.3

Additionally, we request further investigation of set-backs and the impact on the pedestrian experience. While we fully support the need to restore a friendly street wall in this currently uncomfortable and unwelcoming zone, we also want to be assured that the public realm is fully considered and its benefits to Bostonians maximized. We should not be expected to accept a design simply because it is better than what currently exists.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated. In addition, the 5th floor of the Podium has been set back to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets. Also, as discussed in Section 3.6.1 of Chapter 3, *Urban Design,* significant improvements to the Boylston Street frontage and its adjacent sidewalks will also create an active and engaging pedestrian realm that reflects the goals and visions of Boston's Complete Streets. The sidewalk along Boylston Street will be increased in width by approximately eight feet to a dimension of 18 feet.

BOSTON PRESERVATION ALLIANCE

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Executive Director
Gregory J. Galer, Ph.D.

March 17, 2017

Mr. Phil Cohen
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201
Via email: phil.cohen@boston.gov

Re: 1000 Boylston Street, Back Bay

Dear Mr. Cohen,

The Boston Preservation Alliance is Boston's primary, non-profit advocacy organization that protects and promotes the use of historic buildings and landscapes in all of the city's neighborhoods. With 40 Organizational Members, 98 Corporate Members, and a reach of 35,000 friends and supporters we represent a diverse constituency advocating for the thoughtful evolution of the city and celebration of its unique character. We appreciate the opportunity to offer comments on projects that impact the historic character of the city.

The Alliance has reviewed the Project Notification Form submitted by Weiner Ventures for a proposal at 1000 Boylston Street. While we support development at this site and appreciate the proponent's effort to infill the fragmented urban edge along Boylston Street, we have several concerns about the potential impacts of this proposal to the historic resources in the vicinity.

As noted by the Massachusetts Historical Commission in their January 31, 2017 letter to Secretary Matthew Beaton at the Executive Office Energy & Environmental Affairs, the towers proposed for this site will cast approximately three to four hours daily of new shadows throughout the year on three historically significant buildings- the Boston Ladder 15 & Engine 22 Firehouse, historic Back Bay Police Station (now known as Boston Architectural College), and the Boston Division 16 Police Station which are all listed in the State and National Register of Historic Places as contributing resources to the Back Bay Historic District. This degree of new shadow is unacceptable and we encourage the proponent to present alternatives that would minimize these specific shadows as well as other shadows across the Back Bay Historic District, the Commonwealth Avenue Mall, and the Charles River Esplanade. Shadows create more than visual impacts but can cause significant long-term damage to historic buildings, particularly masonry buildings such as these, by altering micro-climates and preventing stone and mortar from drying as designed. Often these impacts cannot be mitigated. 8.1

The Otis House
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The Alliance also shares many of the concerns expressed to you by the Neighborhood Association of the Back Bay in their March 7, 2017 letter. The proponent should be required to produce thorough wind and shadow studies so that all of the project's potentially detrimental impacts to the neighborhood can be fully understood, especially with the knowledge that other towers with similar impacts have been, and will continue to be, proposed for this area. We ask that the proponent produce renderings of the project site from several pedestrian perspectives throughout the affected historic areas. 8.2

Additionally, we request further investigation of set-backs and the impact on the pedestrian experience. While we fully support the need to restore a friendly street wall in this currently uncomfortable and unwelcoming zone, we also want to be assured that the public realm is fully considered and its benefits to Bostonians maximized. We should not be expected to accept a design simply because it is better than what currently exists. 8.3

As our thriving city continues to grow it is imperative that we prioritize stewardship of our most valuable resources- our unique historic spaces. The Back Bay's character and setting cannot be reproduced and large-scale development within and abutting the district can cause permanent damage through shadow, wind, and visual impacts if not fully considered. There is a degree of sacrifice with every new development in Boston and we must balance what is gained with what is lost. Careful assessment of all proposals is important so we are cognizant of these impacts and pause to assure that we don't regret the irreversible impacts of our unique historic neighborhoods. We, therefore, request more information from the developer of 1000 Boylston so that we may determine if the sacrifices to the historic district for this proposal are worth what is gained by new development or if alterations can be made to the design that satisfactorily mitigate these impacts.

Sincerely,



Greg Galer
Executive Director

PNF Letter 9: Neighborhood Association of the Back Bay (NABB)

Comment 9.1

Please provide an objective table comparing the project with each point in the Civic Vision for Parcel 15 regarding urban design, at a minimum.

Response

Chapter 3, *Urban Design*, specifically Sections 3.2 and 3.4, describe how the Project meets the Civic Vision goals. It also should be noted that the Civic Vision acknowledged that it would only be possible to build on these air rights parcels during a strong economy, which is happening now and which is the reason the Project will be able to move forward as long as the strong economy continues. As terra firma parcels become more scarce in certain parts of the city, only then do air rights parcels become (relatively) desirable redevelopment opportunities. Although there was a strong real estate market in 1999, that market was not strong enough to support any air rights developments beyond the planning phase. In fact, no air rights development has successfully been constructed above the Turnpike since Copley Place in the mid-1908's (which benefitted from federal financial assistance). The Project aims to uphold the original spirit of the Civic Vision over 15 years later, while proposing minor modifications specific to the present-day context and rapidly changing market conditions.

Comment 9.2

a building of the size proposed at 1000 Boylston with no significant setback from the street will set the stage for future growing "canyonization" of this major thoroughfare. In contrast, the larger buildings that have been constructed on Boylston Street (500 Boylston, 888 Boylston) have been set back in the Back Bay from the sidewalk edge to reduce the "canyonization" of the street, as well as the shadow impact on Newbury Street and the residential neighborhood. We would like to see contextual setbacks for the proposed project.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated. In addition, the 5th floor of the Podium has been set back to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets.

Comment 9.3

What is the justification for not respecting the conditions agreed to in the Civic Vision, and what can be done to mitigate the creeping "canyonization" of Boylston Street?

Response

Refer to response to Comments 9.1and 9.2 above.

Comment 9.4

We request evidence supporting the(se) statements (regarding shadow impacts made in the PNF). Elevations showing the shadow impacts on the facades of Boylston and Newbury Streets should be included in the DPIR. In particular, additional shadows on the Commonwealth Avenue Mall are a source of serious concern, given the major year round role this precious public space, supported by private donations, plays in the daily lives of neighborhood residents and the enjoyment of visitors to Boston's historic districts.

Response

Refer to Section 6.4 of Chapter 6, *Environmental Protection,* for the updated shadow studies for the Project.

Comment 9.5

The basic question the shadow studies should answer is:

- Will this project comply with the shadow zoning standard at all locations?

Response

The Project within the HAPC District, as a PDA, must comply with the HAPC District-specific shadow criteria, as set forth in Section 41-16(1) of the Code in addition to the Large Project Review requirements set forth under Article 80B. As demonstrated in Section 6.4.3 of Chapter 6, *Environmental Protection,* the Project will conform to the foregoing restrictions of Section 41-16(1) of the Code because it will not cast shadows on any portion of dedicated public parkland for more than two hours between 8:00 AM and 2:30 PM on any day from March 21 through September 21. Refer to Figures 6.4a through 6.4g for the overlap shadow studies.

Comment 9.6

Questions the required wind studies should answer include:

- Will the project comply with the zoning standards?

- Will the developer commit to a follow-up verification study that will be shared with the City and the neighborhood?

- Does the twisting design of the tower have an effect on pedestrian level winds? How much?

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for the pedestrian-level wind study conducted for the Project. Based on guidance from the BPDA, the wind study conducted for the Project considers the other towers with similar impacts which have been proposed for this area. The Project complies with Article 80B of the Code in that it is not predicted to create any dangerous wind speeds or unacceptable wind gusts, as demonstrated by Figures 6.1b and 6.2b, respectively, and complies with the standards of Section 41-16(2) of the Code. Follow up verification wind studies are not required by the BPDA.

The proposed design has many positive design features that contribute to the favorable wind comfort conditions around the Project Site. These include the set back of the Podium and the west face of the building having many faces, or twists, to reduce the amount of down-washing from a single direction.

Comment 9.7

The ENF Certificate (February 10 2017) submitted by the Massachusetts Executive Office of Energy and Environmental Affairs, which determines that the project requires an EIR, states that the DEIR should provide a comparative analysis that clearly identifies differences between the environmental impacts associated with a minimum of three alternatives. These alternatives should be assessed and compared in terms of their respective building massings (height, length, width, placement on the site) and all environmental impacts, including the results for wind, shadow, and traffic (private vehicles, deliveries and refuse, pedestrian, buses, trains). As noted above Annex 2 to this letter provides more details on the conditions that must be met for zoning compliance. The developer should provide evidence that its Preferred Alternative avoids, minimizes and mitigates damage to the environment (sunlight, wind, vehicular and pedestrian traffic, public transportation, City Utilities, air quality, etc.)

Response

Refer to Section 1.6 of Chapter 1, *Project Description and Alternatives*, for the alternatives analysis which responds to both the MEPA Certificate and BPDA Scoping Determination.

Comment 9.8

The Civic Vision specifically prohibits parking on Boylston Street (at any level). What alternatives have been considered?

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF/PNF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Further, the Civic Vision recommended that air rights projects find ways to incorporate parking.

Comment 9.9

The developer should study an alternative to placing the four floors of parking along Boylston Street as the Civic Vision recommends while retaining the retail or other uses on the first two floors.

Response

As shown in Figure 3.5, the Project proposes retail/restaurant uses for the first two floors with two levels (not four) of parking above with residential amenity space above the two parking levels. Other than putting parking on the lower levels of the building, there is no alternative to providing parking within the building given the air rights nature of the Project Site.

Figures 3.32 and 3.33 provide pedestrian-level views of the redesigned garage façade, which will be clad in a veil of variably fritted glass designed to filter light and partially screen parking activities during the day. In addition to the fritted glass cladding, vertical glass fins at 5-foot and 2.5-foot intervals will add richness to the Podium while greatly reducing solar glare at certain street locations. Precedent imagery for the fritted patterning and fins is shown on Figure 3.37c.

Comment 9.10

A night-time elevation should be prepared to assess the impact of lighting from the garage and the retail establishments on the Boylston streetscape.

Response

The study of the effects of nighttime lighting is not a requirement of either the MEPA Certificate or BPDA Scoping Determination. The nighttime lighting of retail establishments is anticipated to be like that of other retail establishments in the area. Refer to the response to Comment 9.9 above for a description of how the parking garage levels will be screened from Boylston Street.

Comment 9.11

The traffic counts and mode splits should include trips to the proposed 160 seat restaurant, which may impact evening peak hour traffic. The days with Red Sox Games should be studied separately.

Response

As discussed in Section 5.6.1 of Chapter 5, *Transportation*, the restaurant space was treated separately from the retail space in the trip generation calculations and all subsequent analyses. A traffic analysis of conditions during Red Sox games and other events was not required as part of this study, per the MassDOT and BTD scopes.

Comment 9.12

The developer assumes that 18-26% of the new vehicle trips will utilize Storrow Drive. As the Berkeley Street entrance to Storrow is already highly congested (and the Berkeley/Beacon Street intersection frequently blocked by vehicles who enter it before there is space available in the line of traffic on the river side of the intersection) at some times of day, a study should be made of the Berkeley/Beacon and Charlesgate/Beacon access points to see if additional cars can be accommodated and whether additional traffic will exceed EPA standards.

Response

Section 6.7.3 of Chapter 6, *Environmental Protection*, includes discussion of the potential for Project-generated traffic to affect CO emission levels. Under the BPDA Development Review Guidelines, the Project is not expected to cause or contribute to a violation of the NAAQS and, therefore, a quantitative microscale analysis is not required.

Comment 9.13

An even greater traffic-related concern is that this project may cause a severe back up of traffic on the Turnpike…. If there is a dysfunctional exit then the serious question must be addressed of the route for commuter traffic from the west to reach the Back Bay. Will it move onto Storrow Drive at the Allston exit, and if so what repercussions will this extra traffic have for this major urban thoroughfare?

Response

The expected Project-generated trips are both modest and limited. An extensive analysis of traffic conditions is contained in Chapter 5, *Transportation*. Project traffic is not expected to have a noticeable effect on Turnpike traffic.

Comment 9.14

The developer should also be asked to explain the impact on air quality of covering the Turnpike in this area. Will additional fans or vent stacks be required and if so, where will they be located?

Response

Refer to Section 2.1.5 in Chapter 2, *Regulatory Context and General Information,* for details regarding tunnel ventilation. MassDOT continues to study the tunnel ventilation requirements for each of the Air Rights projects, including the Project. Based on preliminary studies, space to accommodate tunnel fan standby power generators has been created in Level 4 of the Project.

Comment 9.15

In addition the developer should explain why exceeding the zoning recommendations for parking capacity is necessary.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF/PNF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative.

Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs for the Project.

Comment 9.16

The developer should be specific about how the affordable housing obligation of this project will be met so that the neighborhood can comment about this important aspect of the project.

Response

As discussed in Section 2.1.1 of Chapter 2, *Regulatory Context and General Information*, the Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.

Comment 9.17

Shadow impacts on the Commonwealth Avenue Mall are of special concern A more detailed analysis of shadows on the Mall should be required, including the number of days and the number of hours each day it will be shadowed. Quantify the area of shadow and the time the any part of the Commonwealth Avenue Mall is in new shadow. Several points should be studied – the eastern and western ends of the shadow area, as well as the center point. The shadows for projects not yet approved should not be included in the study, and it should be clearly explained (graphically or verbally) which tower is causing which shadow.

Response

Refer to Section 6.4 of Chapter 6, *Environmental Protection*, for the updated shadow studies, as required by the BPDA Scoping Determination.

Comment 9.18

In addition analyses of the shadow impacts on the courtyard of the Boston Public Library (BPL) should be required.

Response

As demonstrated by the updated shadow studies in Section 6.4 of Chapter 6, *Environmental Protection*, the Project will not result in net new shadow over the BPL courtyard under any of the conditions.

Comment 9.19

The required wind impacts should be studied for all intersections from the site to the Charles River to the north, to Symphony Hall to the south, to Gloucester Street to the ease and to include the Fenway Studios to the west. We request the results to be presented in lay language, so any resident can correlate the date to his/her own experience. We request a "margin of error" factor in the projected wind speeds.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection*, for the pedestrian-level wind study results. The sensor locations were generated in coordination with the BPDA.

Comment 9.20

Please provide a detailed code analysis in the DPIR comparing the proposals with the underlying zoning. Address the assumptions below).

WIND: The Huntington Avenue/Prudential zoning (Article 41.16) establishes standards for pedestrian safety and comfort in Table A: "Buildings shall be designed to avoid excessive and uncomfortable downdrafts on pedestrians. Each Proposed Project shall be shaped, or other wind-baffling measures shall be adopted, so that the Proposed Project will not cause ground-level ambient wind speeds to exceed the standards in Table A of this section."

SHADOW: The zoning shadow criteria in Article 41-16 state that "Each Proposed Project shall be arranged and designed in a way to assure that it does not cast shadows for more than two hours from 8:00 a.m. through 2:30 p.m., on any day from March 21 through September 21, in any calendar year, on any portion of dedicated public parkland that either (a) is not cast in shadow during such period on such days by structures existing as of the effective date of this article or (b) would not be cast in

shadow during such period on such days by structures built to the as-of-right limits allowed by this article, whichever structures cast the greater shadow. In addition, shadow studies shall be conducted in connection with any Proposed Project demonstrating that shadows will be minimized to the extent practicable in public open spaces created as part of the Proposed Project."

TRANSPORTATION AND PARKING: The garage capacity exceeds the recommendations of the Huntington Avenue/Prudential zoning, which recommends .7 parking spaces per unit. The Fenway Urban renewal plan recommends .75 parking spaces per unit.

Underlying Zoning Height and Area
Parcel 15 and the Prudential Parcel are B-8-120c (Use-FAR-Height).
St. Cecilia site is 100-7 (Height-FAR)
Please explain the rationale for requesting additional height and density.

Response

Refer to Section 1.6 of Chapter 1, *Project Description and Alternatives*, for the alternatives analysis that responds to both the MEPA Certificate and BPDA Scoping Determination, and that explains the rationale for requesting additional height and density. Refer to Section 2.1.1 of Chapter 2, *Regulatory Context and General Information,* for the analysis of the Project as to underlying zoning.

With respect to wind, refer to Section 6.3.2 of Chapter 6, *Environmental Protection*.

With respect to shadow, refer to Section 6.4.3 of Chapter 6, *Environmental Protection*.

With respect to transportation and parking, the Huntington Avenue/Prudential zoning and the Fenway Urban Renewal Plan each set forth a required minimum number of parking spaces for each new residential unit, but do not contain recommendations for any number of parking spaces per unit.

March 7, 2017

Phil Cohen, Project Manager
Boston Planning and Development Agency
1 City Hall Square
Boston, MA 02201

Re: 1000 Boylston St. Project Notification Form

Dear Mr. Cohen:

Members of NABB have attended several meetings about this project and have reviewed key project documents. While we are sympathetic to the need to rebuild the corner of Massachusetts Avenue and Boylston Street, we have grave misgivings about the appropriateness of this new proposal for 1000 Boylston St.

We are concerned that the serious and irrevocable harm resulting from this project as currently configured may be far too high compared to the potential benefits. We hope that through the Article 80 process a solution that is compatible with the Boylston Street environment and the abutting Architectural District can be achieved. As part of this process, we would like to raise several questions on critical topics that we feel need considerable further study and explanation. This letter identifies several key questions for the developer to address. It outlines the contents of the studies and analyses whose results will contribute to the necessary understanding of the relative benefits and potential harmful consequences of this project, as well as of alternative builds that should be considered, which might be better suited to daily life and commercial, social and personal activities on Boylston Streetand in the neighborhood.

A. Urban Design and Consistency with the Civic Vision[1]

Currently the BPDA is contemplating four towers, a tower for Berklee, two on Parcel 15 and one on Parcel 12. This idea ignores the stipulations of the Civic Vision, which was the outcome of a long (two years) and inclusive process that intended to define development opportunities (and limitations) along the length of the Boston section of the Turnpike. Among other stipulations, the Civic Vision called for one tower – not two or four – atBoylston Street and Massachusetts Avenue.

Please provide an objective table comparing the project with each point in the Civic Vision for Parcel 15 regarding urban design, at a minimum. 9.1

Moreover, a building of the size proposed at 1000 Boylston with no significant setback from the street will set the stage for future growing “canyonization” of this major thoroughfare. In contrast, the larger buildings that have been constructed on Boylston Street (500 Boylston, 888 Boylston) have been set back in the Back 9.2

Bay from the sidewalk edge to reduce the “canyonization” of the street, as well as the shadow impact on Newbury Street and the residential neighborhood. We would like to see contextual setbacks for the proposed project. 9.2

The developer has not shown that a building of this size is “necessary” to cover the Turnpike in this area. The developer implies in some statements that he is only filling the site at the request of the community, which is inaccurate. In the ENF the developer states that the proposed project is “consistent with the vision established in the Civic Vision for Turnpike Air Rights in Boston”, which in several key respects is not the case by a long shot. In any case, a financial argument does make the project acceptable, erasing all the thinking and planning embedded in the Civic Vision and the Boston zoning code for the site.

The key question related to these aspects of the current design for1000 Boylston Street is:

- What is the justification for not respecting the conditions agreed to in the Civic Vision, and what can be done to mitigate the creeping “canyonization” of Boylston Street? 9.3

[1] "A Civic Vision For Turnpike Air Rights in Boston,"
- http://www.nabbonline.com/files/Turnpike_Air_Rights_Civic_Vision.pdf.

B. Environmental Impact

To date no wind studies have been conducted. They are an essential element of the environmental impact of this project, given the already uncomfortable wind conditions that are experienced at times alongBoylston Street and major cross streets.

Shadow studies already available indicate significant impact on the Commonwealth Mall and the surrounding residences. The original project proposed for this air rights site in 2013 was about half the size of the current proposal in height and area. A code compliant building, at 120 feet high would not shadow the Mall. The current project design shows significant additional shadow on the Commonwealth Avenue Mall and the neighborhood compared with the earlier designated project.

Section 7.4.2 in the PNF states: “All shadow impacts have been minimized to the maximum extent practicable to avoid any noticeable effect on pedestrian use patterns and historic resources. Most new shadows will be concentrated to the north; therefore, proposed shadow impacts to historic properties are limited to the Back Bay National Register and Architectural Districts. Generally, the contributing buildings located directly across Boylston Streetfrom the project site would receive approximately 3-4 hours daily of new shadows throughout the year. The majority of shadow impacts to the district would be limited to one additional hour of new shadows daily, with some buildings on Newbury Street andMassachusetts

Avenue projected to have two additional hours. The extent of the one-hour shadow impacts increases northward as the year progresses."

We request evidence supporting these statements. Elevations showing the shadow impacts on the facades of Boylston and Newbury Streets should be included in the DPIR. **In particular additional shadows on the Commonwealth Avenue Mall are a source of serious concern, given the major year round role this precious public space, supported by private donations, plays in the daily lives of neighborhood residents and the enjoyment of visitors to Boston's historic districts.** 9.4

More details on the information we seek regarding the wind and shadow studies that the developer should provide are given in Annex 1 to this letter. Annex 2 presents the zoning regulations regarding wind and shadow impacts as well as parking capacity that apply at the 1000 Boylston Street site.

The basic question the shadow studies should answer is:
- Will this project comply with the shadow zoning standard at all locations? 9.5

Questions the required wind studies should answer include:
- Will the project comply with the zoning standards?
- Will the developer commit to a follow-up verification study that will be shared with the City and the neighborhood? 9.6
- Does the twisting design of the tower have an effect on pedestrian level winds? How much?

C. Review of Alternative Reduced-Build Structures

The ENF Certificate (February 10 2017) submitted by the Massachusetts Executive Office of Energy and Environmental Affairs, which determines that the project requires an EIR, states that the DEIR should provide a comparative analysis that clearly identifies differences between the environmental impacts associated with a minimum of three alternatives: 9.7

(a) The current design, referred to in the ENF as the "Preferred Alternative," which requires modifications to the existing zoning for the project site;
(b) A Zoning Compliant Alternative that meets all existing zoning conditions including dimensions, design, parking, and loading requirements, and
(c) A Reduced-Build Alternative as originally proposed in 2013.

These alternatives should be assessed and compared in terms of their respective building massings (height, length, width, placement on the site) and all environmental impacts, including the results for wind, shadow, and traffic (private vehicles, deliveries and refuse, pedestrian, buses, trains). As noted above Annex 2 to this letter provides more details on the conditions that must be met for zoning compliance. 9.7

The developer should provide evidence that its Preferred Alternative avoids, minimizes and mitigates damage to the environment (sunlight, wind, vehicular and pedestrian traffic, public transportation, City Utilities, air quality, etc.)

D. Transportation and Parking

The Civic Vision specifically prohibits parking on Boylston Street (at any level). 9.8
What alternatives have been considered? The developer should study an alternative to placing the four floors of parking alongBoylston Street as the Civic Vision recommends while retaining the retail or other uses on the first two floors. A night-time elevation should be prepared to assess the impact of lighting from the garage and the retail establishments on the Boylston streetscape. 9.9 9.10

The traffic counts and mode splits should include trips to the proposed 160 seat restaurant, which may impact evening peak hour traffic. The days with Red Sox Games should be studied separately. 9.11

The developer assumes that 18-26% of the new vehicle trips will utilize Storrow Drive. As the Berkeley Street entrance to Storrow is already highly congested (and the Berkeley/Beacon Street intersection frequently blocked by vehicles who enter it before there is space available in the line of traffic on the river side of the intersection) at some times of day, a study should be made of the Berkeley/Beacon and Charlesgate/Beacon access points to see if additional cars can be accommodated and whether additional traffic will exceed EPA standards. 9.12

An even greater traffic-related concern is that this project may cause a severe back up of traffic on the Turnpike. According to the data in the traffic study for the Back Bay/ South End Gateway Project reported in its DPIR, 2023 traffic without the project will have led to a drastic increase in delays at the exit from the Turnpike to Stuart St, the only direct access from the Turnpike to Back Bay. In the AM peak hour, already an F, delays at the intersection increase from 84.9 seconds to 264.5 seconds, while those in the PM peak deteriorate from D to F increasing from 31.7 to 154 seconds. The AM queue length rises from 530 to 1020 feet (i.e. 1/5 mile!) and in the PM peak hour from 202 to 533 feet[2]. While there is language indicating that this does not act like a normal intersection because of the traffic weave, it appears the exit will fail, dumping traffic back up the barrel of the Turnpike. The Mass Turnpike Authority was concerned about this outcome, i.e. specifically this type of backup which led it to rule out a light at the exit when Copley Place was first built. If there is a dysfunctional exit then the serious question must be addressed of the route for commuter traffic 9.13 9.13

from the west to reach the Back Bay. Will it move onto Storrow Drive at the Allston exit, and if so what repercussions will this extra traffic have for this major urban thoroughfare? 9.13

The developer should also be asked to explain the impact on air quality of covering the Turnpike in this area. Will additional fans or vent stacks be required and if so, where will they be located? 9.14

In addition the developer should explain why exceeding the zoning recommendations for parking capacity is necessary. 9.15

[2] These data are found in Tables 4-39C and D of Volume 1, DPIR, The Back Bay/South End Gateway Project - http://www.bostonplans.org/getattachment/81985ac5-b24c-47cc-90af-da07b744a897

E. Affordable Housing Options

To the best of our knowledge as of this writing the response of the proponent to questions about the required affordable housing component of this project has been limited to statements that the project will comply with this obligation. This response is insufficient to enable the neighborhood to comment meaningfully. The options available to the developer range from, (i) including all affordable housing on site, to (ii) providing some, or all, affordable housing off site either within the neighborhood or elsewhere, or (iii) Paying some sum to the city for affordable housing in lieu of the developer's providing such housing directly. In practice the neighborhood would have no or very little influence over the fate or destination of these housing funds.

The developer should be specific about how the affordable housing obligation of this project will be met so that the neighborhood can comment about this important aspect of the project. 9.16

Thank you for the opportunity to comment.

Sincerely,

Vicki C. Smith

Vicki C. Smith, Chair

Cc: Mayor@boston.gov

elected officials in the City Council:
Michelle.Wu@boston.gov, Bill.Linehan@boston.gov,Josh.Zakim@boston.gov, Ayanna.Pressley@boston.gov,A.E.George@boston.gov, Tito.Jackson@boston.gov,Salvatore.Lamattina@boston.gov, Michael.F.Flaherty@boston.gov,Andrea.Campbell@bosto

n.gov, Frank.Baker@boston.gov,Timothy.McCarthy@boston.gov, Matthew.OMalley@boston.gov,Mark.Ciommo@boston.gov,

elected officials in State government:
Byron.Rushing@mahouse.gov, Jay.Livingstone@mahouse.gov,William.Brownsberger@masenate.gov

ANNEX 1 – Wind and Shadow Studies

SHADOW STUDIES: The developer has acknowledged that the majority of the shadow impact will be concentrated to the north of the building on Boylston and Newbury and in the Back Bay residential district. Current predictions are for 3-4 hours of new shadow on Boylston, 2 hours on Newbury and Massachusetts Avenue, and 1 hour in the residential district.

Shadow impacts on the Commonwealth Avenue Mall are of special concern A more detailed analysis of shadows on the Mall should be required, including the number of days and the number of hours each day it will be shadowed. Quantify the area of shadow and the time the any part of the Commonwealth Avenue Mall is in new shadow. Several points should be studied – the eastern and western ends of the shadow area, as well as the center point. The shadows for projects not yet approved should not be included in the study, and it should be clearly explained (graphically or verbally) which tower is causing which shadow. 9.17

In addition analyses of the shadow impacts on the courtyard of the Boston Public Library (BPL) should be required. 9.18

WIND STUDIES: Experience of neighborhood residents has been that increased building heights increase pedestrian level wind speeds on the north-south streets of the residential district. The required wind impacts should be studied for all intersections from the site to theCharles River to the north, to Symphony Hall to the south, toGloucester Street to the ease and to include the Fenway Studios to the west. We request the results to be presented in lay language, so any resident can correlate the date to his/her own experience. We request a “margin of error” factor in the projected wind speeds. 9.19

ANNEX 2 – Zoning Regulations for the 1000 Boylston Site

Please provide a detailed code analysis in the DPIR comparing the proposals with the underlying zoning. Address the assumptions below.

WIND: The Huntington Avenue/Prudential zoning (Article 41.16) establishes standards for pedestrian safety and comfort in Table A: “Buildings shall be designed to avoid excessive and uncomfortable downdrafts on pedestrians. Each Proposed 9.20

Project shall be shaped, or other wind-baffling measures shall be adopted, so that the Proposed Project will not cause ground-level ambient wind speeds to exceed the standards in Table A of this section."

SHADOW: The zoning shadow criteria in Article 41-16 state that "Each Proposed Project shall be arranged and designed in a way to assure that it does not cast shadows for more than two hours from 8:00 a.m. through 2:30 p.m., on any day from March 21 through September 21, in any calendar year, on any portion of dedicated public parkland that either (a) is not cast in shadow during such period on such days by structures existing as of the effective date of this article or (b) would not be cast in shadow during such period on such days by structures built to the as-of-right limits allowed by this article, whichever structures cast the greater shadow. In addition, shadow studies shall be conducted in connection with any Proposed Project demonstrating that shadows will be minimized to the extent practicable in public open spaces created as part of the Proposed Project."

9.20

TRANSPORTATION AND PARKING: The garage capacity exceeds the recommendations of the Huntington Avenue/Prudential zoning, which recommends .7 parking spaces per unit. The Fenway Urban renewal plan recommends .75 parking spaces per unit.

Underlying Zoning Height and Area
Parcel 15 and the Prudential Parcel are B-8-120c (Use-FAR-Height).
St. Cecilia site is 100-7 (Height-FAR)
Please explain the rationale for requesting additional height and density.

Neighborhood Association of the Back Bay
160 Commonwealth Avenue #L-8
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Tel: 617-247-3961

[1] "A Civic Vision For Turnpike Air Rights in Boston,"
- http://www.nabbonline.com/files/Turnpike_Air_Rights_Civic_Vision.pdf.

[2] These data are found in Tables 4-39C and D of Volume 1, DPIR, The Back Bay/South End Gateway Project
- http://www.bostonplans.org/getattachment/81985ac5-b24c-47cc-90af-da07b744a897

PNF Letter 10: Neighborhood Association of the Back Bay (NABB) (Additional Comments)

Comment 10.1

NABB requests that Proponent include additional view corridor impacts drawings, particularly the Boylston Street corridor, Massachusetts Avenue corridor, as well as, Belvidere Street from St. Cecilia Parish, including:

- *A perspective showing both sides of Boylston Street looking east from Mass Ave down the center of Boylston St., to Arlington St. showing in particular the setback of the towers. The view should include the north and south sides of the street.*
- *Views from the following locations looking to the project with full height buildings (do not cut the tops of the buildings off): looking north on Dalton from in front of the Hilton, and south on Dalton from Boylston St.*
- *Northeast corner of Hereford and Boylston, showing the relationship of the Fire Station and the project*
- *Three locations (each end and middle) on north side of Newbury Street between Hereford and Mass Ave*
- *North side of Boylston on the approximate lot line between the fire station and the former police station (now the architectural college). Since the Massachusetts Historical Commission called out these buildings as important, this view will show why.*
- *The Proponent asserts that the proposed podium aligns with the front of the Hynes Auditorium, both vertically and horizontally. The BPDA should require documentation verifying this assertion.*

Response

Refer to the supporting figures of Chapter 3, *Urban Design*, for elevations and view perspectives of the Project, as required by the BPDA Scoping Determination.

Comment 10.2

This project will remove the St. Cecilia Park from the community. This area has many people, too many for the dearth of open space. Please show how a public pedestrian-level park could be provided using the Prudential air rights parcel and/or Parcel 15.

Response

The St. Cecilia Parcel has been a privately-owned parcel since the Proponent purchased it in 2008 and is not currently a public park. Before the Proponent purchased the parcel, it was a fenced-in, problematic wasteland of trash, empty liquor

bottles, and a few dying trees despite the St Cecilia Church's attempt to keep the area clean and regularly maintained. Since acquisition of the St. Cecilia Parcel, the Proponent has also attempted to keep the area clean and regularly maintained, but it has not been a park in the public realm.

The public realm/streetscape improvements, filling in the hole over the Turnpike, and other public benefits, as listed in Section 1.5 of Chapter 1, *Project Description and Alternatives*, far outweigh the construction on this undeveloped privately-owned vacant parcel.

Comment 10.3

what can this project learn from the Berklee dorm project wind tests, the Christian Science Center wind tests? Include a qualitative explanation in the DPIR. Testing now could correlate the study with actual built conditions. Request start monitoring wind now.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection*, for the pedestrian-level wind study results.

Comment 10.4

The location of any sensor point with a wind increase, should be studied further, even if it is below "Dangerous," because we feel many dangerous locations exist now that may not be evident in the wind tunnel test results.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for the pedestrian-level wind study conducted for the Project. Based on guidance from the BPDA, the wind study conducted for the Project considers the other towers with similar impacts which have been proposed for this area. The Project complies with Article 80B of the Code in that it is not predicted to create any dangerous wind speeds or unacceptable wind gusts, as demonstrated by Figures 6.1b and 6.2b, respectively, and complies with the standards of Section 41-16(2) of the Code.

Comment 10.5

What will the wind be like on the top floor? On top of the podium, on the Prudential Center site?

Response

As required by the BPDA Scoping Determination, a pedestrian-level wind study was conducted for the Project, as presented in Section 6.3 of Chapter 6*, Environmental Protection*. Upper levels of the buildings are not considered public and, therefore, wind conditions are not required to be studied as part of Article 80B or Article 41-16(2) review.

Comment 10.6

- *Include points at the entries to the T station,*
- *All bus stops within 300 feet radius,*
- *Each corner of each intersection north along Massachusetts Ave, south from the site to the River and from the site to Huntington Ave.*
- *Each doorway and intersection east on Boylston to Dartmouth, for example 888 Boylston*
- *Each corner and intersection on Hereford to the river*
- *Each corner and intersection on Dalton to the Christian Science Center*

Response

Refer to Section 6.3 of Chapter 6*, Environmental Protection,* for the pedestrian-level wind study conducted for the Project. The sensor locations were generated in coordination with the BPDA.

Comment 10.7

The project submitted in the Draft Project Impact Report should show no shadow on any public open space specifically:

- *The Dartmouth Street Mall*
- *The Commonwealth Avenue Mall*
- *The Boston Public Library, including the Courtyard or interior spaces*
- *The Esplanade or the Charles River*

Response

As demonstrated by the updated shadow studies in Section 6.4 of Chapter 6, *Environmental Protection*, the Project will not result in net new shadow over the Dartmouth Street Mall or BPL courtyard or its interior spaces under any of the conditions. At 6pm on June 21st and September 21st, the Dartmouth Street Mall will be under shadow of existing buildings.

At 9am on September 21st, the new shadow extends westerly toward Massachusetts Avenue, impacting less of the Back Bay National Register and Architectural Districts and no longer extending up to Commonwealth Mall. Net new shadows created by the Project at 9am on December 21st no longer extend over the Charles River.

Comment 10.8

The historic buildings in the Back Bay, homes, institutions, businesses, fire station, etc. will suffer when in shadow. Shadows should be avoided by the shape of the building. Darkening the Comm. Ave. Mall, Esplanade, the Fens and other parks is a negative impact on a historic park that should be avoided.

Response

With the reduction building height and mass, the overall net new shadow created by the Project has been reduced, as demonstrated in Section 6.4 of Chapter 6, *Environmental Protection*.

Comment 10.9

The shadow studies included in the Project Notification Form PNF give a general indication of the shadow impacts. We seek additional studies in the Draft Project Impact Report to fully explain the shadow impacts, including very detailed studies to show all shadow impacts.

- *It is important to understand for how many days in a year there will be shadows at the locations studied attributable to the 1000 Boylston St. project that have or exceed specified durations, e.g. 15, 30 and 45 minutes, I hour, 2 hours etc,*
- *The information provided should accurately reflect all of the impact of shadows cast by the proposed building regardless of what they cover: the ground, the walls of historic buildings, and building roofs so individuals can make decisions about what is important. As the Mass Historic Commission letter to MEPA pointed out, the Back Bay neighborhood is a historic resource.*
- *The shadows from each building in the project should be identified on the plan by using contrasting colors, so that a determination can be made as to which tower is casting which shadow. We note that the height in a shadow study is not the "zoning height". It is the actual height, including all mechanical structures. The developer should be clear that he is using the correct height in his calculations.*
- *The study should be replicable. The source media file should be provided.*

Response

With the reduction building height and mass, the overall net new shadow created by the Project has been reduced, as demonstrated in Section 6.4 of Chapter 6, *Environmental Protection*. Refer to Figures 6.3a-d and 6.4a-g for the updated shadow studies. As described in Section 6.4.1, the shadow studies account for the full height of the building, including the mechanical space and equipment screen above last occupied floor totaling 544 feet for the Project.

Additionally, as required by the BPDA Scoping Determination, shadow animations have been created in order to substantiate compliance with the Shadow Acts protecting the Common and the Public Garden. The animation will be submitted to the BPDA shortly following the submission of this DEIR/DPIR.

Comment 10.10

If the Proponent continues to pursue two towers and the increased density on this site, we believe they are obligated to share financial information, particularly to show evidence of the increased expenses used to justify the additional height and volume of the new proposal. These costs should be compared to the costs of a reduced-build proposal that screens or otherwise masks the Prudential parcel without building a structure on it.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated. The Project, which is the Preferred Alternative, screens or otherwise masks the Prudential Parcel without building a structure on it other than the Podium.

Comment 10.11

In addition to the usual times for which modes of traffic are studied, traffic on weekends, and Red Sox game times, as well as in times of emergencies at the fire station on Boylston should be studied.

Response

An analysis of traffic conditions during Red Sox games and other events was not required as part of this study, per the MassDOT and BTD scopes. The analysis contained in Chapter 5, *Transportation,* indicates the relatively modest traffic and public transportation impacts that are expected with the Project in place. The project's impacts are not likely to significantly affect conditions on the day of a Red Sox game.

Comment 10.12

Pedestrian flows deserve as much planning and mitigation as the vehicular and cycle traffic. A separate pedestrian analysis section should be included in the DPIR.

Response

Section 5.13 in Chapter 5, *Transportation,* includes a detailed pedestrian analysis.

Comment 10.13

Bicycle traffic and safety is notably important given the worry already raised concerning the valet parking arrangement proposed on Boylston St. For this and other questions, it would be extremely helpful to understand the mix and routes planned for each type of vehicle traveling in and around the site.

Response

The Proponent intends to construct both secure/covered bicycle parking spaces in the garage for building residents and public bicycle parking spaces along Boylston Street. The Proponent is prepared to work with the BTD to define a feasible accommodation for bicyclists on Boylston Street at the Project Site.

Comment 10.14

Show the circulation of all vehicular traffic – private automobiles, taxis, delivery, fire and safety vehicles, etc.

Response

Refer to Figure 3.34 for the Project site access and circulation plan.

Comment 10.15

We request peak hour analyses (morning and afternoon, Red Sox game days, and normal days) for the Green Line.

Response

Section 5.11 in Chapter 5, *Transportation,* includes an extensive evaluation of the capacity of the public transportation services available near the Project Site, as requested. The MassDOT and BTD scopes did not require the transportation analysis to include Red Sox game day traffic this study.

Comment 10.16

Back Bay and other neighborhoods have for years advocated for an eastbound ramp to the Turnpike. Does the amount of air rights construction anticipated over the next several years open the door to a feasible way of doing that?

Response

The complexity of the many fixed elements near the Project Site do not allow for the creation of an eastbound ramp at this location. Consideration of an eastbound on-ramp to the Turnpike is well beyond the scope of the Project.

Comment 10.17

We urge the Proponent and the BPDA to correlate the findings for this project with the City traffic overall and with anticipated additional development projects, such as Christian Science and Stuart Street, including the Back Bay Station.

Response

Section 5.5.1 of Chapter 5, *Transportation*, describes the methodology for establishing the traffic background growth for the many nearby developments that are also planned to be constructed in the Back Bay neighborhood. Close coordination with the staff of the BPDA and BTD led to the establishment of the list of planned/approved projects in the area, as well as the non-project specific traffic growth rate.

Comment 10.18

Study the additional intersections of Commonwealth and Berkeley, and Stuart and Huntington.

Response

The study area intersections are comprised of 18 intersections requested by the BTD and MassDOT, as shown on Figure 5.1. Because of their distance from the Project Site, the intersections suggested in this comment were not required for the analysis.

Comment 10.19

The current access requires entering and exiting on a bridge on a very congested street. Alternatives should be investigated.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project's driveway is now planned to be located on Scotia Street, away from Dalton Street and the Dalton Street intersection with Boylston Street.

Comment 10.20

NABB believes that the Garage is far too large. The garage should be sized to encouraging transit use, not automobiles with Zipcar, bike parking spaces encouraged. A similar transit oriented development project uses a ratio of 0.4.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF/PNF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

Comment 10.21

At the earliest point in the process, the developer should be specific about how they propose to meet the affordable housing obligation of this project, so that the neighborhoods can comment on this important aspect of the project.

Response

As discussed in Section 2.1.1 of Chapter 2, *Regulatory Context and General Information*, the Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.

Comment 10.22

NABB requests that the CAC be notified immediately in the event the Proponent, BPDA, City of Boston, MassDOT, the Turnpike Authority or any other state or municipal agency learns that any legislation is being promoted that would change the ownership rights of Parcel 15 from a 99-year lease.

Response

The BPDA, City of Boston, MassDOT, the Turnpike Authority or any other state or municipal agency may provide public notice regarding any matter per their own requirements, to which the Proponent would respectfully defer. Of course, the Proponent looks forward to continuing its positive communication with the CAC during the Article 80B review process, including public notices of which the Proponent is aware.

Comment 10.23

More than many projects, this is a Public-Private Venture. Many of the assets necessary to accomplish the project are assets owned by the public, such as the air

rights, the underlying zoning space, sidewalk, and Cambria Street. Please provide detailed information on any public funding required (or to be sought) making the project possible, such as the transfer of a public street to either the MassDOT or the developer.

Response

No public funding is being sought for the Project. Refer to Chapter 2, *Regulatory Context and General Information*, for information on air rights transfers and compliance with zoning.

Comment 10.24

NABB's March 7th letter mentions the importance of the Civic Vision guidelines. The Civic Vision has been called "dated", but it is an actual plan developed through a formal Planning process and adopted by the community and the City. It is the current plan for the site, along with the underlying zoning. The guidelines articulate an important vision for the community.

Response

The Project, or Preferred Alternative, represents a major change to the ENF/PNF Alternative intended to address the Civic Vision and be responsive to the community feedback by reducing the building density and height concerns, as well as environmental impacts. The Preferred Alternative provides the significant public benefits to the surrounding neighborhoods and the City, including enhancing the key link between the Back Bay and Fenway neighborhoods, activating and significantly improving the public realm, building on the retail vitality of the Boylston Street commercial corridor, and providing high quality residential space in a highly visible and accessible Back Bay location.

Comment 10.25

On the other hand the "high spine" has been mentioned at public meetings (for this and many other projects in the Back Bay). "High spine" is a term that may be erroneously attributed to a Kevin Lynch napkin sketch in the 1950's. The "High Spine" concept has never been developed or formally adopted. Nor should it. This is hardly a plan, and the use of this term is irrelevant today.

Response

Comment noted.

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March 17, 2017

Phil Cohen, Project Manager
Boston Planning and Development Agency
1 City Hall Square
Boston, MA 02201

Re: 1000 Boylston St. Project Notification Form (PNF) Additional Comments

Dear Mr. Cohen:

Members of NABB have attended several meetings about this project and have reviewed key project documents. While we are sympathetic to the need to rebuild the corner of Massachusetts Avenue and Boylston Street, we continue to have grave misgivings about the appropriateness of this new proposal for 1000 Boylston St. as outlined in our March 7, 2017 comments on the PNF.

This letter identifies additional questions and requests for further clarification and specificity on critical topics that we feel need considerable further study and explanation. We continue to seek responses to our previous comments.

A. Urban Design and Consistency with the Civic Vision (NABB letter pages 1 & 2)

NABB requests that Proponent include additional view corridor impacts drawings, particularly the Boylston Street corridor, Massachusetts Avenue corridor, as well as, Belvidere Street from St. Cecilia Parish, including:

- A perspective showing both sides of Boylston Street looking east from Mass Ave down the center of Boylston St., to Arlington St. showing in particular the setback of the towers. The view should include the north and south sides of the street.

- Views from the following locations looking to the project with full height buildings (do not cut the tops of the buildings off): looking north on Dalton from in front of the Hilton, and south on Dalton from Boylston St.

- Northeast corner of Hereford and Boylston, showing the relationship of the Fire Station and the project

- Three locations (each end and middle) on north side of Newbury Street between Herefordand Mass Ave

- North side of Boylston on the approximate lot line between the fire station and the former police station (now the architectural college). Since the Massachusetts Historical Commission called out these buildings as important, this view will show why.

- The Proponent asserts that the proposed podium aligns with the front of the Hynes Auditorium, both vertically and horizontally. The BPDA should require documentation verifying this assertion.

10.1

B. Environmental Impact (NABB letter page 2)

This project will remove the St. Cecilia Park from the community. This area has many people, too many for the dearth of open space. Please show how a public pedestrian-level park could be provided using the Prudential air rights parcel and/or Parcel 15. 10.2

Wind – what can this project learn from the Berklee dorm project wind tests, the Christian Science Center wind tests? Include a qualitative explanation in the DPIR. Testing now could correlate the study with actual built conditions. Request start monitoring wind now. 10.3

- The location of any sensor point with a wind increase, should be studied further, even if it is below "Dangerous," because we feel many dangerous locations exist now that may not be evident in the wind tunnel test results. 10.4

- What will the wind be like on the top floor? On top of the podium, on the PrudentialCenter site? 10.5

- Include points at the entries to the T station,

- All bus stops within 300 feet radius,

- Each corner of each intersection north along Massachusetts Ave, south from the site to the River and from the site to Huntington Ave.

- Each doorway and intersection east on Boylston to Dartmouth, for example 888 Boylston

- Each corner and intersection on Hereford to the river

- Each corner and intersection on Dalton to the Christian Science Center 10.6

Shadow/Sunlight –

- The project submitted in the Draft Project Impact Report should show no shadow on any public open space specifically:

- The Dartmouth Street Mall

- The Commonwealth Avenue Mall

- The Boston Public Library, including the Courtyard or interior spaces

- The Esplanade or the Charles River 10.7

- The historic buildings in the Back Bay, homes, institutions, businesses, fire station, etc. will suffer when in shadow. Shadows should be avoided by the shape of the building. Darkening the Comm. Ave. Mall, Esplanade, the Fens and other parks is a negative impact on a historic park that should be avoided. 10.8

- The shadow studies included in the Project Notification Form PNF give a general indication of the shadow impacts. We seek additional studies in the Draft Project Impact Report to fully explain the shadow impacts, including very detailed studies to show all shadow impacts.

- It is important to understand for how many days in a year there will be shadows at the locations studied attributable to the 1000 Boylston St. project that have or exceed specified durations, e.g. 15, 30 and 45 minutes, I hour, 2 hours etc, 10.9

- The information provided should accurately reflect all of the impact of shadows cast by the proposed building regardless of what they cover: the ground, the walls of historic buildings, and building roofs so individuals can make decisions about what is important. As the Mass Historic Commission letter to MEPA pointed out, the Back Bay neighborhood is a historic resource.

10.9

- The shadows from each building in the project should be identified on the plan by using contrasting colors, so that a determination can be made as to which tower is casting which shadow. We note that the height in a shadow study is not the "zoning height". It is the actual height, including all mechanical structures. The developer should be clear that he is using the correct height in his calculations.

- The study should be replicable. The source media file should be provided.

C. Review of Alternative Reduced-Build Structures (NABB letter page 3)

If the Proponent continues to pursue two towers and the increased density on this site, we believe they are obligated to share financial information, particularly to show evidence of the increased expenses used to justify the additional height and volume of the new proposal. These costs should be compared to the costs of a reduced-build proposal that screens or otherwise masks the Prudential parcel without building a structure on it.

10.10

D. Transportation and Parking (NABB letter page 4)

<u>Vehicular Traffic</u> – In addition to the usual times for which modes of traffic are studied, traffic on weekends, and Red Sox game times, as well as in times of emergencies at the fire station on Boylston should be studied.

10.11

- Pedestrian flows deserve as much planning and mitigation as the vehicular and cycle traffic. A separate pedestrian analysis section should be included in the DPIR.

10.12

- Bicycle traffic and safety is notably important given the worry already raised concerning the valet parking arrangement proposed on Boylston St. For this and other questions, it would be extremely helpful to understand the mix and routes planned for each type of vehicle traveling in and around the site.

10.13

- Show the circulation of all vehicular traffic – private automobiles, taxis, delivery, fire and safety vehicles, etc.

10.14

- We request peak hour analyses (morning and afternoon, Red Sox game days, and normal days) for the Green Line

10.15

- Back Bay and other neighborhoods have for years advocated for an eastbound ramp to the Turnpike. Does the amount of air rights construction anticipated over the next several years open the door to a feasible way of doing that?

10.16

- We urge the Proponent and the BPDA to correlate the findings for this project with the City traffic overall and with anticipated additional development projects, such as Christian Science and Stuart Street, including the Back Bay Station.

10.17

- Study the additional intersections of Commonwealth and Berkeley, and Stuart and Huntington

10.18

- The current access requires entering and exiting on a bridge on a very congested street. Alternatives should be investigated. 10.19

- NABB believes that the Garage is far too large. The garage should be sized to encouraging transit use, not automobiles with Zipcar, bike parking spaces encouraged. A similar transit oriented development project uses a ratio of .4. 10.20

E. Affordable Housing Options (NABB letter page 5)

- At the earliest point in the process, the developer should be specific about how they propose to meet the affordable housing obligation of this project, so that the neighborhoods can comment on this important aspect of the project. 10.21

F. Other

- NABB requests that the CAC be notified immediately in the event the Proponent, BPDA, City of Boston, MassDOT, the Turnpike Authority or any other state or municipal agency learns that any legislation is being promoted that would change the ownership rights of Parcel 15 from a 99-year lease. 10.22

- More than many projects, this is a Public-Private Venture. Many of the assets necessary to accomplish the project are assets owned by the public, such as the air rights, the underlying zoning space, sidewalk, and Cambria Street. Please provide detailed information on any public funding required (or to be sought) making the project possible, such as the transfer of a public street to either the MassDOT or the developer. 10.23

- NABB's March 7th letter mentions the importance of the Civic Vision guidelines. The Civic Vision has been called “dated”, but it is an actual plan developed through a formal Planning process and adopted by the community and the City. It is the current plan for the site, along with the underlying zoning. The guidelines articulate an important vision for the community. 10.24

- On the other hand the "high spine" has been mentioned at public meetings (for this and many other projects in the Back Bay). “High spine” is a term that may be erroneously attributed to a Kevin Lynch napkin sketch in the 1950's. The “High Spine” concept has never been developed or formally adopted. Nor should it. This is hardly a plan, and the use of this term is irrelevant today. 10.25

Thank you for the opportunity to comment.

Sincerely,

Vicki C. Smith

Vicki C. Smith, Chair

Cc: Mayor@boston.gov
elected officials in the City
Council: Michelle.Wu@boston.gov, Bill.Linehan@boston.gov,Josh.Zakim@boston.gov, Ayanna.Pressley@boston.gov, A.E.George@boston.gov,Tito.Jackson@boston.gov, Salvatore.Lamattina@boston.gov, Michael.F.Flaherty@boston.gov,Andrea.Campbell@boston.gov, Frank.Baker@boston.gov, Timothy.McCarthy@boston.gov,Matthew.OMalley@boston.gov, Mark.Ciommo@boston.gov,
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Neighborhood Association of the Back Bay
160 Commonwealth Avenue #L-8
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PNF Letter 11: Fenway Community Development Corporation (CDC)

Comment 11.1

The lack of specifics on compliance with the City of Boston's Inclusionary Development Policy (IDP) affordable housing commitment concerns us. However, we recognize and appreciate Weiner Ventures' pledge to fully abide by the IDP requirements. We realize that the requirements could be met by a mix of affordable units built on site, off site or by contributions to the IDP fund and that this mix is not yet set. We are very interested in the specifics of this plan and expect to see the details spelled out in a public and transparent process.

Response

As discussed in Section 2.1.1 of Chapter 2, *Regulatory Context and General Information*, the Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.

Comment 11.2

We are concerned that this proposal could divide neighborhoods rather than unite them. It will exacerbate the growing complexity of the Dalton Street-Belvidere Street corridor, helping to make it into a boundary owing to overuse by motor vehicles. We are concerned that this project could easily become a virtual gated community.

Response

The intent of the proposed development is to transform the Project Site from an undeveloped highway overpass into a hub of residential and retail activity, which will help knit together the fabric of the City. The Project will provide a new connection between the Back Bay neighborhood, the bustling Massachusetts Avenue corridor south of Boylston Street, and the Fenway neighborhood. This connection will be strengthened by street-level retail and an improved streetscape that will provide significant urban design and social benefits, as well as stimulate economic growth.

Comment 11.3

Another concern is that the retail will be targeted to national chains focusing on wealthy transients and their specialized needs rather than focusing on the residents of the Fenway and the Back Bay and their needs.

Response

The Proponent, as it has historically done, will conduct a market study of potential retailers appropriate for the project area.

Comment 11.4

With 303 parking spaces and two floors of retail, the proposed 1000 Boylston Street may overload this area beyond its capacity, given the cumulative effect of current developments.

Response

As described in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, since filing of the ENF, the Project has been revised from the ENF/PNF Alternative, including the reduction of parking spaces to 175 from 303. This is also less than the 240 spaces proposed under the 2013 Designation Alternative. Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs.

The traffic analysis presented in Chapter 5 demonstrates that the much smaller development will have only a modest effect on traffic in the surrounding area.

Comment 11.5

It is very hard to think that the loading areas shown in the preliminary plans will be adequate to service 342 residential units with 303 parking spaces and two floors of retail. Building for car owners in this part of the city seems impractical, it's counter to the times, and it certainly increases the overall impression of creating a project for people who drive everywhere.

Response

Refer to the response to Comment 11.4 above. Section 5.14.2 in Chapter 5, *Transportation,* for a listing/description of the extensive set of TDM strategies that the Proponent is committing to as a way to encourage alternative modes of transportation and reduce use of single-occupancy vehicles.

Comment 11.6

We believe that suggesting that nearby public transit will mitigate traffic issues is flawed. The additional traffic created by the extensive parking and retail aspects of this project will compromise surface-level lines. Consider the current plight of the No. 1 bus, for example, as it negotiates the traffic and choke-points along Massachusetts Ave. Every year brings additional challenges to this bus route and this project will just add to them. For example, it will add still more traffic to Belvidere Street and worsen the existing choke-point at its intersection with Massachusetts Ave.

Response

Refer to Chapter 5, *Transportation,* for the complete transportation study for the Project, including transit analysis (Section 5.11). The smaller project now proposed will have only a modest impact on traffic, parking and public transportation in the Back Bay.

Comment 11.7

Given current trends in the downtown luxury market, and given the project's proximity to multiple MBTA bus and trolley lines, the proposal has far too many parking spaces for the number of total units being proposed…. Given these trends, it seems reasonable to ask the developer to reduce the number of parking spaces to half the number of apartments. This will allow for a smaller parking structure and have the added benefit of reducing the height of the overall complex. In addition it should ease the traffic flow in and out of the garage on the Dalton Street side of the project.

Response

Refer to the response to Comment 11.4 above regarding parking supply.

As shown on Figure 3.34, the parking garage access has been relocated to Scotia Street turning a short-section of Scotia Street into two-way for a direct connection to Boylston Street.

Comment 11.8

We are happy to see the sidewalk improvements along this portion of Boylston Street, and strongly state the need for smooth paving material that allows access for residents in wheelchairs. It is also important to ensure that sidewalks maintain their width along the span of the site, even where drop off locations, landscaping, and other amenities are going to be located. This will ensure that no bottlenecks occur and thus provide for smoother travel for everyone, especially those in wheelchairs.

Response

An uninterrupted, level grade, generously-sized sidewalk is the feasible treatment along the length of Boylston Street, with street trees, as shown on Figure 3.35. However, the 'bridge' condition makes plantings difficult to achieve and plantings will need to be approved by MassDOT.

Comment 11.9

We want to emphasize the need for affordable food options, as many seniors and residents on fixed-incomes live nearby. Affordable retail in the neighborhood has diminished along with the affordable housing, and Weiner Ventures has an opportunity to provide needed services for Fenway and Back Bay residents. We wonder

if this project could emulate the plan of Skanska' s development at 13 50 Boylston Street to subsidize some retail space in the project, allowing smaller local business access to this prime commercial real estate.

Response

The Proponent, as it has historically done, will conduct a market study of potential retailers appropriate for the project area.

Comment 11.10

We also want to emphasize the importance of local hiring and contracting for the development. We encourage Weiner to employ both Boston residents and minority contractors. We would particularly like to make sure that Fenway residents are connected to the neighborhood jobs created through this project. Weiner Ventures could work with local employment centers, such as our "Walk to Work" employment program, run by Kris Anderson (kanderson@fenwaycdc.org), to provide notifications about job opportunities.

Response

The Proponent intends to comply with the City's Residents Jobs Policy.

March 17, 2017

Phil Cohen, Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

RE: Comments on the Weiner Ventures proposal for 1000 Boylston Street

Dear Mr. Cohen:

We submit this letter on behalf of the Urban Village Committee of the Fenway Community Development Corporation. Fenway CDC is a 44-year-old, community-based organization that builds and preserves affordable housing and promotes projects that engage our full community in enhancing the neighborhood's diversity and vitality. We have reviewed the project documents on file with the Boston Planning and Development Agency (BPDA) and have attended the Article 80 community meeting. We thank you for the opportunity to comment on this agreement.

Our comments are based on the values and objectives laid out in our Urban Village Plan for the Fenway. The Fenway CDC organized community workshops, conducted in person and on-line surveys, hosted topic-based working groups, and then refined the ideas and comments contributed by more than 200 community members into our final plan.

The current Urban Village Plan builds on and broadens earlier revisions of the plan, but it is not an official document of the Fenway CDC. It is a vision for balanced growth, created with the CDC's help by hundreds of our neighbors. To summarize our comments for 1000 Boylston Street, the Urban Village Committee believes that reductions in height, density, massing and parking are necessary to give this project a more neighborhood-friendly design.

SUFFICIENT AND VARRIED HOUSING SUPPLY

The lack of specifics on compliance with the City of Boston's Inclusionary Development Policy (IDP) affordable housing commitment concerns us. However, we recognize and appreciate Weiner Ventures' pledge to fully abide by the IDP requirements. We realize that the requirements could be met by a mix of affordable units built on site, off site or by contributions to the IDP fund and that this mix is not yet set. We are very interested in the

11.1

specifics of this plan and expect to see the details spelled out in a public and transparent process. 11.1

NATURE OF THE PROPOSAL

Weiner Ventures has filed a Project Notification Form (PNF) with the Boston Planning and Development Agency (BPDA) for a project to be located at 1000 Boylston Street.

The proponent for1000 Boylston St. proposes to build two residential towers with approximately 689,000 square feet of residential space that surmount a 6-story pedestal. The 40-story West Tower would be 566 feet tall and feature 160 condominiums. The 24-story East Tower would be 283 feet tall and feature 182 rental apartments. The six-story podium would consist of two lower stories with 35,000 square feet of retail space and four upper stories of vehicle parking, providing 303 parking spaces.

This project combines publicly and privately owned parcels. The bulk of the public parcels are owned by the Massachusetts Department of Transportation (MassDOT) and consists of air rights above the Massachusetts Turnpike and air rights above the rail yards that lie under Massachusetts Avenue and Boylston Street. Air rights over Cambria Street belong to the City of Boston and are also part of this site. Using these air rights creates engineering and construction challenges, since a deck must be built over existing uses to form the "foundation" for the project. This deck adds a significant cost that becomes the rationale for a denser, taller development. Our broad concerns center on the significant impacts on the landscape and functioning of this neighborhood that the project will have.

We are concerned that this proposal could divide neighborhoods rather than unite them. It will exacerbate the growing complexity of the Dalton Street-Belvidere Street corridor, helping to make it into a boundary owing to overuse by motor vehicles. We are concerned that this project could easily become a virtual gated community. Another concern is that the retail will be targeted to national chains focusing on wealthy transients and their specialized needs rather than focusing on the residents of the Fenway and the Back Bay and their needs. 11.2 11.3

THE BELVIDERE STREET - DALTON STREET CORRIDOR

The Belvidere St.-Dalton St. corridor is a short heavily used north-south route that runs between Huntington Avenue and Boylston Street, with signalized intersections at each end and nowhere else. This corridor services an entrance to Prudential Garage and both the Hilton and Sheraton hotels, with 390 and 1220 rooms respectively. The associated commerce and traffic will become noticeably denser as it is joined by similar demands arising from 30 Dalton Street, which is now being leased, and the demands arising from the massive project at One Dalton Street. One Dalton will consist of a midrise building and a high rise building, comprising 61 residences, 252 hotel rooms, a restaurant, and retail businesses.

TRAFFIC FLOW CHANGES UNDERWAY

Plans for One Dalton Street include creating a counterclockwise traffic flow around it, making part of Dalton Street one-way southbound, extending Clearway Street to meet Belvidere Street at a new intersection, and creating a traffic ramp into the underground garage at 101 Belvidere Street. To get an idea of where this street is already headed visualize the taxi line for the new Four Seasons Hotel, as takes up a whole lane of the street, and think of the private car traffic as well. With no new signals planned, the crosswalks, along Belvedere Street for example, will become even more daunting and dangerous. Equally worth noting is that this heavy new use will push drivers into accessing the area using Massachusetts Ave., with St. Germain Street, Clearway Street, and the west end of Belvidere Street serving as connectors.

TRAFFIC

With 303 parking spaces and two floors of retail, the proposed 1000 Boylston Street may overload this area beyond its capacity, given the cumulative effect of current developments. 11.4

It is very hard to think that the loading areas shown in the preliminary plans will be adequate to service 342 residential units with 303 parking spaces and two floors of retail. Building for car owners in this part of the city seems impractical, it's counter to the times, and it certainly increases the overall impression of creating a project for people who drive everywhere. 11.5

PUBLIC TRANSIT CONCERNS

We believe that suggesting that nearby public transit will mitigate traffic issues is flawed. The additional traffic created by the extensive parking and retail aspects of this project will compromise surface-level lines. Consider the current plight of the No. 1 bus, for example, as it negotiates the traffic and choke-points along Massachusetts Ave. Every year brings additional challenges to this bus route and this project will just add to them. For example, it will add still more traffic to Belvidere Street and worsen the existing choke-point at its intersection with Massachusetts Ave. 11.6

PARKING

Given current trends in the downtown luxury market, and given the project's proximity to multiple MBTA bus and trolley lines, the proposal has far too many parking spaces for the number of total units being proposed. 11.7

According to an article in the Boston Globe (March 17, 2017), Related Beal's new Lovejoy Wharf development, opening this summer near North Station, will not offer a single parking space for its 157 condos. In addition, Related Beal recently received city approval for a 324-unit building in the South End that will have 180 parking spaces.

Another point of comparison is the Pierce Boston, a 30-story tower Samuels & Associates is building in the Fenway. It will have 80 parking spaces for 349 apartments and condos. In addition, 171 Tremont, a smaller condo building along the Boston Common, jettisoned plans for a garage last year after being forced to reduce the building to 12 stories.

Given these trends, it seems reasonable to ask the developer to reduce the number of parking spaces to half the number of apartments. This will allow for a smaller parking structure and have the added benefit of reducing the height of the overall complex. In addition it should ease the traffic flow in and out of the garage on the Dalton Street side of the project. 11.7

DISABILITY ACCESS

As new developments emerge along Boylston Street, one benefit is sidewalk repaving, which eases access throughout corridor. We are happy to see the sidewalk improvements along this portion of Boylston Street, and strongly state the need for smooth paving material that allows access for residents in wheelchairs. It is also important to ensure that sidewalks maintain their width along the span of the site, even where drop off locations, landscaping, and other amenities are going to be located. This will ensure that no bottlenecks occur and thus provide for smoother travel for everyone, especially those in wheelchairs. 11.8

LOCAL BUSINESS COMMUNITY

The addition of ground-floor retail at this location will benefit the street life and economic vitality of this corridor, continuing the trend of mixed-use developments along Boylston Street. We want to emphasize the need for affordable food options, as many seniors and residents on fixed-incomes live nearby. Affordable retail in the neighborhood has diminished along with the affordable housing, and Weiner Ventures has an opportunity to provide needed services for Fenway and Back Bay residents. We wonder if this project could emulate the plan of Skanska's development at 1350 Boylston Street to subsidize some retail space in the project, allowing smaller local business access to this prime commercial real estate. 11.9

We also want to emphasize the importance of local hiring and contracting for the development. We encourage Weiner to employ both Boston residents and minority contractors. We would particularly like to make sure that Fenway residents are connected to the neighborhood jobs created through this project. Weiner Ventures could work with local employment centers, such as our "Walk to Work" employment program, run by Kris Anderson (kanderson@fenwaycdc.org), to provide notifications about job opportunities. 11.10

SUSTAINABILITY AND ENVIRONMENTAL BENEFITS

We appreciate that this proposal will revitalize a currently unusable series of parcels. The project will improve the quality and quantity of site stormwater runoff compared to existing conditions, including consideration for groundwater recharge in accordance with provisions applicable to the Groundwater Conservation Overlay District ("GCOD"). Additionally, the proposed stormwater management systems will comply with the 2008 Massachusetts Department of Environmental Protection ("MassDEP") Stormwater Management Policy and Standards.

We also applaud the fact that the project will be in compliance with Article 37, the Project intends to be Leadership in Energy and Environmental Design version 4 ("LEEDv4") certifiable. Through the incorporation of a variety of sustainable design strategies, the Project will improve water quality and reduce the urban heat island effect, among other environmental benefits.

IN CONCLUSION

We believe that reductions in height, density, massing and parking are necessary to give this project a more neighborhood-friendly design. We look forward to attending the BPDA scoping session and reviewing the responses from Weiner Ventures as the Article 80 process continues.

Respectfully yours,

Steven Wolf /RH

Steven Wolf
Fenway CDC CAC member
Urban Village committee

Eric Daniel
Urban Village Committee

Richard Giordano
Community Planner,
Fenway CDC

Brenda Lew /RG

Brenda Lew
Urban Village Committee

PNF Letter 12: Massachusetts Convention Center Authority (MCCA)

Comment 12.1

The proposed project has also called for the discontinuance of Cambria Street. The Authority has serious concerns about said discontinuance including the negative impacts related to freight traffic, parking and queuing on trucks as they enter the Hynes Center loading docks, Dalton Street garage egress and ingress and the potential impacts caused by such traffic impacts Cambria and Boylston Street.

Response

The discontinuance of Cambria Street will be an air rights discontinuance only of air-rights areas needed for construction of the Project and subsurface building elements. The portion of the Cambria Street above grade and below the lowest elevation of the portion of the building over Cambria Street will remain a public way open for traffic.

The Proponent has been in an ongoing dialogue with staff of the MCCA and intends to continue to do so, through the planning process, during construction, and during building operations. Truck/delivery access to the Hynes Convention Center via Cambria Street will be maintained at all times during construction of the Project, as well as post-occupancy.

As shown on Figure 3.34, the parking garage access has been relocated to Scotia Street turning a short-section of Scotia Street into two-way for a direct connection to Boylston Street.

Comment 12.2

The Authority has serious reservations about the proposed locations of the project's three loading docks along Cambria Street and the adverse impact to Cambria Street traffic, congestion, adverse impacts to the Hynes Convention Center Loading docks and especially proponents' plan that trucks servicing its loading docks will back into said loading docks. A key factor in s the overall operations of the Hynes Convention Center is the ability to move freight into and out of the facility in an efficient manner. With multiple events and move-outs and move-ins, efficient movement of freight and traffic along Cambria Street is an essential factor in the overall success of events at the facility.

Response

Refer to the response to Comment 12.1 above.

Comment 12.3

The proposed project calls for a spanned building over Cambria Street and the "Scotia" parcel. The Authority has concerns about the clearance over Cambria Street and the ability of large freight trucks to pass the span.

Response

Refer to the response to Comment 12.1 above.

Comment 12.4

Additionally, the Authority would like to see the proponent provide specific trip generation data on the impact that the Project's Cambria loading docks will have on operation of Cambria Street and the impacts on the Hynes Convention Center.

Response

Section 5.9.2 in Chapter 5, *Transportation,* provides loading trip generation based on the National Cooperative Highway Research Program (NCHRP) Synthesis 298 Report: Truck Trip Generation Data. As noted above, the Proponent has been in an ongoing dialogue with staff of the MCCA and intends to continue to do so, through the planning process, during construction, and during building operations.

MASSACHUSETTS CONVENTION CENTER AUTHORITY

March 16, 2017

Philip Cohen, Project Manager
Boston Planning & Development Agency
Boston City Hall, 9th Floor
Boston, MA 02201

Re: 1000 Boylston Street Project
Boston MA

Dear Mr. Cohen:

On behalf of the Massachusetts Convention Center Authority's ("Authority"), staff have reviewed the Project Notification Form ("PNF") submitted to the Boston Planning & Development Agency (BPDA") on January 3, 2017 for the above referenced project.

As you are aware the Authority, owns and operates the John B. Hynes Veterans Memorial Convention Center ("Hynes Convention Center") located at 900 Boylston Street. Additionally, Authority staff have attended the Citizens' Advisory Committee meetings and have met with the project developer to better understand the overall project and identify any potential adverse impacts to the Hynes Convention Center operations.

Overall the Authority conditionally supports the proposed project for a number of reasons, including, but not limited to the fact that the project shall knit or reconnect the urban fabric of the Boylston Street streetscape above the air rights parcel and over the turnpike extension and rail track, with new public amenities such as sidewalks, lighting and public amenities consistent with the Boston Transportation Department's ("BTD") Complete Streets Guidelines.

For the record, the developer, Weiner Ventures has had an ongoing open and transparent dialogue with the Authority as they have moved forward on the project. To that end, the Authority has voiced its concerns about the negative impact the proposed project may have on Cambria Street and the Hynes Convention Center loading dock operations.

The PNF, section 4.3.4, describes the location of the projects' loading docks as follows: *three dedicated off-street loading docks with be provided for the Project. Two of the docks will accommodate single-unit trucks and the third dock will provide a compactor. Trucks will back into the loading docks from Cambria Street, which is a low-volume dead-end street.*

Contrary to the ENF's description of Cambria Street as a "low-volume dead end street", the Authority outlines its concerns are as follows:

1. Hynes Loading Docks. As the BPDA and the Boston Transportation Department are well aware Cambria Street is the main and only artery through which substantial commercial freight is moved into the Hynes Convention Center loading docks. Within the past year alone the Hynes Convention Center loading dock, freight and truck trips, exhibitor move-in and out trips averaged close to 19,000 trips per year. Additionally the Hynes Convention Center food and beverage operations also utilize these loading docks. The various freight trucks servicing the Hynes Convention Center are generally 75 feet in length.

2. Hynes Calendar. The Hynes Convention Center 2016 event calendar was one of its busiest years, with 109 events, 240,000 attendees and 2,789 exhibitors and an overall economic impact of $310 million dollars.

3. Discontinuance of Cambria Street. The proposed project has also called for the discontinuance of Cambria Street. The Authority has serious concerns about said discontinuance including the negative impacts related to freight traffic, parking and queuing on trucks as they enter the Hynes Center loading docks, Dalton Street garage egress and ingress and the potential impacts caused by such traffic impacts Cambria and Boylston Street. 12.1

4. 1000 Boylston Projects' Cambria Street Loading Docks. The Authority has serious reservations about the proposed locations of the project's three loading docks along Cambria Street and the adverse impact to Cambria Street traffic, congestion, adverse impacts to the Hynes Convention Center Loading docks and especially proponents' plan that trucks servicing its loading docks will back into said loading docks. A key factor in s the overall operations of the Hynes Convention Center is the ability to move freight into and out of the facility in an efficient manner. With multiple events and move-outs and move-ins, efficient movement of freight and traffic along Cambria Street is an essential factor in the overall success of events at the facility. 12.2

5. Cambria Street Air Rights Parcel. The proposed project calls for a spanned building over Cambia Street and the "Scotica" parcel. The Authority has concerns about the clearance over Cambia Street and the ability of large freight trucks to pass the span. 12.3

6. Cambria Trip Generation Data. Additionally, the Authority would like to see the proponent provide specific trip generation data on the impact that the Project's Cambria loading docks will have on operation of Cambria Street and the impacts on the Hynes Convention Center. 12.4

In closing, the Authority has always been supportive of our neighbors and abutters and we look forward to working with the developer, the BPDA and various City of Boston agencies on this project.

Sincerely,

David Gibbons,
Executive Director

cc: Brian Golden, Executive Director, BPDA
Lauren Shurtleff, Senior Planner, BPDA

PNF Letter 13: Friends of the Public Garden

Comment 13.1

After reviewing the PNF, the Friends finds that the shadow analysis provided in Chapter 5.3 is inadequate. The PNF provides data for only one day during the period of March 21 to September 21 and therefore fails to meet the requirements of the zoning code to demonstrate shadow impacts on ANY day within that period. The project proponent should be required to provide a shadow analysis in the Draft Project Impact Report that shows new shadows every day between March 21 and September 21 for the hours between 8 a.m. and 2:30 p.m. In addition to the graphic showing the extent of the shadows on the neighborhood receptors, the proponent should also present the Shadow Overlap Study for each day so that the reviewer can determine the duration of shadows. In addition to shadows cast by existing structures, the graphics should also include shadows cast by an as-of-right building.

Response

Please refer to Section 6.4 of Chapter 6, *Environmental Protection,* which provides an updated shadow study. The shadow overlap study, as presented in Figures 6.4a-g, was expanded to include all months between March 21 and September 21.

Comment 13.2

The data provided in Chapter 5.3 shows that the shadows cast by the proposed project will impact the Commonwealth Avenue Mall, public parkland. This is of great concern for us. We ask that the DPIR explains in detail what design measures need to be taken to "assure" that the project does not cast shadows for more than 2 hours from March 21 to September 21 during the hours of 8 a.m. to 2:30 p.m. should the day by day analysis indicates shadows of that duration. We would also urge that as the process continues, the buildings can be modified and reduced in scale to limit shadow impacts on the Mall.

Response

As demonstrated in Figures 6.4a-g, the Project will not create more than two hours of shadow over the Commonwealth Avenue Mall. The Back Bay Fens to the north of the Turnpike would experience shadow at 8AM in March and September for one hour only.

Comment 13.3

Another great concern is the enormous amount of planning and community engagement that went into the Civic Vision for Turnpike Air Rights in Boston. The original proposal for this site was one tower 398' high. This proposal is much larger, requiring, in the words of the PNF "density of development to mitigate cost premiums."

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Residences Building height proposed for the Project has been reduced from the ENF/PNF Alternative by 82 feet to a zoning height of 484 feet to the top of the highest occupiable floor. The 2013 Designation Alternative with a height of 398 feet had a slightly reduced impact of height and massing compared to the Project, which is the Preferred Alternative, but did not achieve the goals of covering the entire open area over the Turnpike or of creating a street wall on Boylston Street.

FRIENDS
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EX OFFICIO
Leslie Adam
Christine W. Letts
Sherley Smith

February 17, 2017

Phil Cohen, Project Manager
Boston Planning and Development Agency
1 City Hall Square
Boston, MA 02201

Re: 1000 Boylston St. Project Notification Form

Dear Mr. Cohen:

We have reviewed plans for the proposed development at 1000 Boylston Street, and are pleased to submit these comments. The Friends of the Public Garden has worked in partnership with the City since 1970 to preserve and enhance the Boston Common, Public Garden, and Commonwealth Avenue Mall. While we support the goals of eliminating a hole in the urban fabric caused by the turnpike, linking neighborhoods, and activating Boylston Street, we have a number of concerns about the project as currently proposed.

The proposed project is within the Huntington Avenue/Prudential Area and is subject to Boston Zoning Code Article 41-16, *Planned Development Area: General Design and Environmental Impact Standards.* The Shadow criteria established in this Article states that a project should be designed to "assure that it does not cast shadows for more than 2 hours from 8:00 a.m. through 2:30 p.m. on any day from March 21 through September 21 in any calendar year on any portion of dedicated public parkland." New shadows exempted are those cast on structures existing as of 5/9/1996 (effective date of this zoning code section) or cast by an as-of-right building, whichever is greater.

After reviewing the PNF, the Friends finds that the shadow analysis provided in Chapter 5.3 is inadequate. The PNF provides data for only one day during the period of March 21 to September 21 and therefore fails to meet the requirements of the zoning code to demonstrate shadow impacts on ANY day within that period. The project proponent should be required to provide a shadow analysis in the Draft Project Impact Report that shows new shadows every day between March 21 and September 21 for the hours between 8 a.m. and 2:30 p.m. In addition to the graphic showing the extent of the shadows on the neighborhood receptors, the proponent should also present the Shadow Overlap Study for 13.1

each day so that the reviewer can determine the duration of shadows. In addition to shadows cast by existing structures, the graphics should also include shadows cast by an as-of-right building. 13.1

The data provided in Chapter 5.3 shows that the shadows cast by the proposed project will impact the Commonwealth Avenue Mall, public parkland. This is of great concern for us. We ask that the DPIR explains in detail what design measures need to be taken to "assure" that the project does not cast shadows for more than 2 hours from March 21 to September 21 during the hours of 8 a.m. to 2:30 p.m. should the day by day analysis indicates shadows of that duration. We would also urge that as the process continues, the buildings can be modified and reduced in scale to limit shadow impacts on the Mall. 13.2

Another great concern is the enormous amount of planning and community engagement that went into the Civic Vision for Turnpike Air Rights in Boston. The original proposal for this site was one tower 398' high. This proposal is much larger, requiring, in the words of the PNF "density of development to mitigate cost premiums." 13.3

We would expect that the Article 80 process can result in a development solution that realizes a return on investment and creates a development that has value for the community while being well integrated into its surroundings and causing no adverse impact to the Commonwealth Avenue Mall.

Thank you for your consideration of our comments.

Sincerely,

Elizabeth Vizza
Executive Director

Cc: Brian Golden, Director, Boston Planning and Development Agency
Senator William Brownsberger
Neighborhood Association of the Back Bay
Representative Byron Rushing

PNF Letter 14: Garden Club of the Back Bay

Comment 14.1

The site is adjacent to numerous Historic Districts, including the Back Bay Historic District and the Back Bay Architectural District, listed in State and National Registers which specifically oppose such large scale building.

Response

The Project is designed to respect the "High Spine" planning concept, which provides a non-contiguous, linear skyline of high-density building over 250 feet tall. This strategy has been key in promoting downtown revitalization while allowing historic neighborhoods to retain the pedestrian size and scale necessary to retain their historic character. The Project joins other tall buildings such as the Prudential Tower, 111 Huntington Avenue, and 200 Clarendon ("The Hancock"), many of which have co-existed with their surrounding historic districts for decades.

Comment 14.2

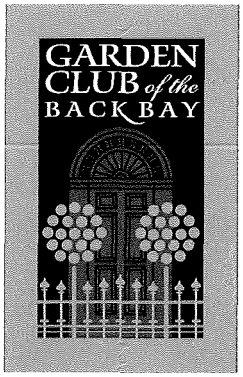
Sunny, open green spaces are critical to the quality of life in our city. The buildings in this proposal abut the sidewalk, unlike previous high-rise buildings which are set back enough to create some open space. Roof gardens are not a substitute. Open sunny space is essential to keeping Boston a walkable city for citizens and visitors. Dangerous winds are created by isolated highrises, such as the proposed structures. Shadows created by looming towers will destroy precious public spaces extending from Boylston Street to the Commonwealth Avenue Mall.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Apartments Building—the previously proposed 17-story, approximately 300-foot high (above the Podium) building at the corner of Dalton and Boylston Streets—has been eliminated. In addition, the 5th floor of the Podium has been set back to more closely align with the height of the cornice of the Hynes Convention Center (approximately 80 feet) while still completing the street walls along Boylston, Dalton, St. Cecilia, and Scotia Streets.

Section 6.4 of Chapter 6, *Environmental Protection,* provides an updated shadow study. In summary, the Project results in less overall shadow than the ENF/PNF Alternative.

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March 17, 2017

Phil Cohen, Project Manager
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

RE: 1000 Boylston Street Project Notification Form (PNF)

Dear Mr. Cohen:

This letter is sent on behalf of the Garden Club of the Back Bay to express our opposition to endorsing the 1000 Boylston Street Article 80 Project Notification Form design proposed by Weiner. The proposed project will destroy the fundamental design of the entire neighborhood, creating wind, shadows and traffic that will be detrimental to both plant and human life. The site is adjacent to numerous Historic Districts, including the Back Bay Historic District and the Back Bay Architectural District, listed in State and National Registers which specifically oppose such large scale building. 14.1

Sunny, open green spaces are critical to the quality of life in our city. The buildings in this proposal abut the sidewalk, unlike previous high-rise buildings which are set back enough to create some open space. Roof gardens are not a substitute. Open sunny space is essential to keeping Boston a walkable city for citizens and visitors. Dangerous winds are created by isolated high-rises, such as the proposed structures. Shadows created by looming towers will destroy precious public spaces extending from Boylston Street to the Commonwealth Avenue Mall. Our Garden Club and other civic organizations invest both time and money in maintaining and improving public green spaces throughout the City of Boston. Do not permit developers to ignore the needs of trees, turf, animals and people. Please join us in advocating for a long-term commitment to preserving livable and walkable neighborhoods. 14.2

Sincerely,

Sherley - Jolinda

Sherley Gardner-Smith and Jolinda Taylor
Co-Presidents, Garden Club of the Back Bay

cc: Mayor Marty Walsh

PNF Letter 15: Boston Architectural College

Comment 15.1

In reviewing the shadow study in the PNF, we see that our campus will be in shade for an additional four hours per day. In conjunction with the shadows already cast by the Prudential Center, the One Dalton Street project currently in progress, and the proposed Parcel 13 project, our campus will be cast in perpetual shade. This would directly affect our curriculum, as our ability to teach daylighting principles to our design students without sunlight entering our studio spaces would be compromised.

Response

Section 6.4 of Chapter 6, *Environmental Protection,* provides an updated shadow study. In summary, the Project results in less overall shadow than the ENF/PNF Alternative. As demonstrated in Figures 6.3a through 6.3d, the Project is not expected to create new shadow over the Boston Architectural College building during those dates/times of the year. As shown on the shadow overlap studies (Figures 6.4a through 6.4g), the Project will create new shadow over portions of the building for one hour on March 21 and September 21 only.

Comment 15.2

In addition, new and potentially greater wind conditions could adversely impact our operations. Whenever our doors facing Boylston Street are open, gusts of wind generated by existing conditions blow large amounts of dust and trash into our lobby. The wind analysis in the PNF is incomplete, and with insufficient information provided to date, we can only anticipate more potential issues with regard to increased winds.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for more details about the projected pedestrian wind conditions for the Project. As shown on Figures 6.1b and 6.2b, the pedestrian-level wind conditions along Hereford Street are predicted to remain comfortable for sitting and standing, and would not result in unacceptable wind gusts, as compared to the No-Build Condition.

Comment 15.3

Moreover, current wait times for pedestrians to navigate the intersection of Dalton and Boylston Streets are lengthy, and we do not see any mention in the PNF of plans to mitigate an already difficult and potentially unsafe crossing. An in-depth study with regard to this intersection is strongly recommended.

Response

The intersection of Dalton and Boylston Streets has high pedestrian volumes during both the morning and evening peak hours. The Proponent recognizes that crossing Boylston Street at Dalton Street can at times be challenging. For that reason, the planned ground plane improvements detailed in Chapter 5, *Transportation,* and elsewhere in this DEIR/DPIR will help address these conditions through better design and pedestrian-friendly improvements.

BOSTON ARCHITECTURAL COLLEGE

March 17, 2017

Mr. Phil Cohen, Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Dear Mr. Cohen,

The Boston Architectural College has attended several public planning sessions related to the proposed 1000 Boylston Street project. We are happy that the unsightly hole across the street from our 951 Boylston Street campus building will be filled, and that an area of the city that has been neglected will receive the attention that it deserves. Acknowledging the positive aspects of developing the area, we also want to note some concerns.

In reviewing the shadow study in the PNF, we see that our campus will be in shade for an additional four hours per day. In conjunction with the shadows already cast by the Prudential Center, the One Dalton Street project currently in progress, and the proposed Parcel 13 project, our campus will be cast in perpetual shade. This would directly affect our curriculum, as our ability to teach daylighting principles to our design students without sunlight entering our studio spaces would be compromised. 15.1

In addition, new and potentially greater wind conditions could adversely impact our operations. Whenever our doors facing Boylston Street are open, gusts of wind generated by existing conditions blow large amounts of dust and trash into our lobby. The wind analysis in the PNF is incomplete, and with insufficient information provided to date, we can only anticipate more potential issues with regard to increased winds. 15.2

Moreover, current wait times for pedestrians to navigate the intersection of Dalton and Boylston Streets are lengthy, and we do not see any mention in the PNF of plans to mitigate an already difficult and potentially unsafe crossing. An in-depth study with regard to this intersection is strongly recommended. 15.3

In all, the Boston Architectural College is unable to comment definitively on the 1000 Boylston Street project at this time, as the information needed to understand all of the potential impacts on our students, faculty, staff, and visitors is not clear. The College urges that an in-depth study of all areas of impact be conducted, and the results disseminated, so that all entities and organizations in the immediate vicinity will have sufficient information to accurately assess the effects on their operations.

Sincerely,

Art Byers

Art Byers
Associate Vice President of Facilities

320 Newbury Street, Boston, MA 02115 • Phone: 617.585.0100 • Fax: 617.585.0111 • Web: the-bac.edu

PNF Letter 16: Berklee College of Music

Comment 16.1

During the construction period, we anticipate some disruption and inconvenience that is customary for such projects. We are concerned, however, that this substantial project not impinge on the college's ability to conduct performances at the Berklee Performance Center, and on the ability of faculty to teach and students to learn in the classrooms, practice facilities and recording studios located in 130, 136 and 150 Massachusetts Avenue, as well as in leased space in lower level of St. Cecilia Church.

Rather than defer the preparation .and approval of a Construction Management Plan following the completion of the Article 80 project review, we ask that the Scoping Determination provide that the proponent set forth with some specificity the elements of a customary Construction Management Plan. This would include the amount of public right-of-way the project would require for support of excavation to construct the project, particularly along St. Cecilia Street adjacent to the Berklee Performance Center's loading area and the college's trash compactor.

It would also be helpful to understand how pedestrian circulation on the south side of Boylston Street will be handled during the construction period. The location of construction vehicle access to and egress to the site and where queuing of such construction vehicles as those delivering concrete to the site will occur.

Response

Refer to Section 6.10 of Chapter 6, *Environmental Protection,* for a discussion of temporary construction impacts. Appendix G provides the draft 10% CMP and construction logistics plans.

Comment 16.2

We anticipate that the Scoping Determination will include a requirement for the customary wind analysis for proposed high-rise projects. Members of the project team have indicated that they already are looking at wind testing data. We very interested in learning more about the anticipated effects of the proposed project on ground level winds, particularly along Boylston Street, St. Cecilia Street and Scotia Street. To the extent that these analyses suggest materially higher winds at ground level in this area, we would that meaningful measures be taken to address such effects, e.g., setbacks of the tower from the building's vs. tree planting.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for the projected pedestrian wind conditions as a result of the Project. The future Berklee Crossroads development has been assumed in the baseline of this study.

Comment 16.3

We also ask that the proponent indicate measures it intends to take to avoid unintended damage to nearby existing structures, e.g., a pre-construction survey of nearby structures and regular monitoring of elevation points affixed to those structures during installation of support of excavation, excavation and construction of the proposed project.

Response

The Project will conduct a thorough pre-construction survey of nearby structures and install regular monitoring of elevation points affixed to those structures during installation of support of excavation, excavation, and construction of the proposed project.

Comment 16.4

Finally, Berklee's approved Institutional Master Plan (IMP) envisions the development of the Berklee Crossroads project. That plan envisions the realignment of a portion of Cambria Street to provide a continuation of the streetwall along the south side of Boylston Street and improvement of the difficult and confusing Boylston Street/ Cambria Street intersection immediately east of Massachusetts Avenue while still affording service access to the Hynes Convention Center. We would like to clarify that the siting of the proposed condominium tower will not preclude this eventual improvement.

Response

Truck/delivery access to the Hynes Convention Center via Cambria Street will be maintained at all times during construction of the Project, as well as post-occupancy, and, as shown on Figure 3.34, the parking garage access will be located off Scotia Street. Therefore, the Project should not preclude the proposed improvement associated with the Berklee Crossroads project, as described above.

Berklee college of music

1140 Boylston Street, MS-1096 RE, Boston, MA 02215-3693
Tel 617 747-8112 Fax 617 747-6666 berklee.edu
Office of the Vice President for Real Estate

March 17, 2017

Mr. Brian Golden, Director
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Attn: Mr. Phil Cohen

Re: 1000 Boylston Street PNF

Dear Mr. Golden:

Thank you for the opportunity to comment on the Project Notification Form (PNF) submitted by ADG Scotia II LLC with respect to the above-referenced project. We are particularly interested in this project as Berklee College of Music's Berklee Performance Center and other buildings are located immediately west of the project site.

The proponent's intention to develop a continuous retail presence along Boylston Street between Dalton Street and St. Cecilia Street is a welcome development. Infilling the gap in the street wall between the Hynes Convention Center and St. Cecilia Street would be a substantial enhancement to the area.

Literally hundreds of Berklee's students, faculty and staff walk past the project site daily as the college has academic, performance, dormitory and office space along in the Back Bay east of the project site, as well as other such facilities of Berklee College of Music and Boston Conservatory at Berklee in the East Fens. Improving the pedestrian experience on the south side of Boylston Street and other aspects of enhancing the public realm proposed in this area would be a significant improvement.

During the construction period, we anticipate some disruption and inconvenience that is customary for such projects. We are concerned, however, that this substantial project not impinge on the college's ability to conduct performances at the Berklee Performance Center, and on the ability of faculty to teach and students to learn in the classrooms, practice facilities and recording studios located in 130, 136 and 150 Massachusetts Avenue, as well as in leased space in lower level of St. Cecilia Church. 16.1

Rather than defer the preparation and approval of a Construction Management Plan following the completion of the Article 80 project review, we ask that the Scoping Determination provide that the proponent set forth with some specificity the elements of a customary Construction Management Plan.

This would include the amount of public right-of-way the project would require for support of excavation to construct the project, particularly along St. Cecilia Street adjacent to the Berklee Performance Center's loading area and the college's trash compactor.

It would also be helpful to understand how pedestrian circulation on the south side of Boylston Street will be handled during the construction period. The location of construction vehicle access to and egress to the site and where queuing of such construction vehicles as those delivering concrete to the site will occur. 16.1

We anticipate that the Scoping Determination will include a requirement for the customary wind analysis for proposed high-rise projects. Members of the project team have indicated that they already are looking at wind testing data. We very interested in learning more about the anticipated effects of the proposed project on ground level winds, particularly along Boylston Street, St. Cecilia Street and Scotia Street. To the extent that these analyses suggest materially higher winds at ground level in this area, we would that meaningful measures be taken to address such effects, e.g., setbacks of the tower from the building's vs. tree planting. 16.2

We also ask that the proponent indicate measures it intends to take to avoid unintended damage to nearby existing structures, e.g., a pre-construction survey of nearby structures and regular monitoring of elevation points affixed to those structures during installation of support of excavation, excavation and construction of the proposed project. 16.3

Finally, Berklee's approved Institutional Master Plan (IMP) envisions the development of the Berklee Crossroads project. That plan envisions the realignment of a portion of Cambria Street to provide a continuation of the streetwall along the south side of Boylston Street and improvement of the difficult and confusing Boylston Street/ Cambria Street intersection immediately east of Massachusetts Avenue while still affording service access to the Hynes Convention Center. We would like to clarify that the siting of the proposed condominium tower will not preclude this eventual improvement. 16.4

Once again, thank you for the opportunity to comment on the 1000 Boylston Street Project Notification Form. We look forward to a continuing dialogue with the Agency and the proponent.

Sincerely,

William D. Whitney
Vice President for Real Estate

Cc: Mr. Adam J. Weiner
Ms. Lauren Shurtleff

PNF Letter 17: Cambria-Scotia Company

Comment 17.1

Our long experience designing and operating parking facilities tells us that the approximately 140,000 square-foot / 303-car garage proposed for inclusion in the proposed project is excessive to serve the proposed residential uses. Overbuilding a garage at 1000 Boylston Street will lead to public parking there, sooner or later, which is harmful to our long-standing operations. Our main parking entrance and public signage face Dalton Street and are fewer than 100 feet from the proposed parking entrance for 1000 Boylston Street. Limiting public access to Cambria Street also concerns us, because access to our lower garage is exclusively on that street. The Hynes Auditorium Garage has served the public effectively for decades, and we urge the BPDA to evaluate the proposed project in that light.

Response

Refer to Section 5.10 of Chapter 5, *Transportation*, for a discussion of parking needs and proposed arrangements. The parking in the Project will be available only to residents, employees and visitors to the Project, and will not generally be available for public parking.

Public access to Cambria Street will be maintained at all times during construction of the Project, as well as post-occupancy. And, as shown on Figure 3.34, the parking garage access is now located off Scotia Street.

Comment 17.2

The 1000 Boylston Street Project would build a new tower directly along the westerly lot line of our property, with no apparent set back. This would prevent access to the westerly elevation of our existing building for maintenance, and effectively prevent C-S Co. from ever adding stories to our building, or redeveloping our property. We ask that the BPDA carefully consider this aspect of the proponent's requested zoning. Moreover, we request a formal analysis of fire separation distances required under the State Building Code, and any other applicable building regulations, and the proposed project's means of compliance.

Response

The lower five floors of the Podium are built up to the interior property line; floors 6 and above will be set back from the property line by approximately 15 feet. The construction of the Project will fully comply with the Boston Zoning Code and the Massachusetts State Building Code, including the fire resistance rated construction of exterior walls abutting the interior property line.

For existing buildings, existing non-conforming exterior wall fire resistance ratings and openings may be “grandfathered” by code. To the Proponent’s knowledge, there are

no Building Code requirements that create an obligation for an existing owner to remedy these nonconforming conditions, whether there is construction on an adjacent lot or not. Although not directly applicable to this matter, for context see 780 CMR 34-IEBC Section 1012.6.2, which allows existing exterior walls, including openings to remain where an existing building undergoes a Change of Occupancy to an equal or lesser hazard category.

Where the existing garage includes air intakes and/or exhaust outlets in close proximity to an existing interior property line and where the garage building owner determines that the Project will affect the performance of those intakes/outlets, the garage building owner is responsible to remedy those conditions as necessary to maintain the performance of associated systems, such nonconformity caused directly by proximity of the intakes/outlets to the interior property line.

Comment 17.3

As noted above, C-S Co. shares the City's interest in improving the neighborhood, including the fostering of new development. However, we are concerned that the configuration of the proposed project may not account sufficiently for existing neighborhood uses and character. Vehicles travelling to both C-S Co.'s property and the Hynes Convention Center commonly approach from the west using Boylston Street, so we are particularly interested in the effect of the proposed project upon those public views.

Response

As shown on Figure 3.34, the parking garage access is now located off Scotia Street from Dalton Street. Refer to Chapter 5, *Transportation*, for the full study of the Project's effect on the transportation network surrounding the Project Site.

Comment 17.4

The intimate relationship between C-S Co.'s property and the site of the proposed project, requires joint planning for the proposed Planned Development Area {PDA). While we do not ourselves plan any substantial construction in the immediate future, C-S Co. has expended considerable resources over an extended period to explore future development opportunities for our property. We believe that all parties would be best served if the PDA were enlarged to subsume our property and lay out zoning controls for any future development there.

Response

The proposed PDA Development Plan will be specific to the Project proposed in this DEIR/DPIR. Future development of the C-S Co.'s property is speculative and would appropriately be the subject of more detailed analysis by C-S Co. If and when a specific substantial construction is proposed by C-S Co., zoning relief, if required, may

be considered by the BPDA separate from the PDA Development Plan to be adopted for this Project.

Comment 17.5

We appreciate the substantial engineering challenges presented by the proposed project, including by construction over the Massachusetts Turnpike. C-S Co. requests additional study of the methods and means of construction, so we may understand and help to devise mitigation for potential structural harm to C-S Co.'s property, as well as for interference with our operations. The scale of turnpike, live-rail, and construction work will be uniquely intense, and the estimated three-year duration of construction is unusually long, prompting us to seek more detailed information than might otherwise be expected for a smaller, terra firma project. As the abutter most affected, we hope to work directly with the proponent.

Response

The CM will actively and regularly communicate construction activities, including closures and temporary routes of travel through the creation of a website. This will serve to keep the community updated during construction.

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Cambria Scotia Company

60 Temple Place – 2ND Floor
Boston, MA 02111
March 17, 2017

Delivered by Hand

Boston Planning & Development Agency
1 City Hall Square, Ninth Floor
Boston, MA 02201
Attn: Mr. Phil Cohen, Project Manager

RE: Comments on 1000 Boylston Street Project PNF (published January 2017)

Dear Mr. Cohen:

Cambria-Scotia Company (C-S Co.) owns *The Hynes Auditorium Garage* building at 50 Dalton Street, which abuts the site of the proposed "1000 Boylston Street Project." Our principals and representatives have been directly involved for many decades in planning for the immediate area, known as the "St. Cecilia Special Study Area." We are grateful for the Citizens Advisory Committee and other forums sponsored by the Boston Planning & Development Agency (BPDA) to discuss this project. Thank you for offering us an opportunity to comment in writing.

Overview

Our building includes a 500-space public parking garage, an entertainment venue, and three restaurants. For over half a century, these uses have capably served what is today the John B. Hynes Veterans Memorial Convention Center, the Boylston Street/Back Bay neighborhood, and the city at large. The public parking facility, in particular, has been a vital resource not just to the public auditorium, but to support shopping, restaurants, services, offices, and other business in the area.

Our most important comments at present are to urge the BPDA to study ways to ensure that the proposed 1000 Boylston Street Project will not harm us or our tenants, block visual and physical access to our parking garage, or unfairly limit future development of our property or its access to light and air. We have long shared the City of Boston's interest in improving the neighborhood and the St. Cecilia Special Study Area, in particular. However, we are concerned that the proposed project could negatively impact long-standing successes in the area, especially our building's support of visitors to the neighborhood and the Hynes Convention Center.

Specific Comments

It is our understanding that the BPDA may recommend that the proponent of the 1000 Boylston Street Project prepare a Project Impact Report. If so, there will be future opportunities for C-S Co. to make written comments on the proposed project. While reserving our ability to identify other issues as we learn more, we have five major concerns:

14.1

1. Our long experience designing and operating parking facilities tells us that the approximately 140,000 square-foot / 303-car garage proposed for inclusion in the proposed project is excessive to serve the proposed residential uses. Overbuilding a garage at 1000 Boylston Street will lead to public parking there, sooner or later, which is harmful to our long-standing operations. Our main parking entrance and public signage face Dalton Street and are fewer than 100 feet from the

17.1

proposed parking entrance for 1000 Boylston Street. Limiting public access to Cambria Street also concerns us, because access to our lower garage is exclusively on that street. *The Hynes Auditorium Garage* has served the public effectively for decades, and we urge the BPDA to evaluate the proposed project in that light. 17.1

14.2 2. The 1000 Boylston Street Project would build a new tower directly along the westerly lot line of our property, with no apparent set back. This would prevent access to the westerly elevation of our existing building for maintenance, and effectively prevent C-S Co. from ever adding stories to our building, or redeveloping our property. We ask that the BPDA carefully consider this aspect of the proponent's requested zoning. Moreover, we request a formal analysis of fire separation distances required under the State Building Code, and any other applicable building regulations, and the proposed project's means of compliance. 17.2

14.3 3. As noted above, C-S Co. shares the City's interest in improving the neighborhood, including the fostering of new development. However, we are concerned that the configuration of the proposed project may not account sufficiently for existing neighborhood uses and character. Vehicles travelling to both C-S Co.'s property and the Hynes Convention Center commonly approach from the west using Boylston Street, so we are particularly interested in the effect of the proposed project upon those public views. 17.3

14.4 4. The intimate relationship between C-S Co.'s property and the site of the proposed project, requires joint planning for the proposed Planned Development Area (PDA). While we do not ourselves plan any substantial construction in the immediate future, C-S Co. has expended considerable resources over an extended period to explore future development opportunities for our property. We believe that all parties would be best served if the PDA were enlarged to subsume our property and lay out zoning controls for any future development there. 17.4

14.5 5. We appreciate the substantial engineering challenges presented by the proposed project, including by construction over the Massachusetts Turnpike. C-S Co. requests additional study of the methods and means of construction, so we may understand and help to devise mitigation for potential structural harm to C-S Co.'s property, as well as for interference with our operations. The scale of turnpike, live-rail, and construction work will be uniquely intense, and the estimated three-year duration of construction is unusually long, prompting us to seek more detailed information than might otherwise be expected for a smaller, terra firma project. As the abutter most affected, we hope to work directly with the proponent. 17.5

Thank you again for allowing us the opportunity to comment on the PNF. We stand ready to cooperate with the proponent and the BPDA on the 1000 Boylston Street Project

Sincerely

Michael W. Gery, Managing Partner
Cambria-Scotia Company

cc: Jonathan Greeley, BPDA
Lauren Shurtleff, BPDA

PNF Letter 18: Commonwealth Avenue Mall Committee

Comment 18.1

Parks need sun to survive. Sun for the health of the landscape but also for the comfort and pleasure of the users of the Park. The huge shadows cast by this project will darken not only the homes of residents (I am directly in its path) but also a good portion of the Mall and even the Esplanade.

Response

Please refer to Section 6.4 of Chapter 6, *Environmental Protection,* for more details about the Project's shadow study analysis. Overall, the Project as re-designed would result in less overall net new shadow compared to the ENF/PNF Alternative. At 9am on September 21st, the new shadow extends westerly toward Massachusetts Avenue, impacting less of the Back Bay Historic and Architectural Districts and no longer extending up to Commonwealth Mall.

Comment 18.2

The excessive scale of this building seems not only out of character with the historic district, but also disrespectful of the years of community meetings that took place to try to establish some guidelines for this area of Boylston Street and for the parcels over the turnpike.

Response

Please refer to Chapter 3, *Urban Design,* for more details about the Project's planning principles and design goals, and redesign of the Project, which is the Preferred Alternative from the ENF/PNF Alternative. The Project re-design from the ENF/PNF Alternative is more respectful to the history and spirit of the Back Bay and Fenway neighborhoods, as well as the Civic Vision.

Comment 18.3

My understanding of this proposal is that the second building was encouraged to cover the final parcel establishing the a street edge which is now not hospitable. While the prospect of having this done simultaneously makes some sense it is apparently extremely expensive to close over the Prudential parcel with another building. Why could this parcel not be covered over with a park instead which would require much reduced and I would assume cheaper construction? It would achieve the same end and be an added open space for public use.

Response

Leaving the Prudential Parcel undeveloped as public open space cannot be implemented in a financially feasible manner since it would not create sufficient

revenue to support the construction of the required deck. The density currently proposed has been reduced from the ENF/PNF Alternative, but is required to support the engineering, design and construction costs of spanning the entire open area over the Turnpike, and site control costs (including elimination of the Prudential rental building).

Comment 18.4

As with the other towers that have been built in the neighborhood the importance of dealing with the wind cannot be over emphasized. I served on PruPac for almost 20 years and wind effects on all the buildings that have appeared there were heavily studied. In spite of those efforts the new 888 building has had to recently close both the Eataly entrance and the 888 office entrance because of the wind shear that is coming down the face of this building. However tall this tower finally is, I would urge you to take special attention to the issue of wind.

Response

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for more details about the projected pedestrian wind conditions as a result of the Project.

Dear Mr. Cohen,

I am writing to you as the Chairman of the Commonwealth Avenue Mall Committee which is a joint committee of NABB and the Friends of the Public Garden. For over 40 years we have partnered with the Boston Parks and Recreation Department to protect, preserve, and restore the Mall. While several years ago we were unsuccessful in passing legislation that would protect the Mall, much as the Garden and Common are protected, we feel no less strongly about the impact that shadows have on this important historic park. The Commonwealth Avenue Mall is one of the major amenities of the Back Bay Historic District. It is a place of relaxation and passive use in the neighborhood. It is an attraction to visitors and is used heavily by both visitors, workers, and residents.

Parks need sun to survive. Sun for the health of the landscape but also for the comfort and pleasure of the users of the Park. The huge shadows cast by this project will darken not only the homes of residents(I am directly in its path) but also a good portion of the Mall and even the Esplanade. The excessive scale of this building seems not only out of character with the historic district, but also disrespectful of the years of community meetings that took place to try to establish some guidelines for this area of Boylston Street and for the parcels over the turnpike. 18.1 18.2

My understanding of this proposal is that the second building was encouraged to cover the final parcel establishing the a street edge which is now not hospitable. While the prospect of having this done simultaneously makes some sense it is apparently extremely expensive to close over the Prudential parcel with another building. Why could this parcel not be covered over with a park instead which would require much reduced and I would assume cheaper construction? It would achieve the same end and be an added open space for public use. 18.3

As with the other towers that have been built in the neighborhood the importance of dealing with the wind cannot be over emphasized. I served on PruPac for almost 20 years and wind effects on all the buildings that have appeared there were heavily studied. In spite of those efforts the new 888 building has had to recently close both the Eataly entrance and the 888 office entrance because of the wind shear that is coming down the face of this building. However tall this tower finally is, I would urge you to take special attention to the issue of wind. 18.4

Thank you for the opportunity to express my concerns.

Margaret Pokorny
Chairman, Commonwealth Avenue Mall Committee
and
Forty year resident of 384 Marlborough Street

PNF Letter 19: Commonwealth of Massachusetts House of Representatives

Comment 19.1

The current proposed height of the building is inappropriate for the site. The height is inconsistent with the BPDA's own report, A Civic Vision for Turnpike Air Rights in Boston (2000) and current zoning. The current height is also substantially more than was originally proposed by this developer when the group sought to secure community support in its bid be chosen by MassDOT as the developer. I am particularly concerned the proposed height will cast a shadow on the Commonwealth Mall for much of the year.

Response

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, the Project, which is the Preferred Alternative, has been reduced in height from the ENF/PNF Alternative and only exceeds the height of the 2013 Designation Alternative by 86 feet. As discussed in this DEIR/DPIR, this slightly increased height is required to make the Project financially feasible in view of, among other matters, the increased costs of securing site control of the Prudential Parcel (without construction of the Apartments Building which was to be owned by Prudential) and construction over the entire opening to the Turnpike below, which were not factors in the 2013 Designation Alternative.

As demonstrated by the updated shadow studies in Section 6.4 of Chapter 6, *Environmental Protection*, the Project as re-designed would result in less overall net new shadow compared to the ENF/PNF Alternative. Specifically, at 9am on September 21st, the new shadow extends westerly toward Massachusetts Avenue, impacting less of the Back Bay Historic and Architectural Districts and no longer extending up to Commonwealth Mall.

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The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

JAY D. LIVINGSTONE
STATE REPRESENTATIVE
8TH SUFFOLK DISTRICT

Committees:
Housing
Community Development and Small Business
State Administration and Regulatory Oversight
Environment, Natural Resources and Agriculture

STATE HOUSE, ROOM 136
TEL. (617) 722-2396
Jay.Livingstone@MAhouse.gov

April 6, 2017

Phil Cohen, Project Manager
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

RE: 1000 Boylston Street Project Notification Form (PNF)

Dear Mr. Cohen:

As the State Representative that represents the district of the suggested project site, I am writing to submit a comment regarding Weiner Ventures proposed 1000 Boylston Street Article 80 Project Notification Form. I welcome and support economic development in this corner of the Back Bay. The open holes over the Mass Pike should be filled in and I appreciate the group's willingness to work with Prudential to fill in the entirety of the open space over the Mass Pike. That said, I have concerns regarding the specifics of this particular project.

The current proposed height of the building is inappropriate for the site. The height is inconsistent with the BPDA's own report, *A Civic Vision for Turnpike Air Rights in Boston (2000)* and current zoning. The current height is also substantially more than was originally proposed by this developer when the group sought to secure community support in its bid be chosen by MassDOT as the developer. I am particularly concerned the proposed height will cast a shadow on the Commonwealth Mall for much of the year. This should not be permitted. With growing development all over the city, sunlight in our greenspaces has become a precious resource that should be carefully considered. 19.1

I appreciate your time and consideration in these matters. I hope that the project designers will make changes to adapt to community feedback and the public process.

Sincerely,

Jay Livingstone
State Representative
8th Suffolk District

13.2 Public Comments

Table 13-2 below lists letters received in support of the Project, which do not require direct responses. Copies of these letters are provided in Appendix I for reference.

Table 13-2 List of PNF Support Letters

Commenter	Affiliation	Date Received
Meg Mainzer-Cohen, President	Back Bay Association	March 17, 2017
Christopher Nolan	360 Newbury Street	N/A
Christopher Egan	Back Bay Resident	March 7, 2017
Daniel L. Saul	20 Park Plaza, Suite 424	N/A
Gary Shub	41 Saint Botolph Street, #1	N/A
Gregg Lisciotti	One Charles Street South PH 105	N/A
Kenneth Frieze	445 Marlborough Street	N/A
Steven Leed	One Charles Street South	N/A
Thomas Jones	11 Park Drive, #33	N/A
Thomas MacDonald	1 Egan Way	January 15, 2017

As noted in the introduction to this chapter, over 90 letters were submitted by members of the public, as listed below. Copies of these letters are provided in Appendix I for reference.

Carolyn Arrington
Susan Ashbrook
Susan Baker
Hope & Mel Barkan
Stefan Bieri
Tom & Lisa Blumenthal
Catherine Bordon
James Buttrick
Jennifer Carp
Elizabeth Case
Fritz Casselmanv
Kurt Cerulli
Arthur Chin
Mireille & Philip Clapp
Ronald Cooper
Clair Corcoran
Patricia Corrigan
Steve Csipke
Anne Devereaux
Elizabeth Fahey
Kristin C. Field
Andrew Friedland
Leslie Gaffin
Emily B. Gallup
Michael E. George
Joseph Gertner
Diane Gipson
Alyson Goldberg
Paula Griswold
Andrew Hall
Felicia Hall
M.E. Harrington
Janet Hurwitz
Tom Iannotti
Jay Johnson
Howard Kassler
Becky Kidder Smith
Shirley Kressel
Rosanne Kumins
Elliott Laffer
Michel & Elisabeth Lay
Paul Lewis
Nancy Macchia
Dorothy Manning
Peter Manuelian
Sarah McGinty
Tim Ian Mitchell
Alice Murphy
Sheri Olans Wright
Peter Papesch
Heyward Parker James
Sam Perry
Tracy Pesanelli
Carol Ann Petruccelli
Susan D. Prindle
Chris Purcell
Rob Radloff
Ming & Stephen Rauch
Janet Roche
Martyn Roetter
Jacqueline Royce
Judith Saide
Steven M. Sayers
Diane Schmalensee
Charles & Patricia Schuerhoff
Susan Shafer
Karen Shine
Patricia Smith
Barry Solar
James Souza
Anne Swanson
Joyce E. Tallent
Lauren Thomas
Kristina Watts
Dr. Esther I. Weissman
Jane Wiseman
Marvin S. Wool
Jacquelin Yessian
Rachel Zack Ishikawa

Because many of the letters expressed a similar array of concerns global responses to these letters are provided by topic below. The public comments and concerns fall into the following key categories:

1. Consideration and study of project alternatives, specifically the 2013 proposal and as-of-right development;
2. Building height, scale, and massing;
3. Wind comfort;
4. Shadow impacting public spaces (especially the Commonwealth Avenue Mall and Esplanade);
5. Lack of adherence to the BRA's "Civic Vision for Turnpike Air Rights"; and
6. Lack of ground-level public green space.

The responses below aim to address each key community issue and refer to specific sections of the DEIR/DPIR for further information.

Project Alternatives

Section 1.6 of Chapter 1, *Project Description and Alternatives*, provides an evaluation of project alternatives, including a comparison of potential environmental impacts for the following:

- **No-Build Alternative** – The No-Build Alternative as a baseline to which to compare build alternatives to. This alternative would maintain the existing conditions at the Project Site, leaving an undeveloped, vacant highway overpass amidst one of Boston's most lively and walkable districts.

  2013 Designation Alternative – The Proponent's Parcel 15 proposal approved in the 2013 designation, which did not consider decking over and development of the Prudential Parcel.

- **Zoning-Compliant Alternative or BPDA Reduced Build Alternative** – A zoning-compliant alternative would reflect what is permitted by the underlining zoning, which in this case consists of a combination of the two distinct zoning articles applicable to different portions of the Project Site. Because the zoning boundary line bisects Cambria Street, as a practical matter there is no realistic zoning-compliant alternative applicable to the Project Site.

  This was recognized by the BPDA Scoping Determination, which suggested that an alternative of "a single tower covering the same parcel assembly, with a use and density that might allow realistic development, at the earlier proposed height of 400 feet" be evaluated as the closest to a literal Zoning-Compliant Alternative. Accordingly, this DEIR/DPIR evaluates the BPDA Reduced Build Alternative.

- **ENF/PNF Alternative** – The ENF/PNF Alternative, as presented in the ENF and PNF filings of January 2017, included two residential buildings comprised of a total of approximately 342 units. This proposal was responsive to the BRA's and CAC's desire to include the Prudential Parcel and deck over the entirety of the open area immediately above the inbound traffic lanes and reaped greater urban design, public realm, and economic benefits associated with utilizing this area at the corner of Boylston and Dalton Streets, as compared to the 2013 Designation Alternative.

- **Preferred Alternative (Project)** – In the course of meeting with community groups during the public review of the ENF/PNF Alternative, concerns were expressed regarding density and to a lesser extent regarding building height. To address these community concerns, substantial changes have been made to the ENF/PNF Alternative, including eliminating the Apartments Building, and reducing the height of and the number of units in the Residences Building, while

continuing to include the Prudential Parcel in the Project Site and continuing to be able to deck over the entirety of the open area immediately above the inbound traffic lanes.

Refer to Section 1.6.3 for a qualitative and quantitative comparison analysis of these project alternatives, including consistency with planning, height and massing, land/urban design, water and wastewater, traffic and parking, GHG emissions, historic resources, wind and shadow.

The Project, which is the Preferred Alternative represents a major change to the ENF/PNF Alternative intended to address the Civic Vision and be responsive to the community feedback by reducing the building density and height concerns, as well as environmental impacts. The Preferred Alternative continues to provide the significant public benefits to the surrounding neighborhoods and the City, including enhancing the key link between the Back Bay and Fenway neighborhoods, activating and significantly improving the public realm, building on the retail vitality of the Boylston Street commercial corridor, and providing high quality residential space in a highly visible and accessible Back Bay location. In many respects the Preferred Alternative is substantially similar in density and height as the 2013 Designation and BPDA Reduced Build Alternatives.

However, the Preferred Alternative presents challenges to the Proponent in terms of financial feasibility of construction of air rights over the entire opening of the Turnpike and of the costs of site control, including the Prudential Parcel while having income from only a single building. These factors combine to result in the need for slightly increased height of the Preferred Alternative as compared to the 2013 Designation and BDPA Reduced Build Alternatives, while reducing the density as compared to the 2013 Designation Alternative.

Height/Scale/Massing

As discussed in Section 1.4.1 of Chapter 1, *Project Description and Alternatives*, in response to community concerns about density and height, the Project has been redesigned to consist of a single condominium building with a reduced overall GFA. Significantly, the Project now has fewer (although larger) residential units and less parking spaces than either the 2013 Designation Alternative (which also included hotel use) or the ENF/PNF Alternative (which combined rental and condominium uses). In many respects, the Preferred Alternative more closely represents the BPDA Reduced Build Alternative and only exceeds the height of that proposal by 84 feet, while reducing the height by 82 feet as compared to the ENF/PNF Alternative.

Wind Comfort

A quantitative (wind tunnel) analysis comparing existing and proposed wind conditions pursuant to the Section B.1 of the BPDA Development Review Guidelines

was conducted for the Project. In addition to the Large Project Review requirements set forth in Article 80B of the Code, the Project within the HAPC District, as a PDA, must comply with the HAPC District-specific wind criteria, as set forth in Section 41-16(2) of the Code.

The findings of the pedestrian-level wind study are presented in Section 6.3 of Chapter 6, *Environmental Protection*. The wind tunnel study demonstrates the Project complies with the BPDA criteria established for in the Build Condition studied with Air Rights Parcels 12 and 13, and the Berklee Crossroads assumed developments included, per guidance from the BPDA. The Project also complies with the standards of Section 41-16(2) of the Code based on such Build Condition. Accordingly, the Project is not predicted to result in dangerous wind speeds or unacceptable wind gusts.

Shadow

The shadow analysis for the Project has been updated since the ENF/PNF, in accordance with the requirements of Section B.2 of the BPDA Development Review Guidelines and the HAPC District-specific shadow criteria, as set forth in Section 41-16(1) of the Code.

With the reduction building height and mass from the ENF/PNF Alternative, the overall net new shadow created by the Project has been reduced more closely to that which would have resulted from the 2013 Designation Alternative, as demonstrated in Section 6.4 of Chapter 6, *Environmental Protection*. Specifically, at 9am on September 21st, the new shadow extends westerly toward Massachusetts Avenue, impacting less of the Back Bay Historic and Architectural Districts and no longer extending up to Commonwealth Mall. The only time the Project would create net new shadow on the Esplanade would be at 9am on December 21st, which is not a time of year the park is used frequently. Due to the project re-design, the amount of net new shadow created during this time has been reduced off the Charles River and the northern edge of the Esplanade compared to the ENF/PNF Alternative.

Consistency with the Civic Vision for Turnpike Air Rights

As described in Section 3.4 of Chapter 3, *Urban Design*, the project design embodies several key urban design principles specific to the Project Site, and the Back Bay and Fenway neighborhoods, as well as the Civic Vision, which include:

- Repairing the discontinuity in the urban street wall left behind by the Turnpike expansion to provide a cohesive link among the Back Bay, Fenway, and South End neighborhoods;
- Enlivening the public realm with generous sidewalks and ground floor uses that engage pedestrians; and

› Respecting the scale and character of the urban street wall and the Back Bay Architectural District by placing the lower-scale elements of the Project closest to Boylston Street and setting back the taller elements of the Project, as recommended in the Civic Vision.

It also should be noted that the Civic Vision acknowledged that it would only be possible to build on these parcels during a strong economy, which is happening now and which is the reason the Project will be able to move forward at this time as long as the strong economy continues. As terra firma parcels become more scarce in certain parts of the city, only then do air rights parcels become (relatively) desirable redevelopment opportunities. Although there was a strong real estate market in 1999, that market was not strong enough to support any air rights developments beyond the planning phase. In fact, no air rights development has successfully been constructed above the Turnpike since Copley Place in the mid-1908's (which benefitted from federal financial assistance). The Project aims to uphold the original spirit of the Civic Vision over 15 years later, while proposing minor modifications specific to the present-day context and rapidly changing market conditions.

Public Open Space

Some public comments suggested leaving the Prudential Parcel undeveloped as public open space. This cannot be implemented in a financially feasible manner since it would not create sufficient revenue to support the construction of the required deck, as well as site control costs of the Prudential Parcel (without construction of the Apartments Building which was to be owned by Prudential). The density currently proposed, albeit reduced from the ENF/PNF Alternative, is required to support the engineering, design and construction costs of spanning the entire open area over the Turnpike, and site control costs. Furthermore, the Civic Vision acknowledges that air rights parcels would not be appropriate for open space and suggests that the development of the parcels should establish a "comfortable and vital pedestrian environment."

Appendix A: MEPA Distribution List

DEIR Distribution List

Commonwealth of Massachusetts

Secretary Matthew A. Beaton
Executive Office of Energy and
Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Department of Environmental
Protection, Boston
Commissioner's Office
One Winter Street
Boston, MA 02108

Ben Lynch, Program Chief
Department of Environmental
Protection, Waterways Program
One Winter Street
Boston, MA 02108

DEP/Northeast Regional Office
Attn: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Massachusetts Department of
Transportation - District #6
Attn: MEPA Coordinator
185 Kneeland Street
Boston, MA 02111

Massachusetts Department of
Transportation
Public/Private Development Unit
Attn: Lionel Lucien
10 Park Plaza
Boston, MA 02116

Massachusetts Historical Commission
The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, MA 02111

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Massachusetts Dept. of Energy Resources
Attn: MEPA Coordinator
100 Cambridge Street, 10th Floor
Boston, MA 02114

Massachusetts Bay Transportation Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Fl.
Boston, MA 02116-3966

City of Boston

Boston Redevelopment Authority,
d/b/a Boston Planning & Development Agency
Attn: Brian P. Golden, Director
One City Hall Square, 9th Floor
Boston, MA 02201

Boston City Council
One City Hall Square, 5th Floor
Boston, MA 02201

Boston Conservation Commission
One City Hall Square, Room 805
Boston, MA 02201

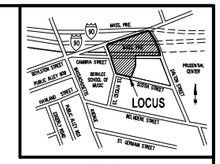
Boston Water and Sewer Commission
980 Harrison Avenue
Boston, MA 02119-2540

Boston Public Health Commission
1010 Massachusetts Ave, 6th Floor
Boston, MA 02118

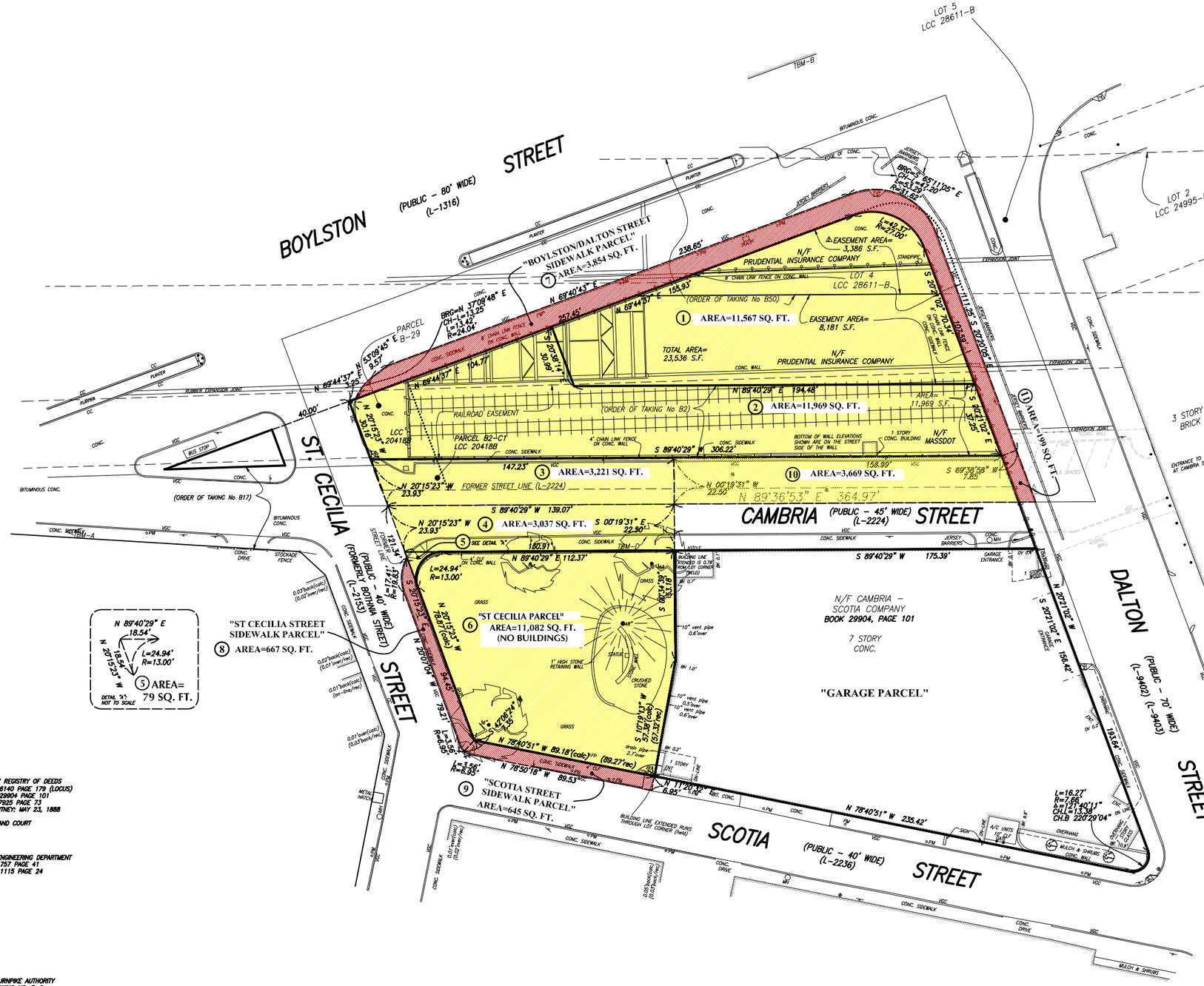
Boston Public Library
Central Branch
700 Boylston Street
Boston, MA 02116

Boston Public Library
South End Branch
685 Tremont Street
Boston, MA 02118

Appendix B: Metes & Bounds



LOCUS MAP
Scale: 1"=400'±



1 AREA=11,567 SQ. FT.
2 AREA=11,969 SQ. FT.
3 AREA=3,221 SQ. FT.
4 AREA=3,037 SQ. FT.
5 AREA=79 SQ. FT.
6 AREA=11,082 SQ. FT.
7 AREA=3,854 SQ. FT.
8 AREA=667 SQ. FT.
9 AREA=645 SQ. FT.
10 AREA=3,669 SQ. FT.
11 AREA=199 SQ. FT.

TOTAL AREA=49,989 SQ. FT. (1.148Acres)

REFERENCES

SUFFOLK COUNTY REGISTRY OF DEEDS
- DEED BOOK 6140 PAGE 179 (LOCUS)
- DEED BOOK 29904 PAGE 101
- PLAN BOOK 7925 PAGE 73
- PLAN BY WHITNEY: MAY 23, 1888

MASSACHUSETTS LAND COURT
- LCC 20418
- LCC 28611
- LCC 24995

CITY OF BOSTON ENGINEERING DEPARTMENT
- FIELD BOOK 757 PAGE 41
- FIELD BOOK 1115 PAGE 24

PLANS
- K–618
- L–862
- L–1297
- L–1316
- L–1585
- L–2153
- L–2224
- L–2236
- L–8945
- L–9402
- L–9403
- L–10792

MASSACHUSETTS TURNPIKE AUTHORITY
- ORDER OF TAKING NO. B–2
- ORDER OF TAKING NO. B–17
- ORDER OF TAKING NO. B–48
- ORDER OF TAKING NO. B–50
- ORDER OF TAKING NO. B–104
- "AS BUILT PLANS" STA. 528+00 TO STA. 542+00
- "AS BUILT PLANS" STA 542+00 TO STA. 555+00

I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND THE LATEST RECORD PLANS, DEEDS AND CERTIFICATES OF TITLE.

_____ _____

ISSUED FOR REVIEW 7–18–2017
REDUCED COPY – NOT TO SCALE

EXHIBIT PLAN
DALTON, BOYLSTON, ST. CECILIA, CAMBRIA AND SCOTIA STREETS
BOSTON, (ROXBURY DISTRICT) MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118
PHONE: (617)357–9740
www.feldmansurveyors.com

SEPTEMBER 2, 2016

FELDMAN LAND SURVEYORS

20 0 10 20 40 80
SCALE: 1"=20'

RESEARCH APR	FIELD CHIEF KP	CHECKED SMD	APPROVED	FILE NAME: 15255–EXBT
CALC SMD/PES	CADD EAC	FIELD CHECKED PES	CRD FILE 15255–A	JOB NO. 15255

FILENAME: S:\PROJECTS\15200s\15255\DWG\15255–A–1.dwg

FILENAME: S:\PROJECTS\15200s\15255\DWG\15255–A–1.dwg

PRUDENTIAL PARCEL

Parcel I (Registered Land)

A certain parcel of land situated in said Boston, bounded and described as follows:

NORTHERLY by the southerly line of Boylston Street, eighteen and 38/100 (18.38) feet; by other land now or formerly of Boston and Albany Railroad Company by a line coincident with the southeasterly line of said Boylston Street extended across land now or formerly of the Boston and Albany Railroad Company, one hundred six and 92/100 (106.92) feet;

NORTHEASTERLY and by Lot 5 as shown on plan hereinabove mentioned, sixty eight
EASTERLY and 63/100 (68.63) feet; and

SOUTHERLY by land now or formerly of the Prudential Insurance Company of
America, one hundred fifty nine and 85/100 (159.85) feet.

Said land is shown as Lot four (4) on said plan drawn by C.M. Anderson, Engineer for Court, dated December 30, 1958, as approved by the Court, filed in the Land Registration Office as Plan No. 28611-B, a copy of a portion of which is filed with Certificate of Title 64667 and all boundary lines are determined by the Court to be located as shown on said plan.

There is appurtenant to the land hereby registered rights as set forth in two grants made by the Boston and Albany Railroad Company to the Prudential Insurance Company of America, one dated July 25, 1956 and recorded in Book 7212, Page 104 and the other dated July 25, 1956 and filed as Document 227306.

Parcel II (Recorded Land)

That parcel of land (contiguous to the above-described parcel of land) labeled as "Prudential Insurance Co. of America parcel) on plan entitled "Subdivision Plan of Land in Boston, Mass." dated September 10, 1958, being a subdivision of land shown on L.C.P. 24995A, New England Survey Service Inc., Civil Engineers & Surveyors and recorded in Book 7386 Page 147.

MASSDOT AIR RIGHTS PARCEL

All those certain parcels of land with the improvements located thereon, situated at Parcel 15, Boylston Street, Cambria Street, Dalton Street and St. Cecilia Street, in the City of Boston, County of Suffolk, and Commonwealth of Massachusetts being more particularly described as follows:

Parcel B2-9 shown on Land Court Plan No. 20418B, filed with said Registry District with Certificate of Title No. 84478.

Parcels B2-9, B2-10, B2-11, B2-12, B2-13, B2-14, B2-15 and B2-16 and a portion of Parcel B2-17, shown on Taking Plan for Order of Taking B2, recorded in Book 7655, Page 576.

ADG SCOTIA PARCEL

A certain parcel of vacant land situated in Boston, Suffolk County, Massachusetts, bounded and described as follows:

SOUTHERLY by Scotia Street, eighty nine and 27/100 (89.27) feet;

WESTERLY by St. Cecilia Street (formerly Bothnia Street) eighty six and 92/100 (86.92) feet;

NORTHWESTERLY by a curved line forming the rounded corner of said St. Cecilia Street and Cambria Street, thirteen and 46/100 (13.46) feet;

NORTHERLY by said Cambria Street, one hundred twenty two and 5/100 (122.05) feet; and

EASTERLY by land now or late of Boston Water Power Company, or its Trustees, by two lines, fifty three and 18/100 (53.18) feet and fifty seven and 32/100 (57.32) feet respectively, said lines running through a brick partition wall six inches from Easterly face thereof;

Containing 11,187.7 square feet.

Or however otherwise said premises may be bounded or described and be all or any of said measurements or contents more or less.

Excepting therefrom whatever portions thereof or rights therein were taken by the City of Boston under three instruments, respectively dated April 16, 1889, February 4, 1890, and April 22, 1890, and recorded with Suffolk Deeds in Book 1894, Page 353; Book 1936, Page 107 and Book 1945, Page 17.

CAMBRIA STREET AIR RIGHTS PARCEL

All those certain parcels of land with the improvements located thereon, comprising a portion of Cambria Street, in the City of Boston, County of Suffolk, and Commonwealth of Massachusetts being shown as parcels labeled Area 8A containing 3,221 square feet of land, Area 8B containing 3,669 square feet of land, and Area 9 containing 3,037 square feet of land, on a plan entitled Exhibit Plan, Showing Parcel Areas, Dalton, Boylston, St. Cecelia, Cambria and Scotia Streets, Boston (Roxbury District), Mass.", dated July 31, 2013, by Harry R. Feldman, Inc., surveyors.

Part of said parcels are comprised of Parcels B2-C1, B2-C2, B2-C3, B2-C4, B2-C5, B2-C6, B2-C7, B2-C8 and B2-C9 on a plan recorded with the Suffolk County Registry of Deeds at Book 7655, Page 576. Included within the foregoing parcels is a parcel of registered land being shown as Parcel B2-C1 on Land Court Plan 20418B. a copy of a portion of which is filed with Certificate of Title 84478.

For Title to the registered parcel, see Certificate of Title No. 84478.

For title to the recorded land, see Order of Taking No. B2, filed with said Registry District as Document No. 254776, and recorded in Book 7655, Page 576, as affected by an Entry, recorded in Book 7656, Page 53, as further affected by Amendment No. 1, recorded in Book 7701, Page 140, and filed with said Registry District as Document No. 258531, and deed of W. D. Vinal, et al. to the City of Boston, dated February 4, 1890, recorded at Book 1936, Page 107.

Appendix C: BPDA Checklists

Accessibility Checklist

Climate Change Preparedness and Resiliency Checklist

Accessibility Checklist

In 2009, a nine-member Advisory Board was appointed to the Commission for Persons with Disabilities in an effort to reduce architectural, procedural, attitudinal, and communication barriers affecting persons with disabilities in the City of Boston. These efforts were instituted to work toward creating universal access in the built environment.

In line with these priorities, the Accessibility Checklist aims to support the inclusion of people with disabilities. In order to complete the Checklist, you must provide specific detail, including descriptions, diagrams and data, of the universal access elements that will ensure all individuals have an equal experience that includes full participation in the built environment throughout the proposed buildings and open space.

In conformance with this directive, all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding the following:

- improvements for pedestrian and vehicular circulation and access;
- encourage new buildings and public spaces to be designed to enhance and preserve Boston's system of parks, squares, walkways, and active shopping streets;
- ensure that persons with disabilities have full access to buildings open to the public;
- afford such persons the educational, employment, and recreational opportunities available to all citizens; and
- preserve and increase the supply of living space accessible to persons with disabilities.

We would like to thank you in advance for your time and effort in advancing best practices and progressive approaches to expand accessibility throughout Boston's built environment.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
    a. http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
    a. http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Boston Complete Street Guidelines
    a. http://bostoncompletestreets.org/
4. City of Boston Mayors Commission for Persons with Disabilities Advisory Board
    a. http://www.cityofboston.gov/Disability
5. City of Boston – Public Works Sidewalk Reconstruction Policy
    a. http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
6. Massachusetts Office On Disability Accessible Parking Requirements
    a. www.mass.gov/anf/docs/mod/hp-parking-regulations-mod.doc
7. MBTA Fixed Route Accessible Transit Stations
    a. http://www.mbta.com/about_the_mbta/accessibility/

Article 80 | ACCESSIBILTY CHECKLIST

Project Information

Project Name:	**1000 Boylston Street Project**
Project Address Primary:	**1000 Boylston Street, Boston, MA 02115**
Project Address Additional:	**N/A**
Project Contact (name / Title / Company / email / phone):	**Donny Levine / Project Manager / D. Levine Management LLC, donny@dlevinemanagement.com / 857-990-3008**

Owner / Developer:	**ADG Scotia II LLC, c/o Weiner Ventures**
Architect:	**Elkus Manfredi Architects**
Engineer (building systems):	**WSP Group**
Sustainability / LEED:	**WSP Group**
Permitting:	**VHB**
Construction Management:	**Suffolk Construction Co. Inc.**

Project Permitting and Phase

At what phase is the project – at time of this questionnaire?

PNF / Expanded PNF Submitted	**Draft** / Final **Project Impact Report Submitted**	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

Building Classification and Description

What are the principal Building Uses - select all appropriate uses?

Residential – One to Three Unit	**Residential - Multi-unit, Four +**	Institutional	Education

	Commercial	Office	**Retail**	Assembly
	Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and Other
First Floor Uses (List)	**Retail, residential lobby, parking garage access, building mechanical, residential service areas**			

What is the Construction Type – select most appropriate type?

	Wood Frame	Masonry	**Steel Frame**	**Concrete**

Describe the building?

Site Area:	**50,764 SF**	Building Area:	**439,500 GFA**
Building Height:	**484 Ft.**	Number of Stories:	**33 Flrs.**
First Floor Elevation:	**Scotia St: EL= +20.00′ BCB Boylston St: EL=+33.33′ BCB**	Are there below grade spaces:	**No**

GFA=Gross Floor Area, as defined by Article 2 of the Boston Zoning Code.
Building Height=to top of the highest occupiable floor.

Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and proximate institutions such as, but not limited to hospitals, elderly and disabled housing, and general neighborhood information. The proponent should identify how the area surrounding the development is accessible for people with mobility impairments and should analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the development neighborhood and identifying characteristics.	**The Project is located in the Back Bay neighborhood of Boston. While the urban fabric of the Back Bay is generally consistent and continuous in its three- to five-story scale, the frontage along Boylston Street is much more varied, particularly on the south side. This east-west zone, along the southern edge of the Back Bay, is part of what has become known as the "High Spine". This zone is characterized by a continuous urban edge and a number of buildings over 250′ in height including but limited to the two Hancock Towers, the Prudential Tower, 111 Huntington Avenue and the Project Site.** **Boylston Street is an important and lively thoroughfare through the Back Bay. The pedestrian nature of the street is reinforced by the presence of**

	retail, institutions such as the Boston Public Library and Trinity Church, and a well-developed street wall.
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.	**The Project Site is located within one-half mile to accessible public transportation services, including the MBTA Green and Orange lines, and local bus routes.**
List the surrounding institutions: hospitals, public housing and elderly and disabled housing developments, educational facilities, etc.	**Educational facilities: Berklee College of Music, Boston Architectural College, Olin Center for Int. Study, Boston Latin, Kingsley Montessori School, The Newman School, The Learning Project Elementary School** **Public Housing: West Newton Apartments - West Newton St.; Fredrick Douglass Senior/Disabled Apartments - 755 Tremont Street; Lenox Street Apartments**
Is the proposed development on a priority accessible route to a key public use facility? List the surrounding: government buildings, libraries, community centers and recreational facilities and other related facilities.	**Yes, Back Bay Fens is located within a one-quarter mile radius to the west along Boylston St. and the Boston Public Library and Copley Square within a one-half mile radius to the east along Boylston Street.** **Additional surrounding related facilities include the Fenway Community Center, Peterborough Senior Center, Greater Boston YMCA, Prudential Center Shopping Mall and the Boston Public Library.**

Surrounding Site Conditions – Existing:

This section identifies the current condition of the sidewalks and pedestrian ramps around the development site.

Are there sidewalks and pedestrian ramps existing at the development site?	**Yes**
If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.	**The existing sidewalks are cast-in-place concrete that are in fair-to-poor condition.** **Cambria Street: The north sidewalk of Cambria Street is too narrow for pedestrian use. The south sidewalk has cracking, level surfaces.** **Scotia Street: The north side of Scotia Street contains a below grade transformer vault; the sidewalk around the vault is cracked and uneven.**

	The sidewalk becomes bituminous prior to east edge of Project Site along Scotia St. **St. Cecilia Street: The east sidewalk at Boylston Street includes large swaths of cracking at expansion joints that have been filled.**
Are the sidewalks and pedestrian ramps existing-to-remain? **If yes,** have the sidewalks and pedestrian ramps been verified as compliant? **If yes,** please provide surveyors report.	**Sidewalks within the project limit of work will be replaced and/or reconstructed. Sidewalks outside the project limit of work will remain, and have not been verified as compliant.**
Is the development site within a historic district? **If yes,** please identify.	**No, the Project Site is not located within any existing historic district, but is adjacent to the Back Bay Historic District (National Register) and the Back Bay Architectural District (Local Historic District).**

Surrounding Site Conditions – Proposed

This section identifies the proposed condition of the walkways and pedestrian ramps in and around the development site. The width of the sidewalk contributes to the degree of comfort and enjoyment of walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Typically, a five foot wide Pedestrian Zone supports two people walking side by side or two wheelchairs passing each other. An eight foot wide Pedestrian Zone allows two pairs of people to comfortable pass each other, and a ten foot or wider Pedestrian Zone can support high volumes of pedestrians.

Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? See: www.bostoncompletestreets.org	**It is the intent of the Proponent to incorporate the fundamental goals of the Complete Street Guidelines wherever possible.**
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	**Downtown Commercial and Shared**
What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	**The total width of the sidewalks along Boylston St will be approximately 18′-0″ will consist of:** • **5′-0″ Furniture Zone** • **11′-6″ pedestrian zone** • **1′-6″ Frontage Zone**

	Sidewalk width along Dalton Street will be maintained at approximately 7′-9″. **Sidewalks widths along St Cecilia's Street and Scotia Street will be maintained at 7′-6″ and 7′-0″respectively.**
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	**The proposed materials for the sidewalks will include a combination of concrete and granite. The proposed materials will be on both private property and the City of Boston pedestrian right-of-way.**
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?	**Not applicable**
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way?	**Not at this time.**
If yes above, what are the proposed dimensions of the sidewalk café or furnishings and what will the right-of-way clearance be?	

Proposed Accessible Parking:

See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability Handicap Parking Regulations.

What is the total number of parking spaces provided at the development site parking lot or garage?	**Up to 175 parking spaces will be provided in a valet service, enclosed, mechanical access (only) above-grade garage.**
What is the total number of accessible spaces provided at the development site?	**The parking garage will be a 24/7 managed facility as access to the parking levels is only is available by vehicle elevator.** **Per 521 CMR 23.8, the project will provide passenger loading/unloading zones in the valet parking entry off Scotia Street as self-parking is not available.**

Will any on street accessible parking spaces be required? If yes, has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?	**No on-street accessible parking spaces are anticipated to be required, and none are provided at this time.**
Where is accessible visitor parking located?	**The accessible visitor parking is located on levels 3 and 4 of the parking garage. Since the parking garage will be managed 24/7, visitors will access the parking via the valet parking entry located off of Scotia Street.**
Has a drop-off area been identified? If yes, will it be accessible?	**Yes, the residences will have an accessible drop-off area on Boylston Street. The drop-off area will not be dedicated as accessible parking; however, the path to the building will be an accessible route.**
Include a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations. Please include route distances.	**Refer to Figure C.1 of the DEIR/DPIR.**

Circulation and Accessible Routes:

The primary objective in designing smooth and continuous paths of travel is to accommodate persons of all abilities that allow for universal access to entryways, common spaces and the visit-ability* of neighbors.

**Visit-ability – Neighbors ability to access and visit with neighbors without architectural barrier limitations*

Provide a diagram of the accessible route connections through the site.	**Refer to Figure C.1.**
Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	**Residential Entry Lobby: flush condition at entry vestibule with elevator access to upper levels.** **Retail/Restaurant Entry: flush condition at retail entrances with elevator and stair access to upper floors.** **Employee entry: flush condition at the entry door with an accessible ramp up to the main floor level. Elevator and stairs provide access to upper levels.** **Valet Parking Entry: flush condition at drop-off area with elevator access to upper levels.** **Bike Room: flush condition at entry. Elevator access to upper levels**

Are the accessible entrance and the standard entrance integrated?	**Yes**
If no above, what is the reason?	
Will there be a roof deck or outdoor courtyard space? If yes, include diagram of the accessible route.	**Yes, there will be a private roof terraces on Levels 5 & 6, which are accessible via elevator. Floor transitions are flush conditions allowing inclusive access to all areas.**
Has an accessible routes way-finding and signage package been developed? If yes, please describe.	**No, at this early stage of design, accessible routes and way-finding signage packages have not yet been developed.**

Accessible Units: (If applicable)

In order to facilitate access to housing opportunities this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing choice.

What is the total number of proposed units for the development?	**Up to 108 units**
How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?	**The Project includes up to 108 for-sale units. The Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.**
How many accessible units are being proposed?	**The number of accessible units included in the Project will be determined as the Project advances, however, as required by 521 CMR, it is anticipated that all units will be adaptable for accessibility (521 CMR Group 1). Additionally, the units will be designed to comply with the Fair Housing Act's design and construction requirements.**
Please provide plan and diagram of the accessible units.	**These details will be determined as project design advances**
How many accessible units will also be affordable? If none, please describe reason.	**The Proponent will work with the BPDA to be in compliance with the Inclusionary Development Policy. Subject to BPDA approval and mindful of community input, the Proponent looks forward to a thoughtful solution.**

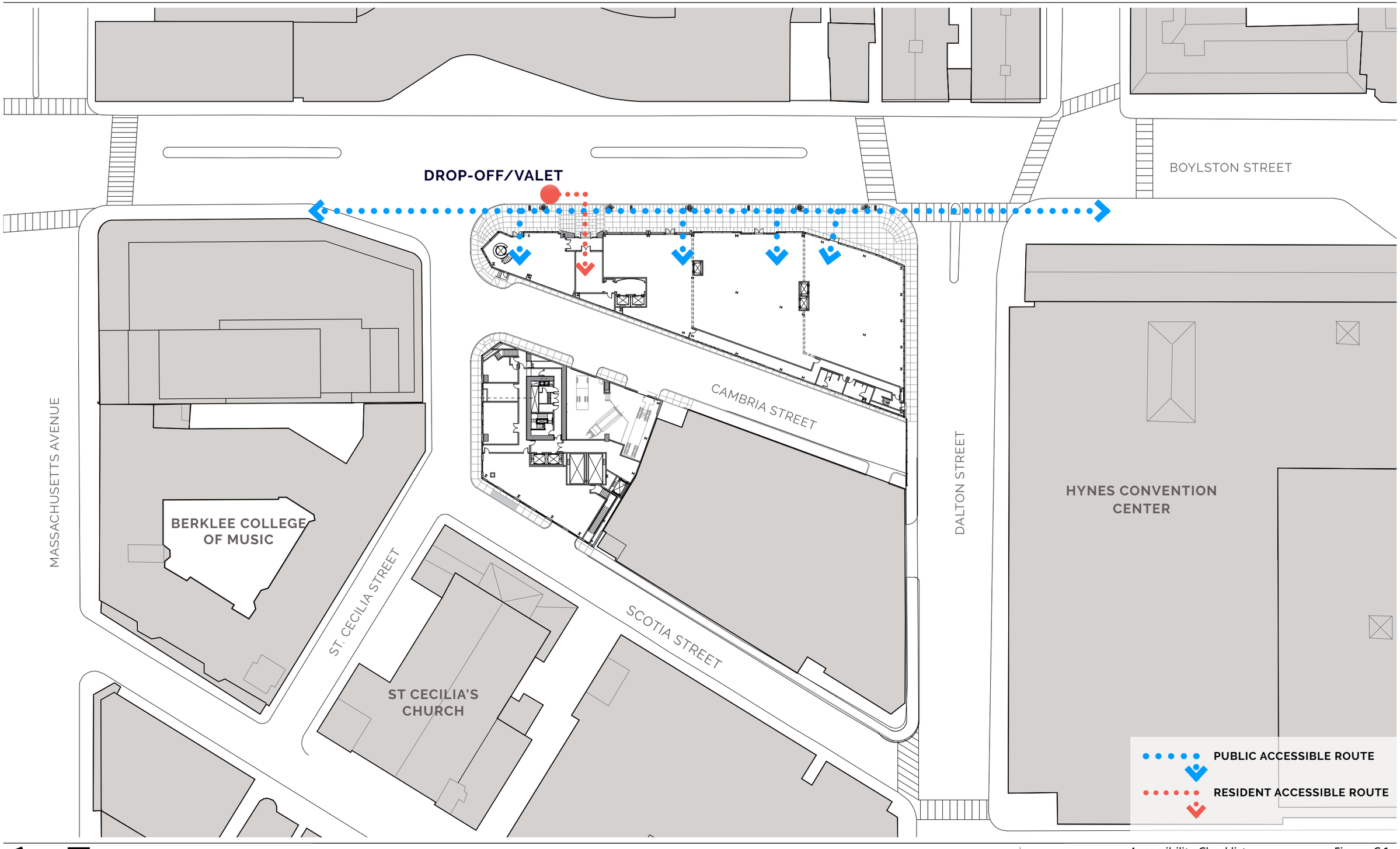
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	**No**
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	**The ENF/PNF Alternative (two residential buildings) was presented to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board in the PNF filing dated January 2017. As described more fully in Chapter 1, *Project Description and Alternatives* of this DEIR/DPIR filing, the Project has been revised to include a single residential building. The Proponent and project team will meet with the Board as needed upon review of this DEIR/DPIR. The Proponent is fully committed to delivering a development that is compliant with accessibility laws and design guidelines.**
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	**The Project has not yet been reviewed by the Advisory Board. The Commissioner of the Mayor's Commission for Persons with Disabilities submitted a comment letter on the PNF filing dated March 13, 2017 a copy of which is provided in Chapter 13, *Response to PNF Comments* of the DEIR/DPIR.**

Thank you for completing the Accessibility Checklist!

For questions or comments about this checklist or accessibility practices, please contact:

kathryn.quigley@boston.gov | Mayors Commission for Persons with Disabilities

\\Ems-upper\data\Graphics\15153\7_Presentations\Booklets\00_Article 80\04_DPIR\INDD\17_0824_DPIR.indd p87 08/17/17



ELKUS | MANFREDI ARCHITECTS

Accessibility Checklist
1000 Boylston Street
Boston, Massachusetts

Figure C.1

Climate Change Preparedness and Resiliency Checklist for New Construction

In November 2013, in conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the Boston Redevelopment Authority adopted policy for all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding project resiliency, preparedness, and to mitigate any identified adverse impacts that might arise under future climate conditions.

For more information about the City of Boston's climate policies and practices, and the 2011 update of the climate action plan, *A Climate of Progress*, please see the City's climate action web pages at http://www.cityofboston.gov/climate

In advance we thank you for your time and assistance in advancing best practices in Boston.

Climate Change Analysis and Information Sources:

1. Northeast Climate Impacts Assessment (www.climatechoices.org/ne/)
2. USGCRP 2009 (http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/)
3. Army Corps of Engineers guidance on sea level rise (http://planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf)
4. Proceeding of the National Academy of Science, "Global sea level rise linked to global temperature", Vermeer and Rahmstorf, 2009 (http://www.pnas.org/content/early/2009/12/04/0907765106.full.pdf)
5. "Hotspot of accelerated sea-level rise on the Atlantic coast of North America", Asbury H. Sallenger Jr*, Kara S. Doran and Peter A. Howd, 2012 (http://www.bostonredevelopmentauthority.org/planning/Hotspot of Accelerated Sea-level Rise 2012.pdf)
6. "Building Resilience in Boston": Best Practices for Climate Change Adaptation and Resilience for Existing Buildings, Linnean Solutions, The Built Environment Coalition, The Resilient Design Institute, 2103 (http://www.greenribboncommission.org/downloads/Building_Resilience_in_Boston_SML.pdf)

Checklist

Please respond to all of the checklist questions to the fullest extent possible. For projects that respond "Yes" to any of the D.1 – Sea-Level Rise and Storms, Location Description and Classification questions, please respond to all of the remaining Section D questions.

Checklist responses are due at the time of initial project filing or Notice of Project Change and final filings just prior seeking Final BRA Approval. A PDF of your response to the Checklist should be submitted to the Boston Redevelopment Authority via your project manager.

Please Note: When initiating a new project, please visit the BRA web site for the most current Climate Change Preparedness & Resiliency Checklist.

A.1 - Project Information

Project Name:	1000 Boylston Street Project
Project Address Primary:	1000 Boylston Street
Project Address Additional:	N/A
Project Contact (name / Title / Company / email / phone):	Donny Levin, D. LEVINE MANAGEMENT LLC donny@dlevinemanagement.com 857-990-3008

A.2 - Team Description

Owner / Developer:	ADG Scotia II LLC, c/o Weiner Ventures LLC
Architect:	Elkus Manfredi Architects
Engineer (building systems):	WSP Group
Sustainability / LEED:	WSP Group
Permitting:	VHB
Construction Management:	Suffolk Construction
Climate Change Expert:	VHB

A.3 - Project Permitting and Phase

At what phase is the project – most recent completed submission at the time of this response?

PNF / Expanded PNF Submission	**Draft** / Final **Project Impact Report Submission**	BRA Board Approved	Notice of Project Change
Planned Development Area	BRA Final Design Approved	Under Construction	Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:	Residential and Retail
List the First Floor Uses:	Mechanical, Loading, Circulation, Retail

What is the principal Construction Type – select most appropriate type?

Wood Frame	Masonry	**Steel Frame**	**Concrete**

Describe the building?

Site Area:	50,764 SF	Building Area:	439,500 GFA
Building Height:	484 Ft.	Number of Stories:	33 Flrs.
First Floor Elevation (reference Boston City Base):	Scotia St: EL= +20.00' BCB Boylston St: EL=+33.33' BCB	Are there below grade spaces/levels, if yes how many:	No

GFA=Gross Floor Area, as defined by Article 2 of the Boston Zoning Code. Building Height=to top of the highest occupiable floor.

A.5 - Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems)?

Select by Primary Use:	**New Construction (version 4)**	Core & Shell	Healthcare	Schools
	Retail	Homes Midrise	Homes	Other
Select LEED Outcome:	Certified	**Silver**	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified?

Registered:	**Yes (under LEED 2009)**	Certified:	**Undecided**

A.6 - Building Energy

What are the base and peak operating energy loads for the building?

Electric:	**9000** (kW)	Heating:	**8.3** (MMBtu/hr)
What is the planned building Energy Use Intensity:	**60** (kbut/SF or kWh/SF)	Cooling:	**1100** (Tons)

What are the peak energy demands of your critical systems in the event of a service interruption?

Electric:	**1600** (kW)	Heating:	**None** (MMBtu/hr)
		Cooling:	**None** (Tons)

What is nature and source of your back-up / emergency generators?

Electrical Generation:	**1600 KW** (kW)		Fuel Source:	**Diesel**
System Type and Number of Units:	**Combustion Engine**	Gas Turbine	Combine Heat and Power	*(2) (Units)*

B - Extreme Weather and Heat Events

Climate change will result in more extreme weather events including higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

B.1 – Analysis

What is the full expected life of the project?

Select most appropriate:	10 Years	25 Years	**50 Years**	75 Years

What is the full expected operational life of key building systems (e.g. heating, cooling, ventilation)?

Select most appropriate:	10 Years	**25 Years**	50 Years	75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	10 Years	25 Years	50 Years	**75 Years**

Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

7° / 87°F	Deg.

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency?

0° / 95°F Deg.	**3** Days	**1** Events / yr.

What Drought characteristics will be used for project planning – Duration and Frequency?

30 Days	**1 Events / yr.**

What Extreme Rain Event characteristics will be used for project planning – Seasonal Rain Fall, Peak Rain Fall, and Frequency of Events per year?

44 Inches / yr.	**7.88 Inches**	**0.01 Events / yr.**

What Extreme Wind Storm Event characteristics will be used for project planning – Peak Wind Speed, Duration of Storm Event, and Frequency of Events per year?

105 Peak Wind	*3-second gusts*	*1/50 yr.*

B.2 - Mitigation Strategies:

What will be the overall energy performance, based on use, of the project and how will performance be determined?

Building energy use below code:	**12 % (90.1-2013)**
How is performance determined:	eQuest Whole Building Energy Simulation

What specific measures will the project employ to reduce building energy consumption?

Select all appropriate:	High performance building envelope	**High performance lighting & controls**	**Building daylighting**	**EnergyStar equip. / appliances**
	High performance HVAC equipment	**Energy recovery ventilation**	No active cooling	No active heating
Describe any added measures:	**Low-flow Domestic Hot Water Fixtures**			

What are the insulation (R) values for building envelop elements?

Roof:	R = **20**	Walls / Curtain Wall Assembly:	R = **25**
Foundation:	R = **7.5**	Basement / Slab:	R =**10**
Windows:	R =**2.6** / U =**0.39**	Doors:	R = **1.25** / U =**0.8**

What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure?

	On-site clean energy / CHP system(s)	Building-wide power dimming	Thermal energy storage systems	Ground source heat pump
	On-site Solar PV	On-site Solar Thermal	Wind power	None
Describe any added measures:				

Will the project employ Distributed Energy / Smart Grid Infrastructure and /or Systems?

Select all appropriate:	**Connected to local distributed**	Building will be Smart Grid ready	Connected to distributed steam,	Distributed thermal energy

electrical		hot, chilled water	ready

Will the building remain operable without utility power for an extended period?

	Yes / **No**	If yes, for how long:	*Days*
If Yes, is building "Islandable?			
If Yes, describe strategies:			

Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:	Solar oriented – longer south walls	Prevailing winds oriented	External shading devices	**Tuned glazing,**
	Building cool zones	**Operable windows**	**Natural ventilation**	Building shading
	Potable water for drinking / food preparation	Potable water for sinks / sanitary systems	Waste water storage capacity	High Performance Building Envelope
Describe any added measures:				

What measures will the project employ to reduce urban heat-island effect?

Select all appropriate:	High reflective paving materials	**Shade trees & shrubs**	**High reflective roof materials**	**Vegetated roofs**
Describe other strategies:	100% covered parking			

What measures will the project employ to accommodate rain events and more rain fall?

Select all appropriate:	On-site retention systems & ponds	**Infiltration galleries & areas**	vegetated water capture systems	Vegetated roofs
Describe other strategies:	**Injection Wells**			

What measures will the project employ to accommodate extreme storm events and high winds?

Select all appropriate:	Hardened building structure & elements	**Buried utilities & hardened infrastructure**	Hazard removal & protective landscapes	Soft & permeable surfaces (water infiltration)
Describe other strategies:	The building will have the strength to resist hurricane level winds that have a 3-second gust wind speed of 128 mph which translates to a 0.1% chance of recurrence per year (also known as a 700 year event).			

C - Sea-Level Rise and Storms

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

C.1 - Location Description and Classification:

Do you believe the building to susceptible to flooding now or during the full expected life of the building?

Yes / **No**

Describe site conditions?

Site Elevation – Low/High Points:	**Boston City Base Elev. 21' to 33'+/-**
Building Proximity to Water:	**1,400 Ft. +/-**

Is the site or building located in any of the following?

Coastal Zone:	*Yes / **No***	Velocity Zone:	*Yes / **No***
Flood Zone:	*Yes / **No***	Area Prone to Flooding:	*Yes / **No***

Will the 2013 Preliminary FEMA Flood Insurance Rate Maps or future floodplain delineation updates due to Climate Change result in a change of the classification of the site or building location?

2013 FEMA Prelim. FIRMs:	*Yes / **No***	Future floodplain delineation updates:	*Yes / **No***

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding?

1,350 Ft.

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

C - Sea-Level Rise and Storms

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

C.2 - Analysis

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise:	*Ft.*	Frequency of storms:	*per year*

C.3 - Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

What will be the Building Flood Proof Elevation and First Floor Elevation:

Flood Proof Elevation:	*Boston City Base Elev.(Ft.)*	First Floor Elevation:	*Boston City Base Elev. (Ft.)*

Will the project employ temporary measures to prevent building flooding (e.g. barricades, flood gates):

	Yes / No	If Yes, to what elevation	*Boston City Base Elev. (Ft.)*
If Yes, describe:			

What measures will be taken to ensure the integrity of critical building systems during a flood or severe storm event:

Systems located above 1st Floor.	Water tight utility conduits	Waste water back flow prevention	Storm water back flow prevention

Were the differing effects of fresh water and salt water flooding considered:

Yes / No

Will the project site / building(s) be accessible during periods of inundation or limited access to transportation:

Yes / No	If yes, to what height above 100 Year Floodplain:	*Boston City Base Elev. (Ft.)*

Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

Yes / No

If Yes, describe:

Will the building remain occupiable without utility power during an extended period of inundation:

Yes / No	If Yes, for how long:	*days*

Describe any additional strategies to addressing sea level rise and or sever storm impacts:

C.4 - Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand severe storm impacts and endure temporary inundation?

Select appropriate:	***Yes*** */ No*	Hardened / Resilient Ground Floor Construction	Temporary shutters and or barricades	Resilient site design, materials and construction

Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:	*Yes /* ***No***	Surrounding site elevation can be raised	Building ground floor can be raised	Construction been engineered
Describe additional strategies:				

Has the building been planned and designed to accommodate future resiliency enhancements?

Select appropriate:	***Yes*** */ No*	Solar PV	Solar Thermal	Clean Energy / CHP System(s)
		Potable water storage	Wastewater storage	Back up energy systems & fuel
Describe any specific or additional strategies:				

Thank you for completing the Boston Climate Change Resilience and Preparedness Checklist!

For questions or comments about this checklist or Climate Change Resiliency and Preparedness best practices, please contact: John.Dalzell.BRA@cityofboston.gov

Appendix D: Transportation

Note: Materials are provided on the enclosed CD-ROM. Hard copies are available upon request.

Turning Movement Counts (TMCs)

Crash Analysis Worksheets

Trip Generation Spreadsheet

Synchro Analysis Results

- 2017 Existing Condition AM and PM Peak Hours
- 2024 No-Build Condition AM and PM Peak Hours
- 2024 Build Condition AM and PM Peak Hours

Loading and Delivery Calculations

Appendix E: Supporting Environmental Studies

Note: Materials are provided on the enclosed CD-ROM due to large file size. Hard copies are available upon request.

Pedestrian Wind Study

Daylight Analysis Comparisons

Solar Glare Study

Appendix F: Air Quality/Greenhouse Gas Emissions

Note: Materials are provided on the enclosed CD-ROM due to large file size. Hard copies are available upon request.

Mesoscale Air Quality Analysis Supporting Documentation

Garage Ventilation Analysis Supporting Documentation

Greenhouse Gas Emissions Assessment Supporting Documentation

Appendix G: Construction Supporting Documentation

Note: Materials are provided on the enclosed CD-ROM due to large file size. Hard copies are available upon request.

Draft Construction Management Plan

Draft Construction Logistics Plans

Appendix H: List of Abutters

- St. Cecilia's Church – 18 Belvidere Street
- Hynes Convention Center/Massachusetts Convention Center Authority – 900 Boylston Street
- Berklee College of Music – 1140 Boylston Street
- Dalton Street Garage / Cambria Scotia Company – 50 Dalton Street
- Boston Thermal Corp– 23 Scotia Street
- Boston Edison Co. – 19 Scotia Street
- Boston Architectural College – 955 Boylston Street
- City of Boston – 947 Boylston Street

Appendix I: Public Comments

Note: Materials are provided on the enclosed CD-ROM due to large file size. Hard copies are available upon request.

Letters of Support

Public Comments