

PUBLIC NOTICE

The Boston Redevelopment Authority d/b/a the Boston Planning and Development Agency ("BRA"), pursuant to Article 80 of the Boston Zoning Code ("Code"), hereby gives notice that a Project Notification Form ("PNF") was filed by QMG LaGrange, LLC (the "Proponent") on January 18, 2017 for the 47-55 LaGrange Street project (the "Project") in the Midtown Cultural District of Boston.

The Project proposes to develop an approximately 8,759 square foot site at 47-55 LaGrange Street in the Midtown Cultural District of Boston. The existing site, located at the northeastern corner of LaGrange Street and Tamworth Street consists of a surface parking lot. The site will be developed into an approximately 157,000 square foot residential building containing up to 176 units and 20 parking spaces.

The Proponent is seeking the issuance of a Scoping Determination by the BRA pursuant to Section 80B-5. The BRA in the Scoping Determination for such PNF may waive further review pursuant to Section 80B-5.3(d), if, after reviewing public comments, the BRA finds that such PNF adequately describes the Proposed Project's impacts.

The PNF may be reviewed in the office of the Secretary of the BRA, Room 910, Boston City Hall, 9th Floor, Boston MA 02201 between 9:00 AM and 5:00 PM, Monday through Friday, except legal holidays. Public comments on the PNF, including the comments of public agencies, should be submitted in writing to Casey Hines, Senior Project Manager, BRA, at the address stated above, or via email at Casey.A.Hines@boston.gov, within thirty (30) days of the publication of this notice or no later than February 20, 2017 by 5:00 PM.

BOSTON REDEVELOPMENT AUTHORITY
Teresa Polhemus
Executive Director/Secretary

PROJECT NOTIFICATION FORM

47-55 LaGrange Street



Submitted to:
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Submitted by:
QMG LaGrange, LLC
133 Pearl Street
Boston, MA 02110

Prepared by:
Epsilon Associates, Inc.
3 Mill & Main Place, Suite 250
Maynard, MA 01754

In Association with:
Stantec Architecture
The Levi-Nielsen Company, Inc.
Dalton & Finegold, LLP
Howard Stein Hudson
Nitsch Engineering
Nauset Strategies

January 18, 2017

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Chapter 1.0

General Information

1.0 GENERAL INFORMATION

1.1 Introduction

QMG LaGrange, LLC (the Proponent), proposes to develop an approximately 8,759 square foot (sf) site (the Project site) at 47-55 LaGrange Street in the Midtown Cultural District of Boston. The existing site, located at the northeastern corner of LaGrange Street and Tamworth Street consists of a surface parking lot. The site will be developed into an approximately 157,000 sf residential building containing up to 176 units and 20 parking spaces (the Project).

The Project site is located in an area that has recently welcomed many new residential projects, bringing more population diversity and retail venues to the neighborhood. The Project will continue this pattern by completely transforming the existing, underutilized site and providing significant improvements to the public realm. Large light sculptures will hang from the proposed building over both LaGrange and Tamworth streets to signal the presence of the Project and activate the street. In addition to the benefits to the public realm, the Project will also provide much-needed downtown housing (including new affordable housing), construction and permanent jobs, and increased tax revenues for the City.

Because the Project includes the construction of more than 50,000 square feet of gross floor area in a Downtown District, it is subject to Large Project Review under Section 80B of the Boston Zoning Code. This Project Notification Form (PNF) is being submitted to the Boston Planning & Development Agency (BPDA) formerly known as the Boston Redevelopment Authority (BRA) to initiate Large Project Review.

1.2 Project Identification and Team

The Proponent has enlisted a team of professional Boston-based planners, engineers, attorneys, architects and consultants to assist with the development of the proposed Project. The Project and the Project Team are identified below.

Name /Location:	47-55 LaGrange Street
Proponent:	QMG LaGrange, LLC 133 Pearl Street Boston, MA 02110 (617) 292-0101 Steve Goodman John Matteson Fan Du

Architect:	Stantec Architecture 311 Summer Street Boston, MA 02210 (617) 234-3100 James Gray B.K. Boley Aeron Hodges
Development Consultant:	The Levi-Nielsen Company, Inc 171 Gray Street Amherst, MA 01002 (413) 575-8008 Scott Nielsen
Legal Counsel:	Dalton & Finegold, LLP 183 State Street, 5 th Floor Boston, MA 02109 (617) 936-7777 Jared Eigerman, Esq.
Permitting Consultant:	Epsilon Associates, Inc. 3 Mill & Main Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Cindy Schlessinger Talya Moked
Transportation and Parking Consultant:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Guy Busa Michael Santos
Civil Engineer:	Nitsch Engineering 2 Center Plaza, Suite 430 Boston, MA 02108 (617) 338-0063 Gary Pease John Schmid Brad Staples

Community Outreach: Nauset Strategies
One Design Place, Suite 638
Boston, MA 02210
(617) 523-3097
Michael K. Vaughan

1.3 Public Benefits

The Project will provide many public benefits for the surrounding neighborhood and the City of Boston as a whole, both during construction and on an ongoing basis upon its completion.

Smart Growth/Transit-Oriented Development

The Project is consistent with smart-growth and transit-oriented development principles. Within one block of the MBTA's Boylston Street (Green Line) subway station, and two blocks of the MBTA's Chinatown (Orange Line and Silver Line) subway station, the Project supports the objectives of smart growth; specifically, new developments at existing nodes of excellent transit routes.

Improved Street and Pedestrian Environment

The Project will activate an underutilized site, long used as surface parking, with enhanced streetscapes.

Inclusionary Affordable Housing

The Project is subject to the Mayor's Executive Order regarding inclusionary affordable housing, dated February 29, 2000, as amended, as well as the Inclusionary Development Policy (IDP). Thirteen percent (13%) of the up to 176 dwelling units in the Project will be IDP units.

Sustainable Design/Green Building

Energy conservation and other sustainable design measures are an integral component of the proposed Project. The Project will employ energy and water efficient features for mechanical, electrical, architectural, and structural systems, assemblies, and materials, where feasible. Sustainable design elements relating to building energy management systems, lighting, recycling, conservation measures, local building materials, and clean construction vehicles will be included, to the greatest extent practicable. The Proponent is committed to building a LEED certifiable project with a target of the Silver level, incorporating sustainable design features into the Project to preserve and protect the environment.

Increased Employment

The Project will create approximately 150 to 200 construction jobs and approximately 10 permanent jobs once it is occupied.

New Property Tax

The Proponent anticipates that, following lease up, the Project will generate approximately \$1.1 million in net additional tax revenues for the City of Boston, based on the Project's estimated hard construction cost of \$70 million and current property tax rates for residential buildings.

Urban Design

The Project will continue the ongoing transformation of the former "Combat Zone" into the Midtown Cultural District, which is intended to include a new residential neighborhood downtown. The site has long been used as a surface parking lot, attracting unauthorized and undesirable activities. The Project will fill in this gap in the streetwall, connect the residential lobby visually to the streetscape through full height exterior windows, and enhance public safety by increasing nighttime lighting.

The Project will also introduce high-quality architecture to the site. The Project massing will be easily distinguished, but at a lower height than most neighboring high rises, and the massing design will complement the existing skyline created by the adjacent buildings.

1.4 Regulatory Controls and Permits

1.4.1 Midtown Cultural District

Based on Zoning Map 1A (Midtown Cultural District) appended to the Boston Zoning Code¹, the site is located within the General Area of the Midtown Cultural District (Article 38). The site is not, however, located within one of the "protection areas" of the Midtown Cultural District established to protect public open spaces or residential neighborhoods abutting the protection areas, or the concentration of historic buildings within the protection areas. (Section 38-5.) Nor is the site within one of the Housing Priority Areas of the District. (Section 38-18.2, citing Map 1A.)

The Midtown Cultural District was deleted from the Downtown Interim Planning Overlay District (Article 27D) on the effective date of Article 38, which was March 20, 1989. 9 Section 38-4.) Where conflicts between Article 38 and the rest of the Boston Zoning Code

¹ All references in this Section 1.4 to "Articles" and "Sections" refer to the Boston Zoning Code, unless indicated otherwise

exist, the provisions of Article 38 must govern. (*Id.*) Except where specifically indicated in Article 38, the provisions of Article supersede Sections 13-1, 13-2, and 13-4, and Articles 8 and 14 through 24, of the Boston Zoning Code for the Midtown Cultural District. (*Id.*)

Use Regulations

The Project will result in a multifamily building of at least four dwelling units, which constitutes multi-family dwelling use (Section 2A-1), as well as enclosed parking for approximately 20 cars accessory to such residential use. Multifamily residential use above the ground level, as well as accessory residential parking space are both permitted by right. (Sections 38-18.5(a) and 38-18.5(n)(i).). However, the Project's ground-level residential use will require a conditional use permit from the Boston Board of Appeal, in place of the "Ground Level Uses" and "Cultural Uses" normally required there. (Section 38-18.1, citing Appendix B to Article 38.) Although (as discussed below) the Project will both exceed a building height of 125 feet and a floor area ratio of eight, it will not include a sufficient gross floor area of non-Residential Uses to require the inclusion of day care facilities. (Section 38-18.4.)

Bulk and Dimensional Requirements

The maximum floor area ratio (FAR) permitted by right within the General Area of the Midtown Cultural District for projects undergoing Large Project Review is 10.0. (Section 38-7.) Based on the Project's approximately 157,000 square feet of gross floor area (GFA), and the lot size of approximately 8,759 square feet, the Project will result in an FAR of approximately 17.9, which is above the normal limit, and so an exception, granted by the Boston Board of Appeal, is required. (Sections 38-7.2 and 6A-1.)

The maximum building height permitted by right within the General Area of the Midtown Cultural District for projects undergoing Large Project Review is 155 feet. (Section 38-7.) The new building will have a building height of approximately 240 feet, which is above the normal limit, and so a variance, granted by the Boston Board of Appeal, is required. (Sections 38-18.1 and 7-1.)

The "Street Wall"² of any proposed project in the Midtown Cultural District must be built: (a) to be coextensive with at least 80% of the "Existing Building Alignment" of the block on which the proposed project fronts, established pursuant to Section 18-2; or (b) to a depth from the street line equal to that of at least 80% of the Existing Building Alignment of either block adjacent to the block on which the proposed project is located, if there is no Existing Building Alignment of such block. (Section 38-19.1.) Moreover, the "Street Wall Height"

² Street Wall means the exterior wall or portion of the exterior wall of a proposed project that faces a street on which such proposed project is located, and is below the Street Wall Height, determined pursuant to Section 38-18.2. (Article 38, Appx. E.)

of proposed projects within the Midtown Cultural District must not exceed 90 feet. (Section 38-19.2) The Project maintains the required Street Wall continuity, but its Street Wall height will exceed 90 feet, and so an exception, granted by the Boston Board of Appeal, is required. (*Id.* and Section 6A-1.).

The Sky Plane Setback provisions of Section 38-19.4(a) do not apply to the Project, because the maximum possible gross floor area for any floor of the Project would be less than 9,000 sf. (Section 38-19.4(a).)

Off-Street Parking

Based on Zoning Map 1A, the site is also located within a Restricted Parking Overlay District, within which off-street parking facilities accessory or ancillary to any use other than residential uses requires a conditional use permit from the Boston Board of Appeal. (See Section 3-1A(c).) The 20 parking spaces proposed as part of the Project will be accessory to residential uses, and so a conditional use permit is not required. In the Midtown Cultural District, on-site parking is never required, even for residential uses. (Section 38-22.) However, as noted above, the proposed accessory residential parking use is permitted by right. (Section 38-18.5(n)(i).)

Off-Street Loading

In the Midtown Cultural District, the provision and design of off-street loading facilities for the use of any structure or land that is subject to Large Project Review must be determined through such review. (Section 38-24.)

Design Review for Signs

Based on Zoning Map 1A (Midtown Cultural District) appended to the Boston Zoning Code, and Appendix F to Article 38, the site is also located within the Downtown Crossing District. All signs within the Downtown Crossing District, are subject to design review through the Urban Design Component of Large Project Review (Section 80B). Except to the extent that sign requirements are established through Large Project Review, all signs included in the Project will comply with the sign regulations provided in Section 38-20B.

1.4.2 BCDC Schematic Design Review (Article 28)

The Boston Civic Design Commission (BCDC) must review any project exceeding 100,000 square feet of gross floor area, or any project determined by BCDC to be of “special urban design significance.” (Section 28-5.) As noted above, the Project would have a gross floor area of approximately 157,000 sf, and so it requires schematic design review by BCDC. The Proponent looks forward to working with the BCDC regarding the design of the Project.

1.4.3 *Barrier-Free Access (Article 30)*

The purposes of Article 30 of the Boston Zoning Code (Barrier-Free Access) are to ensure that physically handicapped persons have full access to buildings open to the public; to afford such persons the educational, employment, and recreational opportunities necessary to all citizens; and to preserve and increase the supply of living space accessible to physically handicapped persons. (Section 30-1.) Because the Project includes multifamily residential use of 12 or more dwelling units, it is subject to the provisions Article 30. (Section 30-3.) The Project is designed to comply fully.

1.4.4 *Groundwater Conservation Overlay District (Article 32)*

Based on Zoning Map 1A (Midtown Cultural District), the site is also located within Groundwater Conservation Overlay District (GCOD) (Article 32). The purposes of the Groundwater Conservation Overlay District are: to prevent the deterioration of and, where necessary, promote the restoration of, groundwater levels in the city of Boston; to protect and enhance the city's historic neighborhoods and structures, and otherwise conserve the value of its land and buildings; to reduce surface water runoff and water pollution; and to maintain public safety. (Section 32-1.) Due to the Project's location within a Groundwater Conservation Overlay District, and the scope of the Project, a storm water infiltration system for the Project must be approved by conditional use permit by the Boston Board of Appeal. (Sections 32-4 and 32-5.)

1.4.5 *Green Buildings (Article 37)*

The purposes of Article 37 (Green Buildings) are: to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston. (Section 37-1.) The Project is subject to the requirements of Article 37 because it is subject to Large Project Review (Section 80B). (Section 37-3.) The Project will comply. As noted above, the Proponent is committed to building a LEED certifiable project with a target of the Silver level, incorporating sustainable design features into the Project to preserve and protect the environment.

1.4.6 *Boston Common Shadow Impact*

Pursuant to state law, no permit granting authority shall take any action that would authorize the construction of any structure that would cast a new shadow on the Boston Common. (Mass. Acts of 1990, Chapter 362.) However, such prohibition does not apply to actions authorizing, among other things, any structure within the City of Boston's Midtown Cultural District that casts no new shadow for more than two hours from 8:00 a.m. through 2:30 p.m. on any day from March 21 to October 21, inclusive, in any calendar year, on any area of the Boston Common. (*Id.*) Notwithstanding the foregoing, authorization may be granted by a permit-granting authority for a structure that casts a new shadow on the Boston Common beyond the aforementioned two-hour period if the area shaded at the end of such

two-hour period does not exceed one acre, such area to be calculated as the sum of the areas of new shadow cast at any time beyond the two-hour limit by all structures in the Midtown Cultural District approved by the Boston Board of Appeal after March 20, 1989. (Id.) The Project will cast no new shadow on any area of the Boston Common during the regulated period.

1.4.7 Inclusionary Affordable Housing

The Project is subject to the Mayor's Executive Order regarding inclusionary affordable housing, dated February 29, 2000, as amended, as well as the BPDA's Inclusionary Development Policy (IDP). Thirteen percent of the dwelling units in the Project will be set aside as IDP units.

1.4.8 Boston Public Improvement Commission

Any encroachments of a permanent or temporary nature over, under, or within the City of Boston's public ways require approval by the Boston Public Improvements Commission (PIC). (Boston Municipal Code § 8-7.) Additionally, acceptance of new streets, privatization of public ways, and specific repair of existing streets and sidewalks within the Project will be subject to PIC review. (Id.) The Project may require PIC to approve the necessary orders, as well as a license, maintenance, and indemnification (LMI) agreement, to discontinue air space above the public's rights of way over LaGrange and/or Tamworth streets, to make repairs to sidewalks in those rights of way, and to erect and maintain an entry canopy for the Project over a portion of public rights-of-way

1.4.9 Boston Water and Sewer Commission

The Boston Water and Sewer Commission's (BWSC's) General Service Application (GSA) is required: to construct or change the size or location of a water service pipe or fire pipe connecting to a public water main; to construct a new building sewer or building storm drain; or to reconstruct or modify an existing building sewer or storm drain that connects to a BWSC sanitary sewer, combined sewer or storm drain. (See BWSC Water Use Regulations, BWSC Sewer Regulations, and BWSC General Services Application Procedures.) The Project is likely to require BWSC to approve new water and sewerage connection, including a GSA.

1.5 Legal Information

1.5.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments in effect or legal actions pending that would prevent the Proponent from undertaking the Project.

1.5.2 History of Tax Arrears on Property

No property owned in the City of Boston by the Proponent is in tax arrears to the City of Boston.

1.5.3 Evidence of Site Control/Nature of Public Easements

The Proponent holds fee simple title to the site under that certain Confirmatory Deed recorded on August 8, 2016, and recorded at the Suffolk County Registry of Deeds, in Book 56563, at Page 149. There are no public easements encumbering the site.

1.6 Anticipated Permits and Approvals

Table 1-1 Anticipated Permits and Approvals sets forth a preliminary list of permits and approvals from governmental agencies and authorities that are expected to be required for the Project. It is possible that only some of these permits and approvals will be required, or that additional permits or approvals will be required.

Table 1-1 Anticipated Permits and Approvals

Agency	Permit, Review or Approval
<i>Federal Agencies</i>	
U.S. Environmental Protection Agency	National Pollution Discharge Elimination System (NPDES)
<i>State Agencies</i>	
Massachusetts Water Resources Authority	Construction Dewatering Permit
Department of Environmental Protection, Division of Air Quality Control	Notification prior to construction
Boston Board of Appeal	Conditional use permit for multi-family residential use at ground level Conditional use permit for storm water infiltration system Exceptions for maximum floor area ratio and street wall height Variance for maximum building height
Boston Civic Design Commission	Schematic Design Review
Boston Committee on Licenses/Public Safety Commission	Parking Garage Permit Flammable Storage License (parking garage)
Boston Fire Department	Approval of Fire Safety Equipment
Boston Inspectional Services Department	Building and Occupancy Permits
Boston Planning & Development Agency	Large Project Review (Section 80B) Cooperation Agreement Boston Residents Construction Employment Plan Affordable Housing Agreement and Restriction

Table 1-1 Anticipated Permits and Approvals (Continued)

Agency	Permit, Review or Approval
<i>State Agencies</i>	
Boston Public Improvement Commission	Vertical Discontinuance (cornices and lighting) Grant of Location (utility equipment) Projection License (canopy) Specific Repairs (sidewalk) License, Maintenance, and Indemnification Agreement
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan Street and Sidewalk Occupant Permits
Boston Water and Sewer Commission	Water and Sewer Connection Permits General Service Application Site Plan Review Infiltration and Inflow (I&I) Fee

1.7 Public Participation

As part of its planning efforts, the Proponent has reached out to nearby residents and representatives of numerous neighborhood groups, elected officials, and public agencies. The formal community outreach begins with the filing of this PNF.

The Proponent continues to be committed to a comprehensive and effective community outreach and will continue to engage the community to ensure public input on the Project. The Proponent looks forward to working with the BPDA and city agencies, local officials, neighbors, and others as the design and review processes move forward.

1.8 Schedule

It is anticipated that construction will commence in the fourth quarter of 2017. Once begun, construction is expected to last approximately 26 months and finish in the fourth quarter of 2019.

Chapter 2.0

Project Description

2.0 PROJECT DESCRIPTION

2.1 Existing Site and Area Context

The Project site is an approximately 8,759 square foot parcel (including Lowell Court)¹ located at the northeastern corner of LaGrange Street and Tamworth Street in the Midtown Cultural District neighborhood of Boston (see Figure 2-1). The Project site currently contains a surface parking lot which is leased and operated by a third party for daily and hourly public parking. See Figure 2-2 for existing conditions on the site.

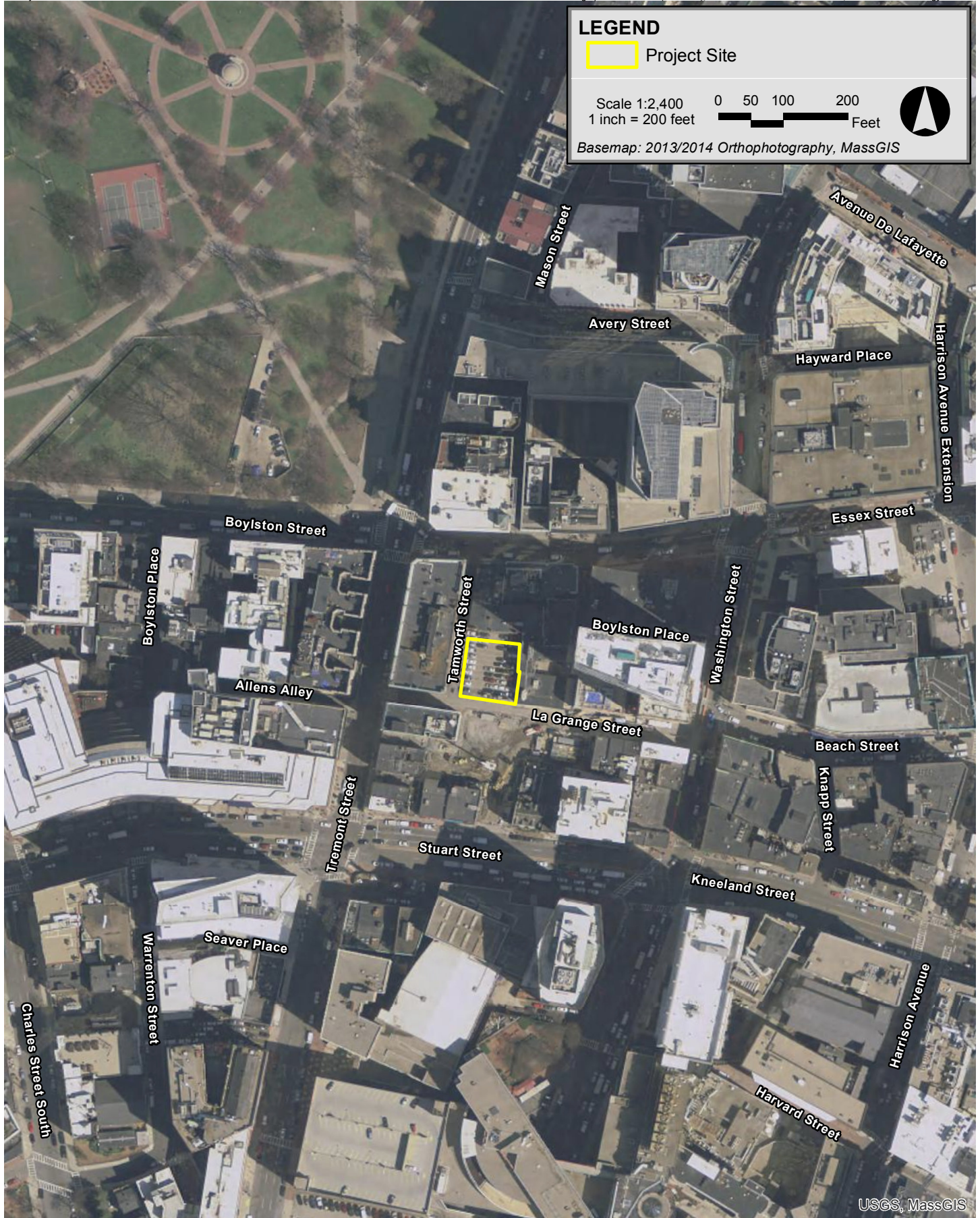
The Project site is located in the Midtown Cultural District, and is at the confluence of a diverse collection of neighborhoods including Chinatown, Tufts Medical Area, and Downtown Crossing. The site is also in close proximity to the Boston Common, providing residents access to the one of the most active public parks in the city. Situated in the Midtown Cultural District, the Project is within walkable distance to many theaters, restaurants, and other cultural establishments. Recently, the area has welcomed many new residential projects, bringing more population diversity and retail venues to the neighborhood. Two of these projects (Kensington Place and 45 Stuart Street) are adjacent to the Project site

The Project site is proximate to a significant number of jobs and amenities, and is just a short walk from several Massachusetts Bay Transportation Authority (MBTA) stations, including Boylston Street Station with service on the Green Line, Chinatown Station and Tufts Medical Center with service on the Orange Line. Several bus routes, including the Silver Line, are also nearby.

2.2 Project Description

The Project, as shown in Table 2-1, comprises an approximately 157,000 sf, 21-story residential building that includes up to 176 units. Due to the proximity to public transportation and the small site area, parking will be limited to approximately 20 spaces in the basement and first floor. The residential units will consist of a mix of studios, one-bedroom, and two-bedroom units. Covered, secure bicycle storage for residents (one per residential unit) will be included within the building. See Figure 2-3 for proposed site plan, and Appendix A for floor plans and sections.

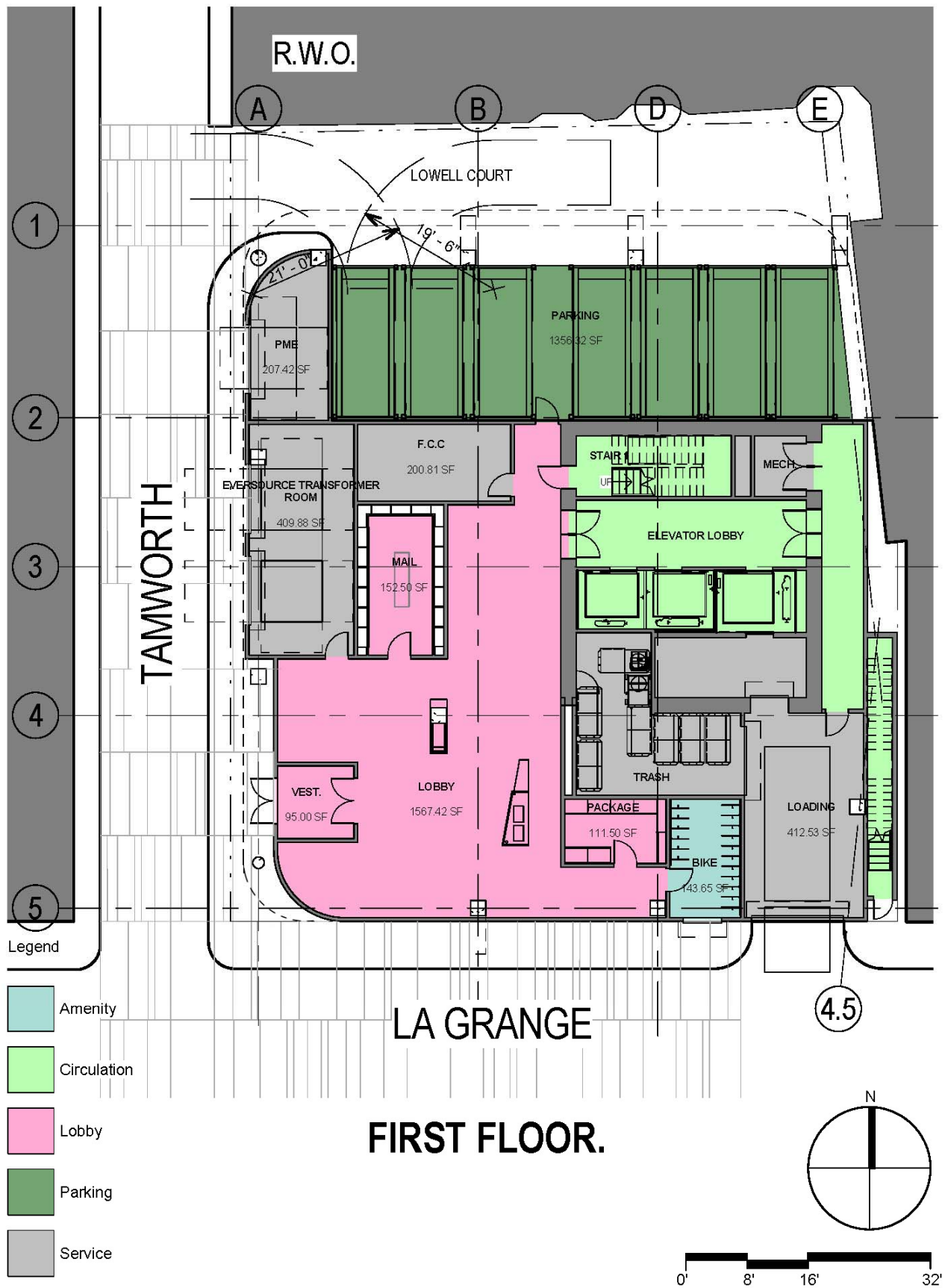
¹ The Proponent owns the fee interest in the entirety of Lowell Court. Lowell Court is not open to public travel, and, according to Boston Department of Public Works records, Lowell Court is not open to public travel.



47-55 LaGrange Street Boston, Massachusetts



47-55 LaGrange Street Boston, Massachusetts



47-55 LaGrange Street Boston, Massachusetts

Table 2-1 Project Program

Project Element	Approximate Dimension
Residential	up to 176 units/up to 202 rooms
Parking	up to 20 spaces
Total Gross Square Footage (GSF)	157,000 sf
Height	21 stories/ 240 feet
Parcel Area	8,759 sf
Floor Area Ratio	17.92

The residential lobby will be located at the corner of LaGrange and Tamworth streets, and is connected visually to the streetscape through full height exterior windows. Loading, trash and other building services will be accessed through an off-street loading area. Parking will be accessed at the existing Lowell Court.

The finished Project will completely transform the existing, underutilized site and provide significant improvements to the public realm. As pedestrians approach LaGrange or Tamworth streets from Boylston Street, Tremont or Washington streets, they will perceive a special paving pattern around the Project site unlike a conventional sidewalk. Large light sculptures will hang from the proposed building over both LaGrange and Tamworth streets to signal the presence of the Project. At night, both the light sculpture and the sidewalk paving will light up to create a special urban atmosphere.

Chapter 3.0

Assessment of Development Review Components

3.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

This chapter provides detailed transportation and air quality analyses, as well as discussions and qualitative analyses of other environmental impacts related to the Project.

3.1 Transportation

3.1.1 Introduction

This section presents a summary of the Project's transportation issues including site access, parking, public transportation, bicycle facilities, trip generation, loading and building servicing, and Transportation Demand Management (TDM) measures. Further analysis of transportation aspects of the Project may be included in the Draft PIR, which would be developed in cooperation with the BPDA, the Boston Transportation Department (BTD), and the community.

3.1.1.1 Project Description

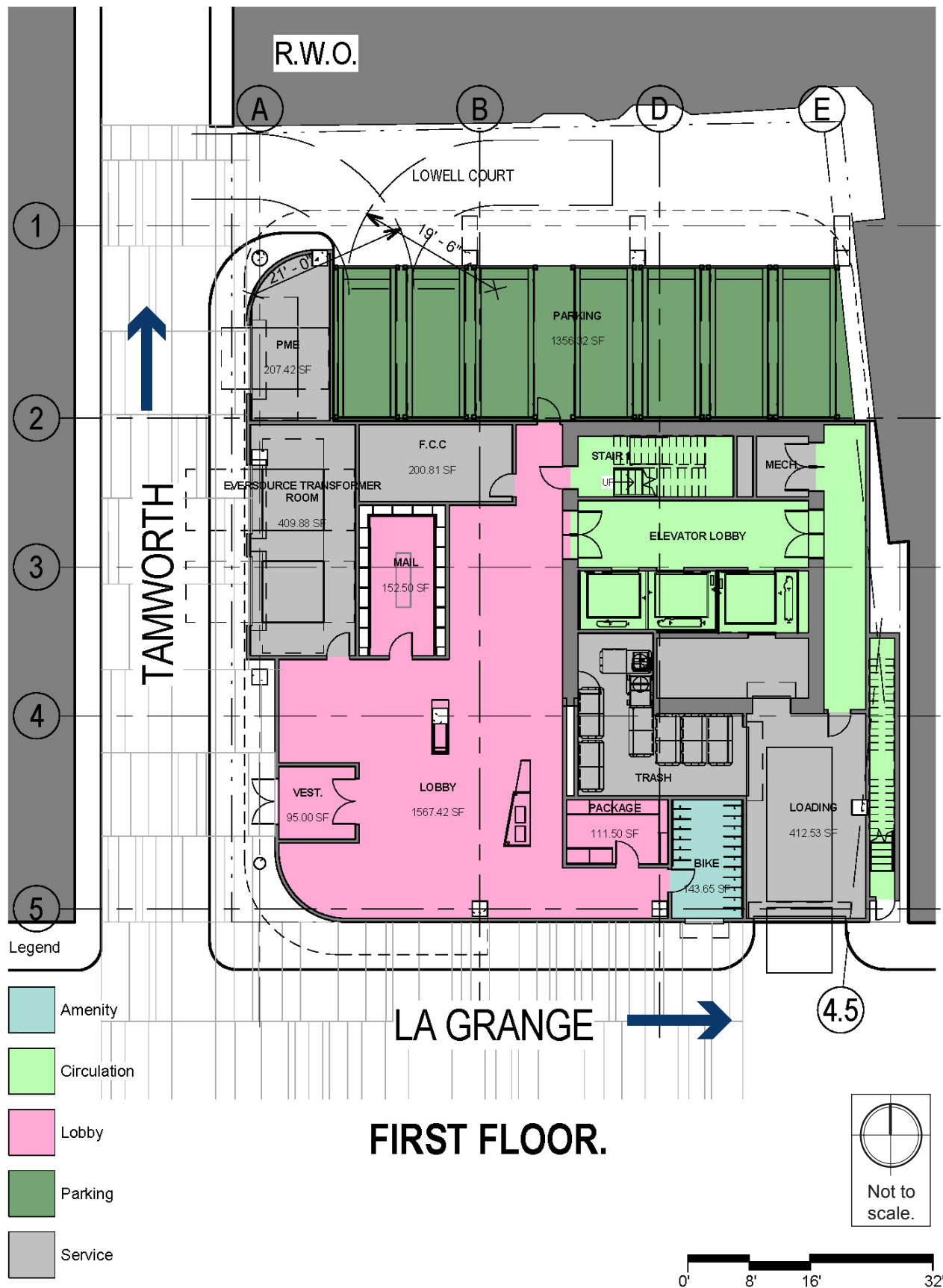
The Project is located at 47-55 LaGrange Street in Boston's Midtown Cultural District neighborhood. The Project site is bounded by LaGrange Street to the south, Tamworth Street to the west, and commercial and residential buildings to the east and north.

The Project site currently contains a surface public parking lot with capacity for 50 vehicles. The proposed Project will consist of the construction of a 21-story residential building containing up to 176 units and 20 on-site parking spaces.

Currently, vehicles enter and exit the site via Tamworth Street. The entire site frontage along Tamworth Street consists of one large curb cut that provides access to ten tandem parking spaces that can accommodate up to five vehicles each. Tamworth Street is one-way in the northbound direction and is accessed from LaGrange Street via Tremont Street from the south.

Vehicular access to the proposed on-site parking will continue to be provided off of Tamworth Street as part of the Project. The parking will be provided in a fully automated garage that will accommodate up to 20 vehicles. The Project will also include on-site, secure, and covered storage for up to 176 bicycles (one per dwelling unit). An on-site loading dock will be provided for move-in/move-out activity and deliveries and will be accessed off of LaGrange Street. The Proponent will work with the BPDA and BTD to refine the design of the site access points for the Project.

A preliminary site plan is shown in Figure 3.1-1.



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3.1.2 Existing Conditions

3.1.2.1 Existing Roadway Conditions

This section includes descriptions of the adjacent and nearby roadways that serve the Project site.

LaGrange Street is a one-way, one-lane roadway located adjacent to the south side of the Project site. LaGrange Street runs in an east-west direction between Tremont Street and Washington Street. LaGrange Street operates as a one-way roadway in the eastbound direction from Tremont Street to Washington Street, with a small portion of LaGrange Street operating as a two-way roadway to provide access from Washington Street to the residential building located on the northwest corner of the intersection of Washington Street/LaGrange Street. LaGrange Street is classified as a local roadway under BTJ jurisdiction. Parking is not permitted and sidewalks are provided along both sides of LaGrange Street.

Tamworth Street is a one-way, one-lane roadway located adjacent to the west side of the Project site. Tamworth Street runs one-way in the northbound direction between Essex Street and LaGrange Street. Tamworth Street is classified as a local roadway under BTJ jurisdiction. Parking is not permitted and substandard sidewalks are provided along Tamworth Street.

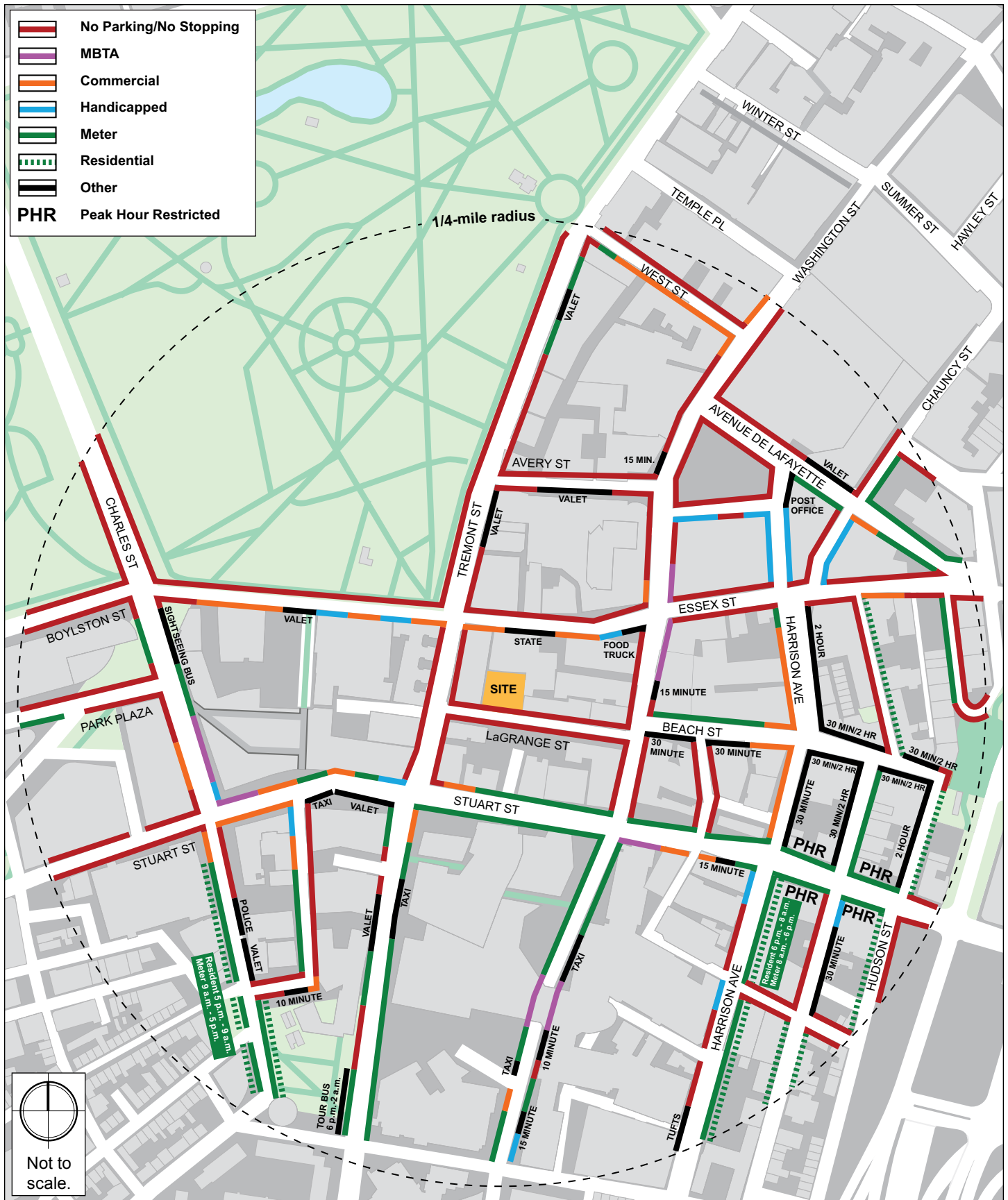
Essex Street is a one-way eastbound roadway located north of the Project site. In the vicinity of the site, Essex Street is classified as an urban principal arterial under BTJ jurisdiction, runs between Washington Street to the west and Atlantic Avenue to the east, and consists of two travel lanes and a parking lane. Sidewalks are provided along both sides of Essex Street.

Tremont Street is a one-way southbound roadway located west of the Project site. Tremont Street is classified as an urban principal arterial under BTJ jurisdiction, runs between Court Street in downtown Boston to the north and Malcolm X. Boulevard in Roxbury to the south, and consists of three travel lanes. Parking is not permitted and sidewalks are provided along both sides of Tremont Street in the vicinity of the site.

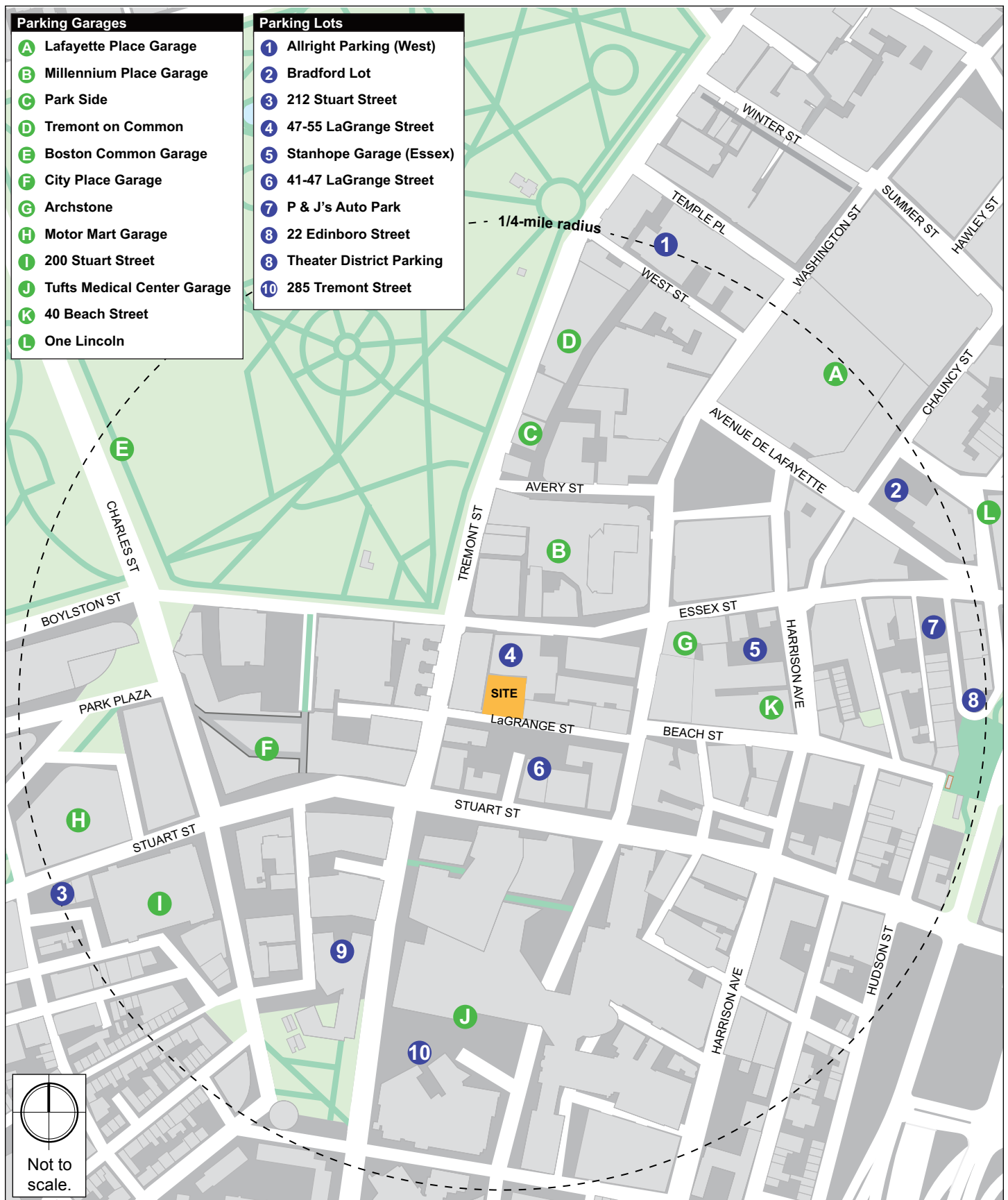
3.1.2.2 Existing Parking

Curb usage within a quarter mile of the site, or about a five-minute walk, is generally restricted to metered parking, commercial loading, and bus stops for the MBTA. Figure 3.1-2 presents an inventory of existing curb use and parking restrictions within a quarter mile walk of the Project.

Within a quarter mile, or about a five-minute walk of the site, there are also 11 parking lots and six parking garages. These facilities are shown in Figure 3.1-3.



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47-55 LaGrange Street Boston, Massachusetts

3.1.2.3 Existing Pedestrian Facilities

The Project is located a block from the Boston Common and all adjacent roadways currently have sidewalks. The sidewalks along Tamworth Street are narrow and not conducive to heavy pedestrian traffic, but still provide a direct connection to Essex Street. Sidewalks and pedestrian facilities are generally in good condition surrounding the site. The Project is in a primary location for walkable access to public transportation and the many retail, commercial, and recreational opportunities of downtown Boston and the surrounding neighborhoods.

3.1.2.4 Car-Sharing Services

Car-sharing services provide easy access to vehicular transportation for urban residents and employees who do not own a car. Two companies, Zipcar and Enterprise, provide car-sharing services in the Boston area offering short-term rental service for members. Vehicles are rented on an hourly basis and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location.

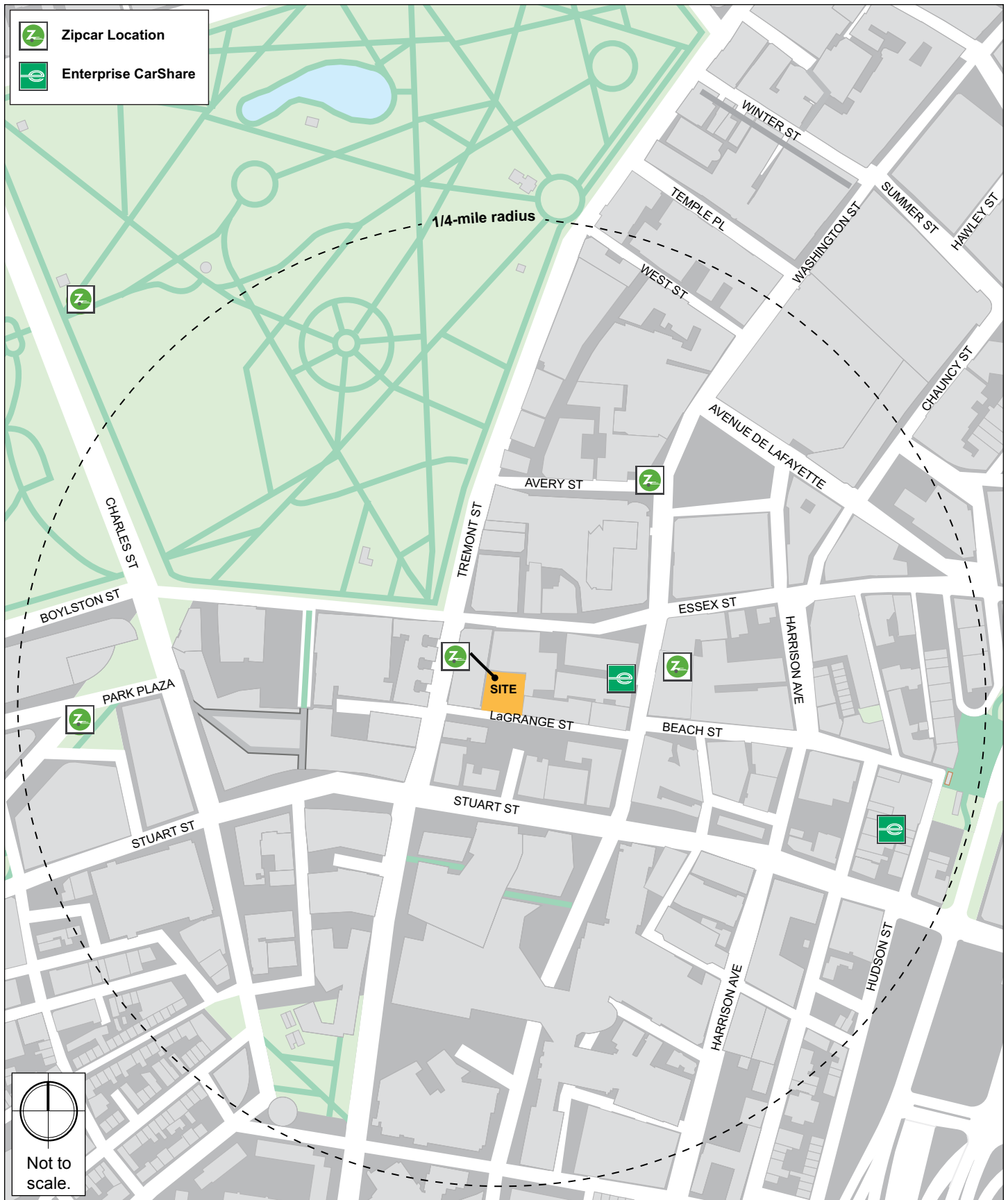
The nearby Zipcar and Enterprise car-share services provide an important transportation option by reducing the need to rent or own a vehicle. Figure 3.1-4 shows the nearby car-sharing locations, with a total of four Zipcar locations and two Enterprise locations within a quarter mile of the Project. One of the four Zipcar locations is located on the Project site, however this location only accommodates two cars at a time.

3.1.2.5 Existing Public Transportation Services

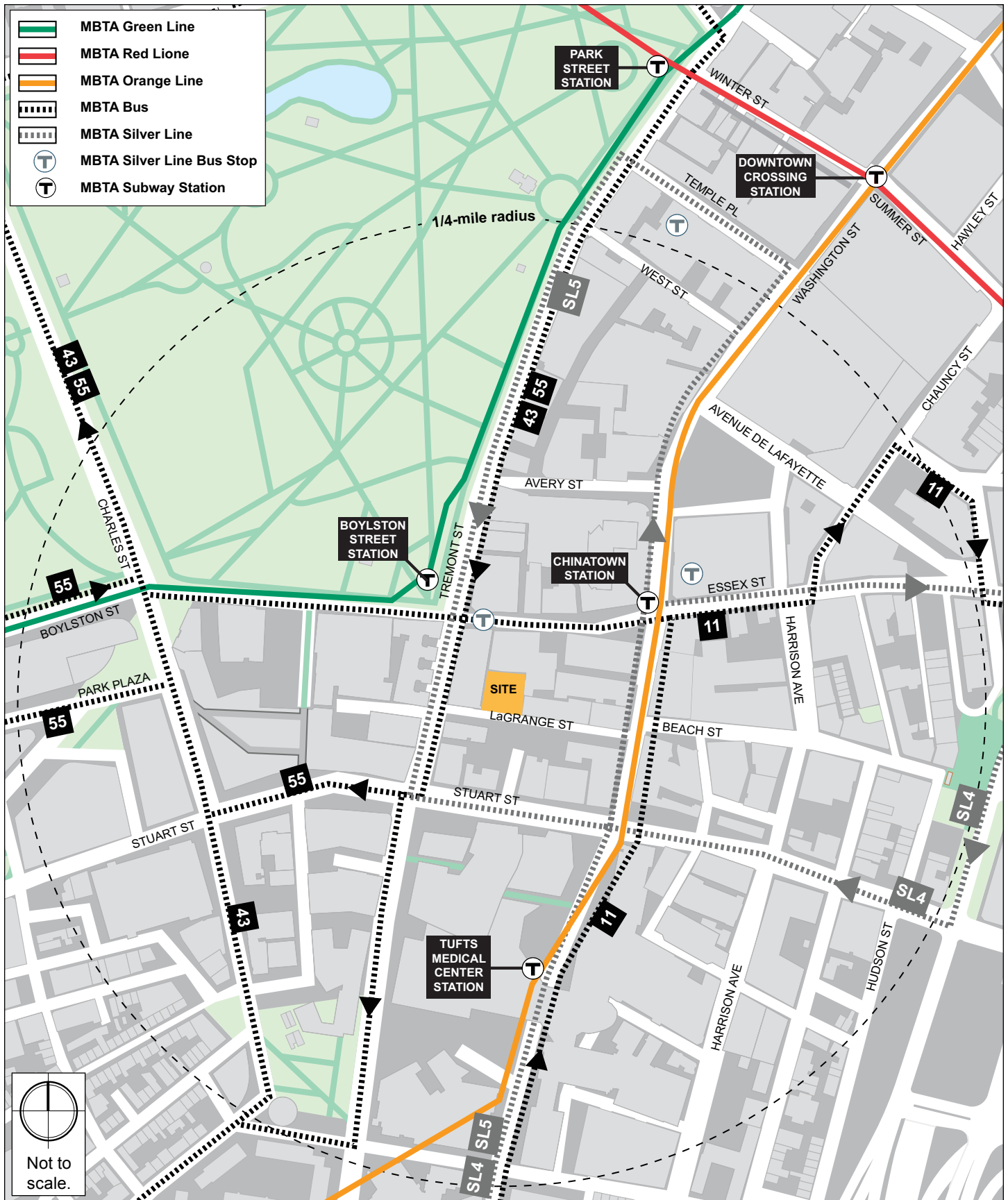
The Project is located less than a quarter-mile, or five-minute walk, from the MBTA's Boylston Street Station on the Green Line and Chinatown Station on the Orange Line. Connections to the Red Line are available at Downtown Crossing, over a quarter-mile walk from the site.

MBTA bus routes #11, #43, and #55 operate along Tremont Street and directly serve the Project site with stops near the intersection of Tremont Street and Boylston Street. The MBTA Silver Line routes 4 and 5 also directly serve the Project site with stops near the intersection of Boylston Street and Washington Street.

The local MBTA public transportation services are listed in Table 3.1-1 and mapped in Figure 3.1-5.



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47-55 LaGrange Street Boston, Massachusetts

Table 3.1-1 Public Transportation

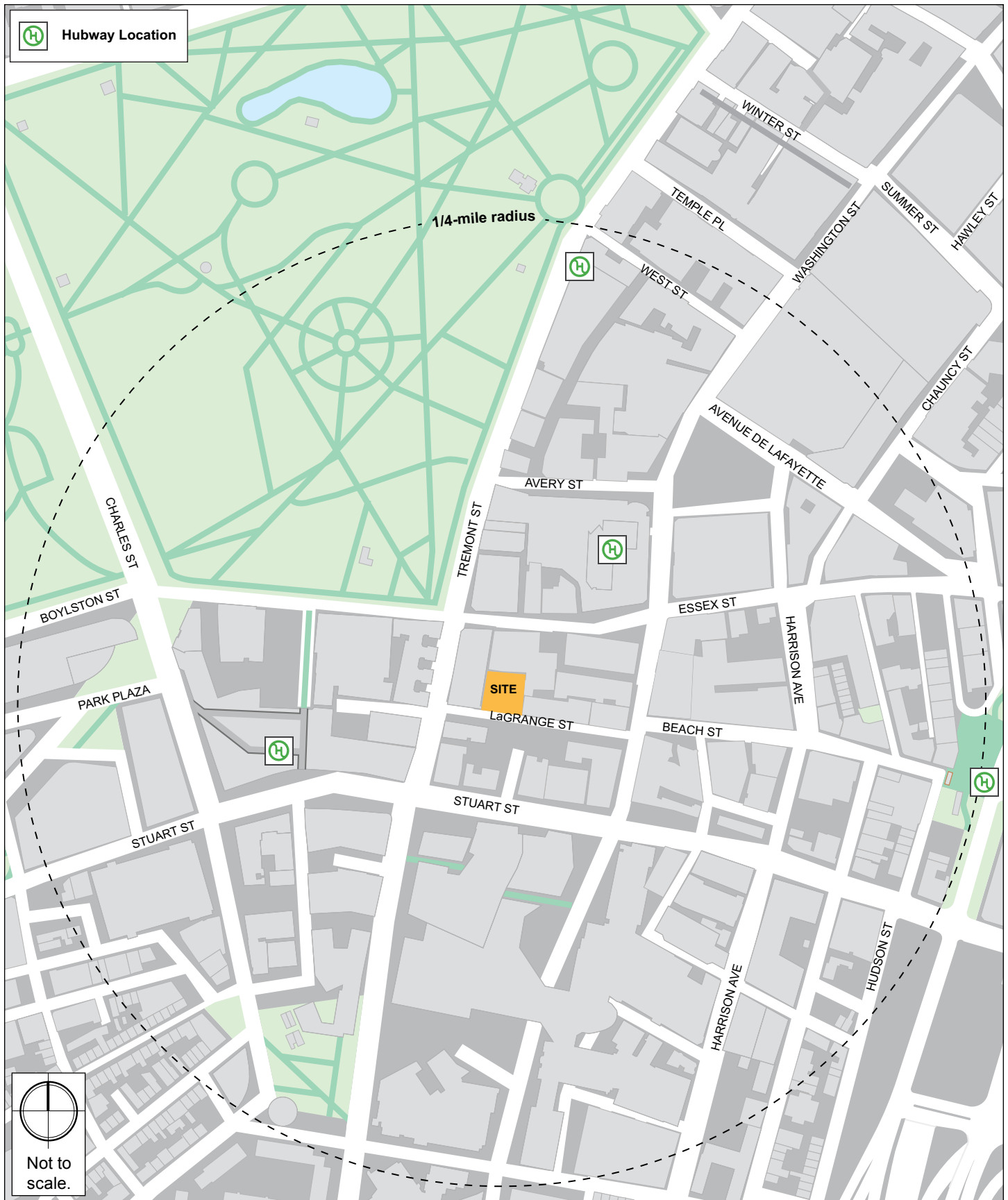
Transit Service	Description	Peak hour Headway (minutes)*
<i>Rapid Transit Routes</i>		
Orange Line	Forest Hills-Oak Grove	6
Red Line	Alewife-Braintree/Ashmont	9
Green Line	B Branch: Boston College – Lechmere C Branch: Cleveland Circle - Lechmere D Branch: Riverside - Lechmere E Branch: Heath Street – Lechmere	6
<i>Local Bus Routes</i>		
SL 4/5	Dudley Station – Downtown Crossing at Temple Place via Washington Street	7-9
Route 11	City Point - Downtown	6-10
Route 43	Ruggles Station – Park Street & Tremont Street via Tremont Street	15-18
Route 55	Jersey & Queensberry – Copley Square or Park Street & Tremont Street via Ipswich Street	15-30

* Headway is the time between trains.

3.1.2.6 Existing Bicycle Facilities

Hubway, launched in July 2011, is a bicycle-sharing system with more than 140 stations and 1,300 bicycles available throughout Boston, Brookline, Cambridge, and Somerville. Hubway stations are installed in April and removed in November of each year. As shown in Figure 3.1-6, four Hubway stations are located within one quarter-mile of the Project site.

Subject to necessary approvals, public bicycle racks will be provided for use by visitors. Bicycle racks, signs, and parking areas will conform to BTD standards and be located in safe, secure locations.



47-55 LaGrange Street Boston, Massachusetts

3.1.3 *Transportation Impact Overview*

As previously summarized, the Project will consist of the construction of a 21-story building containing up to 176 residential units and 20 on-site parking spaces. The existing parking lot on the site will be eliminated as part of the Project.

3.1.3.1 Site Access, Parking, and Loading

Vehicular access to the proposed on-site accessory parking will be off of Tamworth Street. The parking will be provided in a fully automated garage that will accommodate up to 20 vehicles. The Project will also include on-site, secure, and covered storage for up to 176 bicycles (one per unit).

An on-site loading dock will be provided for move-in/move-out activity and deliveries and will be accessed off of LaGrange Street. Most of the service and delivery operations will consist of standard mail and package deliveries with occasional move-in/move-out activity. The loading area will accommodate up to the size of an SU-36 delivery truck (a box truck up to approximately 36-feet in length). Trash pick-up will be conducted by a private trash contractor.

3.1.3.2 Background Traffic Growth

Future traffic volume changes are based on two factors: an annual growth rate and growth associated with specific developments near the Project.

The first part of the methodology accounts for general background traffic growth that may be affected by changes in demographics, automobile usage, and automobile ownership. Based on a review of recent and historic traffic data collected for nearby projects and to account for any additional unforeseen traffic growth, a half-percent annual traffic growth rate applies to traffic volumes in the vicinity of the Project site. Should additional analysis be necessary as part of the Draft PIR, this growth rate will be used to develop future traffic volumes.

The second part of the methodology identifies any specific planned developments that are expected to affect traffic patterns throughout the study area within the future analysis time horizon. The nearby development projects are presented on Figure 3.1-7.



47-55 LaGrange Street Boston, Massachusetts

3.1.3.3 Existing Trip Generation

The existing site contains a surface parking lot. The parking lot, which has capacity for 50 vehicles, serves both the public and monthly pass holders. The vehicle trips generated by the existing site were determined from peak period driveway counts that were conducted on October 3, 2016 at the 47-55 LaGrange Street Lot. The observed peak hour vehicle trip generation is summarized in Table 3.1-2.

Table 3.1-2 Existing Site Vehicle Trip Generation

Direction	a.m. peak hour ¹	p.m. peak hour ¹
In	12	6
<u>Out</u>	<u>2</u>	<u>7</u>
Total	14	13

1. Based on peak hour counts conducted on October 3, 2016.

As shown in Table 3.1-2, the existing parking lot on the site generates approximately 14 trips (12 entering/2 exiting) during the a.m. peak hour and 13 trips (6 entering/7 exiting) during the p.m. peak hour.

3.1.3.4 Project Trip Generation and Travel Mode Share

Trip generation is a complex, multi-step process that produces an estimate of vehicle, transit, and walk/bicycle trips associated with a proposed development or land use change. Following standard industry practice, and as required by the BTM, trip generation in this study is derived from the Institute of Transportation Engineers' (ITE) Trip Generation (9th edition, 2012). The ITE rates produce vehicle trip estimates, which are converted to person trips based on average vehicle occupancy (AVO). Using appropriate travel mode share information for this specific Project study area, the total person trips are then allocated to vehicle, transit, and walk/bicycle trips.

Trip generation estimates are based on average trip rates for the following ITE land use codes (LUC) associated with the planned Project:

Land Use Code 220 – Apartment. This land use code refers to dwelling units located within the same building with at least three other dwelling units. Calculation of the number of trips uses ITE's average rate per dwelling unit.

The BTM provides vehicle, transit, and walking mode split rates for different areas of Boston. Mode share splits were obtained from BTM and are consistent with traffic studies conducted for nearby projects, and applied to the trip generation estimates. The expected mode share splits for the Project are shown in Table 3.1-3.

Table 3.1-3 Travel Mode Shares and Vehicle Occupancy Rates

Land Use/ Direction		Vehicle	Transit	Walk/Bicycle	Average Vehicle Occupancy (AVO)
Daily					
Apartment	In	34%	17%	49%	1.13
	Out	34%	17%	49%	1.13
a.m. Peak Hour					
Apartment	In	45%	17%	38%	1.13
	Out	22%	13%	65%	1.13
p.m. Peak Hour					
Apartment	In	22%	13%	65%	1.13
	Out	45%	17%	38%	1.13

Source: Boston Transportation Department, 2009 National Household Travel Survey

The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)¹. The person trips were then distributed to different modes according to the splits shown in Table 3.1-3. The trip generation for the Project by mode is shown in Table 3.1-4, with the detailed trip generation information provided in Appendix B.

Table 3.1-4 Project Trip Generation

Time Period	Direction	Walk/ Bicycle Trips	Transit Trips	Vehicle Trips	Existing Vehicle Trips	Net New Vehicle Trips
Daily	In	324	112	199	N/A	N/A
	Out	<u>324</u>	<u>112</u>	<u>199</u>		
	Total	648	224	398		
a.m. Peak Hour	In	8	3	8	12	-4
	Out	<u>53</u>	<u>11</u>	<u>16</u>	<u>2</u>	<u>+14</u>
	Total	61	14	24	14	+10
p.m. Peak Hour	In	52	10	16	6	+10
	Out	<u>16</u>	<u>7</u>	<u>17</u>	<u>7</u>	<u>+10</u>
	Total	68	17	33	13	+20

¹ Summary of Travel Trends: 2009 National Household Travel Survey; FHWA; Washington, DC; June 2011.

As shown in Table 3.1-4, the Project is expected to generate 648 new walk/bicycle trips on a daily basis, with 61 new trips during the a.m. peak hour and 68 new trips during the p.m. peak hour. The Project is expected to generate 224 new transit trips on a daily basis, with 14 new trips during the a.m. peak hour 17 new trips during the p.m. peak hour. When accounting for existing vehicular activity on the site, the Project is expected to generate approximately 10 new vehicular trips during the a.m. peak hour and 20 new trips during the p.m. peak hour. Based on this trip generation analysis, the Project is expected to have a minimal impact upon traffic operations within the vicinity of the site.

3.1.3.5 Project Trip Distribution

The vehicular trip distribution is based on BTB guidelines, using origin-destination characteristics for Area 3, the BTB-designated zone that encompasses the Project site. Figure 3.1-8 presents the expected local vehicle trip distribution to and from the site.

3.1.3.6 Draft PIR Traffic Impact Study Area

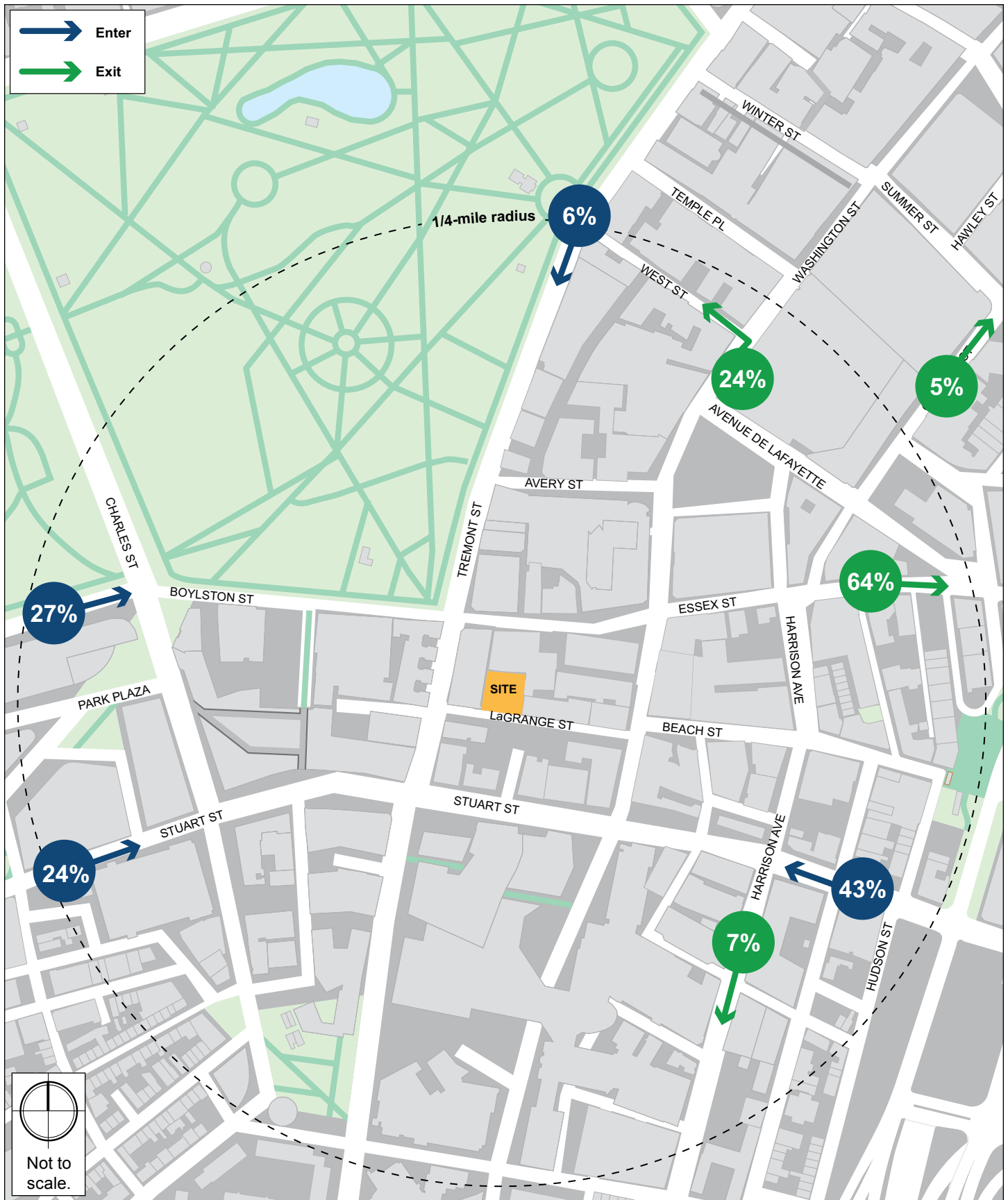
Detailed analysis of intersection operations and development of appropriate mitigation measures will be addressed by the Proponent in the Draft PIR, if deemed necessary. Any impacts that require mitigation will be carefully coordinated with BTB, as well as with local neighbors.

Based on the trip generation evaluation and the proximity to many different retail, commercial, and recreational opportunities, the Project is not expected to have any significant impact at the intersections in the vicinity of the Project site. If further analysis of any nearby intersections is required, the Proponent will coordinate with the BPDA and BTB to provide additional information.

3.1.4 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management measures to minimize automobile usage and Project related traffic impacts. The TDM program supports the City's efforts to reduce dependency on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak time periods.

The Proponent is prepared to take advantage of good transit access in marketing the site to future residents by working to implement the following demand management measures to encourage the use of public transportation, ridesharing, bicycling, and walking.



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The TDM program may include an on-site transportation coordinator, transit pass subsidies for residents, secure bicycle parking areas, and distribution of transit maps and schedules to residents. TDM measures may include the following:

- ◆ **Orientation Packets:** The Proponent will provide orientation packets to new residents containing information on the available transportation choices, including transit routes and schedules.
- ◆ **Bicycle Accommodation:** The Proponent will provide bicycle storage in secure, sheltered areas for residents. Subject to necessary approvals, public use bicycle racks for visitors will be placed near building entrances.
- ◆ **Transportation Coordinator:** The Proponent will designate a transportation coordinator to manage loading and service activities and provide alternative transportation materials to residents and building tenants. The transportation coordinator will also provide an annual (or more frequent) newsletter or bulletin summarizing transit, ridesharing, bicycling, and other travel options.
- ◆ **Project Web Site:** The web site will include transportation-related information for patrons, workers, and visitors.

3.1.5 Transportation Access Plan Agreement

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access, and physical design, travel demand management measures, and other responsibilities that are agreed to by both the Proponent and BTD. Because the TAPA must incorporate the results of the technical analysis that will be included in the Draft PIR, it must be executed after the Article 80 permitting process. The proposed measures listed above and any additional transportation improvements to be undertaken as part of this Project will be defined and documented in the TAPA.

3.1.6 Construction Management Plan

The Proponent will produce a Construction Management Plan (CMP) for review and approval by BTD. The CMP will detail the schedule, staging, parking, delivery, and other associated impacts of the construction of the Project.

3.1.7 Public Improvement Commission

Certain streetscape improvements surrounding the site on LaGrange Street and Tamworth Street may require Public Improvement Commission (PIC) review and approval. As standard practice, the Proponent will work with the City in continuing to develop and obtain approval of these improvements.

3.2 Environmental Protection

3.2.1 *Wind*

The Project will have a height of approximately 240 feet. Buildings of similar and greater height are located in the immediate Project vicinity. The Proponent will conduct a quantitative wind analysis, including a wind tunnel test, as required by the BPDA for buildings over 150 feet. Results of the wind analysis will be included in the Draft PIR.

3.2.2 *Shadow*

The site is located in a densely built urban area and the proposed Project will be surrounded by and adjacent to structures of similar height and massing. As a result, most new shadow associated with the Project will fall on the rooftops of nearby existing buildings. The Project has been designed so that no new shadow will be cast on the Boston Common. A preliminary shadow study is presented in Appendix C, and shadow impacts will be studied in more detail in the Draft PIR, if necessary.

3.2.3 *Daylight*

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching public streets in the immediate vicinity of a project site. The daylight obstruction related to the Project is anticipated to be similar to daylight obstruction on streets in the surrounding area. The extent of daylight obstruction resulting from the Project and measures to mitigate adverse impacts will be studied in the Draft PIR, as necessary.

3.2.4 *Solar Glare*

It is not anticipated that the Project will include the use of reflective glass or other reflective materials on the building facades that would result in adverse impacts from reflected solar glare from the Project.

3.2.5 *Air Quality*

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the development of the Project. If changes in traffic operations are substantial, the potential air quality impacts will be modeled for both existing and future conditions in the Draft PIR to demonstrate conformance with the National Ambient Air Quality Standards (NAAQS).

Construction period air quality impacts and mitigation are discussed below in Section 3.2.11.1.

3.2.6 Stormwater/Water Quality

Please see Section 3.7-3 for a discussion of the proposed stormwater system.

3.2.7 Flood Hazard Zones/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) for the site - Community Panel Number 25025C0077J – effective March 16, 2016 indicates the FEMA Flood Zone Designations for the site area. The FIRMs show that the Project is outside of the 500-year flood zone.

The site is developed and does not contain wetlands.

3.2.8 Geotechnical/Groundwater

This section describes existing site conditions, subsurface soil and groundwater conditions, and planned below-grade construction for the Project.

3.2.8.1 Existing Site Conditions

The site is currently paved and consists of a surface parking lot. Site grades slope gently from approximately El. 21 Boston City Base Datum (BCB) at the north to El. 18 BCB towards the south.

3.2.8.2 Subsurface Soil and Bedrock Conditions

Site and subsurface conditions at the Project site are based on available test boring data and geologic information for the area. The site is located within the original Boston (Shawmut) Peninsula and does not consist of reclaimed (filled) land. Subsurface conditions generally indicate the following sequence of subsurface units in order of increasing depth below ground surface:

Stratum/Subsurface Unit	Top of Stratum Elevation (BCB)	Estimated Thickness (ft)
Fill Soils	El. 20	5-10
Marine Deposits (Sand/Clay)	El. 10	60-75
Glacial Deposits	El. -65	35-45
Bedrock	El. -100	N/A

3.2.8.3 Groundwater

Groundwater levels are anticipated to exist at a depth of approximately 13 feet below the ground surface, corresponding to El. 7 BCB. Variations in groundwater level are possible because groundwater levels are influenced by precipitation, local construction activities, and leakage into and out of utilities and other below-grade structures.

The Project site is located within the limits of the Groundwater Conservation Overlay District (GCOD), and, accordingly, the Project will be required to comply with Article 32 of the City of Boston Zoning Code.

3.2.8.4 Proposed Foundation Construction

Development of the Project site will require excavation to depths of approximately 15 feet for construction of foundations and below-grade basement. The proposed building is anticipated to be supported on either a shallow mat foundation bearing on the natural, inorganic Marine Deposits or on deep foundations bearing in dense glacial soils or bedrock. Temporary earth support walls will be needed to excavate the basement level and construct below grade foundations. The type and design of both the temporary earth support system and foundation system will provide for adequate support of the structures and utilities and be compatible with the subsurface conditions.

3.2.9 Solid and Hazardous Wastes

3.2.9.1 Existing Hazardous Waste Conditions

An evaluation of the site will be completed to identify and recognize environmental conditions associated with site history, existing observable conditions, current site uses, and current and former uses of adjoining properties. This work will be conducted as part of a Phase I Environmental Site Assessment (Phase I ESA) using methods consistent with ASTM E1527-05.

Characterization of the environmental soil and groundwater quality at the Project site has not been conducted to date. Chemical testing of soil and groundwater to be generated as a result of construction activity will be conducted at the appropriate stage of the design process to further evaluate site environmental conditions. Management of soil and groundwater will be in accordance with applicable local, state, and federal laws and regulations.

3.2.9.2 Operational Solid and Hazardous Wastes

The Project will generate solid waste typical of residential uses. Solid waste is expected to include wastepaper, cardboard, glass bottles and food. Recyclable materials will be recycled through a program implemented by building management.

With the exception of household hazardous wastes typical of residential developments (e.g., cleaning fluids and paint), the Project will not involve the generation, use, transportation, storage, release, or disposal of potentially hazardous materials. Typical waste generated by the uses will be handled in compliance with all local, state and federal regulations.

The Project will include recycling areas for items such as paper, plastic, glass, and cans.

3.2.10 *Noise*

The mechanical equipment for the Project will be similar to that used on similarly sized residential buildings. Rooftop equipment will be screened, and acoustic screening will be included if necessary to meet local noise standards. The Project team will ensure that the buildings' mechanical equipment will meet the City of Boston Noise Standards.

Construction-period noise impacts and mitigation are discussed below in Section 3.2.11.2.

3.2.11 *Construction Impacts*

The proximity of city streets and abutting commercial properties to the site will require careful scheduling of material removal and delivery. Planning with the City and neighborhood will be essential to the successful development of the Project.

A Construction Management Plan (CMP) will be submitted to the BTB for review and approval prior to issuance of a building permit. The CMP will define truck routes which will help in minimizing the impact of trucks on local streets.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Techniques such as barricades, walkways, painted lines, and signage will be used as necessary. Construction management and scheduling—including plans for construction worker commuting and parking, routing plans and scheduling for trucking and deliveries, protection of existing utilities, maintenance of fire access, and control of noise and dust—will minimize impacts on the surrounding environment.

Throughout Project construction, a secure perimeter will be maintained to protect the public from construction activities.

3.2.11.1 *Construction Air Quality*

Short-term air quality impacts from fugitive dust may be expected during demolition, excavation and the early phases of construction. Plans for controlling fugitive dust during demolition, excavation and construction include mechanical street sweeping, wetting portions of the site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts. These measures are expected to include:

- ◆ Using wetting agents on areas of exposed soil on a scheduled basis;
- ◆ Using covered trucks;
- ◆ Minimizing spoils on the construction site;

- ◆ Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- ◆ Minimizing storage of debris on the site; and
- ◆ Periodic street and sidewalk cleaning with water to minimize dust accumulations.

3.2.11.2 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Periodic increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities, including:

- ◆ Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- ◆ Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- ◆ Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- ◆ Replacing specific construction operations and techniques by less noisy ones where feasible;
- ◆ Selecting the quietest of alternative items of equipment where feasible;
- ◆ Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- ◆ Turning off idling equipment; and
- ◆ Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

3.2.11.3 Construction Waste Management

The Proponent will reuse or recycle demolition and construction materials to the greatest extent feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials. Materials that cannot be reused or recycled will be transported in covered trucks by a contract hauler to a licensed facility.

3.2.12 *Rodent Control*

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to work commencement will consist of treatment of areas throughout the site.

3.2.13 *Wildlife Habitat*

The site is currently developed and within a fully developed urban area and, consequently, the Project will not impact wildlife habitats as designated on the National Heritage and Endangered Species Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife maps.

3.3 Sustainable Design and Green Buildings

To measure the results of their sustainability initiatives and to comply with Article 37, the Proponent intends to use the framework of the Leadership in Energy and Environmental Design (LEED) rating system promulgated by the US Green Building Council (USGBC). The Project will use LEED for New Construction (LEED v4 for BD+C) as the rating system to demonstrate compliance with Article 37. The LEED rating system tracks the sustainable features of a project by achieving points in the following categories: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Design Process and Regional Priority Credits.

A LEED checklist is included on the next page, and details the credits the Project anticipates achieving and how they will be achieved. The checklist will be updated regularly as the design develops and engineering assumptions are substantiated. At present, 53 points have been targeted. Additional credits, identified as "Maybe" on the checklist, will be evaluated as the design progresses.



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

Project Checklist

Project Name: 47-55 LaGrange Street

Date: 11.04.2016

Y ? N

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

3	4	3	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

3	3	5	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
	2		Credit	Outdoor Water Use Reduction	2
2		4	Credit	Indoor Water Use Reduction	6
	1	1	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

13	4	16	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
8	1	9	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
		3	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	1	1	Credit	Green Power and Carbon Offsets	2

5	0	8	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
1		1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1		1	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1		1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	5	3	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1		1	Credit	Enhanced Indoor Air Quality Strategies	2
2		1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
	3		Credit	Daylight	3
1			Credit	Quality Views	1
1			Credit	Acoustic Performance	1

4	0	2	Innovation		6
3		2	Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	0	2	Regional Priority		4
1			Credit	Regional Priority: Specific Credit	1
1			Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

53	18	55	TOTALS	Possible Points: 110
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110				

3.3.1 Integrative Process

Beginning in pre-design and continuing throughout the design phases, the Project team will identify and use opportunities to achieve synergies across disciplines and building systems. The analyses will inform the Proponent's Project requirements, basis of design, design documents, and construction documents.

3.3.2 Location and Transportation

The Project site is located in a developed area with existing infrastructure and many nearby basic services. The site is just a short walk from several Massachusetts Bay Transportation Authority (MBTA) stations, including Boylston Street Station with service on the Green Line, and Chinatown Station and Tufts Medical Center with service on the Orange Line. Secure bicycle storage for residents will be included in the building. All parking associated with the Project will be within the building, and 5% of parking spaces will be designated as preferred parking for green vehicles.

3.3.3 Sustainable Sites

To reduce pollution from construction activities, the construction manager will implement a project-specific, EPA-compliant Erosion and Sedimentation Control (ESC) plan. Soil erosion, waterway and stormwater system sedimentation, and airborne dust will be controlled during site preparation, demolition of existing conditions, and the construction of the new development.

A site survey will be completed to evaluate sustainable options and inform site design decisions. High reflective roof materials will be used in order to reduce the heat island effect.

3.3.4 Water Efficiency

To maximize water efficiency, the Project will include low-flow bathroom fixtures and faucets. Additionally, the Project anticipates minimizing the need for potable water to be used for irrigation through the careful selection of vegetation and mechanical methods to reduce water use.

3.3.5 Energy and Atmosphere

The Project will be constructed based on the building and energy codes in effect at the time of the building permit application. Energy reduction measures are expected to result in energy cost reductions of approximately 20% when compared to a baseline building performance as calculated using the rating method in Appendix G of ANSI/ASHREA/IESNA Standard 90.1-2007.

To reduce stratospheric ozone depletion, the buildings design team will select building heating, ventilating, air conditioning and refrigeration (HVAC&R) systems that use no chlorofluorocarbon (CFC)-based refrigerants. Project engineers are expected to perform the calculations and implement protocols to verify compliance with the Enhanced Refrigerant Management credit.

To verify that the Project's energy-related systems are installed and calibrated to perform according to the owner's Project requirements, basis of design and construction documents, the Project is expected to perform enhanced commissioning activities.

3.3.6 *Materials and Resources*

It is anticipated that a construction and demolition waste management plan will be developed to reduce construction and demolition waste disposed of in landfills and incineration facilities. The waste management plan will describe materials separation strategies and whether the materials will be sorted on-site. The waste management plan is anticipated to direct 75% of all waste and debris to be recycled.

The completed Project will provide dedicated areas for the collection and storage of recyclable materials for all building occupants. Collection and storage areas will be readily accessible and adequately sized based on the building square footage and usage. Materials collected for recycling will include: mixed paper, corrugated cardboard, glass, plastics, and metals.

3.3.7 *Indoor Environmental Quality*

The building mechanical systems will be designed to meet or exceed the requirements of ASHRAE Standard 62.1-2010 and/or applicable building codes. Any naturally ventilated spaces will comply with or exceed the applicable portions of ASHRAE 62.1. No smoking will be allowed within the common areas of the building nor within the apartments. Designated smoking areas outside of the building will be located at least 25 feet from doorways, operable windows and outdoor air intakes.

Materials will be specified that meet the threshold level of compliance with emissions and content standards. HVAC systems and the building envelope will be designed to meet the requirements of ASHRAE Standard 55-2010 for thermal comfort. The Project has also been designed to maximize daylighting into the building.

3.3.8 *Innovation in Design*

In addition to the measures described above, the Project anticipates an additional four LEED points as a result of Innovation and exemplary performance.

3.3.9 *Regional Priority Credits*

Regional Priority Credits, (RPC) are established LEED credits designated by the USGBC to have priority for a particular area of the country. When a Project team achieves one of the designated RPCs, an additional credit is awarded to the Project. It is anticipated that the Project will achieve two regional priority credits.

3.4 Climate Change Adaptability

3.4.1 *Introduction*

Climate change conditions considered by the Project team include higher maximum and mean temperatures, more frequent and longer extreme heat events, more frequent and longer droughts, more severe freezing rain and heavy rainfall events, and increased wind gusts.

The expected life of the Project is anticipated to be approximately 50 years. Therefore, the Proponent planned for climate-related conditions projected 50 years into the future. A copy of the completed Checklist is included in Appendix D. Given the preliminary level of design, the responses are also preliminary and may be updated as the Project design progresses.

3.4.2 *Extreme Heat Events*

The Climate Ready Boston report predicts that in Boston, there may be between 25 to 90 days over 90 degrees by 2070, compared to an average of 11 days per year over 90 degrees between 1971 to 2000. The Project design will include measures to adapt to these conditions, including installing high performance HVAC equipment, a high-performance building envelope and including operable windows where possible.

3.4.3 *Rain Events*

As a result of climate change, the Northeast is expected to experience more frequent and intense storms. To mitigate this, the Proponent will take measures to minimize stormwater runoff and protect the Project's mechanical equipment, as necessary. The Project will be designed to reduce the existing peak rates and volumes of stormwater runoff from the site, and promote runoff recharge to the greatest extent practicable.

3.4.4 *Drought Conditions*

Although more intense rain storms are predicted, extended periods of drought are also predicted due to climate change. Under the high emissions scenario, the occurrence of droughts lasting one to three months could go up by as much as 75% over existing conditions by the end of the century. To minimize the Project's susceptibility to drought conditions, the landscape design is anticipated to incorporate native and adaptive plant

materials and high efficiency irrigation systems will be installed. Aeration fixtures and appliances will be chosen for water conservation qualities, conserving potable water supplies.

3.5 Urban Design

The Project site is located at the northeast corner of the intersection of LaGrange and Tamworth Streets, neither of which is a main commercial thoroughfare. The characteristic of the ground floor public realm is designed as an experience of discovery (see Figure 3.5-1).

As pedestrians approach LaGrange or Tamworth streets from Boylston Street, Tremont Street or Washington Street, they will perceive a special paving pattern around the Project site unlike a conventional sidewalk. Large light sculptures will hang from the proposed building over both LaGrange and Tamworth streets to signal the presence of the Project. At night, both the light sculpture and the sidewalk paving will light up to create a special urban atmosphere.

Inspired by the traditional Chinese garden lantern, the concept behind the massing and façade design is a cast-iron lantern glowing over Boston Common. The shape of the building is a simple extruded shape with rounded edges, capped by an expressive sloped roof line (see Figures 3.5-2 and 3.5-3). The simple massing is easily distinguished from the variety of building shapes in the Midtown Cultural District. The building is lower than most neighboring high rises, and the massing design complements the overall skyline of the adjacent buildings.

The façade design takes its cues from the dark-colored garden lantern's material palette, cladding the building in a curtain wall system with intricate metal details. Sophisticated window opening patterns are developed to simulate the ornamental skin of a lantern. The base of the building is emphasized with a more opaque façade and is visually separated by a strong horizontal break at similar heights as some of the existing buildings nearby, including H.H. Richardson's Hayden Building (681-683 Washington Street), and the BYMCU building (48 Boylston Street).

3.6 Historic and Archaeological Resources

The following section identifies historic and archaeological resources in the vicinity of the Project site. A review was undertaken of the State and National Registers of Historic Places as well as the Inventory of Historic and Archaeological Assets of the Commonwealth (the Inventory) to identify historic resources within the Project's vicinity.

The Project site consists of a surface parking lot with no built structures located in a dense urban environment, with no historic resources and little potential for significant archaeological resources on the site.



47-55 LaGrange Street Boston, Massachusetts



Figure 3.5-1
View from the Corner of LaGrange and Tamworth Streets



47-55 LaGrange Street Boston, Massachusetts



47-55 LaGrange Street Boston, Massachusetts

3.6.1 *Historic Resources in the Vicinity of the Project Site*

Numerous properties and districts included in the State and National Registers of Historic Places are within proximity to the Project site. In the vicinity are the individually National Register-listed Boston Edison Illuminating Company, Shubert Theater and Charles Playhouse. In addition, the Project site is within a quarter-mile radius of the locally landmarked Hayden, Boylston and Jacob Wirth buildings, the Young Men's Christian Union and the Wilbur and Metropolitan Theaters.

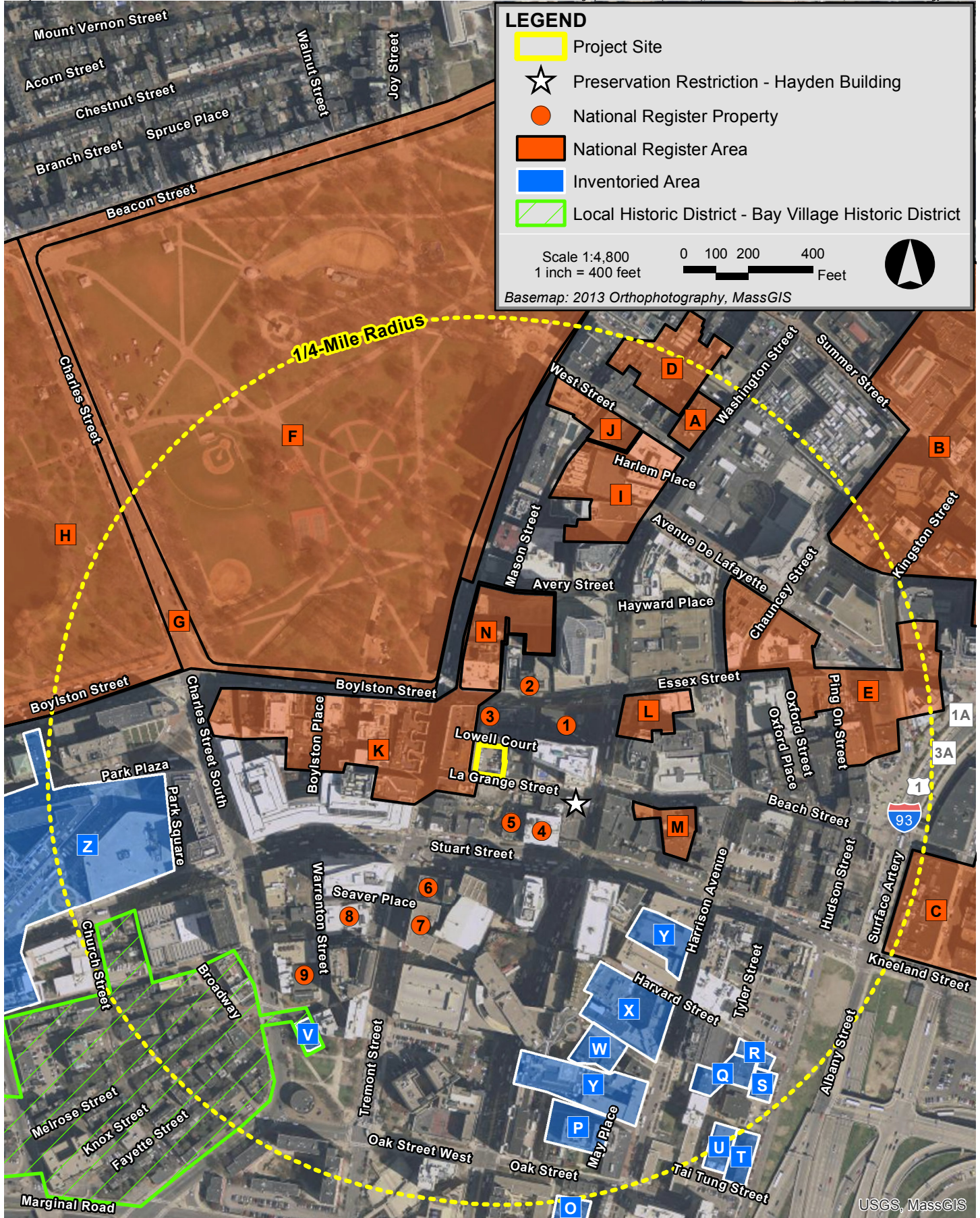
Also within this radius, to the north, are the Washington Street Theater District and West Street Historic District, while to the south is the locally designated Bay Village Historic District. To the east are the Liberty Tree, Temple Place, Textile and Beach-Knapp Districts. To the west of the Project site are the Piano Row Historic District as well as the Boston Common and Boston Public Garden, which are both National Historic Landmarks and Boston landmarks. Table 3.6-1 and 3.6-2 list historic resources within a one-quarter mile radius of the Project site; the locations of these resources are depicted on Figure 3.6-1.

Table 3.6-1 State and National Register Listed Properties in the Vicinity of the Project Site

Historic Resource	Address	Designation
A. Boylston Building	2-22 Boylston Street	NR,NRMRA
B. Boston Edison Electric Illuminating Co.	25-39 Boylston Street	NR, NRMRA, NRDOE
C. Young Men's Christian Union	48 Boylston Street	NR, NRMRA, LL
D. Dill Building	11-25 Stuart Streets	NR, NRMRA
E. Jacob Wirth Building	31-39 Stuart Street	NR, NRMRA, LL
F. Wilbur Theatre	244-248 Tremont Street	NR, NRMRA, LL
G. Metropolitan Theatre	252-272 Tremont Street	NR, NRMRA, LL
H. Shubert Theatre	263-265 Tremont Street	NR, NRMRA
I. Charles Playhouse	76-78 Warrenton Street	NR, NRMRA
J. Hayden Building	681-683 Washington Street	NR, NRMRA, LL
K. Blake and Amory Building	59 Temple Place	NR

Designation Legend

NR	Individually listed in the National Register of Historic Places
NRDIS	National Register of Historic Places Historic District
NRDOE	Determined eligible for inclusion in the National Register of Historic Places
NRMRA	National Register of Historic Places Multiple Resource Area
NHL	National Historic Landmark
LHD	Local Historic District
LL	Local Landmark



47-55 LaGrange Street Boston, Massachusetts

Table 3.6-2 State and National Register Listed Districts in the Vicinity of the Project Site

Historic Resource	Address	Designation
1. Commercial Palace Historic District	Franklin, Devonshire, Bedford, Chauncy, Summer & Hawley Streets	NRDOE
2. Leather District	Atlantic Ave., Kneeland, Lincoln & Essex Streets	NRDIS, NRDOE
3. Temple Place Historic District	11-55, 26-56 Temple Place	NRDIS
4. Textile District	Chauncy, Edinboro, Essex & Kingston Streets	NRDIS
5. Boston Common	Beacon, Park, Tremont, Boylston & Charles Streets	NRDIS, LL, NHL
6. Boston Common and Public Garden	Beacon, Park, Tremont, Boylston & Arlington Streets	NRDIS
7. Boston Public Garden	Beacon, Charles, Boylston & Arlington Streets	NDRIS, LL, NHL
8. Washington Street Theatre Historic District	511-559 Washington Street	NRDIS
9. West Street Historic District	West Street	NRDIS, NRMRA
10. Piano Row Historic District	Park Square, Boylston Place, Boylston Street	NRDIS, NRMRA
11. Liberty Tree District	Washington & Essex Streets	NRDIS, NRMRA, LL
12. Beach-Knapp District	Beach & Knapp Streets	NRDIS, NRMRA

Designation Legend

NR	Individually listed in the National Register of Historic Places
NRDIS	National Register of Historic Places Historic District
NRDOE	Determined eligible for inclusion in the National Register of Historic Places
NRMRA	National Register of Historic Places Multiple Resource Area
NHL	National Historic Landmark
LHD	Local Historic District
LL	Local Landmark

3.6.2 Archaeological Resources

The Project site currently includes no built structures and is maintained as a surface parking lot. A review of the Inventory of Historic and Archaeological Assets of the Commonwealth and the State and National Registers revealed no known archaeological resources. Due to previous site disturbance activities, the Project site is unlikely to yield significant archaeological potential.

3.7 Infrastructure Systems

This section of the PNF outlines the existing utilities surrounding the Project site, the connections required to provide service to the Project, and any impacts on the existing utility systems that may result from the construction of the Project. The following utility systems are discussed herein:

◆ Sewer

- ◆ Domestic water
- ◆ Fire protection
- ◆ Storm Drainage
- ◆ Natural gas
- ◆ Electricity
- ◆ Telecommunications

3.7.1 *Wastewater*

3.7.1.1 Sewer Infrastructure

The Boston Water and Sewer Commission (BWSC) currently maintains combined sewer mains adjacent to the Project site. The sewer flows ultimately go to the Massachusetts Water Resources Authority (MWRA) Deer Island Waste Water Treatment Plant for treatment and disposal.

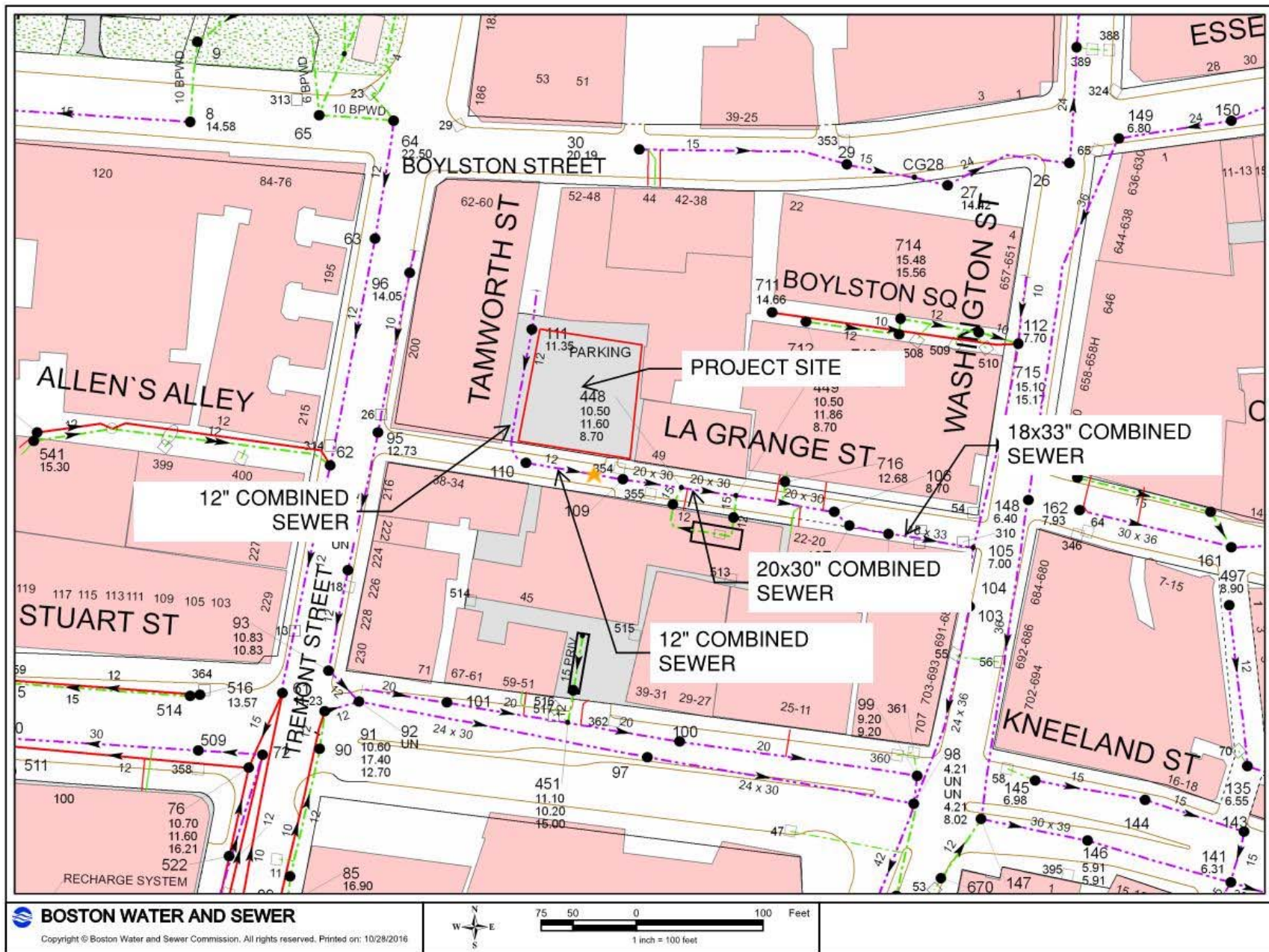
There is a 12-inch combined sewer main in Tamworth Street which flows in a southerly direction and then transitions into a 12-inch combined sewer main in LaGrange Street.

There is a 12-inch BWSC combined sewer main in LaGrange Street which flows in an easterly direction, increasing to a 20"x30" combined sewer at SMH 109 and then transitions into a 20"x30" combined sewer main, and then into an 18"x40" combined sewer main and finally an 18"x33" combined sewer main before connecting to the 16-inch combined sewer main in Washington Street. The 16-inch combined sewer then transitions into a 20-inch combined sewer main and then a 24"x36" combined sewer main before connecting to the 42-inch combined sewer main at the intersection of Stuart and Washington Streets, joining with another combined sewer main.

The existing sewer system is illustrated in Figure 3.7-1.

3.7.1.2 Proposed Wastewater Generation

The Project's sewage generation rates were estimated using 314 CMR 15.00 for the Project. 314 CMR 15.00 lists typical sewage generation values for the proposed uses, as shown in Table 3.7-1. Typical generation values are conservative values for estimating the sewage flows from new construction. The Project includes a new 202-bedroom apartment building, with a 20-space, partially below-grade garage, and a lobby area. The existing site is comprised of a parking lot and generates no sewage discharge.



47-55 LaGrange Street Boston, Massachusetts

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. The Project is expected to generate an increase in wastewater flows of approximately 22,220 gallons per day.

New sewer services resulting from the Project will connect to the existing sanitary sewer mains in Tamworth Street and/or LaGrange Street

Improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts.

The Project will contribute to the Department of Environmental Protection's Infiltration and Inflow Program. The fee will be based on the final sewer flows in gallons per day and will be paid to the BWSC prior to having their water account activated.

Table 3.7-1 Project Wastewater Generation

Use	Size/Unit	314 CMR Value (gpd/unit)	Total Flow (gpd)
Residential Units	202 bedrooms	110/bedroom	22,220
Total Proposed Sewer Flows			22,220

Increase in Sewer Flows	22,220 gpd
	0.03 cfs

3.7.1.3 Sewage Capacity and Impacts

The Project's impact on the existing BWSC systems in Tamworth Street and LaGrange Street were analyzed. The existing sewer system capacity calculations are presented in Table 3.7-2. No capacity problems are expected within the BWSC sewer system.

Table 3.7-2 Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Distance (feet)	Invert Elevation (up)	Invert Elevation (down)	Slope (%)	Dia. (in)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Tamworth Street								
111 to 110	100	11.35	10.88	0.47%	12	0.013	2.44	1.58
LaGrange Street								
110 to 109	80	10.88	10.50	0.47%	12	0.013	2.44	1.58

Note:

1. Manhole numbers taken from BWSC Sewer system GIS Map 23K
2. Flow Calculations based on Manning's Equation

3.7.2 Water Supply

3.7.2.1 Water Infrastructure

Water for the Project site will be provided by the BWSC. There are five water systems within the City, and these provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. There are existing BWSC water mains in Tamworth Street and in LaGrange Street.

There is a 4-inch and a 6-inch southern low water main in Tamworth Street, and an 8-inch southern low water main in LaGrange Street. These mains are part of a looped system that surrounds the area around the site.

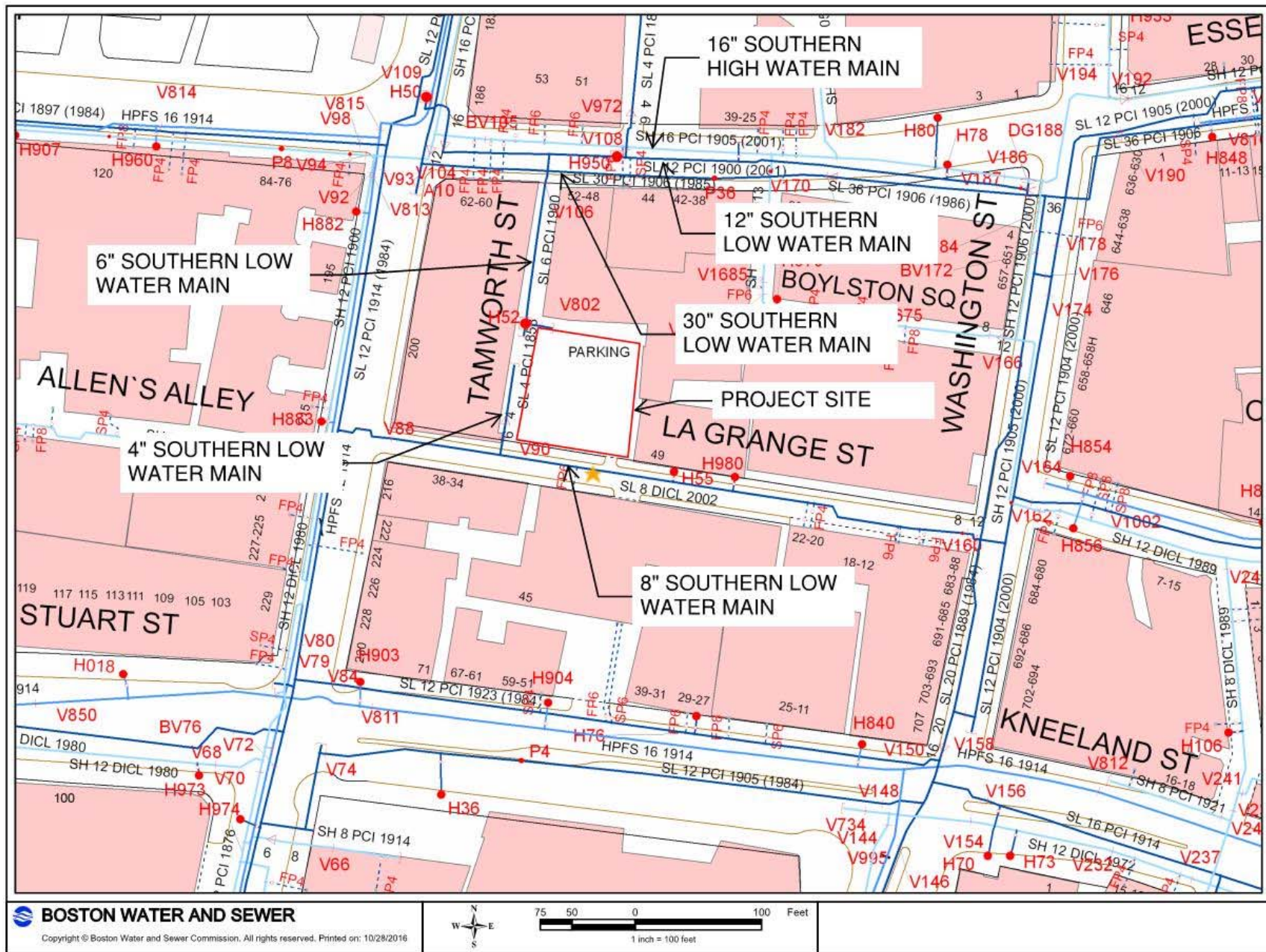
The existing water system is illustrated in Figure 3.7-2.

3.7.2.2 Water Consumption

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater flows calculated with 314 CMR 15.00 values to account for consumption, system losses and other usages to estimate an average daily water demand. The Project's estimated domestic water demand is 24,442 gallons per day or 3,268 cubic feet per day.

3.7.2.3 Existing Water Capacity and Impacts

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project site was requested by the Proponent. Hydrant flow data was available for one hydrant near the Project site. The existing hydrant flow data is shown in Table 3.7-3.



47-55 LaGrange Street Boston, Massachusetts

Table 3.7-3 Existing Hydrant Flow Data

Flow Hydrant Number	Date of Test	Static Pressure (psi)	Residual Pressure (psi)	Total Flow (gpm)
H36 (Stuart St.)	8/15/2016	70	66	1,418

Note: Data provided by BWSC on August 15, 2016.

Water capacity problems are not anticipated within this system as a result of the Project's construction.

3.7.2.4 Proposed Project

The domestic and fire protection water services for the Project will connect to the existing BWSC water mains in LaGrange Street and/or in Tamworth Street.

The proposed Project's impacts to the existing water system will be reviewed as part of the BWSC's Site Plan Review process.

The domestic and fire-protection water service connections required for the Project will meet the applicable City and State codes and standards, including cross-connection backflow prevention. Compliance with the standards for the domestic water system service connection will be reviewed as part of BWSC's Site Plan Review Process. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and fire department connections that conform to BWSC and Boston Fire Department requirements.

Efforts to reduce water consumption will be made. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed.

New meters will be installed with Meter Transmitter Units (MTU's) as part of the BWSC's Automatic Meter Reading (AMR) system.

3.7.3 Stormwater

There are existing BWSC combined sewer mains in Tamworth Street and LaGrange Street adjacent to the Project site, as previously described in Section 3.7.1.1. The existing drainage follows the same path as the sanitary sewer through combined sewer mains in Essex Street and Oxford Street before ultimately flowing to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal.

There is a 12-inch combined sewer main in Tamworth Street which flows in a southerly direction and then transitions into a 12-inch combined sewer main in LaGrange Street.

There is a 12-inch BWSC combined sewer main in LaGrange Street which flows in an easterly direction, increasing to a 20"x30" combined sewer at SMH 109 and then transitions into a 20"x30" combined sewer main, and then into an 18"x40" combined sewer main and finally an 18"x33" combined sewer main before connecting to the 16-inch combined sewer main in Washington Street. The 16-inch combined sewer then transitions into a 20-inch combined sewer main and then a 24"x36" combined sewer main before connecting to the 42-inch combined sewer main at the intersection of Stuart and Washington Streets, joining with another combined sewer main.

The existing BWSC storm drain system is illustrated in Figure 3.7-1.

Stormwater from the existing parking lot is captured by catch basins, which flow to the existing BWSC combined sewer mains in Tamworth Street and LaGrange Street.

3.7.3.1 Proposed Project

The existing site is comprised of a bituminous concrete parking lot and is entirely impervious. The Project will meet or reduce the existing peak rates and volumes of runoff from the site and promote recharge to the greatest extent possible. (See also Section 3.7.3.3., below, regarding the project's compliance with requirements of the Groundwater Conservation Overlay District.)

The Project will mitigate one-inch of stormwater runoff from impervious areas to the greatest extent possible. Different approaches to stormwater recharge will be assessed. It is anticipated that the stormwater recharge systems will work to passively infiltrate runoff into the ground with a gravity recharge system or a combination of storage tanks in the building and pumps. Recharge wells will also be investigated. The underground recharge system, and any required site closed drainage systems, will be designed so that there will be no increase in the peak rate of stormwater discharge from the Project site in the developed condition compared to the existing condition.

Improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process. The process will include a comprehensive design review of the proposed service connections, and assessment of Project demands and system capacity.

3.7.3.2 Water Quality Impact

The 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 BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, straw bales and/or crushed stone, to provide for

sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until the 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 MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies, as described below.

3.7.3.3 Groundwater

The BPDA oversees proposed projects within the Groundwater Conservation Overlay District (GCOD) under Article 32. The Project parcel is located within the GCOD. The purpose of the article is to prevent deterioration of and, where necessary, promote the restoration of, groundwater levels in the City of Boston, to protect and enhance the City's historic neighborhoods and structures, reduce surface water runoff and water pollution and maintain public safety.

The Project will comply with Article 32. The Project will promote infiltration of rainwater into the ground by capturing within a suitably-designed system a volume of rainfall on the lot equivalent to no less than 1-inch across that portion of the surface area of the lot to be occupied by the Project. The Project will result in no negative impact on groundwater levels within the lot in question or adjacent lots, subject to the terms of any (i) dewatering permit or (ii) cooperation agreement entered into by the Proponent and the BPDA, to the extent that such agreement provides standards for groundwater protection during construction.

3.7.3.4 MassDEP Stormwater Management Policy Standards

In March 1997, MassDEP adopted a Stormwater Management Policy to address non-point source pollution. In 1997, MassDEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. 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 (BMPs) 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 system compliance is provided below:

Standard #1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

Compliance: The proposed design will comply with this Standard. The design will incorporate the appropriate stormwater treatment and no new untreated stormwater will be directly discharged to, nor will erosion be caused to wetlands or waters of the Commonwealth as a result of stormwater discharges related to the Project.

Standard #2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR.

Compliance: The proposed design will comply with this Standard. The existing discharge rate will be met or decreased as a result of the improvements associated with the Project.

Standard #3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmental sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Compliance: The Project will comply with this standard to the maximum extent practicable.

Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
- b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

Compliance: The proposed design will comply with this standard. Within the Project's limit of work, there will be mostly building roof, paved sidewalk, and roadway areas. Runoff from paved areas that would contribute unwanted sediments or pollutants to the existing storm drain system will be collected by deep sump, hooded catch basins and conveyed through water quality units before discharging into the BWSC system.

Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

Compliance: The proposed design will comply with this standard. The Project is not associated with Higher Potential Pollutant Loads (per the Policy, Volume I, page 1-6).

Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

Compliance: The proposed design will comply with this Standard. The Project will not discharge untreated stormwater to a sensitive area or any other area.

Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

Compliance: The proposed design is a new development, and thus this standard is not applicable.

Standard #8: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

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

Standard 9: A Long-Term Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed.

Compliance: The Project will comply with this standard. An O&M Plan including long-term BMP operation requirements will be prepared for the Project and will assure proper maintenance and functioning of the stormwater management system.

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

Compliance: The Project will comply with this standard. There will be no illicit connections associated with the Proposed Project.

3.7.4 *Protection of Utilities During Construction*

Existing public and private infrastructure located within nearby public rights-of-way will be protected during Project construction. The installation of proposed utility connections within public ways will be undertaken in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and applicable utility company requirements. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer, and drain facilities will be reviewed by the BWSC as part of its Site Plan Review process. All necessary permits will be obtained before the commencement of work.

The Proponent will continue to work and coordinate with the BWSC and the utility companies to ensure safe and coordinated utility operations in connection with the Project.

3.7.5 *Conservation of Resources*

The State Building Code requires the use of water-conserving fixtures. Water conservation measures such as low-flow toilets and restricted flow faucets will help reduce the domestic water demand on the existing distribution system. The installation of sensor-operated sinks with water conserving aerators and sensor-operated toilets in all non-residential restrooms will be incorporated into the design plans for the Project.

3.7.6 *Other Utilities*

There are existing natural gas mains, electrical, telephone and telecommunications utility lines in the area adjacent to the site. The existing infrastructure will be evaluated to determine if it is sufficient for the Project, and any new infrastructure will be coordinated with the private utility providers to meet all Project needs.

Chapter 4.0

Coordination with other Governmental Agencies

4.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

4.1 Architectural Access Board Requirements

The Project will comply with the requirements of the Architectural Access Board and the standards of the Americans with Disabilities Act. The Accessibility Checklist is included in Appendix E.

4.2 Massachusetts Environmental Policy Act (MEPA)

The Project is not subject to review under the Massachusetts Environmental Policy Act (MEPA), which is codified at Sections 62 through 62I of MGL Chapter 30, and implemented under the “MEPA Regulations” at Section 11 of Chapter 301 of the Code of Massachusetts Regulations (CMR). MEPA and the MEPA Regulations apply to: (a) projects undertaken by a state agency; (b) those aspects of a project that are within the subject matter of any required state permit; (c) projects involving state financial assistance; and (d) those aspects of a project within the area of any real property acquired from a state agency. (301 CMR 11.01(2)(a).) MEPA review is triggered when one or more of the reasons set forth above apply, and when the proposed project exceeds one or more review thresholds set forth in the MEPA Regulations. (301 CMR 11.03.) As noted above, the Project does not appear to require state action.

4.3 Massachusetts Historical Commission State Register Review

The Massachusetts Historical Commission (MHC) has review authority over projects requiring state funding, licensing, permitting, and/or approvals that may have direct or indirect impacts to properties listed in the State Register of Historic Places. The Project does not require state action that triggers MHC review under Chapter 9 of the Massachusetts General Law (MGL), Sections 27-27c, as amended by Chapter 254 of the Acts of 1988. Should this change, MHC’s review of the Project under the State Register Review process would be initiated through the filing of an MHC Project Notification Form.

4.4 Federal Aviation Administration

Generally, new construction to a height above ground level of 200 feet or more may require the proponent to file a Form 7460 with the Federal Aviation Administration (FAA), so that the FAA may determine that the project will not constitute a hazard to air navigation, and will not result in an inefficient utilization of airspace. (14 CFR 77.) There is no need to file notice with the FAA if the new construction will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation. (14 CFR

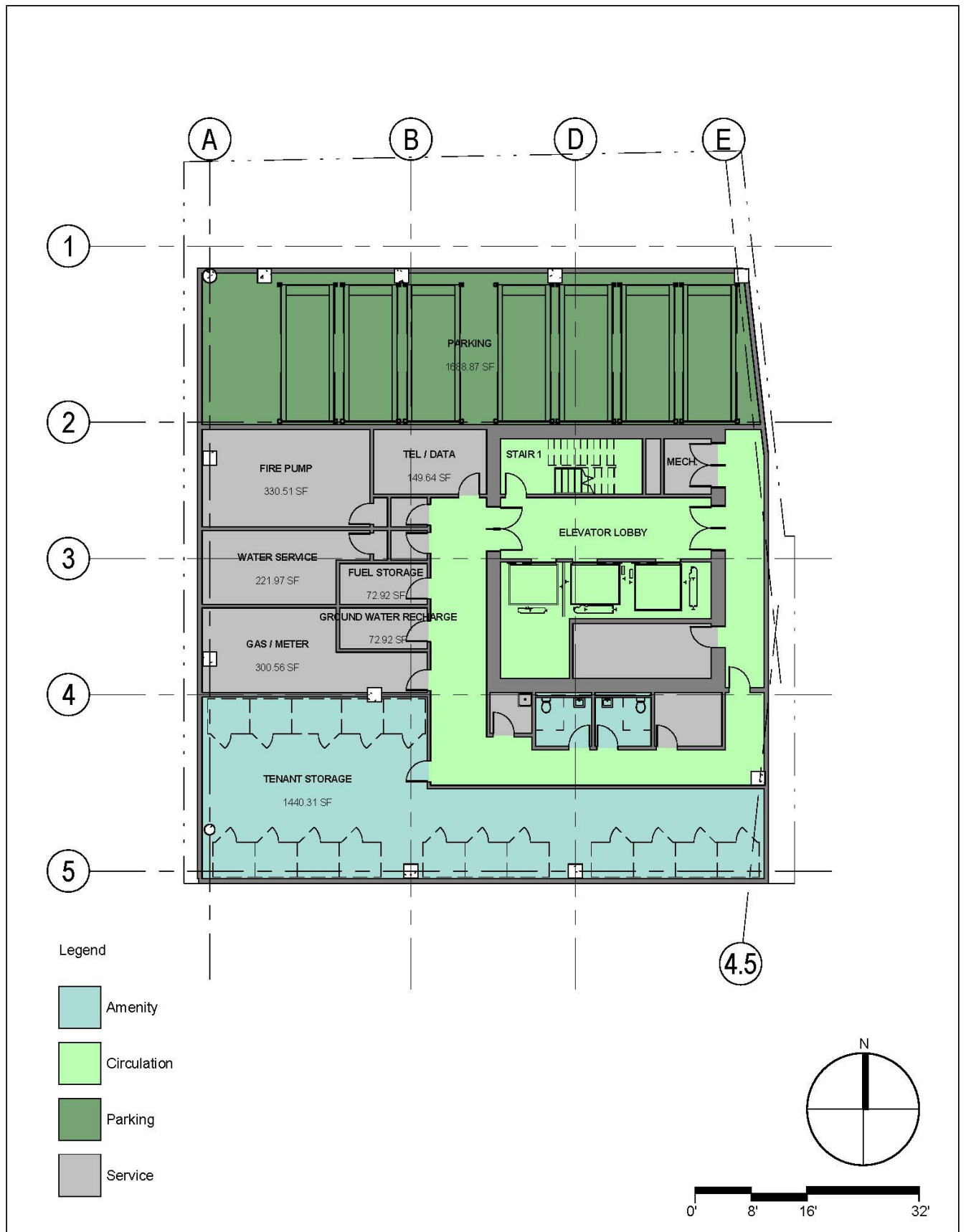
77.7(e).) Given the location of the Project, and its maximum building height of approximately 240 feet, measured to the top of the mechanical penthouse the Proponent does not intend to file an FAA Form 7460.

4.5 Other Permits and Approvals

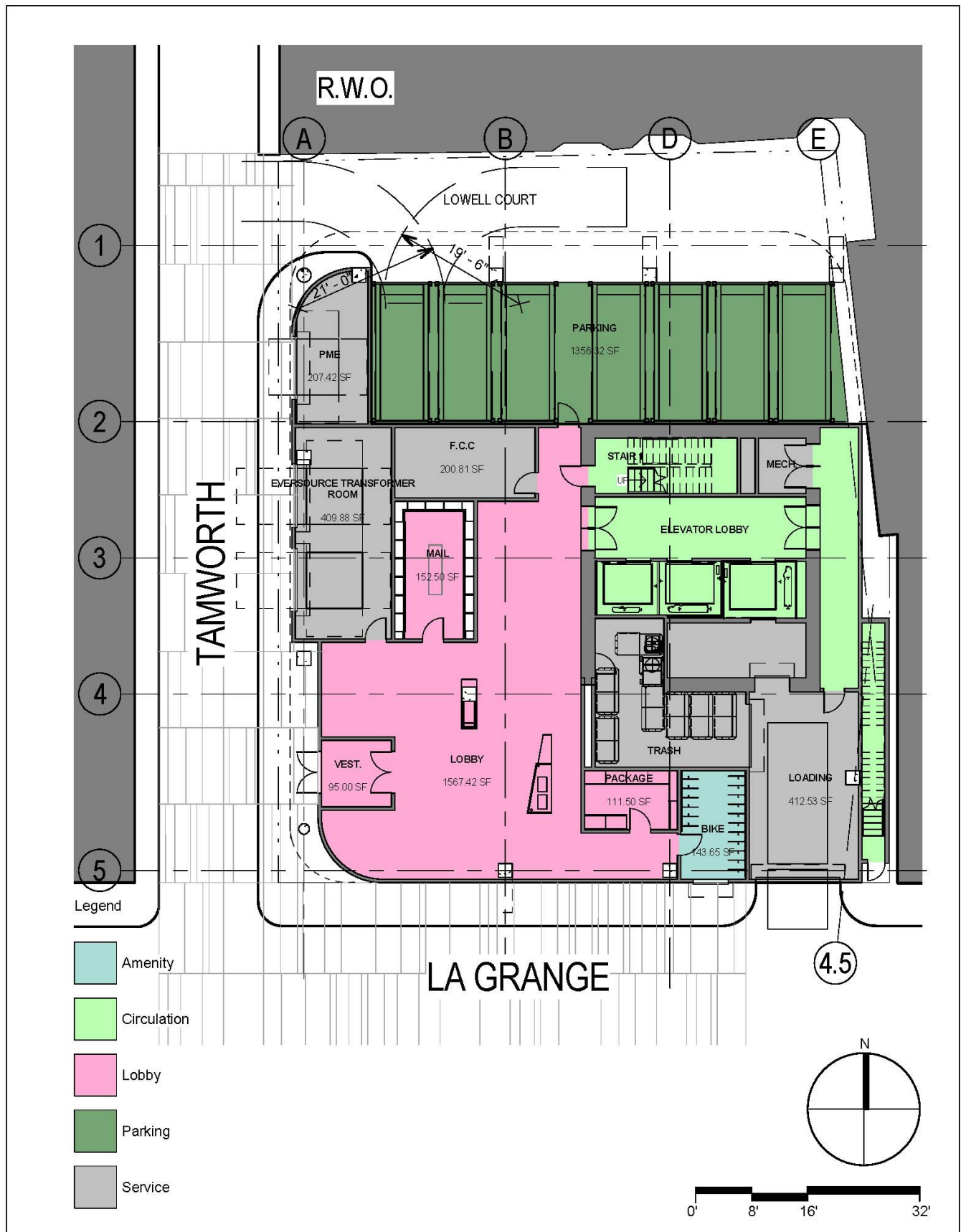
Section 1.6 provides a list of agencies from which it is anticipated that permits and approvals for the Project will be sought.

Appendix A

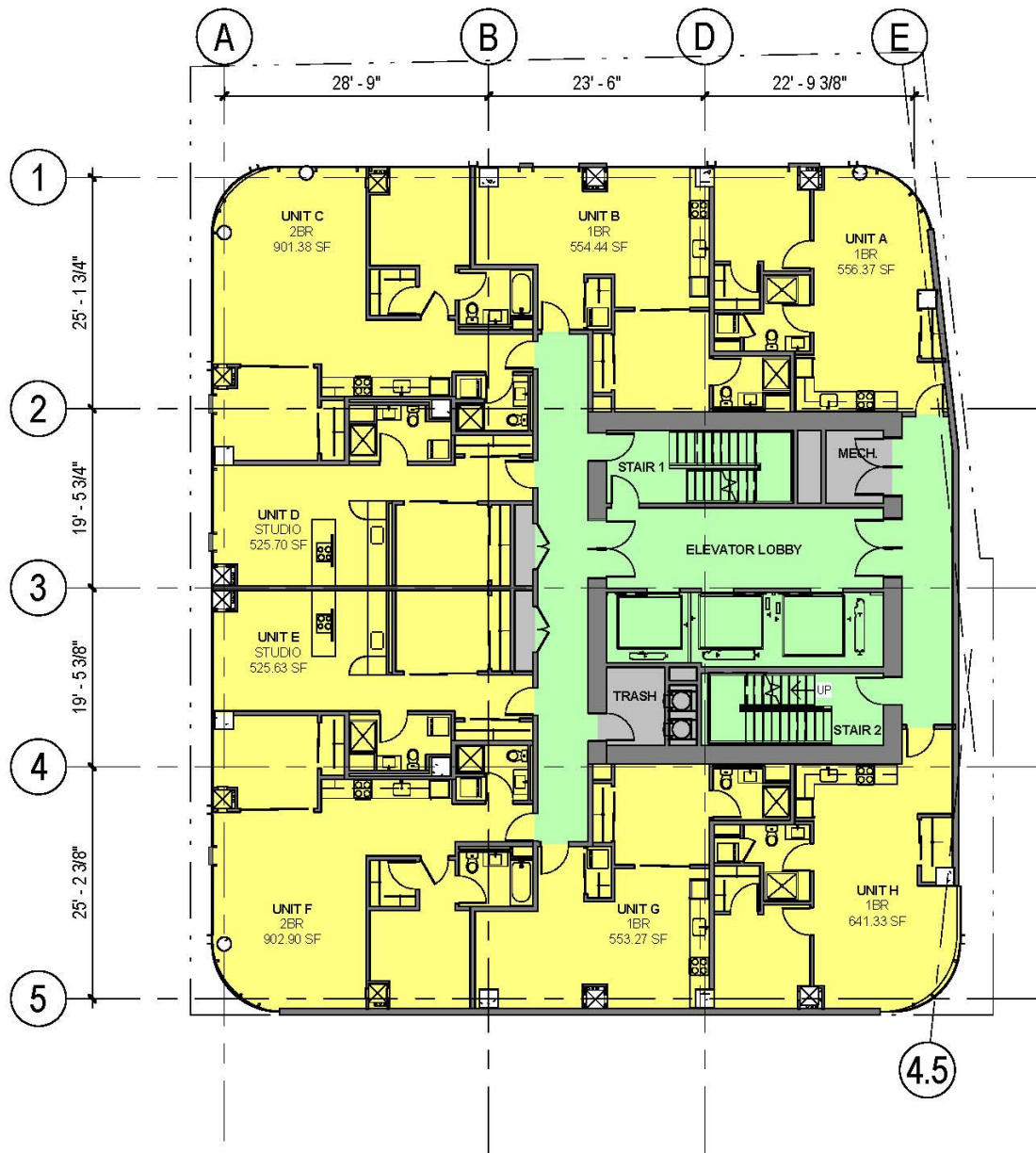
Floor Plans and Sections



47-55 LaGrange Street Boston, Massachusetts



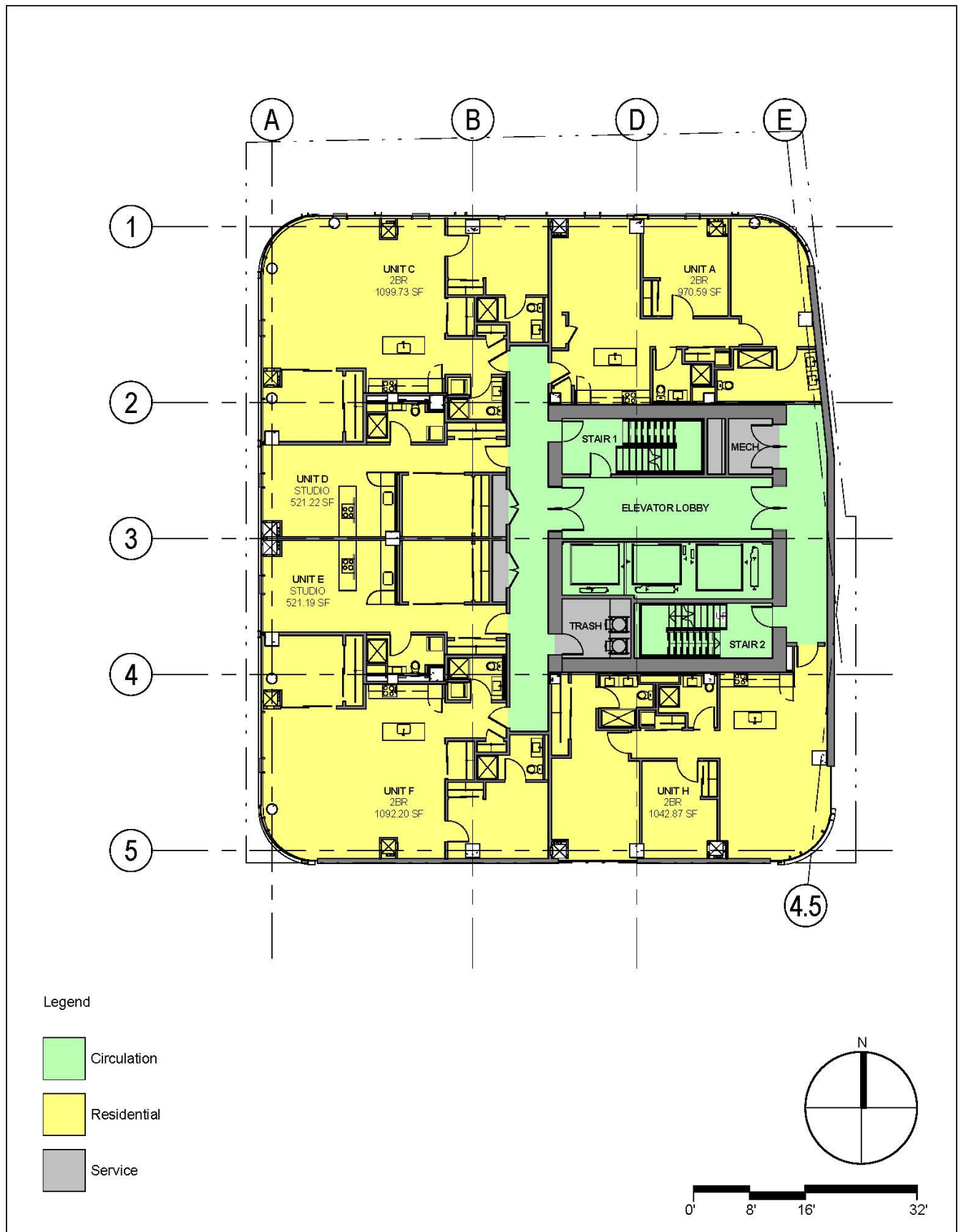
47-55 LaGrange Street Boston, Massachusetts



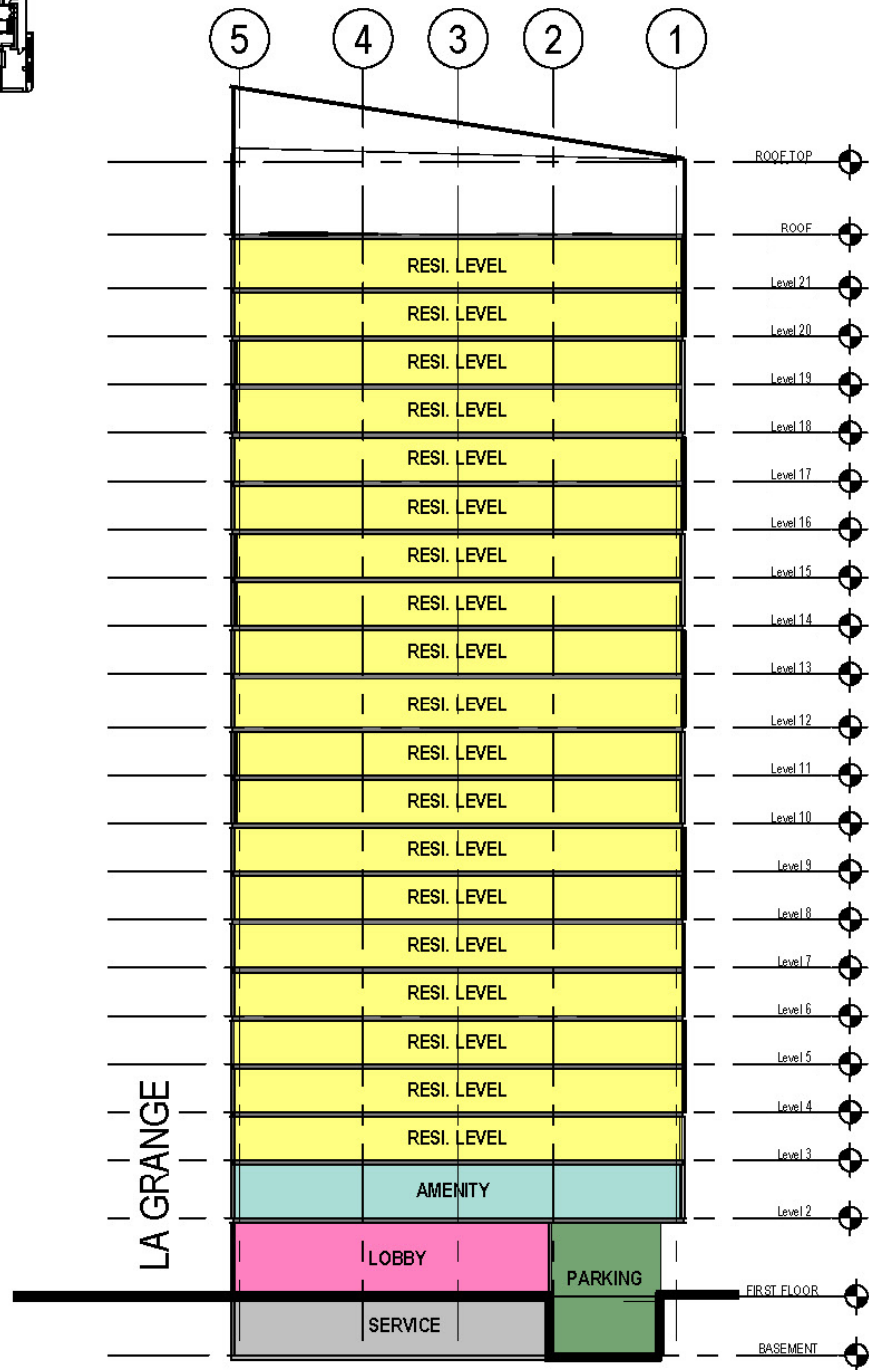
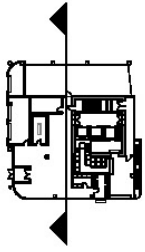
47-55 LaGrange Street Boston, Massachusetts



Typical Lower Floor Plan



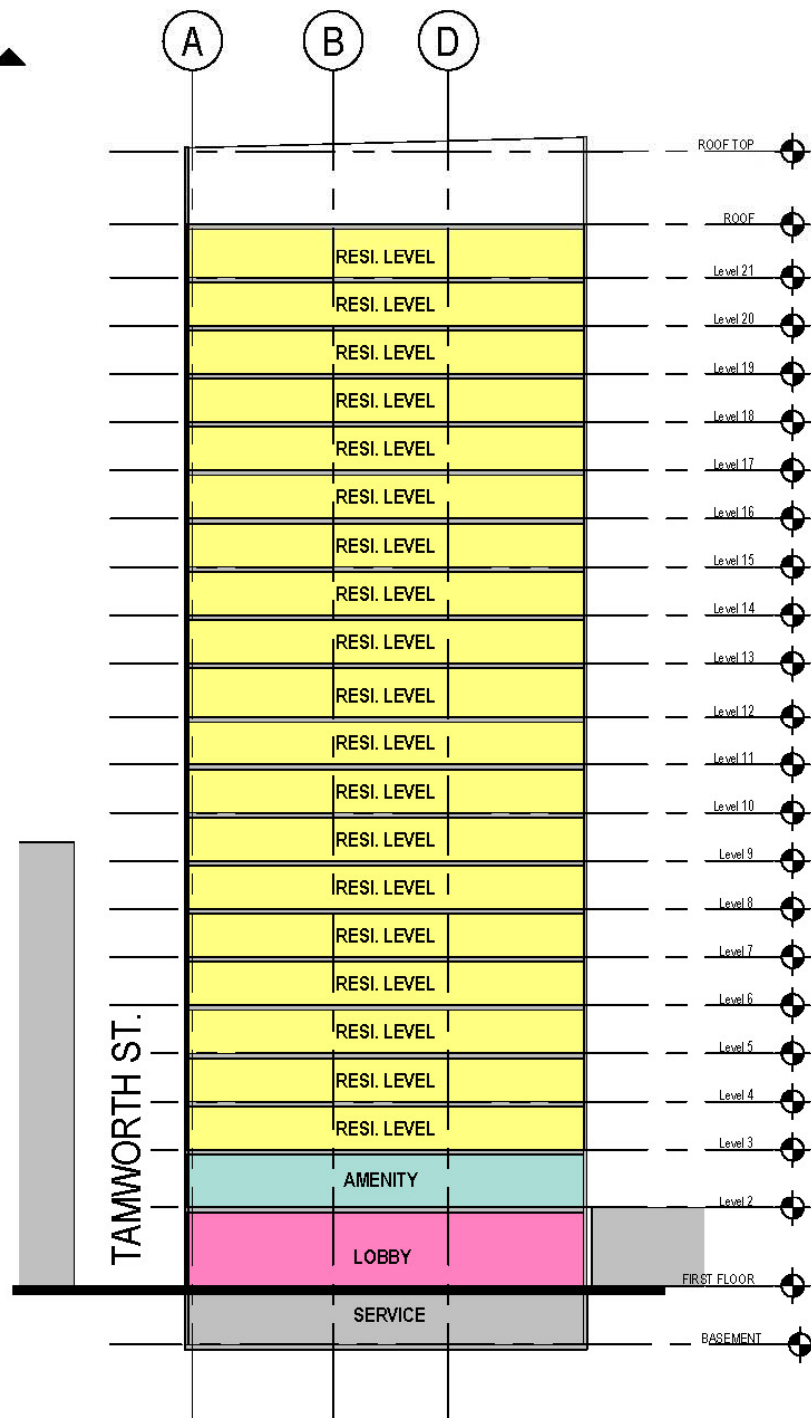
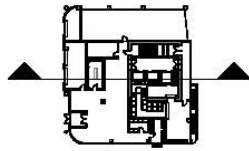
47-55 LaGrange Street Boston, Massachusetts



SECTION 1

1/32" = 1'-0"

47-55 LaGrange Street Boston, Massachusetts



SECTION 2

1/32" = 1'-0"

47-55 LaGrange Street Boston, Massachusetts

Appendix B

Transportation

October 3, 2016

Driveway Counts at 47-55 LaGrange Street

Lot capacity = 50 cars (Double parked by valet)

Start: 7:30 AM 25 cars and 4 zip cars parked at 7:30 AM

Time	Enter	Exit
7:30-7:45 AM	1	1 *Zip car exit
7:45-8:00 AM	0	0
8:00-8:15 AM	2	1 *Zip car exit
8:15-8:30 AM	2	0
8:30-8:45 AM	4	1
8:45-9:00 AM	4	0
Total	13	3
Peak Hr Total	12	2

29 cars parked at 4:30 PM

Time	Enter	Exit
4:30-4:45 PM	0	2
4:45-5:00 PM	0	1
5:00-5:15 PM	0	0
5:15-5:30 PM	1	2
5:30-5:45 PM	4	2 *1 zip car
5:45-6:00 PM	1	3
Total	6	10
Peak Hr Total	6	7

16039 - 47-55 LaGrange Street

Trip Generation Assessment

HOWARD STEIN HUDSON
16-Jan-2017

Land Use								Internal Capture Person- Trips ²	Pass-By Person-Trips Share	Pass-By Person-Trips	Non-Primary Person-Trips	Primary Person- Trips	Transit Share ³	Transit Person- Trips	Walk/Bike/ Other Share ³	Walk/ Bike/ Other Trips	Auto Share ³	Auto Person- Trips	Assumed Local Auto Occupancy Rate ⁴	Total Adjusted Auto Trips
Daily Peak Hour																				
Apartment ⁵	176	Total		6.650	1,170	1.13	1,322	0		0	0	1,322	17%	224	49%	648	34%	450	1.13	398
	units	In	50%	3.325	585	1.13	661		0%	0	0	661	17%	112	49%	324	34%	225	1.13	199
		Out	50%	3.325	585	1.13	661		0%	0	0	661	17%	112	49%	324	34%	225	1.13	199
Total		Total			1,170		1,322	0		0	0	1,322		224		648		450		398
		In			585		661	0		0	0	661		112		324		225		199
		Out			585		661	0		0	0	661		112		324		225		199
AM Peak Hour																				
Apartment ⁵	176	Total		0.51	90	1.13	101	0		0	0	101		14		61		27	1.13	24
	units	In	20%	0.102	18	1.13	20		0%	0	0	20	17%	3	38%	8	45%	9	1.13	8
		Out	80%	0.408	72	1.13	81		0%	0	0	81	13%	11	65%	53	22%	18	1.13	16
Total		Total			90		101	0		0	0	101		14		61		27		24
		In			18		20	0		0	0	20		3		8		9		8
		Out			72		81	0		0	0	81		11		53		18		16
PM Peak Hour																				
Apartment ⁵	176	Total		0.62	109	1.13	123	0		0	0	123		17		68		37	1.13	33
	units	In	65%	0.403	71	1.13	80		0%	0	0	80	13%	10	65%	52	22%	18	1.13	16
		Out	35%	0.217	38	1.13	43		0%	0	0	43	17%	7	38%	16	45%	19	1.13	17
Total		Total			109		123	0		0	0	123		17		68		37		33
		In			71		80	0		0	0	80		10		52		18		16
		Out			38		43	0		0	0	43		7		16		19		17

1. 2009 National vehicle occupancy rates - 1.13: home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Based on ITE Trip Generation Handbook, 3rd Edition method
3. Mode shares based on peak-hour BTS Data for Area 3.
4. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates
5. ITE Trip Generation Manual, 9th Edition, LUC 220 (Apartment), average rate

Appendix C

Shadow Study



MARCH 21, 9AM (DAY LIGHT SAVING TIME)



MARCH 21, 12PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



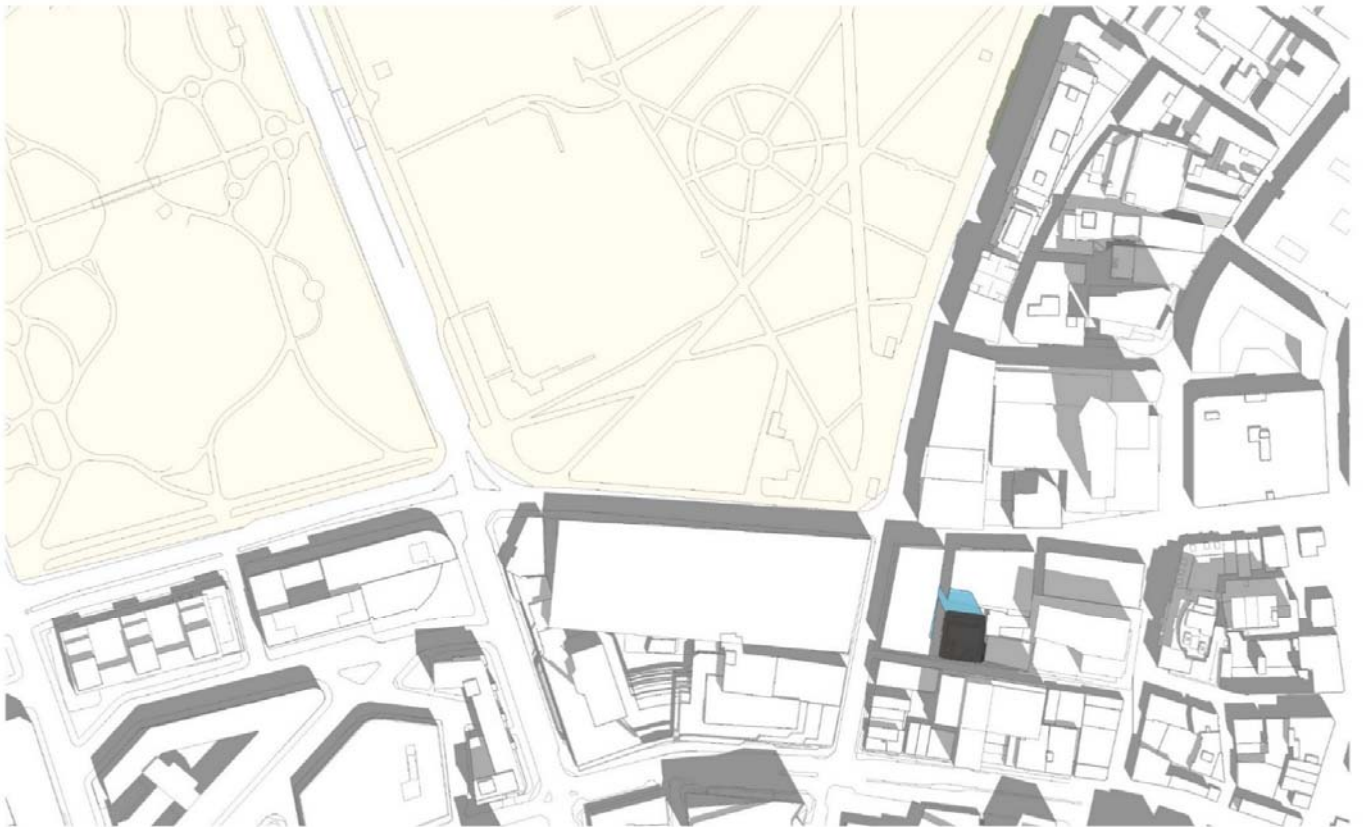
MARCH 21, 3PM (DAY LIGHT SAVINGS TIME)

47-55 LaGrange Street Boston, Massachusetts

N
SHADOW STUDIES
NEW SHADOW
47-55 LAGRANGE



JUNE 21, 9AM (DAY LIGHT SAVINGS TIME)

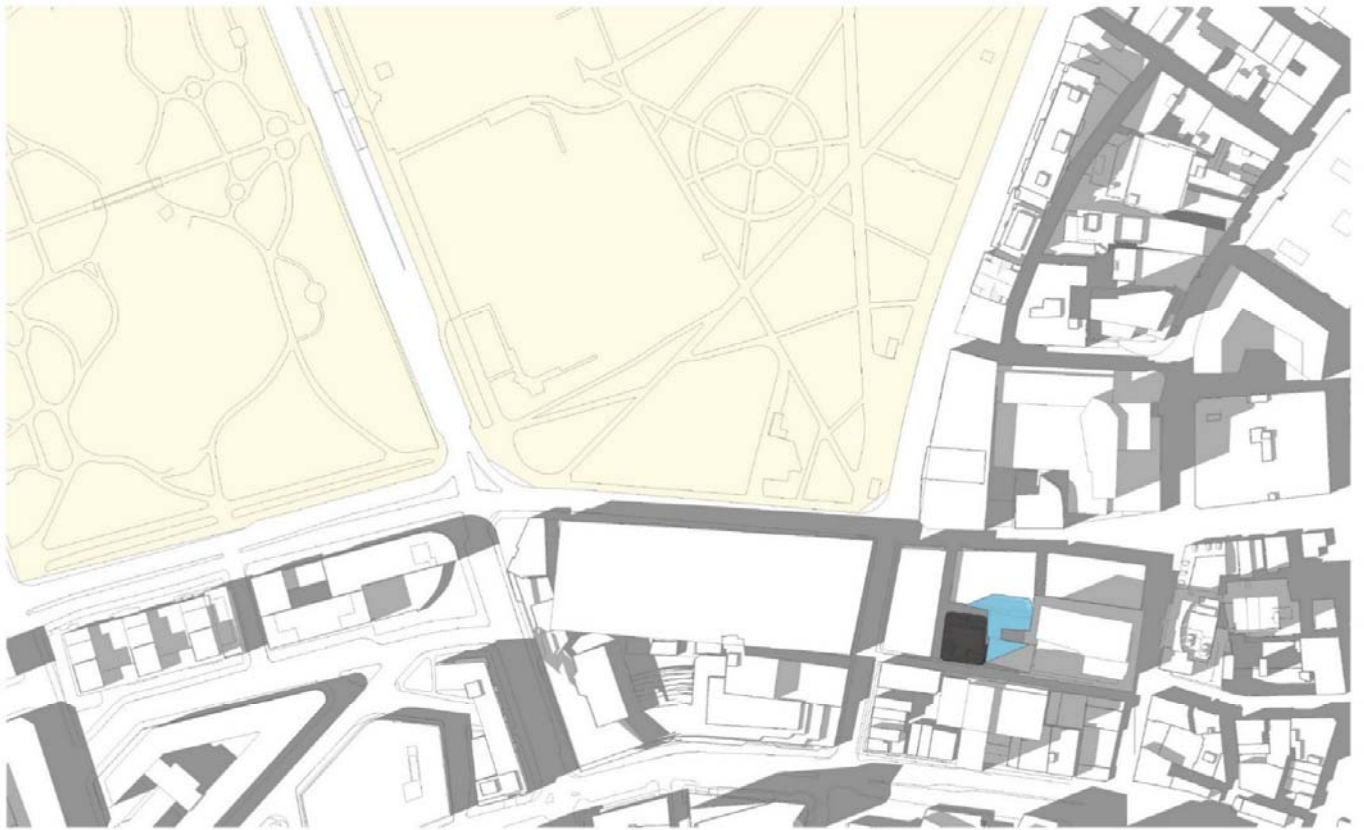


JUNE 21, 12PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



JUNE 21, 3PM (DAY LIGHT SAVINGS TIME)

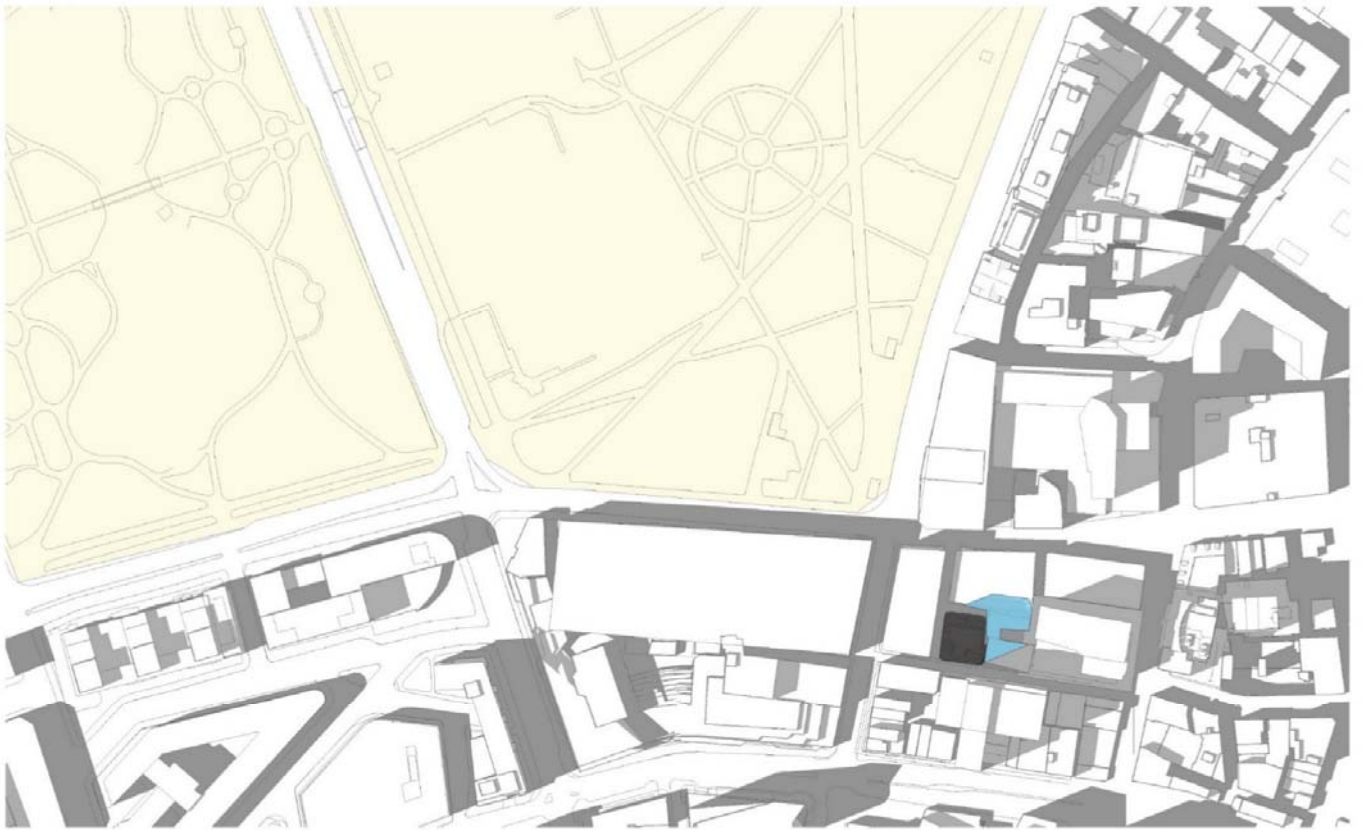


JUNE 21, 6PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



JUNE 21, 3PM (DAY LIGHT SAVINGS TIME)



JUNE 21, 6PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



SEPTEMBER 21, 9AM (DAY LIGHT SAVINGS TIME)



SEPTEMBER 21, 12PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



SEPTEMBER 21, 3PM (DAY LIGHT SAVINGS TIME)



SEPTEMBER 21, 6PM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



OCTOBER 21, 8:15 AM (DAY LIGHT SAVINGS TIME)



OCTOBER 21, 8:30 AM (DAY LIGHT SAVINGS TIME)

47-55 LaGrange Street Boston, Massachusetts



SHADOW STUDIES

 NEW SHADOW

 47-55 LAGRANGE



OCTOBER 21, 8:45 AM (DAY LIGHT SAVINGS TIME)



OCTOBER 21, 9:00 AM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 NEW SHADOW
 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



OCTOBER 21, 9:15 AM (DAY LIGHT SAVINGS TIME)



OCTOBER 21, 9:30 AM (DAY LIGHT SAVINGS TIME)



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



OCTOBER 21, 9:45 AM (DAY LIGHT SAVINGS TIME)



OCTOBER 21, 10:00 AM (DAY LIGHT SAVINGS TIME)

47-55 LaGrange Street Boston, Massachusetts



SHADOW STUDIES
 **NEW SHADOW**
 **47-55 LAGRANGE**

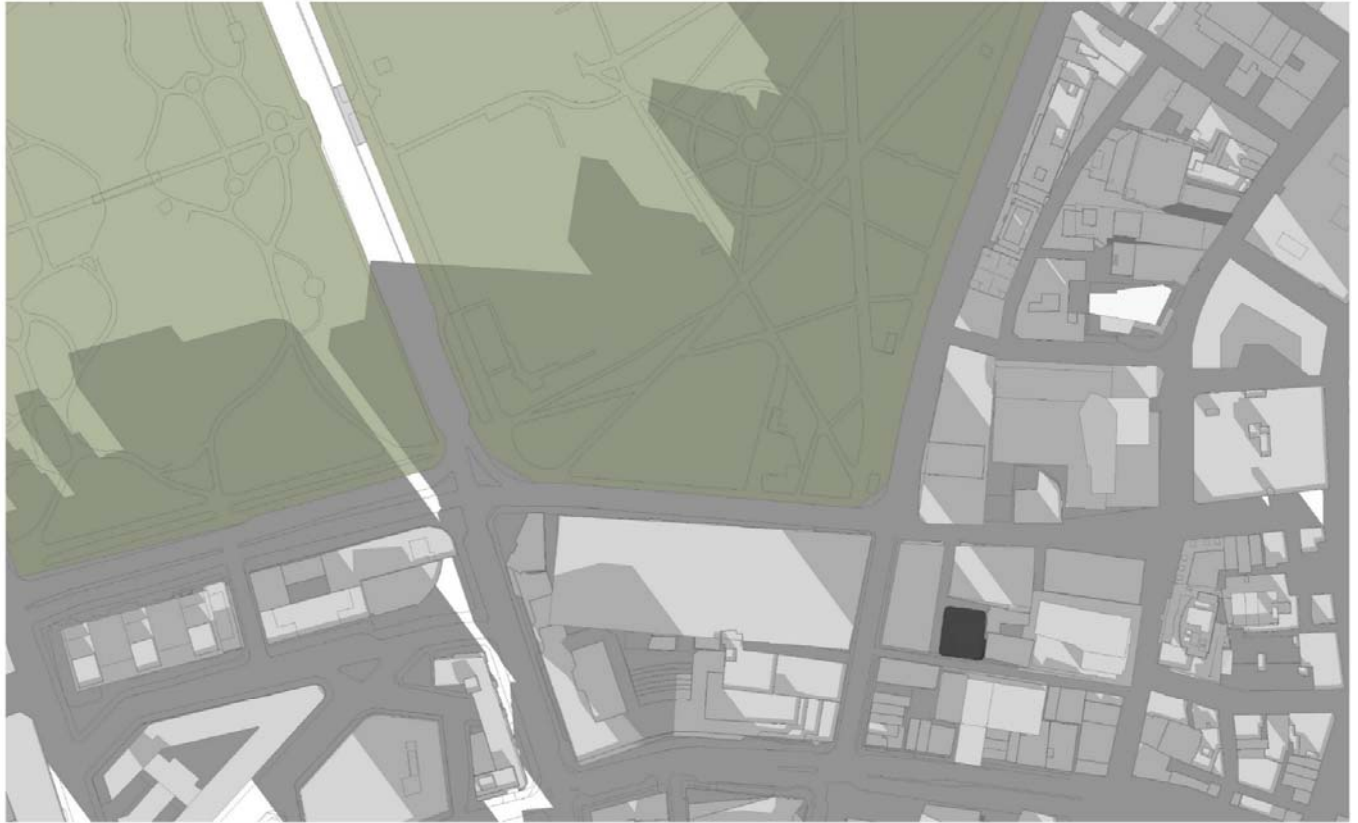


OCTOBER 21, 10:15 AM (DAY LIGHT SAVINGS TIME)

47-55 LaGrange Street Boston, Massachusetts



SHADOW STUDIES
NEW SHADOW
47-55 LAGRANGE



DECEMBER 21, 9AM



DECEMBER 21, 12PM



SHADOW STUDIES
 ■ NEW SHADOW
 ■ 47-55 LAGRANGE

47-55 LaGrange Street Boston, Massachusetts



DECEMBER 21, 3PM

47-55 LaGrange Street Boston, Massachusetts



Appendix D

Climate Change Preparedness Checklist

Climate Change Preparedness and Resiliency Checklist for New Construction

In November 2013, in conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the Boston Redevelopment Authority adopted policy for all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding project resiliency, preparedness, and to mitigate any identified adverse impacts that might arise under future climate conditions.

For more information about the City of Boston's climate policies and practices, and the 2011 update of the climate action plan, *A Climate of Progress*, please see the City's climate action web pages at <http://www.cityofboston.gov/climate>

In advance we thank you for your time and assistance in advancing best practices in Boston.

Climate Change Analysis and Information Sources:

1. Northeast Climate Impacts Assessment (www.climatechoices.org/ne/)
2. USGCRP 2009 (<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/>)
3. Army Corps of Engineers guidance on sea level rise (<http://planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf>)
4. Proceeding of the National Academy of Science, "Global sea level rise linked to global temperature", Vermeer and Rahmstorf, 2009 (<http://www.pnas.org/content/early/2009/12/04/0907765106.full.pdf>)
5. "Hotspot of accelerated sea-level rise on the Atlantic coast of North America", Asbury H. Sallenger Jr*, Kara S. Doran and Peter A. Howd, 2012 ([http://www.bostonredevelopmentauthority.org/planning/Hotspot of Accelerated Sea-level Rise 2012.pdf](http://www.bostonredevelopmentauthority.org/planning/Hotspot%20of%20Accelerated%20Sea-level%20Rise%202012.pdf))
6. "Building Resilience in Boston": Best Practices for Climate Change Adaptation and Resilience for Existing Buildings, Linnean Solutions, The Built Environment Coalition, The Resilient Design Institute, 2103 ([http://www.greenribboncommission.org/downloads/Building Resilience in Boston SML.pdf](http://www.greenribboncommission.org/downloads/Building_Resilience_in_Boston_SML.pdf))

Checklist

Please respond to all of the checklist questions to the fullest extent possible. For projects that respond "Yes" to any of the D.1 – Sea-Level Rise and Storms, Location Description and Classification questions, please respond to all of the remaining Section D questions.

Checklist responses are due at the time of initial project filing or Notice of Project Change and final filings just prior seeking Final BRA Approval. A PDF of your response to the Checklist should be submitted to the Boston Redevelopment Authority via your project manager.

Please Note: When initiating a new project, please visit the BRA web site for the most current [Climate Change Preparedness & Resiliency Checklist](#).

Climate Change Resiliency and Preparedness Checklist

A.1 - Project Information

Project Name:
Project Address Primary:
Project Address Additional:
Project Contact (name / Title / Company / email / phone):

47-55 Lagrange Street
47-55 Lagrange Street
John Matteson, QMG La Grange, LLC, jmatteson44@gmail.com

A.2 - Team Description

Owner / Developer:
Architect:
Engineer (building systems):
Sustainability / LEED:
Permitting:
Construction Management:
Climate Change Expert:

QMG LaGrange, LLC
Stantec Architecture
WSP Parsons Brinckerhoff
Stantec Architecture
Epsilon Associates

A.3 - Project Permitting and Phase

At what phase is the project – most recent completed submission at the time of this response?

<input checked="" type="checkbox"/> PNF / Expanded PNF Submission	<input type="checkbox"/> Draft / Final Project Impact Report Submission	<input type="checkbox"/> BRA Board Approved	<input type="checkbox"/> Notice of Project Change
<input type="checkbox"/> Planned Development Area	<input type="checkbox"/> BRA Final Design Approved	<input type="checkbox"/> Under Construction	<input type="checkbox"/> Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:

Residential

List the First Floor Uses:

Residential Lobby, parking and services

What is the principal Construction Type – select most appropriate type?

☐ Wood Frame ☐ Masonry ☐ Steel Frame ☒ Concrete

Describe the building?

Site Area:

8,759 SF

Building Area:

157,000 SF

Building Height:

240 Ft.

Number of Stories:

21 Flrs.

First Floor Elevation (reference Boston City Base):

18-21 Elev.

Are there below grade spaces/levels, if yes how many:

Yes. One level.

A.5 - Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems)?

Select by Primary Use:

<input checked="" type="checkbox"/> New Construction	<input type="checkbox"/> Core & Shell	<input type="checkbox"/> Healthcare	<input type="checkbox"/> Schools
<input type="checkbox"/> Retail	<input type="checkbox"/> Homes Midrise	<input type="checkbox"/> Homes	<input type="checkbox"/> Other
Select LEED Outcome:			
<input type="checkbox"/> Certified	<input checked="" type="checkbox"/> Silver	<input type="checkbox"/> Gold	<input type="checkbox"/> Platinum

Will the project be USGBC Registered and / or USGBC Certified?

Registered:

Yes / No
TBD

Certified:

Yes / No
TBD

A.6 - Building Energy-

What are the base and peak operating energy loads for the building?

Electric:

1,382 base, 1.640 peak (kW)

Heating:

0 base, 3.8 peak (MMBtu/hr)

What is the planned building Energy Use Intensity:

(kWh/SF)

Cooling:

0.5 base, 3.9 peak (MMBtu/hr)

What are the peak energy demands of your critical systems in the event of a service interruption?

Electric:

(kW)

Heating:

0 (MMBtu/hr)

Cooling:

0.5 (MMBtu/hr)

What is nature and source of your back-up / emergency generators?

Electrical Generation:

400 (kW)

Fuel Source:

Diesel

System Type and Number of Units:

<input type="checkbox"/> Combustion Engine	<input type="checkbox"/> Gas Turbine	<input type="checkbox"/> Combine Heat and Power	(Units)
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B - Extreme Weather and Heat Events

Climate change will result in more extreme weather events including higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

B.1 - Analysis

What is the full expected life of the project?

Select most appropriate:

<input type="checkbox"/> 10 Years	<input type="checkbox"/> 25 Years	<input checked="" type="checkbox"/> 50 Years	<input type="checkbox"/> 75 Years
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What is the full expected operational life of key building systems (e.g. heating, cooling, ventilation)?

Select most appropriate:

<input type="checkbox"/> 10 Years	<input checked="" type="checkbox"/> 25 Years	<input type="checkbox"/> 50 Years	<input type="checkbox"/> 75 Years
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What time span of future Climate Conditions was considered?

Select most appropriate:

<input type="checkbox"/> 10 Years	<input type="checkbox"/> 25 Years	<input checked="" type="checkbox"/> 50 Years	<input type="checkbox"/> 75 Years
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Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

8/91 Deg.	Based on ASHRAE Fundamentals 2013 99.6% heating; 0.4% cooling
-----------	---

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency?

95 Deg.	5 Days	6 Events / yr.
---------	--------	----------------

What Drought characteristics will be used for project planning – Duration and Frequency?

30-90 Days	0.2 Events / yr.
------------	------------------

What Extreme Rain Event characteristics will be used for project planning – Seasonal Rain Fall, Peak Rain Fall, and Frequency of Events per year?

45 Inches / yr.	4 Inches	0.5 Events / yr.
-----------------	----------	------------------

What Extreme Wind Storm Event characteristics will be used for project planning – Peak Wind Speed, Duration of Storm Event, and Frequency of Events per year?

130 Peak Wind	10 Hours	0.25 Events / yr.
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B.2 - Mitigation Strategies

What will be the overall energy performance, based on use, of the project and how will performance be determined?

Building energy use below code:	TBD
How is performance determined:	Energy Model

What specific measures will the project employ to reduce building energy consumption?

Select all appropriate:	<input checked="" type="checkbox"/> High performance building envelop	<input checked="" type="checkbox"/> High performance lighting & controls	<input type="checkbox"/> Building day lighting	<input checked="" type="checkbox"/> EnergyStar equip. / appliances
	<input checked="" type="checkbox"/> High performance HVAC equipment	<input checked="" type="checkbox"/> Energy recovery ventilation	<input type="checkbox"/> No active cooling	<input type="checkbox"/> No active heating
Describe any added measures:				

What are the insulation (R) values for building envelop elements?

Roof:	R = 30	Walls / Curtain Wall Assembly:	R = 13BATTs + R8 continuous insulation
Foundation:	R = 15	Basement / Slab:	R = 10
Windows:	R = / U = 0.4	Doors:	R = / U = 0.7

What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure?

<input type="checkbox"/> On-site clean energy / CHP system(s)	<input type="checkbox"/> Building-wide power dimming	<input type="checkbox"/> Thermal energy storage systems	<input type="checkbox"/> Ground source heat pump
<input type="checkbox"/> On-site Solar PV	<input type="checkbox"/> On-site Solar Thermal	<input type="checkbox"/> Wind power	<input checked="" type="checkbox"/> None
Describe any added measures:			

Will the project employ Distributed Energy / Smart Grid Infrastructure and /or Systems?

Select all appropriate:

<input type="checkbox"/> Connected to local distributed electrical	<input type="checkbox"/> Building will be Smart Grid ready	<input type="checkbox"/> Connected to distributed steam, hot, chilled water	<input type="checkbox"/> Distributed thermal energy ready
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Will the building remain operable without utility power for an extended period?

	No	If yes, for how long:	Days
If Yes, is building "Islandable?"	Life safety electrical equipment will be operational without utility power.		
If Yes, describe strategies:			

Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:

<input type="checkbox"/> Solar oriented – longer south walls	<input type="checkbox"/> Prevailing winds oriented	<input type="checkbox"/> External shading devices	<input checked="" type="checkbox"/> Tuned glazing,
<input type="checkbox"/> Building cool zones	<input checked="" type="checkbox"/> Operable windows	<input type="checkbox"/> Natural ventilation	<input type="checkbox"/> Building shading
<input type="checkbox"/> Potable water for drinking / food preparation	<input type="checkbox"/> Potable water for sinks / sanitary systems	<input type="checkbox"/> Waste water storage capacity	<input checked="" type="checkbox"/> High Performance Building Envelop
Describe any added measures:			

What measures will the project employ to reduce urban heat-island effect?

Select all appropriate:

<input type="checkbox"/> High reflective paving materials	<input type="checkbox"/> Shade trees & shrubs	<input checked="" type="checkbox"/> High reflective roof materials	<input type="checkbox"/> Vegetated roofs
Describe other strategies:			

What measures will the project employ to accommodate rain events and more rain fall?

Select all appropriate:

<input type="checkbox"/> On-site retention systems & ponds	<input type="checkbox"/> Infiltration galleries & areas	<input type="checkbox"/> Vegetated water capture systems	<input type="checkbox"/> Vegetated roofs
Describe other strategies:			

What measures will the project employ to accommodate extreme storm events and high winds?

Select all appropriate:

<input type="checkbox"/> Hardened building structure & elements	<input checked="" type="checkbox"/> Buried utilities & hardened infrastructure	<input type="checkbox"/> Hazard removal & protective landscapes	<input type="checkbox"/> Soft & permeable surfaces (water infiltration)
Describe other strategies:			

C - Sea-Level Rise and Storms

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

C.1 - Location Description and Classification:

Do you believe the building to susceptible to flooding now or during the full expected life of the building?

No

Describe site conditions?

Site Elevation – Low/High Points:

18-21 Boston City
Base Elev.(Ft.)

Building Proximity to Water:

1,500 Ft.

Is the site or building located in any of the following?

Coastal Zone:

Yes / No

Velocity Zone:

Yes / No

Flood Zone:

Yes / No

Area Prone to Flooding:

Yes / No

Will the 2013 Preliminary FEMA Flood Insurance Rate Maps or future floodplain delineation updates due to Climate Change result in a change of the classification of the site or building location?

2013 FEMA
Prelim. FIRMs:

No

Future floodplain delineation updates:

No

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding?

1,125 Ft.

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

C - Sea-Level Rise and Storms

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

C.2 - Analysis

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise:

3 Ft.

Frequency of storms:

0.25 per year

C.3 - Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

What will be the Building Flood Proof Elevation and First Floor Elevation:

Flood Proof Elevation:

Boston City Base
Elev.(Ft.)

First Floor Elevation:

Boston City Base
Elev. (Ft.)

Will the project employ temporary measures to prevent building flooding (e.g. barricades, flood gates):

Yes / No

If Yes, to what elevation

Boston City Base
Elev. (Ft.)

If Yes, describe:

What measures will be taken to ensure the integrity of critical building systems during a flood or severe storm event:

<input type="checkbox"/> Systems located above 1 st Floor.	<input checked="" type="checkbox"/> Water tight utility conduits	<input type="checkbox"/> Waste water back flow prevention	<input type="checkbox"/> Storm water back flow prevention
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Were the differing effects of fresh water and salt water flooding considered:

Yes / No

Will the project site / building(s) be accessible during periods of inundation or limited access to transportation:

Yes / No	If yes, to what height above 100 Year Floodplain:	Boston City Base Elev. (Ft.)
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Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

Yes / No

If Yes, describe:

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Will the building remain occupiable without utility power during an extended period of inundation:

Yes / No	If Yes, for how long:	days
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Describe any additional strategies to addressing sea level rise and or sever storm impacts:

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C.4 - Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand severe storm impacts and endure temporary inundation?

Select appropriate:	Yes / No	<input type="checkbox"/> Hardened / Resilient Ground Floor Construction	<input type="checkbox"/> Temporary shutters and or barricades	<input type="checkbox"/> Resilient site design, materials and construction
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Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:	Yes / No	<input type="checkbox"/> Surrounding site elevation can be raised	<input type="checkbox"/> Building ground floor can be raised	<input type="checkbox"/> Construction been engineered
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Describe additional strategies:

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Has the building been planned and designed to accommodate future resiliency enhancements?

Select appropriate:	Yes / No	<input type="checkbox"/> Solar PV	<input type="checkbox"/> Solar Thermal	<input type="checkbox"/> Clean Energy / CHP System(s)
		<input type="checkbox"/> Potable water storage	<input type="checkbox"/> Wastewater storage	<input type="checkbox"/> Back up energy systems & fuel

Describe any specific or additional strategies:

--

Thank you for completing the Boston Climate Change Resilience and Preparedness Checklist!

For questions or comments about this checklist or Climate Change Resiliency and Preparedness best practices, please contact: John.Dalzell.BRA@cityofboston.gov

Appendix E

Accessibility Checklist

Accessibility Checklist

(to be added to the BRA Development Review Guidelines)

In 2009, a nine-member Advisory Board was appointed to the Commission for Persons with Disabilities in an effort to reduce architectural, procedural, attitudinal, and communication barriers affecting persons with disabilities in the City of Boston. These efforts were instituted to work toward creating universal access in the built environment.

In line with these priorities, the Accessibility Checklist aims to support the inclusion of people with disabilities. In order to complete the Checklist, you must provide specific detail, including descriptions, diagrams and data, of the universal access elements that will ensure all individuals have an equal experience that includes full participation in the built environment throughout the proposed buildings and open space.

In conformance with this directive, all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding the following:

- improvements for pedestrian and vehicular circulation and access;
- encourage new buildings and public spaces to be designed to enhance and preserve Boston's system of parks, squares, walkways, and active shopping streets;
- ensure that persons with disabilities have full access to buildings open to the public;
- afford such persons the educational, employment, and recreational opportunities available to all citizens; and
- preserve and increase the supply of living space accessible to persons with disabilities.

We would like to thank you in advance for your time and effort in advancing best practices and progressive approaches to expand accessibility throughout Boston's built environment.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
 - a. http://www.ada.gov/2010ADASTandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
 - a. <http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html>
3. Boston Complete Street Guidelines
 - a. <http://bostoncompletestreets.org/>
4. City of Boston Mayors Commission for Persons with Disabilities Advisory Board
 - a. <http://www.cityofboston.gov/Disability>
5. City of Boston – Public Works Sidewalk Reconstruction Policy
 - a. http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
6. Massachusetts Office On Disability Accessible Parking Requirements
 - a. www.mass.gov/anf/docs/mod/hp-parking-regulations-mod.doc
7. MBTA Fixed Route Accessible Transit Stations
 - a. http://www.mbta.com/about_the_mbta/accessibility/

Project Information

Project Name:	47-55 LaGrange Street
Project Address Primary:	47-55 LaGrange Street
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	John Matteson, QMG La Grange, LLC, jmatteson44@gmail.com

Team Description

Owner / Developer:	QMG La Grange, LLC
Architect:	Stantec Architecture
Engineer (building systems):	WSP Parsons Brinckerhoff
Sustainability / LEED:	Stantec Architecture
Permitting:	Epsilon Associates, Inc
Construction Management:	tbd

Project Permitting and Phase

At what phase is the project – at time of this questionnaire?

<input checked="" type="checkbox"/> PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

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Building Classification and Description

What are the principal Building Uses - select all appropriate uses?

Residential – One to Three Unit	<input checked="" type="checkbox"/> Residential - Multi-unit, Four +	Institutional	Education
Commercial	Office	Retail	Assembly
Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and Other
First Floor Uses (List)	Lobby, parking and services		

What is the Construction Type – select most appropriate type?

Wood Frame	Masonry	Steel Frame	<input checked="" type="checkbox"/> Concrete
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Describe the building?

Site Area:

8,759 SF

Building Area:

157,000 SF

Building Height:

240 Ft.

Number of Stories:

21 Flrs.

First Floor Elevation:

18-21 Elev.

Are there below grade spaces:

Yes

Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and proximate institutions such as, but not limited to hospitals, elderly and disabled housing, and general neighborhood information. The proponent should identify how the area surrounding the development is accessible for people with mobility impairments and should analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the development neighborhood and identifying characteristics.

The project is located in the Midtown Culture District, a vibrant neighborhood with residential, commercial, retail, medical, educational and cultural uses.

List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.

MBTA Green line at Boylston Street stop, Red Line and Orange Line at Chinatown stop. MBTA Buses 11, 15, 553, and Silver Line SL4 and SL5 are all within one block of the site.

List the surrounding institutions: hospitals, public housing and

Institutions within the vicinity of the Project site include Emerson College, Suffolk University, Tufts Medical Center, Chinese Golden Age Center, Boston Young Men's

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elderly and disabled housing developments, educational facilities, etc.

Christian Union Building, and the St. Francis House

Is the proposed development on a priority accessible route to a key public use facility? List the surrounding: government buildings, libraries, community centers and recreational facilities and other related facilities.

The development is not on a priority accessible route. Facilities within the vicinity of the Project site include the Chinatown Main Street Program, Cutler Majestic Theatre, and the Boston Opera House.

Surrounding Site Conditions – Existing:

This section identifies the current condition of the sidewalks and pedestrian ramps around the development site.

Are there sidewalks and pedestrian ramps existing at the development site?

Yes.

If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.

Sidewalk and pedestrian ramp (only along LaGrange Street) are concrete and in fair condition

Are the sidewalks and pedestrian ramps existing-to-remain? **If yes**, have the sidewalks and pedestrian ramps been verified as compliant? **If yes**, please provide surveyors report.

No. The sidewalks and ramps will be reconstructed as part of the Project.

Is the development site within a historic district? **If yes**, please identify.

No.

Surrounding Site Conditions – Proposed

This section identifies the proposed condition of the walkways and pedestrian ramps in and around the development site. The width of the sidewalk contributes to the degree of comfort and enjoyment of walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Typically, a five foot wide Pedestrian Zone supports two people walking side by side or two wheelchairs passing each other. An eight foot wide Pedestrian Zone allows two pairs of people to comfortably pass each other, and a ten foot or wider Pedestrian Zone can support high volumes of pedestrians.

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Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? See: www.bostoncompletestreets.org

If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.

What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.

List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?

If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?

Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way?

If yes above, what are the proposed dimensions of the sidewalk café or furnishings and what will the right-of-way clearance be?

Yes.

The Boston Complete Street Guidelines, "Shared Street" type was applied as the closest description to LaGrange and Tamworth Streets.

Approximately 6 feet.

Concrete surface, partially on private property.

TBD.

No.

Proposed Accessible Parking:

See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability Handicap Parking Regulations.

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What is the total number of parking spaces provided at the development site parking lot or garage?

20.

What is the total number of accessible spaces provided at the development site?

1.

Will any on street accessible parking spaces be required? **If yes,** has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?

No.

Where is accessible visitor parking located?

Visitor parking would be nearby parking lots or garages.

Has a drop-off area been identified? **If yes,** will it be accessible?

Yes and yes.

Include a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations. Please include route distances.

See attached diagram.

Circulation and Accessible Routes:

The primary objective in designing smooth and continuous paths of travel is to accommodate persons of all abilities that allow for universal access to entryways, common spaces and the visit-ability* of neighbors.

**Visit-ability – Neighbors ability to access and visit with neighbors without architectural barrier limitations*

Provide a diagram of the accessible route connections through the site.

See attached diagram.

Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.

All entry ways will provide a flush condition to the ground level uses and elevator access to all uses above or below the ground level..

Are the accessible entrance and the

Yes.

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standard entrance integrated?

If no above, what is the reason?

Will there be a roof deck or outdoor courtyard space? **If yes**, include diagram of the accessible route.

Has an accessible routes way-finding and signage package been developed? **If yes**, please describe.

No.
No.

Accessible Units: (If applicable)

In order to facilitate access to housing opportunities this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing choice.

What is the total number of proposed units for the development?

How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?

How many accessible units are being proposed?

Please provide plan and diagram of the accessible units.

How many accessible units will also be affordable? If none, please describe reason.

Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes**, please provide reason.

Has the proponent reviewed or presented the proposed plan to the

Up to 176.
All units are for rent and 13% of them will be set aside as BPDA's Inclusionary Development Policy (IDP) Units
Five percent of the total unit count will be type 2A in accordance with MAAB.
The accessible units have not yet been selected.
TBD.
No.
No.

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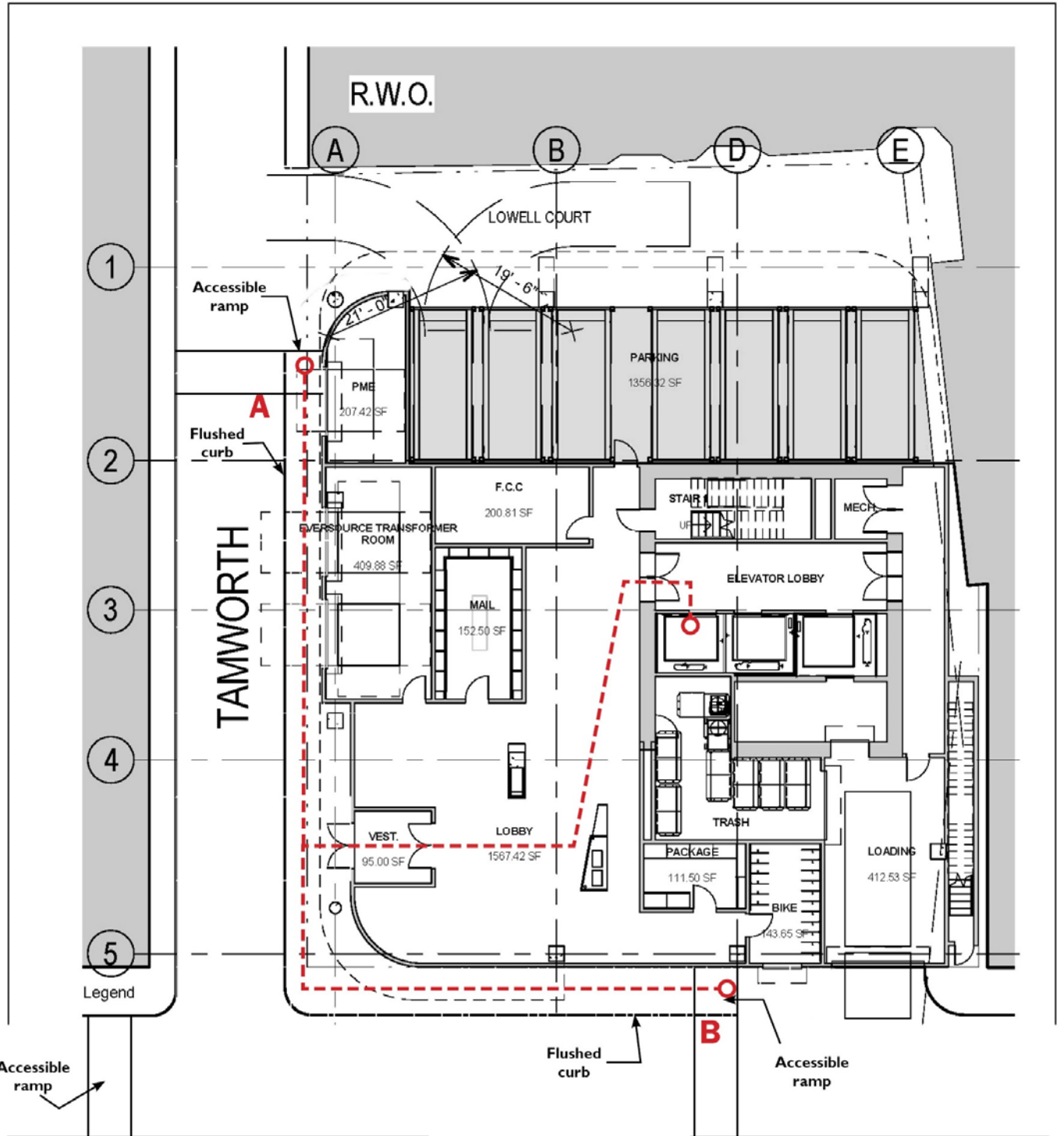
City of Boston Mayor's Commission
for Persons with Disabilities
Advisory Board?

Did the Advisory Board vote to
support this project? **If no**, what
recommendations did the Advisory
Board give to make this project
more accessible?

Thank you for completing the Accessibility Checklist!

For questions or comments about this checklist or accessibility practices, please contact:

kathryn.quigley@boston.gov | Mayors Commission for Persons with Disabilities



Route A: 131'
Route B: 157'



0' 8' 16' 32'

47-55 LaGrange Street Boston, Massachusetts



Accessibility Diagram