Notice of Project Change

One Channel Center

Submitted Pursuant to Article 80 of the Boston Zoning Code

Submitted to:

Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201

Submitted by:

Commonwealth Ventures
Channel Center Holdings VAF, LLC
10 Channel Center Street
Boston, MA 02210

Prepared by:

Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, Massachusetts 01754

In association with:

ADD Inc
Edwards Wildman Palmer LLP
Bowditch & Dewey, LLP
Spalding Tougias Architects, Inc.
Halvorson Design Partnership
Howard/Stein-Hudson
Nitsch Engineering

April 23, 2012

Epsilon
ASSOCIATES INC.

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Section 1.0

Background

1.0 BACKGROUND

1.1 Introduction

Channel Center Holdings VAF, LLC ("Holdings") and Galvin Capital Partners, LLC, doing business as Commonwealth Ventures (together with Holdings, the "Proponent") are submitting this Notice of Project Change pursuant to Section 80A-6 of the Boston Zoning Code (the "Code") in connection with the development of a structured parking garage ("Garage") that will serve the Channel Center Project, as described below. The Garage is being constructed to provide parking for existing and proposed uses at the Channel Center Project as well as others, including a new office building as contemplated by the original Article 80B permitting of the Channel Center Project (see Section 1.3.1 below). Such Garage, new office building ("Office Building"), two new open space areas ("Iron Street Park" and the "New Park" as described below), together with the related street, streetscape and landscape improvements described in this Notice of Project Change, are collectively called the "Proposed Project."

The Office Building and Iron Street Park will be located within the approximately 7.09 acre area governed by the Development Plan for Planned Development Area No. 53, Channel Center Project, as amended ("PDA Plan No. 53"). As noted in Section 1.3.2 below, Holdings is simultaneously submitting for approval by the Boston Redevelopment Authority ("BRA") and Boston Zoning Commission ("Zoning Commission") pursuant to Article 80C of the Code, an Amended and Restated Development Plan for Planned Development Area No. 53 (the "Restated PDA Plan No. 53") to reflect the existing and planned development at Channel Center, including a revised development schedule.

The Garage and the New Park will be constructed by a single purpose entity on land located south of Richards Street (the "Additional Land"). The Additional Land is currently owned by the United States Postal Service (the "USPS"), which is entering into an agreement to sell the Additional Land to such single purpose entity. A site plan showing the location of the Office Building, Iron Street Park, the Garage, and the New Park is included as Figure 1-1 ("Project Site Plan"). The development of the Garage and the New Park on the Additional Land will be governed by the Master Plan for Planned Development Area No. 69 – South Boston/The 100 Acres ("PDA Master Plan") and a Development Plan for the Additional Land being submitted simultaneously herewith by Commonwealth Ventures (the Development Plan for New Park/Channel Center Garage, Parcels U8, WF1, and HR3 within Planned Development Area No. 69, South Boston/The 100 Acres, or the "Park/Garage Development Plan").

Building plans and elevations for the Garage and the Office Building and plans for the proposed open space areas are found in Appendix A. A parcel plan showing the location of the Additional Land and the site of the Office Building (the "Parcel Plan") is included in Appendix B. Members of the Project Team are identified in Appendix C. All capitalized terms used but not defined herein have the meanings ascribed to them in the Code.

1.2 Channel Center Project History

The Channel Center Project is a multi-phase, mixed-use development planned to comprise multiple buildings containing residential, live/work, office, research and development, commercial, retail, service, restaurant and parking uses, together with open space areas. The current Channel Center Project site is approximately 308,898 square feet (approximately 7.09 acres) and located within the Fort Point Channel neighborhood of Boston, Massachusetts (the "Channel Center Site"). It is also located within the City of Boston's Innovation District. The Channel Center Site is bounded by A Street to the west, Binford Street to the north, Medallion Avenue to the east, and Richards Street to the south.

The Channel Center Project currently contains thirteen former Boston Wharf Company warehouse buildings that have been rehabilitated (40 Channel Center, 10 Channel Center, 20 Channel Center, 15 Channel Center and 35 Channel Center),[1] one infill building that has been constructed (25 Channel Center), one warehouse building currently undergoing rehabilitation (5 Channel Center), two vacant warehouse buildings to be rehabilitated (7 and 9 Channel Center), two surface parking lots, and two open space areas (one called Binford Green and the other located along Mt. Washington Way). The buildings known as 25 Channel Center and 35 Channel Center contain residential condominiums and commercial uses as well as an underground parking garage for residents; 15 Channel Center contains artist live/work units and a non-residential use; 10 Channel Center and 20 Channel Center contain office uses and a café; and 40 Channel Center contains office and restaurant uses. The building at 5 Channel Center is undergoing rehabilitation for office and research and development uses. The rehabilitation of 7-9 Channel Center is expected to begin later in 2012. When the rehabilitation of 7-9 Channel Center is completed, all of the contemplated renovations of the former Boston Wharf Company buildings at Channel Center will have been completed in general accordance with the Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings.

A site plan showing the current status of the Channel Center Project is included as Figure 1-2 ("Channel Center Existing Site Plan").

1.3 Article 80 Permitting Chronology

1.3.1 Article 80B, Large Project Review

The Channel Center Project was subject to Article 80B Large Project Review, and the Proponent's predecessor in interest (the "Original Proponent") submitted a Project Notification Form ("PNF") to the Boston Redevelopment Authority ("BRA") on January 24, 2001. On March 27, 2001, the BRA issued a Scoping Determination Regarding Submission Requirements for a Draft Project Impact Report ("DPIR") in response to the PNF (the

[1] Certain of the buildings have been consolidated.

"Original Scoping Determination"). On May 8, 2001, the Original Proponent submitted a Notice of Project Change to the BRA to reflect a planned decrease in the total square footage proposed for the Channel Center Project and in the height of certain proposed new buildings ("First NPC"). On June 25, 2001, the BRA issued a Scoping Determination for a DPIR ("Second Scoping Determination") in response to the First NPC. On August 30, 2001, the Original Proponent submitted a DPIR to the BRA in response to the Second Scoping Determination. On January 22, 2002, the BRA issued a Preliminary Adequacy Determination pursuant to Section 80B-5.4(iv) of the Code, subject to continuing design review by the BRA, in response to the DPIR. On June 28, 2002, the Original Proponent submitted a further Notice of Project Change ("Second NPC") relating to certain changes in the use program at the project, and the BRA issued an Adequacy Determination dated September 22, 2002, subject to continuing design review by the BRA, in response to the Second NPC. On August 29, 2006, the Original Proponent filed a further Notice of Project Change (the "Third NPC"), in response to which the BRA issued an Adequacy Determination dated October 23, 2006, subject to continuing design review by the BRA. On October 27, 2010, the Proponent filed a Notice of Project Change with the BRA, as amended by an Amendment to Notice of Project Change dated October 27, 2010 filed on November 3, 2010 (the "Fourth NPC"). The Fourth NPC reflected the replacement of plans for the demolition of the building known as 5 Channel Center and the construction of an adjacent infill building, with a proposal to rehabilitate each of 5, 7 and 9 Channel Center Street, and to relocate Iron Street southerly in order to facilitate such building rehabilitation. On January 21, 2011, the BRA issued an Adequacy Determination on the Fourth NPC, subject to continuing design review by the BRA.

The Article 80B approvals for the Channel Center Project encompass the construction of a "Mid-Rise Building" of approximately 150 feet in Height on a site at the southerly end of the Channel Center Site currently used as an interim parking lot, as shown on Figure 1-2. This building was to contain an underground parking garage for as many as 990 vehicles that would serve as the primary parking resource for the uses at Channel Center. The aggregate Floor Area Ratio for the Mid-Rise Building site was to be 13.2 as shown on Exhibits G-10 and G-11 to PDA Plan No. 53. The Office Building proposed in this Notice of Project Change constitutes the "Mid-Rise Building," and includes a pedestrian corridor that creates a visual and physical connection between the Channel Center buildings to the north and Richards Street and the New Park to the south. (This pedestrian and visual connection was contemplated in PDA Plan No. 53 as either an open space area or a pedestrian corridor between two "Mid-Rise Buildings.")

1.3.2 Development Plan for Planned Development Area No. 53

The Channel Center Project is governed by the Development Plan for Planned Development Area No. 53 – Midway Project (now known as the Channel Center Project), which was approved by the BRA on December 20, 2001 and by the Boston Zoning Commission on February 27, 2002, as amended by the First Amendment thereto, which

was approved by the BRA on October 19, 2006 and by the Boston Zoning Commission on November 8, 2006. In connection with BRA approval of the Fourth NPC, PDA Plan No. 53 was further amended by the Second Amendment thereto approved by the BRA on December 14, 2010 and by the Boston Zoning Commission on December 15, 2010.

PDA Plan No. 53 authorizes up to 1,550,000 square feet of development and contemplated that at least thirteen historic warehouse buildings would be rehabilitated and restored, five buildings would be demolished, two infill buildings would be constructed, and two new mid-rise buildings would be constructed on the southern portion of the Site. To date, thirteen buildings have been rehabilitated in general accordance with U.S. Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings, two buildings have been demolished, and one infill building has been constructed. The Channel Center Project includes approximately 209 residential units (condominiums and rental units) comprising approximately 377,252 square feet of area and approximately 25% of the total developable area for the project. The project also includes approximately 351,736 square feet of non-residential uses (office, restaurant, retail), as detailed in Table 1-1 below:

Table 1-1 Authorized and Existing Uses

Uses Authorized by PDA Plan No. 53 (as defined in PDA Plan No. 53)	Square Footage Projected by PDA Plan No. 53	Existing Square Footage Developed to Date
Residential Uses	Not less than 183,500 square feet; up to 1,383,300 square feet	Approximately 377,252 square feet at 15, 25 and 35 Channel Center[a]
Office Uses (includes R&D uses)	Not less than 50,000 square feet; up to 1,249,800 square feet	Approximately 313,205 square feet at 10, 20, 40, and 5 Channel Center[b]
Other Uses (*e.g.*, retail, restaurant)	96,700 square feet $\pm$	Approximately 62,106 square feet at 10, 20, 15, 25, 35 and 40 Channel Center

[a] Representing approximately 209 residential condominium and rental units.
[b] 5 Channel Center is under rehabilitation and will include approximately 50,000 square feet of Office Uses.

In addition, 7 and 9 Channel Center, the remaining buildings to be rehabilitated at the Channel Center Project, will contain approximately 40,000 square feet of office uses, approximately 11,010 square feet for "Other Uses" as defined in PDA Plan No. 53 (such as retail, gallery and other non-residential space), and approximately 44,400 square feet of residential apartments/artists' live/work units. The proposed Office Building will contain approximately 521,000 square feet of office space and approximately 4,000 square feet of commercial uses, thereby increasing the total area dedicated to "Office Uses" (as defined in PDA Plan No. 53) at the Channel Center Project to approximately 874,205 square feet, or

approximately 70% of the maximum office space permitted under PDA Plan No. 53. Conversely, the total amount of residential space that will be ultimately created at the Channel Center Project will be approximately 421,652 square feet, or more than twice the minimum amount of 183,500 square feet required to be devoted to residential uses under PDA Plan No. 53. The allocation of uses within the Channel Center Project as set forth herein is subject to market demands and other factors.

1.3.3 100 Acres Master Plan, Planned Development Area Master Plan No. 69 and the 100 Acres Memorandum of Agreement

The Channel Center Project and the Additional Land are located within an area of the South Boston Waterfront known as the "100 Acres." In September 2006, the BRA approved "The Fort Point District 100 Acres Master Plan" (the "100 Acres Master Plan"), which set forth a plan for the growth and development of the 100 Acres. The 100 Acres Master Plan provides a framework for transforming approximately 35 acres of underutilized land within the 100 Acres (including the Additional Land) into a vibrant, 24-hour mixed-use neighborhood with approximately 5.9 million square feet of development, new open spaces for public use, and significant infrastructure improvements such as new and improved streets.

Following BRA approval of the 100 Acres Master Plan, the BRA, in consultation with area property owners, proposed adoption of the PDA Master Plan, which created the zoning framework for approximately 47 acres of land located within the 100 Acres based upon the dimensional and use regulations, public realm improvements and design guidelines set forth in the 100 Acres Master Plan. The PDA Master Plan was approved by the BRA on August 10, 2006 and by the Zoning Commission on January 10, 2007.

The PDA Master Plan governs the Additional Land. However, it specifically excludes the Channel Center Site and states that the properties within Planned Development Area No. 53 will continue to be governed by PDA Plan No. 53. Therefore, the development of the Garage and New Park (as discussed in Section 2.2.3 below) will be governed by the Park/Garage Development Plan, which will be a separate development plan under the PDA Master Plan (see Section 4.1.2 below).

The owners of the land subject to the PDA Master Plan entered into an Amended and Restated Memorandum of Agreement dated as of January 10, 2007 (the "100 Acres MOA"), which sets forth the obligations of such owners or their successors or assigns in interest, to construct and fund the "Public Realm Improvements" set forth in the PDA Master Plan. Hence, construction of Richards Street as part of the Proposed Project (which will include financial contributions by other 100 Acres landowners in accordance with the 100 Acres MOA) and construction of the New Park in conjunction with the Garage, will each be consistent with the 100 Acres MOA.

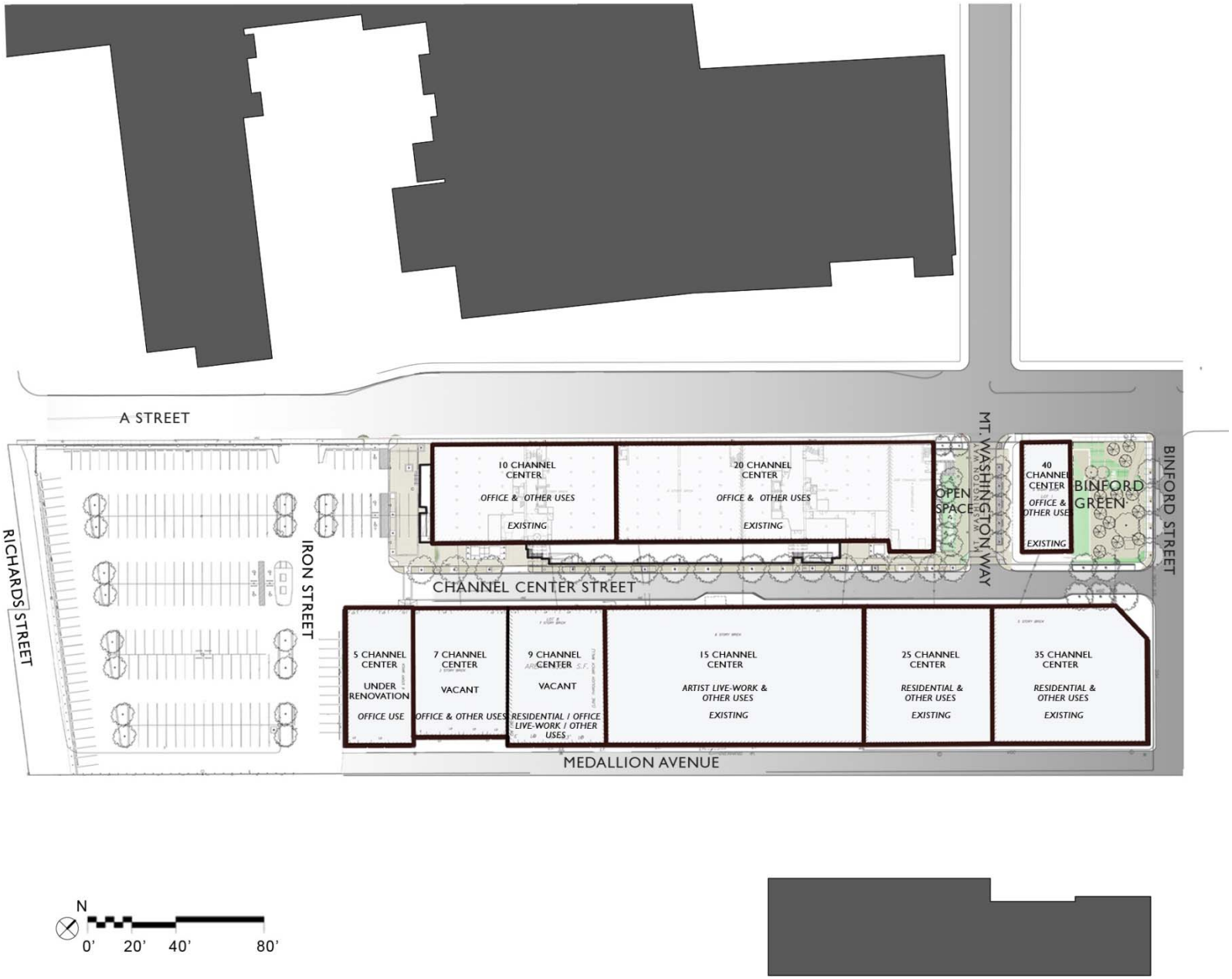
1.4 Community and Public Review Process

The Proponent is committed to being responsive to community and public agency concerns with respect to the design, environmental, and other impacts of the Proposed Project. In particular, the Proponent will be working closely with the BRA and interested parties in refining the programs and the landscape designs for the New Park and Iron Street Park, respectively. In addition, the façade of the Garage and the development of a series of interpretive panels detailing the Channel Center area history (to be located at Iron Street Park), present opportunities for involvement of the local artists' community. The Proponent will continue its ongoing discussions about the Proposed Project with Channel Center and Fort Point Channel neighborhood community members, other stakeholders, local elected officials and public agency officials. This Notice of Project Change and the related Planned Development Area Plan submissions will be the subject of one or more BRA-sponsored community meetings. The Amended and Restated Development Plan for Planned Development Area No. 53, Park/Garage Development Plan, and related First Amendment to the PDA Master Plan will be the subject of public hearings before the BRA and the Zoning Commission.

ADD Inc ARCHITECTURE + DESIGN

Figure 1-1

SITE PLAN



One Channel Center **Commonwealth Ventures**

Figure 1-2

EXISTING SITE PLAN OF CHANNEL CENTER PROJECT

Section 2.0

Project Description

2.0 PROJECT DESCRIPTION

2.1 Description of Project Site

The Proposed Project will be located at the southern end of the Channel Center Site, as well as on the Additional Land located to the south of Richards Street. The Office Building will be constructed on an approximately 57,400 square foot lot within a larger, approximately 87,598 square foot parcel of land shown as the "Office Building Parcel" on the Parcel Plan in Appendix B, and the Garage and New Park will be constructed on the approximately 148,512 square foot parcel of land shown as the "Additional Land Parcel" on the Parcel Plan. The Iron Street Park will be located on an approximately 9,000 square foot parcel of land located between Iron Street and 10 Channel Center Street, as shown on the Project Site Plan. The Additional Land, the Office Building Parcel, and Iron Street Park are collectively referred to herein as the "Project Site."

The Office Building Parcel is bounded by A Street to the west, Iron Street to the north, Medallion Avenue to the east, and Richards Street to the south. The buildable lot area on the Office Building Parcel has been configured to take into account the future widening of A Street, as contemplated in the PDA Master Plan.

The Additional Land is bounded by A Street to the west, Richards Street to the north, the South Boston Bypass Road to the east, and West First Street to the south. As previously noted, the Additional Land is within the PDA Master Plan area. The Garage will be located on a lot bounded by the proposed extension of Medallion Avenue to the west, Richards Street to the north, the South Boston Bypass Road to the east, and West First Street to the south. The New Park will be bounded by A Street to the west, Richards Street to the north, Medallion Avenue to the east, and West First Street to the south. After Medallion Avenue between West First Street and Richards Street is constructed pursuant to a layout plan approved by the City of Boston's Public Improvement Commission, the Additional Land will be subdivided so that the Garage and the New Park are on separate "Lots," as that term is defined in the Code.

2.2 Building Program

The building program for the Proposed Project consists of the following components: the Office Building, the Garage, and two new open space areas (the New Park and Iron Street Park), as described below. The related street and streetscape improvements are described in Section 2.3.

2.2.1 Office Building

The proposed Office Building will be approximately 150 feet in Height and approximately 11 stories high and contain approximately 525,000 square feet of Gross Floor Area, resulting in a Floor Area Ratio of approximately 9.15. Pursuant to PDA Plan No. 53, development on the Office Building Parcel was to have a maximum Height of 150 feet and an aggregate maximum FAR of 13.02.[1]

The Office Building massing will be divided into two shifted volumes by a two-story pedestrian passageway on the ground floor that connects Channel Center through the Office Building lobby to the New Park and Garage. The passageway will be marked by a vertical glass element on an axis with Channel Center Street, the "Main Street" of the Channel Center Project. The western section of the building, along A Street, will have deeply serrated terra-cotta colored precast panels that will be designed to respect and complement the red brick facades along A Street without imitating them. The eastern section of the Office Building, along Medallion Avenue, will have lightly scored brown precast panels in a rectangular pattern. Both portions of the building will have windows with bronze mullions (similar to the other buildings at the Channel Center Project), yet with a random pattern of silver and blue metal infill panels to suggest the quick-flowing digital technology within. Lastly, four large glazed elements will puncture the Office Building volumes at the corners of A and Iron Streets, A and Richards Streets, Iron and Medallion Streets, and Richards Street and Medallion Avenue.

There will be a two-story base with dark granite at grade, large windows and a metal panel band between the first and second floors. On the Medallion Avenue façade, the granite base will transition to brown/black ironspot brick where solid walls will be appropriately used for the loading bays and utility rooms located along that façade.

The Office Building is expected to include five loading bays, as shown on the ground floor plan included in Appendix A.

As contemplated in the Article 80B documents approved by the BRA for the Channel Center Project, the ground floor of the Office Building will contain a two-story, approximately 27 foot wide, publicly-accessible pedestrian passageway that will allow pedestrians through access to and from the Garage and the New Park to the south, and the Channel Center buildings to the north. PDA Plan No. 53 authorized the construction of either one or two mid-rise buildings on the Office Building Parcel, including an underground garage to serve as the primary parking resource for the Channel Center Project. The Office Building is anticipated to contain uses permitted by PDA Plan No. 53,

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[1] The Office Building Parcel comprises two lots included in PDA Plan No. 53, the dimensional requirements for which are set forth on Exhibits G-10 and G-11 attached thereto. The Office Building Parcel is smaller than what was originally contemplated due to the relocation of Iron Street southerly and the planned A Street, Richards Street, and Medallion Avenue improvements.

including general office uses, financial services uses (including a potential trading floor), banking uses, telecommunications uses and equipment related thereto, as well as other uses, and may also include some ground floor commercial uses. The ground floor plan, typical floor plan and building elevations for the Office Building are included within Appendix A.

2.2.2 Garage

The Garage will be an above-ground structure approximately 96 feet in height to the concrete deck on the top floor of the Garage, and approximately 114 feet in height to the top of the elevator enclosure on the top floor of the Garage. It will be approximately nine stories high and contain approximately 295,430 square feet of Gross Floor Area with an approximate FAR of 2.69 for the Additional Land and 4.92 for the Garage lot based on the entirety of the Garage lot in accordance with the PDA Master Plan (*i.e.*, before giving effect to the creation of Medallion Avenue and Richards Street). The FAR of the Garage lot based upon the definition of "Lot" set forth in Article 2A of the Code (*i.e.*, excluding public rights of way) is approximately 7.2. The building massing and schematic design of the Garage are shown on the plans included in Appendix A. The Garage will be of concrete construction, with stainless steel mesh screen having undulating sections painted with an abstract landscape graphic. When lit, the mesh screen will serve as a dynamic screen and a vertically visual extension of the New Park.

The PDA Master Plan permits a maximum height of 125 feet at Parcel U8, and the proposed Garage is consistent with this dimensional requirement. The Garage will contain approximately 970 parking spaces, and will serve as the parking resource for residents, tenants, and visitors to the Channel Center Project; a portion of the Garage may be used by others or comprise public parking.

The parking proposed at the Garage is a permitted use at Parcel U8 under the PDA Master Plan. (The reconfiguration of Parcel U8 and the New Park parcel is discussed below in Section 4.1.) The Garage will have vehicular access on Medallion Avenue, a pedestrian lobby at the intersection of Medallion Avenue and Richards Street, and bicycle access on Richards Street, as shown on the ground floor plan in Appendix A. A transportation analysis for the Garage is included in Section 3.1 below.

The existing temporary surface parking lot at the Office Building Parcel will be replaced by the Office Building. During construction of the Garage and the Office Building, replacement parking for Channel Center occupants, workers, and visitors will be provided by the Proponent on nearby land leased for this interim parking purpose. When the Garage is completed, this interim parking use will cease.

Upon completion, the Garage will contain approximately 970 structured parking spaces, of which up to 885 will be allocated to the Channel Center Project. An underground garage containing approximately 105 parking spaces has been constructed below 15, 25 and 35

Channel Center. In addition, 20 surface parking spaces are authorized at Channel Center. Therefore, the Channel Center Project will continue to have approximately 990 structured parking spaces allocated to it, but the location of 885 of the structured parking spaces will be off-site in the Garage. The Restated PDA Plan No. 53 (as discussed in Section 4.2 below) reflects this change in parking location.

2.2.3 Open Space Areas

The Proposed Project will include two new open space areas: the New Park and Iron Street Park. The New Park will be approximately 72,000 square feet (excluding sidewalks)[2] and located on a site bounded by A Street, Medallion Avenue, West First Street, and Richards Street, as shown on the Project Site Plan. The preliminary landscape design for the New Park is included in Appendix A and includes multi-use turf grass lawn area sized to accommodate youth athletic activities, a children's play area, and an area for more programmed and passive recreational uses, including flexible space for community events. The design also includes a tree-lined pedestrian promenade that extends a connection from the Channel Center neighborhood southerly toward the West Broadway area. The New Park will be the first new park to be privately constructed under the 100 Acres Master Plan, and will be approximately 10% larger than Titus Sparrow Park in the South End neighborhood.

The New Park will be privately maintained, and publicly accessible pursuant to rules and regulations reasonably approved by the BRA, as contemplated by the PDA Master Plan.

The second new open space area will be the approximately 9,000 square foot Iron Street Park located at the southerly end of Channel Center, between Iron Street and the 10 Channel Center Street building. The preliminary landscape design for the Iron Street Park is included within Appendix A; the plan is intended to be illustrative, as it will be further developed and refined based upon BRA design review and consultation with the community. This configuration represents an expansion of this open space area as set forth in PDA Plan No. 53 due to the relocation of Iron Street southerly (which in turn, made possible the rehabilitation (instead of demolition as originally planned) of the 5 Channel Center Street building. That is, such relocation "freed up" additional land that could be designated as open space, to create this larger new park space. As a part of the Channel

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[2] As further discussed in Section 4.1.2 hereof, the New Park is intended to be developed on Parcels WF1 and U8, as shown on Exhibits G and I to the PDA Master Plan. The PDA Master Plan contemplated that Parcels WF1 and HR3 would contain open space; the aggregate area of Parcels WF1 and HR3 according to Exhibit G to the PDA Master Plan is approximately 1.64 acres, or 71,438 square feet. As depicted on Exhibits G and I to the PDA Master Plan, Parcels WF1 and U8 included the sidewalks adjacent thereto. The 72,000 square foot calculation included in this NPC excludes the sidewalks adjacent to the New Park. Upon the realignment of A Street as contemplated in the 100 Acres Master Plan, the New Park will be reduced to approximately 66,000 square feet in area, excluding sidewalks.

Center Project, Iron Street Park will be maintained by the private Channel Center Owners' Association and will be publicly accessible, similar to Binford Green at the northern end of the Channel Center Project (which was privately developed by Holdings).

The new open space areas will enhance and promote enjoyment of the area for residents, workers and visitors at the Channel Center Project and for visitors to the Fort Point neighborhood. In addition, these areas will provide part of the open space network contemplated in the 100 Acres Master Plan and the PDA Master Plan. Thus, these new open space areas are consistent with the goals of the 100 Acres Master Plan and the PDA Master Plan.

Approximate dimensions of the Proposed Project are identified in Table 2-1 below.

Table 2-1 Approximate Dimensions

Use	Approximate Dimension
Office Building	525,000 square feet
Parking Garage	295,430 square feet 970 spaces
New Park	72,000 square feet
Iron Street Park	9,000 square feet

2.3 Street Improvements

The Proposed Project will include the construction of Richards Street from A Street to the South Boston Bypass Road and the extension of Medallion Avenue from Iron Street to Richards Street as part of the Office Building component. Improvements to and the widening of West First Street and the construction of Medallion Avenue from West First Street to Richards Street will occur in concert with construction of the Garage. The construction of Richards Street is a First Phase Public Realm Enhancement required by the PDA Master Plan, and the construction of Richards Street will be funded in accordance with the 100 Acres MOA. As noted in the transportation section below in Section 3.1, the construction of Richards Street will include the creation of a signalized intersection at A and Richards Streets, thereby facilitating truck movements in and out of the Gillette Company's South Boston Manufacturing Center.

In addition, the Proposed Project will include streetscape improvements to consist of new sidewalks, street trees and lighting along the adjacent sides of A Street, Iron Street, Richards Street, Medallion Avenue, and West First Street. These improvements will create a more inviting pedestrian environment along A Street, the main pedestrian route to Broadway and the Broadway MBTA Red Line station, as well as around the Channel Center Project and the

New Park and Garage. The design vocabulary for the streetscape improvements on Iron Street will be consistent with the industrial aesthetic used for other Channel Center streetscape improvements.

2.4 Urban Design

2.4.1 Existing Conditions

The Proposed Project is located in an area north of the Artists for Humanity building on A Street and extending to the existing Channel Center renovated warehouse buildings. The Proposed Project site comprises a surface parking lot for Channel Center and a surface parking area for USPS trucks and trailers, creating an unfriendly pedestrian environment along A Street and a lack of vehicular connection to the South Boston Bypass Road.

2.4.2 100 Acres Master Plan and Proposed Parcel Re-Orientation

In September 2006, the BRA approved the 100 Acres Master Plan, providing a framework for new development, new public open spaces, and significant infrastructure improvements. In January 2007, the PDA Master Plan was approved by the Zoning Commission to facilitate implementation of the goals of the 100 Acres Master Plan. The PDA Master Plan depicted three parcels in the location of the Additional Land: Parcel U8, a development parcel with a maximum allowable Height of 125 feet; Parcel WF1, a park area to be located to the south of Parcel U8; and Parcel HR3, an open space area located to the east of Parcels U8 and WF1. The PDA Master Plan also contemplated improvements to the streets between A Street and the South Boston Bypass Road, including the construction of Richards Street and Medallion Avenue, as well as the widening of West First Street.

The Proposed Project seeks to follow the framework of the 100 Acres Master Plan in spirit, providing an equivalent area of publicly-accessible open space and new development, while increasing the connectivity of the New Park to the residents and businesses of Channel Center and South Boston, and protecting patrons of the New Park from the traffic and noise of the South Boston Bypass Road.

The Project Site Plan reorients Parcels U8, WF1, and HR3 so that the New Park fronts along A Street and the Garage is oriented along the South Boston Bypass Road. This results in the following urban design benefits:

- Park activities will be inviting to all who walk, bike, or drive by along A Street.
- The New Park will be oriented along the pedestrian desire line running from Channel Center and the new Office Building to the MBTA Red Line Broadway Station, encouraging pedestrians to use or cross the New Park on a daily basis.

- The New Park will be on axis with Channel Center Street, and the pedestrian passageway on the ground floor of the Office Building will provide a connection to the New Park for the residents, tenants, and visitors at Channel Center.

- The New Park will face south and west, allowing for full sun in the afternoon and evening when it is most likely to be used.

- The Garage will block the view to (and noise from) the South Boston Bypass Road, which is restricted to commercial (largely truck) traffic.

2.4.3 Active Ground Floor Uses

In addition to the ground floor pedestrian passageway, there will be a retail/commercial space in the Office Building at the corner of A Street and Richards Street. This area will have signage, entrance doors, and glazing as shown in the building elevations included in Appendix A.

2.4.4 New Park Design

The New Park is large enough to support many types of active and passive uses, and the Proponent looks forward to working with the BRA and the community to identify the uses that are most desired and needed.

The proposed park design is conceptual and meant to communicate the scale of the space and the potential for a combination of active and passive uses. It shows a hardscape plaza near the Office Building that allows for a variety of programs, including a shade structure, farmers'/flea/art market, and special events such as a movie night or concerts. The remaining two-thirds of the park is reserved for active uses such as a lawn area for field sports and children's playground. Along A Street, a landscape transition zone is proposed to buffer the New Park from vehicular noise. The design along A Street takes into account the future potential widening of that street.

2.4.5 Parking Garage Design

The façade of the Garage facing the park is considered a design opportunity – a place where art, light, and projection may merge to form a unique image for the Fort Point/Channel Center/South Boston community. The sloping ramps are intentionally placed on the West First Street side of the Garage so as not to break up the façade facing A Street. The design will include decorative panels that partially conceal the concrete structure and serve to animate the façade with the play of light, shadow and reflections. A base of brick with projecting steel canopies will reference the design palette of Channel Center and will also provide pedestrian scale at the sidewalk level.

2.4.6 Office Building Design

The proposed Office Building design is directly influenced by the two-story pedestrian passageway that will allow the public to connect from Channel Center and Iron Street through the office lobby to the New Park and Garage. This path will break down the building massing into two shifted volumes, separated by a vertical glass element on axis with Channel Center Street. Each side of the building will be treated differently to diminish the scale of the overall building and relate it to the grain of Channel Center.

The two-story base will have a large proportion of glazing-to-wall-area on the A Street side, and the height will relate to the height of the pedestrian passageway. Glass canopies hung by cables will provide rain cover at the pedestrian passageway entrances.

The PDA Master Plan states that new buildings within the PDA Master Plan area should be built on a zero lot line basis. The Office Building is designed to align with the existing buildings at 10 and 20 Channel Center Street, with an adjustment to reflect the future expansion and improvement of A Street called for in the PDA Master Plan.

2.5 Development Schedule

Construction of the Office Building is expected to take approximately twenty four months, and to commence by the third quarter of 2012. Construction of the Garage is expected to take approximately 14 months, and will be undertaken concurrently with the Office Building, with garage occupancy occurring in the first half of 2014. Construction of Richards Street and Medallion Avenue, the improvements to West First Street, and the streetscape improvements to A Street, Iron Street and Richards Street will be completed contemporaneously with the construction of the Office Building. Construction of the Iron Street Park and the New Park will be completed after completion of the Office Building, subject to climatic conditions, in 2015.

2.6 Public Benefits

The Proposed Project is expected to provide the following public benefits:

- The Proposed Project will generate approximately 1,200 construction jobs, with peak employment at the Proposed Project of approximately 350 construction workers.
- The commercial tenant at the Office Building will retain approximately 4,000 permanent jobs in the City of Boston.
- The Office Building will generate approximately $2,882,250 in housing linkage funds and approximately $572,250 in jobs linkage funds for the City of Boston.

- The existing surface parking lot at One Channel Center will be replaced by an attractive new building containing uses complementary to existing Channel Center uses.

- The Office Building will be constructed to LEED certifiable standards.

- The Proposed Project will result in the construction of Richards Street from A Street to the South Boston Bypass Road and the creation of Medallion Avenue from West First Street to Iron Street, helping to build the expanded street and pedestrian circulation system contemplated by the PDA Master Plan and the 100 Acres Master Plan.

- The Proposed Project will include new streetscape improvements along A Street, Iron Street, Richards Street, Medallion Avenue, and West First Street, including new sidewalks, street lights and street trees.

- The Garage will serve as a parking resource for the Channel Center Project, including its residents, workers, and visitors, as well as others.

- The New Park and Iron Street Park will provide much-needed, publicly-accessible open space in an area of Boston that has a dearth of open space.

- The New Park will include an area for field sports, a children's play area, and passive recreational components that are responsive to community needs.

- The New Park can serve as a venue for community gatherings in an area in which such venues do not exist.

- The Office Building, Garage, and open space areas will each have sustainable design features that will minimize their environmental impacts.

- Under the Cooperation Agreement with the BRA for the Channel Center Project, the Office Building will generate approximately $406,350 in mitigation funds, which funds will be held by the BRA and made available to social service providers and non-profit organizations for uses such as capital improvements and programming, childcare, affordable housing, public realm improvements, local arts initiatives and social support functions.

- The pedestrian passageway in the Office Building will provide access and connect the Channel Center Project to the New Park and neighborhood to the south of Channel Center.

- The Office Building will create an infusion of additional workers to the Channel Center Project, thereby strengthening the market for ground floor commercial uses (e.g., restaurant and retail) at the Channel Center Project.

Section 3.0

Development Impacts

3.0 DEVELOPMENT IMPACTS

3.1 Transportation

3.1.1 Garage Capacity and Access

As described in the MEPA and Article 80 submissions for the Channel Center Project and memorialized in the existing Transportation Access Plan Agreement for the Channel Center Project with the Boston Transportation Department as amended ("TAPA"), the approved Channel Center Project called for up to three garages, including a 105 car garage constructed at 15, 25 and 35 Channel Center Street (Garage 1), a new garage possibly located at 40 Channel Center Street (Garage 2), and a third garage to be located at 1-2 Channel Center Street (Garage 3). Total parking capacity was specified as up to 1,030 parking spaces including up to 1,010 spaces in the three garages and up to 20 on-street spaces, likely on Channel Center Street. Garage 2 was not built, as the 40 Channel Center building has been rehabilitated and contains restaurant and office uses. The Proposed Project involves the construction of Garage 3 parking, proposed to be a garage containing approximately 970 spaces on a site that is outside the existing Channel Center Project – a currently USPS-owned property between Richards Street and West First Street, adjacent to the South Boston Bypass Road (SBBR).

This Garage will be used for visitors, residents, and workers at the Channel Center Project, and a portion of the garage may be used by others or for public parking.

In the Channel Center Project's Article 80B and MEPA review documents, projections for regional access to the three garages were developed based on the then-unimplemented Central Artery/Tunnel (CA/T) roadway improvements. Access for non-commercial vehicles was assumed to be provided from A Street by way of Richards Street (for traffic traveling to and from the south) and from Binford Street to Channel Center Street (for traffic traveling to and from the north), as shown in Figure 3-1. Access to the currently proposed Garage will be provided on Medallion Avenue, which can be accessed from A Street via Richards Street or via West First Street. The residential parking garage at 35/25 Channel Center Street will continue to be accessed from Binford Street and Medallion Avenue. The short-term surface parking spaces along Channel Center Street will continue to be accessed from Mt. Washington Avenue or Iron Street.

3.1.2 Comparison of Development Programs

The currently proposed building program for Channel Center is smaller than the prior program reviewed in the Channel Center Project PNF, DPIR, FPIR, ENF, and Single EIR, as follows:

Total square feet: 1,391,830 currently vs. 1,500,000 reviewed;

Residential square feet: 421,652 currently vs. 545,342 reviewed;

Office square feet: 874,205 currently vs. 867,542 reviewed; and

Other Uses square feet (e.g., retail, other commercial) 77,116 currently vs. 137,116 reviewed.

Although the office square footage is slightly higher than what was permitted, the program is smaller for each of the other proposed land uses and for the size of the project as a whole. The estimated trip generation and traffic impacts resulting from the One Channel Center Office Building and Garage of approximately 970 spaces will thus be lower than those already analyzed. In addition, the currently planned buildout is also lower than the 1,539,357 square foot Channel Center program analyzed as part of the 2020 Base Condition in the A Street Corridor, South Boston Traffic Report (April 28,2009). That report was prepared by Howard/Stein-Hudson Associates for P&G/Gillette Company and Archon/Goldman Properties as part of 100 Acres transportation planning work undertaken by area landowners in concert with the BRA. This report concluded that "the new infrastructure created by CA/T and proposed as part of the 100 Acres Master Plan and other projects will be able to support the 100 Acres development," i.e. the previously approved Channel Center Project of approximately 1,550,000 square feet.

3.1.3 Analysis Assumptions

To maintain consistency with the prior filings, trip generation by land use for the Proposed Project and the Channel Center Project as a whole was estimated based on the same Institute of Transportation Engineers and BTD land use codes used in the prior filings for this site, as follows:

- ***Land Use Code 710 – General Office Building –*** this land use code refers to office buildings with multiple tenants. Non-office uses that may be incorporated in this code include services such as banks, restaurants, and some retail. For this NPC, however, retail uses were separated out in the trip generation calculations and BTD rates were applied.
- ***Land Use Code 220 – Apartments –*** This land use code refers to rental dwelling units with at least 3 other units in the same building.
- ***Retail and Restaurants –*** BTD person trip generation rates were used to develop Project-related trips for employees and patrons of both retail and restaurant uses.

Mode use assumptions, again kept consistent with the prior filings for purposes of comparison, are presented in Table 3-1 for each of the projected land uses, as directed by BTD. The mode split for all work trips was taken from 1990 U.S. Census Journey-to-Work data for the census block groups including and adjacent to the site. The mode split was further modified to be in keeping with similar projects located nearby, and to account for the Travel Demand Management measures that that the Proponent will initiate, as described

in the Travel Demand Management section below. Local vehicle occupancies were also based on the 1991 Central Transportation Planning Staff (CTPS) Household Survey for Greater Boston.

Table 3-1 Mode Use Assumptions

Land Use	Transit	Walk/Bike/ Other	Auto	Vehicle Occupancy
Office				
Work	60%	5%	35%	1.25
Non-work	30%	40%	30%	1.25
Residential	40%	25%	35%	1.20
Retail				
Work	60%	20%	20%	1.25
Non-work	25%	50%	25%	1.70
Restaurant				
Work	60%	20%	20%	1.25
Non-work	15%	50%	35%	2.10

Source: 1990 Census Journey-to-Work Data and Central Transportation Planning Staff (CTPS) 1991 Household Survey.

Trip distribution for work trips was developed from the 1990 Census Journey-to-Work data for all census tracts within a half-mile of the site. Based on these trip distribution assumptions, Project-related trips were assigned to the adjacent street network using the arrival and departure routes presented in Figure 3-1 and summarized in Table 3-2. The completion of the Central Artery/Tunnel project improved access of the Project Site to and from the regional highway system, thus lessening travel on some local streets. The new routes are reflected in the analysis.

Table 3-2 Regional Vehicle Trip Distribution

Direction/Route	Percentage
Regional:	
Northeast (Route 1)	13%
North (I–93 N)	18%
West (I–90)	18%
South/Southwest (SE Expressway, I–95 South)	26%
Local:	
Boston/South Boston	6%
Back Bay/South End	3%
Dorchester/Roxbury	16%

Source: 1990 U.S. Census Journey-to-Work Data, Census Tracts 606 and 614.

The analysis below assumes that the Garage will be used primarily by Channel Center users. As stated above, it is anticipated that the facility may be called upon, subject to availability, for use by others or for public parking. To the extent these trips occurred outside weekday peak hours, they would not affect the traffic analysis presented in this report.

3.1.4 Trip Generation

A comparison of trip generation by mode for the entire Channel Center Project as described in the prior Article 80B and MEPA filings, and the current trip generation plan is shown in Table 3-3. As shown, total person trips and vehicle trips are all significantly reduced from those previously studied. For this reason, and because access to the Garage will be afforded on an improved Medallion Avenue from A Street via both Richards Street and West First Street, no new traffic analysis was undertaken beyond the three A Street intersections at Binford Street, Richards Street, and West First Street that directly serve the Channel Center site as a whole, as discussed below. The new intersection of Richards Street at Medallion Avenue is also included in the traffic operations analysis.

3.1.5 Year 2020 Base Conditions

Base year background traffic volumes were taken from the *A Street Corridor, South Boston Traffic Report* (April 28, 2009), prepared by Howard/Stein-Hudson Associates. Base year No-Build volumes are shown in Figure 3-2.

3.1.6 Vehicle Trips at Binford Street, Richards Street and West First Street

Project-generated vehicle trips were assigned between A Street and Binford Street, Richards Street and West First Street according to the trip distribution percentages listed above. As a worst case scenario, all Channel Center residential, office, and retail trips were assigned to the Garage along Medallion Avenue with trips divided between Richards Street and West First Street.

Peak hour trips for the Proposed Project are slightly lower than or similar to the trips estimated in the Single EIR at Richards Street and Binford Street, but higher at West First Street, which was not carrying any Project traffic from either Channel Center or the USPS in the prior analysis. Providing access to the Garage on Medallion Avenue helps to disperse trips to the Garage between Richards Street and West First Street.

Morning and evening peak hour Build volumes for the Proposed Project at the three A Street intersections and the intersection of Richards Street and Medallion Avenue are shown in Figure 3-3.

Table 3-3 Project Trip Generation Comparison

Time Period	Person Trips In	Person Trips Out	Transit Trips In	Transit Trips Out	Walk/Bike Trips In	Walk/Bike Trips Out	Person Trips In Vehicles In	Person Trips In Vehicles Out	Vehicle Trips In	Vehicle Trips Out		
MIDWAY DPIR - 1,550,000 sf												
Daily Total	7,710	7,710	3,435	3,435	1,845	1,845	2,430	2,430	1,855	1,855		
Morning Peak Hour	1,490	280	810	95	180	105	500	85	400	65		
Evening Peak Hour	460	1,525	175	805	145	220	140	500	105	400		
CHANNEL CENTER SEIR - 1,550,000 sf											**Change from DPIR**	
Daily Total	6,325	6,325	2,785	2,785	1,515	1,515	2,025	2,025	1,590	1,590	-14%	-14%
Morning Peak Hour	1,065	320	575	115	130	100	360	105	290	85	-28%	31%
Evening Peak Hour	435	1,185	175	615	125	185	135	390	110	305	5%	-24%
ONE CHANNEL CENTER NPC - 1,391,830 sf											**Change from SEIR**	
Daily Total	5,644	5,644	2,540	2,540	1,288	1,288	1,816	1,816	1,429	1,429	-10%	-10%
Morning Peak Hour	1,056	267	571	94	128	88	356	85	285	69	-2%	-19%
Evening Peak Hour	368	1,132	146	595	106	163	115	374	92	296	-16%	-3%

3.1.7 Intersection Operations Analysis

The lane use assumptions for the Year 2020 A Street intersection operations analysis are as follows:

- *A* Street, an urban minor arterial, runs from Dorchester Avenue north to Congress Street. As of the date of this Notice of Project Change, A Street is one lane in each direction within the PDA Master Plan area. Metered parking is available on the east side between Binford Street and Iron Street. No parking is allowed at any other locations on A Street. Sidewalks are located on both sides of the roadway. The PDA Master Plan calls for A Street to be widened in order to operate as two lanes in each direction with bike lanes on either side.
- As set forth in the PDA Master Plan, *A Street/Binford Street* will be a signalized intersection with four approaches. Under the 2020 base conditions, the Binford Street eastbound and westbound approaches will consist of a shared left-turn/through/right-turn lane. The A Street northbound and southbound approaches will each consist of a shared left-turn/through lane and a shared through/right-turn lane. At the present time, however, this location does not meet pedestrian or vehicle volume thresholds that warrant a traffic signal.
- *A Street/Sobin Park/Richards Street* will be a signalized intersection with four approaches. The Sobin Park eastbound approach will consist of one exclusive left-turn lane and one shared through/right-turn lane. The Richards Street westbound approach will include one exclusive left-turn lane and one shared through/right-turn lane. The A Street northbound and southbound approaches will consist of one shared left-turn/through lane and one shared through/right-turn lane. Crosswalks and handicapped-accessible ramps will be provided across the westbound, northbound, and southbound approaches.
- *A Street/West First Street* will be an unsignalized intersection with three approaches. The West First Street westbound approach will be stop-controlled and consist of a shared left-turn/right-turn lane. The A Street northbound and southbound approaches will be free-flowing and consist of one shared left-turn/through lane and one shared through/right-turn lane.

Richards Street/Medallion Avenue will be a four way unsignalized intersection with stop control along the Medallion Avenue approaches. All approaches to the intersection will be single lane approaches.

In February 2012, peak hour 2020 intersection operations analysis was conducted for the Proposed Project at the four intersections using Synchro analysis software. The A Street intersections at Binford Street and Richards Street intersections are signalized and the A Street/West First Street and Richards Street/Medallion Avenue intersections are not. The results of the analysis are shown in Table 3-4 for the morning peak hour.

Table 3-4 Build Conditions (2020) Level of Service Summary, Morning Peak Hour

Intersection	LOS	Delay (s)	V/C Ratio	95% Queue Length (ft.)
Signalized Intersections				
A Street/Binford Street	**A**	**9.2**	**-**	**-**
Binford EB left/thru/right	C	27.5	0.11	16
Binford WB left/thru/right	D	43.6	0.85	93
A NB left/thru| thru/right	A	4.7	0.33	123
A SB left/thru| thru/right	A	2.6	0.39	71
A Street/Sobin Park/Richards Street	**A**	**6.6**	**-**	**-**
Sobin Park left	C	29.3	0.04	15
Sobin Park thru/right	A	0.0	0.01	0
Richards left	D	42.5	0.51	95
Richards thru/right	A	0.5	0.11	0
A NB left/thru| thru/right	A	2.9	0.38	80
A SB left/thru| thru/right	A	6.6	0.52	151
Unsignalized Intersections				
A Street/West First Street				
West First WB left/right	E	38.2	0.23	21
A NB thru| thru/right	A	0.0	0.37	0
A SB left/thru| thru	A	1.5	0.21	6
Richards Street/Medallion Avenue				
Richards EB thru/right	A	0.0	0.00	0
Richards WB left/thru	A	0.0	0.00	0
Medallion NB left/right	B	13.3	0.09	7

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
m = Queue is metered by upstream intersections.
*25′ left-turn pocket added during calibration process

In the morning peak hour for Build 2020 Conditions, all intersections and all but one individual approach operate at LOS D or above, considered to be acceptable levels of service in dense urban environments. While the West First Street approach to A Street operates at LOS E, the 95% queue is only 1 vehicle and does not exhibit excessive delay.

Table 3-5 shows intersection operations in the evening peak hour.

Table 3-5 Build Conditions (2020) Level of Service Summary, Evening Peak Hour

Intersection	LOS	Delay (s)	V/C Ratio	95% Queue Length (ft.)
Signalized Intersections				
A Street/Binford Street	**B**	**18.1**	**-**	**-**
Binford EB left/thru/right	B	19.9	0.31	29
Binford WB left/thru/right	D	50.9	0.93	165
A NB left/thru| thru/right	B	10.9	0.39	223
A SB left/thru| thru/right	B	10.5	0.58	402
A Street/Sobin Park/Richards Street	**B**	**17.3**	**-**	**-**
Sobin Park left	B	20.0	0.01	7
Sobin Park thru/right	A	0.1	0.02	0
Richards left	E	57.4	0.89	258
Richards thru/right	A	0.6	0.20	0
A NB left/thru| thru/right	A	4.4	0.31	75
A SB left/thru| thru/right	B	14.8	0.70	368
Unsignalized Intersections				
A Street/West First Street				
West Street WB left/right	F	114.9	0.93	163
A NB thru| thru/right	A	0.0	0.24	0
A SB left/thru| thru	A	0.2	0.56	1
Richards Street/Medallion Avenue				
Richards EB thru/right	A	0.0	0.00	0
Richards WB left/thru	A	0.0	0.00	0
Medallion NB left/right	C	16.5	0.37	43

# = 95th percentile volume exceeds capacity. Queue may be longer. Queue shown is the maximum after two cycles.
m = Queue is metered by upstream intersections.
*25' left-turn pocket added during calibration process

Overall intersection operations for Build Conditions during the evening peak hour are generally at acceptable levels. Both the West First Street approach and the Richards Street left turn approach to A Street function above LOS D. Both approaches, however, exhibit reasonable 95% queues, indicating an acceptable condition for limited times during the evening peak hour.

- ***A Street/Sobin Park/Richards Street*** – While the overall intersection operates at LOS B, the Richards Street westbound left-turn lane approach operates at LOS E during the evening peak hour. The delay is mainly attributed to the high left-turn volumes at the Richards Street westbound left-turn lane approach during the evening peak hour. The 95% queue of about 12 vehicles is contained within the Richards Street block.

- ***A Street/West First Street –*** While operations on A Street remain at LOS A, the West First Street westbound shared left-turn/right-turn lane approach operates at a LOS E during the morning and LOS F during the evening peak hours, typical for a stop-controlled minor street intersecting a minor arterial roadway. The delay is mainly attributable to vehicles exiting West First Street waiting for a gap in the high thru vehicle moves to turn left onto A Street. Gaps in A Street traffic will be provided by the signal at Richards Street, and the longest queues on West First Street, at only one vehicle during the morning peak and about eight vehicles during the morning peak. These limited queues will disperse quickly.

3.1.8 Mitigation Commitments

The Original Proponent and the City of Boston Transportation Department entered into a TAPA on August 14, 2002, which described mitigation measures that the Original Proponent agreed to implement. The TAPA linked the timing of the implementation of mitigation to the achievement of certain levels of Channel Center Project development. On April 1, 2008, following its March 2, 2007, acquisition of the Channel Center Project, the Proponent entered into a First Amendment to the TAPA and, in so doing, agreed to implement the mitigation commitments outlined in Table 3-6 below.

Table 3-6 Development Phases and Mitigation Commitments

Phase	Mitigation
I – Completed Beacon and Midway residential developments with accessory retail (428,700 square feet; 209 dwelling units, 27,972 +/- square feet commercial)	N/A
II – Channel Center office rehabilitation (250,000 +/- square feet; some ground floor commercial)	1. Install signal and monitoring camera at A/Melcher Street intersection and interconnect to A/Congress Street signal. 2. Fund design of West Connector per City requirements.[1]
IIA – Rehabilitation (by others) of 40 Channel Center for office, restaurant uses (26,400 +/- square feet)	N/A
III – New Residential/Parking construction at 5 Channel Center (207,000 +/- square feet; 175 dwelling units, 15,000 +/- square feet)	1. Modify signal at A/West Broadway to provide a new traffic signal controller, one PTZ camera, up to 8 vehicle signal housings, and up to 200 feet of conduit to accommodate left turn phases on West Broadway.

Table 3-6 Development Phases and Mitigation Commitments (Continued)

Phase	Mitigation
IV – New construction on Lots 10 and 11 a/k/a 1 and 2 Channel Center (280,000 +/- square feet office building and garage)	1. If West Connector is not constructed by the completion of Phase II then at A Street/West Second Street intersection, install pavement markings, two vehicle signal housings, and up to 200 feet of conduit; repair sidewalks as needed during this intersection work, including providing ADA access as necessary. 2. Modify signal a A/West Second Streets to provide mast arm/camera. 3. Contribute the sum of $10,000 toward the installation of conduit from A/Melcher Street signal to a future Binford/A Street signal.

1 West Connector -= construction of West Connector Road (a/k/a Richards Street) and modification of the signal at the West Connector's intersection with the Haul Road [South Boston Bypass Road].

Some of the mitigation commitments are underway, and it is expected that all will be completed by the completion of the Proposed Project.

3.2 Shadow and Daylight

3.2.1 Shadow

3.2.1.1 Methodology

A shadow impact analysis was conducted for the hours of 9:00 a.m., 12:00 noon, and 3:00 p.m. during the summer solstice (June 21), autumnal equinox (September 21), and the winter solstice (December 21). The spring equinox shadow impacts were studied as if they were still in Standard Time, meaning they are studied during the time periods of 8:00 a.m., 11:00 a.m., and 2:00 p.m. Impacts at 6:00 p.m. during the summer and autumn were also examined. The study used the applicable Altitude and Azimuth data for Boston presented in Appendix B of the BRA's 2006 Development Review Guidelines.

The shadow analysis presents existing shadow and net new shadow from the Proposed Project to illustrate the incremental impact of the Proposed Project. For the purposes of clarity, new shadow is shown in a dark gray tone while existing shadow is shown in light gray. Results of the shadow impact study are discussed below, and are supported by Figures 3-4 through 3-17.

3.2.1.2 Results

Because the site currently does not have any structures on it, the proposed 11-story Office Building and 8-story Garage will necessarily result in increased shadows. The shadow impacts are expected to be minimal, however, generally falling on parking lots and the industrial buildings associated with Gillette in the morning, other parts of Channel Center in the afternoon, and reaching across the South Boston Bypass Road in the late summer and fall afternoons.

Vernal Equinox (March 21)

During the spring equinox, 9:00 a.m. Office Building shadows will be cast to the west across A Street and onto the parking lots and the windowless walls of the Gillette warehouse. Garage shadows will be cast on the New Park. By noon, the shadows will shorten and swing slightly north. Shadows cast by the proposed Garage will be confined to the eastern edge of the New Park and a portion of Richards Street. Shadows cast by the proposed Office Building will fall across A Street onto Gillette's parking lot and warehouse and across Iron Street where they will reach the proposed Iron Street Park. By 3:00 p.m. shadows will be cast just slightly east of due north. They will fall on Richards Street, undeveloped land on the east side of Richards Street, Iron Street, the proposed Iron Street Park, and on the southern facades and roofs of 5 and 10 Channel Center.

Summer Solstice (June 21)

On the summer solstice, morning shadows cast by the proposed Garage will be fall on the eastern edge of the New Park while those cast by the proposed Office Building will fall across A Street and onto Gillette's parking and warehouse. Noon shadows will be very limited, with those caused by the Garage confined to the proposed Medallion Avenue and those cast by the Office Building just reaching A Street and Iron Street. By 3:00 p.m., the shadows will have shifted east. Shadow from the Garage will reach Richards Street, while those cast by the Office Building will reach across Iron Street and partially shade Iron Street Park. Some shadow will fall on the windowless south wall of 5 Channel Center. Late afternoon shadows cast by both proposed new buildings will fall on the South Boston Bypass Road, but will not affect buildings or open space.

Autumnal Equinox (September 21)

On the fall equinox, 9:00 a.m. shadows are at the same angle as those of the spring equinox, but are just slightly shorter due to daylight savings time. Impacts are therefore marginally less but will affect much of the New Park. Noon shadows from the Garage will fall on the eastern edge of the New Park and on Richards Street, and those cast by the Office Building will cross A Street and Iron Street and shade the proposed Iron Street Park. At 3:00 p.m. shadows will have shifted only slightly to the east and will again affect mainly Richards Street and Iron Street. The northwest corner of Iron Street Park that was in shadow

at noon will now have sun, and shadow cast by the Garage will fall across Richards Street onto undeveloped land. By 6:00 p.m., shadows will be cast nearly due east. Those cast by the Garage will cross the South Boston Bypass Road and fall on the large parking lot south of the Boston Convention and Exhibition Center (BCEC). Shadows cast by the Office Building will also fall on the parking lot and reach the southeast corner of the BCEC itself, where mechanical systems are located.

Winter Solstice (December 21)

Shadows are longest on the winter solstice when the sun is at its lowest angle in the sky. At 9:00 a.m. on the winter solstice, new shadows will be cast northwest. Those cast by the Garage will fall on the New Park, cross A Street and Richards Street, and fall on Gillette's parking lots. Similarly, shadow cast by the Office Building will cross Iron Street and A Street and fall on Gillette's parking and rooftops. A portion of the proposed Iron Street Park will be in shadow. Noontime shadows will extend due north. Those from the Garage will fall on the eastern side of the New Park and across Richards Street to the Office Building, and those from the Office Building will cross Iron Street and A Street, again affecting only Gillette's parking and other areas of Channel Center, including the proposed Iron Street Park. Afternoon shadows extend northeast. Those cast by the Garage will fall across Richards Street onto the postal facility parking area located to the east adjacent to the South Boston Bypass Road and onto the South Boston Bypass Road, itself. Those cast by the Office Building itself will extend across Iron Street and onto the roofs of the other Channel Center buildings and the postal facility east of Medallion Avenue and south of Binford Street.

3.2.1.3 Conclusions

Shadow impacts from the proposed two new buildings will be very minor, confined largely to the Channel Center site itself, portions of the Gillette industrial facility, and the BCEC parking lot. At times, areas of A Street, Richards Street, Iron Street, and the South Boston Bypass Road will be shaded. The proposed Iron Street Park will be often be shaded by the proposed Office Building; however, this shade may be a welcome benefit during hot weather.

3.2.2 Daylight

The purpose of the daylight analysis is to estimate the extent to which a proposed project will affect the amount of daylight reaching the streets and sidewalks in the immediate vicinity of the project site. The daylight analysis for the Proposed Project considers the existing and proposed conditions.

3.2.2.1 Methodology

The daylight analysis was performed using the Boston Redevelopment Authority Daylight Analysis (BRADA) computer program. This program measures the percentage of sky-dome that is obstructed by a project, and is a useful tool in evaluating the net change in obstruction from existing to build conditions at a specific site.

Using BRADA, a centered silhouette view of the building is taken at ground level from the middle of adjacent city streets or open spaces. The façade of the building facing the viewpoint, including heights, setbacks, corners, and other features, is plotted onto a base map using lateral and elevation angles. The two-dimensional base map generated by BRADA represents a figure of the building in the "sky-dome" from the viewpoint chosen. Due to constraints of the BRADA program, the building may be simplified or the building may be divided into sections in some cases. The BRADA program calculates the percentage of daylight that will be obstructed on a scale of 0% to 100% based on the width of the view, distance between the viewpoint and the building, and the massing and setbacks incorporated into the building design; the lower the number, the lower the percentage of obstructed daylight from a given viewpoint.

The BRA ordinarily requires that the analysis treat the following elements as controls for data comparison:

- Existing condition;
- Proposed condition; and
- The Context of the Area.

The daylight analysis examined daylight obstruction from four locations for the existing and proposed conditions for the Office Building site, and three locations for the Garage site (see Figure 3-18): Viewpoint 1 (proposed Medallion Avenue), Viewpoint 2 (Iron Street), Viewpoint 3 (A Street), Viewpoint 4 (proposed Richards Street), Viewpoint 5 (South Boston Bypass Road), Viewpoint 6 (proposed Richards Street) and Viewpoint 7 (proposed Medallion Avenue). There are currently no buildings on the Project Site, therefore the existing daylight obstruction is zero. The study also considered area context points to provide a basis of comparison to existing conditions in the immediate vicinity of the Project Site. The area context viewpoints were taken from A Street looking at the 10-20 Channel Center building (AC1), Medallion Avenue looking northwest at 15 Channel Center (AC2), West 1st Street looking at the RCN building at 105-121 West First Street (AC3), and Medallion Avenue looking northwest at 25-35 Channel Center (AC4). The viewpoints are illustrated on Figure 3-18.

3.2.2.2 Daylight Analysis Results

Results for each viewpoint under each condition are described in Table 3-7. Figures -20 through -22 illustrate the BRADA results for each analysis.

Table 3-7 Viewpoint Locations

Viewpoint Locations		*Existing Conditions*	*Proposed Conditions*
Viewpoint 1	Medallion Avenue looking northwest at the Office Building site	0%	85.2%
Viewpoint 2	Iron Street looking southwest at the Office Building site	0%	75.3%
Viewpoint 3	A Street looking southeast at the Office Building site	0%	81.8%
Viewpoint 4	Richards Street looking northeast at the Office Building site	0%	69.2%
Viewpoint 5	South Boston Bypass Road looking northwest at the Garage site	0%	49.5%
Viewpoint 6	Richards Street looking southwest at the Garage site	0%	75.0%
Viewpoint 7	Medallion Avenue looking southeast at the Garage site	0%	85.4%
AC1	A Street looking southeast at 10-20 Channel Center	71.1%	
AC2	Medallion Avenue looking northwest at 15 Channel Center	81.6	
AC3	West First Street looking southwest at 105-121 West First Street (RCN building)	60.4%	
AC4	Medallion Avenue looking northwest at 25-35 Channel Center	86.6%	

Viewpoint 1

Viewpoint 1 was taken from the center of the proposed Medallion Avenue looking northwest at the Office Building site. The daylight obstruction value for the proposed condition is 85.2%. Compared to other viewpoints, this value is higher due to the proximity of the viewpoint to the proposed buildings. It is similar to the context along Medallion Avenue northwest of the site.

Viewpoint 2

Viewpoint 2 was taken from the center of Iron Street looking southwest at the Office Building site. The proposed daylight obstruction value, 75.3%, is similar to the area context and is similar to that found in urban areas.

Viewpoint 3

Viewpoint 3 was taken from the center of A Street looking southeast at the Office Building site. The narrow street width and location of the building on the property line result in a daylight obstruction value of 81.8%. This daylight obstruction value is similar to the range found in the surrounding area.

Viewpoint 4

Viewpoint 4 was taken from the proposed Richards Street looking northeast at the Office Building site. The daylight obstruction value of the Proposed Project is 69.2%, on the lower range of that found in the surrounding area.

Viewpoint 5

Viewpoint 5 was taken from South Boston Bypass Road looking northwest at the Garage site. The daylight obstruction value for the Proposed Project is 49.5%, lower than the other viewpoints studied.

Viewpoint 6

Viewpoint 6 was taken from the proposed Richards Street looking southwest at the Garage site. The daylight obstruction value is similar to that found for the other viewpoints studied, 75.0%.

Viewpoint 7

Viewpoint 6 was taken from the proposed Medallion Avenue looking southeast at the Garage site. The daylight obstruction value is 85.4%, similar to the daylight obstruction values found elsewhere on Medallion Avenue.

Area Context Viewpoints

The area surrounding the Project Site has a mixture of building heights. The area to the northeast of the Project Site is similar in dimensions and character to that proposed for the Project Site. Four viewpoints in the immediate vicinity were analyzed to find the approximate range of daylight obstruction values adjacent to the Project Site: AC1, looking southeast at 20 Channel Center; AC2, looking northwest 182 A Street; and AC3, looking southwest at the RCN building at 105-121 West First Street. The daylight obstruction values for these locations ranged from 60.4% to 86.6%.

3.2.2.3 Conclusions

The daylight analysis conducted for the Proposed Project describes proposed conditions at the Office Building and Garage sites, as well as daylight obstruction values in the immediate vicinity. Since the Project Site is vacant, the daylight obstruction value is zero. Surrounding the Project Site are other Channel Center buildings and buildings with similar heights and characteristics of the Proposed Project. The streets are also similar in width. The Proposed Project will result in daylight obstruction values similar to other buildings in the immediate area. The daylight obstruction values along the proposed Medallion Avenue are similar to the existing conditions along Medallion Avenue. Overall, the daylight obstruction values are typical of an urban area. The impact on daylight will be minimized

by the creation of the New Park. This open space will break up the flow of buildings from the Fort Point Channel to the Project Site, creating a large area with minimal daylight obstruction.

3.3 Infrastructure

3.3.1 Wastewater

3.3.1.1 Proposed Sanitary Sewer

The Proposed Project will include an approximately 525,000 square foot Office Building with a separate, above-grade Garage instead of the two office buildings with a total of approximately of 630,000 square feet of gross floor area and an up to 990 space below-grade garage as studied in the Article 80B filings related to the Channel Center Project. This change slightly decreases the estimated daily sewage generation for this part of the Channel Center Project from 47,250* gallons per day (gpd) to 46,921 gpd, a decrease of 330 gpd of sewage (approximately 1%) from the volume presented in the 2001 DPIR. Although the Office Building square footage is significantly smaller than the building square footage in the 2001 DPIR, the sewage generation estimation indicates only a slight decrease in value due to the fact that amenity spaces (e.g., employee dining facilities) were not specifically mentioned in the 2001 study and therefore cannot be compared below.

Table 3-8 presents the sewage discharge estimate included in the 2001 DPIR.

Table 3-8 2001 Proposed Estimated Daily Sewage Discharges for the 630,000 Square Feet of Office Space*

Space Use	Size	Generation Rate	Sewage Generation
Office Space*	630,000 sf	75 gpd/1000 sf	47,250 gpd
Site Total			**47,250 gpd**

*The 2001 Draft Project Impact Report did not specify approximate square footages for amenity spaces in the Office Building. Therefore, the amount of amenity space previously assumed to contribute to the 2001 Proposed Project cannot be added to the 2001 estimated sewage discharge calculation.

Sewage flow generation values are determined by the Code of Massachusetts Regulations 314 CMR: Division of Water Pollution Control Section 7.00: Sewer System Extension and Connection Permit Program (314 CMR 7.00).

The proposed daily estimated sewage discharge for the Proposed Project is shown in Table 3-9.

Table 3-9 2012 Proposed Estimated Daily Sewage Discharges

Space Use	Size	Generation Rate	Sewage Generation
Office space	454,000 sf	75 gpd/1000 sf	34,050 gpd
First floor lobby, mechanical spaces, retail, loading dock, sundries	23,410 sf	50 gpd/1000 sf	1,171 gpd
Employee dining facilities	Approximately 980 seats	10 gpd/seat	9,800 gpd
Café	Approximately 40 seats	35 gpd/seat	1,400
Garage toilets for public use	Approximately 100 people	5 gpd/person	500 gpd
Site Total			**46,921 gpd**

The Proponent proposes constructing a new sanitary sewer in Richards Street and Medallion Avenue to connect to the existing Boston Water and Sewer Commission ("BWSC") system stub in Richards Street near A Street. The system will collect sewage discharges from the new Office Building and the new Garage, which will contain toilets accessible to the public using the New Park to be built adjacent to the Garage.

All new sanitary sewer mains and connections will be designed and constructed in compliance with all applicable local, state, and federal laws, regulations and standards.

3.3.2 Water System

3.3.2.1 Proposed Water System Improvements

The reduction in size of the Proposed Project will result in a slight decrease in water consumption by an estimated 362 gpd from the volume presented in the 2001 DPIR, based on the Proposed Project's estimated sewage generation. A factor of 1.1 (which factors in a conservative assumed 10% loss of water between what is drawn from BWSC water system and what is discharged into the sewer system) is applied to the average daily wastewater flows to estimate average water use on a daily basis.

The original water demand was assumed to be 51,975 gpd (with the 10% loss factor). The proposed water demand is 51, 613 gpd, a decrease of 362 gpd (approximately 1%) in water demand from the 2001 DPIR volume.

The Proponent proposes constructing a new water main in Richards Street and Medallion Avenue. This water main system will connect to existing BWSC water mains in Iron Street, Medallion Avenue, and in A Street to provide a looped water main system. All new water mains and connections will be designed and constructed in compliance with applicable local, state, and federal laws, regulations, and standards.

Water capacity and pressure are not anticipated to be concerns for the Proposed Project based on the original analysis, updated to reflect current existing conditions. The revised water demands are less than those originally projected.

In connection with construction of the new water service system, backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units (MTUs) as part of the BWSC's Automatic Meter Reading (AMR) system.

3.3.3 Storm Drainage System

3.3.3.1 Proposed Storm Drainage

The Proposed Project change will not significantly impact the stormwater conditions described in the DPIR. The ratio of impervious to pervious area has not significantly changed from the original conceptual design for the Mid-Rise Building.

In fact, the Proposed Project will have less impervious area in the developed condition, due to the construction of the New Park in an area that is currently an impervious parking lot. The existing Project Site is entirely impervious, therefore, with the construction of the New Park, the rate and volume of stormwater runoff from the Project Site will be less than the existing condition. The quality of the stormwater runoff will also improve as a majority of the Project Site will be converted from parking lots to a new Office Building, a Garage, and the New Park, with new closed drainage systems in the proposed adjacent streets.

Although the Proposed Project is not located within the Groundwater Overlay District established by Article 32 of the Code, the design and construction of the Garage will be sensitive to groundwater conditions in the area. At present, the site is entirely hardscape. After construction of the Proposed Project, approximately 54% of the Additional Land will comprise open space, which will help improve groundwater recharge conditions in the area. Almost all of the hardscape portion of the New Park will be either permeable paving or sloped so that the stormwater will run to permeable landscaped areas. In addition, construction of the Garage will not involve significant excavation of soils below the water table, and the proposed stormwater management system for the Garage will include subsurface groundwater recharge elements.

3.3.3.2 Water Quality

The Proposed Project will not affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and the BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, hay bales and/or crushed stone, to provide for sediment removal from runoff. These 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.

All necessary dewatering will be conducted in accordance with applicable Massachusetts Water Resources Authority (MWRA) and BWSC discharge permits. Once construction is complete, the Proposed Project will be in compliance with all local and state stormwater management policies. See below for additional information.

3.3.3.3 Conformance with State Stormwater Management Policies

In March 1997, last revised February 2008, the Massachusetts Department of Environmental Protection (MassDEP) established a Stormwater Management Policy to address non-point source pollution. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMP's) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the Proposed Project's stormwater management system's compliance is provided below:

Standard #1: No new untreated stormwater will discharge into, or cause erosion to, wetlands or waters.

Compliance: The Proposed Project will comply with this Standard. There will be no direct untreated stormwater discharge into wetlands or waters. All discharges will be treated prior to connection to the BWSC system.

Standard #2: Post-development peak discharge rates do not exceed pre-development rates on the Site either at the point of discharge or down gradient of the property boundary for the 2- and 10-year 24-hour design storms. The project's stormwater design will not increase flooding impacts offsite for the 100-year design storm.

Compliance: The Proposed Project will comply with this Standard. The proposed design will decrease the impervious area compared to the pre-development condition. Therefore, there will be detention systems used to mitigate the peak rate of runoff from the site.

Standard #3: The annual groundwater recharge for the post-development Site must approximate the annual recharge from existing Site conditions, based on soil type.

Compliance: To the extent possible, the Proposed Project will include on-site stormwater recharge. With the Proposed Park, there will be an increase in pervious area on the site, allowing runoff to recharge into the ground, increasing the annual groundwater recharge for the post-development Site compared to the existing Site conditions

Standard #4: For new development, the proposed stormwater management system must achieve an 80 percent removal rate for the Site's average annual load of TSS [Total Suspended Solids].

Compliance: To the extent possible, the Proposed Project's stormwater management system will remove 80 percent of the post-development site's average annual TSS load.

Standard #5: If the Proposed Project contains an area with Higher Potential Pollutant Loads (as prescribed by the Policy), BMPs [Best Management Practices] must be used to prevent the recharge of untreated stormwater.

Compliance: The proposed design will comply with this Standard. The Proposed Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-8). The Proposed Project complies with this standard.

Standard #6: If the Site contains areas of Sensitive Resources (as prescribed by the Policy), such as rare/endangered wildlife habitats, ACECs, etc., a larger volume of runoff from the "first flush" must be treated (1 inch of runoff from impervious area vs. the standard ½ inch).

Compliance: The Proposed Project will comply with this Standard. The Proposed Project will not discharge untreated stormwater to a sensitive resource area.

Standard #7: Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.

Compliance: The Proposed Project will meet or exceed all Standards to the maximum extent practicable.

Standard #8: Erosion and sediment controls must be designed into the project to minimize adverse environmental effects.

Compliance: The Proposed Project will comply with this Standard. Sedimentation and erosion controls will be incorporated as part of the design of the Proposed Project and employed during site construction.

Standard #9: A long-term BMP operation and maintenance plan is required to ensure proper maintenance and functioning of the SWM system.

Compliance: The Proposed Project will comply with this Standard. An Operations and Maintenance Plan including long-term BMP operation requirements will be prepared and will ensure proper maintenance and functioning of the stormwater management system.

Standard #10: All illicit discharges to the stormwater management system are prohibited.

Compliance: The Proposed Project will comply with this Standard. No illicit discharges, including wastewater, process wastes, toxic pollutants and hazardous substances will be introduced into the stormwater management system.

3.3.4 Boston Water and Sewer Commission

All proposed connections to the BWSC's water, sanitary sewer, and storm drain system will be designed in conformance with the BWSC's design standards, Sewer Use and Water Distribution System Regulations, and Requirements for Site Plans. The Proponent will submit a site plan for each element of the Proposed Project, i.e. the Office Building and the Garage, for BWSC review and approval and apply for General Service Applications prior to the initiation of construction. The site plans will indicate the existing and proposed water mains, sanitary sewers, storm sewers, telephone, gas, electric, steam, and cable television. The site plans will also include the disconnections of the existing services, in addition to the proposed new connections.

3.4 Noise

3.4.1 Introduction

This section describes a noise analysis conducted for the Proposed Project, including a noise-monitoring program to determine existing background levels and an estimate of future sound levels when the Proposed Project is in operation. The scope of the analysis is consistent with BRA requirements for noise studies.

Baseline noise levels were measured in the vicinity of the Proposed Project and were compared to predicted noise levels based on reference sound data provided by the Proponent. These predicted noise levels were compared to the City of Boston's Air Pollution Commission's Noise Regulations and the City's Noise Ordinance as well as the Massachusetts Department of Environmental Protection (MassDEP) Noise Policy. The analysis indicates that predicted noise levels from the Proposed Project's mechanical equipment with appropriate noise mitigation will comply with the City's Noise Regulations, and will remain at or below existing measured baseline noise levels in the area at most locations. The noise experience at the New Park will be similar to the typical urban soundscape experienced at other parks within the city of Boston.

3.4.2 Noise Terminology

There are several ways in which sound (noise) levels are measured and quantified, all of which use the logarithmic decibel (dB) scale. The following information defines the noise measurement terminology used in this analysis.

The logarithmic decibel scale is used to accommodate the wide range of sound intensities found in the environment. A property of the decibel scale is that the sound pressure levels of two distinct sounds are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the total is only a three-decibel increase (to 53 dB), not a doubling to 100 dB. In other words, every three-decibel change in sound level represents a doubling or halving of sound energy. Related to this is the fact that a change in sound level of less than three decibels is imperceptible to the human ear.

Another property of the decibel scale is that if one source of noise is 10 dB or more louder than another source, then the quieter source does not contribute significantly to the overall sound level which remains the same as that of the louder source. For example, a source of sound at 60 dB plus another source of sound at 47 dB is simply 60 dB.

The sound level meter used to measure noise is a standardized instrument.[1] It contains "weighting networks" to adjust the frequency response of the instrument to approximate that of the human ear under various conditions. One network is the A-weighting network (there are also B- and C-weighting networks), which most closely approximates how the human ear responds to sound at various frequencies, and is the accepted scale used for community sound level measurements. A-weighted sound levels emphasize the middle frequencies (*i.e.,* middle pitched – around 1,000 Hertz sounds), and de-emphasize lower and higher frequency sounds. A-weighted sound levels are reported in decibels designated as "dBA."

Because the sounds in our environment vary with time, they cannot be described with a single number. Two methods are used for describing variable sounds: exceedance levels and the equivalent level. Both of these methods are derived from a large number of moment-to-moment A-weighted sound level measurements. Exceedance levels are values from the cumulative amplitude distribution of all of the sound levels observed during a measurement period. Exceedance levels are designated L_n, where n can have a value of 0 to 100 percent. Several sound level metrics that are commonly reported in community noise studies are described below.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the residual sound level, which is the sound level observed when there are no obvious nearby intermittent noise sources.
- L_{50} is the median sound level: the sound level in dBA exceeded 50 percent of the time during the measurement period.
- L_{10} is the sound level in dBA exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises such as those from passing motor vehicles.
- L_{max} is the maximum instantaneous sound level observed over a given period.

L_{eq}, the equivalent level, is the level of a hypothetical steady sound that would have the same energy (*i.e.,* the same time-averaged mean square sound pressure) as the actual fluctuating sound observed. The equivalent level is designated L_{eq} and is also A-weighted.

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1 *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983, published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

The equivalent level represents the time average of the fluctuating sound pressure, but because sound is represented on a logarithmic scale and the averaging is done with linear mean square sound pressure values, the L_{eq} is mostly determined by occasional loud noises.

By using various noise metrics it is possible to separate prevailing, steady sounds (the L_{90}) from occasional, louder sounds (L_{10}) in the noise environment or combined average levels (L_{eq}). This analysis of sounds expected from the Proposed Project treats all noises as though they will be steady and continuous and hence the L_{90} exceedance level was used.

3.4.3 Noise Regulations and Criteria

The primary set of regulations relating to the potential increase in noise levels is the City of Boston Zoning District Noise Standards (City of Boston Code – Ordinances: Section 16–26 Unreasonable Noise and City of Boston Air Pollution Control Commission Regulations for the Control of Noise in the City of Boston). Results of the baseline ambient noise level survey and the modeled noise levels were compared to the City of Boston's Noise Regulations. Separate regulations within the Standards provide criteria to control different types of noise. Regulation 2 is applicable to the effects of the completed proposed buildings and was considered in this noise study. Table 3-10 includes the maximum allowable sound pressure levels specified by the City's Noise Regulations.

Additionally, MassDEP regulates community noise under its Noise Policy: DAQC policy 90-001. The MassDEP policy limits source sound levels to a 10-dBA increase in the ambient measured noise level (L_{90}) at the Proposed Project's property line and at the nearest residences. The policy further prohibits pure tone conditions — when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by three decibels or more.

Table 3-10 City of Boston Zoning District Noise Standards, Maximum Allowable Sound Pressure Levels

Octave Band Center Frequency (Hz)	Residential Zoning District		Residential-Industrial Zoning District		Business Zoning District	Industrial Zoning District
	Daytime (dB)	All Other Times (dB)	Daytime (dB)	All Other Times (dB)	Anytime (dB)	Anytime (dB)
32	76	68	79	72	79	83
63	75	67	78	71	78	82
125	69	61	73	65	73	77
250	62	52	68	57	68	73
500	56	46	62	51	62	67
1000	50	40	56	45	56	61
2000	45	33	51	39	51	57

Table 3-10 City of Boston Zoning District Noise Standards, Maximum Allowable Sound Pressure Levels (Continued)

Octave Band Center Frequency (Hz)	Residential Zoning District		Residential-Industrial Zoning District		Business Zoning District	Industrial Zoning District
	Daytime (dB)	All Other Times (dB)	Daytime (dB)	All Other Times (dB)	Anytime (dB)	Anytime (dB)
4000	40	28	47	34	47	53
8000	38	26	44	32	44	50
A-Weighted (dBA)	**60**	**50**	**65**	**55**	**65**	**70**

Notes:
- Noise standards are extracted from Regulation 2.5, City of Boston Air Pollution Control Commission, "Regulations for the Control of Noise in the City of Boston", adopted December 17, 1976.
- All standards apply at the property line of the receiving property.
- dB and dBA based on a reference pressure of 20 micropascals.
- Daytime refers to the period between 7:00 a.m. and 6:00 p.m. daily except Sunday.

3.4.4 Baseline Noise Environment

An ambient noise level survey was conducted to characterize the existing "baseline" acoustical environment in the vicinity of the Proposed Project. Existing noise sources include vehicular traffic (including trucks) on the local roadways, pedestrian traffic, nearby mechanical equipment located in and on surrounding buildings, planes taking off and landing at nearby Logan International Airport, and the general din of the city.

3.4.5 Noise Measurement Locations

The selection of the sound monitoring locations was based upon a review of the current land uses in the Project area. Four noise-monitoring locations were selected as representative in obtaining a sampling of the ambient baseline noise environment. The measurement locations are depicted in Figure 3-22 and are described below.

- Location L1 is along Channel Center Street between two existing Channel Center buildings.
- Location L2 is along A Street at the western property line of Channel Center.
- Location L3 is at the corner of A Street and West Third Street.
- Location L4 is at the corner of B Street and West Second Street.

3.4.6 Noise Measurement Methodology

Sound level measurements were taken for 20 minutes per location during the daytime (12:00 p.m. to 3:00 p.m.) on February 3, 2012, and during nighttime hours (12:00 a.m. to 3:00 a.m.) on February 7, 2012. Since noise impacts are greatest at night when existing

noise levels are lowest, the study was designed to measure community noise levels under conditions typical of a "quiet period" for the area. Daytime measurements were scheduled to exclude peak traffic conditions.

The sound levels were measured at publicly accessible locations at a height of approximately 1.5 meters above the ground. The measurements were made under low wind conditions, and roadway surfaces were dry. Wind speed measurements were made with a Davis Instruments TurboMeter electronic wind speed indicator, and temperature and humidity measurements were made using a General Tools digital psychrometer. Unofficial observations about meteorology, including wind speed, temperature, and humidity, as well as land use in the community were made solely to characterize the existing sound levels in the area and to estimate the noise sensitivity at properties near the Proposed Project.

3.4.7 Measurement Equipment

A Larson-Davis (LD) model 831 Sound Level Analyzer, equipped with a LD Type 1 Preamplifier, a LD 377B20 half-inch microphone, and a seven-inch windscreen were used to collect broadband and octave band ambient sound pressure level data. The instrumentation meets the "Type 1 – Precision" requirements set forth in American National Standards Institute (ANSI) S1.4 for acoustical measuring devices. The meter was tripod-mounted at a height of five feet above ground level (AGL). The meter has data logging capability and was programmed to log statistical data for each 20-minute sampling period for the following parameters: L_{10}, L_{50}, L_{90}, L_{max}, L_{min}, and L_{eq}. The meter time-weighting was set for the "fast" response.

All measurement equipment was calibrated in the field before and after the surveys with a LD CAL200 acoustical calibrator which meets the standards of IEC 942 Class 1L and ANSI S1.40-1984. The meters were calibrated and certified as accurate to standards set by the National Institute of Standards and Technology. These calibrations were conducted by an independent laboratory within the past 12 months.

3.4.8 Baseline Ambient Noise Levels

The existing ambient noise environment consists primarily of vehicular traffic on nearby roadways, building mechanical systems, planes from Logan Airport, and pedestrian activity. Baseline noise monitoring results are presented in Table 3-11, and summarized below.

- The daytime residual background (L_{90}) measurements ranged from 52 to 60 dBA;
- The nighttime residual background (L_{90}) measurements ranged from 50 to 54 dBA;
- The daytime equivalent level (L_{eq}) measurements ranged from 61 to 71 dBA; and
- The nighttime equivalent level (L_{eq}) measurements ranged from 53 to 62 dBA.

Table 3-11 Baseline Ambient Noise Measurements

							Octave Band Center Frequency (Hz)								
Location	Start	L_{10}	L_{50}	L_{90}	L_{eq}	L_{max}	32	63	125	250	500	1000	2000	4000	8000
	Time	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)	L_{90} (dB)
L1	12:38	61	54	52	61	82	61	59	56	53	50	46	36	25	20
L2	14:04	72	66	59	68	83	64	64	61	59	56	54	46	33	24
L3	13:10	74	67	60	71	89	65	66	63	59	57	55	48	40	32
L4	13.38	71	62	55	67	83	62	63	61	56	52	50	41	30	22
L1	0:25	55	53	52	53	63	58	58	54	52	50	47	36	23	17
L2	0:51	63	55	54	62	82	61	60	57	56	52	48	41	36	27
L3	1:16	62	55	54	61	80	58	60	59	54	50	50	42	30	18
L4	1:42	54	51	50	54	74	56	56	55	52	48	44	35	24	17

Notes:

1. Daytime weather: Temperature = 38˚ F, Relative Humidity = 16%, clear skies, north winds 0-10 miles per hour.
   Nighttime weather: Temperature = 37˚ F, Relative Humidity = 57%, clear skies, southwest winds 0-6 miles per hour.
2. All road surfaces were dry during measurements.
3. All sampling periods were exactly 20 minutes in duration.
4. Daytime measurements were collected on February 3, 2012.
   Nighttime measurements were collected on February 7, 2012.

3.4.9 Overview of Potential Project Noise Sources

The major sources of sound exterior to the proposed Office Building will be three 600-ton chillers (only two operating at any given time), two 30,000 CFM energy recovery units (ERUs), and a 2,250 ton cooling tower, as well as a 700 kW emergency generator and two 2,000 kW standby generators, all of which will be located on the roof of the Office Building and screened or enclosed as discussed below. Noise emissions from the primary sources, as estimated from the equipment's capacity or from manufacturer-provided specifications, are presented in Table 3-12, which includes broadband (dBA) sound power levels, as well as octave band sound levels. There is no major mechanical equipment proposed for the naturally-vented Garage and, as such, no significant noise impacts are anticipated from operation of this structure.

Secondary noise sources associated with the Office Building, including electrical transformers, boilers, and small pumps, are expected to have much lower sound levels (10 dBA or more) than the other, larger pieces of equipment and are not therefore considered in this analysis. Additionally, the rooftop stair pressurization fans are designated "for emergency use only" and are not considered a routine operational noise source.

The three-cell cooling tower will be located on the roof of the proposed Office Building at an approximate elevation of 150 feet, screened by 18 foot high louvered walls on two sides, a solid penthouse wall on a third side, and a glass curtain wall on the fourth side. The ERUs will be located on the roof and ducted off the side of the Office Building. The remaining non-emergency equipment, including the chillers, boilers and pumps, will be housed within a solid mechanical penthouse.

Mitigation will be applied to multiple sources as needed, to ensure compliance with the noise regulations. Included among these are the 18 foot tall screening wall around the cooling tower and a 42 inch tall parapet wall along the entire rooftop perimeter. The rooftop emergency and standby generator noise will be controlled using critical-grade exhaust silencers and weather-proof enclosures. It is assumed that the three emergency and standby generators, located on the roof, will only operate during the day for brief, routine testing when the background sound levels are higher, or during an interruption of the electrical grid. A summary of the noise mitigation measures included in the model is presented in Table 3-13.

Table 3-12 Reference Equipment Noise Levels – Per Unit

Noise Source	Form of Data	Ref. Distance (feet)	Overall Level	Sound Levels (dB) per Octave Band Center Frequency (Hz)									No.	Location
			(dBA)	32	63	125	250	500	1000	2000	4000	8000		
Emergency Generator - 700kW (Enclosed) – Mechanical[1]	Sound Pressure	1m	96	95	95	97	94	92	91	89	89	83	1	Roof
Emergency Generator - 700kW (Unsilenced) – Exhaust[2]	Sound Pressure	1m	112	74	74	100	110	106	105	104	95	76	1	Roof
Standby Generator - 2000kW (Unenclosed) – Mechanical[3]	Sound Pressure	1m	115	118	118	128	118	109	103	102	99	103	2	Roof
Standby Generator - 2000kW (Unsilenced) – Exhaust[3]	Sound Pressure	15m	97	88	88	105	99	90	89	89	89	86	2	Roof
Cooling Tower - 2250 ton (3-Cell)[4]	Sound Power	-	98	104	104	101	100	96	91	90	86	79	1	Roof
Centrifugal Chiller - 600 ton[5]	Sound Pressure	1m	82	74	74	74	73	77	75	78	72	72	2	Mechanical Penthouse
Energy Recovery Unit - 30,000 CFM[6]	Sound Power	-	91	98	98	96	92	88	85	83	80	77	2	Roof

Notes:

1. Caterpillar DM9075 Standby Diesel Generator Set, 700 kW Model C27 DITA, WP Canopy
2. Caterpillar DM9075 Standby Diesel Generator Set, 700 kW Model C27 DITA, Open Exhaust
3. Caterpillar DM8263 Standby Diesel Generator Set, 2000 kW Model 3516CDITA
4. Marley NC8409ULN3 3-Cell Cooling Tower
5. York Centrifugal Liquid Chiller, Model YKFEFTQ7-ERG, at 100% Load, assume 1m ref distance from ARI Standard 575-94
6. Assumed Greenheck 44-PLG-II Plug Fan; 23,000 CFM

Table 3-13 Attenuation Values Used for Sound Level Modeling (dB)

Noise Source	Form of Mitigation	Octave Band Center Frequency (Hz)								
		32	63	125	250	500	1000	2000	4000	8000
700 kW Emergency Generator	Exhaust Silencer[1]	-	20	35	35	27	20	20	22	22
700 kW Emergency Generator	Enclosure[2]	-	-	-	-	-	-	-	-	-
2000 kW Standby Generators	Exhaust Silencer[1]	-	20	35	35	27	20	20	22	22
2000 kW Standby Generators	Enclosure[3]	-	-	-	-	-	-	-	-	-
Cooling Tower	Screen[4]	-	-	-	-	-	-	-	-	-

1. Assumed JB Series Critical Grade Silencer, Model JB-18
2. Enclosed sound pressure levels for WP Canopy used in model (no separate attenuation values given)
3. Assumed 25dBA reduction at 1m as quoted by Caterpillar; No octave-band attenuation provided (broadband only)
4. 18 feet tall, assumed transmission loss of wall provided at least 10 dBA reduction. Reduction due to shielding in model

3.4.10 Modeling Methodology

Anticipated noise impacts associated with the Proposed Project were predicted at the nearest noise-sensitive receptors surrounding the Proposed Project using the CadnaA noise calculation software. This software uses the ISO 9613-2 industrial noise calculation methodology. CadnaA allows for octave band calculation of noise from multiple noise sources, as well as for computation of diffraction around building edges and multiple reflections off parallel buildings and solid ground areas. In this manner, all significant noise sources and geometric propagation effects are accounted for in the noise modeling. As a conservative assumption, no credit was taken for attenuation due to the penthouse walls or ceilings in the final analysis although reflection was considered.

3.4.11 Future Sound Level of Project

An initial analysis considered all of the mechanical equipment without the emergency generators running, to simulate typical nighttime operating conditions at nearby receptors. A second analysis combined the mechanical equipment and the emergency generators, to reflect worse-case conditions during brief, routine, daytime testing of the generators when ambient levels are higher. The results with and without the emergency generators as compared to existing ambient levels and the MassDEP criteria are shown in Tables 3-14 and 3-15, respectively, for receptors located 1.5 meters above-grade. Figure 3-22 shows the locations of each modeled receptor as well as the monitoring locations selected for background measurements. Predicted mechanical equipment noise levels from the

Proposed Project at each receptor location, taking into account attenuation due to distance, structures, and noise control measures listed in section 3.4.9, are all well below the MassDEP criteria of 10 dBA over the quietest nighttime sound levels. Additionally, no "pure-tone" conditions as defined by the MassDEP are present in the combined future levels.

The predicted Project-generated exterior sound levels with appropriate mitigation measures are expected to remain below 51 dBA with emergency generators running (daytime impact) and 41 dBA without (nighttime impact), within the applicable zoning limits, for the City of Boston at all nearby sensitive receptors. Modeling locations M2, M4 and M7 represent the closest receptors that can be considered "residential" where predicted sound levels from the Proposed Project during routine operation are within the most stringent nighttime limits. It should be noted that the existing nighttime ambient background levels already exceed the nighttime residential limit of 50 dBA at all four measurement locations due to existing non-residential sources unrelated to the Proposed Project and the industrial/commercial character of this portion of the Fort Point Channel neighborhood. The remaining modeled receptors can be considered either "business" or "industrial" and are assumed to be occupied during daytime hours only. Octave-band sound levels at each of these modeled locations presented in Tables 3-16 and 3-17 are at or below the applicable business or industrial city limits as shown in Table 3-10.

Table 3-14 Comparison of Future Predicted Sound Levels with Existing Background – Without Emergency/Standby Generators

Modeling Location	Land Use	Representative Background Location	Project Only Sound Level (dBA)	Meets Boston Noise Policy?	L_{90} Background (dBA)	Total: Project + L_{90} Background (dBA)	Increase Over Background (dBA)[1]	Meets MassDEP Noise Policy?
M1	Business	L2 - Day	35	YES	59	59	0	YES
M2	Residential	L1 - Night	33	YES	52	52	0	YES
M3	Business	L2 - Day	41	YES	59	59	0	YES
M4	Residential	L4 - Night	38	YES	50	51	0	YES
M5	Industrial	L1 - Day	35	YES	52	52	0	YES
M6	Industrial	L1 - Day	35	YES	52	52	0	YES
M7	Residential	L3 - Night	38	YES	54	54	0	YES

1. Calculation performed using data rounded to nearest whole decibel

Table 3-15 Comparison of Future Predicted Sound Levels with Existing Background – With Emergency/Standby Generators

Modeling Location	Land Use	Representative Background Location	Project Only Sound Level (dBA)	Meets Boston Noise Policy?	L_{90} Background (dBA)	Total: Project + L_{90} Background (dBA)	Increase Over Background (dBA)[1]	Meets MassDEP Noise Policy?
M1	Business	L2 - Day	41	YES	59	59	0	YES
M2	Residential	L1 - Day	37	YES	52	52	0	YES
M3	Business	L2 - Day	50	YES	59	59	1	YES
M4	Residential	L4 - Day	51	YES	55	56	1	YES
M5	Industrial	L1 - Day	40	YES	52	52	0	YES
M6	Industrial	L1 - Day	42	YES	52	52	0	YES
M7	Residential	L3 - Day	50	YES	60	60	0	YES

1. Calculation performed using data rounded to nearest whole decibel

Table 3-16 Modeling Results – Without Emergency/Standby Generators (Day or Night depending on Land Use)

Proposed Project Only

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
			31.5	63.0	125	250	500	1000	2000	4000	8000
		(dBA)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
M1 - Business	L2 - Day	35	50	47	42	36	32	28	28	21	12
M2 - Residential	L1 - Night	33	47	46	41	36	31	25	24	16	3
M3 - Business	L2 - Day	41	50	49	46	44	39	33	31	22	2
M4 - Residential	L4 - Night	38	47	46	43	41	37	31	28	17	0
M5 - Industrial	L1 - Day	35	49	46	41	35	30	26	29	21	14
M6 - Industrial	L1 - Day	35	48	46	40	35	31	28	29	22	15
M7 - Residential	L3 - Night	38	46	46	43	41	37	31	28	18	0
City of Boston Limits	Residential - Night	50	68	67	61	52	46	40	33	28	26
	Business - Day	65	79	78	73	68	62	56	51	47	44
	Industrial - Day	70	83	82	77	73	67	61	57	53	50

Background Only

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
			31.5	63.0	125	250	500	1000	2000	4000	8000
		(dBA)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
M1 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M2 - Residential	L1 - Night	52	58	58	54	52	50	47	36	23	17
M3 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M4 - Residential	L4 - Night	50	56	56	55	52	48	44	35	24	17
M5 - Industrial	L1 - Day	52	61	59	56	53	50	46	36	25	20
M6 - Industrial	L1 - Day	52	61	59	56	53	50	46	36	25	20
M7 - Residential	L3 - Night	54	58	60	59	54	50	50	42	30	18

Combined Levels

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
			31.5	63.0	125	250	500	1000	2000	4000	8000
		(dBA)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
M1 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M2 - Residential	L1 - Night	52	59	58	55	53	50	47	37	24	18
M3 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M4 - Residential	L4 - Night	51	56	57	56	52	48	45	36	25	18
M5 - Industrial	L1 - Day	52	61	59	56	53	50	46	37	27	21
M6 - Industrial	L1 - Day	52	61	59	56	53	50	46	37	27	21
M7 - Residential	L3 - Night	54	58	60	59	54	51	50	42	30	18

*Note: Levels are reported to the nearest whole decibel.

Table 3-17 Modeling Results – With Emergency/Standby Generators (Daytime Only)

Proposed Project Only

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
		(dBA)	31.5 (dB)	63.0 (dB)	125 (dB)	250 (dB)	500 (dB)	1000 (dB)	2000 (dB)	4000 (dB)	8000 (dB)
M1 - Business	L2 - Day	41	64	50	50	41	35	35	34	29	18
M2 - Residential	L1 - Day	37	55	46	44	38	32	31	29	23	8
M3 - Business	L2 - Day	50	68	55	**60**	50	44	45	43	36	19
M4 - Residential	L4 - Day	51	66	53	**59**	49	44	46	44	35	10
M5 - Industrial	L1 - Day	40	63	48	48	38	33	33	33	28	17
M6 - Industrial	L1 - Day	42	63	48	49	40	36	36	35	30	21
M7 - Residential	L3 - Day	50	65	52	**57**	48	43	45	43	34	7
City of Boston Limits	Residential - Day	**60**	**76**	**75**	**69**	**62**	**56**	**50**	**45**	**40**	**38**
	Business - Day	**65**	**79**	**78**	**73**	**68**	**62**	**56**	**51**	**47**	**44**
	Industrial - Day	**70**	**83**	**82**	**77**	**73**	**67**	**61**	**57**	**53**	**50**

Background Only

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
		(dBA)	31.5 (dB)	63.0 (dB)	125 (dB)	250 (dB)	500 (dB)	1000 (dB)	2000 (dB)	4000 (dB)	8000 (dB)
M1 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M2 - Residential	L1 - Day	52	61	59	56	53	50	46	36	25	20
M3 - Business	L2 - Day	59	64	64	61	59	56	54	46	33	24
M4 - Residential	L4 - Day	55	62	63	61	56	52	50	41	30	22
M5 - Industrial	L1 - Day	52	61	59	56	53	50	46	36	25	20
M6 - Industrial	L1 - Day	52	61	59	56	53	50	46	36	25	20
M7 - Residential	L3 - Day	60	65	66	63	59	57	55	48	40	32

Combined Levels

Modeling Location	Representative Background Location & Period	LA90	Octave-Band Sound Pressure Level, L90								
		(dBA)	31.5 (dB)	63.0 (dB)	125 (dB)	250 (dB)	500 (dB)	1000 (dB)	2000 (dB)	4000 (dB)	8000 (dB)
M1 - Business	L2 - Day	59	67	64	61	59	56	54	46	35	25
M2 - Residential	L1 - Day	52	62	59	57	53	50	46	37	27	20
M3 - Business	L2 - Day	59	69	64	63	59	56	55	48	38	25
M4 - Residential	L4 - Day	56	67	64	63	57	53	51	46	36	22
M5 - Industrial	L1 - Day	52	65	60	57	53	50	46	38	29	21
M6 - Industrial	L1 - Day	52	65	60	57	53	50	46	38	31	23
M7 - Residential	L3 - Day	60	68	66	64	60	57	55	49	41	32

*Note: Levels are reported to the nearest whole decibel.

3.4.12 Conclusions

Baseline noise levels were measured in the vicinity of the Proposed Project and were compared to predicted noise levels that were derived based on information provided by the manufacturers of representative mechanical equipment or estimated from the equipment's capacity. It should be noted that the existing ambient background levels immediately surrounding the Proposed Project already exceed the 50 dBA City of Boston noise limit for residential receptors without any contribution from the Proposed Project, which is not unexpected given the industrial/commercial character of this part of the Fort Point Channel neighborhood. The Proposed Project, with the assumed equipment shown in Table 3-12 and appropriate mitigation shown in Table 3-13, will not introduce significant outdoor mechanical equipment noise into the surrounding community.

Predicted mechanical equipment noise levels from the Proposed Project at each receptor location, taking into account attenuation due to distance, structures, and noise control measures, will be equal to or below the City of Boston Noise Regulations broadband requirements based on land-use maps provided by the BRA, and will comply with all MassDEP A-weighted noise limits. When the aforementioned mitigation efforts are included, the predicted sound levels from Project-related equipment are expected to remain below 50 dBA, within the most stringent nighttime residential zoning limits for the City of Boston at the nearest "residential" receptors. The results in Section 3.4.11 indicate that the Proposed Project can operate without significant impact on the existing acoustical environment and will result in a noise experience similar to that of a typical urban setting.

At this time, the mechanical equipment and noise controls are conceptual in nature. During the final design phase of the Proposed Project, mechanical equipment and noise controls will be specified and designed to meet the applicable City of Boston broadband noise limit and the corresponding octave band limits, as well as the MassDEP noise criteria. Additional mitigation will be deployed, and may include the selection of quieter units, acoustical louvers, screening walls, mufflers, or equipment enclosures, as needed.

3.5 Sustainable Design

The City of Boston requires sustainable design in certain new development projects. Article 37 of the Code requires that certain projects be designed to be certifiable under the U.S. Green Business Council (USGBC) Leadership in Energy and Environmental Design (LEED) program based on the most appropriate LEED building rating system, and this requirement is applicable to the Office Building. The Office Building will comply with this Article 37 requirement for "LEED Certifiable" status. Figure 3-23 is a LEED 2009 for Core and Shell Development checklist that identifies the Office Building's green design goals. For each credit identified as a "yes" on the checklist, the following narrative provides a brief description of the implementation measures to the extent that they are defined at this stage of design. As the Office Building's design progresses, the LEED checklist will be updated.

Pursuant to the USGBC's August 12, 2011 Ruling, a parking garage is not eligible for LEED certification by the USGBC.

3.5.1 Sustainable Sites

SS Prerequisite 1 - Construction Activity Pollution Prevention

Requirements: The Construction Manager must comply with the requirements of the Environmental Protection Agency's Construction General Permit. The Construction Manager shall develop an Erosion and Sedimentation Control Plan before construction begins. The Erosion and Sedimentation Control Plan will be required to include the following:

- Topsoil erosion control.
- Measures to prevent sedimentation of receiving streams.
- Measures to prevent air pollution by particulate matter.

The Construction Manager will be required to educate all subcontractors on the Erosion and Sedimentation Control Plan before the commencement of construction.

Action: The Proponent will ensure that its Construction Manager and the Construction Manager's subcontractors adhere to the plan developed for the Proposed Project. Photographs and other documentation will be collected as the Proposed Project progresses to ensure that LEED requirements are met.

SS Credit 1 – Site Selection – 1 Point

Requirements: Do not develop hardscape on the following sites: Land that was public parkland, prime farmland, threatened or endangered habitat, within 100 feet of wetlands, previously undeveloped land lower than 5 feet above 100 year flood lines or land within 50 feet from water body.

Action: The Project Site was previously developed and is currently paved. It is located in an urban area. The site is not located within 100 feet of wetlands, on previously undeveloped land lower than 5 feet above 100 year flood lines, or on land within 50 feet of water body.

SS Credit 2 – Development Density -- Community Connectivity – 5 Points

Requirements: Determine if a qualifying residential development and at least ten distinct services are found within ½ mile radius of the project.

Action: Ten basic services located within ½ mile of the Proposed Project site are a bank, school, restaurant, community center, post office, library, place of worship, laundry, park, and pharmacy.

SS Credit 4.1 – Alternate Transportation -- Public Transportation Access – 6 Points

Requirements: Locate the project within ½ mile of a rail line or ¼ mile of a bus route. Distances are measured from a main building entrance to the bus, or train, or subway stop. Exemplary performance requires frequency totaling at least 200 rides per day at two so proximate stops.

Action: The Proposed Project is located within ½ mile of the MBTA's Red Line Broadway stop, bus stops serving several bus routes, and a Channel Center shuttle service that transports office tenant employees to and from South Station.

SS Credit 7.2 – Heat Island Effect -- Roof - 1 Point

Requirements: Install roof with SRI (solar reflective index) greater than or equal to 78.

Action: The Office Building will have a white roof; a Sarafil G410 EnergySmart roof membrane is proposed for the entire roof area. The SRI rating for this roof is 104.

SS Credit 9 – Tenant Design and Construction Guidelines – 1 point

Requirements: Publish an illustrated guidance document meant to educate prospective tenants about the LEED process and about sustainable strategies.

Action: The Proponent is committed to educating the proposed tenant on its sustainable approach to the Proposed Project, and the proposed lease will include information about sustainable strategies. The tenant has committed to working with the Proponent to obtain LEED certification for the Office Building.

3.5.2 Water Efficiency

WE Prerequisite 1 – Water Use Reduction -- 20% Reduction

WE Credit 3 – Water Use Reduction – 3 points

Requirements: Reduce water consumption by 20% as compared to the baseline as established in the Energy Policy Act of 1992 ("EPAct 1992"). Calculations are based on expected occupancy and different types of occupancies are taken into consideration.

Action: The Proponent has committed to low flow water closets (1.28 gallons per flush (GPF)), urinals (0.125 gpf), and lavatories (0.5 gallons per cycle), as well as metered lavatories using 0.09 gallons per cycle. The Proposed Project is expected to reduce water consumption by more than 35% compared to EPA's 1992 baseline.

3.5.3 Energy and Atmosphere – (Appendix F)

EA Prerequisite 1 – Fundamental Commissioning of Building Energy Systems

Requirements: Verify that the project's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design and construction documents. An individual must be designated to perform the aforementioned tasks and must have documented commissioning authority experience in at least two other building projects. Commissioning agent must review the basis of design document, develop a commissioning plan and ultimately complete a summary commissioning report.

Action: The Proposed Project team has contracted with Dyson Engineering to perform fundamental commissioning. The basis of design has been reviewed and the appropriate reports will be completed.

EA Prerequisite 2 – Minimum Energy performance

Requirements: Establish the minimum level of energy efficiency for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.

Action: The Proponent has contracted with TNZ Energy Consulting Inc. to perform a whole building energy analysis.

EA Prerequisite 3 – Fundamental Refrigerant Management

Requirements: Demonstrate zero use of CFC based refrigerants in heating, ventilation, air conditioning and refrigeration systems.

Action: Commercial Construction Consulting Inc. is the engineer of record doing the mechanical, electrical, and plumbing (MEP) design for the Proposed Project. The engineer has selected HVAC equipment with refrigerants that meet the LEED prerequisite thresholds regarding refrigerant types.

EA Credit 1 – Optimize Energy Performance – 4 Points

Requirements: Establish the minimum level of energy efficiency for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.

Action: The Proponent has contracted with TNZ Energy Consulting Inc. to perform a whole building energy analysis.

EA Credit 4 – Enhanced Refrigerant Management – 2 Points

Requirements: Select refrigerants that are in compliance with the Montreal Protocol while minimizing direct contributions to climate change.

Action: Commercial Construction Consulting Inc. is the engineer of record doing the MEP design for the Proposed Project. The engineer has selected HVAC equipment with refrigerants that meet the Montreal Protocol (R134a refrigerant in chillers).

EA Credit 5.1 – Measurement and Verification - 1 Point

Requirements: Building owner agrees to provide and disclose all energy usage and consumption values.

Action: The energy management system in the Office building will be designed to produce hourly, daily, weekly and monthly energy usage reports.

3.5.4 Materials and Resources

MR Prerequisite 1 – Storage and Collection of Recyclables

Requirements: Facilitate the reduction of waste generated by building occupants. To provide an accessible room large enough to handle the amount of expected recycling materials. Bins must include paper, cardboard, glass, plastics and metals.

Action: The Office Building will have a dedicated storage and collection room of 500 square feet on the ground floor. The room is adequately sized based on the building square footage and will be easily accessible.

MR Credit 2 – Construction Waste Management – 2 points

Requirements: To divert construction and demolition debris from disposal in landfills and incineration facilities.

Action: The Proponent will require its Construction Manager to implement a construction waste management plan that will ensure that 75% of waste and debris is directed to be recycled.

MR Credit 4 – Recycled Content – 2 Points

Requirements: To specify and install materials used in building construction that contains high recycled content.

Action: ADD Inc, the architect for the Office Building, will specify enough products with high recycled content to meet the 10% threshold. The goal is for more than 20% of materials used in the Proposed Project to have high recycled content.

MR Credit 5.1 – Regional Materials – 1 Point

Requirements: To specify materials that are extracted and manufactured within 500 miles of the project site.

Action: The Construction Manager will generate a matrix of materials based on cost to determine which materials (should be purchased to ensure that this LEED point (which requires a minimum of 10% based on cost of material) can be achieved. The goal is to exceed 10%. The Proposed Project team has determined that it would be difficult to achieve 20%.

MR Credit 6 – Certified Wood – 1 Point

Requirements: Specify that all wood materials be at least 50% certified wood.

Action: The Proponent is committed to specifying that a minimum of 50% of wood used in the Office Building be certified wood.

3.5.5 Indoor Environmental Quality

EQ Prerequisite 1 – Minimum Indoor Air Quality Performance

Requirements: To design the building to meet the minimum requirements of Sections 4 through 7 of ASHRAE standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality.

Action: Commercial Construction Consulting (MEP design engineers of record) is designing a ventilation system that uses two energy recovery units located on the roof to supply air to the Office Building. The design will meet ASHRAE 62.1-2007.

EQ Prerequisite 2 – Environmental Tobacco Smoke Control

Requirements: To prevent or minimize the harmful exposure of tobacco smoke to the building occupants.

Action: The Office Building will be a nonsmoking building, and the smoking area located outside the building will be located as far as practicable from outdoor air intake structures.

EQ Credit 1 – Outdoor Air Delivery Monitoring – 1 Point

Requirements: To measure the outdoor airflow into the space and sound an alarm when the amount of air measured falls below the design threshold.

Action: The energy recovery units will be specified to have integral airflow measuring devices to report back to building's front end system, and alarm will sound when specified values are not met.

EQ Credit 3 – Construction IAQ Management Plan – During Construction

Requirements: To reduce indoor air quality (IAQ) problems during construction promoting the well-being of the construction workers.

Action: The Proponent will require its Construction Manager to develop and implement an IAQ management plan for the Office Building. This will include the proper storage of absorptive materials to prevent moisture damage. Air handlers used during construction will have MERV 8 filtration media that will be replaced before occupancy. The Sheet Metal and Air Conditioning Contractors National Association (SMACNA) sheet metal guides concerning IAQ will be strictly adhered to.

EQ Credit 4 – Low Emitting Materials – 3 Points

Requirements: To reduce the quantity of indoor air contaminants that are odorous, irritating, or harmful to the occupants.

Action: ADD Inc, the architect of record designing the Office Building, is specifying that adhesives, sealants, paints, coatings, flooring systems, and composite wood meet LEED requirements with regard to off-gassing of volatile organic compounds, formaldehydes, and similar pollutants.

EQ Credit 5 – Indoor Chemical and Pollutant Source Control – 1 Point

Requirements: To minimize harmful chemical exposure to the building occupants.

Action: The following design elements are being incorporated into the Office Building to address this credit: 1) trash and recycling rooms will have exhaust fans; 2) equipment supplying outdoor air will have MERV 13 filtration; and 3) mats to remove dirt and debris from footwear and rolling equipment will be installed at entry ways.

EQ Credit 7 – Thermal Comfort -- Design -- 1 Point

Requirements: Design HVAC system to meet ASHRAE 55-2004

Action: Commercial Construction Consulting (MEP design engineers of record) is designing the HVAC system in the Office Building to meet ASHRAE 55-2004.

Although garages are not eligible to be certified under the LEED building rating system of the U.S. Green Building Council, the Proponent will cause the design and construction of the Garage to be as environmentally sensitive as possible. For example, the Garage will be naturally ventilated, will use LED or highly efficient fluorescent lighting, high-efficiency and lubricant-free elevators as well as low flow plumbing fixtures, and also contain a range of "green" operational features such as electric vehicle charging stations.

3.5.6 Innovation and Design

1. Construction Waste Management – Exemplary Performance (Innovation Credit 1.1) – 1 Point

As stated above, the Construction Manager will implement a waste management plan that will seek to divert at least 75% of construction and demolition waste material removed from the site from landfills through recycling and salvaging. The Proponent is evaluating whether pursuing this credit aggressively could allow the Proposed Project to gain an exemplary performance credit of 95% construction waste recycling.

2. Green Housekeeping (Innovation Credit 1.2) – 1 Point

The Proponent intends to implement a green housekeeping policy wherein cleaning products and practices used in common areas comply with the Green Seal standard GS-37.

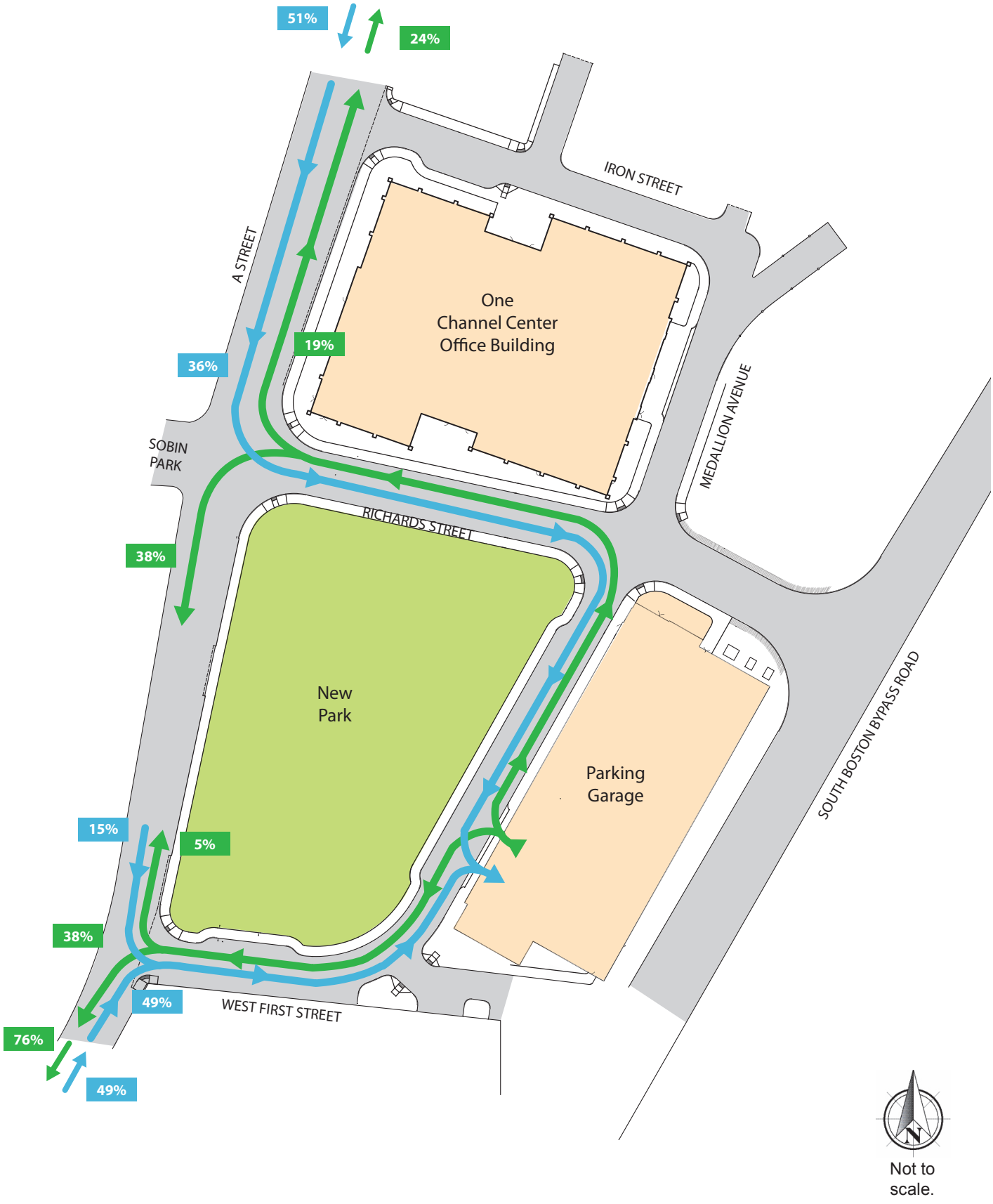
3.5.7 Regional Priority Credits

The USGBC's building rating system includes a regional priority credit section. In this section, here are opportunities to achieve up to six additional points that are specific to the location of the project. A project's location allows the project to obtain an extra point if any of the following credits are achieved:

- SS Credit 3 – Brownfield Redevelopment
- SS Credit 6.1 – Stormwater Design – Quantity Control
- SS Credit 7.1 – Heat Island Effect – Non-roof
- SS Credit 7.2 – Heat Island Effect – Roof
- EA Credit 2 – On-Site Renewable Energy
- MR Credit 1 – Building Reuse

Of these, the Project will achieve SS Credit 7.2, for a total of 1 Point.

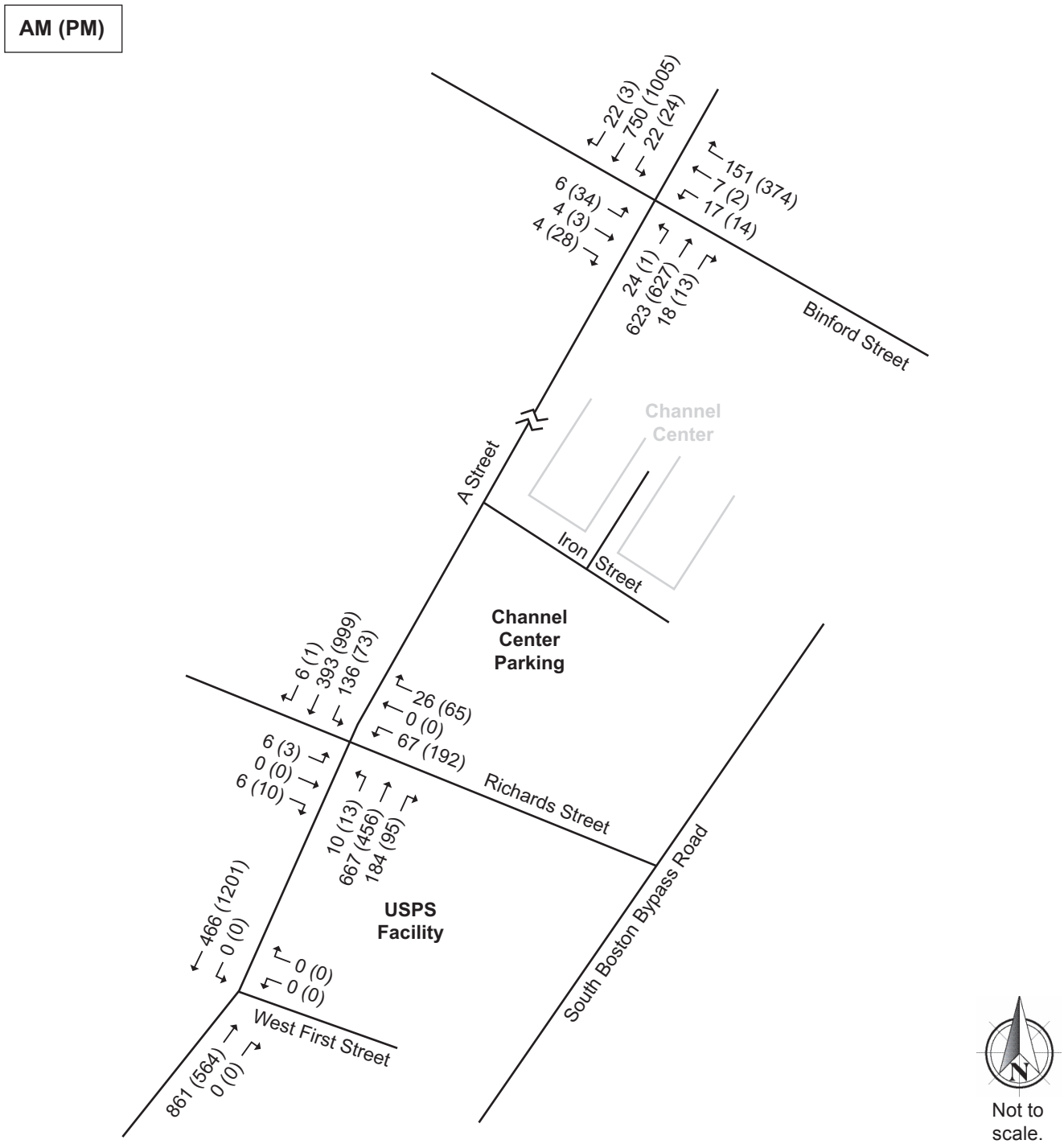
Sustainable design has been a topic of great importance since the beginning of the Proposed Project design process. The design team is dedicated to sustainability, and all aspects of the Proposed Project have been analyzed and will continue to be analyzed with cost, schedule, and sustainability in mind.



One Channel Center **Commonwealth Ventures**

Howard/Stein-Hudson Associates, Inc.
CREATIVE SOLUTIONS • EFFECTIVE PARTNERING

Figure 3-1
Vehicle Trip Distribution



One Channel Center **Commonwealth Ventures**

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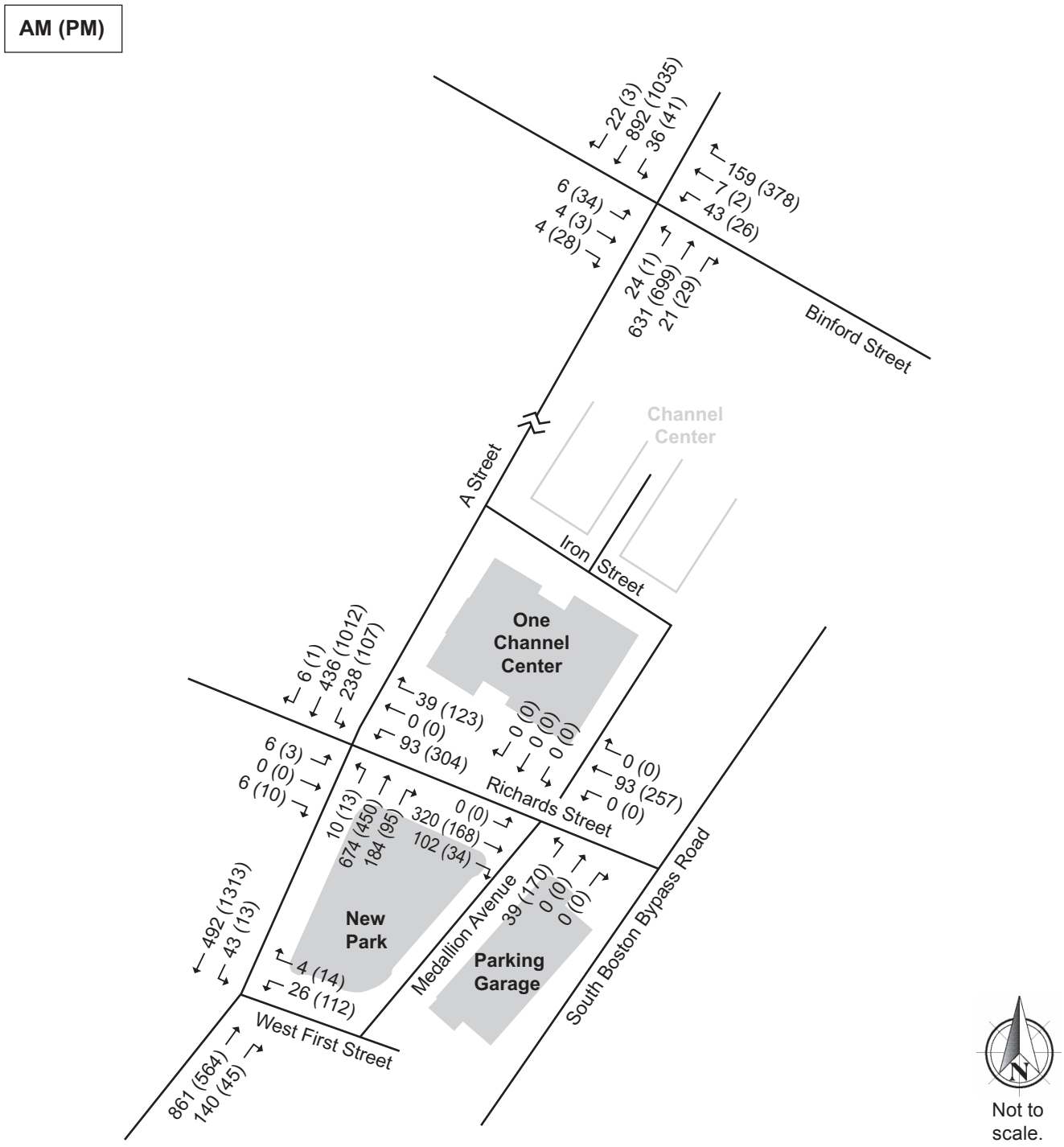
Figure 3-2
No-Build Conditions (2020), AM and PM Volumes



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Howard/Stein-Hudson Associates, Inc.
CREATIVE SOLUTIONS • EFFECTIVE PARTNERING

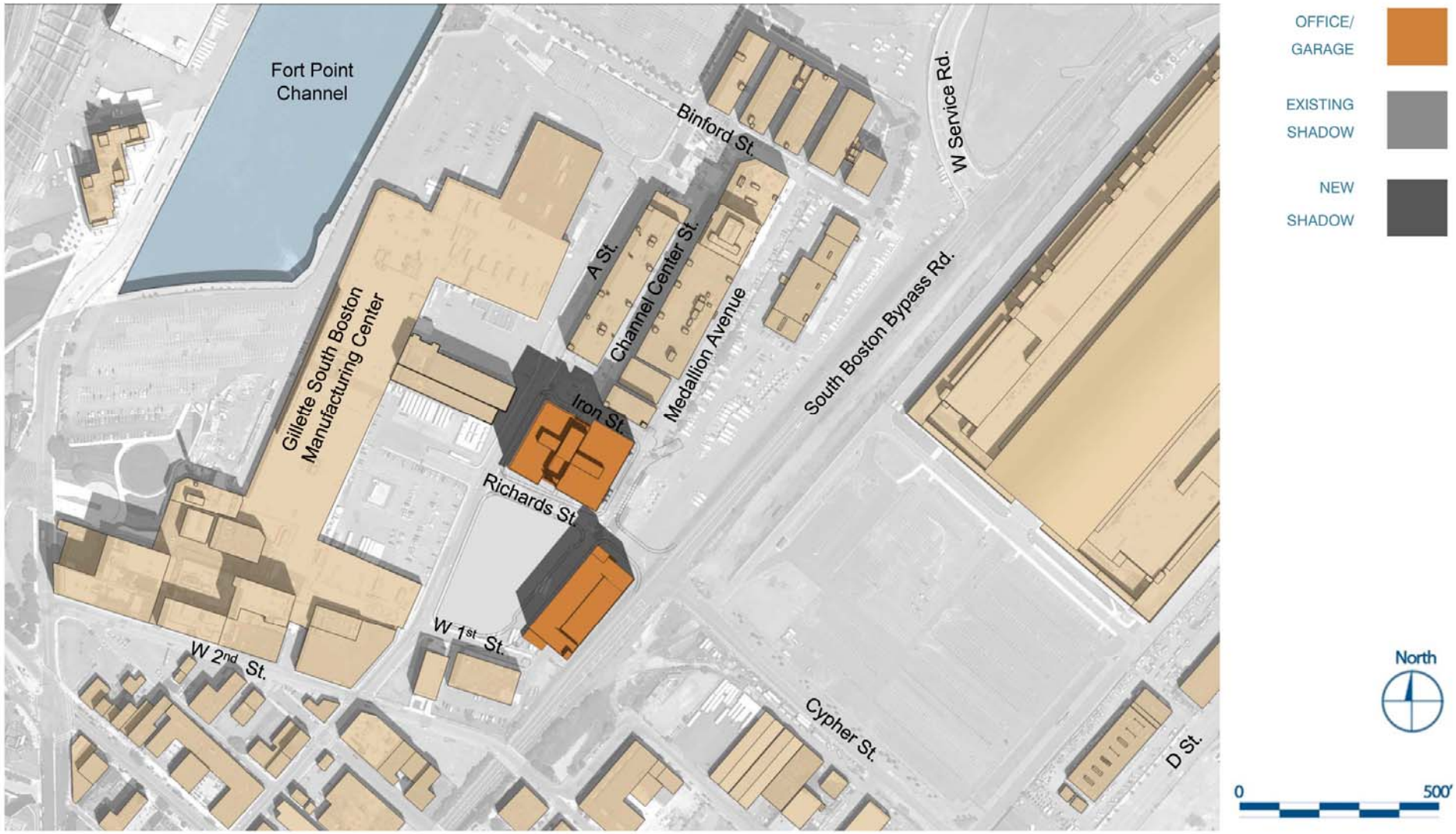
Figure 3-3
Build Conditions (2020), AM and PM Volumes

One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-4

March 21 8:00 AM (9:00 AM DST)

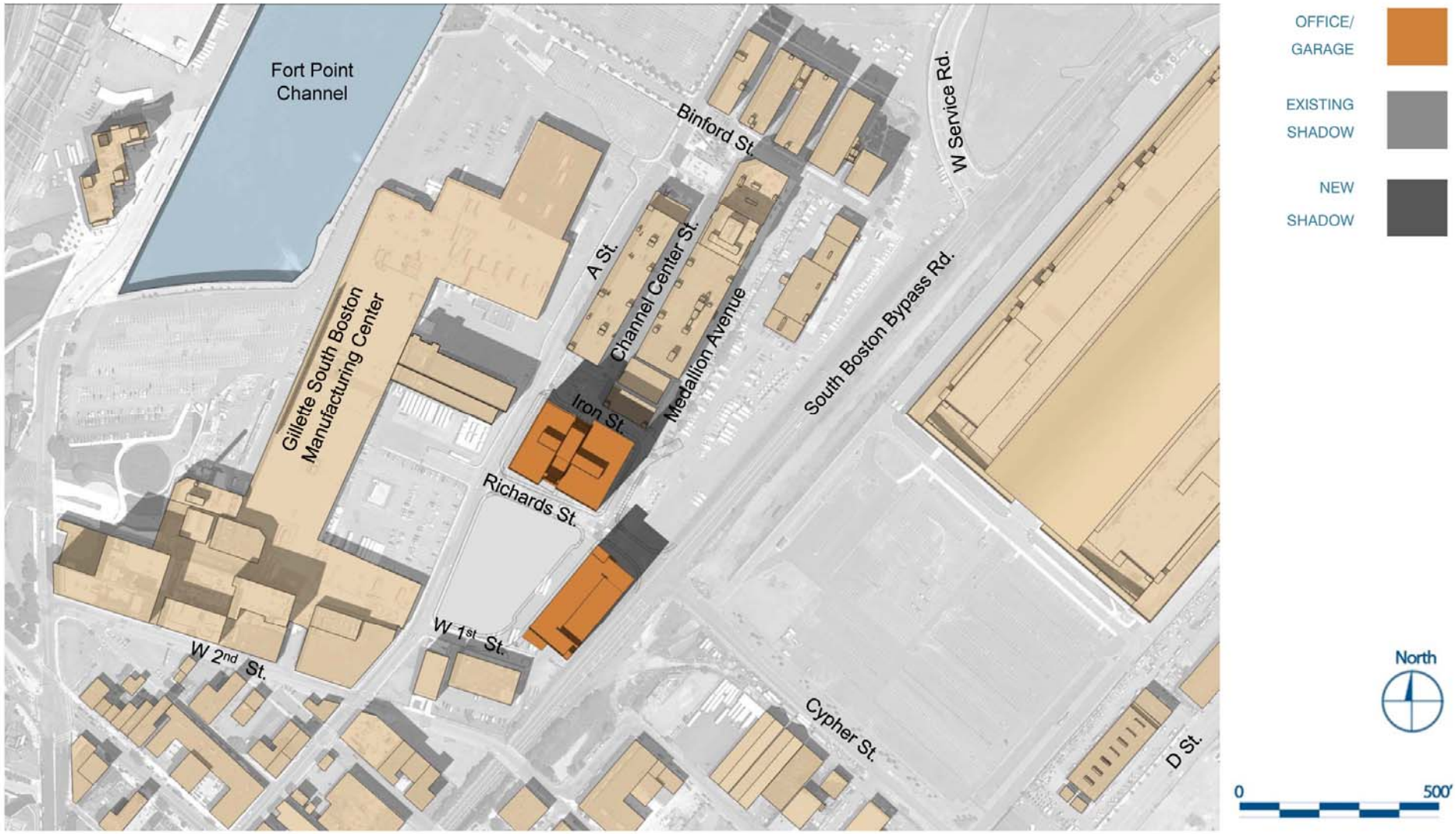


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-5

March 21 11:00 AM (12:00 PM DST)

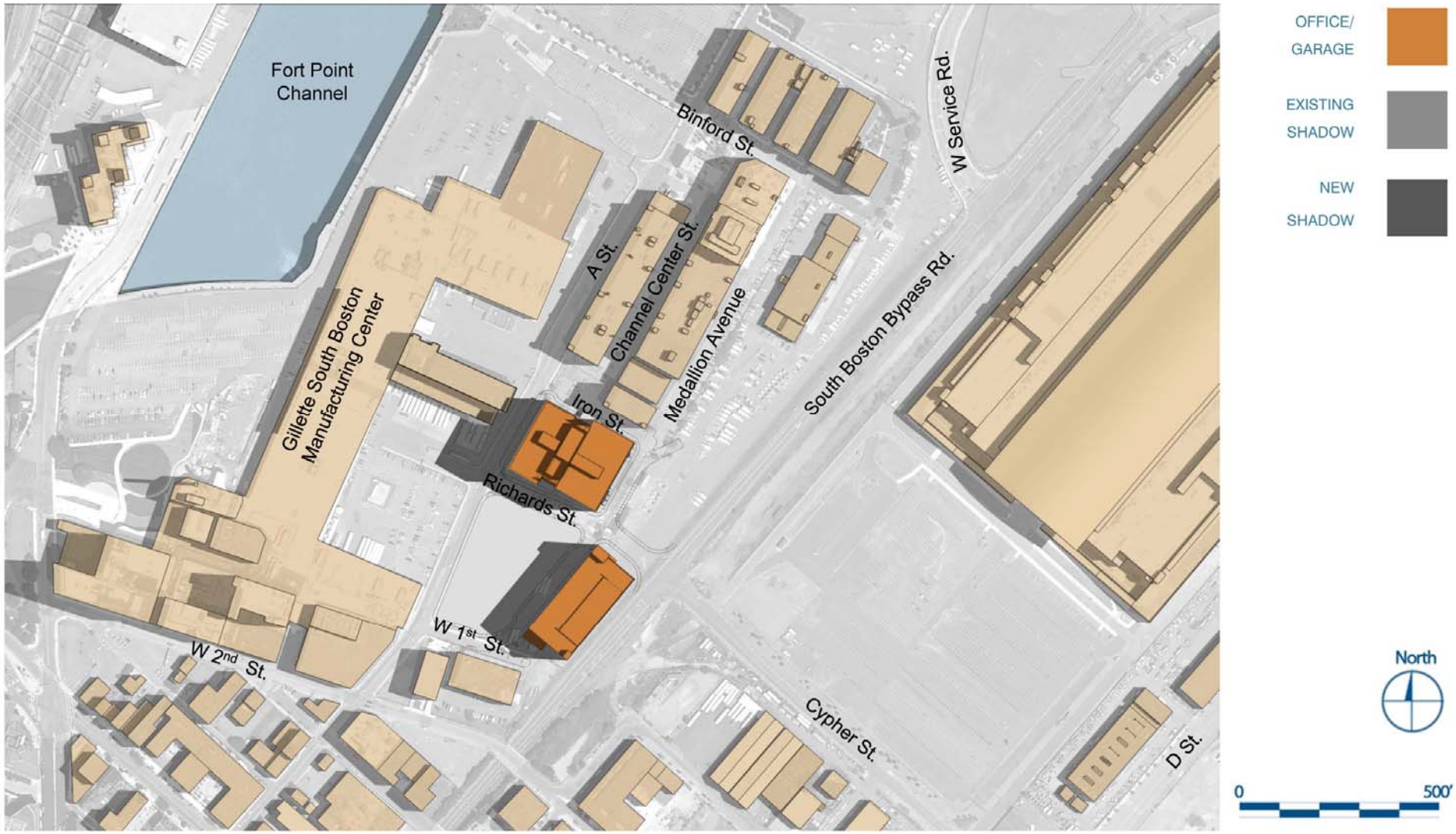


One Channel Center **Commonwealth Ventures**

ADD Inc ARCHITECTURE + DESIGN

Figure 3-6

March 21 2:00 PM (3:00 PM DST)

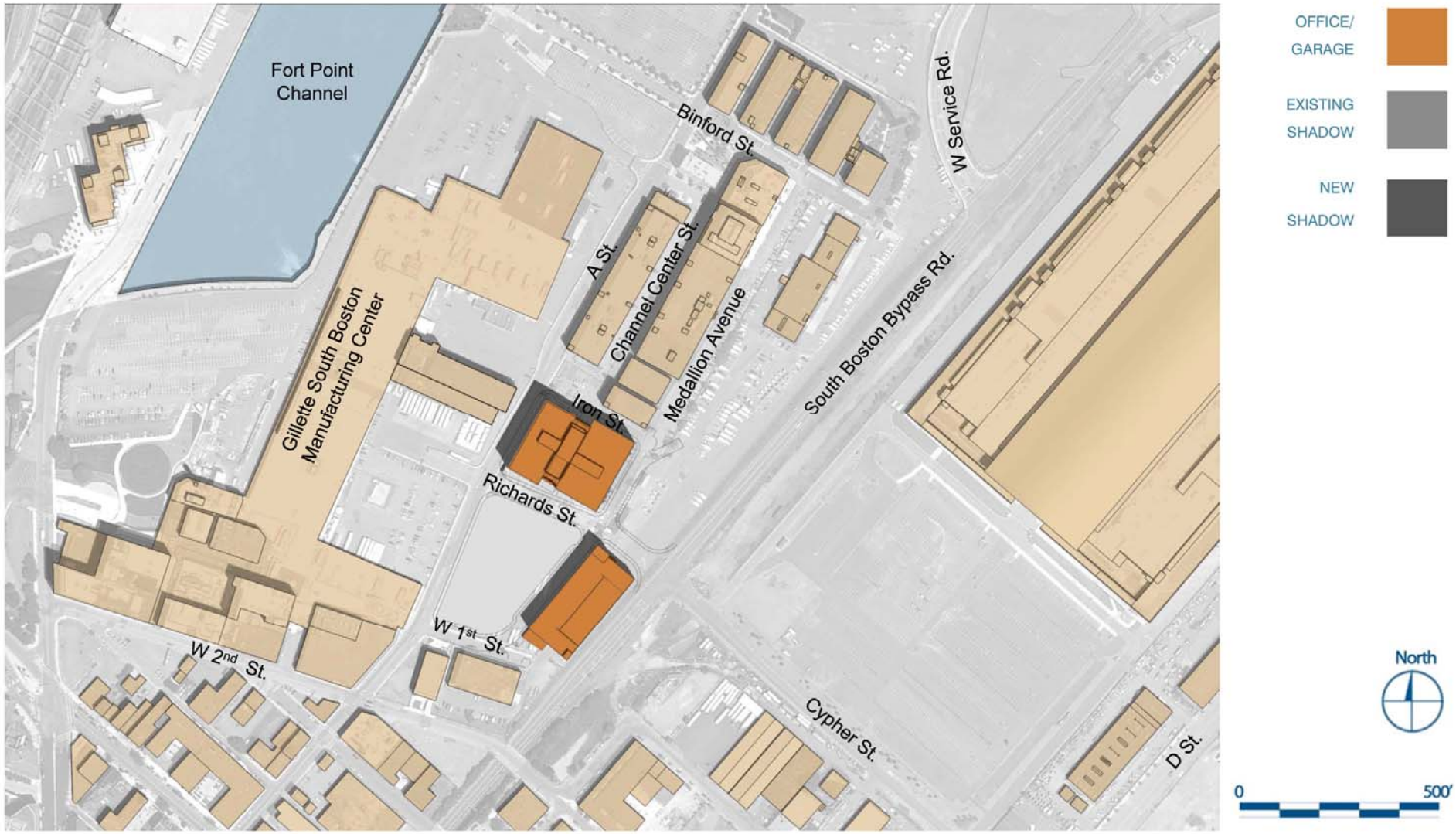


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-7

June 21 8:00 AM (9:00 AM DST)

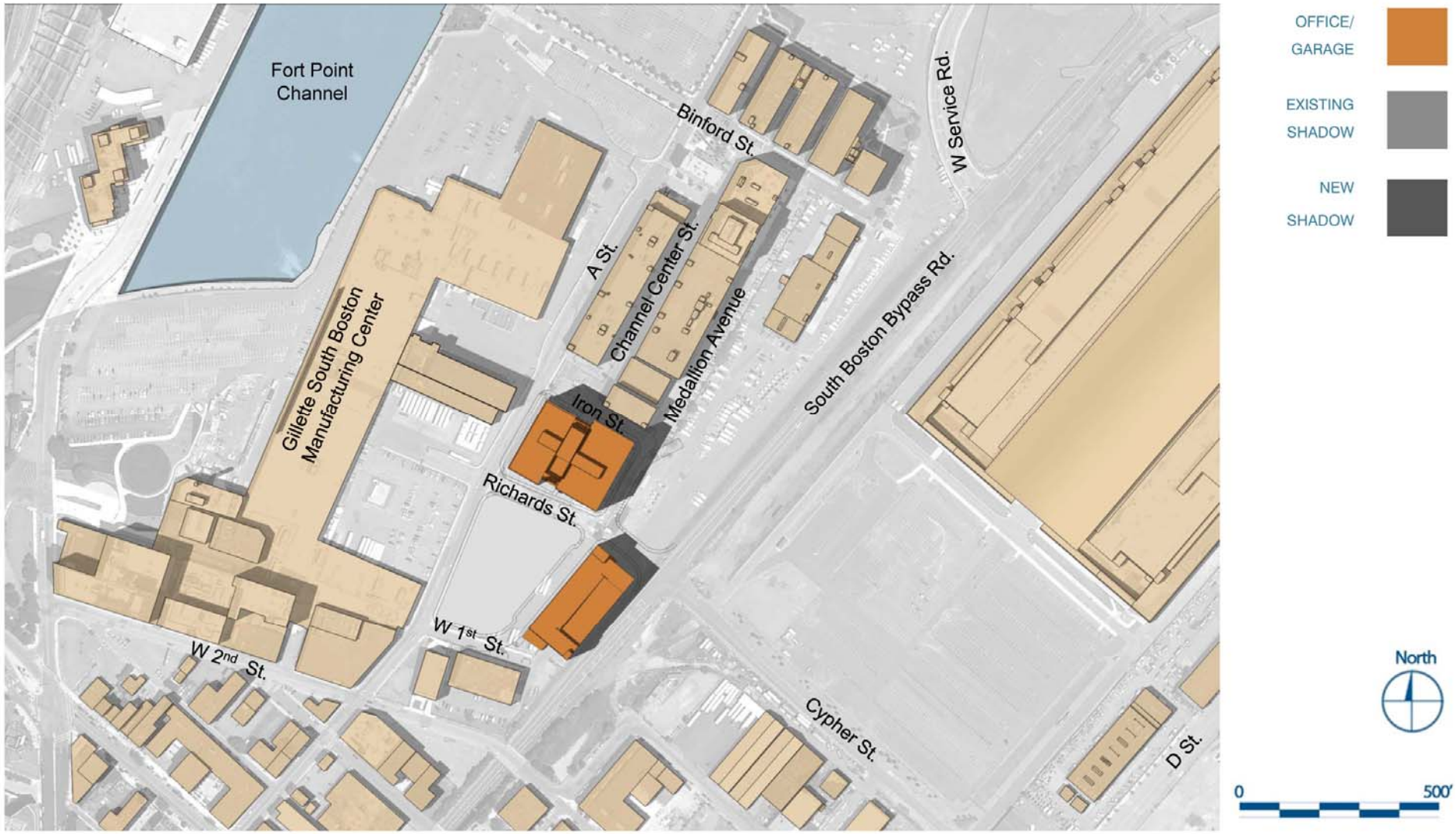


One Channel Center **Commonwealth Ventures**

ADD Inc ARCHITECTURE + DESIGN

Figure 3-8

June 21 11:00 AM (12:00 PM DST)

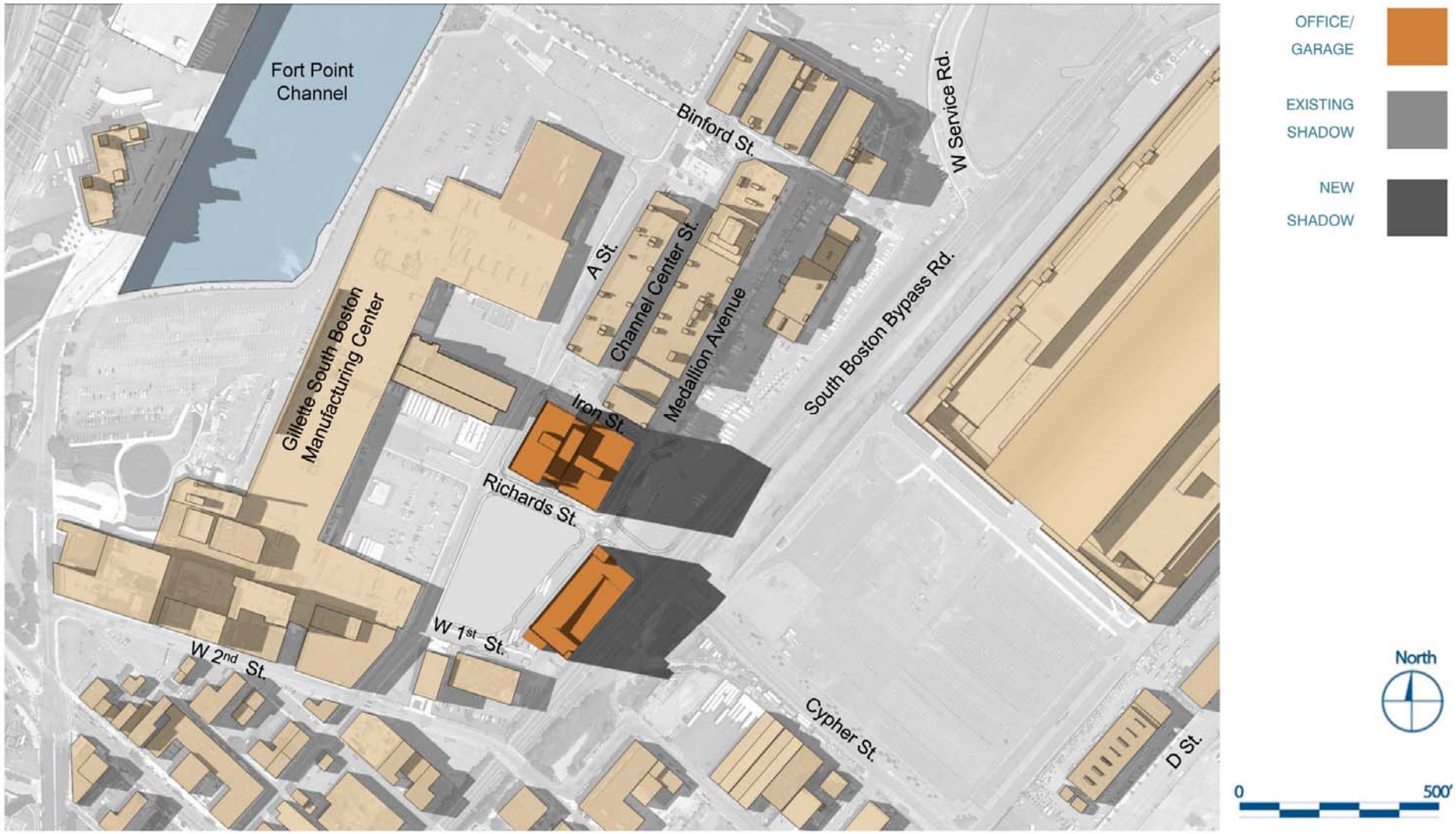


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-9

June 21 2:00 PM (3:00 PM DST)

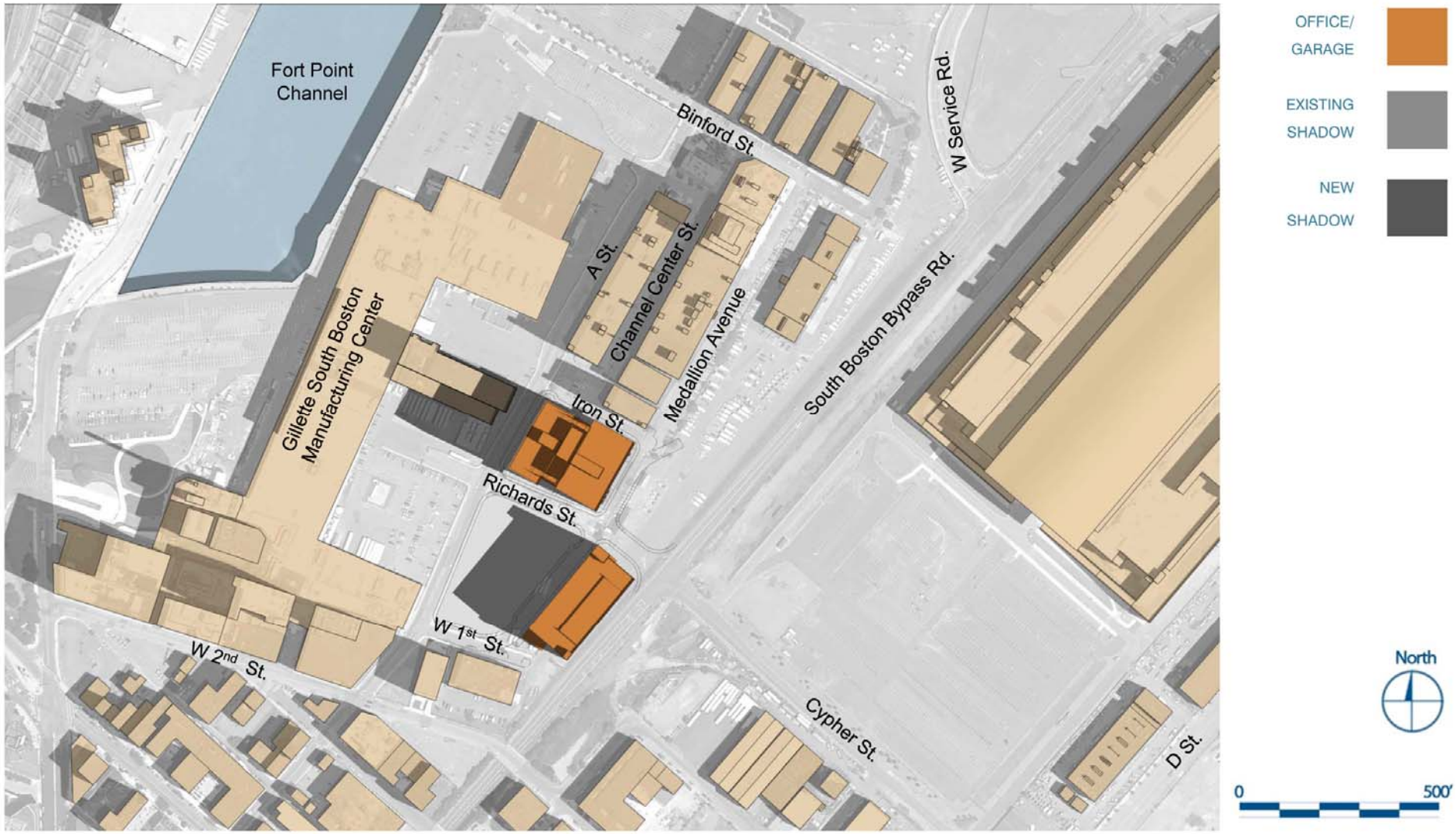


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-10

June 21 5:00 PM (6:00 PM DST)

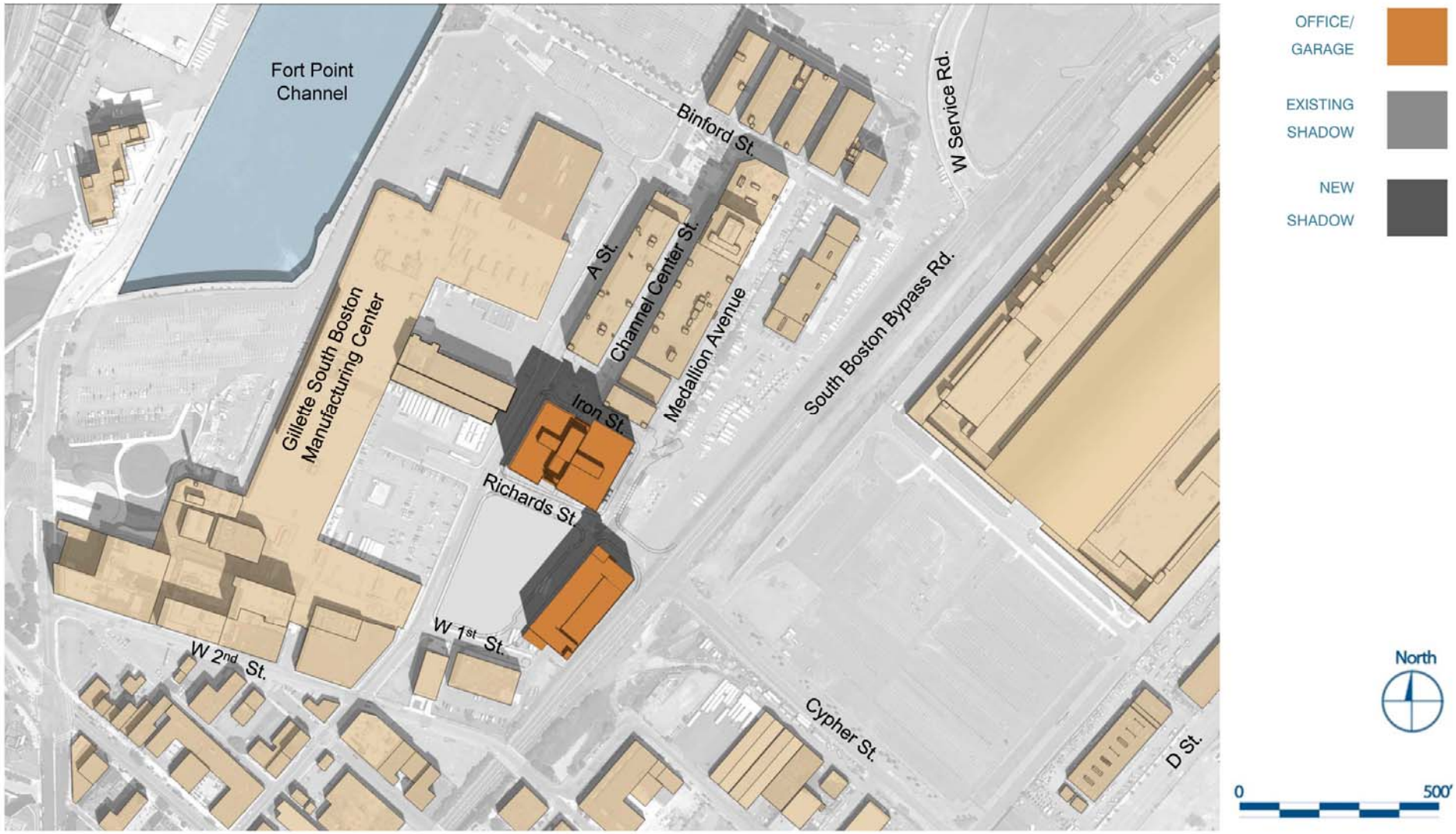


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-11

September 21 8:00 AM (9:00 AM DST)



One Channel Center **Commonwealth Ventures**

ADD Inc ARCHITECTURE + DESIGN

Figure 3-12

September 21 11:00 AM (12:00 PM DST)

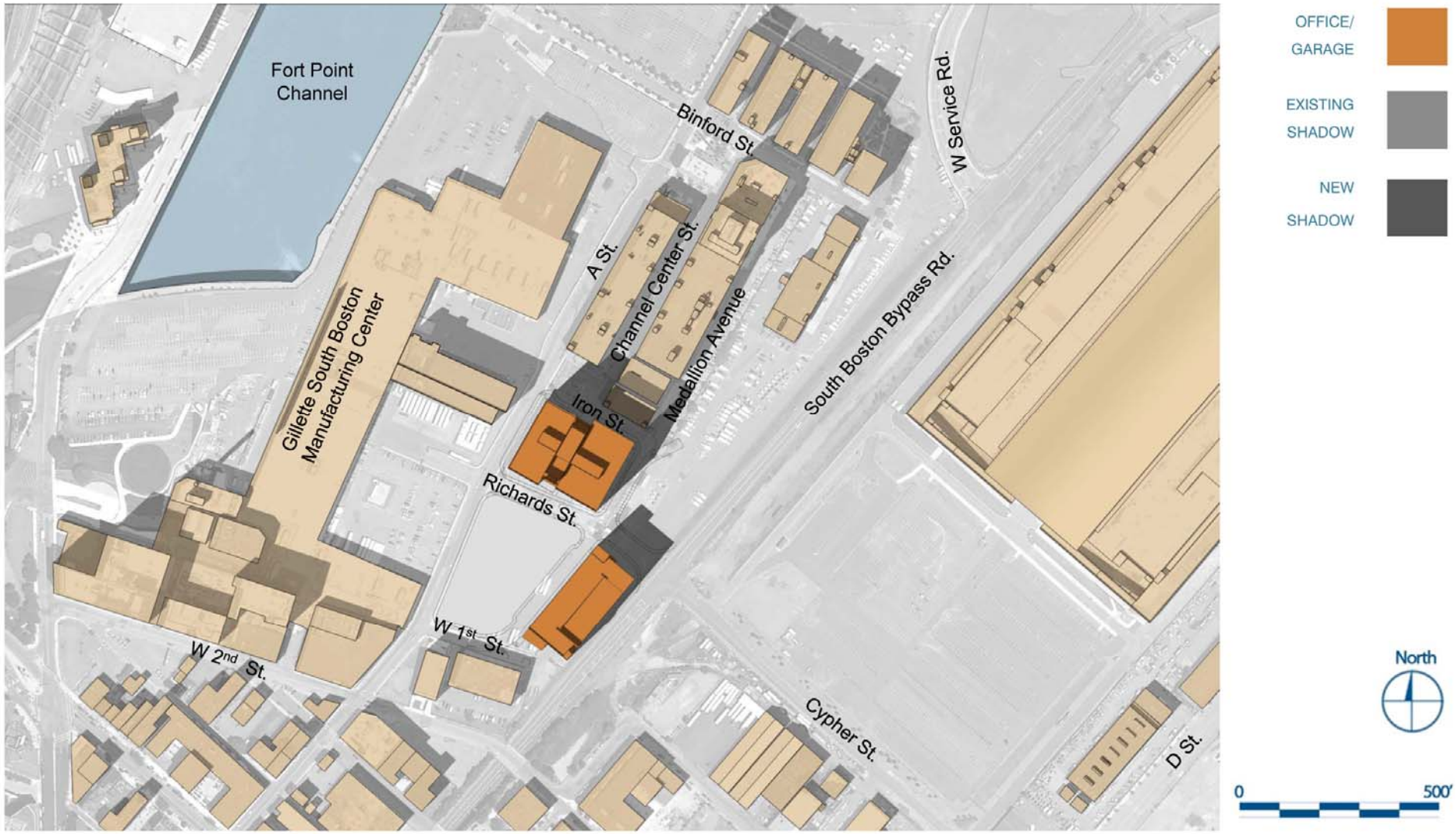


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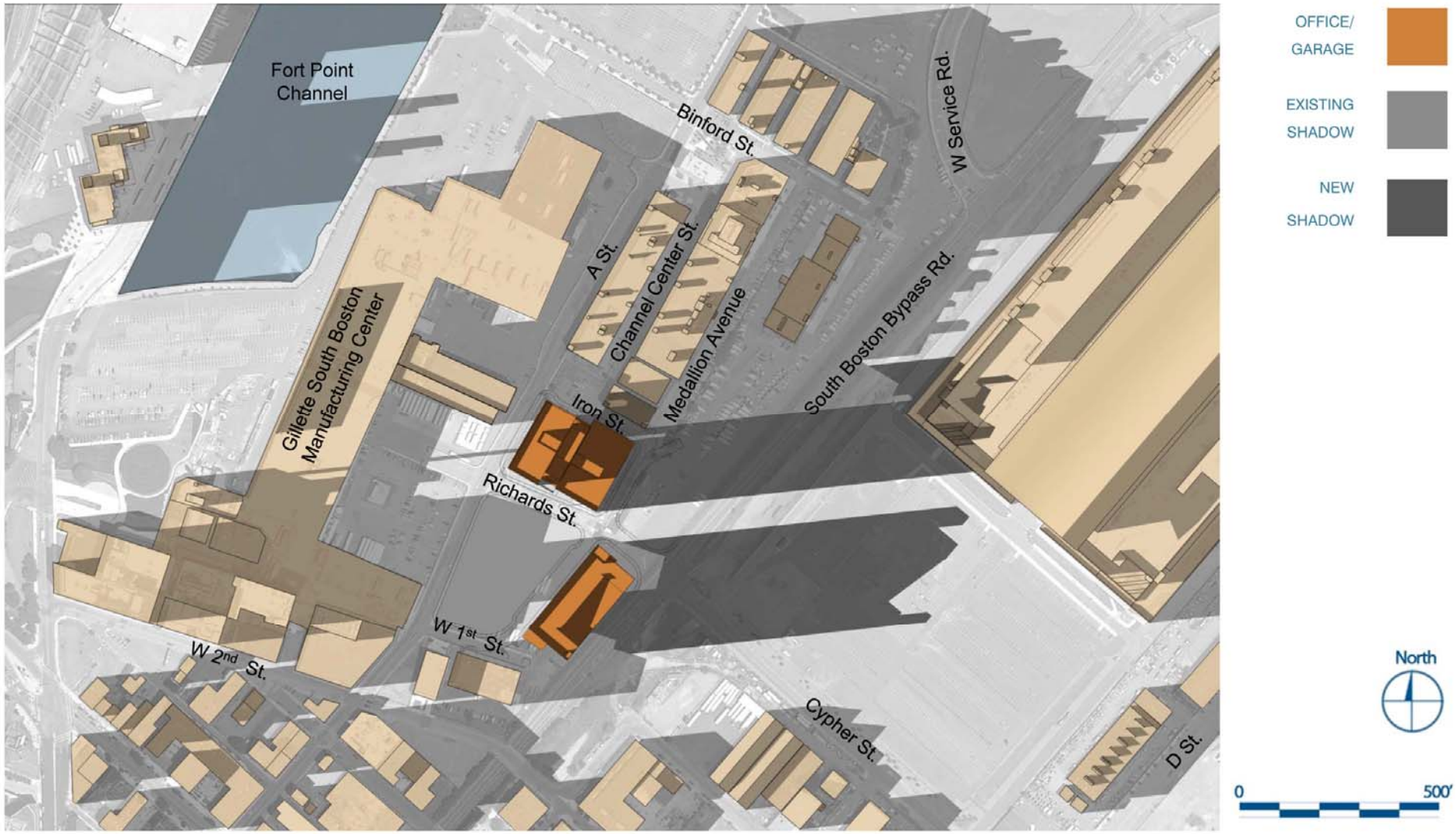
Figure 3-13

September 21 2:00 PM (3:00 PM DST)

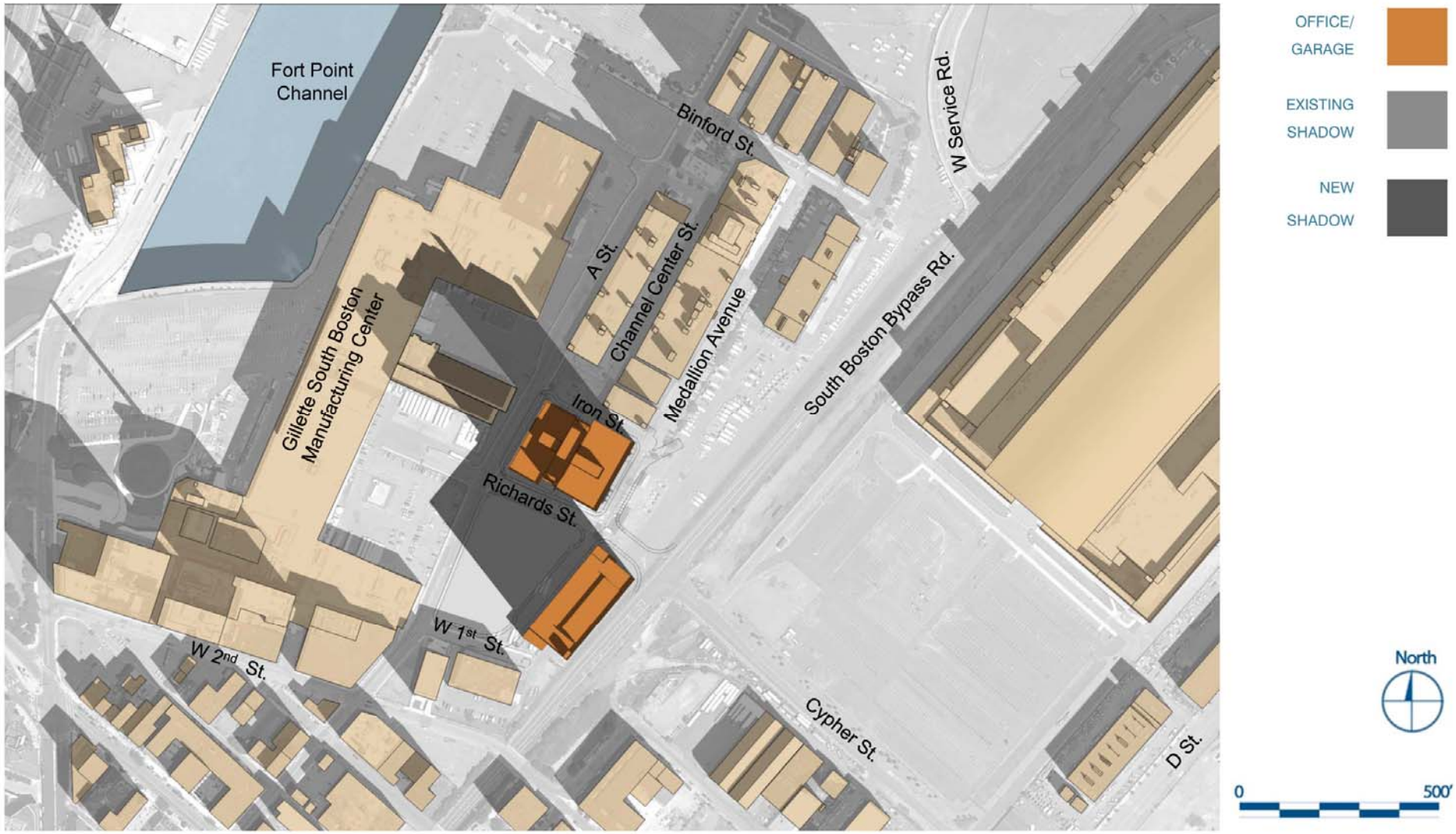


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-14

September 21 5:00 PM (6:00 PM DST)

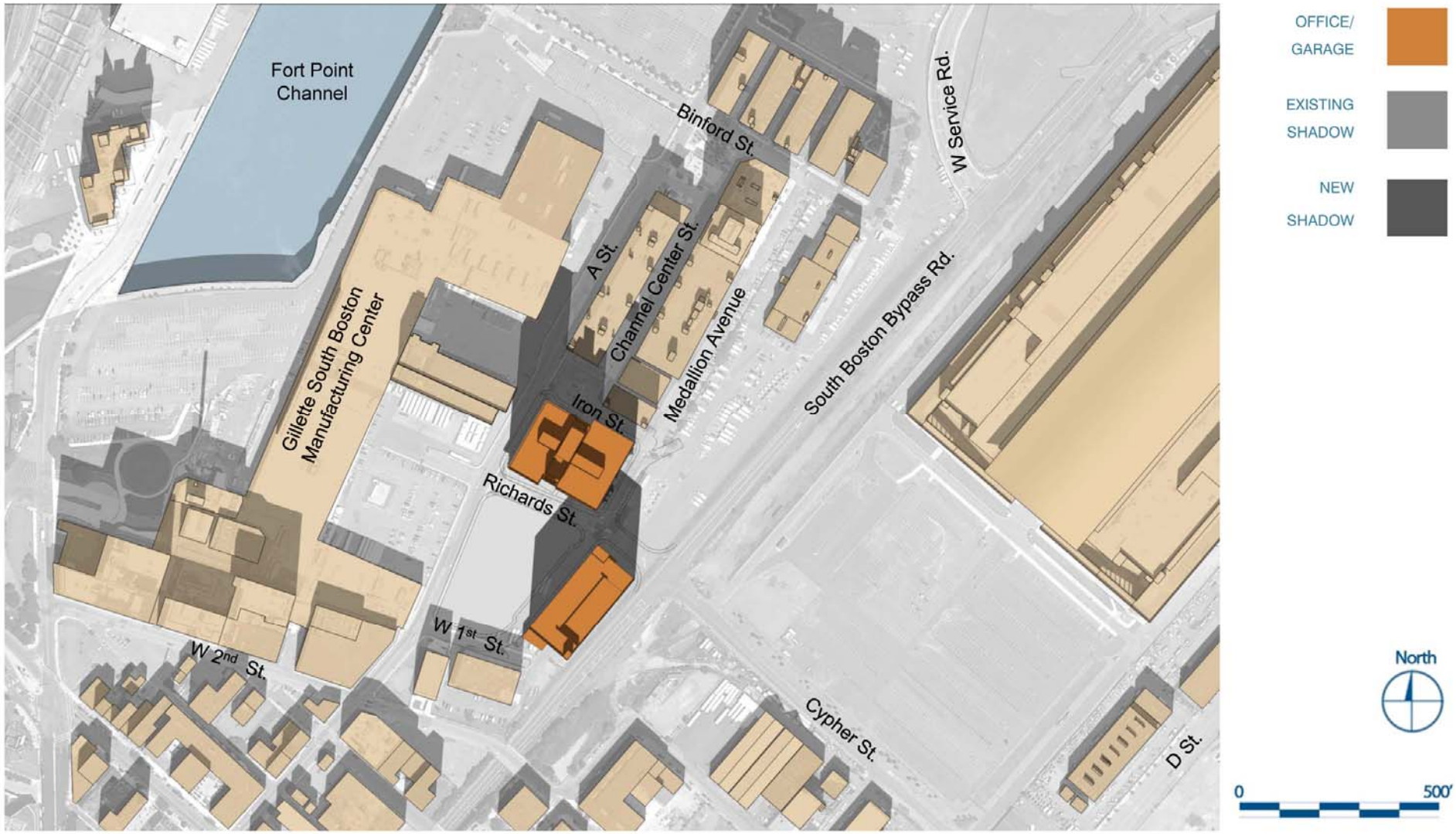


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-15

December 21 9:00 AM

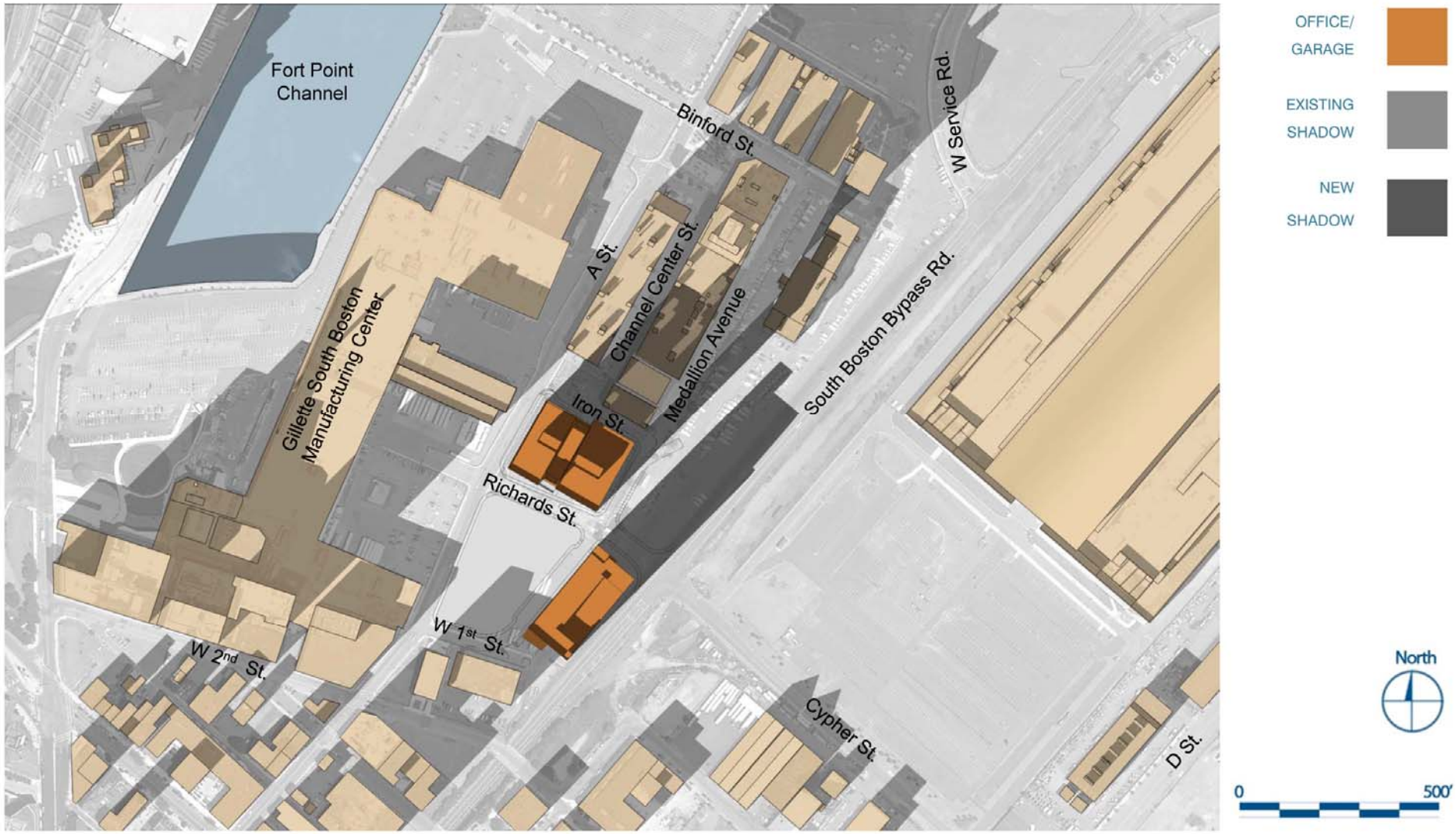


One Channel Center **Commonwealth Ventures**

ADD Inc ARCHITECTURE + DESIGN

Figure 3-16

December 21 12:00 PM

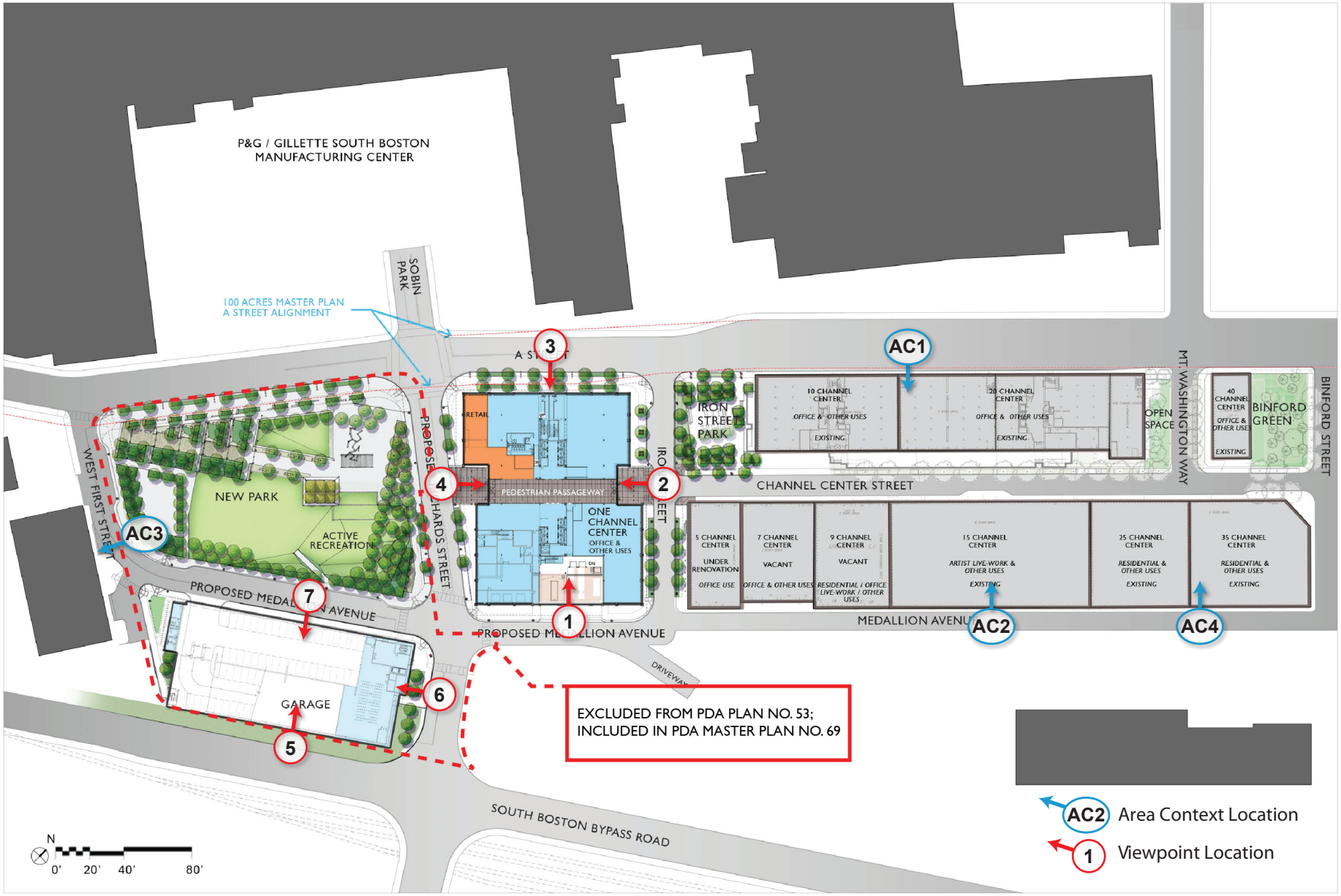


One Channel Center Commonwealth Ventures

ADD Inc ARCHITECTURE + DESIGN

Figure 3-17

December 21 3:00 PM



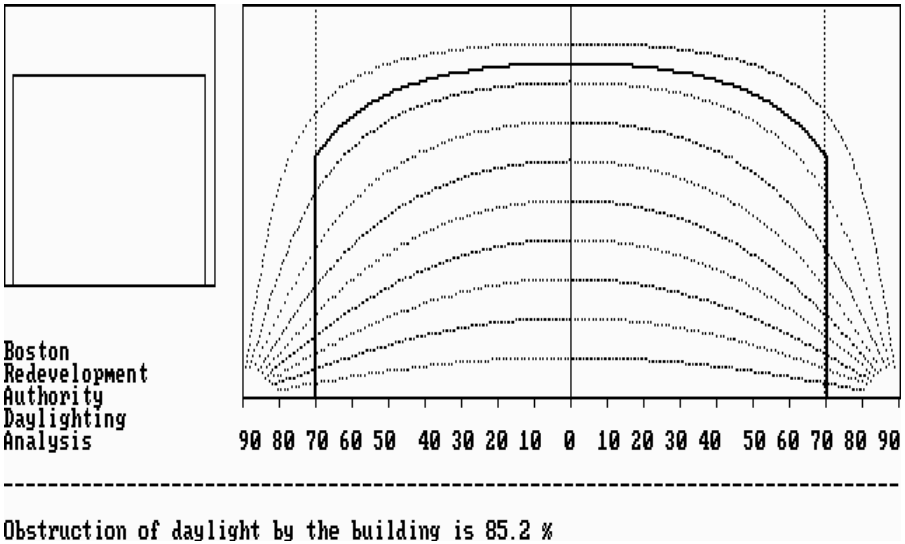
One Channel Center **Commonwealth Ventures**

Epsilon ASSOCIATES INC.

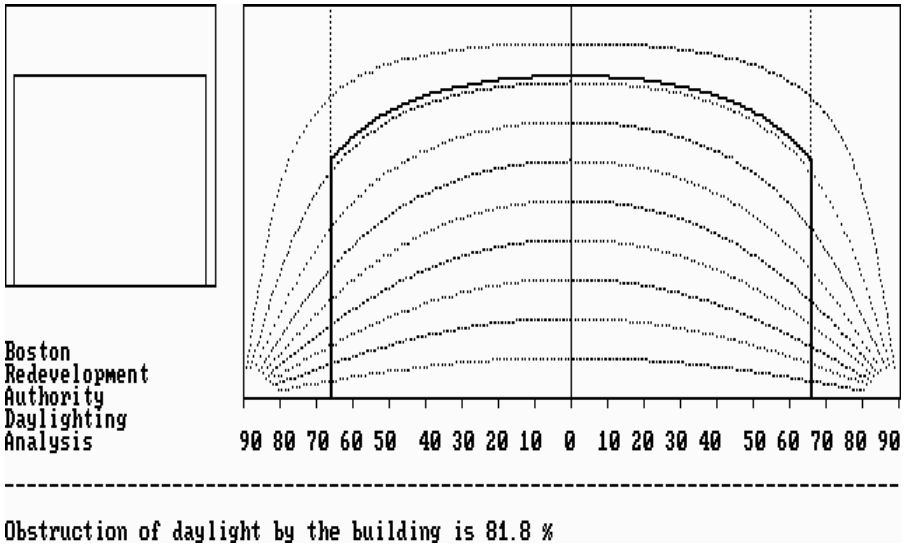
Figure 3-18

Viewpoint and Area Context Locations

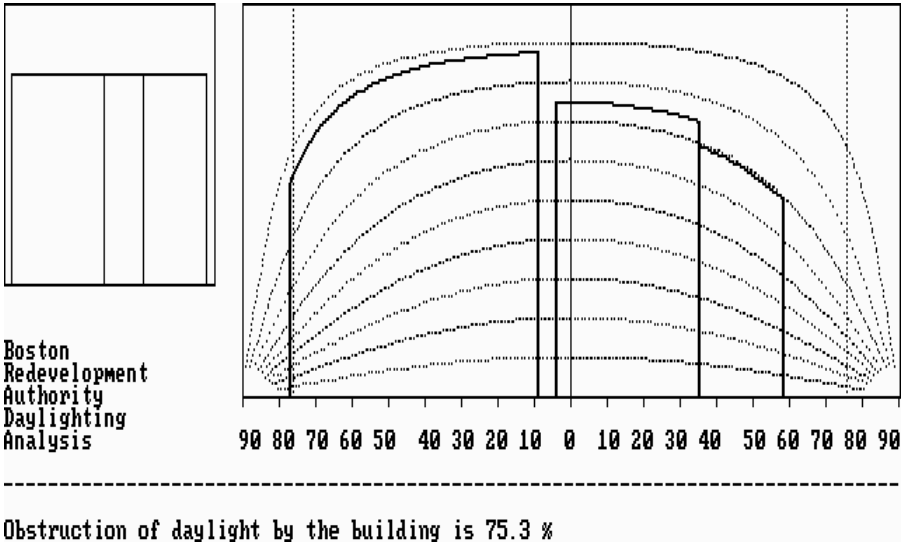
Viewpoint 1: Medallion Avenue looking northwest at the Office Building site



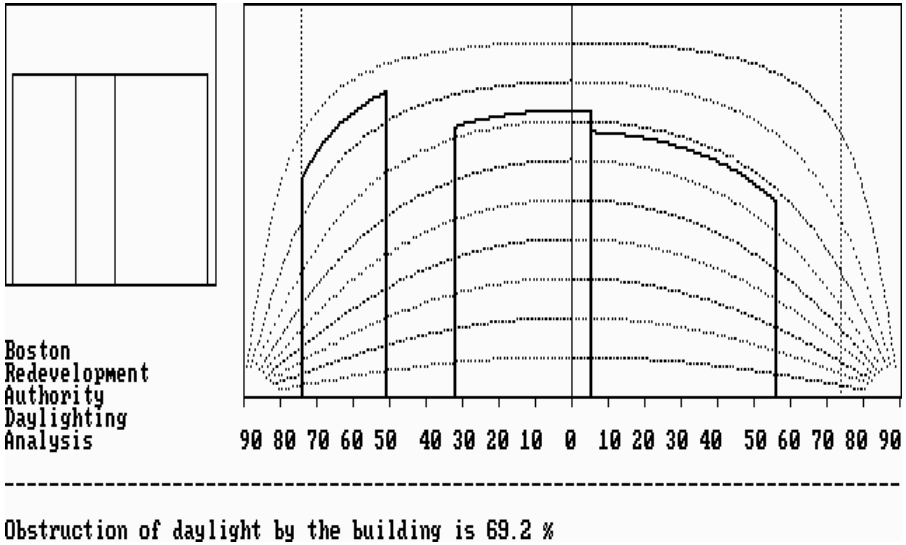
Viewpoint 3: A Street looking southeast at Office Building site



Viewpoint 2: Iron Street looking southwest at the Office Building site

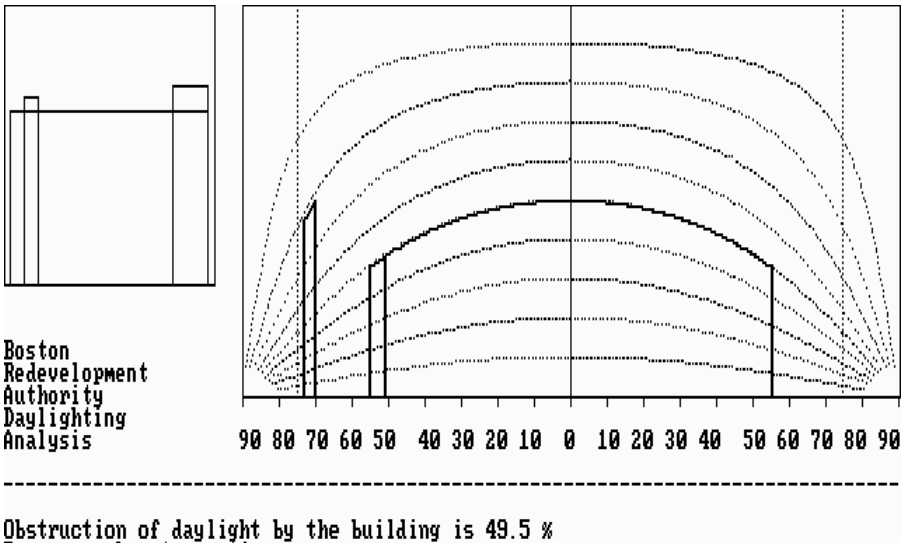


Viewpoint 4: Richards Street looking northeast at the Office Building site

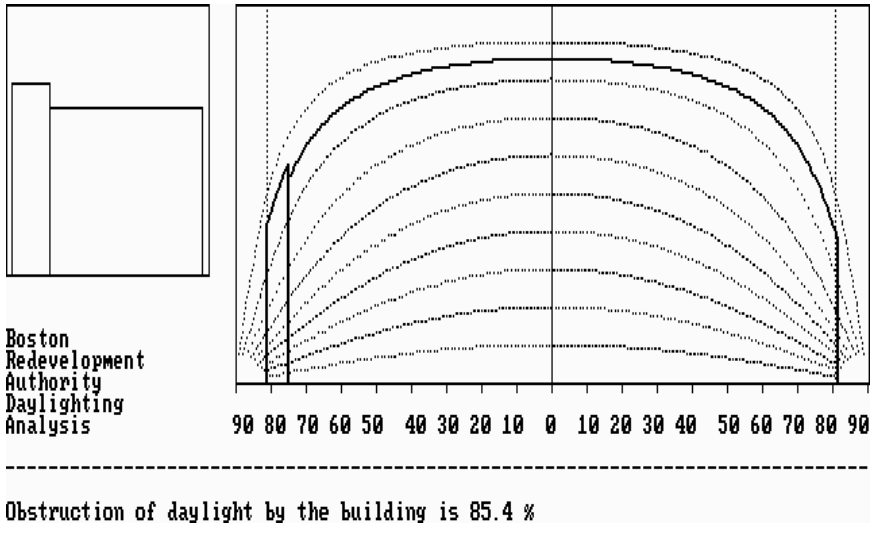


One Channel Center Commonwealth Ventures

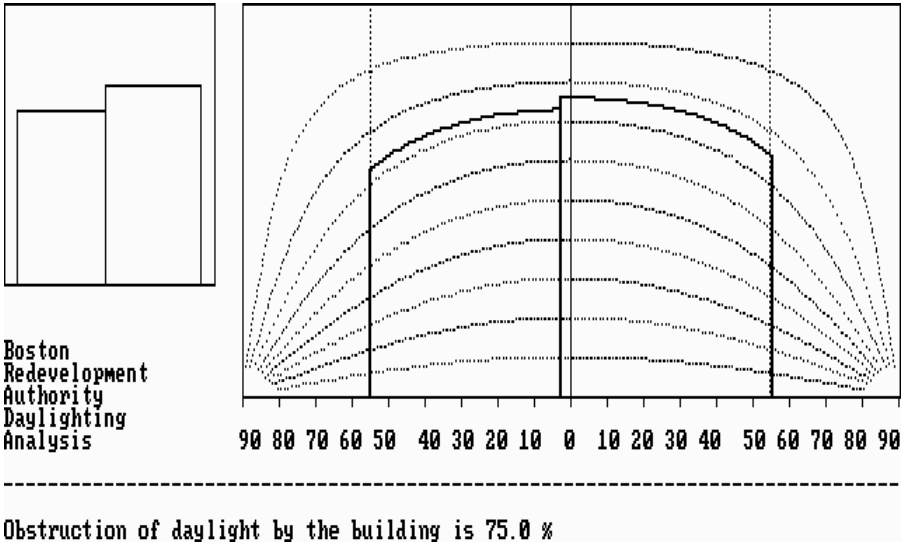
Viewpoint 5: South Boston Bypass Road looking northwest at the Garage site



Viewpoint 7: Medallion Avenue looking southeast at the Garage site

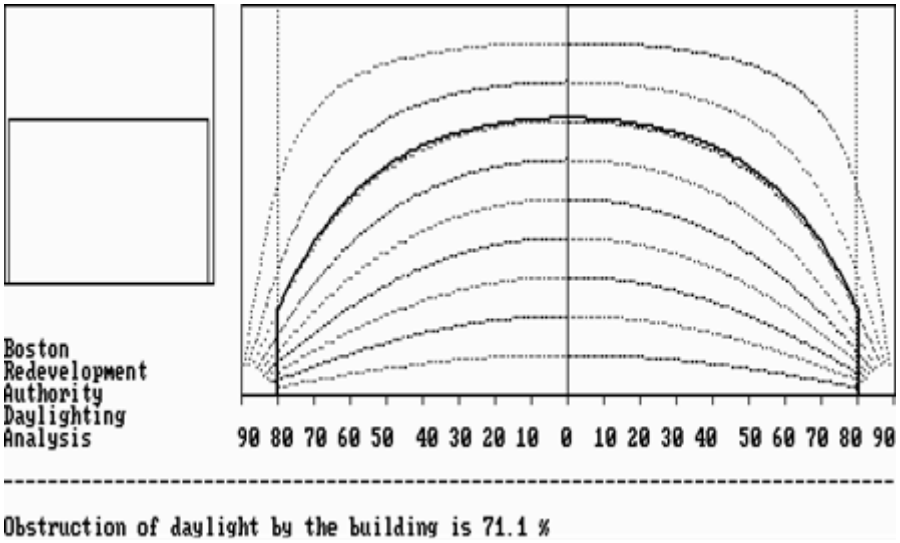


Viewpoint 6: Richards Street looking southwest at the Garage site

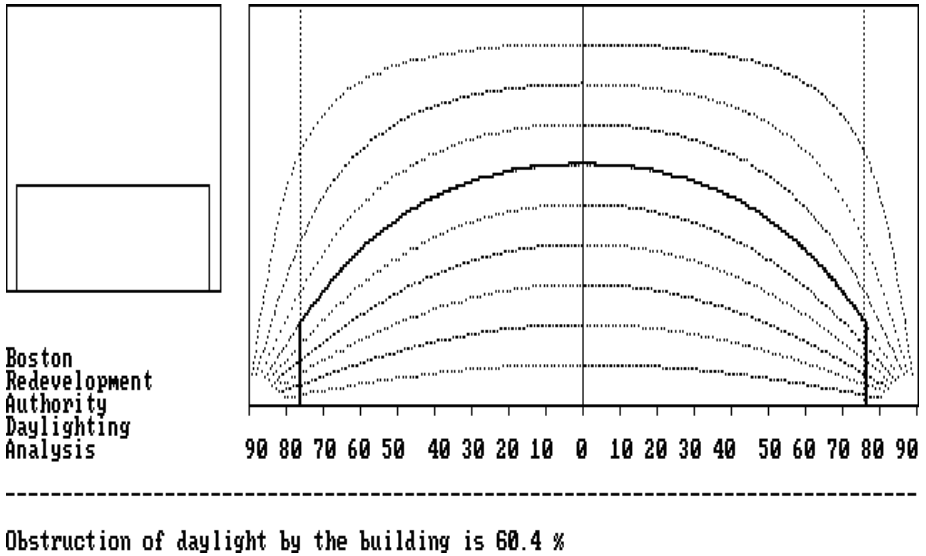


One Channel Center Commonwealth Ventures

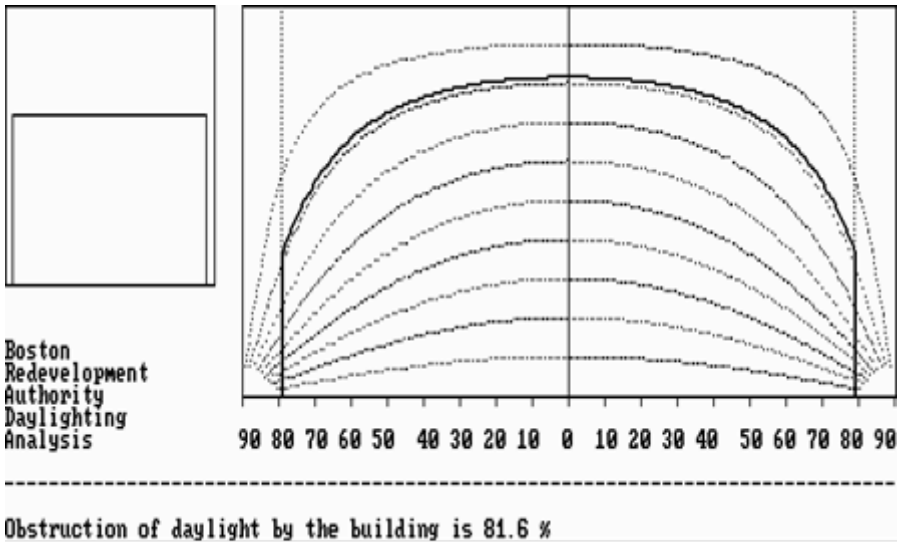
Area Context 1: A Street Looking southeast at 20 Channel Center



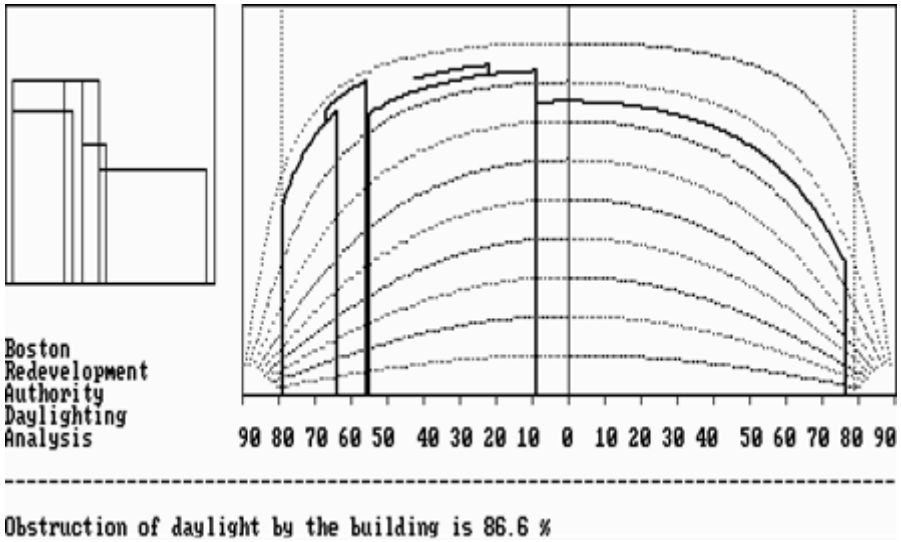
Area Context 3: West 1st Street looking southwest at 105-121 West 1st Street



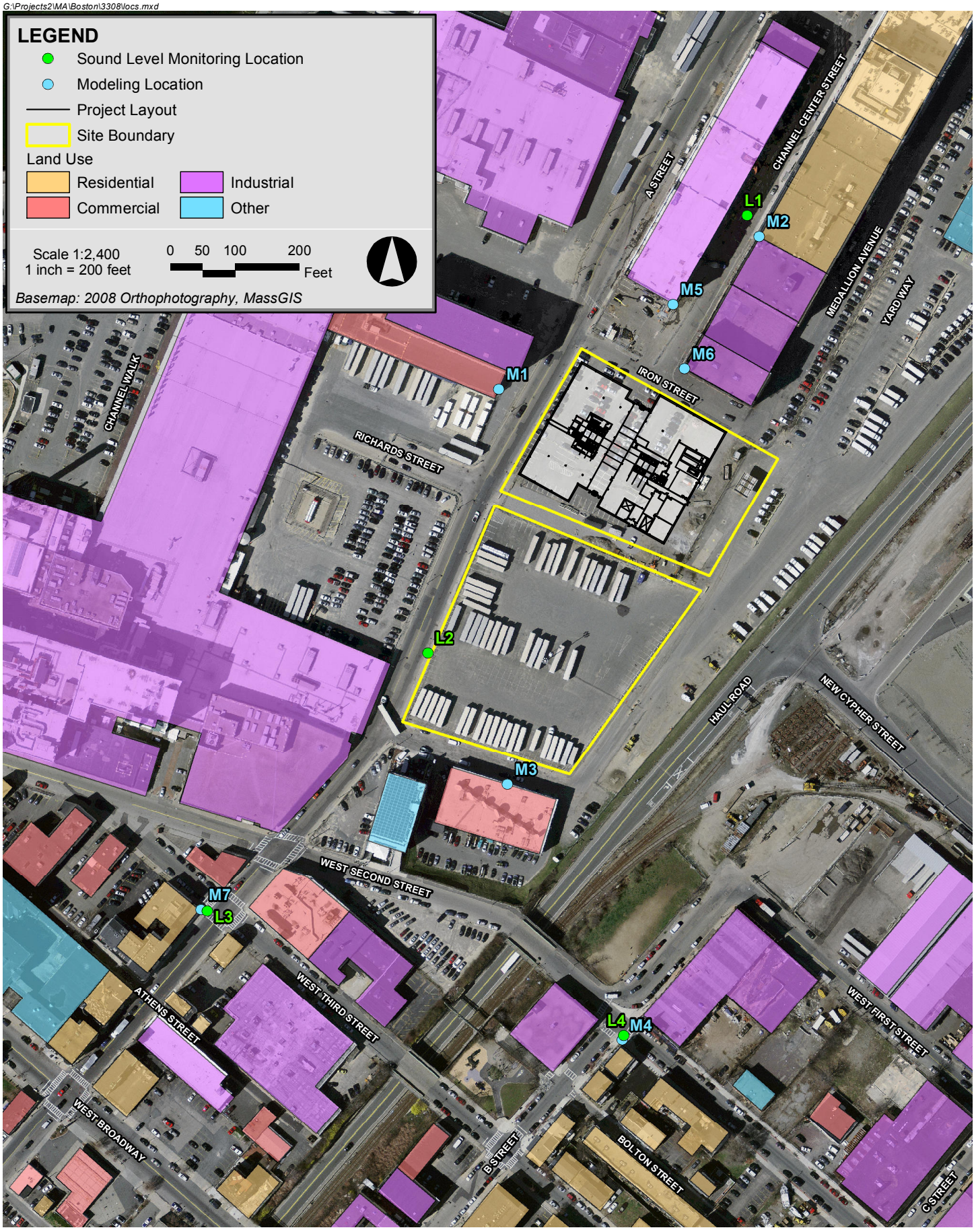
Area Context 2: Medallion Avenue looking northeast at 15 Channel Center



Area Context 4: 25-35 Channel Center



One Channel Center Commonwealth Ventures



One Channel Center **Commonwealth Ventures**

Epsilon Associates Inc.

Figure 3-22

Sound Level Monitoring and Modeling Locations

LEED 2009 for Core and Shell Development

Project Checklist

One Channel Center

Figure 3-23

Sustainable Sites — Possible Points: 28

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
	1		Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
		2	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	2
	3		Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
	2		Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
		1	Credit 6.2	Stormwater Design—Quality Control	1
	1		Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
1			Credit 9	Tenant Design and Construction Guidelines	1

Water Efficiency — Possible Points: 10

Y			Prereq 1	Water Use Reduction—20% Reduction	
	4		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
3	1		Credit 3	Water Use Reduction	2 to 4

Energy and Atmosphere — Possible Points: 37

Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
4	3	14	Credit 1	Optimize Energy Performance	3 to 21
	4		Credit 2	On-Site Renewable Energy	4
	2		Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
1	2		Credit 5.1	Measurement and Verification—Base Building	3
	3		Credit 5.2	Measurement and Verification—Tenant Submetering	3
	2		Credit 6	Green Power	2

Materials and Resources — Possible Points: 13

Y	?	N			
Y			Prereq 1	Storage and Collection of Recyclables	
		5	Credit 1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 5
2			Credit 2	Construction Waste Management	1 to 2
		1	Credit 3	Materials Reuse	1
2			Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
1			Credit 6	Certified Wood	1

Indoor Environmental Quality — Possible Points: 12

Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3	Construction IAQ Management Plan—During Construction	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
	1		Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
		1	Credit 6	Controllability of Systems—Thermal Comfort	1
1			Credit 7	Thermal Comfort—Design	1
		1	Credit 8.1	Daylight and Views—Daylight	1
	1		Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

1			Credit 1.1	Innovation in Design: Specific Title	1
1			Credit 1.2	Innovation in Design: Specific Title	1
	1		Credit 1.3	Innovation in Design: Specific Title	1
	1		Credit 1.4	Innovation in Design: Specific Title	1
	1		Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

1			Credit 1.1	Regional Priority: Specific Credit	1
	1		Credit 1.2	Regional Priority: Specific Credit	1
	1		Credit 1.3	Regional Priority: Specific Credit	1
	1		Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

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

Section 4.0

Zoning and Related Permits and Approvals

4.0 ZONING AND RELATED PERMITS AND APPROVALS

4.1 Existing and Proposed Zoning

4.1.1 Channel Center Project – PDA Plan No. 53

PDA Plan No. 53 was approved by the BRA and the Zoning Commission a decade ago, at the outset of the Channel Center development process. The ensuing development there has been consistent with PDA Plan No. 53, but changes in the national and local economy, in the local and national capital markets, and in the area real estate market have each affected, and will continue to affect, the pace and composition of such development. Holdings has determined that it would be desirable to amend and restate PDA Plan No. 53 to reflect the actual completed and planned development at Channel Center through the Restated PDA Plan No. 53. The Restated PDA Plan No. 53 will not provide for any additional development rights nor changes in the uses or use allocations planned, nor will it affect the zoning status of existing buildings and uses. Rather, it will reflect actual lot configurations, the creation of expanded open space areas (e.g., the already-completed enlargement of Binford Green and the proposed expansion of the Iron Street Park area), the relocation of Iron Street and the rehabilitation (as opposed to the planned demolition) of 5 Channel Center Street, the planned rehabilitation of 7 and 9 Channel Center Street, the construction of the Office Building, and an updated development schedule for the Channel Center Project overall. These physical changes are shown on the Channel Center Site Plan included in this Notice of Project Change as Figure 4-1.

Approval of the Restated PDA Plan No. 53 by the BRA and the Zoning Commission is being sought concurrently with BRA approval of this Notice of Project Change. Upon such approval, the Restated PDA Plan No. 53 will govern the structures and uses at the Channel Center Site as set forth therein.

4.1.2 The Additional Land

As shown on Map 4 of the Boston Zoning Maps, the majority of the Additional Land is located within an underlying M-2 (Restricted Manufacturing) zoning district, while the easterly portion of the Additional Land adjacent to the South Boston Bypass Road is located within an underlying M-1 (Restricted Manufacturing) zoning district, and the northerly portion to consist of Richards Street is located within an I-2 (General Industrial) zoning district. The entirety of the Additional Land is located within the City's Restricted Parking Overlay District as established by Section 3-1A.c of the Zoning Code. The Additional Land is also included in the PDA Master Plan Area.

The Additional Land comprises one development parcel (Parcel U8) and two open space parcels (Parcel WF1 and Parcel HR3) as set forth in Exhibits D, E, G and I to the PDA Master Plan. Parcel U8 is part of the Parcel Grouping (as defined in the PDA Master Plan) owned by the USPS. The PDA Master Plan requires that a minimum of one third of the Gross Floor

Area of the new build-out within the PDA Master Plan Area (on an aggregate, rather than parcel-specific, basis), within each Parcel Grouping be devoted to residential and artist live/work uses. The development component of the Proposed Project subject to the PDA Master Plan (i.e., the Garage) will not contain any residential or artist live/work uses, so USPS has agreed that such residential obligations will be located on other sites within the Parcel Grouping currently owned by the USPS.

The configuration of Parcel U8, Parcel WF1, and Parcel HR3 set forth in PDA Master Plan differs from that proposed in this Notice of Project Change, although the respective areas of the proposed park and non-residential uses are materially consistent. To address this, Commonwealth Ventures is filing with the BRA concurrently with this Notice of Project Change, (i) a proposed First Amendment to the PDA Master Plan to reflect the planned locations of the Garage and the New Park, and (ii) the Park/Garage Development Plan for the development of the Garage and New Park components of the Proposed Project.

4.2 Project Consistency with Zoning and 100 Acres Master Plan

The Proposed Project will be consistent with the zoning changes proposed above. In addition, the Proposed Project will be consistent with the development, open space, and infrastructure improvement requirements set forth in the 100 Acres Master Plan and the PDA Master Plan.

4.3 Related Project Permitting

The Proponent anticipates seeking the following federal, state, and local permits, reviews, and approvals and taking the following actions related to the Proposed Project or components thereof:

Table 4-1 Required Permits, Reviews and Approvals

Agency Name	Permit or Action
Federal Government	
US Environmental Protection Agency	National Pollutant Discharge Elimination System Notices of Intent (Remediation and Construction General Permits)
Federal Aviation Administration	Notifications for Use of Cranes
Commonwealth of Massachusetts	
Massachusetts Department of Environmental Protection	Construction Notification; Self-certification under the Environmental Results Program (Emergency Engines and Emergency Turbines)
Massachusetts Environmental Policy Act	MEPA Advisory Opinion (received)
Massachusetts Historical Commission	Design review per MOA for Channel Center Project
Massachusetts Department of Transportation	Minor Access Permit (Richards Street curb cut to South Boston Bypass Road); Indirect Access Permit; Ch. 40, § 54A waiver (former railroad land)

Table 4-1 Required Permits, Reviews and Approvals (Continued)

Agency Name	Permit or Action
City of Boston	
Boston Redevelopment Authority	Notice of Project Change; Park/Garage Development Plan; First Amendment to PDA Master Plan No. 69; Amended and Restated PDA Plan No. 53
Boston Civic Design Commission	Schematic Design Review
Boston Zoning Commission	Park/Garage Development Plan; Amended and Restated PDA Plan No. 53; First Amendment to PDA Master Plan No. 69
Boston Inspectional Services Department	Foundation Permits, Building Permits, Certificates of Occupancy
Boston Transportation Department	Construction Management Plan
Boston Water and Sewer Commission	Site Plan Approvals; Water and Sewer Connection Permits; Construction Dewatering Permit
Boston Landmarks Commission	Design review per MOA for Channel Center Project
Boston Fire Department	Site Access Plan; Flammable Materials Licenses and other permits
Boston Air Pollution Control Commission	Amendment to BAPCC Permit (Channel Center Project)
Public Safety Commission, Committee on Licenses	Fuel Storage Licenses and Garage Permit
Public Improvement Commission	Various -- Richards Street, Iron Street, Medallion Avenue, West First Street and A Street
Fort Point Channel Landmark District Commission	Iron Street streetscape improvements approval

4.4 Massachusetts Environmental Policy Act

The Channel Center Project was subject to review under the Massachusetts Environmental Policy Act ("MEPA") and the Original Proponent submitted an Environmental Notification Form together with a request for a Phase One Waiver with the Executive Office of Environmental Affairs ("EOEA") on July 31, 2002. On September 9, 2002, a Certificate of the Secretary of Environmental Affairs ("Secretary") on the Environmental Notification Form was issued, in which the Secretary determined that an Environmental Impact Report ("EIR") was required. On October 9, 2002, the Secretary issued a Final Record of Decision Phase One Waiver, which allowed Phase One of the Channel Center Project to proceed pending completion of the EIR. The Original Proponent submitted a Notice of Project Change on October 17, 2002 with respect to certain changes in the use program of the Channel Center Project, and the Secretary issued a Certificate on the Notice of Project Change on November 22, 2002, which allowed the preparation of a Single Environmental Impact Report ("SEIR") for the Channel Cener Project. The Original Proponent submitted an SEIR on January 15, 2003, and the Secretary issued a Certificate on the SEIR on February 28, 2003, which determined that the Channel Center Project adequately and properly complies with MEPA. The Proponent has confirmed that the Executive Office of Energy and Environmental Affairs (as successor to EOEA) ("EOEEA") will not require the submission of a

Notice of Project Change under MEPA in connection with the Proposed Project. On March 13, 2012, the Proponent requested an advisory opinion from EOEEA in respect thereof, and on March 20, 2012 EOEEA issued a determination stating that a Notice of Project Change is not required.

4.4 Application to the BRA

By its filing of this Notice of Project Change, the Proponent is requesting from the BRA: (i) a determination pursuant to the provisions of Section 80C-8 of the Boston Zoning Code, that the Proposed Project is consistent with PDA Plan No. 53, the Restated PDA Master Plan, and the Park/Garage PDA Plan, and (ii) a determination pursuant to the provisions of Section 80A-6 of the Code, that the Proposed Project will not result in significant additional environmental impacts from those examined as part of the Channel Center Project Article 80B review process and therefore, no further review of the Proposed Project under Article 80B will be required.

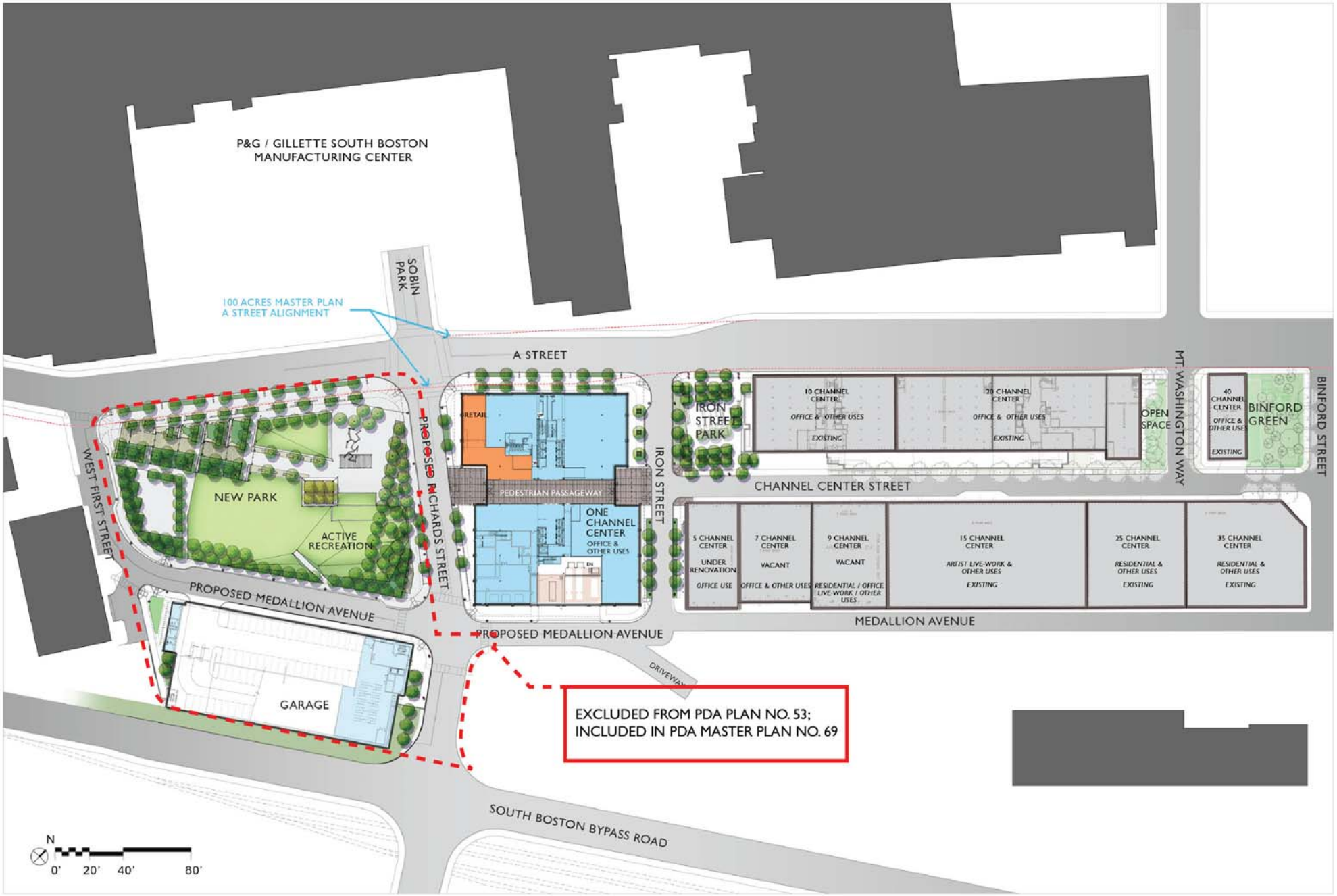


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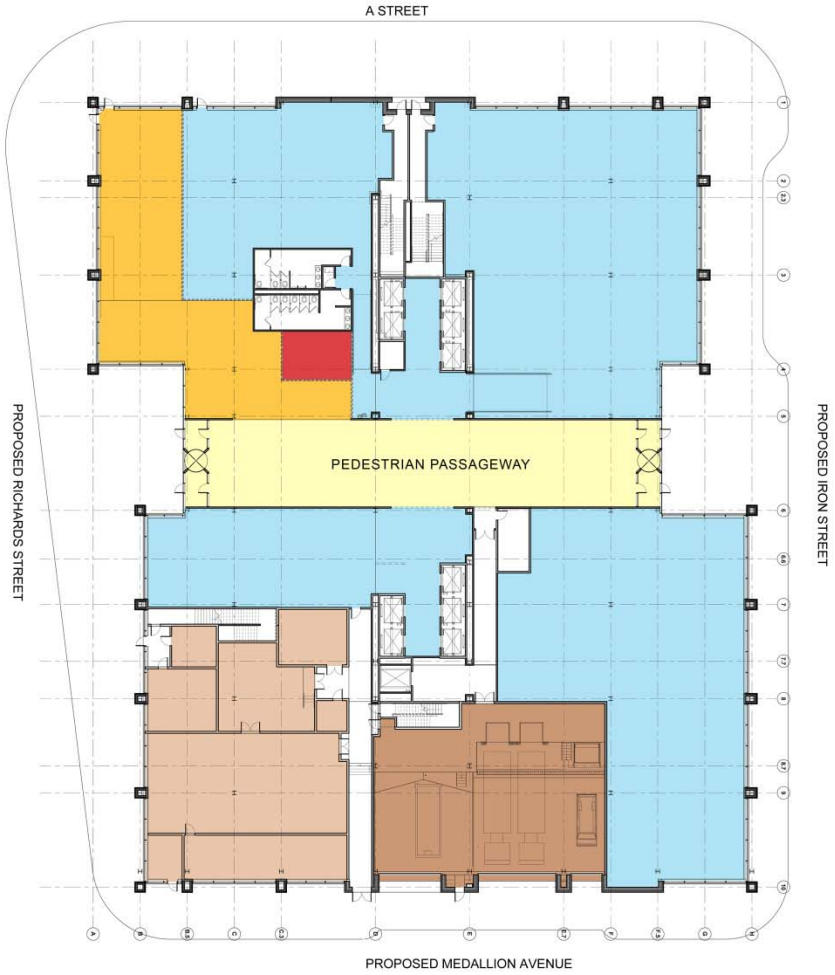
Figure 4-1

NEW SITE PLAN FOR CHANNEL CENTER PROJECT

Appendix A

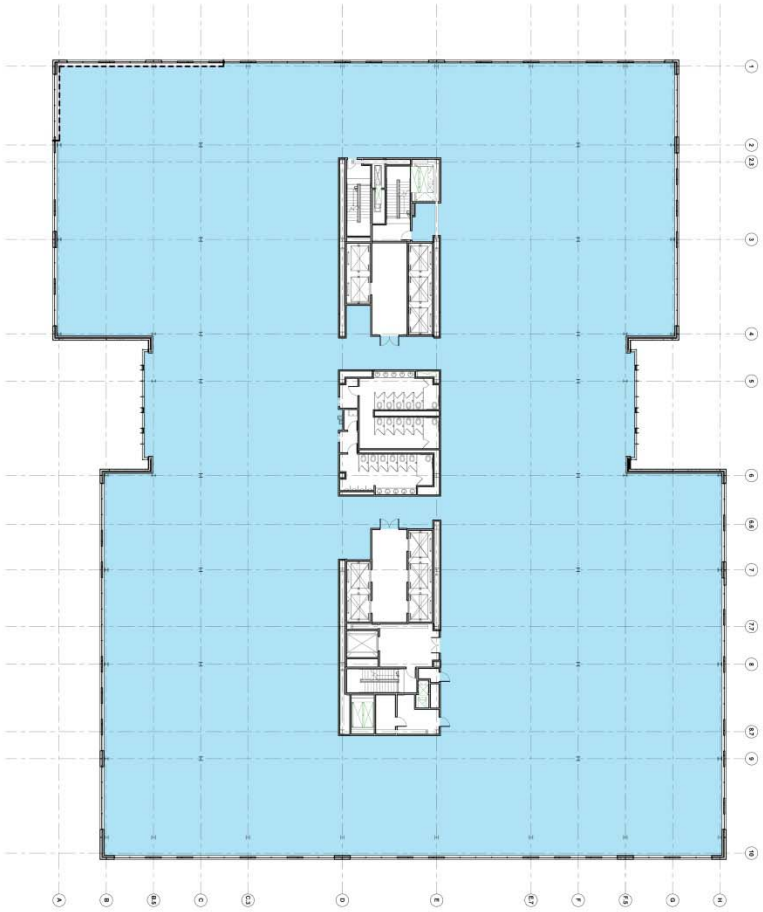
Plans and Elevations



GROUND LEVEL

Program Legend

- CAFE
- LOADING DOCK
- MECHANICAL
- PEDESTRIAN PASSAGEWAY
- RETAIL
- TENANT



TYPICAL LEVEL

Program Legend

- TENANT

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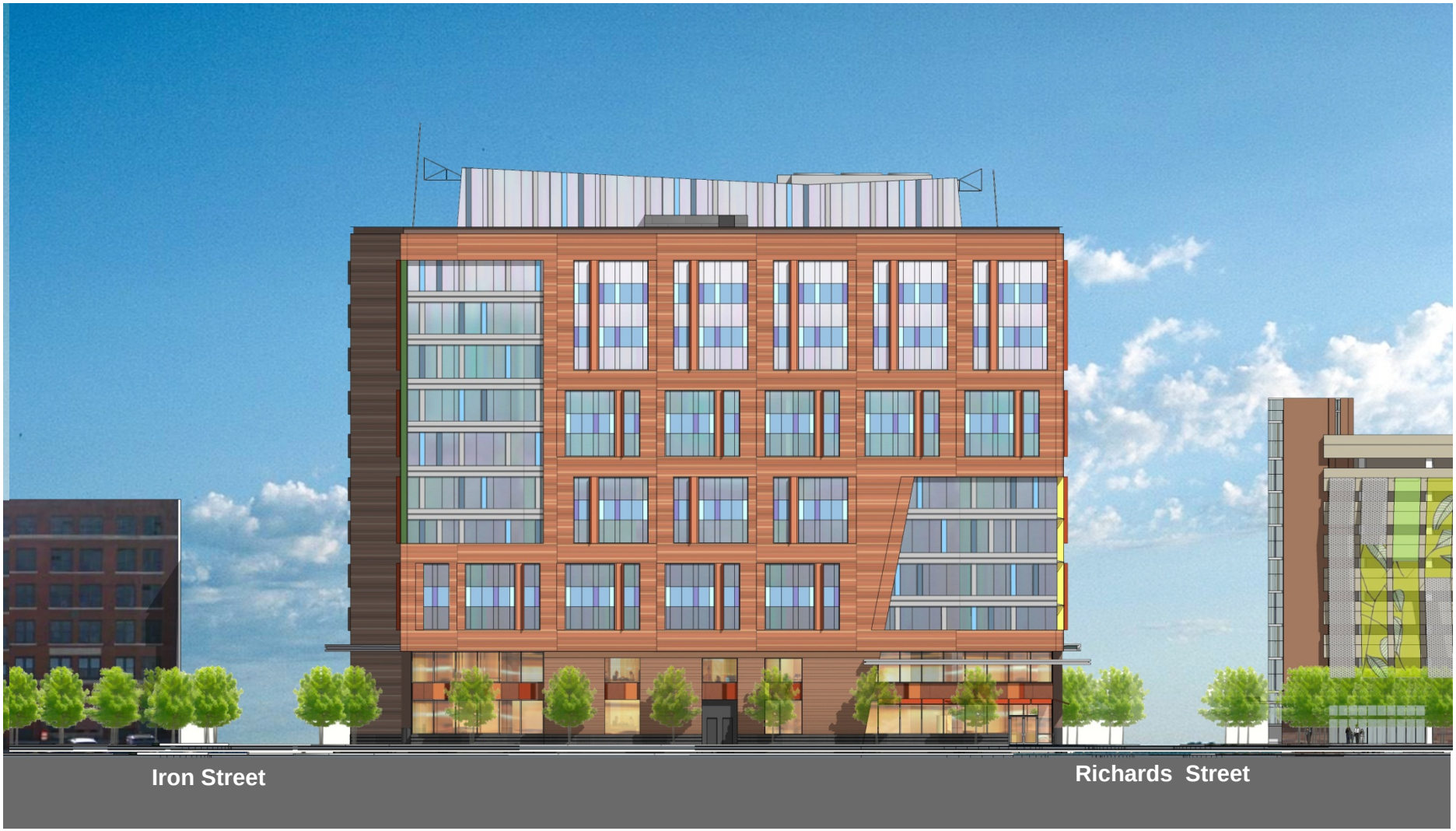
Figure A-1

GROUND & TYPICAL FLOOR PLANS

Figure A-2

OFFICE BUILDING ELEVATION: IRON STREET



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ADD Inc ARCHITECTURE + DESIGN

Figure A-3

OFFICE BUILDING ELEVATION: A STREET

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ADD Inc ARCHITECTURE + DESIGN

Figure A-4

OFFICE BUILDING ELEVATION: RICHARDS STREET

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ADD Inc ARCHITECTURE + DESIGN

Figure A-5

OFFICE BUILDING ELEVATION: MEDALLION AVENUE

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0 20’ 40’ 80’

ADD Inc ARCHITECTURE + DESIGN

Figure A-6

OFFICE BUILDING PERSPECTIVE: A STREET

One Channel Center **Commonwealth Ventures**

Figure A-7

OFFICE BUILDING PERSPECTIVE: AERIAL FROM A STREET

One Channel Center **Commonwealth Ventures**

ADD Inc ARCHITECTURE + DESIGN

Figure A-8

OFFICE BUILDING PERSPECTIVE: VIEW FROM GILLETTE

One Channel Center **Commonwealth Ventures**

Figure A-9

OFFICE BUILDING PERSPECTIVE: AERIAL FROM GILLETTE

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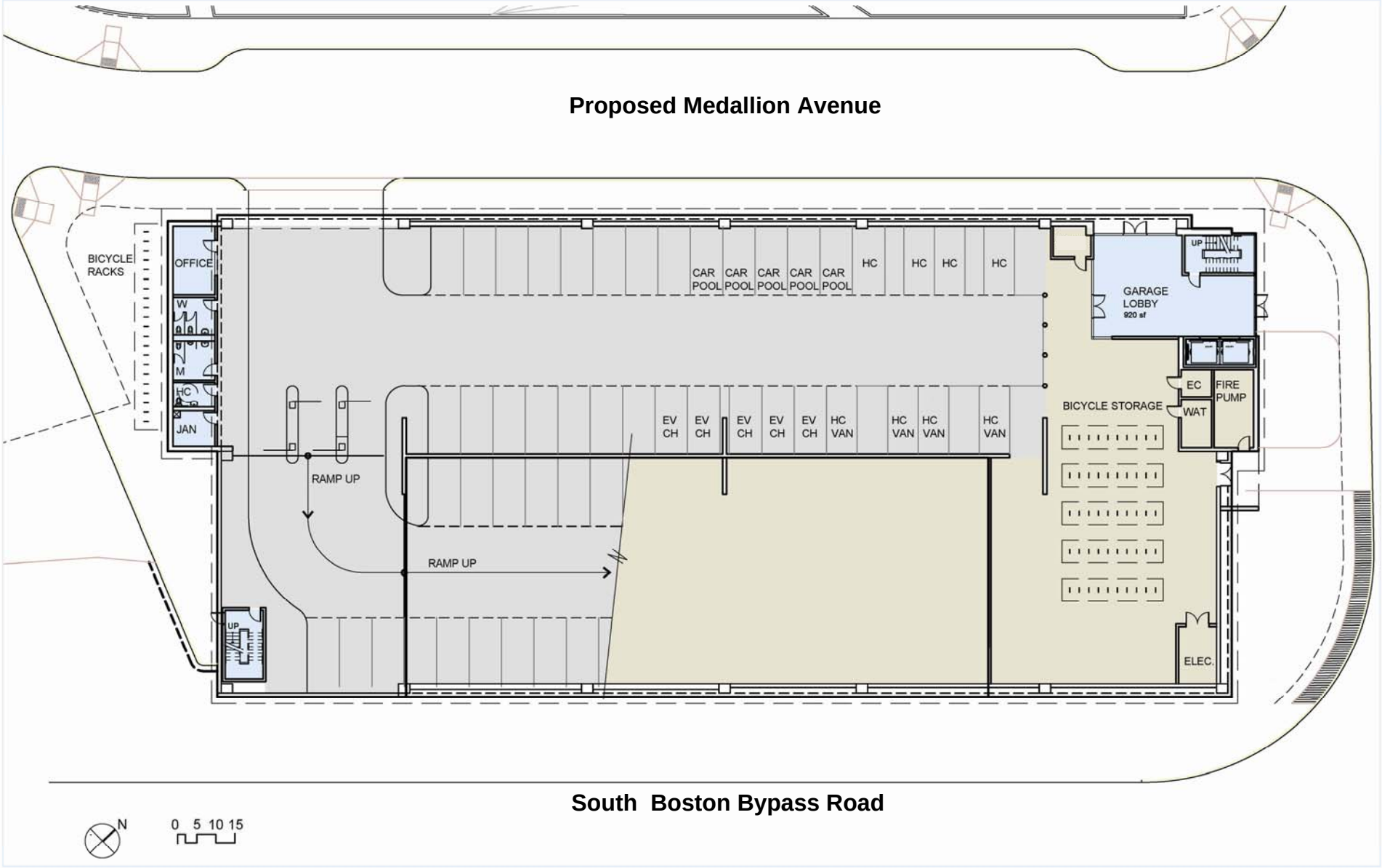
ADD Inc ARCHITECTURE + DESIGN

Figure A-10

OFFICE BUILDING PERSPECTIVE: FROM ARTISTS FOR HUMANITY



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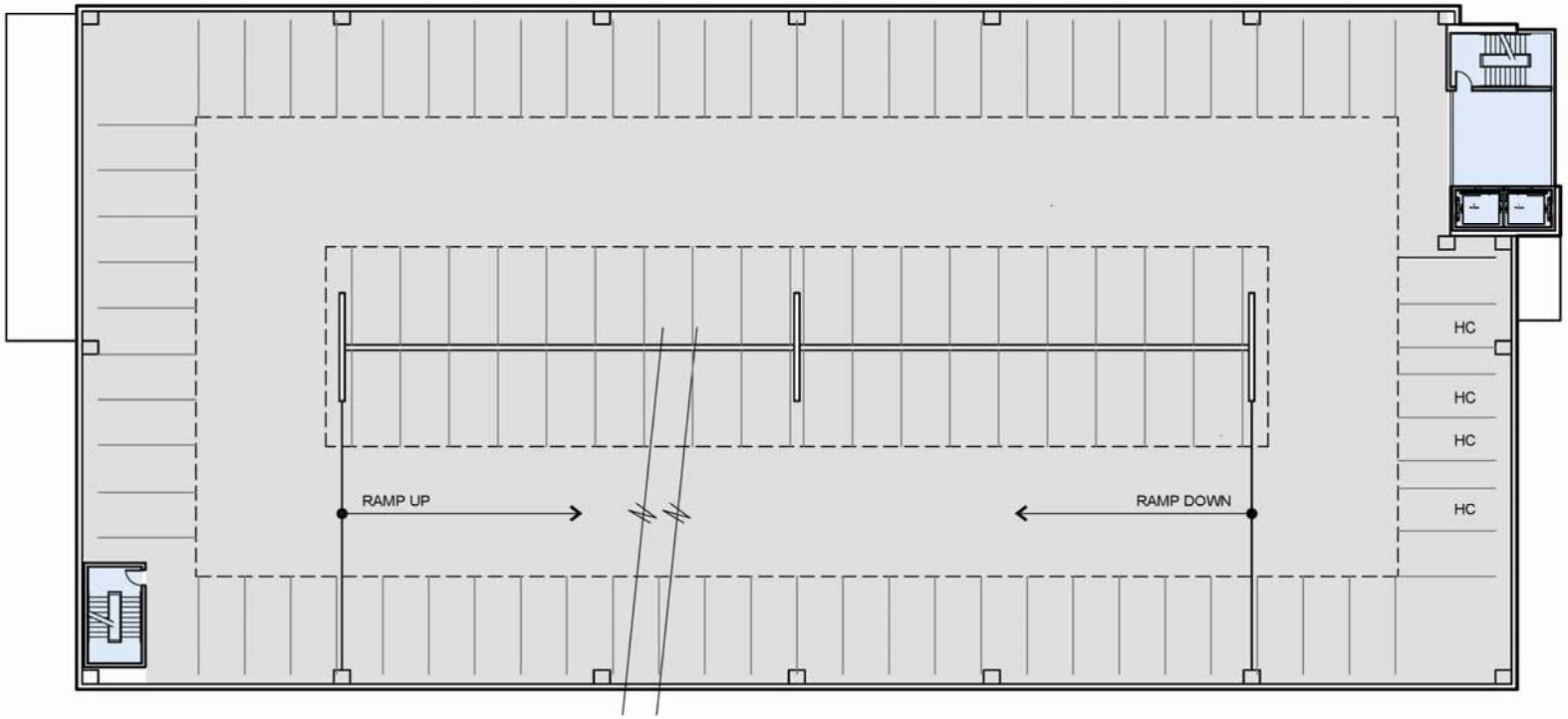
SPALDING TOUGIAS ARCHITECTS, INC.

Figure A-11

CHANNEL CENTER GARAGE GROUND FLOOR PLAN


HC
HC
HC
HC
RAMP UP
RAMP DOWN

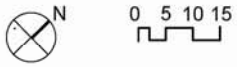

N
0 5 10 15

Figure A-13

CHANNEL CENTER MEDALLION AVENUE ELEVATION

Figure A-14

CHANNEL CENTER GARAGE PROPOSED RICHARDS STREET ELEVATION

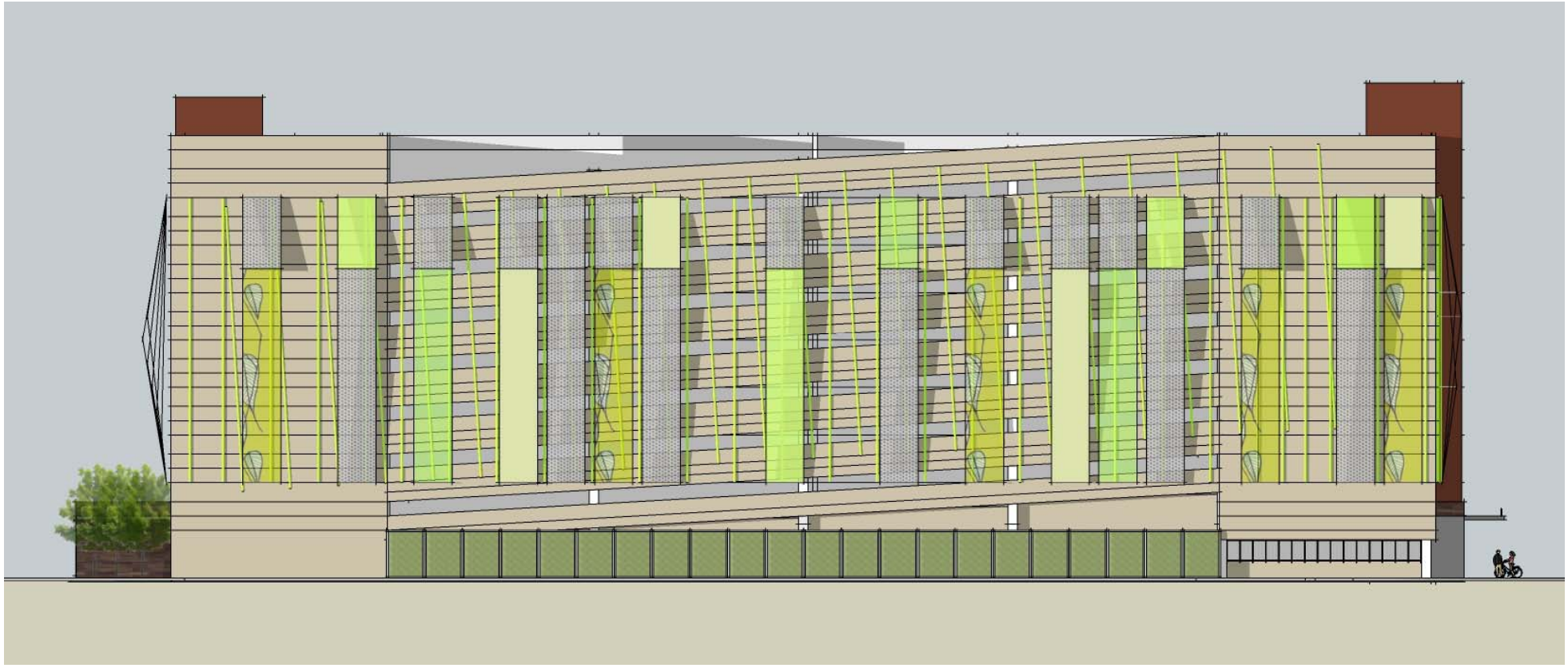
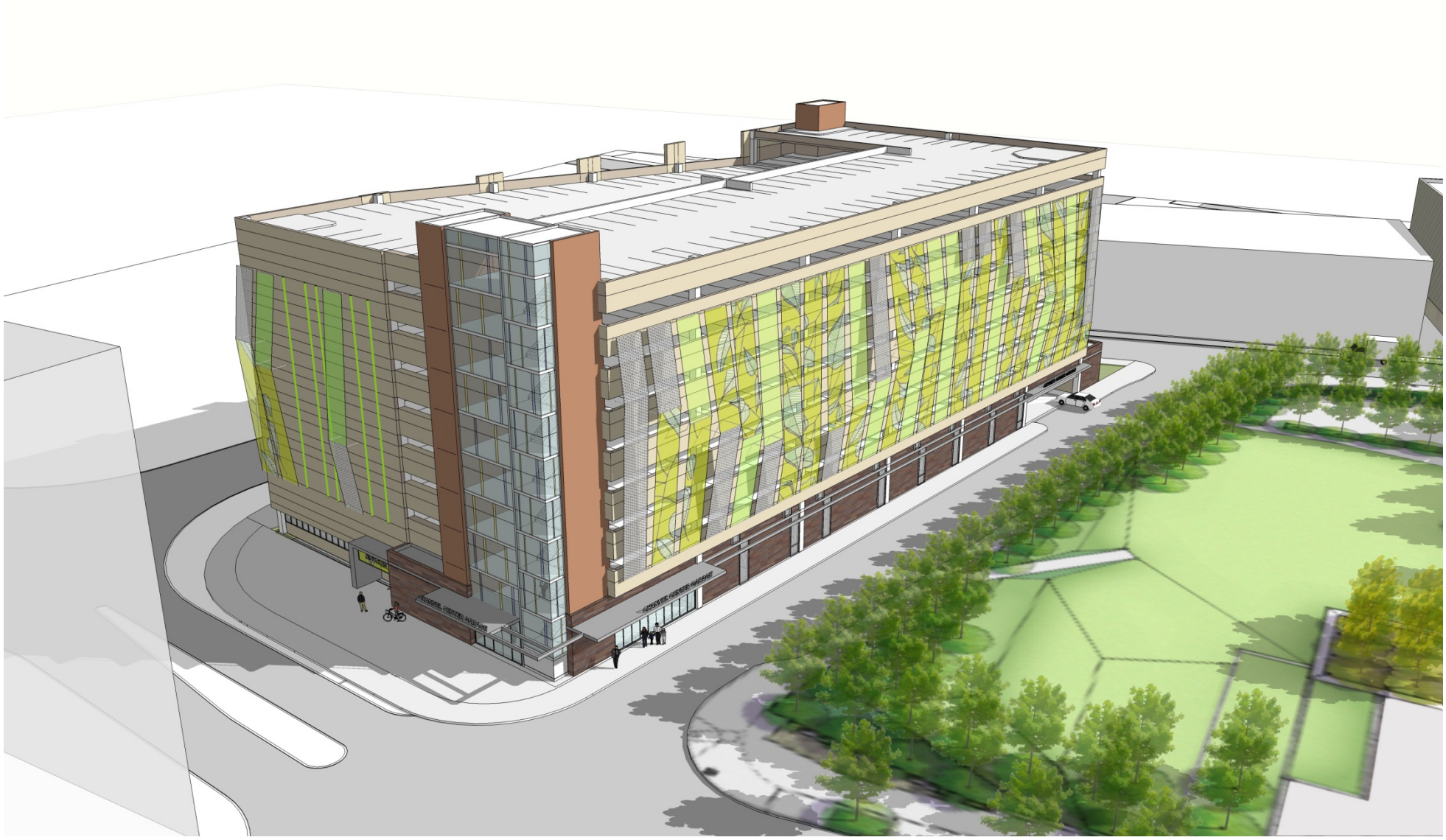


Figure A-15

CHANNEL CENTER GARAGE SOUTH BOSTON BYPASS ROAD ELEVATION

Figure A-16

CHANNEL CENTER GARAGE WEST FIRST STREET ELEVATION



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SPALDING TOUGIAS ARCHITECTS, INC.

Figure A-17

CHANNEL CENTER GARAGE MASSING VIEW 1

One Channel Center **Commonwealth Ventures**

SPALDING TOUGIAS ARCHITECTS, INC.

Figure A-18

CHANNEL CENTER GARAGE MASSING VIEW 2

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HALVORSON DESIGN PARTNERSHIP

Figure A-19

New Park Plan

One Channel Center **Commonwealth Ventures**

HALVORSON DESIGN PARTNERSHIP

Figure A-20

Iron Street Park Plan

Appendix B

Parcel Plan


NOTES:
1. IRON STREET, MT. WASHINGTON WAY, RICHARDS STREET AND MEDALLION AVENUE ARE PRIVATE STREETS OPEN TO PUBLIC TRAVEL.
2. FOR CLARITY PURPOSES, EXISTING EASEMENTS ARE NOT SHOWN.
3. PROPOSED BUILDING LOT DIMENSIONS ARE TO BE CONSIDERED APPROXIMATE ONLY.
4. PROPOSED SIDEWALKS ARE OUTSIDE OF THE PROPOSED BUILDING LOT AREAS.
REFERENCES
UNRECORDED PLAN:
PLAN ENTITLED "PLAN OF LAND, 76 MIDWAY STREET & 169 A STREET BY SURVEYING AND MAPPING CONSULTANTS, INC. DATED AUGUST 21, 1996.
SUFFOLK COUNTY REGISTRY OF DEEDS
BOOK 2154 PAGE 140
BOOK 2439 PAGE 520
BOOK 2820 PAGE 298
BOOK 8576 PAGE 468
BOOK 8848 PAGE 461
BOOK 9130 PAGE 550
BOOK 18914 PAGE 257
BOOK 25059 PAGE 246
BOOK 25059 PAGE 248
BOOK 25059 PAGE 256
BOOK 25059 PAGE 266
BOOK 25077 PAGE 295
BOOK 28981 PAGE 101
BOOK 28981 PAGE 102
BOOK 28981 PAGE 103
BOOK 28981 PAGE 104
BOOK 28981 PAGE 105
BOOK 28981 PAGE 106
BOOK 30034 PAGE 188
BOOK 30576 PAGE 262
BOOK 30576 PAGE 269
BOOK 30576 PAGE 293
BOOK 31662 PAGE 174
BOOK 31662 PAGE 175
BOOK 31662 PAGE 176
BOOK 31662 PAGE 177
BOOK 33801 PAGE 043
BOOK 35801 PAGE 268
BOOK 36626 PAGE 165
BOOK 41396 PAGE 334
BOOK 41582 PAGE 049
BOOK 42749 PAGE 063
BOOK 43013 PAGE 344
BOOK 43014 PAGE 001
BOOK 47327 PAGE 264
BOOK 47891 PAGE 200
REFERENCES CONTINUED:
PLAN 915 OF 2007 CONSOLIDATION PLAN OF LAND
PLAN 054 OF 2008 SUBDIVISION PLAN OF LOT 1
PLAN 406 OF 2010 ABANDONMENT AND APPROVAL PLANS
PLAN 402 OF 2011
PLAN 403 OF 2011
CITY OF BOSTON ENGINEERING DEPARTMENT
FIELD BOOK 667 PAGE PAGES 134–141
L PLAN 8548
PLAN ENTITLED: PROPOSED STREETS ON LAND OF BOSTON WHARF COMPANY (PLAN A–186) DATED 9/1/1896
BOOK 30576 PAGE 262
A (VARIABLE WIDTH – PUBLIC) STREET
(L–8548)
RESERVED FOR REGISTRY USE
N 38°09'34" E 362.97'
N 45°08'04" E 23.98'
POTENTIAL A STREET WIDENING (APPROXIMATE)
ADDITIONAL LAND PARCEL
LOT 1 – (CROSS–HATCHED) PROPOSED AREA TO BE PURCHASED FROM USPS = 148,512 S.F.
PARCEL 2
N/F UNITED STATES OF AMERICA
UNITED STATES POSTAL SERVICE
BOOK 5786 PAGE 481 & 487
PROPOSED "PARK PARCEL" AREA (DOES NOT INCLUDE SURROUNDING SIDEWALKS) = 68,800± S.F.
WEST FIRST STREET (PUBLIC – 40' WIDE) (PROPOSED WIDENING TO 50' WIDE)
CURB TO TIE INTO EX. WALK
N 57°10'51" W
354.27'
PROPOSED MEDALLION AVENUE (50' WIDE)
EXISTING PROPERTY LINE
S 51°47'46" E
151.10'
RICHARDS STREET
(40' WIDE EXISTING)
(52' WIDE PROPOSED)
S 45°08'04" W 20.15'
PROPOSED A STREET TAKING AREA (4,100± S.F.)
N 45°12'18" E 117'±
N 38°13'01" E 83'±
L=54'±
R=32'
OFFICE BUILDING PARCEL
PROPOSED LOT 15
AREA WITHIN PROPOSED PROPERTY LINES =87,598 S.F.
APPROX. AREA OF BUILDABLE LOT (DOTTED HATCH) (DOES NOT INCLUDE PROPOSED A STREET TAKING, OR SURROUNDING SIDEWALKS) = 57,400± S.F.
N 51°47'46" W 213'±
S 44°51'56" E 272'±
L=24.65'
R=17.00'
EXISTING SIDELINE OF MEDALLION
S 45°08'04" W 187.89'
S 45°08'04" W 283.82'
L=6.29'
R=10.50'
CHB=27°58'58"
CH=6.19'
N 45°08'04" E
28.39'
N 44°51'56" W 136.40'
PROPOSED LOT 16
AREA=4,716 S.F.
137.21'
S 44°50'02" E
34.25'
S 43°26'33" W
1.37'
IRON STREET (42' WIDE – PRIVATE)
S 44°51'56" E 161.78'
7 STORY BRICK
EXISTING LOT 4
N/F CHANNEL CENTER HOLDINGS VAF, LLC
BOOK 41396 PAGE 334
CHANNEL (50' WIDE PRIVATE) CENTER STREET
LOT 13
AREA=11,393 S.F.
N/F 5CC LLC
BOOK 48858 PAGE 044
6 STORY BRICK
3 STORY BRICK
7 STORY BRICK
LOT 12
AREA=30,613 S.F.
N/F CHANNEL CENTER HOLDINGS VAF, LLC
BOOK 41396 PAGE 334
MEDALLION AVENUE
(25' WIDE – PRIVATE)
PROPOSED MEDALLION AVENUE (45' WIDE)
65.11'
N 45°08'04" E
25.00'
S 44°51'56" E
L=36.66'
R=26.00'
N/F AMERICAN PREMIER UNDERWRITERS, INC. AREA=76 SQ. FT.
S 35°39'41" E 77.45'
L=34.09'
R=47.00'
PROPOSED RICHARDS STREET (56' WIDE)
PROPOSED "GARAGE PARCEL" AREA (DOES NOT INCLUDE SURROUNDING SIDEWALKS) = 41,015 S.F.
AREA UP TO CENTERLINE OF MEDALLION AVENUE AND NORTHERLY SIDE LINE OF RICHARDS STREET = 60,000± S.F.
S 55°31'21" W 364.74'
N/F COMMONWEALTH OF MASSACHUSETTS
SOUTH BOSTON BYPASS ROAD
(PUBLIC – VARIABLE WIDTH)
(FORMERLY HAUL ROAD)
STATE HIGHWAY LAYOUT NUMBERS 6863, 7366
PARCEL A
N/F UNITED STATES OF AMERICA
UNITED STATES POSTAL SERVICE
BOOK 9130 PAGE 550
N/F UNITED STATES OF AMERICA
UNITED STATES POSTAL SERVICE
BOOK 43652 PAGE 194
REVISED APRIL 18, 2012:
REVISED SOUTHWESTERLY INTERSECTION OF IRON STREET AND MEDALLION AVENUE
REVISED APRIL 16, 2012:
REVISED RADIUS AND TANGENT LENGTHS ON RICHARDS STREET
I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.
PAUL R. FOLEY, PLS (MA #48355)
DATE
PARCEL PLAN
OFFICE PARCEL & ADDITIONAL LAND
BOSTON, MASS.
(SOUTH BOSTON DISTRICT)
SCALE: 1"=30'
MARCH 19, 2012
HARRY R. FELDMAN, INC.
LAND SURVEYORS
112 SHAWMUT AVENUE
PHONE: (617)357–9740
BOSTON, MASS. 02118
www.harryrfeldman.com
FELDMAN
Professional Land Surveyors
GRAPHIC SCALE
RESEARCH DN/MT
FIELD CHIEF CB
CHECKED BY
APPROVED
SHEET NO. 1 OF 1
CALC RGA/PRF
CADD RGA/PRF
FIELD CHECKED
CRD FILE
JOB NO. 13323
FILENAME: S:\PROJECTS\13300s\13323\13323–SUB2–Updated_4–18–12.dwg

Figure B-1

Appendix C

Project Team

APPENDIX C

Project Team Members

Proponent:	Channel Center Holdings VAF, LLC Commonwealth Ventures 10 Channel Center Street Boston, MA 02210 617/423-5273 *Richard A. Galvin, Principal*
Architect for Garage:	Spalding Tougias Architects, Inc. 241 A Street Boston, MA 02210 617/542-4522 *Cheryl Tougias, Principal*
Architect for Office Building:	ADD Inc 311 Summer Street Boston, MA 02210 617/234-3138 *James J. Gray, Principal*
Landscape Architect:	Halvorson Design Partnership 161 Massachusetts Avenue Boston MA 02115-0620 617/536-0380 *Robert J. Adams, ASLA*
Environmental and Permitting Consultant:	Epsilon Associates 3 Clock Tower Place, Suite 250 Maynard, MA 01754 978/461-6226 *Laura Rome, Principal*
Legal Counsel to Holdings:	Bowditch & Dewey, LLP One International Place Boston, MA 02110 508/926-3352 *Mary T. Feeney, Esq.*

Legal Counsel to Commonwealth Ventures:	Edwards Wildman Palmer LLP 111 Huntington Avenue Boston, MA 02199 617/239-0225 *Rebecca A. Lee, Esq.* *Emily K. Yu, Esq.*
Civil Engineer:	Nitsch Engineering 186 Lincoln Street Boston, MA 02111 617/338-0063 *John Schmid, P.E.* *Deborah Katzman, P.E.*
Mechanical, Electrical and Plumbing Engineer:	Commercial Construction Consulting 313 Congress Street Boston, MA 02210 617/330-9390 *Jay Murray, LEED AP*
Transportation Engineer:	Howard/Stein-Hudson 38 Chauncy Street Boston, MA 02111 617/482-7080 *Guy Busa, P.E.*