252-258 Huntington Avenue



Submitted to:

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

Submitted by: QMG Huntington Limited Partnership 133 Pearl Street Boston, MA 02110

October 13, 2017

APPLICATION

UNDER

M.G.L. CHAPTER 121A

FOR

252-258 HUNTINGTON AVENUE BOSTON, MASS.

SUBMITTED OCTOBER 13, 2017

APPLICANT: QMG HUNTINGTON LIMITED PARTNERSHIP

TABLE OF CONTENTS

| Fact Sheet | | 5 | |
|--------------|-------------|---|----|
| Intro | ductio | <u>n</u> | 10 |
| <u>Defin</u> | ned Te | rms | 10 |
| (1) | App | licant / Proposed Chapter 121A Entity | 13 |
| ` , | (a) | Applicant | |
| | (b) | Applicant's Attorneys | 13 |
| | (c) | Applicant's Consultants | 13 |
| | (d) | Proposed Chapter 121A Entity | 14 |
| | (e) | No Real Estate Taxes in Arrears | |
| | (f) | No Known Legal Judgments or Actions Pending | 15 |
| | (g) | No Other Chapter 121A Agreements | 15 |
| (2) | <u>Proj</u> | ect Area | 15 |
| | (a) | Metes and Bounds Description | |
| | (b) | Decadent Area | |
| | (c) | Owners, Abutters, and Others Substantially Affected | 19 |
| (3) | <u>Proj</u> | | 22 |
| | (a) | General Description | |
| | (b) | Master Plan for the City of Boston | |
| | (c) | Units Constituting a Single Building (M.G.L. c. 138) | |
| | (d) | No Garage within 500 Feet of Specified Uses | |
| | (e) | Minimum Standards | |
| | (f) | Documentation and Statement of Fact Regarding Detriment | |
| | (g) | Necessity and Desirability | |
| | (h) | No Destruction or Rehabilitation of Dwellings | 28 |
| (4) | <u>Fina</u> | uncial Information | 28 |
| | (a) | General | |
| | (b) | Method of Financing | |
| | (c) | Municipal Liens | |
| | (d) | Section 6A Contract Terms | |
| | (e) | Requests for Extended Property-Tax Exemption | 31 |
| (5) | Dev | elopment Schedule | 31 |
| (6) | <u>Pub</u> | lic Use and Benefit | 31 |
| ` / | (a) | City's Overall Planning and Development Objectives | |
| | (b) | Elimination of Decadent Conditions | 31 |
| | (c) | Community Support, and Neighborhood and City Benefits | 32 |
| | (d) | Impact Sufficient to Warrant Chapter 121A Status | |
| | (e) | No Significant Environmental Impacts | 33 |

| (7) | Need for C | Chapter 121A Aids | 34 |
|-------------|--------------------|--|----|
| (8) | Jobs – Bos | ton Resident Preference | 34 |
| (9) | Affirmative Action | | 34 |
| (10) | Additional | Determinations, Findings, and Approvals | 35 |
| <u>Oath</u> | of the Applic | cant | |
| <u>Appe</u> | ndices to Ap | plication | |
| Appe | ndix 1 | Aerial Locus | |
| Appe | ndix 2 | Site Plans - Survey - Site Plan | |
| Appe | ndix 3 | Drawings - Parking Plan - Basement Plan - Project Ground Floor Plan - Second Floor Plan - Upper Levels Plans - Roof Plan - Sections - Aerial View Facing Northeast - Aerial View Facing Southeast - View of Huntington Avenue | |
| Appe | ndix 4 | Evidence of Decadence - Photographs of the Project Area - Engineers' Reports Property Condition Report – 252-258 Huntington Avenue Property Condition Report – 264 Huntington Avenue - Financial Reports Project Budget Non-Chapter 121A Alternative | ıe |
| Appe | ndix 5 | [N.A Omitted Intentionally] | |
| Appe | ndix 6 | Draft Section 6A Contract | |
| Appe | ndix 7 | Draft Regulatory Agreement | |
| Appe | ndix 8 | Chapter 121A Entity Agreement | |
| Appe | ndix 9 | Draft Agreement Not to Dispose of Interests | |

| Appendix 10 | Deviations Requested |
|-------------|---|
| Appendix 11 | Environmental Forms |
| Appendix 12 | [N.A Omitted Intentionally] |
| Appendix 13 | [N.A Omitted Intentionally] |
| Appendix 14 | Disclosure of Beneficial Interests |
| Appendix 15 | Supplemental Materials (to be provided under separate cover) - Use and Dimensional Restrictions on Theatre Parcel - Use Restriction on Cultural Component |

FACT SHEET

CHAPTER 121A APPLICATION

252-258 HUNTINGTON AVENUE BOSTON, MASSACHUSETTS

Submitted OCTOBER 13, 2017

I. Applicant:

QMG Huntington Limited Partnership, a Massachusetts limited partnership ("QMG Huntington L.P." or the "Applicant"). QMG Huntington L.P. is an entity whose formation under Chapter 121A of the Massachusetts General Laws ("Chapter 121A") must be approved by the Boston Redevelopment Authority ("BRA") d/b/a Boston Planning & Development Agency ("BPDA").

II. Project Area:

The Project site comprises the two contiguous parcels at 252 Huntington Avenue (Parcel ID 0402292000) and 258 Huntington Avenue (Parcel ID 0402291000), with a total lot area of 17,093 square feet ("sf"), in a portion of the Fenway neighborhood of Boston (Ward 4) known as the *Avenue of the Arts* district (the "Project Area"). QMG Huntington, LLC, a Massachusetts limited liability company ("QMG Huntington") owns the Project Area.

III. Project:

The goal of the 252-258 Huntington Avenue project (the "Project") is to redevelop dilapidated, former institutional property along Boston's Avenue of the Arts, while leaving intact the historic, 890-seat theatre (the "Huntington Avenue Theatre" or "Theatre") at 264 Huntington Avenue, an approximately 17,080 sf parcel adjacent to the Project Area (the "Theatre Parcel"), so it may continue its cultural contributions to the City. To enable preservation of the Theatre, the Applicant proposes to construct a new, high-rise, mixed-use building (the "Tower") in the Project Area, including 14,000 sf of new, handicapped-accessible space necessary to support the Theatre (the "Cultural Component"). The Cultural Component will be delivered to the Huntington Theatre Company, Inc. ("HTC"), the long-time operator of the Theatre, or HTC's affiliate/assignee, in shell-and-core condition under a 100-year lease at nominal rent.

At the outset of the Project, QMG Huntington will grant fee ownership in the Project Area to the Applicant. Pursuant to a ground lease, the Applicant, as ground lessor, will then ground lease the Project Area back to QMG Huntington, as ground lessee. As ground lessee, QMG Huntington will demolish the existing improvements at 252 and 258 Huntington Avenue, merge those two parcels into one (the "Tower Parcel"), and finance, construct, maintain, and manage, there, the Tower.

The Tower will have a building height of approximately 362 feet and 32 stories, and comprise three "Project Components," all undertaken by the Applicant, as follows:

- Up to 426 dwelling units, served by first- and secondstory lobby and amenity space, and an underground, accessory parking garage for up to 114 cars (the "Residential Component")
- Up to 7,500 sf of retail/restaurant/services space at the first and second stories (the "Retail Component"); and
- The 14,000 sf Cultural Component at the first two stories, with direct access to and from the adjacent Huntington Avenue Theatre. Upon completion of the Tower, QMG Huntington, as sublessor, will deliver the Cultural Component in shell-and-core condition to HTC, or its affiliate/assignee, for future fit-out under a 100-year sublease at nominal rent.

Upon final approval of the Project, without the timely filing of a petition challenge it, QMG Huntington, or its affiliate/assignee, will grant fee ownership of the Theatre Parcel to HTC, with a reversionary interest to the BPDA or the City, for nominal consideration. By deed, the Theatre Parcel will be limited to theatre and cultural uses, and accessory uses and activities, and GFA will be limited to 58,804 sf (FAR 3.4).

| Project Element | Approximate Dimension |
|------------------------------|-----------------------|
| New Residential Component | 426 dwelling units |
| New Retail Component | 7,500 sf |
| New Cultural Component | 14,000 sf |
| New Parking Garage | 114 spaces |
| New Gross Floor Area | 405,500 sf |
| Demolished Institutional Use | 30,008 sf |
| Net Change in GFA | +375,492 sf |
| Height of New Tower | 362 ft. / 32 stories. |
| Total Lot Area | 17,093 sf |
| Total GFA | 405,500 sf |
| Floor Area Ratio ("FAR") | 23.7 |

IV. Financing:

Based upon current estimates, the Project will cost approximately \$290 million to construct. It is anticipated that the Project will be financed initially with one or more construction loans, with an aggregate value of up to 90% of the cost of the Project, and the remaining 10% provided as equity by affiliates of the Applicant.

V. Schedule:

The Applicant anticipates commencing construction of the Project during the fourth quarter of 2018, with completion approximately 26 months later.

VI. Public Use: and Benefit

The Project will provide several public benefits, including:

Theatre Restoration and HTC Stabilization

The Project will foster preservation and rehabilitation of the historic Huntington Avenue Theatre. When Boston University sold the Project Area and the Theatre Parcel to QMG Huntington in 2016, the Huntington Theatre Company lost its long-standing subsidy from B.U., its former landlord. To ensure the long-term stability of HTC, an important cultural institution for the City of Boston, as part of the Project, the Applicant will construct and deliver to HTC 14,000 sf of vital, new space in shell-and-core condition for fit-out by HTC, or its affiliate/assignee, to support the adjacent Theatre, under a 100-year lease, at nominal rent. Upon final approval of the Project, without the timely filing of a petition challenge it, QMG Huntington, or its affiliate/assignee, will grant fee ownership of the Theatre Parcel to HTC, with a reversionary interest to the BPDA or the City, for nominal consideration.

Active Lower-Level Uses

The Project will improve the *Avenue of the Arts*. First- and second-story uses will be visible from the street and open to the public. The largest such use will be up to 14,000 sf of new lobby, reception, and entertainment space for use by the adjacent Theatre during its 150 to 200 annual performances, which will also be used as a new performance, event, and gathering space for the community at other times. Approximately 7,500 sf of restaurant/retail/services uses at the first and second stories will further activate Huntington Avenue.

Sidewalk Improvements

Just as the glass façade of the lower-level uses will invite public connection, so too will the adjacent sidewalk become a signature space on the avenue. With embedded markings and design patterns to create the feel of on being onstage, along with glowing elements at night, the streetscape can come alive for pedestrians and offer a unique welcome to the Theatre.

Striking Architecture

The Tower's engaging façade and elements will anchor the visual terminus of the *Avenue of the Arts*. The Project enables the preservation the Theatre, designed in 1923, and eligible for listing on the National Register of Historic Places.

Transit-Oriented Development

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

Market-Rate and Inclusionary Affordable Housing

The Project will result in up to 426 new dwelling units, all offered for rent during the term of its Chapter 121A designation. The Project is subject to the Mayor's Executive Order regarding inclusionary affordable housing, as most recently amended by an Executive Order dated December 9, 2015, as well as the BPDA's Inclusionary Development Policy. The Project will provide deed-restricted, affordable units on and/or off-site, and/or pay an in-lieu fee.

Fiscal Benefits

- Investment of approximately \$290 million in development costs.
- Approximately \$2.0 million in annual property tax revenues, at property formerly exempt from taxation.
- Creation of approximately 350 full-time-equivalent ("<u>FTE</u>") construction-phase employment opportunities, and approximately 40 new FTE permanent jobs.

Environmental Benefits

- Design to be LEED-certifiable at a "Silver" level, consistent with Zoning Code Article 37.
- Proximity to public transit, to reduce vehicle trips, mileage, and emissions.

VII. Requested: BPDA Action

The Applicant respectfully seeks approval by the BPDA Board:

- (a) to designate QMG Huntington Limited Partnership ("QMG Huntington L.P.") as an urban redevelopment entity; and
- (b) to authorize QMG Huntington L.P. to undertake and carry out the Project in the Project Area, through a ground lease to QMG Huntington, LLC, which will finance, construct, maintain, and manage the Project.

APPLICATION UNDER M.G.L. CHAPTER 121A FOR 252-258 HUNTINGTON AVENUE, BOSTON, MASS.

SUBMITTED OCTOBER 13, 2017

INTRODUCTION

Under oath, the undersigned -- QMG Huntington Limited Partnership, a Massachusetts limited partnership ("QMG Huntington L.P." or the "Applicant") -- submits this application to the Boston Redevelopment Authority (the "BRA") d/b/a the Boston Planning & Development Agency (the "BPDA")* pursuant to M.G.L. c. 121A and Chapter 652 of the Acts of 1960, as both have been amended (collectively, "Chapter 121A"), as well as the Rules and Regulations Governing Chapter 121A Projects in the City of Boston, adopted by the BPDA on June 22, 1978, as amended (the "Chapter 121A Regulations"):

(i) to designate QMG Huntington L.P. an as an urban redevelopment entity; and (ii) to authorize QMG Huntington L.P. to undertake and carry out the Project in the Project Area, as those terms are defined, below.

DEFINED TERMS

The following terms have defined meanings in this Application:

- (a) "252 Huntington Avenue" shall mean Boston Assessing Department Parcel ID 0402292000.
- (b) "258 Huntington Avenue" shall mean Boston Assessing Department Parcel ID 0402291000.
- (c) "264 Huntington Avenue" shall mean Boston Assessing Department Parcel ID 0402290000.
- (d) "Applicant" shall have the meaning given in the Introduction to this Application.
- (e) "Application" shall mean this application submitted pursuant to Chapter 121A and the Chapter 121A Regulations.
- (f) "Approval Date" shall have the meaning given in Section 10(b)(ii), below.

Page 10

^{*} On October 20, 2016, the BRA commenced doing business as the BPDA.

- (g) "Avenue of the Arts Study" shall meaning given in Section 3(b), below.
- (h) "BPDA" shall have the meaning given in the Introduction to this Application.
- (i) "B.U." shall mean Boston University.
- (j) "<u>Chapter 121A</u>" shall have the meaning given in the introduction to this Application.
- (k) "<u>Chapter 121A Entity</u>" shall mean an entity authorized and formed under Chapter 121A.
- (l) "<u>Chapter 121A Regulations</u>" shall have the meaning given in the Introduction to this Application.
- (m) "City" shall mean the City of Boston, Massachusetts.
- (n) "<u>City Council</u>" shall mean the City Council of the City of Boston.
- (o) "Cultural Component" shall have the meaning given in Section 3(a), below.
- (p) "<u>Developer</u>" shall have the meaning given in Section 3(a), below.
- (1) "Effective Date" shall have the meaning given in Section 10(b)(ii), below.
- (a) "<u>FAR</u>" shall mean floor area ratio, as defined under Article 2A of the Zoning Code.
- (b) "ft." shall mean feet.
- (c) "<u>FTE</u>" shall mean full-time equivalent.
- (d) "GFA" shall mean gross floor area, as defined under Article 2A of the Zoning Code.
- (e) "Ground Lease" shall have the meaning given in Section 3(a), below.
- (f) "HTC" shall mean Huntington Theatre Company, Inc., a Massachusetts nonprofit corporation, or its affiliate/assignee.
- (g) "<u>Huntington Avenue Theatre</u>" or "<u>Theatre</u>" shall mean the existing, approximately 890-seat theatre building, located at 264 Huntington Avenue, first opened as the Jewett Repertory Theater in 1925, and more recently known as the Huntington Avenue Theatre.
- (h) "IAG" shall have the meaning given in Section 6(c), below.
- (i) "IDP" shall mean the BPDA's Inclusionary Development Policy, as amended.

- (j) "<u>Large Project Review</u>" shall have the meaning given in Section 2(b), below.
- (k) "Master Plan" shall have the meaning given in Section 3(b), below.
- (l) "Mayor" shall mean the Mayor of the City of Boston.
- (m) "MEPA" shall mean the Massachusetts Environmental Protection Act, as amended.
- (n) "MHC" shall mean the Massachusetts Historical Commission.
- (o) "Minimum Standards" shall have the meaning given in Section 3(e), below.
- (p) "Minor Change" shall have the meaning given in Section 10(f), below.
- (q) "NEC" shall mean the New England Conservatory of Music.
- (r) "Parcels" shall mean the Tower Parcel together with the Theatre Parcel, each of which shall be a "Parcel."
- (s) "Parking Garage" shall have the meaning given in Section 3(d), below.
- (t) "Project" shall have the meaning given in Section 3(a), below.
- (u) "Project Components" shall mean, collectively, the Residential Component, the Retail Component, and the Cultural Component, each of which shall constitute a "Project Component."
- (v) "QMG Huntington" shall mean QMG Huntington, LLC, a Massachusetts limited liability company.
- (w) "QMG Huntington L.P." shall have the meaning given in the Introduction to this Application.
- (x) "Report and Decision" shall have the meaning given in Section 3(a), below.
- (y) "Residential Component" shall have the meaning given in Section 3(a), below.
- (z) "Retail Component" shall have the meaning given in Section 3(a), below.
- (aa) "sf" shall mean square feet.
- (bb) "Theatre Parcel" shall mean 264 Huntington Avenue.
- (cc) "Tower" shall have the meaning given in Section 3(a), below.
- (dd) "Tower Parcel" shall mean the meaning given in Section 3(a), below.
- (ee) "Zoning Code" shall mean the Boston Zoning Code, as amended.

(1) <u>APPLICANT / PROPOSED CHAPTER 121A ENTITY</u>

(a) APPLICANT

As stated in the introduction to this Application, the applicant is QMG Huntington Limited Partnership, a Massachusetts limited partnership: QMG Huntington L.P. is a proposed Chapter 121A entity that will own the Project Area, and undertake the Project, described in Section 3, below. QMG Huntington, LLC is the fee owner of the Project Area. At the outset of the Project, QMG Huntington, or its affiliate/assignee, will grant fee ownership of the Project Area to QMG Huntington L.P. Upon taking fee ownership of the Project Area, QMG Huntington L.P., as ground lessor, will then ground lease the Project Area to QMG Huntington, LLC, as ground lessee, as described in Section 3(a), below.

(b) APPLICANT'S ATTORNEYS

Jared Eigerman, Esq. Dalton & Finegold, LLP 183 State Street, 5th Floor Boston, MA 02110 (617) 936-7777

James H. Greene, Esq. and Andrew H. Kara, Esq. Rubin & Rudman, LLP 53 State Street Boston, MA 02109 (617) 330-7700

Henry Kara, Esq. 12 Post Office Square, 9th Flr. Boston, MA 02109 (617) 426-3600

(c) APPLICANT'S CONSULTANTS

Architect: Stantec Architecture

311 Summer Street Boston, MA 02210 (617) 234-3100 B.K. Boley James Gray Zach Pursley

Permitting Consultant: Epsilon Associates, Inc.

3 Mill & Main Place, Suite 250

Maynard, MA 01754

(978) 897-7100

Cindy Schlessinger Talya Moked

Development The Levi-Nielsen Company, Inc.

Consultant: 171 Gray Street

Amherst, MA 01002

(413) 575-8008

Scott Nielsen

Transportation and Howard Stein Hudson

Parking Consultant: 11 Beacon Street, Suite 1010

Boston, MA 02108 (617) 482-7080 Guy Busa Liz Peart

Civil Engineer: Nitsch Engineering

2 Center Plaza, Suite 430 Boston, MA 02108

(617) 338-0063

Gary Pease John Schmid Brad Staples Deborah Danik

Community Outreach: Nauset Strategies/Wharf Partners

One Design Place, Suite 638

Boston, MA 02210 (617) 270-8640

Michael K. Vaughan Christine S. McMahon

(d) PROPOSED CHAPTER 121A ENTITY

As noted in Section 1(a), above, the Applicant, QMG Huntington L.P., will own the Project Area and undertake the Project, described in Section 3(a), below. At the outset of the Project, QMG Huntington L.P., as grantee, will take fee ownership of the Project Area from its current owner QMG Huntington, LLC, as grantor.

(e) NO REAL ESTATE TAXES IN ARREARS

Neither the Applicant, nor its principals, own any property in the City of Boston on which real estate taxes are in arrears.

(f) No Known Legal Judgments or Actions Pending

The Applicant does not know of any legal judgments, or actions, pending, concerning the Project.

(g) NO OTHER CHAPTER 121A AGREEMENTS

Neither the Applicant, nor its principals, has other Chapter 121A agreements with the BPDA, currently. Therefore, it has no financial statements on the operation of such projects for previous years.

(2) **PROJECT AREA**

(a) METES AND BOUNDS DESCRIPTION

The Project Area has the following metes and bounds:

PARCEL II:

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED AND NOW NUMBERED 256-258 INCLUSIVE ON HUNTINGTON AVENUE IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID PARCEL AT THE SOUTHEASTERLY LINE OF HUNTINGTON AVENUE AT A POINT DISTANT ONE HUNDRED EIGHTY-THREE AND 71/100 FEET SOUTHWESTERLY FROM THE SOUTHERLY CORNER OF HUNTINGTON AVENUE AND MASSACHUSETTS AVENUE;

| THENCE | RUNNING SOUTHEASTERLY AT RIGHT |
|--------|--------------------------------------|
| | ANGLES TO SAID SOUTHEASTERLY LINE OF |
| | HUNTINGTON AVENUE ONE HUNDRED |

HUNTINGTON AVENUE ONE HUNDRED
TWENTY FEET TO A PASSAGEWAY SIXTEEN
FEET WIDE WHICH RUNS PARALLEL TO

SAID HUNTINGTON AVENUE;

THENCE TURNING AND RUNNING SOUTHWESTERLY

BY SAID SIXTEEN-FOOT PASSAGEWAY

NINETY-SIX AND 96/100 FEET;

THENCE TURNING AT RIGHT ANGLES AND RUNNING

NORTHWESTERLY ONE HUNDRED TWENTY FEET TO SAID HUNTINGTON AVENUE, THIS

LINE BEING PARALLEL WITH THE

NORTHEASTERLY BOUNDARY LINE OF THE GRANTED PREMISES AND NINETY-SIX AND

96/100 FEET DISTANT THEREFROM:

THENCE TURNING AND RUNNING NORTHEASTERLY

BY THE SOUTHEASTERLY LINE OF SAID HUNTINGTON AVENUE NINETY-SIX AND 96/100 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH SO MUCH OF SAID PASSAGEWAY AS LIES NORTHWESTERLY OF ITS MIDDLE LINE AND BETWEEN THE SIDE LINES OF SAID LOT EXTENDED, SAID PASSAGEWAY TO BE MAINTAINED IN COMMON BY THE ABUTTERS THEREON AND THEIR HEIRS AND ASSIGNS AND TO BE USED BY THEM AND BY THE ABUTTERS ON CONNECTING PASSAGEWAYS FOR WAY, PROSPECT, DRAINAGE AND THE LIKE.

AND

PARCEL III:

NORTHWESTERLY

A CERTAIN PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATE AND NOW NUMBERED 252 TO 254 ON HUNTINGTON AVENUE, IN BOSTON, COUNTY OF SUFFOLK, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

AND 46/100 (45.46) FEET;
NORTHEASTERLY
BY LAND NOW OR LATE OF MIRIAM HIRSH
BY A LINE RUNNING IN PART THROUGH THE
BRICK PARTITION WALL, ONE HUNDRED

AND TWENTY (120) FEET;

SOUTHEASTERLY BY A PASSAGEWAY SIXTEEN FEET WIDE

(NOW KNOWN AS PUBLIC ALLEY NO. 821), FORTY-FIVE AND 46/100 (45.46) FEET; AND

ON HUNTINGTON AVENUE, FORTY-FIVE

SOUTHWESTERLY BY LAND NOW OR LATE OF HUNTINGTON

INVESTMENT COMPANY, ONE HUNDRED

TWENTY (120) FEET.

CONTAINING 5,455 AND 1/10 SQUARE FEET OF LAND, BE ANY OR ALL OF SAID MEASUREMENTS OR CONTENTS MORE OR LESS, TOGETHER WITH THE FEE AND SOIL OF SAID PASSAGEWAY ADJOINING THE GRANTED PREMISES, TO THE MIDDLE THEREOF.

SAID PREMISES ARE CONVEYED SUBJECT TO A TAKING MADE BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS ACTING ON BEHALF OF THE CITY OF BOSTON UNDER AN ORDER DATED MARCH 23, 1977 RECORDED WITH SAID DEEDS IN BOOK 8942, PAGE 320.†

The exact boundaries of the Project Area may be subject to adjustment for a number of factors, including without limitation: (i) such state of acts as will be shown by an accurate survey of the Project Area; (ii) potential land transfer and/or easement agreement(s) between the Applicant and the owner of any abutting properties; (iii) potential creation of public or private ways, and/or (iv) the grant or receipt of other easement rights and/or appurtenances from or to third parties, including, without limitation, utility easements, party wall agreements and/or access easements. All substantial changes to the boundaries or description of the Project Area shall be subject to the prior written approval of the Director of the BPDA, or the BPDA, as determined by the Director. Minor encroachments in the as-built condition of the

[†] The area subject to such taking is included in the Project Area, including for purposes of calculating "Lot Area," as that term is defined under Section 2A-1 of the Boston Zoning Code.

Project and the Project Area, or between the Project Components, resulting from normal construction deviations shall not be considered substantial changes.

(b) <u>DECADENT AREA</u>

The Project Area comprises the two contiguous parcels at 252 and 258 Huntington Avenue. Located in a portion of the Fenway neighborhood of Boston (Ward 4) known as the *Avenue of the Arts* district, the site is generally bounded: on the northwest by Huntington Avenue, on the northeast by a three-story, mixed-use building commonly known as 250 Huntington Avenue; on the southeast by Public Alley 821; and to the southwest by the Huntington Avenue Theatre at 264 Huntington Avenue. Please refer to the photographs of the Project Area included in **APPENDIX** 4.

The Project Area constitutes a "decadent area" under the meaning of Chapter 121A. Section 1 of Chapter 121A defines such an area as one that is:

detrimental to safety, health, morals, welfare or sound growth of a community because of the existence of buildings which are out of repair, physically deteriorated, unfit for human habitation, or obsolete, or in need of major maintenance or repair, or because much of the real estate in recent years has been sold or taken for non—payment of taxes or upon foreclosure of mortgages, or because buildings have been torn down and not replaced and in which under existing conditions it is improbable that the buildings will be replaced, or because of a substantial change in business or economic conditions, or because of inadequate light, air, or open space, or because of excessive land coverage, or because diversity of ownership, irregular lot sizes or obsolete street patterns make it improbable that the area will be redeveloped by the ordinary operations of private enterprise, or by reason of any combination of the foregoing conditions.

The Project Area, as well as the adjacent Theatre Parcel, are located within the area of the Fenway Urban Renewal Plan (Project No. Mass. R-115), which received its original approval from the BPDA, Boston City Council, and Mayor in 1965, and from the Commonwealth of Massachusetts in 1967, due to the plan area's containing open, blighted, decadent, and/or substandard properties that are detrimental to the safety, health, morals, welfare, or sound growth of the surrounding community. By its vote taken on March 23, 2016, City Council extended the Fenway Urban Renewal Plan through April 30, 2022.

The Huntington Theatre Company, Inc. has occupied portions of the Project Area -- as well as the adjacent Theatre at 264 Huntington Avenue -- since the company was founded in 1982. Until recently, HTC housed its scenery production facilities, telemarketing office, and rehearsal studio at 254 and 258 Huntington Avenue, in the Project Area, which also provided loading access to the Theatre.

Originally intended to accommodate retail space at the sidewalk level, with light storage on the upper floors, the two-story building at 252 Huntington Avenue was later operated as a public ballroom, nightclub, and cinema. B.U. took ownership

in the early 1980s, and it was used as rehearsal space for the Theatre, which B.U. had acquired in 1953. The two-story building at 258 Huntington Avenue has been used most recently as the Boston University Theatre Production Center, which has relocated to a new facility at 820 Commonwealth Avenue.

During the first 34 years of HTC's existence, B.U., as HTC's landlord, charged HTC only nominal rent for use of the Project Area, as well as the adjacent Theatre, and, in fact, provided economic support for the Theatre's daily operations. No portion of the Project Area, nor the Theatre Parcel, was subject to real property taxes, due to B.U.'s exemption. There was, therefore, a substantial change in business or economic conditions in 2016, when. B.U. sold the Project Area and the adjacent Theatre Parcel in an arms-length transaction to QMG Huntington.

In 2017, QMG Huntington entered into a license agreement with HTC to allow HTC's continued use of the Theatre Parcel with the payment of only nominal rent, provided that HTC is responsible for the payment of real estate taxes, and its operating and maintenance expenses. QMG Huntington is not a tax-exempt entity, and so both the Project Area and the adjacent Theatre Parcel, still occupied by HTC, have become subject to real property taxes levied by the City of Boston.

In Fiscal Year 2017, the total assessed value of the 264 Huntington Avenue parcel alone was \$7,852,958, and, under its license, HTC is obliged as licensee of that parcel for tax payments of \$100,598 for the first two quarters of Fiscal Year 2018. This is a substantial financial burden for HTC, a key nonprofit cultural institution located on Boston's *Avenue of the Arts*. The Project Area is assessed at \$8,076,742.

Previous owners of the Project Area and the Theatre Parcel deferred maintenance and neglected capital improvements for decades. All of the improvements at the Project Area are "out of repair, physically deteriorated," "obsolete" and "in need of major maintenance or repair." Please refer to the engineers' reports regarding existing building conditions included in **APPENDIX 4**.

The Project's review under Section 80B of the Boston Zoning Code ("<u>Large Project Review</u>") also covers potential future renovation by HTC of the Huntington Avenue Theatre, as well as HTC's proposed replacement of the existing Theatre annex with a new annex. HTC would undertake that work after its, or its affiliate/assignee's, taking title to the Theatre Parcel from QMG Huntington, or its affiliate/assignee, and no such work at the Theatre Parcel is part of the Applicant's Project to be approved under Chapter 121A.

Upon the Approval Date (defined in Section 10(b)(ii), below), without the timely filing of a petition to challenge such Chapter 121A approval, QMG Huntington, or its affiliate/assignee, will grant fee ownership of the Theatre Parcel to HTC, or its affiliate/assignee, with a reversionary interest to the BPDA or the City, in exchange for nominal consideration. By deed, the Theatre Parcel will be limited to theatre and cultural uses, and accessory uses and activities, and GFA will be limited to 58,804 sf (FAR 3.4).

The many renovations required for the Theatre to remain viable as a cultural use are not physically possible at the Theatre Parcel alone. The Tower will include the 14,000 sf Cultural Component, dedicated to serve the Theatre, including the Theatre's new main entrance and lobby, patron services such as box office, bar, food service, restrooms, and a function room for special events, all fully accessible. Upon completion of the Tower, QMG Huntington will sublease the Cultural Component to HTC, or its affiliate/assignee, for a term of 100 years, which will be delivered to HTC in shell-and-core condition, at nominal rent, and HTC, or its affiliate/assignee, will undertake the fit-out of the Cultural Component for use and occupancy as described in this Application.

Without the Project, it is improbable, at best, that the Project Area will be "redeveloped by the ordinary operations of private enterprise," such that the Theatre can be preserved, let alone rehabilitated for modern use. Without the Project, HTC would be required to pay fair market value for the development of the necessary Cultural Component, to be located within the Project Area, none of which real property it owns. This is economically infeasible. Please refer to the financial reports included in **APPENDIX 4**.

The Project benefits the community by subsidizing, at considerable private cost to the Applicant, the preservation and rehabilitation of the Huntington Avenue Theatre, designed in 1923, and determined to be eligible for listing on the National Register of Historic Places, through the development within the Project Area of the Cultural Component. The Project, and with the donation of the Theatre Parcel, will provide stability to the long-time operator of the Theatre, HTC, an important cultural institution of the City. This is only possible through redevelopment at the Project Area at greater intensity than would be possible without Chapter 121A aids.

In the absence of Chapter 121A aids, the Project Area will remain an economic and social liability that substantially impairs or arrests the sound growth of the *Avenue of the Arts*, and the City overall, retards the provision of improvements, decreases the value of private investments, and threatens sources of public revenue and the City's financial stability. (See M.G.L. c. 121A, s. 2.) With Chapter 121A aids, the Project will result in beneficial redevelopment of this decadent Project Area. (*Id.*)

(c) OWNERS, ABUTTERS, AND OTHERS SUBSTANTIALLY AFFECTED

Current Owner of the Project Area

QMG Huntington, LLC 133 Pearl Street Boston, MA 02110 Attn.: John M. Matteson, Manager

Prospective Owner of the Project Area

QMG Huntington L.P. 133 Pearl Street Boston, MA 02110 Attn.: John M. Matteson

Abutters

250 Huntington Avenue (Parcel ID 0402293000)

Nikos Pappas, Elias Hanzis and Thomas Pappas, Trustees of NET Realty Trust 117 Forest Street Saugus, MA 01906

241-247 St. Botolph Street (Parcel ID 0402281000)

New England Conservatory of Music 241 St. Botolph Street Boston, MA 02115

264 Huntington Avenue (Parcel ID 0402290000)

Huntington Theatre Company, Inc. 264 Huntington Avenue Boston, MA 02115 Attn.: Michael Maso, Managing Director

301-315 Massachusetts Avenue (Parcel ID 0401482000)

Boston Symphony Orchestra, Inc. 251 Huntington Avenue Boston, MA 02115

Others Substantially Affected

270 Huntington Avenue (Parcel ID 0402289999)

Riviera Condominium Association 270 Huntington Avenue Boston, MA 02111

270 Huntington Avenue, Units 201-202, 204-207, 213-215

Paul Roiff, Trustee Capen Street Real Estate Trust 74 Clarendon Street, Ste. A Boston, MA 02116

270 Huntington Avenue, Units 203

Gary Mutler 399 Massachusetts Avenue Boston, MA 02115

270 Huntington Avenue, Units 208-212, 301-303, 305-306, 308-415, 502-507, 509-604, 607-705, 707-712, and 714-715

Andrew Kerivan, Trustee Riviera Associates Realty Trust 270 Huntington Avenue, Unit 716 Boston, MA 02115

270 Huntington Avenue, Unit 304

Szu-Hua Chen 138 Pearl Street Newton, MA 02458

270 Huntington Avenue, Units 307 and 606

Paul E. Harsha 218 Thorndike Street, Unit 109 Cambridge, MA 02141

270 Huntington Avenue, Unit 501

Beverly Cohen, Trustee C Riviera Huntington Realty Trust 270 Huntington Avenue, Unit 716 Boston, MA 02115

270 Huntington Avenue, Units 508 and 706

B S Limited Partnership 232 West Canton Street, #1 Boston, MA 02118

270 Huntington Avenue, Units 605 and 713

Daniel J. Buckley, Trustee Riviera Associates Realty Trust 270 Huntington Avenue, Unit 716 Boston, Ma 02115

(3) PROJECT

(a) GENERAL DESCRIPTION

The goal of the 252-258 Huntington Avenue project is to redevelop former institutional property along Boston's Avenue of the Arts, while leaving intact the historic, 890-seat Huntington Avenue Theatre at 264 Huntington Avenue, an approximately 17,080 sf parcel adjacent to the Project Area, so it may continue its cultural contributions to the City. To enable preservation of the Theatre, the Applicant proposes to construct a new, high-rise, mixed-use building in the Project Area, including the Cultural Component, a 14,000-sf space comprising new, handicapped-accessible space necessary to support the Theatre. The Cultural Component will be delivered to the Huntington Theatre Company, Inc, the long-time operator of the Theatre, or HTC's affiliate/assignee, in under a 100-year sublease, in shell-and-core condition, at nominal rent.

At the outset of the Project, QMG Huntington will grant fee ownership in the Project Area to the Applicant. Pursuant to a ground lease, the Applicant, as ground lessor, will then ground lease the Project Area back to QMG Huntington, as ground lessee. As ground lessee, QMG Huntington will demolish the existing improvements at 252 and 258 Huntington Avenue, merge those two parcels into the so-called Tower Parcel, and finance, construct, maintain, and manage, there, the Tower.

The Tower will have a building height of approximately 362 feet and 32 stories, and comprise three Project Components, as follows:

- Residential Component: Up to 426 dwelling units, served by first-and second-story lobby and amenity space, and an underground, accessory parking garage for up to 114 vehicles;
- Retail Component: Up to 7,500 sf of retail/restaurant/services space at the first and second stories; and
- <u>Cultural Component</u>: 14,000 sf at the first two stories, with direct access to and from the adjacent Huntington Avenue Theatre. Upon completion of the Tower, QMG Huntington, as sublessor, will deliver the Cultural Component in shell-and-core condition to HTC, or its affiliate/assignee, for future fit-out under a 100-year sublease at nominal rent.

The ground lease between QMG Huntington L.P. and QMG Huntington will obligate QMG Huntington to secure financing for, and to develop, operate, and maintain the Project. Upon the Approval Date (defined in Section 10(b)(ii), below), without the timely filing of a petition to challenge such Chapter 121A approval, QMG Huntington, or its affiliate/assignee, will grant fee ownership of the Theatre Parcel to HTC, or HTC's affiliate/assignee, with a reversionary interest to the BPDA or the City, in exchange for nominal consideration. By deed, the Theatre Parcel will be

limited to theatre and cultural uses, and accessory uses and activities, and GFA will be limited to 58,804 sf (FAR 3.4).

Overall Program

| Project Element | Approximate Dimension |
|-----------------------------------|-----------------------|
| New Residential Component | 426 dwelling units |
| New Retail Component | 7,500 sf |
| New Cultural Component | 14,000 sf |
| New Parking Garage | 114 spaces |
| New Gross Floor Area | 405,500 sf |
| Demolished Institutional Use | 30,008 sf |
| Net Change in GFA | +375,492 sf |
| Height of New Tower | 362 ft. / 32 stories. |
| Total Lot Area | 17,093 sf |
| Total GFA | 405,500 sf |
| Floor Area Ratio (" <u>FAR</u> ") | 23.7 |

Please refer to the site plans included in **APPENDIX 2**, and to the drawings included in **APPENDIX 3**.

No Obligation to Proceed

Nothing contained in this Application shall be deemed to obligate the Applicant to develop the Project, any Project Component, the Project Area, or any portion of it, or if the Applicant does elect to develop the Project Area, or any portion of it, to do so in any particular sequence or order.

Ground Lessee (Developer)

The Applicant may employ or contract with one or more parties (the "<u>Developer</u>") to finance, construct, maintain, and/or manage the Project, a Project Component, and/or any portion thereof, pursuant to a sub-ground lease, an operating or management agreement, or another similar agreement (a "<u>Ground Lease</u>"). As described throughout this Application, the Applicant intends to enter into a Ground Lease with QMG Huntington, LLC, to serve as the Developer. In no event shall the Ground Lease, or any amendment thereto, be subject to the provisions of Chapter 121A; however, at the request of the BPDA, the relevant Applicant must provide the BPDA with copies of the Ground Lease, and any amendments thereto.

(b) MASTER PLAN FOR THE CITY OF BOSTON

The Applicant believes that the development of the Project will not conflict with the Master Plan for the City of Boston ("1965/1975 General Plan for the City of Boston and the Regional Core," as prepared by the BPDA) (the "Master Plan"). The Project is consistent with the goals of the Master Plan and furthers the intent of land use and development planning for the district of Boston within which the Project Area is located. The Project also furthers the purposes of the Fenway Urban Renewal Plan.

More recent planning initiatives include the *Avenue of the Arts* Design Guidelines Study, dated October 2015 (the "<u>Avenue of the Arts Study</u>"). The *Avenue of the Arts* Study recommends a massing height of 90 feet within the Project Area, so that future development maintains the "streetwall 'fabric." (*Avenue of the Arts* Study, p. 70.) The Tower is proposed to have a building height of approximately 362 feet.

However, the *Avenue of the Arts* Study was prepared before Boston University sold the Project Area on the open market, ending HTC's longstanding subsidy. Accordingly, the underlying zoning for the Project Area is the Huntington Avenue Institutional Subdistrict of the Fenway Neighborhood District, whose stated purpose is "to provide zoning regulations for the campuses of major institutions within the Fenway Neighborhood District." (Zoning Code s. 66-19.)

The Project Area is no longer owned by an institution, and is no longer suited to be part of a campus. As explained throughout this Application, without the aid of Chapter 121A deviations from the Zoning Code, including a maximum building height that exceeds 90 feet, undertaking the Project to enable the preservation and rehabilitation of the adjacent Huntington Avenue Theatre, and the viability of the Huntington Theatre Company, would be improbable, at best.

Several other projects featuring greater building heights than permitted by underlying zoning have been completed or approved in the vicinity of the Project Area, recently. Examples include: the 200,000 sf *Student Life & Performance Center* recently constructed by the New England Conservatory of Music ("NEC") at 241-247 St. Botolph Street, directly behind the Project Area; Northeastern University's 17-story *GrandMarc* project, southwesterly of the Project Area; and new towers of 251 ft, 291 ft, and 512 ft in height at Christian Science Plaza, northeasterly of the Project Area.

As described in Section 3(a), above, and as shown on the drawings included in **APPENDIX 3**, the Project is designed to enhance, not merely to maintain, the *Avenue of the Arts* streetscape. Therefore, on balance, the Applicant believes that the development of the Project will be consistent with and further the goals of the Master Plan, as well as the Fenway Urban Renewal Plan, and the *Avenue of the Arts* Study.

(c) Units Constituting a Single Building (M.G.L. c. 138)

The Project will involve the construction of various spaces within the Tower, including, without limitation, the Retail Component and the Cultural Component,

which together will constitute a single building under the State Building Code. The Project will require a declaration by the BPDA, with the approval of the Mayor, that each such Project Component constituting a portion of the Tower constitutes a separate building for the purposes of Chapter 138 of the Massachusetts General Laws (Alcoholic Liquors).

(d) PRIVATE SCHOOL WITHIN 500 FEET OF PARKING GARAGE

Undertaking and carrying out the Project requires the granting of a permit for the erection, maintenance, and use of a 114-space parking garage within the Tower (the "Parking Garage"). The spaces will be accessory to the 426 residential units, and so are a part of the Residential Component of the Project. This Parking Garage will be located within 500 feet of one or more buildings occupied in whole or in part as a public or private school having more than 50 pupils, specifically the New England Conservatory of Music, located at 247-251 St. Botolph Street.

In the opinion of the Applicant, the Parking Garage will not be substantially detrimental to NEC's property within 500 feet, and so the Project merits issuance of a license for the erection, maintenance and use of a parking garage under Chapter 316 of the Acts of 1922. Through the normal application process, the Applicant will demonstrate to the City that the Parking Garage complies with all applicable fire-safety codes, with specific regard to the storage of gasoline within parked vehicles.

(e) <u>MINIMUM STANDARDS</u>

Whenever the BPDA approves an application under Chapter 121A, it must make and embody in its Report and Decision reasonable rules and regulations setting the minimum standards for the financing, construction, maintenance, and management of the project, insofar as the they are not specified in the application. (St. 1960, c. 652, s. 13, para. 7, as appearing in St. 1965, c. 859, s. 2.) The Applicant specifies the following proposed, minimum standards for the Project (the "Minimum Standards"):

Financing

The initial financing for the Project will be in accordance with the provisions of Section 4, below, and will comply with the current provisions of Chapter 121A and the Chapter 121A Regulations. Subject to these current provisions, any future financing or refinancing required or desirable in connection with the Project, or a portion thereof, may be made without the further approval of the BPDA if provided by: (i) a bank, trust company, national banking association, insurance company, pension or retirement fund or trust, real estate investment trust, or other recognized financial lender; (ii) the Applicant or any party holding a real estate interest in the Project, or any affiliate thereof; or (iii) any agency or instrumentality of the United States of America, the Commonwealth of Massachusetts, the City of Boston, or any political subdivision of any of these.

Prior written notice shall be provided to the BPDA of any and all financial sources, with the identification of the sources, amount from each source, and other

important financial agreements included therein. All other financing shall be made only with the prior written approval of the BPDA as to the terms thereof, and the identity of the financing party or parties, which approval shall not be unreasonably withheld or delayed so long as the purpose of such financing or refinancing is consistent with the Project as originally approved.

Construction

The Applicant will cause the Project to be constructed in a good and workmanlike manner, using materials of good quality, and so as to comply with all applicable federal, state, and local laws, codes, ordinances, and regulations in force at the time a building permit is issued, except to the extent that the same may have been or may be duly varied or deviation has been or may be granted. Compliance of construction activities with such laws, codes, ordinances and regulations shall be evidenced by the issuance of one or more Certificates of Occupancy by the City of Boston Inspectional Services Department.

The Project will also incorporate a number of sustainable building technologies, practices, and materials into its design and construction. The Applicant will use the U.S. Building Council's Leadership in Energy and Environmental Design (LEED) Rating System as a model for incorporating sustainable design strategies into the Project. LEED for New Construction Version 4 has been applied to Project and it is being designed to obtain at least a "Silver" level of LEED certification.

Maintenance

The Applicant will cause the Project to be maintained in good order, repair, and condition, far exceeding the current, decadent condition of the Project Area. Occupants of the Project Area will also be encouraged to maintain their premises to the same high standard via appropriate lease provisions.

Management

The Applicant will cause the Project to be financed, constructed, maintained, and managed by one or more parties (any of which may be affiliates of the Applicant) pursuant to a Ground Lease, defined in Section 3(a), above, or one or more operating, master or ground lease(s) or sublease(s), management agreement(s), or other agreements. Any Developer, as defined in Section 3(a), above, will in no event be subject to the provisions of Chapter 121A or the approval of the BPDA. As described throughout this Application, the Applicant intends to enter into a Ground Lease with QMG Huntington, LLC to serve as Developer.

(f) DOCUMENTATION AND STATEMENT OF FACT REGARDING DETRIMENT

The Applicant does not believe that the Project, or any constituent Project Component, will in any way be detrimental to the best interests of the public or the City, or to the public safety and convenience, nor will it be inconsistent with the most suitable development of the City. (St. 1960, c. 652, s. 13, para. 2, as appearing in St. 1965, c. 859, s. 2.) As described in Section 6(a), below the Applicant believes that the Project is in line with the overall planning and development objectives of the City. As

described in Section 6(e), below, the Project is undergoing two, independent reviews to evaluate their potential impacts on the environment and the community.

(g) <u>Necessity and Desirability</u>

On the contrary, the Applicant believes that the Project is affirmatively necessary and desirable for the City of Boston for the many reasons given in this Application. The Project will redevelop dilapidated former institutional property with a mix of uses, including up to 426 new housing units, which must be kept available for rent during the term of the Project's Chapter 121A designation. The Project also makes it possible to preserve and renovate the Huntington Avenue Theatre, adjacent to the Project Area, including by constructing and delivering the 14,000 sf Cultural Component within the Tower, in shell-and-core condition for fit-out by HTC, or HTC's affiliate/assignee. The long-time operator of the Theatre, HTC, will gain new stability, and up-to-date amenities for artists, audiences, and the community, and upgraded and improved access for Theatre patrons and the public, compliant with the regulations of the Massachusetts Access Appeals Board and the Americans with Disabilities Act of 1990, as amended.

The Project has many public benefits, including:

- Active Streetscape: First and second floor uses at the Tower will be visible from the street and open to the public. The largest such use will be new lobby, reception, and entertainment space, which will be further developed and fit-out for use by the Theatre during its 150-200 annual performances, and will also be used as new performance, event, and gathering space for the community at other times. Approximately 7,500 sf of retail/restaurant/services uses will further activate Huntington Avenue, in place of institutional uses that have been closed to the public.
- <u>Sidewalk Improvements</u>: Just as the glass façade of the lower-level uses will invite public connection, so too will the adjacent sidewalk become a signature space on the *Avenue of the Arts*. With embedded markings and design patterns to create the feel of on being onstage, along with glowing elements at night, the streetscape can come alive for pedestrians and offer a unique welcome to the Theatre.
- <u>Striking Architecture</u>: The Tower's engaging façade and elements will anchor the visual terminus of the *Avenue of the Arts*. The Theatre, designed in 1923, is eligible for listing on the National Register of Historic Places.
- <u>Transit-Oriented Development</u>: The Project is consistent with the City's smart-growth and transit-oriented development principles. Within one half-block of the MBTA's Symphony (Green Line) subway station, and two blocks of the MBTA's Massachusetts Avenue (Orange Line and Silver Line) subway station, the Project Area supports the objectives of smart growth; specifically, new developments at existing nodes of excellent transit routes.

- <u>Inclusionary Affordable Housing</u>: The Residential Component is subject to the Mayor's Executive Order regarding inclusionary affordable housing, as most recently amended by an Executive Order dated December 9, 2015, as well as the BPDA's Inclusionary Development Policy. QMG Huntington L.P. will provide deed-restricted, affordable units on and/or off-site, and/or pay an in-lieu fee.
- Fiscal Benefits: The Project represents a private investment in the Project Area of approximately \$290 million in development costs, including approximately \$200 million in hard construction costs. Upon completion, the Project will generate approximately \$2.0 million in annual property tax revenues, at a site formerly exempt from taxation. The Project will create approximately 350 full-time-equivalent construction-phase employment opportunities, and approximately 40 new FTE permanent jobs once it opens.
- Environmental Benefits: The Tower will be designed to be LEED-certifiable at a "Silver" level, consistent with Zoning Code Article 37. The Project Area is proximate to public transit, which will reduce vehicle trips, mileage, and emissions.

A public exigency exists that makes the use, acquisition, planning, clearance, rehabilitation or rebuilding of the Project Area for the Project a public use and benefit, for which private property may be regulated by wholesome and reasonable orders, law, and directions set forth in this Application. (See M.G.L. c. 121A, s. 2, para. 1.)

(h) No Destruction or Rehabilitation of Dwellings

Carrying out the Project will not involve the destruction or rehabilitation of buildings occupied in whole or in part as dwellings. There are no dwellings currently located in the Project Area.

(4) <u>FINANCIAL INFORMATION</u>

(a) GENERAL

The Chapter 121A designation is essential to the feasibility of the Project. The Project has the potential to alter an entire neighborhood block, preserve and enhance space for the cultural arts, and be a transformative element for housing creation in the City of Boston. Without the tax predictability and deviations from the Boston Zoning Code provided through Chapter 121A, the Project, most especially the preservation of important cultural arts space on the *Avenue of the Arts*, and the creation of substantial market-rate and affordable housing, would not be possible. The market cost of land, especially in Boston, the ever-increasing costs of construction, and the substantial cost of infrastructure would make the Project impossible.

The following factors are among the challenges facing the Project.

- (i) Chief among these is the high cost of land and significant cost of construction which have made commencement of construction challenging. But for the assistance in terms of tax predictability and zoning relief afforded by virtue of the Chapter 121A designation, the Developer (as defined in Section 3(a), above) would not be able to move forward with this Project to preserve and enhance the cultural and theatre arts space, and to create both market-rate and affordable housing which are key planning objectives of the City and immediate neighborhood.
- (ii) The Tower but for the 121A designation would not provide sufficient returns to obtain financing because (A) the Cultural Component is a significant and costly portion of the Project, with an estimated hard construction cost of \$7.0 million, (B) the Tower is anticipated to be constructed in one continuous phase, and (C) the Tower Parcel and Theatre Parcel (currently assessed at \$7.9 million in value), will be in separate ownership.

The Applicant needs Chapter 121A designation in order to commence and complete the Project, which allows for the preservation and enhancement of the Theatre and creation of substantial market-rate and affordable housing to become a reality, which would otherwise be unduly costly due to the constraints discussed above and the diversity of ownership. As noted throughout this Application, the Project will (i) achieve the City's articulated vision for preserving and enhancing the cultural arts, (ii) create significant market rate and affordable housing units, (iii) create both construction and permanent jobs, and (iv) enable the revitalizing of a block within the neighborhood by repairing an orphaned and decadent property. The Project is estimated to cost approximately \$290 million, as shown on the budget.

(b) <u>METHOD OF FINANCING</u>

The Project Area will be owned by QMG Huntington, L.P. As noted above, QMG Huntington, L.P. intends to enter into a Ground Lease of the Project Area with QMG Huntington, LLC, to serve as the Developer. In turn, the Developer may enter into leases, operating leases, ground leases, subleases, management agreements or similar agreements, through one or more intermediate conveyances or contracts, pursuant to which residential and retail operators, residents and other end-users and occupants will ultimately use and occupy the Project. The Developer will own, develop, operate, and maintain the buildings and improvements within the Project either directly, or through arrangements with certain affiliated parties and/or other occupants of the improvements of which the Project are a part.

The Developer is likely to utilize construction financing provided by China Merchants Bank (Shenzhen, China), HSBC (London, United Kingdom), or China Construction Bank (Beijing, China), individually, or as the administrative agent for

other lenders. The Applicant will provide the BPDA with evidence of the commitment to undertake construction financing. In addition, certain equity will be contributed to the Project by affiliates or entities controlled by or related to QMG Huntington, LLC for the equity required for the Tower.

In the future, all other financing by the Applicant or the Developer shall be made without the approval of the BPDA if with a bank, insurance company, savings bank, credit union, state or federal agency or department, or other recognized institutional lender. All other financing by the Applicant involving all or substantially all of its interest in the Project as that term is understood in accordance with the terms of Chapter 121A shall be made only with the prior written approval of the BPDA, which approval shall not be unreasonably withheld, conditioned, or delayed.

(c) MUNICIPAL LIENS

The Applicant is not aware of any outstanding municipal obligations for any property in the proposed Project Area, including tax and water and sewer arrearages, and pending abatements.

(d) <u>Section 6A Contract Terms</u>

The amounts to be paid to the City of Boston pursuant to contract under Section 6A of Chapter 121A are as follows:

| Project Component | Tax Amounts Due |
|-----------------------|---|
| Residential Component | An amount equal to the amount of any real estate taxes due and payable to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Space, if it were not subject to M.G.L. c. 121A. |
| Retail Component | An amount equal to the amount of any real estate taxes due and payable to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Retail Space, if it were not subject to M.G.L. c. 121A. |

| Cultural Component | An amount equal to the amount of any real estate taxes due and payable to the City under M.G.L. c. 59, s. 5, if owned directly by an entity that is exempt from real estate taxation under M.G.L. c. 59, s. 5. |
|--------------------|--|
|--------------------|--|

Provided, further, that with respect to the Cultural Component, so long as it is leased to HTC, or its affiliate/assignee, and used for theatre and cultural uses, and accessory uses and activities, as described in this Application, there shall be no excise tax due and owing to the Commonwealth of Massachusetts pursuant to M.G.L. c. 121A, s. 10. A draft of the Section 6A Contract is included in **APPENDIX 6**.

(e) REQUEST FOR EXTENDED PROPERTY-TAX EXEMPTION

None

(5) <u>DEVELOPMENT SCHEDULE</u>

With approval of the Project, the Applicant anticipates commencing construction of the Project during the fourth quarter of 2018, with completion approximately 26 months later.

(6) PUBLIC USE AND BENEFIT

(a) <u>CITY'S OVERALL PLANNING AND DEVELOPMENT OBJECTIVES</u>

For all the reasons given in this Application, the Applicant believes that the Project is in line with the overall planning and development objectives of the City. See, particularly, Section 3(b), above.

(b) ELIMINATION OF DECADENT CONDITIONS

For all the reasons given in this Application, approval of the Project under Chapter 121A will stimulate the investment of private capital in the decadent Project Area, and the resulting construction, maintenance, and operation of the Tower will assist in achieving permanent and comprehensive elimination of decadent conditions and in preventing the recurrence or redevelopment of such conditions. (See M.GL. c. 121A, s. 2, para. 2.)

Specifically, QMG Huntington L.P. will undertake and carry out the Project: to raze the existing, two-story masonry buildings at 252 and 258 Huntington Avenue, both of which are physically deteriorated, obsolete, and in need of major maintenance and repair, as stated in Section 2(b), above; and to finance, construct, maintain, and manage, there, the new Tower, with a building height of approximately 362 feet, including the Residential Component, the Retail Component, and the Cultural

Component. Upon completion of the Tower, QMG Huntington, as sublessor, will sublease to HTC, as sublessee, the Cultural Component for 100 years, which will be delivered to HTC, or its affiliate/assignee, in shell-and-core condition for future fitout, at nominal rent, to serve the Theatre.

(c) COMMUNITY SUPPORT, AND NEIGHBORHOOD AND CITY BENEFITS

The Applicant, in partnership with the Huntington Theatre Company, has met with City agencies, the Impact Advisory Group formed for Large Project Review by the Mayor (the "IAG"), neighborhood organizations, community members, and the Boston Civic Design Commission ("BCDC").

On July 19, 2017, the BPDA held a public meeting at the YMCA at 316 Huntington Avenue to discuss the Project, as well the future proposed at the Theatre Parcel by HTC that is also undergoing Large Project Review. The meeting was advertised in the *Bay State Banner*, listed on the BPDA website, and distributed to the Fenway neighborhood email list. The BPDA held a second public meeting on September 9, 2017, at Symphony Hall, noticed in the same manner.

Meetings of the IAG were held on July 12, 2017, August 23, 2017, and October 4, 2017. The IAG meetings were listed on the BPDA website, and distributed to the Fenway neighborhood email list. The Project also comes under jurisdiction of the Boston Civic Design Commission pursuant to Article 28 of the Code. The Project, as well as the future proposed work at the Theatre Parcel by HTC, will be reviewed by BCDC in October and November of 2017.

In addition to these BPDA-sponsored meetings with the community, the Applicant, in partnership with the HTC, has met with representatives of each the abutting landowners and other substantially affected parties, including: the Boston Symphony Orchestra, Inc. (301-315 Huntington Avenue); the NET Realty Trust (250 Huntington Avenue), and the Riviera Condominium Association (270 Huntington Avenue). (Please see Section 2(c), above.) These meetings are ongoing.

As required through Large Project Review, the Applicant and the BPDA will enter into a Cooperation Agreement, required under Large Project Review, that will set forth the mitigation measures and other public benefits that the Project must provide, and ensuring compliance of the Project with any submissions to the BPDA during Large Project Review. These obligations are also expected to be included in the various Chapter 121A agreements associated with the Project.

(d) <u>IMPACT SUFFICIENT TO WARRANT CHAPTER 121A STATUS</u>

The Project will allow the Huntington Theatre Company to effectuate safely and successfully its cultural mission to provide world-class theatre performances and educational programming to Boston's *Avenue of the Arts* and the Greater Boston community. HTC has embraced the future operation and stewardship of the landmark theatre building with a clear vision of what the restored theatre should be – an

improved version of itself – including its efforts to complete the construction and fitout of the 14,000 sf Cultural Component within the Tower. – for occupancy for its cultural and non-profit uses. The changes will allow HTC to meet the needs of contemporary audiences and performers, and create space to expand its educational outreach programs to the Boston Public Schools and other young people. Meanwhile, through the Chapter 121A aids afforded to the Project, the new Tower, including up to 426 new dwelling units, can be financed, constructed, maintained, and managed at high standards, befitting the *Avenue of the Arts*, and the City as a whole. Only Chapter 121A status for the Project will ensure that it will have this desired beneficial impact.

(e) NO SIGNIFICANT ENVIRONMENTAL IMPACTS

The Project is undergoing two, independent reviews to evaluate its potential environmental impact, including, among other things, on traffic and parking the Project Area and the surrounding neighborhood: Large Project Review by the BPDA under Section 80B of the Boston Zoning Code; and MEPA review by a division of the Massachusetts Department of Environmental Protection ("MassDEP"). Relevant MEPA documents are included in **APPENDIX 11**.

Large Project Review provides a procedure for the comprehensive review of large development projects before and during the schematic design stage, and affords the public the opportunity for review and comment. (Zoning Code s. 80B-1.) The purpose of this review is to assess a project's impacts on its surroundings and on City resources and to identify necessary mitigation measures. (*Id.*) QMG Huntington filed a Project Notification Form ("PNF") for the Project with the BPDA on June 26, 2017, and filed a supplement accepted by the BPDA on September 19, 2017.

Concurrently, the MEPA division of the Massachusetts Department of Environmental Protection has reviewed the Chapter 121A Project under MEPA. QMG Huntington filed an Environmental Notice Form ("ENF") for the Project on June 26, 2017, of which notice published in the *Environmental Monitor* on July 12, 2017, a MEPA Certificate issued on August 11, 2017.

(7) NEED FOR CHAPTER 121A AIDS

The goal of the 252-258 Huntington Avenue project is to redevelop dilapidated, former institutional property along Boston's Avenue of the Arts, while leaving intact the historic Huntington Avenue Theatre, so it may continue its cultural contributions to the City of Boston. It is unlikely that renovation of the Theatre could meet current requirements of the State Building Code, and disabled access regulations, without the construction of the new, 14,000-sf Cultural Component in the Project Area. Such space could not be added to the historic Theatre itself, without fundamentally altering, and so compromising, the 890-seat auditorium at the Theatre's heart. Instead, through the Project, the Cultural Component will be delivered to the Huntington Theatre Company, Inc., the long-time operator of the Theatre, or HTC's affiliate/assignee, in shell-and-core condition for future fit-out, under a 100-year lease at nominal rent. Accommodating the Cultural Component requires giving up most of

the first two levels of any redevelopment within the Project Area, and adds approximately \$7.0 million in hard construction costs. Coupled with the donation of the off-site Theatre Parcel to HTC, or its affiliate/assignee, this major boost to the City's cultural goals for its *Avenue of the Arts*, requires the Tower, including up to 426 new dwelling units, to be built with deviations from the Boston Zoning Code, as listed in **APPENDIX 10**, including for increased floor area ratio and building height. Neither the 14,000 sf Cultural Component nor the provision of substantial new housing would be possible under normally applicable zoning. Put another way, the decadent condition of the Project Area is beyond remedy and control solely through the normal development permitting process, and the underlying zoning, and cannot be dealt with effectively by ordinary operations of private enterprise without the Chapter 121A aids sought through this Application.

(8) <u>JOBS – BOSTON RESIDENT PREFERENCE</u>

The Applicant will comply with all applicable legal requirements concerning the hiring of construction workers in all City-sponsored developments. In all events, the Applicant shall comply with the Boston Residents Jobs Policy. The Applicant will execute a Boston Residents Construction Employment Plan ("BRCEP") providing that the general contractors, and those engaged by the general contractor for construction of the Project on a trade-by-trade basis will be required to use Best Efforts to meet the following Boston Residents Construction Employment standards: (a) at least fifty-one percent (51%) of the total employee work hours in each trade shall be minorities; (b) at least forty percent (40%) of the total employee work hours in each trade shall be minorities; (c) at least twelve percent (12%) of the total employee work hours in each trade shall be by women.

(9) <u>AFFIRMATIVE ACTION</u>

The Applicant hereby states that it, and its contractors and subcontractors, shall not discriminate against any employee, applicant for employment, tenant, or applicant for tenancy because of race, color, religious creed, national origin, age, or sex, and in all other respects shall comply with the "Equal Opportunity Compliance Policy" of the Boston Planning and Development Agency's Compliance Officer.

(10) ADDITIONAL DETERMINATIONS, FINDINGS, AND APPROVALS

- (a) In its Report and Decision, the BPDA may waive any requirements of the Chapter 121A Regulations to which this Application does not conform.
- (b) In the Report and Decision, the BPDA may agree that:
 - i. Both (A) the Applicant, and (B) the parties comprising the Applicant, including, without limitation, the general and limited partners of the Applicant, and its trustees, partners, members, beneficiaries, shareholders, officers, directors, employees and agents, and its successors and assigns (including, without limitation, mortgagees), and

- any person or entity directly or indirectly holding any interest in any of the foregoing, shall not have any personal liability hereunder or under any agreement or undertaking related hereto or required hereby;
- ii. The vote of the BPDA approving this Application shall be final when such a vote is taken, the Mayor's approval is obtained, and the Secretary of the BPDA has filed such vote as approved, attested by such Secretary, with the City Clerk (such filing date with the City Clerk being the "Approval Date"). The approval shall become effective as of the January 1 following both (A) the Applicant's entry into the Ground Lease with the Developer, and (B) the Developer's entry of the Sublease with HTC, or its affiliate/assignee, with respect to the Cultural Component, to allow for the development of the Project (the "Effective Date"), and it shall continue subject to the terms hereof, until termination of the Project Area's designation under Chapter 121A pursuant to the terms hereof, and the Applicant shall not thereafter be subject to the obligations of Chapter 121A, nor enjoy the rights and privileges thereunder, nor be subject to the terms, conditions and obligations of the approval of this Application; provided, however, that all deviations, approvals and/or permissions granted in the Approval, as the same may hereinafter be amended before termination of Chapter 121A designation, with respect to the Project shall remain in full force and effect, as lawful nonconformities, consistent with applicable state and local law; and
- iii. All of the provisions of this Application shall be binding upon and inure to the benefit of the Applicant, and its successors and assigns.
- (c) In the Report and Decision, the BPDA may:
 - i. Approve the form of 6A Contract attached hereto as **APPENDIX 6**, subject to any changes that the Commissioner of Assessing shall determine to be necessary or desirable;
 - ii. Approve the form of Proposed Regulatory Agreement for the Project attached hereto as **APPENDIX 7**, with any changes as may be determined by the BPDA's Director;
 - iii. Acknowledge the formation of the Applicant, as evidenced by the Agreement of Limited Partnership attached hereto as **APPENDIX 8**, and consent to its designation as an urban redevelopment entity under Chapter 121A, to undertake and carry out the Project as set forth in this Application;
 - iv. Approve the form of Agreement Not to Dispose of Interests for the Project attached hereto as **APPENDIX 9**, which expressly approves the sublease from QMG Huntington to HTC, or its affiliate/assignee,

of the Cultural Component (as provided herein), regardless of whether such sublease is subject to Section 13A of Chapter 652 the Acts of 1960, as amended, and with any changes as may be determined by the BPDA's Director;

- v. Approve the Minimum Standards set forth in Section 3(e), above; and
- vi. Authorize its Director to take any action and to execute in the name of, and on behalf of the BPDA, the above-referenced agreements, which may include such terms and conditions as the Director deems appropriate and in the best interests of the BPDA, with such changes as the Director, in his discretion shall determine to be necessary or desirable, his execution and delivery of either of such agreements, or taking of any such action, to be conclusive of his determination of the BPDA granted to him hereunder.
- (d) In the Report and Decision, the BPDA may acknowledge and agree that the obligations of the Applicant pursuant to this Application are conditioned in all respects upon:
 - i. Acquisition of a long-term ground lease interest, or such other interests as are sufficient, in the Applicant's determination, to undertake and complete the Project, in the land comprising the Project Area;
 - ii. The issuance of all permissions, variances, permits and licenses that may be required with respect to the construction, maintenance, and management of the Project, whether or not the same are specified in this Application; and
 - iii. The appropriate agency or authority within the City certifying in a timely way to the appropriate authorities of the Commonwealth of Massachusetts the "fair cash value" of all real and personal property included in the Project to be not more than the amount described in the executed Section 6A Contract.
- (e) In the Report and Decision the BPDA may find that the Applicant shall not be held in any way responsible for delays which may occur in the financing, construction, repair, maintenance, and/or management of the Project, nor for the failure to perform its obligations under this Application or otherwise, by reason of scarcity of materials or labor, labor difficulties, damage by fire or other casualty, unusually severe weather, delays of contractors or subcontractors, or any other cause beyond the reasonable control of the Applicant, including, without limitation, delays due to the presence of hazardous materials in, on, or under the Project Area, or any portion thereof. The Applicant shall use due diligence to secure all such permissions, variances, permit, and licenses, and to overcome any such delays.

- (f) The Applicant requests that the BPDA agree that a "Minor Change" to the Project shall be one that: (i) modifies the square footage of the Project by no more than ten percent (10%), plus or minus, and has been approved by the Director of the BPDA, acting reasonably and without delay, (ii) causes a Project Component to be combined with another Project Component, or (iii) otherwise effects a change in the Project that is certified by the Director to the BPDA to be a non-fundamental modification of the Project.
- (g) Subject to the 6A Contract with the City, Applicant requests that the BPDA, in the Regulatory Agreement, or other appropriate instrument(s), provide that the rent paid to the Applicant will constitute the gross income of the Applicant as a Chapter 121A Entity from all sources under M.G.L. c. 121A, including, without limitation, for purposes of Sections 10 and 18C.
- (h) The Applicant seeks the BPDA's approval, without further amendment of this Application, to allow the Applicant to grant and/or acquire, from time to time, on terms not inconsistent with this Application, such easements, leases, utility easements, and other property rights as are necessary for the financing, construction, maintenance, and management of the Project. Upon any such grant and notice therefor to the BPDA, the property or interest therein granted by the Applicant shall, without further action by the BPDA, be excluded from the Project and the Project Area. Conversely, upon any such acquisition by the Applicant and notice thereof to the BPDA, the acquired property or interest therein shall, without further action by the BPDA, be included as part of the Project, a Project Component, or the Project Area, as the case may be.

OATH OF THE APPLICANT

QMG Huntington Limited Partnership, a Massachusetts limited partnership

By: QMG Huntington, LLC, a Massachusetts limited liability company, its general partner

By: Qianlong Huntington LLC,

a Massachusetts limited liability company,

its Manager

Bv:

Name: Fan Du Title: Manager

Commonwealth of Massachusetts Suffolk, ss.

On this ______ (12th) day of October, 2017, before me, the undersigned notary public, personally appeared Fan Du, Manager of Qianlong Huntington LLC, the Manager of QMG Huntington, LLC, the General Partner of QMG Huntington Limited Partnership proved to me through satisfactory evidence of identification, which was personal knowledge or a state-issued driver's license to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as Manager of Qianlong Huntington LLC, the Manager of QMG Huntington, LLC, the General Partner of QMG Huntington Limited Partnership.

Notary Public

My commission expires:

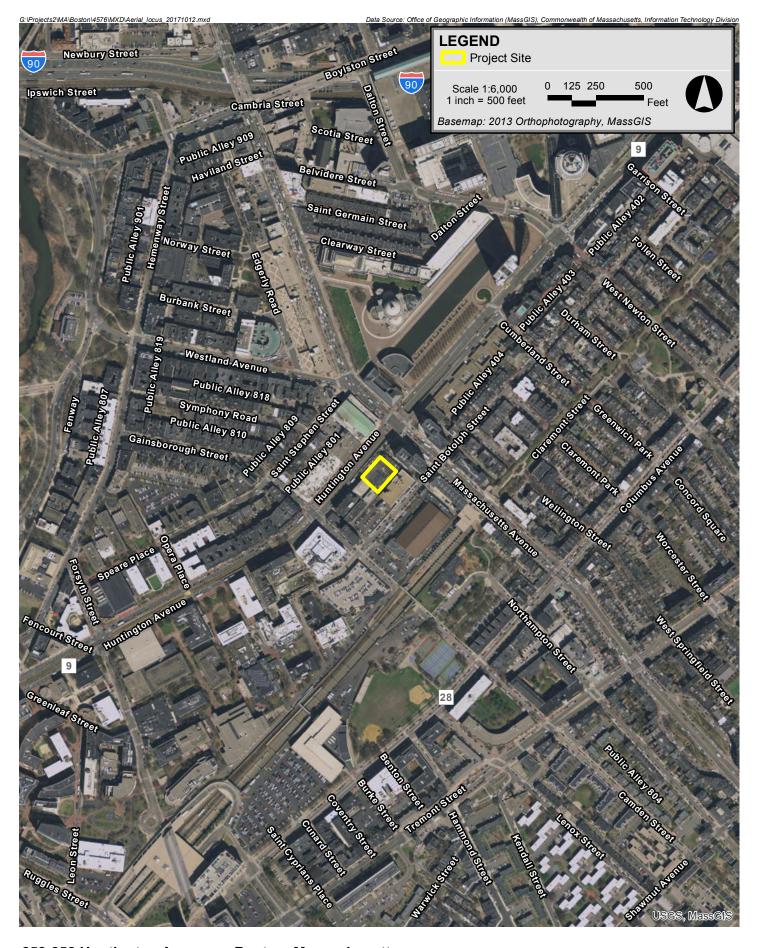


AMRITA SHRESTHA Notary Public Commonwealth of Massachusetts My Commission Expires June 8, 2023

APPENDIX 1

AERIAL LOCUS

(inserted behind)



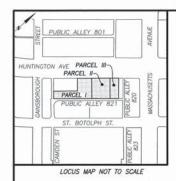


APPENDIX 2

SITE PLANS

- Survey
- Site Plan

(inserted behind)



LIST OF VISIBLE ENCROACHMENTS

HUNTINGTON AVENUE

CONC. WALL CROSSES INTO EASEMENT FOR HIGHWAY PURPOSES.

PUBLIC ALLEY No.821

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY.

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY BUILDING CROSSES BOUNDARY

BUILDING CROSSES BOUNDARY. B VENT CROSS BOUNDARY.

10' WDE ALLEY

FIRE ESCAPE CROSSES BOUNDARY 8' WIDE ALLEY

FIRE ESCAPE CROSSES BOUNDARY

FIRE ESCAPE CROSSES BOUNDARY

BOUNDARY DESCRIPTIONS PER TITLE COMMITMENT FILE No. 53157, ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF

THE LAND IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, WITH THE BUILDINGS THEREON SHOWN AS LOTS A AND B ON A PLAN ENTITLED "PLAN OF LAND IN BOSTON, MASS." DATED JULY 20. 1922 BY ASPINWALL AND LINCOLN, CIVIL ENGINEERS, RECORDED WITH SUFFOLK DEEDS, BOOK 4384, PAGE 151, TOGETHER BEING BOUNDED AND DESCRIBED AS FOLLOWS:

BY HUNTINGTON AVENUE, ONE HUNDRED (100) FEET;

BY LAND NOW OR FORMERLY OF THE HUNTINGTON INVESTING CO., BEING MARKED "BACK BAY POST OFFICE" ON SAID PLAN, ONE HUNDRED TWENTY NORTHEASTERLY

(120) FEET: BY A PASSAGEWAY MARKED "PUBLIC ALLEY NO. 821" ON SAID PLAN, TWO SOUTHEASTERLY HUNDRED TWENTY-SIX AND 86/100 (226.86) FEET;

BY A TEN (10) FOOT PASSAGEWAY MARKED "PASSAGEWAY" ON SAID PLAN, SOUTHWESTERLY

AGAIN BY A PASSAGEWAY EIGHT (8) FEET WIDE AS SHOWN ON SAID PLAN, NORTHWESTERLY ONE HUNDRED TWENTY-SIX AND 86/100 (126.86) FEET; AGAIN IN PART BY SAID EIGHT (8) FOOT PASSAGEWAY AND IN PART BY LAND NOW OR FORMERLY OF SARAH E. HODSON MARKED "9133 9/10

SQ. FT." ON SAID PLAN, EIGHTY (80) FEET.

CONTAINING 17.074.4 SQUARE FEET OF LAND, MORE OR LESS.

THE PREMISES ARE CONVEYED TOGETHER WITH ALL RIGHT, TITLE AND INTEREST OF THE GRANTOR IN AND TO SAID PASSAGEWAYS, AND SUBJECT TO RIGHTS OF OTHERS THEREIN AND TO RESTRICTIONS OF RECORD SO FAR AS NOW IN FORCE AND APPLICABLE.

PARCEL II:

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED AND NOW NUMBERED 256-258 INCLUSIVE ON HUNTINGTON AVENUE IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID PARCEL AT THE SOUTHEASTERLY LINE OF HUNTINGTON AVENUE AT A POINT DISTANT ONE HUNDRED EIGHTY-THREE AND 71/100 FEET SOUTHWESTERLY FROM THE SOUTHERLY CORNER OF HUNTINGTON AVENUE AND MASSACHUSETTS AVENUE:

THENCE

THENCE

RUNNING SOUTHEASTERLY AT RIGHT ANGLES TO SAID SOUTHEASTERLY RUNNING SOUTHEASTERLY AT INDITION AND TO SAID SOUTHEASTERLY IN INDITION OF THE TO AND THE TO AND THE TO AND THE TO AND THE TO THE TO AND THE TO

THENCE

PASSAGEWAY NINETY—SIX AND 96/100 FEET; TURNING AT RIGHT ANGLES AND RUNNING NORTHWESTERLY ONE HUNDRED TWENTY FEET TO SAID HUNTINGTON AVENUE, THIS LINE BEING PARALLEL WITH THE NORTHEASTERLY BOUNDARY LINE OF THE GRANTED PREMISES AND NINETY-SIX AND 96/100 FEET DISTANT THEREFROM: TURNING AND RUNNING NORTHEASTERLY BY THE SOUTHEASTERLY LINE OF

THENCE SAID HUNTINGTON AVENUE NINETY-SIX AND 96/100 FEET TO THE POINT

TOGETHER WITH SO MIJCH OF SAID PASSAGEWAY AS LIES NORTHWESTERLY OF ITS MIDDLE LINE AND BETWEEN THE SIDE LINES OF SAID LOT EXTENDED, SAID PASSAGEMAY TO BE MAINTAINED IN COMMON BY THE ABUTTERS THEREON AND THEIR HEIRS AND ASSIGNS AND TO BE USED BY THEM AND BY THE ABUTTERS THEREON AND THEIR HEIRS AND ASSIGNS AND TO BE USED BY THEM AND BY THE ABUTTERS ON CONNECTING PASSAGEWAYS FOR WAY, PROSPECT, DRAINAGE AND THE

AND

PARCEL III:

A CERTAIN PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATE AND NOW NUMBERED 252 TO 254 ON HUNTINGTON AVENUE, IN BOSTON, COUNTY OF SUFFOLK, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS

NORTHEASTERLY

ON HUNTINGTON AVENUE, FORTY-FIVE AND 46/100 (45.46) FEET; BY LAND NOW OR LATE OF MIRIAM HIRSH BY A LINE RUNNING IN PART HROUGH THE BRICK PARTITION WALL, ONE HUNDRED AND TWENTY (120)

SOUTHFASTERLY

RY A PASSAGEWAY SIXTEEN FEET WIDE (NOW KNOWN AS PUBLIC ALLEY NO. 821), FORTY-FIVE AND 46/100 (45.46) FEET; AND BY LAND NOW OR LATE OF HUNTINGTON INVESTMENT COMPANY, ONE SOUTHWESTERLY

HUNDRED TWENTY (120) FEET.

CONTAINING 5,455 AND 1/10 SQUARE FEET OF LAND, BE ANY OR ALL OF SAID MEASUREMENTS OR CONTENTS MORE OR LESS, TOGETHER WITH THE FEE AND SOIL OF SAID PASSAGEWAY ADJOINING THE GRANTED PREMISES, TO THE MIDDLE THEREOF.

SAID PREMISES ARE CONVEYED SUBJECT TO A TAKING MADE BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS ACTING ON BEHALF OF THE CITY OF BOSTON UNDER AN ORDER DATED MARCH 23, 1977 RECORDED WITH SAID DEEDS IN BOOK 8942, PAGE

HUNTINGTON EASEMENT FO NO. 270 7 STORY BRICK & STONE Now or Formerly RIVIERA CONDOMINIUM BOOK 12857, PAGE 240 (MASTER DEED) PARCEL ID - 0402289186 CONSERVATORY ABOVE 8' WIDE PASSAGEWAY ABOVE 126.87 Calc. (126.86' Deed) ELECTRIC WIRES & CONDUIT RUNS ALONG FACE OF BUILDING 226.87' Calc. (226.86' Deed) FN OMH -CONCRETE SIDEWALK REFERENCES SUFFOLK COUNTY REGISTRY OF DEEDS BOOK 6926 PAGE 432 BOOK 7302 PAGE 645 BOOK 9041 PAGE 402 BOOK 9742 PAGE 175 ALLEY - 16' WIDE) MASSACHUSETTS LAND COURT LCC 11998B CITY OF BOSTON ENGINEERING DEPARTMENT FIELD BOOK 703 PAGES 66 & 67 FIELD BOOK 960 PAGES 94-101 L-5118 L-10591 MASSACHUSETTS HIGHWAY DEPARTMENT LAYOUT # 6268 LAYOUT # 6294

EXCEPTIONS FROM COVERAGE SCHEDULE B — SECTION 2, LISTED IN TITLE COMMITMENT FILE No. 53157 ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF JANUARY 4, 2016.

- RELEASE OF RIGHTS IN DISCONTINUED PORTION OF PUBLIC ALLEY NO. 821, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT TO NEW ENGLAND CONSERVATORY BY JUNIOR ACHIEVEMENT OF EASTERN MASSACHUSETTS DATED APPLIE 25, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 362; AND TRUSTEES OF BOSTON UNIVERSITY DATED APRIL 29, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 364. (NOT LOCUS)
- PUBLIC WAY EASEMENT TAKEN BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS TO WIDEN HUNTINGTON AVENUE, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS SHEET 1 OF 4, LAYOUT NO. 6268, FEDERAL AID PROJECT NO. U-234 (13), DATED MARCH 23, 1977 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 8942, PAGE 320. (AS SHOWN HEREON)
- (5) RIGHT TO USE THE PASSAGEWAY BY IMPLICATION AND AS SET FORTH IN DEED RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 6749, PAGE 235, IN COMMON WITH ALL PERSONS LAWFULLY ENTITLED THERETO. (AS SHOWN HEREON - NOT LOCUS)
- COMMON LAW PARTY WALL RIGHTS AS IMPLIED BY DESCRIPTION IN DEED FROM JOSEPH M. ISENBERG AND GEORGE S. ISENBERG, AS TRUSTEES OF FERBUR REALTY TRUST TO TRUSTEES OF BOSTON UNIVERSITY RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 9742, PAGE 175, AND AS FURTHER DELINEATED ON THE 1938 BOSTON ATLAS AND THE NOVEMBER 2015 SURVEY BY FELDMAN LAND SURVEYORS. (AS SHOWN HEREON)
- APPURTENANT RIGHT TO USE A PORTION OF PUBLIC ALLEY NO. 822, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT DATED MAY 1, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 365. (AS SHOWN HEREON - NOT LOCUS)

NOTES:

OMH

NO. 260-264

MULTI STORY BRICK & STONE

BFA=15,117± SQ. FT.

PARCEL I

LOT AREA =

17,080± SQ. FT.

(ARFA=400± SO FT. WITHIN

R.O.W. EASEMENT)

TRUSTEES OF BOSTON UNIVERSITY BOOK 6926, PAGE 432 PARCEL ID -0402290000-0402290001

S 41'41'08" W vgc

PUBLIC ALLEY 5 (PUBLIC - 16' WIDE)

B PLECTRIC WIRES & CONDUIT

360 47

NO. 821

PAGE 8942, PAGE 320 AREA=400± SQ. FT.

_BH=50.4*

STREET VAULT -

LEGEND

o PM

BFA:

CONC. VGC -LCC -REC. -

ENT.

DRAIN MANHOLE

FLECTRIC MANHOLE

SEWER MANHOLE

AREA DRAIN

MANHOLE

CATCH BASIN STAND PIPE

GAS SHUT OFF

HYDRANT LIGHT POLE

SECURITY LIGHT ELECTRIC HANDHOLE

PARKING METER

TOP OF CURB

BOTTOM OF CURB TOP OF WALL

BOTTOM OF WALL

BOTTOM OF STEP

BUILDING HEIGHT

TYPICAL

ENTRANCE

BUILDING FOOTPRINT AREA

THRESHOLD ELEVATION

CONCRETE VERTICAL GRANITE CURB LAND COURT CASE RECORD

BUILDING DIMENSION GATE POST METAL RAILING

CHAIN LINK FENCE WROUGHT IRON FENCE

MASSACHUSETTS HIGHWAY LAYOUT

BOLLARD DECIDUOUS TREE

WATER SHUT OFF

BOSTON WATER VALVE

EHH

1) BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0079G, CITY OF BOSTON COMMUNITY NUMBER 250256, PANEL NUMBER 0079G, HAVING AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.

O O FEE

(PUBLIC - VARIABLE WIDTH)

(MHLO 6268 & 6294)

DECORATIVE

ENTRYWAY (TYP)

** AREA=388± SQ. FT.

96.99' METAL GRATE ON CONC. CURB

2 STORY BRICK & STONE

PARCEL II

LOT AREA = 11,633± SQ. FT.

WITHIN R.O.W. EASEMENT)

TOTAL AREA = 34,173 SQ. FT.

(TOTAL AREA WITHIN R.O.W. EASEMENT 970± SQ. FT.)

TRUSTEES OF BOSTON

UNIVERSITY

BOOK 9041, PAGE 402 PARCEL ID - 0402291000

-CONCRETE SIDEWALK

197,17 96,99' Calc. (96.96' Deed

N 41'42'48" E 242.49'

METAL METAL GRATE NO. 256-258

- 2) ZONING INFORMATION WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (B) OF TABLE "A" IN THE 2011 ALTA SURVEY REQUIREMENTS.
- 3) THE PROPERTY SHOWN HEREON IS THE SAME PROPERTY DESCRIBED IN THE
- 4) BUILDING HEIGHT SHOWN HEREON IS CALCULATED FROM THE AVERAGE GRADE PLANE AUGN CHAINTOTON AREAUE TO THE TOP OF ROOF. BY CITY OF BOSTON ZONING CODE, THE DEFINITION OF BUILDING HEIGHT IS TO THE TOP OF THE HIGHEST ROOF BEAM, THIS WAS INACCESSIBLE AT TIME OF SURVEY. THEREFORE THE BUILDING HEIGHT BY DEFINITION WOULD BE LESS THAN THE HEIGHT SHOWN HEREON.
- 5) NO PARKING WAS OBSERVED ON THE LOCUS PROPERTY.
- 6) NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES WERE UNCOVERED WHILE
- TO: COMMONWEALTH LAND TITLE INSURANCE COMPANY: BANK OF NEW ENGLAND:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL. REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 7(A), 7(B)(1), 7(C), 8, 9, 11(A), 13, 17, AND 21 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 27, 2015.

FOR FELDMAN-LAND, SURVEYORS

DAMIEN J. RAFFLE, PLS (MA# 49629)



ALTA/ACSM LAND TITLE SURVEY 252-264 HUNTINGTON AVENUE BOSTON (ROXBURY), MASS.

FELDMAN LAND SURVEYORS

112 SHAWMUT AVENUE BOSTON, MASS. 02118

4

AREA=182± SQ. FT.

BRICK IN THE

NO. 252-254

2 STORY BRICK BFA=4,776± SQ. FT.

PARCEL III

LOT AREA = \$\frac{1}{2}\$.460± SQ. FT.

R.O.W. EASEMENT)

OF BOS OF BOS ERSITY 2, PAGE 1

USTEES C UNIVER DOK 9742, CCL ID -

CONDUIT RUNS ALONG FACE OF BUILDING A5.61, Colc. (45.46' De

-IRON FENCE

1 STORY

BRICK

NO. 241

GP GP CONC. WALL

ST. BOTOLPH STREET

OSES AVENUE

METAL OMH OMH
COVER PTREE WELL (TYP.)

EHH

OM

820

8

16

ALLEY

PUBLIC

25.00'(tie)___(

1 STY METAL

NO. 250

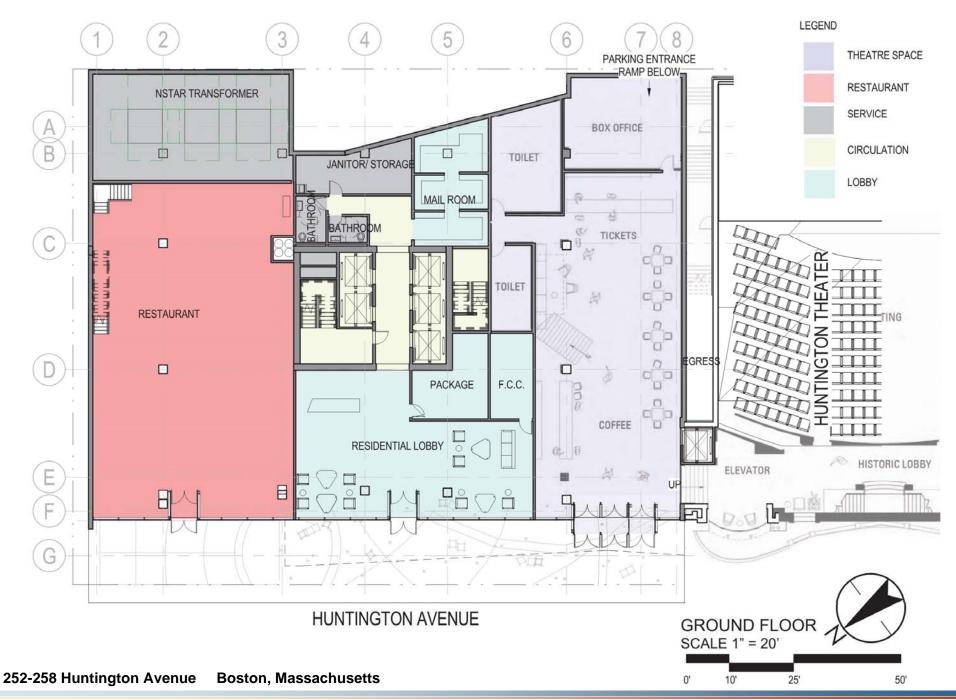
STORY BRICK

NOVEMBER 27, 2015 PHONE: (617)357-9740 www.feldmansurveyors.com



RESEARCH PRF FIELD CHIEF CB PROJ MGR DJR APPROVED TO SHEET NO. 1 OF 1 CALC PRF CADD PRF/DCH FIELD CHECKED NB CRD FILE 14951 JOB NO. 14951

FILENAME: S:\PROJECTS\15000s\15011\DWG\15011-ALTA.dwg



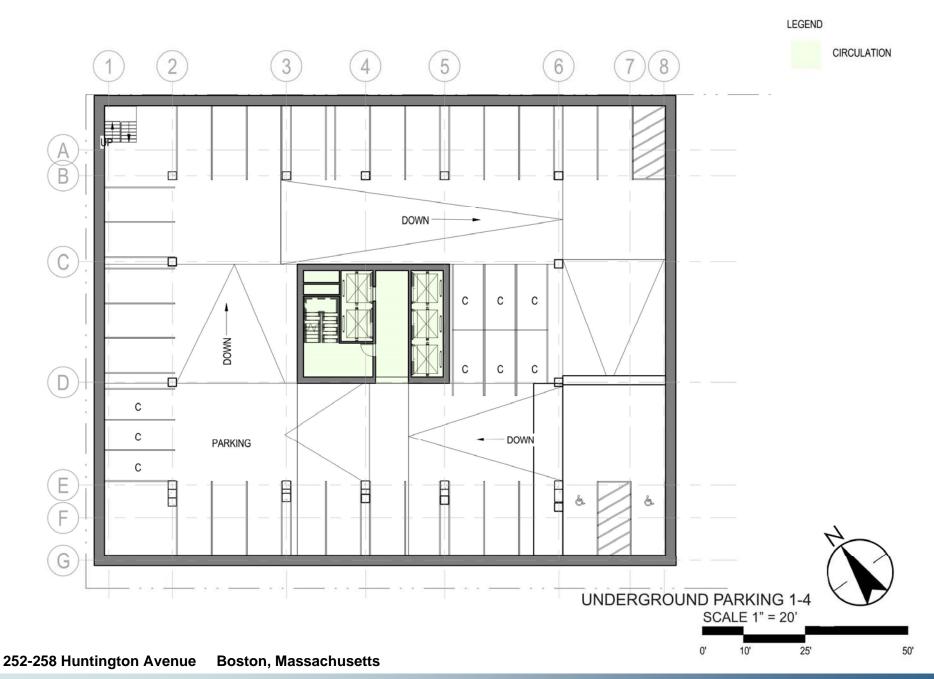


APPENDIX 3

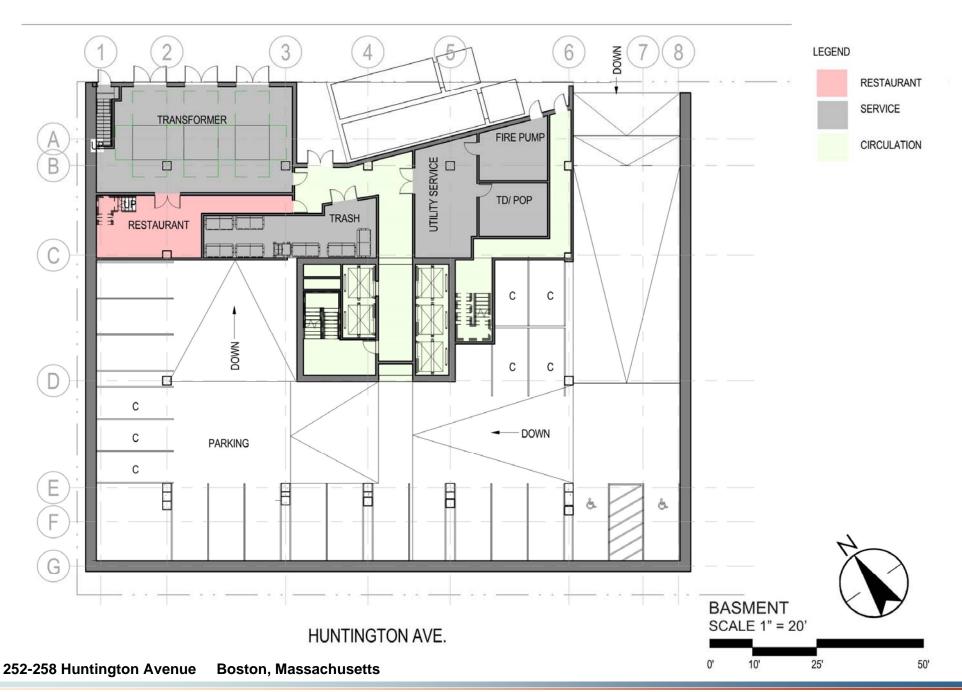
DRAWINGS

- Parking Plan
- Basement Plan
- Project Ground Floor Plan
- Second Floor Plan
- Upper Levels Plans
- Roof Plan
- Sections
- Aerial View Facing Northeast
- Aerial View Facing Southeast
- View of Huntington Avenue

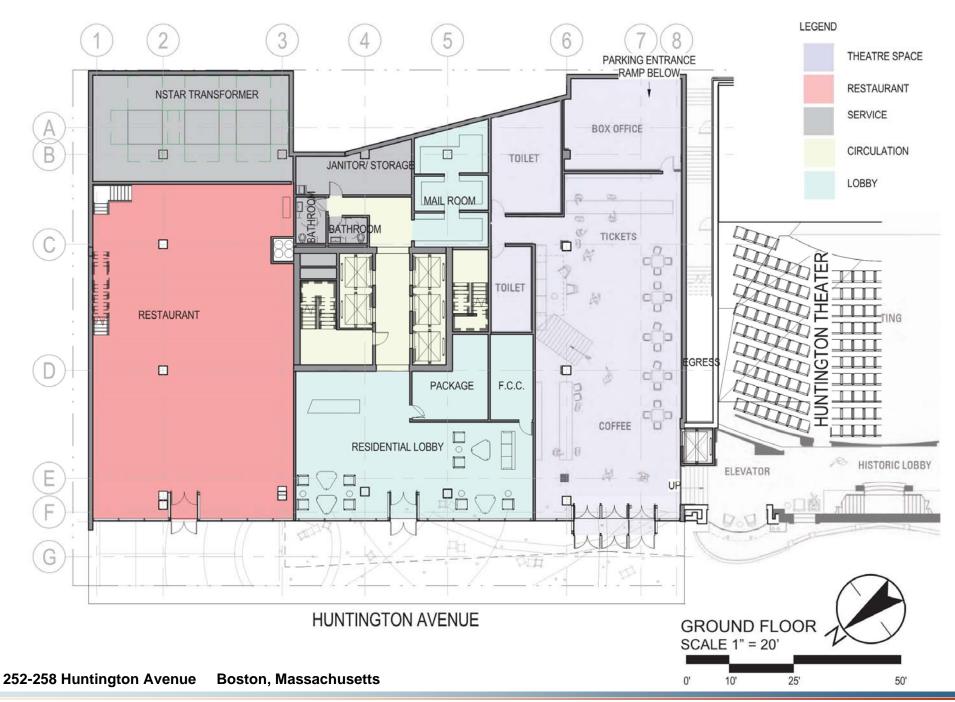
(inserted behind)



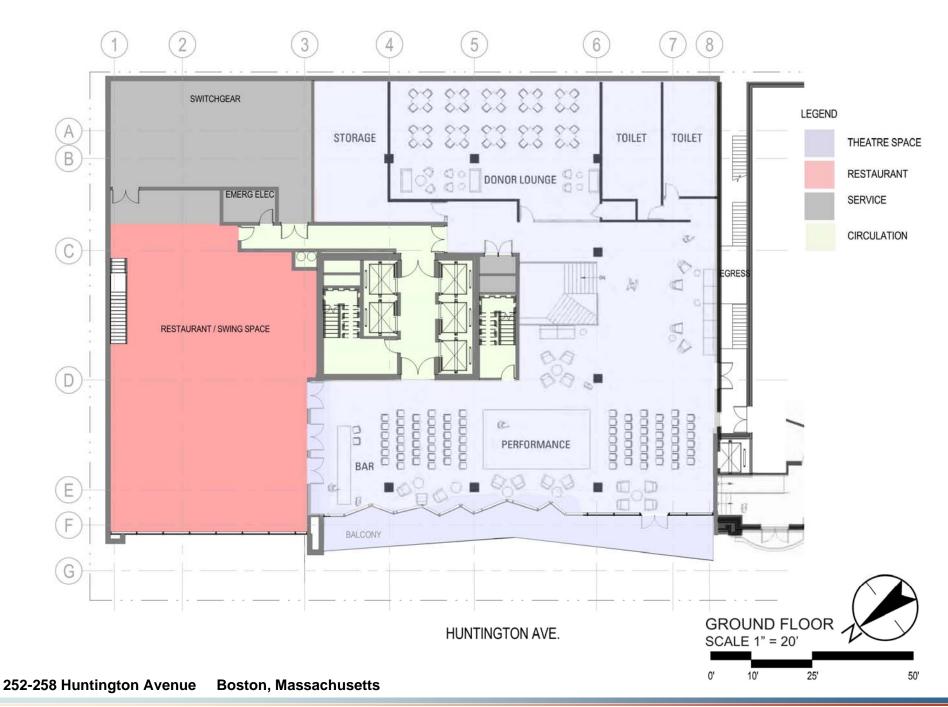








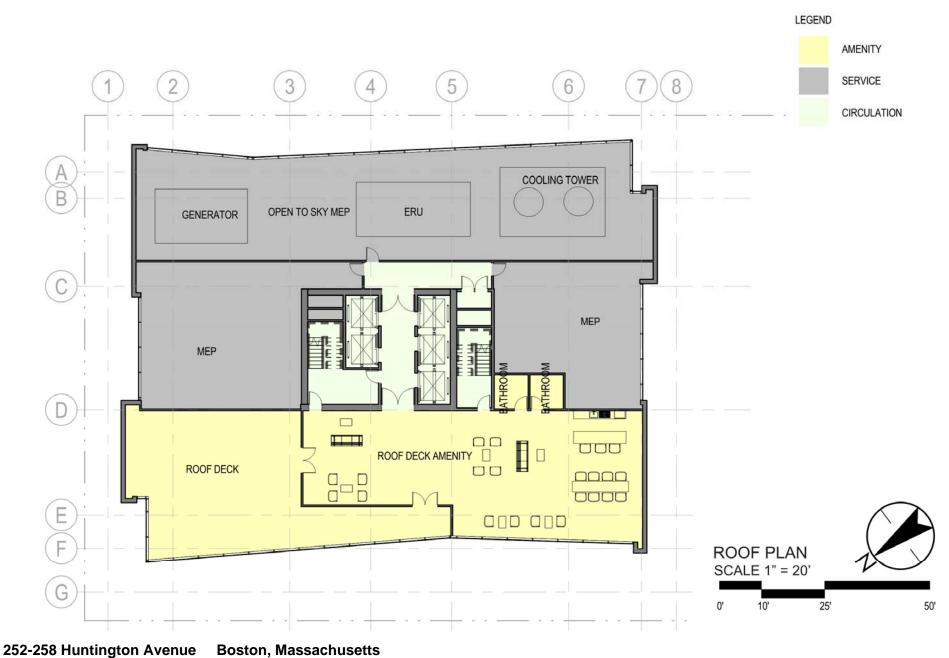






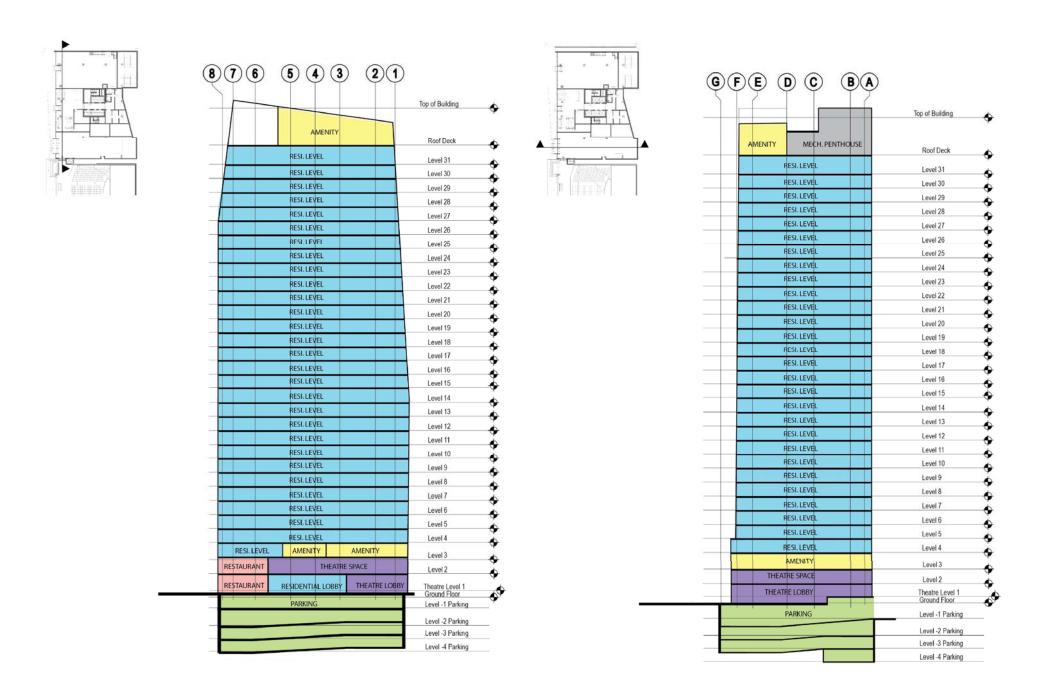








Boston, Massachusetts



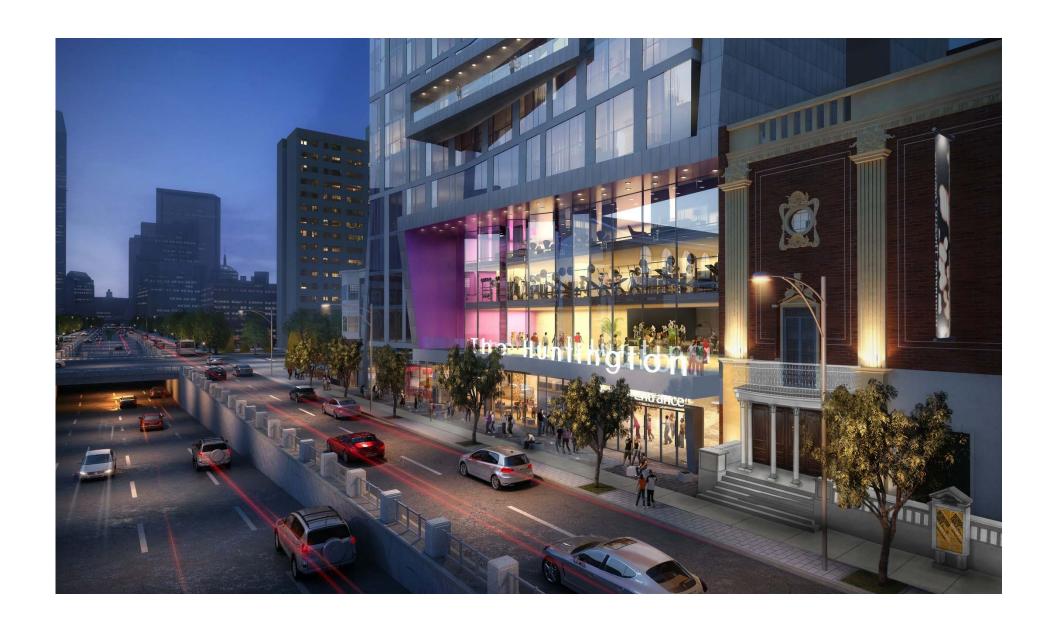












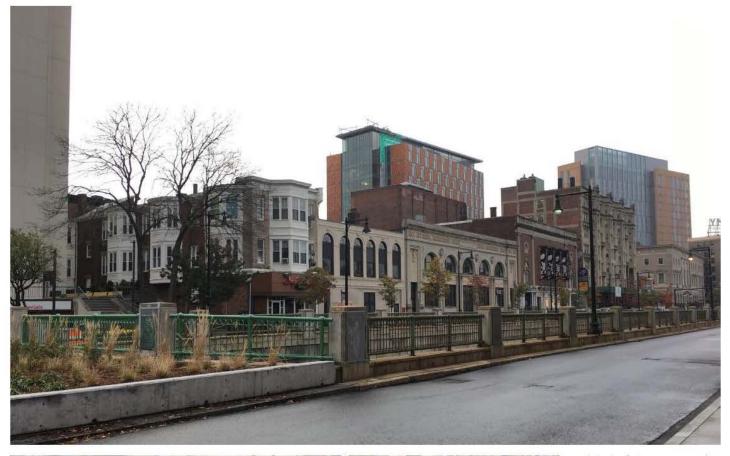


APPENDIX 4

EVDENCE OF DECADENCE

- Photographs of the Project Area
- Engineers' Reports
 Property Condition Report 252-258 Huntington Avenue
 Property Condition Report 264 Huntington Avenue
- Financial Reports
 Project Budget
 Non-Chapter 121A Alternative

[inserted behind]





252-258 Huntington Avenue Boston, Massachusetts







252-258 Huntington Avenue Boston, Massachusetts



Property Condition Report

The Huntington- 252 and 258 Huntington Avenue

252 and 258 Huntington Avenue Boston, Massachusetts

EBI Project No. 1117002484

May 18, 2017



Prepared for:

CRE Management, LLC 133 Pearl Street, Suite 300 Boston, MA 02110





21 B Street Burlington, MA 01803 Tel: (781) 273-2500 Fax: (781) 273-3311 www.ebiconsulting.com

May 18, 2017

Mr. William Moisan CRE Management, LLC 133 Pearl Street, Suite 300 Boston, MA 02110

Subject: Property Condition Report, The Huntington- 252 and 258 Huntington Avenue

252 and 258 Huntington Avenue, Boston, Massachusetts

EBI Project #1117002484

Dear Mr. Moisan:

Attached please find EBI's Property Condition Report, (the Report) for the above-mentioned asset (the Subject Property). During the property survey and research, EBI's property surveyor met with agents representing the Subject Property, or agents of the owner, and reviewed the property and its history. The Report was completed according to the terms and conditions authorized by you, the Client. This Report has been completed in general conformance with ASTM E 2018–15; CRE Management, LLC's Scope of Work.

The purpose of this Report is to assist CRE Management, LLC, in its underwriting of a proposed mortgage loan on the Subject Property described herein.

This Report is prepared for, addressed to and may be relied upon by CRE Management, LLC, such other persons as may be designated by CRE Management, LLC and their respective successors and assigns.

Reliance on the Report and the information contained herein shall mean; (i) the Report may be relied upon by CRE Management, LLC and their respective successors and assigns in determining whether to make a loan or loans evidenced by a note or notes secured by the property or a pledge of equity interests in the borrower (the "Loan"); (ii) the Report may be relied upon by any potential purchaser, successor or assignee of any of the Loans or an interest therein in determining whether to purchase the Loan from CRE Management, LLC or an interest in the Loan or Loans or securities backed or secured by same, and any rating agency rating securities representing an interest in the Loan or backed or secured by the Loan; (iii) the Report may be referred to in and included, in whole or in part, with materials offering for sale the Loan or an interest in the Loan or securities backed or secured by the Loan; (iv) the Report speaks only as of its date in the absence of a specific written update of the Report signed and delivered by EBI Consulting.

EBI Consulting is an independent contractor, not an employee of either the issuer or the borrower, and its compensation was not based on the findings or recommendations made in the Report or on the closing of any business transaction.

Thank you for the opportunity to prepare this *Report*, and assist you with this project. Please call us if you have any questions or if *EBI Consulting* may be of further assistance.

Respectfully Submitted,

EBI CONSULTING

Natalie Matson Author Mr. Indra Deb, P.E., F. ASCE 617.715.1810 (Eastern Time) Reviewer / Technical Director, Structural Services

ideb@ebiconsulting.com

TABLE OF CONTENTS

| EXECUTIVE SUMMARY TABLE | Exhibit A |
|---|-----------|
| EXECUTIVE SUMMARY & PROPERTY DESCRIPTION | I |
| General Description | I |
| Subject Property Summary | |
| Subject Property Description | |
| Municipal Information & Zoning | 3 |
| I.0 PURPOSE & LIMITATIONS | |
| 2.0 SITE CONDITIONS | 6 |
| 2.1 Topography | 6 |
| 2.2 Pavement and Parking | |
| 2.3 Landscaping, Site Improvements & Site Amenities | |
| 2.4 Municipal Services & Utilities | |
| 2.5 Natural Hazards | |
| 3.0 Building Conditions | 9 |
| 3.1 Substructure | 9 |
| 3.2 Superstructure | 9 |
| 3.3 Facades | 9 |
| 3.4 Roofing | 10 |
| 3.5 Basements/Attics | |
| 3.6 Americans With Disabilities Act (ADA) Accessibility | |
| 3.7 Interior Finishes & Components | |
| 3.8 Suspect Mold and Moisture | |
| 4.0 BUILDING SYSTEMS | 15 |
| 4.1 Building Plumbing | 15 |
| 4.2 HVAC | 15 |
| 4.3 Building Electrical | 16 |
| 4.4 Building & Site Fire & Life Safety | |
| 4.5 Elevators | |
| 5.0 MATERIAL CODE VIOLATIONS | |
| 5.1 Building Department | |
| 5.2 Fire Department | |
| 6.0 REFERENCES | 19 |
| 6.1 References Contacted | 19 |
| 7.0 IMMEDIATE REPAIRS AND REPLACEMENT RESERVES | 20 |
| 7.1 Table I - Immediate Repairs | 20 |
| 7.2 Table 2 - Replacement Reserves | 20 |
| APPENDIX A - PHOTOGRAPHS | |
| APPENDIX B - FIGURES, DRAWINGS, AND PLANS | |
| APPENDIX C - OTHER RELEVANT DOCUMENTS | |
| APPENDIX D - PROFESSIONAL QUALIFICATIONS | |

EXECUTIVE SUMMARY TABLE

| Property Name: The Huntington - 252 a Address: 252 and 258 Huntingto | | | | Property Proper | | Office 94 | | |
|---|---------------|-------------|-----------|-------------------------|---------|--------------|-----------|-------------|
| City and State: Boston | n Avenue M | A | No. o | Proper f units or te | | 2 | | |
| Site Survey Date: May 5, 2017 | | | | • | | - 39,382 | | |
| Report Date: May 18, 2017 | | | | - | Term: | | | |
| EBI Project #: III7002484 | | | | Analysis | Term: | 12 | | |
| Section | | C | Condition | | | Action | Immediate | Replacement |
| # Section Name | Excellent | Good | Fair | Poor | NA | Required | Repairs | Reserves |
| SITE CONDITIONS | | | Г | | 1 | | | |
| 2.1 Topography and Drainage | | ✓ | | | | | | |
| 2.2 Pavement and Parking | | | | | ~ | | | |
| 2.3 Site Amenities & Landscaping | | ✓ | | | | | | |
| 2.4 Utilities | | ✓ | | | | | | |
| BUILDING CONDITIONS | | | | | | | | |
| 3.1 Substructure | | ✓ | | | | | | |
| 3.2 Superstructure | | > | | | | | | |
| 3.3 Facades (Walls, Windows & Doors) | | Y | | | | | | |
| 3.4 Roofing | | ~ | | | | | | \$15,250 |
| 3.5 Basements/Attics | | ✓ | | | | | | |
| 3.6 ADA Compliance | | V | | | | | | |
| INT. FINISHES & COMPONENTS | | | | - | 1 | | 1 | |
| 3.7 Interior Finishes & Components | | ✓ | | | | | | |
| 3.8 Suspect Mold | | Y | | | | | | |
| BUILDING SYSTEMS | | | | 1 | | | ' | <u> </u> |
| 4.1 Plumbing | | ~ | | | | | | |
| 4.2 HVAC | | V | | | | | | \$41,800 |
| 4.3 Electrical | | V | | | | ✓ | \$1,000 | . , |
| 4.4 Fire/Life Safety | | V | | | | | | |
| 4.5 Elevators | | | | | _ | | | |
| MATERIAL CODE VIOLATIONS | | | <u> </u> | | | | | 1 |
| 5.0 Codes | | ~ | | | | | | |
| OTHER STRUCTURES, AMENITIE | S. SPEC | | TERES | T ITEM | 1S | | | |
| None | | | | | | | | |
| | ı | | | т | TALS | | \$1,000 | \$57,050 |
| | . | | | 10 | IALS | ·I | φ1,000 | φ37,U3U |
| | | | | | | Dollars | | |
| Present Value of Replacement Reserves Cost Estimate per sf/yr \$57,05 | | | | \$57,050 | | | | |
| Inflated Value of Replacement Reserves Cos | | | | | | \$0.12 | | \$61,981 |
| Immediate Repairs Cost Estimate | | | ψυ.13 | \$1,000 | ψ01,701 | | | |
| Total Deferred Maintenance Cost Estima | ite, After I | Multiplie | er | | | | \$1,250 | |



EXECUTIVE SUMMARY & PROPERTY DESCRIPTION

GENERAL DESCRIPTION

The Subject Property, known as The Huntington- 252 and 258 Huntington Avenue, is located in Boston, Massachusetts at 252 and 258 Huntington Avenue. The Subject Property was reportedly constructed in 1923 and 1927. The Subject Property consists of a multi-tenant, office facility on a 0.38-acre lot. The Subject Property includes one, three-story buildings and one, two-story building, with a total net rentable area of approximately 39,382 square feet. The buildings contain full, finished basements.

Ms. Natalie Matson of *EBI* surveyed the property on May 5, 2017 and was accompanied by, and interviewed the Technical Director Mr. Dan Ramirez, *Huntington Theater Company*. At the time of the survey, the weather was rainy and approximately 50° Fahrenheit. During the survey, representative areas of the site, tenant spaces, mechanical spaces, and mechanical equipment and building components were observed.

EBI's Pre-Survey Questionnaire was forwarded to the designated property contact. The information requested in the questionnaire assists in EBI's research of the Subject Property to obtain pertinent property data, discover existing physical deficiencies, chronic problems, the extent of repairs, if any, and their costs, and pending repairs and improvements. The Pre-Survey Questionnaire was completed and returned.

The Subject Property appears to be in good condition. It is *EBI's* professional opinion that the Remaining Useful Life (RUL) of the Subject Property is estimated to be not less than 35 years, based on its current condition and maintenance status, assuming any recommended Immediate Repairs or Replacement Reserves are completed, and appropriate routine maintenance and replacement items are performed on an annual or as-needed basis. Please see the Executive Summary Table for a compilation of recommended Immediate Repairs and/or Replacement Reserves.

SUBJECT PROPERTY SUMMARY

The following summary describes and comments on the primary Subject Property components. Please see the body of the *Report* for complete survey results for all sections.

PAVEMENT & PARKING

The property occupies the entire site and no on-site parking is provided.

Overall Condition NA

LANDSCAPING & AMENITIES

The property has two exterior metal stairwells and an alley with a concrete walk.

Overall Condition Good

BUILDING STRUCTURE & FACADES

The building structures consist of load-bearing, reinforced, concrete masonry unit walls with steel columns, steel beams, and steel, truss joists supporting open-web, steel, floor and roof joists. Floor structures consist of lightweight concrete on steel decking, supported by the open-web, steel, floor joists. Roof structures consist of lightweight concrete on steel decking, supported by the open-web, steel, roof joists.

The primary exterior materials consist of painted wood siding, brick veneer, and concrete.

Fixed and operable, sliding, windows are located at the front and rear façades of the buildings on each floor.

Overall Condition Good

Roof

The Subject Property has a low-slope, fully-adhered, EPDM-membrane roof and a low-slope, built-up roof.

Overall Condition Good

MAJOR MECHANICAL SYSTEMS

The buildings are heated and cooled by rooftop-mounted, packaged, electric and gas, HVAC units and oil boilers.

Multiple water heaters provide domestic hot water. Each building contains a 40 electric and a 50-gallon, gas-fired, water heater serving the units within that building. Fire and life safety equipment includes various fire alarm devices and controls, and an automatic fire sprinkler and fire alarm systems.

Overall Condition Good

SYSTEM RESPONSIBILITY

Reportedly, maintenance, and repair of the mechanical systems and interior finishes and plumbing, electrical, HVAC, life safety systems and components at the property are reportedly the responsibility of the Subject Property tenants until the end of June 2017.

Maintenance, and repair, and replacement of the roof, facades, mechanical systems and plumbing, electrical, HVAC, life safety systems and components at the property are reportedly the responsibility of the Subject Property owner.

SUBJECT PROPERTY DESCRIPTION

The Subject Property is comprised of the improvements described above, situated on two rectangular-shaped parcels with an address of 252 and 258 Huntington Avenue. The Subject Property has approximately 140 feet of frontage along Huntington Avenue.

Local surface arteries, Interstate, and state highway systems provide access to the property. The Subject Property is located approximately 0.38-mile from Interstate 90.

The site is slopes downward to the east.

The Subject Property is improved with two rectangular-shaped, buildings. One building has rough dimensions of 50 feet in length and 100 feet in depth and the other rough dimensions of 90 feet in length and 100 feet in depth.

Each tenant space is directly accessed from the exterior and there are no common interior areas.

| LISTED SUBJECT PROPERTY BUILDINGS & SQUARE FOOTAGES | | | | | |
|---|-------------------|------------------|---|--|--|
| Address or Name | DATE OF CONST. | No. of FLOORS | CONSTRUCTION TYPE | APPROXIMATE SQUARE FOOTAGE (NET- RENTABLE) | |
| 252-4 Huntington Avenue | 1923 | 3 | Masonry bearing walls, steel columns and beams, concrete slab floor, steel deck roof. Red brick, painted wood, and concrete façade. | 9,700 | |
| 258 Huntington Avenue | 1927 | 2 | Masonry bearing walls, steel columns and beams, concrete slab floor, steel deck roof. Red brick and concrete façade. | 29,682 | |
| | 39,382 | | | | |

The interiors are divided into specialty services and support areas. Support areas include the management offices, workshops, utility areas, and restrooms.

| TENANT UNIT TYPES AND MIX | | | | |
|---------------------------|----------|-----------------|---------------|----------------------------|
| Түре | QUANTITY | VACANT UNITS | Down Units | Approx. Leased Area (NRSF) |
| Office | 2 | 0 | 0 | 39,382 |
| Totals: | 2 | 0 | 0 | 39,382 |

| TENANT UNITS OBSERVED | | | | | | |
|-----------------------|--|---------------------------|--|--|--|--|
| Address | TENANT NAME | COMMENTS | | | | |
| 252-258 Huntington | Boston University of Fine and Applied Arts | Occupied. Good condition. | | | | |
| Avenue | Huntington Theater Company | Occupied. Good condition. | | | | |

In general, the Subject Property appears to have been constructed within industry standards and has been well maintained.

MUNICIPAL INFORMATION & ZONING

MUNICIPAL INFORMATION

"Readily available", "reasonably ascertainable", or "publicly viewable", municipal records at City of Boston Inspectional Services, Fire Department, and Zoning Department, were reviewed on-line.

ZONING

The municipal zoning office were consulted, the website were reviewed, and/or the zoning ordinance was reviewed to determine the zoning of the Subject Property. According to the information provided, the Subject Property appears to be located within an *Institutional* district, and appears to be a conforming use.

I.0 PURPOSE & LIMITATIONS

This Baseline Property Condition Report (the Report) has been prepared for the use of CRE Management, LLC, in accordance with our Standard Conditions for Engagement and Authorization Letter and Agreement signed by CRE Management, LLC, dated April 27, 2017 (the Agreement), and with the limitations described below, all of which are integral parts of this Report. A copy of the signed Agreement is maintained at the EBI Consulting office in Burlington, Massachusetts. To the extent any provisions of this Report conflict with the terms of the Agreement, the Agreement shall control.

The exclusive purpose of this Report is to assist CRE Management, LLC in its underwriting of a proposed mortgage loan on the Subject Property described in this Report. This Report has no other purpose and should not be relied upon by any other person or entity. Reliance upon this Report does not extend to property owners, or entities or individuals interested in purchasing the subject property. Amendments to EBI's limitations as stated herein that may occur after issuance of the Report are considered to be included in this Report. EBI's Agreement and Report extends to CRE Management, LLC only. By accepting draft and final reports, CRE Management, LLC agrees to these terms and limitations.

The information reported was obtained through sources deemed reliable, a visual site survey of areas readily observable, easily accessible or made accessible by the property contact and interviews with owners, agents, occupants, or other appropriate persons involved with the Subject Property. Municipal information was obtained through file reviews of reasonably ascertainable standard government record sources, and interviews with the authorities having jurisdiction over the property. Findings, conclusions and recommendations included in the *Report* are based on *EBI*'s visual observations in the field, the municipal information reasonably obtained, information provided by the Client, and/or a review of readily available and supplied drawings and documents. No disassembly of systems or building components or physical or invasive testing was performed. *EBI* renders no opinion as to the property condition at un-surveyed and/or inaccessible portions of the Subject Property. *EBI* relies completely on the information provided during the site survey, or provided or obtained during the writing of the draft *Report*, whether written, graphic or verbal, provided by the property contact, owner or agent, or municipal source, or as shown on any documents reviewed or received from the property contact, owner or agent, or municipal source, or as shown on any documents reviewed or received from the property contact, owner or agent, or municipal source, and assumes that information to be true and correct. *EBI* assumes no responsibility for property information or prior reports withheld or not provided during preparation of the *Report* for any reason whatsoever. The observations in this *Report* are valid on the date of the survey. *EBI* uses the date of first occupancy to establish the Subject Property age.

The contents of the Report are not intended to represent an in-depth acquisition analysis of the Subject Property, including, but not limited to, facades, roof, paving, mechanical, elevator, sprinkler, fire safety and electrical systems or components. Anyone wanting information about the condition or characteristics of these property systems or components should consult the appropriate professional. The extent of the physical survey for the production of this Report has been limited, by contract and agreed upon Scope of Work, (consistent with the guidelines of the ASTM E 2018–15 Scope of Work, as referenced below) to visual observations and a walk through of the property. Assumptions regarding the overall condition of the property have been developed based upon a survey of representative areas of the Subject Property. As such, no representation of all aspects of all areas or components is made.

Immediate Repairs as may be identified during the survey are typically limited to life, safety, health, building code violation or building or property stabilization issues observed at the Subject Property. Routine operational, normal, or customary annual maintenance or preventative maintenance items are not reported or included in this *Report*.

This assessment is based on the evaluator's opinion of the physical condition of the improvements and the estimated expected remaining useful life of those improvements, based on his observations in the field at the time of the survey, and the written or verbal information received. The conclusions presented are based on the evaluator's professional judgment. The actual performance of individual components or systems may vary from a reasonably expected standard and may be affected by circumstances that are not readily ascertainable or viewable, or that occur after the date of the survey.

Where quantities cannot be determined from information provided or physical takeoffs, lump sum estimates, or allowances are used. The costs shown are based on professional judgment and the apparent or actual extent of the observed defect, including the cost to design, procure, construct, and manage the repair or replacement. Where property-unique or specialty equipment is present, *EBI* relies solely on data regarding maintenance and/or replacement costs provided by the designated site contact or on-site individuals with first-hand knowledge of the specific equipment.

EBI provides Pre-Survey Questionnaires for completion by the designated site or property contact, as provided by CRE Management, LLC or their agent. The information requested in the questionnaire assists in EBI's research of the Subject Property to obtain pertinent property data, discover existing physical deficiencies, chronic problems, the extent of repairs, if any, and their costs, and pending repairs and improvements. If the completed Pre-Survey Questionnaire is not returned as of this Report, this is a limiting factor in EBI's analysis. If the questionnaire is returned at a later date showing a material difference from information provided in the Report, EBI will forward the questionnaire under separate cover. If no response is received, or no material difference is noted in the questionnaire, EBI's Report will not be modified.

EBI may not have been provided with roof design or installation details, and may not have been provided with warranty information (see Section 3.4 Roofing). EBI has relied on general industry performance of similar type roofs and general observations of the surface covering of the roof to determine if roof replacement is warranted during the analysis term. EBI is not responsible for roof failure that may occur earlier than estimated due to hidden conditions or defects that cannot be readily ascertainable by general observation.

EBI may not have been provided with façade reports, and cannot opine on costs to repair façades of buildings five stories or more without receipt of current façade reports (see Section 3.3 Facades). EBI has relied on general industry performance of similar façade systems and general observations of the surfaces of the façades to determine if repair or replacement is warranted during the analysis

term. EBI is not responsible for façade failures that may occur earlier than estimated due to hidden conditions or defects that cannot be readily ascertainable by general observation.

If the municipality in which the Subject Property is located has governing ordinances requiring façade studies, and a copy is not provided to EBI, this is a limiting factor in EBI's assessment and analysis. Prudent property management will have had façade reports completed on their high-rise property, and if a copy of the report is not provided to EBI, this too, is a limiting factor in EBI's assessment and analysis.

This Baseline Report was completed in general conformance with ASTM E 2018–15, Standard Guide for Property Condition Assessment: Baseline Property Condition Assessment Process, and with the scope of services approved by Legal Client Name.

The survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession, and in accordance with generally accepted practices of other consultants currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended. The Report speaks only as of its date, in the absence of a specific written update of the Report, signed and delivered by EBI.

Any additional information that becomes available after EBI's survey and draft submission concerning the Subject Property should be provided to EBI so that EBI's conclusions may be revised and modified, if necessary, at additional cost.

DEVIATIONS FROM THE GUIDE

EBI includes an analysis of estimated Replacement Reserves in this Report. EBI uses an approximate threshold of \$1,000 in aggregate for reporting Immediate Repair or Replacement Reserve items. Material life, safety, health, fire, or building code violation or building or property stabilization issues observed at the Subject Property will be reported regardless of cost.

CONDITION

EBI uses terms describing conditions of the various site, building, and system components. The terms used are defined below. It should be noted that a term applied to an overall system does not preclude that a part or a section of the system or component may be in a different condition.

Excellent The component or system is in new or like new condition and no deferred maintenance is recommended.

Good The component or system is sound and performing its function, and/or scheduled maintenance can be accomplished through routine maintenance. It may show signs of normal aging or wear and tear and some remedial and routine maintenance or rehabilitation work may be necessary.

Fair The component or system is performing, but may be obsolete or is approaching the end of its expected useful life. The component or system may exhibit evidence of deferred maintenance, previous repairs, or workmanship not in compliance with commonly accepted standards. Significant repair or replacement may be recommended to prevent further deterioration, restore it to good condition, prevent premature failure, or to prolong its expected useful life.

Poor The component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its typical expected useful life, excessive deferred maintenance, or state of disrepair. Present condition could contribute to, or cause, the deterioration of other adjoining elements or systems. Repair or replacement is recommended.

ABBREVIATIONS

EBI may use various abbreviations to describe various site, building or system components, or legal descriptions. Not all abbreviations may be applicable to all Reports. The abbreviations most often utilized are defined below.

| ACT ABS ADA ADAAG AHU APA BTU BTUH CFM CMU CPVC DHW DWH EIFS EPDM EUL FF&E FCU FEMA FHA FHW | Acoustic Ceiling Tile Acrylonitrile Butadiene Styrene Americans with Disabilities Act Americans with Disabilities Act Accessibility Guidelines Air Handling Unit American Plywood Association British Thermal Unit (a measurement of heat) British Thermal Units per Hour Cubic Feet per Minute Concrete Masonry Unit Chlorinated Poly Vinyl Chloride Domestic Hot Water Domestic Water Heater Exterior Insulating Finishing System Ethylene Propylene Diene Monomer Expected Useful Life or Effective Useful Life Fixtures, Furnishings & Equipment Fan Coil Unit Federal Emergency Management Agency Forced Hot Air or Federal Housing Administration Forced Hot Water | FOIA FRT GFCI GWB HCA HID HVAC kVA kW MBH MDP OSB PTAC PVC RFI RTU RUL TPO UBC VAV VCT | Freedom Of Information Act Fire Retardant-treated Plywood Ground Fault Circuit Interrupter Gypsum Wall Board Handicapped-accessible High-intensity Discharge (lighting) Heating, Ventilating, and Air Conditioning Kilovolt Ampere Kilowatt Thousand BTUs per Hour Main Distribution Panel Oriented Strand Board Packaged Terminal Air Conditioning (Unit) Poly Vinyl Chloride Request for Information Roof Top Unit Remaining Useful Life Thermoplastic Poly Olefin Uniform Building Code Variable Air Volume Vinyl Composition Tile |
|---|--|--|---|
| | · · · · · · · · · · · · · · · · · · · | | |
| | • | | |

2.0 SITE CONDITIONS

2.1 TOPOGRAPHY

DESCRIPTION

The Subject Property topography gently slopes down towards to east.

CONDITION

No topography problems were reported or observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

None

2.2 PAVEMENT AND PARKING

DESCRIPTION

The property occupies the entire site and no on-site parking is provided.

CONDITION

Not applicable.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

2.3 LANDSCAPING, SITE IMPROVEMENTS & SITE AMENITIES

DESCRIPTION

Concrete walkways are provided for pedestrian traffic in the alleyway. Two exterior stairs provide access to the buildings and are constructed with metal stringers, steel treads and risers, and steel pipe railings.

CONDITION

The site stairs and concrete walks appear to be in good condition.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

None

2.4 MUNICIPAL SERVICES & UTILITIES

2.4.1 Water & Sewer

DESCRIPTION

Boston Water and Sewer Commission provides water and sewer service to the Subject Property site. The sewer is discharged into the municipal lines beneath the abutting street.

2.4.2 Gas/Oil

DESCRIPTION

National Grid provides gas service to the Subject Property.

Wilkinson Oil Co delivers oil to the Subject Property. Number 2 fuel oil is stored in a five 275-gallon, aboveground, oil tanks in the basement of the main building. The age of the oil storage tanks is unknown and appear to be in good condition.

2.4.3 Electrical

DESCRIPTION

Eversource provides electric service to the site. The service enters the property overhead to a pole at the front of the site, and then runs to the main switchgear. The utility reportedly owns and maintains the lines up to the buildings.

2.4.4 Storm Drainage

DESCRIPTION

The storm water flow from the site is controlled via on-site structures discharging into the municipal system. The buildings' internal roof drains are tied to the sewer.

OVERALL CONDITION

There were no reported or observed problems with the Subject Property water, sewer, gas, oil, electric, or storm water drainage connections, systems, sizes, or capacities. The utilities appear to be configured and operated in a manner consistent with their intended use, adequate for the use type, and appear to be in good condition.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

2.5 NATURAL HAZARDS

DESCRIPTIONS

2.5.1 Seismic

Chapter 16 of the 1997 edition of the *Uniform Building Code (UBC)* was reviewed to determine the seismic zone of the Subject Property. Chapter 16 includes calculations for, and mapping of, earthquake (seismic) loads on structures. Figure 16-2, *Seismic Zone Map of the United States* delineates differing ratings of seismic load. These ratings indicate the severity of how horizontal ground motion and subsurface soil types affect a structure. Figure 16-2 shows the United States having seismic zones ranging from 0 to 4.

2.5.2 Flood Zone

The Federal Emergency Management Agency (FEMA) maps and rates flood hazard zones throughout the United States. These zones are depicted on a Flood Insurance Rate Map (FIRM), designated by Community Map and Panel numbers. The flood hazard zones range from Zone A or AE (AI – AI30), with Base Flood Elevations (BFE) determined, to Zone X (unshaded), areas outside the 500-year floodplain. EBI utilizes CDYS' RiskMeter (Transamerica Data) First American Flood Data Services' Flood Insights mapping system to obtain the Flood Zone Determination of the Subject Property. First American Flood Data Services searches the FEMA FIRM map and panel to obtain the Flood Zone Determination of the Subject Property.

CONCLUSIONS

2.5.1 Seismic

According to Figure 16-2 in the *UBC*, the Subject Property appears to be located in Zone 2A, with a low to moderate probability of damaging ground motion.

2.5.2 Flood Zone

The Subject Property Flood Zone Determination appears to be Zone X, defined as an area outside the 100 and 500 year floodplains, as shown on First American Flood Data Services' Flood Hazard Certification, Community Map # 250286, Panel # 0079J, dated March 16, 2016.

3.0 BUILDING CONDITIONS

3.1 SUBSTRUCTURE

DESCRIPTION

The majority of the Subject Property substructures were not visible due to the surrounding grade. The buildings contain full basements. Based on *EBI's* visual survey, the property appears to have concrete masonry unit foundations and cast-in-place, concrete footings supporting the load-bearing, exterior and interior, walls and/or columns. The structures include concrete slabs-on-grade.

CONDITION

The substructures appear to be sound and in good condition. No indications of problems with the substructures were reported or observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.2 SUPERSTRUCTURE

DESCRIPTION

The superstructures are partially obscured from view by interior and exterior finishes.

The superstructures reportedly consist of load-bearing, reinforced, concrete masonry unit walls with steel columns, steel beams, and steel, truss joists supporting open-web, steel, floor and roof joists. Floor structures consist of lightweight concrete on steel decking, supported by the open-web, steel, floor joists. Roof structures consist of lightweight concrete on steel decking, supported by the open-web, steel, roof joists.

CONDITION

Based on the overall appearance and observed general condition of the buildings, the superstructures appear to be sound and in good condition. No problems were noted or reported.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.3 FACADES

DESCRIPTION - FACADES

During the site survey, representative building facades were viewed from the surrounding grade, from windows at upper floors, or adjacent buildings or roofs. In depth analysis of the façades is beyond the scope of work for this *Report*.

The primary exterior materials consist of red, brick veneer, painted wood, and concrete.

252 Huntington Avenue front façade has vertical, painted wood siding along the bottom half of the building and concrete features on the rest of the façade. The southern façade is red brick façade.

DESCRIPTION – EXTERIOR DOORS AND WINDOWS

The exterior doors consist of average-quality, commercial-grade, aluminum and glass doors and hollow, metal doors accessing the tenant spaces at each building. Service and access doors are hollow metal.

Fixed and operable, sliding, windows are located at the front and rear façades of the buildings on each floor.

CONDITION

The observed areas of the facades appear to be in good condition overall. The observed sealants appear to be in good condition. Damage wood siding was observed in 252 Huntington Avenue. Immediate Repairs are recommended to repair/replace the damage portion of the siding under routine maintenance due to its low cost.

The painted finishes appear to be in good condition.

Aside from normal wear, the observed doors appear to be in good condition.

The windows observed appeared to be weather tight and in good condition.

Exterior areas of the Subject Property buildings to which access was provided, and in which building elements were readily observable, were visually surveyed for the presence of Wood Destroying Organisms (WDO), termites or termite activity. No observations were conducted within concealed locations (construction elements behind exterior or interior wall finishes, and other building components, etc.). No disassembly of systems or building components or physical or invasive testing was performed. *EBI* renders no opinion as to the property condition at un-surveyed and/or inaccessible portions of the Subject Property. During the visual survey of the Subject Property, evidence of WDO and termite activity was not observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

3.4 ROOFING

DESCRIPTION

The Subject Property has a low-slope, fully-adhered, EPDM-membrane roof. The Subject Property also has a low-slope, built-up, roof. The roofs are flashed with metal flashing.

The built-up roof age is unknown. The EPDM roof is approximately 10 years old. The roofs pitch toward internal drains.

CONDITION

In estimating the condition and effective useful life of roofs, *EBI* has relied on general industry performance of similar type roofs and general observations of the surface covering to determine if replacement is warranted during the analysis term. Discussions with tenants regarding the roof's condition revealed no negative comments.

The built-up and EPDM-membrane roofs appear to be in good condition. Roofs of this type typically have an average, effective useful life of approximately 18 and 20 years respectively, depending on the property's location, material type and quality, quality of installation, roof maintenance and exposure, amount of roof traffic, and regional climatic conditions. Based on its reported age, observed current condition, and average, effective useful life, the roofs are expected to reach their life expectancy during the analysis term. Replacement Reserves are recommended for built-up roof replacement during the analysis term and ongoing roof repairs for EPDM roof, which would extend the useful life of roof.

The slope and drainage design of the building roof appeared to be generally adequate with the exception of ponding noted at two locations. These areas of ponding are recommended to be modified to provide positive drainage when each building roof is replaced.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

- Ongoing roof repairs (EPDM roof)
- Built-up roof replacement

3.5 BASEMENTS/ATTICS

DESCRIPTION

The Subject Property has a full, finished basement.

No accessible attic areas are present at the property.

CONDITION

There were no reported or observed problems with the Subject Property basements or attics. There were no reported or observed problems with the Subject Property attics.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.6 AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY

DESCRIPTION

The Americans with Disabilities Act (ADA), Title III, 28 Code of Federal Regulations (CFR) Part 36, enacted July 26, 1990 and effective January 26, 1992; and revised on September 15, 2010 to include the 2010 Standards for Accessible Design, which are published in the 2011 CFR, and which went into effect on March 15, 2012, governs public accommodation and commercial properties. Title III of the ADA divides

facilities into two basic categories: places of public accommodation and commercial facilities, with different obligations for each facility type. The provisions of Title III provide that persons with disabilities should have accommodations and access to public facilities that are equal, or similar, to those available to the general public. Assessment of any other Titles, or their provisions of the ADA, including those that govern employer and/or tenant responsibilities, is specifically excluded from this Scope of Work and Report. Additionally, many jurisdictions have state or local accessibility codes or guidelines that may differ from the ADA and ADAAG. Analysis of these codes is beyond the Scope of Work for this Report. Since tenants and employers at properties are usually responsible for making their leased areas ADAAG-compliant, assessment for ADAAG compliance in these areas was not completed.

Regardless of a property's age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Facilities initially occupied after the effective date are required to fully comply with the ADAAG. Existing facilities constructed prior to this date are held to the lesser standard of compliance as Title III calls for owners of buildings occupied prior to the effective date to expend "reasonable" sums, and make "reasonable efforts", to make "practicable" or "readily achievable" modifications to remove barriers, unless said modification would create an undue financial burden on the property or is structurally infeasible. When renovating buildings occupied prior to the effective date, the area renovated, and the path of travel accessing the renovated area, must comply with the ADAAG. As an alternative, a reasonable accommodation pertaining to the deficiency must be made. The definitions of "reasonable", "reasonable efforts", "practicable", and "readily achievable", are site dependent and vary based on the owner's financial status.

Due to the unique nature of each property, the extent of analysis required, and the many variables of compliance with the ADAAG guidelines, the evaluation of costs for full ADAAG compliance is beyond the scope of this Report. A separate ADAAG Compliance Audit may be ordered and may reveal aspects of the property that are not in compliance.

For the purposes of this Report the survey is limited to visual observations of only a representative sample of areas readily observable or easily accessible, and to those areas set forth in EBI's Modified Accessibility Compliance Checklist and Costs included in Appendix C of this Report. The survey is limited to identifying potential routine maintenance or renovation actions that can increase accessibility over time and may or may not, achieve full ADAAG compliance. Places of public accommodation at the Subject Property were visually observed for general compliance with the major requirements of the ADA, taking into consideration the current use of the property, its age and renovation history. No actual measurements were taken to verify compliance.

If you have additional questions concerning the ADA and the ADAAG, calls can be made to the *United States Department of Justice (USDOJ) ADA Hotline* at (800) 514-0301 followed by touching "7" on the touch tone keypad. Additionally, information is available online at the *USDOJ ADA* website at http://www.usdoj.gov/crt/ada/adastd94.pdf or http://www.access-board.gov/adaag/html/adaag.htm.

CONDITION

Portions of the Subject Property fall into the *public accommodation* category.

A visual review of the property, in conformance with EBI's Modified Accessibility Compliance Checklist and Costs, concluded that the Subject Property is in general conformance with the ADAAG. No modifications or recommendations are made at this time.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

3.7 Interior Finishes & Components

DESCRIPTION

The interior areas into which entry was made possible by the site contact are finished with averagequality materials consistent with similar property use types. The finishes generally consist of the materials listed in the table below.

| TYPICAL INTERIOR FINISHES | | | | | | | | | | | |
|---------------------------|-----------------------------------|--------------------------------|--------------------------------------|--|--|--|--|--|--|--|--|
| AREA OR ROOM | FLOOR | WALLS | CEILING | | | | | | | | |
| Offices | Carpet, vinyl tile | Painted GWB | Suspended acoustic tile, painted GWB | | | | | | | | |
| Workshops | Vinyl tile | Painted GWB | Suspended acoustic tile, painted GWB | | | | | | | | |
| Restrooms | Ceramic tile | Ceramic tile | Suspended acoustic tile, painted GWB | | | | | | | | |
| Stairs | Vinyl floor tile, carpet, wood | Painted GWB | Exposed stair structure | | | | | | | | |
| Mechanical Rooms | Exposed concrete | Painted GWB, exposed structure | Exposed structure | | | | | | | | |

There are no interior common areas at the Subject Property.

The building has multiple stairways throughout the building. Each is constructed with wood stringers wood, treads and risers and wood railings. The treads and risers are carpeted, vinyl tread, or painted wood and the walls have painted, gypsum wallboard finishes.

CONDITION

A representative sampling of the tenant spaces were surveyed and comments regarding their condition are listed below.

| TENANT UNITS OBSERVED | | | | | | | | | | |
|------------------------------|--|---------------------------|--|--|--|--|--|--|--|--|
| ADDRESS TENANT NAME COMMENTS | | | | | | | | | | |
| 252-258 Huntington | Boston University of Fine and Applied Arts | Occupied. Good condition. | | | | | | | | |
| Avenue | Huntington Theater Company | Occupied. Good condition. | | | | | | | | |

The tenant spaces are in good condition.

Discussions with the owner's representative indicate that, according to the tenants' lease terms, the tenants are responsible for interior repairs, refurbishment, and renovations. New tenant refurbishment is not calculated in this *Report* as reserves for this work are typically carried elsewhere during underwriting.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.8 SUSPECT MOLD AND MOISTURE

Interior areas of the Subject Property buildings to which access was provided, and in which building elements were readily observable, were reviewed for the presence of moisture and visible or olfactory evidence of microbial development (suspect mold). No observations were conducted within concealed locations (construction elements behind wall and ceiling finishes, and other building components, etc.). No sampling or testing was performed to confirm the presence of invisible airborne microbial elements. In addition to *EBI*'s observation efforts, property personnel did not indicate the presence of moisture or suspect mold during the survey, or in *EBI*'s Pre-Survey Questionnaire.

Representative Subject Property observations and interviews revealed no obvious visual or olfactory indications of the presence of active moisture or suspect mold. No recommendations concerning moisture or suspect mold are made at this time.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

4.0 BUILDING SYSTEMS

4. I BUILDING PLUMBING

DESCRIPTION

The observed supply piping is copper and the waste lines are reportedly PVC. The plumbing fixtures are vitreous china and cast iron with chrome fixtures.

Central, gas-fired, and electric, water heaters, 40 and 50 gallons in size, are located in each mechanical room and supply domestic hot water to the Subject Property.

Welded and threaded black iron pipe is used for gas piping throughout the Subject Property.

CONDITION

There were no reported or observed problems with the plumbing system components, operation, or capacities. Discussions with the owner's representative indicate that, according to the Subject Property lease terms, the tenants are responsible for interior plumbing repairs and replacement.

The water heaters are approximately one to three years old, and based on their average, effective useful life and current condition, replacement of the water heaters is not anticipated during the analysis term.

The bathroom finishes and fixtures observed appeared to be in good condition and in working order. Property management indicated that the bathrooms are continuously refurbished at tenant turnover.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

4.2 HVAC

DESCRIPTION

The Subject Property is heated and cooled by the following approximate count and size of units:

| SUBJECT PROPERTY HVAC UNITS | | | | | | | | | | | |
|-----------------------------|-----------------|-----------------------------|---------------------------|---------|-----------------|--|--|--|--|--|--|
| LOCATION | No. of Units | MANIJEACTIJEER I VPE AN | | | | | | | | | |
| | ı | | 20 | 15 | Rooftop unit | | | | | | |
| 252 Roof | ı | Carrier | Unknown | Unknown | Air conditioner | | | | | | |
| | I | | 10 | 14 | Rooftop unit | | | | | | |
| 258 Roof | | American Standard | American Standard 7.5 I I | | Rooftop unit | | | | | | |
| 252 Basement | | Weil-McLain | Unknown | 10 | Oil boiler | | | | | | |
| 258 Basement | | Weil-McLain | Unknown | 10 | Oil boiler | | | | | | |

CONDITION

There were no reported or observed problems with the HVAC system sizes or operation. The observed mechanical equipment appears to be in good condition, appears to be well maintained.

The heating and cooling components are 10 to 15 years old. The average effective useful life of HVAC units of this size and type is 14 to 30 years, depending upon their location, maintenance and use type. Based on their average effective useful life, current condition and reported maintenance program, partial replacement of the HVAC roof top units can be anticipated during the analysis term. Replacement Reserves are recommended accordingly.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• HVAC unit replacement

4.3 BUILDING ELECTRICAL

DESCRIPTION

The incoming services are rated as 200-Amp, 240-Amp, and 250-Amp single-wire, three-phase, I20/240-Volt mains, meter banks, located within an electrical room. The MDPs are located throughout the building.

The Subject Property reportedly has copper wiring and standard electrical devices, switches, and fixtures consistent with the Subject Property use type. GFCI fixtures were observed in the kitchens and bathrooms during the survey.

CONDITION

MDP's manufactured by Federal Pacific were observed. According to the tenants and site contact, there have been no reported issues with the electric equipment. Immediate Repairs are recommended to inspect the MDP's by a licensed electrician.

There were no other reported or observed problems with the electrical system sizes or capacities. This utility appears to be configured and operated in a manner consistent with its intended use, and adequate for the use type.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

• Inspection of MDP's by licensed electrician

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

4.4 BUILDING & SITE FIRE & LIFE SAFETY

DESCRIPTION

Observed fire and life safety systems serving the buildings include a multiple-zone, fire alarm control panel, an auto-dialer reportedly tying the system to the fire department, smoke and heat detectors, pull stations, illuminated exit lights with battery-backup, emergency battery lighting units, horn/light annunciators, fire extinguishers, and a partial-coverage, wet-dry-pipe, sprinkler system with check valves and tamper and flow switches.

CONDITION

There were no reported or observed problems with the life safety system sizes or configuration. The fire alarm control panels, alarm systems, and sprinkler systems, are reportedly tested annually, were last tested on September 12, 2016, and appear to be in good condition.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

4.5 ELEVATORS

DESCRIPTION

The Subject Property has no elevators.

CONDITION

Not applicable.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

5.0 MATERIAL CODE VIOLATIONS

5.1 BUILDING DEPARTMENT

DESCRIPTION

The City of Boston Inspectional Services Department was consulted for open material violations, and to obtain, "readily available", "reasonably ascertainable", or "publicly viewable" documents regarding the Subject Property.

CONCLUSION

The department interviews and/or file reviews do not show open material violations on the Subject Property.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

5.2 FIRE DEPARTMENT

DESCRIPTION

The local fire department was consulted for open material violations.

CONCLUSION

The fire department interviews and/or file reviews do not show open material violations on the Subject Property.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

6.0 REFERENCES

6. I REFERENCES CONTACTED

DESCRIPTION

A number of sources were contacted during the preparation of this Report.

The site contact or Key Site Manager was contacted to be interviewed to obtain information regarding conditions at the property. Additionally, a Pre-Survey Questionnaire was forwarded to the designated Subject Property contact. The Pre-Survey Questionnaire has been completed and returned to our offices. The information requested in the Pre-Survey Questionnaire is intended to assist in gathering information that may be material to identifying recognized environmental conditions in connection with the Subject Property. The Pre-Survey Questionnaire and any accompanying documentation is presented in Appendix C.

| KEY SITE MANAGER INTERVIEW | | | | | | | | | | |
|--|--------------------------|--|----------------|--|--|--|--|--|--|--|
| CONTACT / AFFILIATION | DATE OF COMMUNICATION | YEARS ASSOCIATED WITH SUBJECT PROPERTY | TELEPHONE NO. | | | | | | | |
| Mr. Dan Ramirez, Technical Director Huntington Theater Company | 05/05/2017 | 15 | (617) 273-1583 | | | | | | | |

The following individuals at state, county, or local municipal departments were consulted. Documentation applicable to the Subject Property in those departments was requested and reviewed when and where available and/or reasonably ascertainable.

| ADDITIONAL INTERVIEWS | | | | | | | | | | |
|---|-----------------------|----------------------|------------------------------------|--|--|--|--|--|--|--|
| CONTACT / AFFILIATION | DATE OF COMMUNICATION | YEARS W/ PROPERTY | TELEPHONE NO. AND/OR EMAIL ADDRESS | | | | | | | |
| Mr. Tony Remendez, Facility Manager Boston University | 05/05/2017 | 21 | Not provided | | | | | | | |

7.0 IMMEDIATE REPAIRS AND REPLACEMENT RESERVES

The cost estimates shown on the tables are based on data obtained from the Owner for items already planned, quotes from contractors, EBI's in-house estimating database and EBI's experience with costs and estimates for similar issues, property and building types, city cost indexes, and assumptions regarding future economic conditions. These projected costs are augmented by cost estimate resource documents such as the National Construction Estimator, R. S. Means Building Construction Cost Data, or R. S. Means Facilities Maintenance and Repair Cost Data, and Marshall Valuation Service publications.

7.1 TABLE I - IMMEDIATE REPAIRS

Each of the Immediate Repair items noted during the survey is listed in Table 1 – Immediate Repairs, and is compiled on the Executive Summary – Immediate Repairs and Replacement Reserves table. Items are grouped and cross-referenced by Report section. Immediate Repairs as may be identified during the survey are typically limited to life, safety, health, building code violation, or building / property stabilization issues observed at a Subject Property, and are typically expected to be addressed within one year.

7.2 TABLE 2 - REPLACEMENT RESERVES

Each of the Replacement Reserve items noted during the survey is listed in *Table 2 – Replacement Reserves*, and compiled on the *Executive Summary – Immediate Repairs and Replacement Reserves* table. Items are grouped and cross-referenced by *Report* section. Routine operational or customary annual maintenance items are not reported or included in this *Report*.

TABLE I - IMMEDIATE REPAIRS

The Huntington - 252 and 258 Huntington Avenue Site Survey Date: 5/5/2017 Building Area: 39,382 252 and 258 Huntington Avenue Report Date: 5/18/2017 **Number of Units:** 2 Boston MA **Property Type:** Office Property Age: 94 EBI Project # 1117002484 Number of Buildings: Loan Term: 10

| | | | | • | 3; 2 | | |
|--|----------------|---|-----------|------------|------------------|---------------------------------------|------------------------------------|
| | 1 | | Number of | | | | Analysis Term: 12 |
| SECTION NUMBER | SECTION NAME | RECOMMENDED WORK | QUANTITY | UNIT COST | UNIT DESCRIPTION | ESTIMATED IMMEDIATE REPAIR COST | COMMENTS OR ADDITIONAL DESCRIPTION |
| SITE | CONDITIONS | | | | | | |
| 2.1 | Торо. | None | | | | | |
| 2.2 | Pvm't/Pkg | None | | | | | |
| 2.3 | Amenities | None | | | | | |
| 2.4 | Utilities | None | | | | | |
| BUIL | DING CONDITI | IONS | | | | | |
| 3. I | Substruct. | None | | | | | |
| 3.2 | Superstruct. | None | | | | | |
| 3.3 | Facades | None | | | | | |
| 3.4 | Roof | None | | | | | |
| 3.5 | Bsmt/Attic | None | | | | | |
| 3.6 | ADA | None | | | | | |
| INTE | RIOR FINISHES | & COMPONENTS | | | | | |
| 3.7 | Interior F & C | None | | | | | |
| 3.8 | Mold | None | | | | | |
| BUIL | DING SYSTEMS | 3 | | | | | |
| 4. I | Plumbing | None | | | | | |
| 4.2 | HVAC | None | | | | | |
| 4.3 | Electric | Inspection of MDP's by licensed electrician | I | \$1,000.00 | lumpsum | \$1,000 | Federal Pacific Panel |
| 4.4 | F/L Safety | None | | | | | |
| 4.5 | Elevators | None | | | | | |
| MAT | ERIAL CODE VI | OLATIONS | | | | | |
| 5.0 | Codes | None | | | | | |
| | SUBTOTAL | | | | | \$1,000 | |
| | 1.25 MULTIPLIE | ER | | , | | \$1,250 | |
| $ldsymbol{ld}}}}}}}}}$ | TOTAL WITH I | MULTIPLIER | | | | \$1,250 | |



EBI Consulting Table 1

TABLE 2 - REPLACEMENT RESERVES

The Huntington - 252 and 258 Huntington Avenue Site Survey Date: 5/5/2017 Building Area: 39,382 252 and 258 Huntington Avenue **Report Date:** 5/18/2017 Number of Units: 2 **B**oston MA Property Type: Office Property Age: Number of Buildings: EBI Project # 1117002484 Loan Term: 10

| | | | Nu | mber | of Floors: | 3; 2 | Anal | ysis Term: | 12 | | | | | | | | | | | | | |
|-----------------------------|---------------------------------------|---------------------|---------------|--------------------|----------------------------|----------------------------------|------------|--------------------|----------------------------|---------|---------|---------|---------|----------|---------|---------|----------|----------|---------|------------|----------|------------------------------------|
| | | Ę | | | | | | ĺ | | | | | | | | I C o s | | | | | | |
| | | USEFUL | | UFE | OVER | Ę | | | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | TAL |
| SECTION NUMBER SECTION NAME | RECOMMENDED WORK | AVERAGE EFFECTIVE U | EFFECTIVE AGE | REMAINING USEFUL L | TOTAL QUANTITY OVI TERM | APPROXIMATE QUANTITY PER YEAR | UNIT COST | UNIT DESCRIPTION | ESTIMATED COST PER YEAR | YEAR I | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | YEAR I I | YEAR 12 | RECOMMENDED TOTAL OVER THE TERM |
| SITE CONDITIONS | NECOMMENDED WORK | 1 2 | | | | | | | 44 | | | | | | | | | | | | | 4 0 |
| 2.1 Topo. | None | | | | | | | | | | | | | | | | | | | | | |
| 2.2 Pvm't/Pkg | None | | | | | | | | | | | | | | | | | | | | | |
| 2.3 Amenities | None | | | | | | | | | | | | | | | | | | | | | |
| 2.4 Utilities | None | | | | | | | | | | | | | | | | | | | | | |
| BUILDING CONDIT | IONS | | | | | | | | | | | | | | | | | | | | | |
| 3.1 Substr. | None | | | | | | | | | | | | | | | | | | | | | |
| 3.2 Superstr. | None | | | | | | | | | | | | | | | | | | | | | |
| 3.3 Facades | None | | | | | | | | | | | | | | | | | | | | | |
| 3.4 Roof | Ongoing roof repairs | 20 | -11 | 9 | 2 | 1 | \$2,000.00 | lump sum | \$2,000 | | | | | | | | | 2,000 | | 2,000 | | \$4,000 |
| 3.4 Roof | Built up roof replacement | 18 | 15 | 3 | 5,000 | 5,000 | \$2.25 | per square foot | \$11,250 | | | 11,250 | | | | | | | | | | \$11,250 |
| 3.5 Bsmt/Attic | None | | | | | | | | | | | | | | | | | | | | | |
| 3.6 ADA | None | | | | | | | | | | | | | | | | | | | | | |
| INTERIOR FINISHES | & COMPONENTS | | | | | | | | | | | | | | | | | | | | | |
| 3.7 Interior F & C | None | | | | | | | | | | | | | | | | | | | | | |
| 3.8 Mold | None | | | | | | | | | | | | | | | | | | | | | |
| BUILDING SYSTEMS | S | | | | | | | , | | | | | | | | | | , | | | | |
| 4.1 Plumbing | None | | | | | | | | | | | | | | | | | | | | | |
| 4.2 HVAC | HVAC unit replacement, per ton | 18 | 15 | 3 | 20 | 20 | \$1,100 | per ton | \$22,000 | | | 22,000 | | | | | | | | | | \$22,000 |
| 4.2 HVAC | HVAC unit replacement, per ton | 18 | 14 | 4 | 10 | 10 | \$1,100 | per ton | \$11,000 | | | | 11,000 | | | | | | | | | \$11,000 |
| 4.2 HVAC | HVAC unit replacement, per ton | 18 | Ш | 7 | 8 | 8 | \$1,100 | per ton | \$8,800 | | | | | | | 8,800 | | | | | | \$8,800 |
| 4.3 Electric | None | _ | | | | | | | | | | | | | | | | | | | | |
| 4.4 F/L Safety | None | | | | | | | | | | | | | | | | | | | | | |
| 4.5 Elevators | None | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | ANNUAL RE | COMMENDA | ATIONS, UN | IINFLATED | | | 33,250 | 11,000 | | | 8,800 | | 2,000 | | 2,000 | | \$57,050 |
| | INFLATION FACTOR, IN PERCENTAGE 1.025 | | | | | | | | 100.00% | 102.50% | 105.06% | 107.69% | 110.38% | 113.14% | 115.97% | 118.87% | 121.84% | 124.89% | 128.01% | 131.21% | | |
| | | | ANNU | JAL RE | COMMEND | ATIONS, INF | LATED @ 2 | 50% AFTER | YEAR ONE | | | 34,933 | 11,846 | | | 10,205 | | 2,437 | | 2,560 | | \$61,981 |
| Notes: | | | | | | | | | | | | PRE | | | | | | NUAL RE | | | | \$0.12 |
| | | | | | | | | | | | | | INFLAT | ED VALUE | OF RECO | OMMEND | ED TOTAL | . ANNUAL | RESERVE | S PER SF F | 'ER YEAR | \$0.13 |



EBI Consulting Table 2

APPENDIX A PHOTOGRAPHS



I. Street view of Subject Property.



2. Rear façade of Subject Property buildings



3. Rear façade of Subject Property buildings



4. Alleyway of 258 Huntington and fire escape stairways



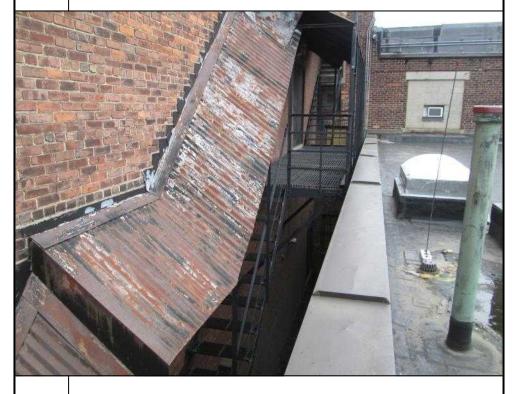
5. Close-up view - front exterior façade of 252 Huntington



6. Close-up view - front exterior of 258 Huntington



7. Fire escape stairway



8. Exterior stairway



9. Damage wood siding on 252 Huntington



10. 252 Huntington roof – built-up roof



II. 252 Huntington roof – built-up roof



12. 252 Huntington rooftop HVAC unit



13. 252 Huntington roof



14. 252 Huntington rooftop HVAC unit



15. 252 Huntington rooftop HVAC unit



16. 258 Huntington roof



17. 258 Huntington roof – EPDM roof



18. 258 Huntington roof – EPDM roof



19. 258 Huntington roof



20. 258 Huntington roof top HVAC unit



21. Workshop area



22. Office area



23. Office area



24. Bathroom area



25. Office area



26. 252 Huntington fire alarm control panel



27. 252 Huntington oil burner



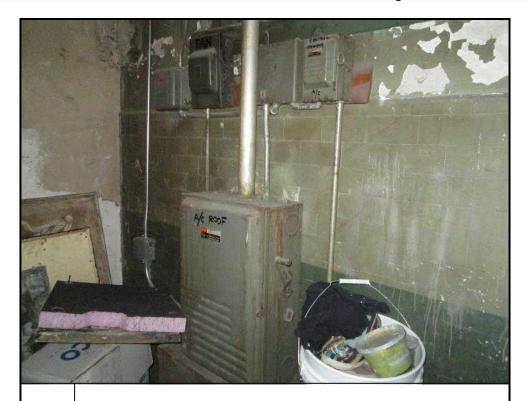
28. 252 Huntington oil tanks



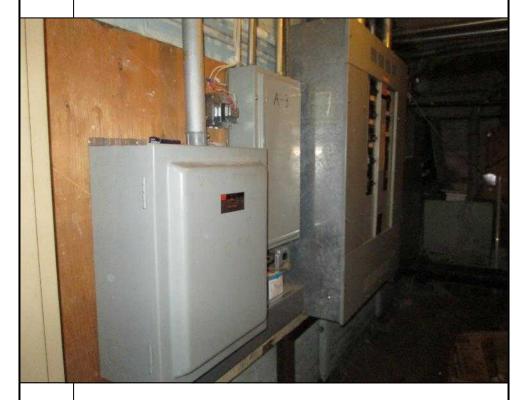
29. 252 Huntington electric water heater



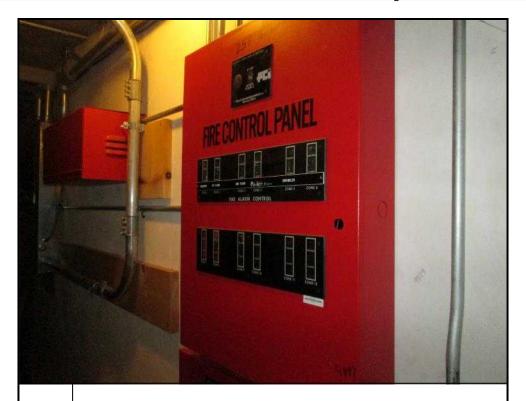
30. 252 Huntington electrical switchgear



31. 254 Huntington electrical panel



32. 258 Huntington electrical panel



33. 258 Huntington fire control panel



34. 258 Huntington sprinkler riser



35. 258 Huntington oil boiler



36. 258 Huntington gas water heater

APPENDIX B FIGURES, DRAWINGS AND PLANS

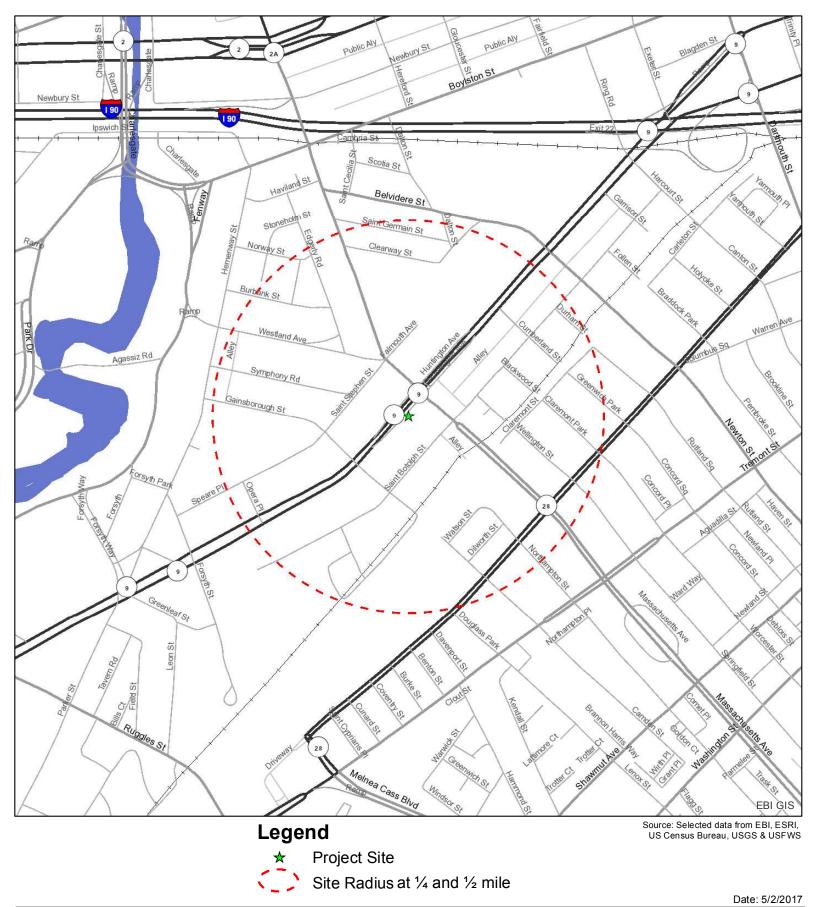


Figure 1: Site Location Map

THE HUNTINGTON - 252 AND 258 HUNTINGTON AVENUE 252 AND 258 HUNTINGTON AVENUE BOSTON, MA 02115



FloodInsights



FloodInsights Report For:

Latitude: 42.341952 Longitude: -71.085306
Original Input Address: Latitude: 42.341952 Longitude: -71.085306

Flood Zone Determinations (Non-Guaranteed)

SFHA Within 250 feet of multiple flood zones?

Out No

Map Number

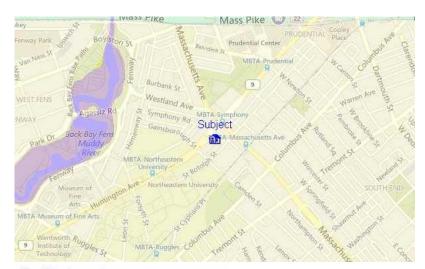
25025C0079J

Community Community_Name Zone Panel Panel_Dte COBRA

250286 BOSTON, CITY OF X 0079J March 16, 2016 COBRA_OUT

FIPS CensusTract

25025 0104.05



FloodMap Legend



APPENDIX C OTHER RELEVANT DOCUMENTS

MODIFIED ACCESSIBILITY COMPLIANCE CHECKLIST AND COSTS

The Huntington - 252 and 258 Huntington Avenue

252 and 258 Huntington Avenue Boston

MA

EBI Project #1117002484

| | Compliance Checklist | | | | Recommended Actions and Estimated Costs | | | | | | | |
|---|---|-----|----------|-------------------|---|----------|------------|-------|------------|--|--|--|
| | Building History | Yes | No | Not | Comments/Disposition | | | | | | | |
| 1 | Has the management previously completed an ADA compliance review? | | ~ | Applicable | None reported | | | | | | | |
| 2 | Have any ADA improvements been made to the property? | | ~ | | None reported | | | | | | | |
| 3 | Does a Barrier Removal Plan exist for the property? | | • | | None reported | | | | | | | |
| 4 | Has the Barrier Removal Plan been reviewed/approved by an arms- length third party such as an engineering firm, architectural firm, building department, other agencies, etc.? Has building ownership or management received any ADA-related | | | ~ | | | | | | | | |
| 5 | complaints that have not been resolved? | | ~ | | None reported | | | | | | | |
| 6 | Is any litigation pending related to ADA issues? | | ~ | | None reported | | | | | | | |
| | Parking | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | |
| 1 | Does there appear to be sufficient handicapped-accessible parking spaces with respect to the total number of reported spaces? | | | ~ | | | | | | | | |
| 2 | Does there appear to be sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)? | | | ~ | | | | | | | | |
| 3 | Do the accessible spaces appear to be marked with the International Symbol of Accessibility on the paving? | | | ~ | | | | | | | | |
| 4 | Do the accessible spaces appear to be marked with the International Symbol of Accessibility on a vertically-mounted sign? | | | ~ | | | | | | | | |
| 5 | Do the van-accessible spaces appear to be marked with a sign reading "Van-Accessible"? | | | • | | | | | | | | |
| 6 | Does there appear to be at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks? | | | • | | | | | | | | |
| 7 | Do curbs on the accessible routeappear to have depressed, ramped curb cuts at drives, paths, and drop-offs? | | | ~ | | | | | | | | |
| 8 | Does signage appear to exist directing you to accessible parking and an accessible building entrance? | | | ~ | | | | | | | | |
| | Ramps | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | |
| 1 | If there is a ramp from parking to an accessible building entrance, does it appear to meet slope requirements? (1:12) | | | ~ | | | | | | | | |
| 2 | Are ramps that appear longer than six feet (6'-0") complete with railings on both sides? | | | ~ | | | | | | | | |
| 3 | Does the width between railings appear to be at least 36 inches? | | | ~ | | | | | | | | |
| 4 | Is there a level landing for every 30 feet of apparent horizontal length of ramp, at the top, and at the bottom, of ramps and switchbacks? | | | ~ | | | | | | | | |
| | Entrances and Exits | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | |
| 1 | Does the main accessible entrance doorway appear to be at least 32 inches wide? | • | | | | | | | | | | |
| 2 | If the main entrance does not appear to be accessible, are there alternate entrances that appear to be accessible? | | | ~ | | | | | | | | |
| 3 | Does the alternate accessible entrance appear to be able to be used independently? | | | ~ | | | | | | | | |
| 4 | Is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)? | | | ~ | | | | | | | | |
| 5 | Do main entry doors, other than revolving doors, appear to be available? | | | ~ | | | | | | | | |
| 6 | If there are two main doors in series, does the minimum space between the doors appear to be 48 inches plus the width of any door swinging into the space? | | | • | | | | | | | | |



The Huntington - 252 and 258 Huntington Avenue 252 and 258 Huntington Avenue

Boston MA

EBI Project #1117002484

| | Compliance Checklist | | | | Recommended Actions and Estin | nated Costs | | | |
|----|--|-----|----|-------------------|-------------------------------|-------------|------------|-------|------------|
| | Paths of Travel | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| ı | Does the main path of travel appear to be free of obstruction and appear to be wide enough for a wheelchair (at least 36 inches wide)? | > | | Аррисавіе | | | | | |
| 2 | Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that appear to protrude MORE than four inches into walkways or corridors? | | • | | | | | | |
| 3 | Do floor surfaces appear to be firm, stable, and slip resistant (carpets wheelchair friendly)? | | | ~ | | | | | |
| 4 | Does it appear that at least one wheelchair-accessible public telephone is available? (only required if public phones are provided for the general public) | | | • | | | | | |
| 5 | Does it appear that wheelchair-accessible facilities (toilet rooms, exits, etc.) are properly identified with signage? | | | ~ | | | | | |
| 6 | Is there an apparent path of travel that does not require the use of stairs? | | | ~ | | | | | |
| 7 | If audible fire alarms are present, does it appear that visual alarms (strobe light alarms) also installed in all common areas? | | | ~ | | | | | |
| | Elevators | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| ı | Do the call buttons appear to have visual signals to indicate when a call is registered and answered? | | | ~ | | | | | |
| 2 | Does the "UP" button appear to be above the "DOWN" button? | | | • | | | | | |
| 3 | Does there appear to be visual and audible signals inside cars indicating floor change? | | | ~ | | | | | |
| 4 | Does there appear to be standard raised and Braille marking on both jambs of each hoist way entrance? | | | ~ | | | | | |
| 5 | Do elevator doors appear to have a reopening device that will stop and reopen a car door if an object or a person obstructs the door? | | | ~ | | | | | |
| 6 | Do elevator lobbies appear to have visual and audible indicators of car arrival? | | | ~ | | | | | |
| 7 | Does the elevator interior appear to provide sufficient wheelchair turning area (51" x 68")? | | | ~ | | | | | |
| 8 | Do elevator controls appear to be low enough to be reached from a wheelchair (48 inches front/side approach)? | | | • | | | | | |
| 9 | Do elevator control buttons appear to be designated by both Braille and by raised standard alphabet characters (mounted to the left of the button)? | | | • | | | | | |
| 10 | If a two-way emergency communication system is provided within the elevator cab, does it appear to be usable without voice communication? | | | • | | | | | |
| | Restrooms | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| ı | Do common area public restrooms appear to be located on an accessible route? | | | | | | | | |
| 2 | Do pull handles appear to be push/pull or lever type? | | | • | | | | | |
| 3 | Does there appear to be audible and visual fire alarm devices in the toilet rooms? | | | • | | | | | |
| 4 | Do corridor access doors appear to be wheelchair-accessible (at least 32 inches wide)? | | | • | | | | | |
| 5 | Do public restrooms appear large enough to accommodate a wheelchair turnaround (60" turning diameter)? | | | ~ | | | | | |
| 6 | In unisex toilet rooms, does there appear to be safety alarms with pull cords? | | | ~ | | | | | |
| 7 | Do the stall doors appear to be wheelchair accessible (at least 32" wide)? | | | v | | | | | |
| 8 | Do grab bars appear to be provided in toilet stalls? | | | ~ | | | | | |
| 9 | Do the sinks appear to be provided with clearance for a wheelchair to roll under (29" clearance)? | | | v | | | | | |
| 10 | Do sink handles appear to be operable with one hand without grasping, pinching or twisting? | | | v | | | | | |
| П | Do exposed pipes under sink appear to be sufficiently insulated against contact? | | | v | | | | | |
| 12 | Do soap dispensers, towel dispensers and other accessories appear to be reachable (48 inches front/side approach)? | | | v | | | | | |



The Huntington - 252 and 258 Huntington Avenue 252 and 258 Huntington Avenue

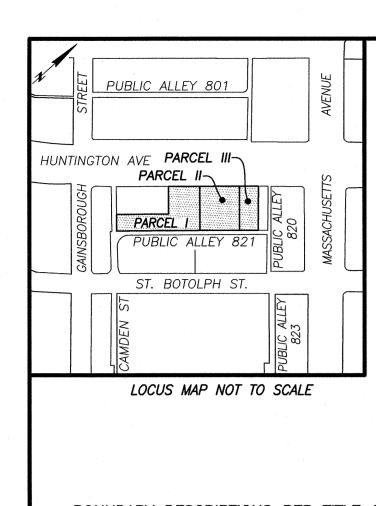
Boston MA

EBI Project #1117002484

| Compliance Checklist | | Recommended Actions and Estin | Recommended Actions and Estimated Costs | | | | | | | |
|---|---|---------------------------------------|---|----------------|--------------|-----|--|--|--|--|
| Does the base of one mirror appear to be mounted no more than 40" from the floor? | • | | | | | | | | | |
| | | Total Estimated Cost of Handicapped-A | Accessibility Co | mpliance Recor | mmendations: | \$0 | | | | |

| | | | | ADA | PARKING | COUNT | REQUIRE | MENTS | | | |
|---|------|-------|-------|--------|---------|---------|---------|---------|---------|--|--|
| Total Number of Spaces Provided on Property | 1-25 | 26-50 | 51-75 | 76-100 | 101-150 | 151-200 | 201-300 | 301-400 | 401-500 | 501-1,000 | ≥ 1,001 |
| Minimum Number of Standard Handicapped-Accessible Spaces Required | ı | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Two percent (2%) of total space count | Twenty (20) spaces, plus one additiona space for every 100 spaces > 1,000 |
| Minimum Number of Accessible Spaces Designated as Van-Accessible | 1 | ı | - 1 | ı | - 1 | ı | 2 | 2 | 2 | One of every six (1:6) accessible spaces | One of every six (1:6) accessible space |
| Total Accessible Parking Spaces Required on Property | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Two percent (2%) of total space count | Twenty (20) spaces, plus one additional space for every 100 spaces > 1,000 |





LIST OF VISIBLE ENCROACHMENTS

HUNTINGTON AVENUE

/1\ CONC. WALL CROSSES INTO EASEMENT FOR HIGHWAY PURPOSES.

PUBLIC ALLEY No.821

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY.

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY. BUILDING CROSSES BOUNDARY.

BUILDING CROSSES BOUNDARY. VENT CROSS BOUNDARY.

10' WIDE ALLEY

/9\ FIRE ESCAPE CROSSES BOUNDARY 8' WIDE ALLEY

FIRE ESCAPE CROSSES BOUNDARY FIRE ESCAPE CROSSES BOUNDARY

BOUNDARY DESCRIPTIONS PER TITLE COMMITMENT FILE No. 53157. ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY. HAVING AN EFFECTIVE DATE OF JANUARY 4. 2016.

PARCEL 1:

THE LAND IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, WITH THE BUILDINGS THEREON SHOWN AS LOTS A AND B ON A PLAN ENTITLED "PLAN OF LAND IN BOSTON, MASS." DATED JULY 20, 1922, BY ASPINWALL AND LINCOLN, CIVIL ENGINEERS, RECORDED WITH SUFFOLK DEEDS, BOOK 4384, PAGE 151, TOGETHER BEING BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHWESTERLY BY HUNTINGTON AVENUE. ONE HUNDRED (100) FEET: BY LAND NOW OR FORMERLY OF THE HUNTINGTON INVESTING CO., BEING NORTHEASTERLY

MARKED "BACK BAY POST OFFICE" ON SAID PLAN, ONE HUNDRED TWENTY

BY A PASSAGEWAY MARKED "PUBLIC ALLEY NO. 821" ON SAID PLAN. TWO SOUTHEASTERLY

HUNDRED TWENTY-SIX AND 86/100 (226.86) FEET; BY A TEN (10) FOOT PASSAGEWAY MARKED "PASSAGEWAY" ON SAID PLAN. SOUTHWESTERLY FORTY (40) FEET;

NORTHWESTERLY AGAIN BY A PASSAGEWAY EIGHT (8) FEET WIDE AS SHOWN ON SAID PLAN, ONE HUNDRED TWENTY-SIX AND 86/100 (126.86) FEET; AGAIN IN PART BY SAID EIGHT (8) FOOT PASSAGEWAY AND IN PART BY SOUTHWESTERLY

LAND NOW OR FORMERLY OF SARAH E. HODSON MARKED "9133 9/10 SQ. FT." ON SAID PLAN, EIGHTY (80) FEET.

CONTAINING 17,074.4 SQUARE FEET OF LAND, MORE OR LESS.

THE PREMISES ARE CONVEYED TOGETHER WITH ALL RIGHT, TITLE AND INTEREST OF THE GRANTOR IN AND TO SAID PASSAGEWAYS, AND SUBJECT TO RIGHTS OF OTHERS THEREIN AND TO RESTRICTIONS OF RECORD SO FAR AS NOW IN FORCE AND APPLICABLE.

PARCEL II:

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED AND NOW NUMBERED 256-258 INCLUSIVE ON HUNTINGTON AVENUE IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID PARCEL AT THE SOUTHEASTERLY LINE OF HUNTINGTON AVENUE AT A POINT DISTANT ONE HUNDRED EIGHTY—THREE AND 71/100 FEET SOUTHWESTERLY FROM THE SOUTHERLY CORNER OF HUNTINGTON AVENUE AND MASSACHUSETTS

THENCE RUNNING SOUTHEASTERLY AT RIGHT ANGLES TO SAID SOUTHEASTERLY LINE OF HUNTINGTON AVENUE ONE HUNDRED TWENTY FEET TO A PASSAGEWAY SIXTEEN FEET WIDE WHICH RUNS PARALLEL TO SAID **HUNTINGTON AVENUE:**

TURNING AND RUNNING SOUTHWESTERLY BY SAID SIXTEEN-FOOT **THENCE** PASSAGEWAY NINETY-SIX AND 96/100 FEET:

TURNING AT RIGHT ANGLES AND RUNNING NORTHWESTERLY ONE HUNDRED THENCE TWENTY FEET TO SAID HUNTINGTON AVENUE, THIS LINE BEING PARALLEL WITH THE NORTHEASTERLY BOUNDARY LINE OF THE GRANTED PREMISES

AND NINETY-SIX AND 96/100 FEET DISTANT THEREFROM; TURNING AND RUNNING NORTHEASTERLY BY THE SOUTHEASTERLY LINE OF SAID HUNTINGTON AVENUE NINETY-SIX AND 96/100 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH SO MUCH OF SAID PASSAGEWAY AS LIES NORTHWESTERLY OF ITS MIDDLE LINE AND BETWEEN THE SIDE LINES OF SAID LOT EXTENDED, SAID PASSAGEWAY TO BE MAINTAINED IN COMMON BY THE ABUTTERS THEREON AND THEIR HEIRS AND ASSIGNS AND TO BE USED BY THEM AND BY THE ABUTTERS ON CONNECTING PASSAGEWAYS FOR WAY, PROSPECT, DRAINAGE AND THE

AND

LIKE.

THENCE

PARCEL III:

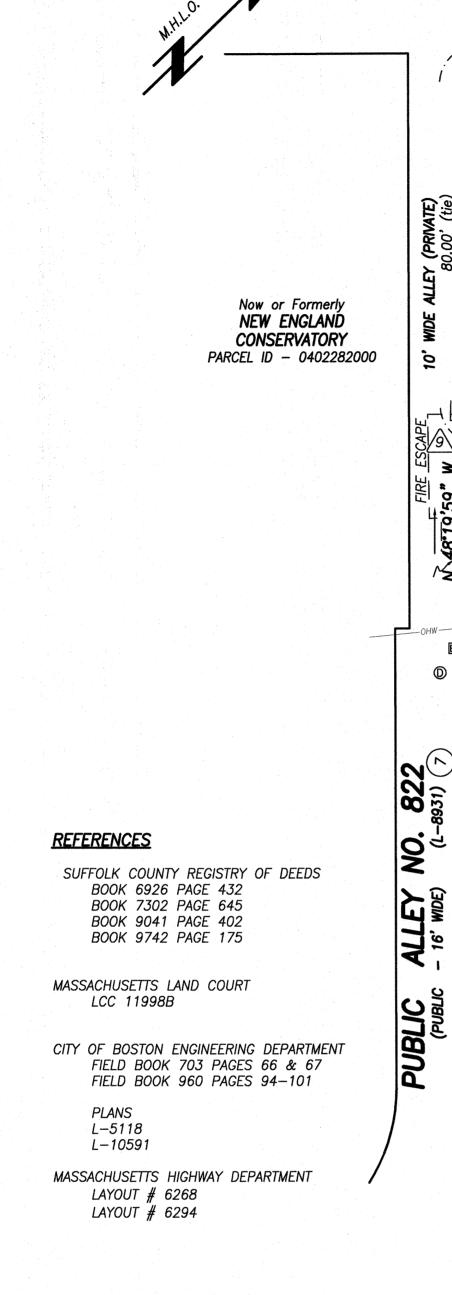
A CERTAIN PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATE AND NOW NUMBERED 252 TO 254 ON HUNTINGTON AVENUE. IN BOSTON. COUNTY OF SUFFOLK, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHWESTERLY ON HUNTINGTON AVENUE, FORTY—FIVE AND 46/100 (45.46) FEET; BY LAND NOW OR LATE OF MIRIAM HIRSH BY A LINE RUNNING IN PART THROUGH THE BRICK PARTITION WALL, ONE HUNDRED AND TWENTY (120) BY A PASSAGEWAY SIXTEEN FEET WIDE (NOW KNOWN AS PUBLIC ALLEY SOUTHEASTERLY

NO. 821). FORTY-FIVE AND 46/100 (45.46) FEET; AND SOUTHWESTERLY BY LAND NOW OR LATE OF HUNTINGTON INVESTMENT COMPANY, ONE HUNDRED TWENTY (120) FEET.

CONTAINING 5,455 AND 1/10 SQUARE FEET OF LAND, BE ANY OR ALL OF SAID MEASUREMENTS OR CONTENTS MORE OR LESS, TOGETHER WITH THE FEE AND SOIL OF SAID PASSAGEWAY ADJOINING THE GRANTED PREMISES, TO THE MIDDLE THEREOF.

SAID PREMISES ARE CONVEYED SUBJECT TO A TAKING MADE BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS ACTING ON BEHALF OF THE CITY OF BOSTON UNDER AN ORDER DATED MARCH 23. 1977 RECORDED WITH SAID DEEDS IN BOOK 8942, PAGE



EXCEPTIONS FROM COVERAGE SCHEDULE B - SECTION 2. LISTED IN TITLE COMMITMENT FILE No. 53157 ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF JANUARY 4, 2016.

- (3) RELEASE OF RIGHTS IN DISCONTINUED PORTION OF PUBLIC ALLEY NO. 821, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT TO NEW ENGLAND CONSERVATORY BY JUNIOR ACHIEVEMENT OF EASTERN MASSACHUSETTS DATED APRIL 25, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 362; AND TRUSTEES OF BOSTON UNIVERSITY DATED APRIL 29, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 364. (NOT LOCUS)
- (4) PUBLIC WAY EASEMENT TAKEN BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS TO WIDEN HUNTINGTON AVENUE, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS SHEET 1 OF 4, LAYOUT NO. 6268, FEDERAL AID PROJECT NO. U-234 (13), DATED MARCH 23, 1977 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 8942, PAGE 320. (AS SHOWN HEREON)
- (5) RIGHT TO USE THE PASSAGEWAY BY IMPLICATION AND AS SET FORTH IN DEED RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 6749, PAGE 235, IN COMMON WITH ALL PERSONS LAWFULLY ENTITLED THERETO. (AS SHOWN HEREON - NOT LOCUS)
- (6) COMMON LAW PARTY WALL RIGHTS AS IMPLIED BY DESCRIPTION IN DEED FROM JOSEPH M. ISENBERG AND GEORGE S. ISENBERG. AS TRUSTEES OF FERBUR REALTY TRUST TO TRUSTEES OF BOSTON UNIVERSITY RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 9742. PAGE 175. AND AS FURTHER DELINEATED ON THE 1938 BOSTON ATLAS AND THE NOVEMBER 2015 SURVEY BY FELDMAN LAND SURVEYORS. (AS SHOWN HEREON)
- APPURTENANT RIGHT TO USE A PORTION OF PUBLIC ALLEY NO. 822, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT DATED MAY 1, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321. PAGE 365. (AS SHOWN HEREON - NOT LOCUS)

NOTES:

FASEMENT FOR HIGHWAY PURPOSES

AREA=400± SQ. FT.

126.94' (tie)

NO. 270

7 STORY BRICK & STONE

Now or Formerly

RIVIERA CONDOMINIUM

BOOK 12857. PAGE 240

(MASTER DEED)

PARCEL ID - 0402289186

ABOVE 8' WIDE PASSAGEWAY ABOVE

N 41.43'03" E \ 126.87" Calc.

FIRE ESCAPE-

___CONCRETE SIDEWALK

(126.86' Deed)

226.87' Calc. (226.86' Deed) FNT. [220.9']

LEGEND

DRAIN MANHOLE

ELECTRIC MANHOLE

SEWER MANHOLE

AREA DRAIN

MANHOLE

HYDRANT

SIGN

BOLLARD

LIGHT POLE

SECURITY LIGHT

PARKING METER

DECIDUOUS TREE

BOTTOM OF CURB

BOTTOM OF WALL

BOTTOM OF STEP

BUILDING HEIGHT

BITUMINOUS

CONCRETE

RECORD

OVER

------ METAL RAILING ----x---x----x CHAIN LINK FENCE ◆ ◆ ◆ ◆ ◆ ◆ ◆ WROUGHT IRON FENCE

· TYPICAL

· ENTRANCE

GATE POST

CONC.

VGC ·

OV

TYP.

ENT.

MHLO

[X.X]

BUILDING FOOTPRINT AREA

THRESHOLD ELEVATION

VERTICAL GRANITE CURB

MASSACHUSETTS HIGHWAY LAYOUT

LAND COURT CASE

BUILDING DIMENSION

TOP OF CURB

TOP OF WALL

TOP OF STEP

ELECTRIC HANDHOLE

CATCH BASIN

GAS SHUT OFF

WATER SHUT OFF

BOSTON WATER VALVE

STAND PIPE

LOADING RAMP

FIRE ESCAPE A

ELECTRIC WIRES & CONDUIT

RUNS ALONG FACE OF BUILDING

CONC. SIDEWALK

PAGE 8942, PAGE 320

OP,M. STREET VAULT OF BRICK

PUBLIC ALLEY 5 (PUBLIC - 16' WIDE) NO. 821

-BH=50.4°

BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN A ZONE "X" (UNSHADED). AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0079G, CITY OF BOSTON COMMUNITY NUMBER 250286, PANEL NUMBER 0079G, HAVING AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.

(PUBLIC — VARIABLE WIDTH)

(MHLO 6268 & 6294)

OP.M. BRICK

DECORATIVE

ENTRYWAY (TYP)

BRICK

NO. 260-264

MULTI STORY BRICK & STONE

BFA=15,117± SQ. FT.

LOT AREA =

17,080± SQ. FT.

(AREA=400± SQ. FT. WITHIN

R.O.W. EASEMENT)

Now or Formerly TRUSTEES OF BOSTON

UNIVERSITY

BOOK 6926, PAGE 432

PARCEL ID -

0402290000-0402290001

ELECTRIC WIRES & CONDUIT RUNS ALONG FACE OF BUILDING

PARCEL

- 2) ZONING INFORMATION WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (B) OF TABLE "A" IN THE 2011 ALTA SURVEY REQUIREMENTS.
- 3) THE PROPERTY SHOWN HEREON IS THE SAME PROPERTY DESCRIBED IN THE TITLE COMMITMENT.
- BUILDING HEIGHT SHOWN HEREON IS CALCULATED FROM THE AVERAGE GRADE PLANE ALONG HUNTINGTON AVENUE TO THE TOP OF ROOF. BY CITY OF BOSTON ZONING CODE. THE DEFINITION OF BUILDING HEIGHT IS TO THE TOP OF THE HIGHEST ROOF BEAM: THIS WAS INACCESSIBLE AT TIME OF SURVEY. THEREFORE THE BUILDING HEIGHT BY DEFINITION WOULD BE LESS THAN THE HEIGHT SHOWN HEREON.
- 5) NO PARKING WAS OBSERVED ON THE LOCUS PROPERTY.
- NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES WERE UNCOVERED WHILE CONDUCTING THIS SURVEY.
- TO: COMMONWEALTH LAND TITLE INSURANCE COMPANY; STEWART TITLE GUARANTY COMPANY; BANK OF NEW ENGLAND:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 7(A), 7(B)(1), 7(C), 8, 9, 11(A), 13, 17, AND 21 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 27, 2015.

FOR FELDMAN-LAND, SURVEYORS

DAMIEN J. RAFFLE, PLS (MA# 49629) djr@feldmansurveyors.com



EASEMENT FOR HIGHWAY PURPOSES

PAGE 8942, PAGE 320 \

AREA=388± SQ. FT.

96.99 METAL GRATE

N 41°42'48" E 242.49'

OP.M. TO BRICK

CONC.

METAL GRATE

CONDUIT RUNS ALONG

FACE OF BUILDING

AIR DUCT

(97.17/EWV.)

NO. 256-258

2 STORY BRICK & STONE

BFA=10,216± SQ. FT.

PARCEL I

LOT AREA =

11,633± SQ. FT.

(AREA=388± SQ. FT.

WITHIN R.O.W. EASEMENT)

TOTAL AREA = 34,173 SQ. FT.

(TOTAL AREA WITHIN R.O.W. EASEMENT 970± SQ. FT.)

Now or Formerly

TRUSTEES OF BOSTON

UNIVERSITY

BOOK 9041. PAGE 402

PARCEL ID - 0402291000

-CONCRETE SIDEWALK

[97,1] 96,99', Calc. (96.96', Deed)

EASEMENT FOR HIGHWAY PURPOSES AVENUE

45.47 CONC.

NO. 252-254

2 STORY BRICK

PARCEL III

LOT AREA =

5,460± SQ. FT.

(182± SQ. FT. WITHIN

CONDUIT RUNS ALONG

_45.61' Calc. (45.46' Deed

FIRE ESCAPE

-IRON FENCE

STORY

BRICK

NO. 241

LNI. 0.05', Bk Calc

GP GP CONC. WALL

CONC. WALL

0.14' Bk (Held)

ST. BOTOLPH STREET

FACE OF BUILDING

R.O.W. EASEMENT)

BFA=4.776± SQ. FT.

METAL OMH OMH

CONC.

1 STY METAL

NO. 250

3 STORY BRICK

TREE WELL (TYP.)

○ MH

820

ALEX

PUBLIC

PAGE 8942, PAGE 320,

AREA=182± SQ. FT.

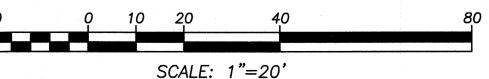
BRICK ST OF TO

ALTA/ACSM LAND TITLE SURVEY 252-264 HUNTINGTON AVENUE BOSTON (ROXBURY), MASS.

FELDMAN LAND SURVEYORS 112 SHAWMUT AVENUE BOSTON, MASS. 02118

NOVEMBER 27, 2015 PHONE: (617)357-9740 www.feldmansurveyors.com





RESEARCH PRF FIELD CHIEF CB PROJ MGR DJR APPROVED TO SHEET NO. 1 OF 1 CADD PRF/DCH FIELD CHECKED NB | CRD FILE 14951 | JOB NO. 14951 FILENAME: S:\PROJECTS\15000s\15011\DWG\15011-ALTA.dwa



Please fill out and sign this questionnaire to the best of your knowledge for the Engineer's site visit. Email to at or fax to, for our report files, and keep the original to provide to the Engineer.

| Subi | ect Property Name; | | | | EBI Project # | 11/7002881 |
|------------------|--|---|---|-----------------------|--|--|
| Add | ress: 252 ! 251 | Hunfauton Ave | Boston, MA | A | | |
| | ject Property Owner | _ | , | | Purchase D | ate: 2016 |
| | Site Property Conta | | | Telephone; | | |
| Fax: | | | | Email: | | / |
| - | DAN RATINEZ | TECHNICH DO | | The | Mehr | 5/5/20 |
| You | r Name and title | Hustington 7 | HEATHER CO | Signature | / | Date |
| respon and fu | ional plans and documentation (nd "N/A." Attach additional page Il completion is critical to a time CAL JURISDICTIONAL I | es if necessary. This question by completion of our reports, NFORMATION | maire and your respor , and timely loan closin | nses will be included | he survey. For questi as an exhibit in the En | ons not applicable please gineer's report. Accurate |
| ١. | What is the property ID | | | | | |
| 2. | What is the legal Munic | | | | | |
| 3. | What is the assessors fi | le ID number and tax fi | le ID number if av | ailable? | | |
| PRO | PERTY INFORMATION | | | | | |
| 4. | What is the size of the | | | | | |
| 5. | How many parking space | es (and HCP parking sp | aces) are present | at the property | , NA | |
| 6. | How many buildings cor | mprise the subject prop | erty? 😢 🕽 | 1 | | |
| | a. If the property is a | mall or large retail cen | nter, please confirm | m and list owner | ship of each buildi | ng |
| 7. | What is the gross and n | et rentable square foot | age of the building | g(s) <u>?</u> | | |
| 8. | What is the date of con | struction of the building | g(s)? When was t | the building(s) fir | st occupied? | |
| 9. | How many tenant space | s or apartments are at | the Subject Prope | erty? BU C | Lostington theat | er Company |
| | a. If the property is a | partments, please prov | ride a unit and type | e count by bedr | oom and square fe | et |
| 10. | Please list, to the best utilities, | NO | | | | |
| 11. | Please list, to the best or electrical deficiencies | | structural, water | r infiltration, mo | ld, roof, plumbing | , HVAC, Fire Alarm |
| 12. | During the last five year explain, with the approx | | | ts been made to | the site or build | ing(s)? If so, please |

13.

| Does the property have | Y or N | Does the property have | Y or N |
|--|--------|---|--------|
| Polybutylene piping | 20 | Compressed wood or composite board siding | N |
| Galvanized steel water lines | 70 | EIFS exterior finishes | 2 |
| ABS sanitary lines | N N | Fire Retardant Treated plywood | N |
| Aluminum branch wiring | N | Cadet/Encore electric heaters installed 1982-99 | M |
| Omega (Central or CSC) brand sprinkler heads | 7 | GE or Hotpoint dishwashers installed 1983-89 | N |

| 14. | Please list any deficiencies noted during any Bu | ilding, Fire | or Health Department inspections in the last three years |
|-----|---|--------------|--|
| 15. | When were the fire alarm systems and/or sprir | nkler syste | m (if any) last tested? |
| 16. | Please list the following utility providers: | | Electricity: |
| | Water: | | Storm Drainage: |
| | Sanitary Sewer; | | Natural Gas or Oil: |
| | Trash Hauler; | and, | Frequency of Pick-ups: |
| 17. | If you are performing or planning any repairs of \$2,000 please explain, with the approximate | | nent work to the property that will exceed an aggregate cost |
| 18. | Please list the responsible party for tenant imp | rovements | and maintenance of major systems (if applicable). |

- 18. Please attach a brief history of the property. This information helps us properly assess, evaluate and understand your property, and will assist in the financial analysis. The information should include:
 - The date of approvals and construction, the contractor who built the property
 - History of major capital improvements, repairs, additions or modifications
- · History of fires or violations
- . A list of any ongoing maintenance issues
- · Tenant history, approximate turnover rate

DOCUMENT AND INFORMATION CHECKLIST

Please provide the following information (as much as possible in electronic format) so the Engineer or Scientist can proceed with the survey of the property. Asterisk (*) items are critical to report completion. The documents will become exhibits in the Consultant's report.

| A. Plans | B. Municipal Documents | C. Additional Information |
|--|---|--|
| ALTA Survey or Site Plan* Architectural Building Plans* - plans, elevations, wall section, foundation, HVAC & elec. schedules Reduced scale Site and Building Plans Extremely critical for properties in Seismically active zones 3 and 4* STRUCTURAL PLANS - Seismic Assessments are required for these properties. Structural drawings must be provided at the time of the site visit. If no drawings are provided, the report will be delayed and the Seismic Assessment may be overly conservative. | Certificate of Occupancy* Building Permit* Façade inspection compliance* Copy of tax cards Copy of violations B.I NYC Projects Department of Building Violations* Environmental Control Board Violations* Local Law II Facade Reports* | Capital expense report for I to 3 years* Tenant Rent Roll* Roof warranty History of recent improvements Schedule of Floor Area Measurements Gross and Rentable Square Feet Previous Due Diligence or Building Component Reports, including, but no limited to, façade*, roof*, mechanical*, electrical, elevator, sprinkler, fire alarn or life safety equipment, or pavement. Copy of most Recent Appraisal |

EBI Access Requirements

At the time of the site visit the Consultant is required to gain access to all areas of the property. This includes:

- All building roofs, unless pitched asphalt shingles. This may require you to obtain and provide a ladder.
- All building perimeters

Preparty Condition Report Pre-Survey Questionnaire

- 1 All site amenities
- All building interiors, including as applicable, common areas, lobbies, a representative sampling of offices, retail spaces, manufacturing or assembly areas, or apartments, community rooms, exercise rooms, pool areas, storage rooms, attics and basements, garages.
- 1 All mechanical, electric, sprinkler, HVAC, utility, service, elevator, storage and equipment rooms

APPENDIX D PROFESSIONAL QUALIFICATIONS



Natalie Matson

Environmental Engineer 21 B Street Burlington, MA 01803 Office: 781.418.2326 Fax: 781.418.2352

SUMMARY OF EXPERIENCE

Ms. Matson, E.I.T., an Environmental Engineer, has extensive experience in Phase I Environmental Site Assessments (ESAs). As a member of EBI Consulting's Real Estate group she has completed over 200 Phase I ESAs and Transaction Screens in ten states. In addition, she has assisted the Environmental Health and Safety Department with wastewater permits, stormwater permits, and contingency plans for various clients. She has also completed modeling and monitor reports for Radio Frequency and Electromagnetic (RF/EME) projects for EBI's Telecom group.

RELEVANT PROJECT EXPERIENCE

Ms. Matson has researched wastewater and stormwater permitting requirements for medical, industrial, and military institutions. Ms. Matson has completed over 300 RF/EME projects for Sprint Corporation. She has completed over 200 ASTM Phase 1 ESAs and Transaction Screens. These properties have included commercial, retail, industrial, and multi-family residential properties. ASTM investigations include correspondence and consultation with Federal, state, and local government offices. Additional services provided, as conditions outside of the ASTM standard, have included asbestos inspections, lead paint sampling, and radon sampling.

EDUCATION

Bachelor of Science in Civil Engineering from Tufts University, 2010

Master of Engineering in Civil and Environmental Engineering from Cornell University, 2011

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers Boston Society of Civil Engineering Section Society of Women Engineers

PROFESSIONAL REGISTRATIONS/TRAINING

E.I.T. - Massachusetts, April 2010 ASTM E 1527 Phase I Environmental Assessment (ESA) training, 2012 AHERA 24-hour Asbestos Inspector Accreditation, 2012 U.S. Department of Housing and Urban Development (HUD) lead based paint visual assessment training course, 2012



Mr. Indra Deb, P.E.

Technical Director-Structural Services
21 B Street
Burlington, MA 01803

Office: 617.715.1810 Mobile: 781.308.2686

SUMMARY OF EXPERIENCE

Mr. Deb has over 35 years of experience in multi-disciplined engineering analysis and design. Mr. Deb has a broad background in all aspects of building systems, including structural, HVAC, electrical, and plumbing, as well as building design. His expertise includes due diligence assessments (property condition assessments), Structural Observation reports, seismic reports (PML) and construction loan monitoring reports for industrial, commercial, office, parking garage and multi-family residential buildings.

Mr. Deb has more than 10 years of experience performing multifamily property inspections.

During construction period services, Mr. Deb's experience includes bidding process, negotiation with construction contracts, construction supervision and management, coordination among sub-consultants and sub-contractors, cost control and monitor construction scheduling, review shop drawings and also involved in solving field problems.

Mr. Deb has taught several building related courses (structural, HVAC, electrical, plumbing etc.) at Wentworth Institute and Boston University and was also involved in teaching professional registration preparation courses at Northeastern University.

Mr. Deb has successfully completed more than ten thousand of project assignments including due diligence site assessments and building-condition evaluations. Mr. Deb is responsible for professional quality and technical accuracy of the reports.

At EBI, Mr. Deb as a Technical Director-Structural Services in the Real Estate Division, he specializes in reviewing Property Condition Reports, Seismic Report (Probable Maximum Loss), Construction Monitoring Reports, and Structural Evaluations and review of structural observation reports of buildings.

RELEVANT PROJECT EXPERIENCE

Various Property Owners and Financial Institutions, Nationwide. Prepare and review property condition due diligence reports for thousands of property owners and financial institutions for portfolios and individual projects throughout the country. Property types included hotels, apartment complexes, retail, parking garage and office buildings. Clients have included LaSalle Bank, Sun Trust Bank, Bear Stearns, Principal Real Estate, Citigroup, and Property Analytics, CWCapital Asset Management, UBS Real Estate Finance, NCB, CBRE Capital Markets, Inc., Cambridge Savings Bank.

Mr. Deb has more than 10 years of experience performing multifamily property inspections and similar work for financial institutions.

Mr. Deb also prepares and reviews construction plan and cost reviews (CPCR), and construction monitoring reports (CMR) for various clients including Wachovia Bank, Prudential Mortgage Capital Co, Inland Mortgage Capital Corp., and Merrill Lynch Capital, among others.

He also prepares, reviews and checks the structural calculations and specifications for building design for Real Estate Division; antenna support and related equipment for telecommunication clients e.g. Metro PCS, AT&T, Verizon Wireless etc.



Mr. Indra Deb, P.E.

Technical Director-Structural Services 21 B Street Burlington, MA 01803 Office: 617.715.1810 Mobile: 781.308.2686

Prior to joining at EBI, Mr. Deb was the owner and President of an Engineering and Architectural Firm from 1986 to 2005. Mr. Deb's prior experience includes coordination and presentation of projects to municipalities (Planning Board, Conservation Commission, Board of Appeals, etc.) for approval. Responsibilities included Community Participation.

Mr. Deb was the Structural Engineer of Record for numerous building design, roads & highways and bridge design and renovation projects. He was also responsible for professional quality and technical accuracy of the projects.

Mr. Deb was also involved with stress analysis and design of structural components, job scoping of steel and concrete structures, foundation and support design for heavy industrial projects especially Pulp and Paper Plants. Performed structural analysis of buildings (Turbine Generator Building, Boiler Building etc.) including foundations, equipment foundation and building framework for process and power plants, material handling, air emission equipment etc.

He also performed structural analysis for conveyor galleries, water tank, cooling towers, and underground coal pits and coordinated with other designers and site engineers as problems arose in construction interference.

EDUCATION

B.S. Civil Engineering

Jadavpur University, Kolkata, India

M.S. Civil Engineering

Carnegie-Mellon University, Pittsburgh, PA

Graduate Certificate - Administration & Management

Harvard University, Cambridge, MA

PROFESSIONAL AFFILIATIONS

Fellow of American Society of Civil Engineers (ASCE)
Fellow of Boston Society of Civil Engineers (BSCE)
Conservation Commissioner, Town of Burlington, MA -1996 to Present

LICENSES

Construction Supervisor's License (Unrestricted) – Massachusetts

PROFESSIONAL REGISTRATIONS

NATIONAL COUNCIL OF ENGINEERING EXAMINERS (NCEES #42952).

Registered Professional Engineer in 22 states which includes Massachusetts (Civil & Structural), Alabama, Arizona, Delaware, Florida, Georgia, Indiana, Kansas, Maryland, Michigan, Nevada (Civil), New Hampshire, New Jersey, New York, North Carolina, Ohio, South Carolina, Texas, Virginia, Washington (Civil), West Virginia and Wisconsin.



EXECUTIVE SUMMARY

Boston University Theater

264 Huntington Avenue Boston, MA

Survey Date: June 15, 2017 Report Date: June 19, 2017

EBI Project Number 1317000281 Author: Peter Pratt, PE Reviewer: Dennis Davis

The Subject Property, known as The Boston University Theater is located in Boston, Massachusetts at 264 Huntington Avenue. The building was reportedly constructed in



1925. The facility consists of a three story theater building with an "L" off the rear that contains most of the dressing rooms, storage rooms and another block box style theater space totaling approximately 26,688-gross square foot, theater/office facility on 0.383 acre site.

PURPOSE

The purpose of this Executive Summary report is to provide a concise, abbreviated condition assessment of the subject property to indicate Immediate and Short Term repair items as well as Replacement Reserve type repair and replacement items extending approximately ten years out from the current date.

Mr. Peter Pratt, PE of *EBI* surveyed the property on June 15, 2017 and was accompanied by Mr. Steve Landry of CRE-Management, the current owners and Mr. Todd Williams, the defacto facilities manager of the Huntington Theater Company. Mr. Williams has been at the property more than 20 years. At the time of the survey, the weather was sunny, and approximately 75° Fahrenheit.

EXECUTIVE SUMMARY TABLE

| Property Name: The Huntington - 264 Hunderss: 264 Huntington Avenue City and State: Boston, Massachusetts Site Survey Date: June 15, 2017 Report Date: June 23, 2017 EBI Project #: 1317000281 | untington Ave | enue | No. of | Proper units or te Squa | ty Age: | 1 26,688 | | | |
|--|---------------|----------|-----------|-------------------------------|----------|------------------|------------------------|-------------------|----------------------------|
| Section | | | Condition | | | Action | Immediate | Short Term | Replacement |
| # Section Name SITE CONDITIONS | Excellent | Good | Fair | Poor | NA | Required | Repairs | Repairs | Reserves |
| 2.1 Topography and Drainage | | | | | ~ | | | | |
| 2.2 Pavement and Parking | | | | | ~ | | | | |
| 2.3 Site Amenities & Landscaping | | | ~ | | | _ | \$5,000 | \$25,000 | |
| 2.4 Utilities | | | <u> </u> | | | _ | \$3,000 | | |
| BUILDING CONDITIONS | | | | | | | | \$50,000 | |
| 3.1 Substructure | | ~ | ~ | | | _ | 62,000 | | |
| 3.2 Superstructure | | V | ~ | | | _ | \$3,000 | | \$30,000 |
| 3.3 Facades (Walls, Windows & Doors) | | • | V | | | | | \$29,400 | |
| 3.4 Roofing | | | 7 | _ | | | | \$28,400 | \$267,600 |
| 3.5 Basements/Attics | | | ~ | _ | | | | | \$192,000 |
| 3.6 ADA Compliance | | | <u> </u> | | | | \$100,000 | | |
| INT. FINISHES & COMPONENTS | | | | | | | \$100,000 | | |
| 3.7 Interior Finishes & Components | | | ~ | _ | <u> </u> | | | | 6742 200 |
| 3.8 Mold/Asbestos Abatement | | | _ | • | | | | Ф 7 5 000 | \$743,300 |
| | | | | | | | | \$75,000 | \$200,000 |
| BUILDING SYSTEMS | | | | T | Τ | | 005.000 | | |
| 4.1 Plumbing | | | V | _ | | - | \$85,000 | #150 212 | 064000 |
| 4.2 HVAC | | | V | - | | | | \$159,313 | \$64,000 |
| 4.3 Electrical | | . 4 | ~ | | | | | \$30,000 | |
| 4.4 Fire/Life Safety | | ✓ | | . 4 | | | | # 25 0.000 | |
| 4.5 Elevators | | | | ~ | | | | \$250,000 | |
| MATERIAL CODE VIOLATIONS | | | | T | Τ | | | | |
| 5.0 Codes | | | V | | | | | | |
| OTHER STRUCTURES, AMENITIE | S, SPECIA | L INTE | RESTI | TEMS | I | | | | |
| None | | | | | OTALC | | 6102 000 | 0617.713 | Q1 40C 000 |
| | | | | <u>I</u> | OTALS: | I | 193,000 | \$01/,/13 | \$1,496,900 |
| | | | | | | Dollars | Dollars | | |
| Present Value of Replacement Reserves Co | act Estimate | | | | | per sf/yr | per unit/yr | | ¢1 406 000 |
| Inflated Value of Replacement Reserves C | | | | | | \$5.61 \$6.05 | \$149,690 \$161,549 | | \$1,496,900 \$1,615,486 |
| Immediate Repairs and Deferred Maintena | | | | | | ψ0.05 | \$810,713 | | \$1,010,700 |
| Short Term Repairs Cost Estimate | | | | | | | | \$617,713 |] |
| Total Deferred Maintenance Cost Estimate | , After Mul | tiplier | | | | | \$972,856 | | |

IMMEDIATE REPAIRS AND REPLACEMENT RESERVES

The cost shown on the tables are based on data obtained from the Owner for items already planned, quotes from contractors, EBI's in-house equity database costs and our experience with costs and estimates for similar issues, property and building types, city cost indexes, and assumptions regarding future economic conditions. These projected costs are augmented by cost estimate resource documents such as the National Construction Estimator, Means Building Construction Cost Data, or Means Facilities Maintenance and Repair Cost Data Publications.

IMMEDIATE REPAIRS & SHORT TERM REPAIRS - TABLE I

- Each of the Immediate Repair items noted during the survey are listed on the following page on Table I, and compiled on the Executive Summary Table. Items are grouped and cross-referenced by Report section. Immediate Repairs as may be identified during the survey are typically limited to life, safety, health, building code violation or building or property stabilization issues observed at a Subject Property.
- Each of the Short Term Repair items noted during the survey are listed on the following page on Table I, and compiled on the Executive Summary Table. Items are grouped and cross-referenced by Report section. Short Term Repairs as may be identified during the survey are typically repairs that are not life, safety, stabilization or code issues, but deferred maintenance or repairs necessary or of significant cost so to warrant them as a Short Term Repair, and/or that cannot be completed within a short timeframe due to the magnitude of the issue, the scope of work or weather.

REPLACEMENT RESERVES - TABLE 2

• Each of the Replacement Reserve items noted during the survey are listed in Table 2 – Replacement Reserves, and compiled on the Executive Summary – Immediate Repairs and Replacement Reserves table. Items are grouped and cross-referenced by Report section. Routine operational or customary annual maintenance items are not reported or included in this Report.

IMMEDIATE REPAIR ITEMS

- 1. Repair concrete spalls at front stairs/railing bases, etc. to remove trip hazards
- 2. Repair foundation cracks along rear alleyway with injected epoxy crack filler
- 3. Replace interior corroded rain leaders buried in walls. Some have recently failed
- 4. Replace corroded sanitary drain lines due to backups and pipe failure
- 5. Replace very old electrical panels with tube fuses throughout facility
- 6. ADA upgrades for dressing rooms, lower level theater, etc.
- 7. Abatement required for Immediate Repair Items

SHORT-TERM REPAIR ITEMS

- I. Replace HP ramp
- 2. Separate sprinkler feed
- 3. Remove rust and paint decorative cast iron door trims
- 4. Sealant renewal at doors and windows
- 5. Repair exterior ceiling at entrance to offices
- 6. Replace custom built in place interior air handler at theater (Sturtevant Air Washer, Type H, 8'x6' steam heating coil, Sn. 118488)
- 7. Replace chiller (Carrier 30HR100-A140, Sn. B430098)

- 8. Elevator modernization of 4 level freight traction, DC
- 9. Replace chilled water circulation pumps (3-20 hp)
- 10. Refurbish shell and tube heat exchangers for heat and hot water systems
- 11. Replace electrical panel boards
- 12. Abatement required for Short Term repair items

REPLACEMENT RESERVE ITEMS

- 1. Window replacement of approximately 80% of the windows
- 2. Roof replacement with drainage repairs at "L" roof with excessive ponding
- 3. Exterior door replacement of service and egress doors
- 4. Selective brick repointing throughout exterior
- 5. Fire escape inspections of 3 multi-level steel fire escapes with walkways and roofs
- 6. Fire escape painting of 3 multi-level steel fire escapes with walkways and roofs
- 7. Common area carpet/flooring replacement in lobbies, lounges, hallways
- 8. Theater carpet replacement
- 9. Common area painting of lobbies, lounges
- 10. Office area painting of hallways, offices, storage rooms and theater work rooms
- 11. Office and theater work rooms carpet/flooring replacement
- 12. Office and theater work rooms ceiling replacement
- 13. Dressing room renovations including millwork, plumbing, painting, ceilings and flooring
- 14. Restroom renovations including public restrooms, office restrooms, restrooms at dressing rooms
- 15. Selective, staged fan coil replacement throughout facility
- 16. Theater chair replacement
- 17. Abatement required for Replacement Reserve items

| TABLE 1 | <i>- IMMEDIATE REPAIRS</i> |
|---------|----------------------------|
| | & SHORT TERM REPAIRS |

| | | & SHORT TERM REPAIRS | | | | | | | | |
|----------------|----------------|---|----------|------------|---------------------|---------------------------------------|--------------------|-------------------------------------|--------------------|---|
| | | - 264 Huntington Avenue | | | rvey Date: | | I | lding Area: | 26,688 | |
| | Iuntington A | | | | port Date: | 06/23/17 | | er of Units: | 1 | |
| | on, Massacl | | | - | erty Type: | | 1 | perty Age: | 92 | |
| LDI I | rroject# | 1317000281 | | Number of | of Floors: | 1 3 | Ana | lysis Term: | 10 | |
| | | | | Number | 01 110018. | | | | | |
| 5.R | | | | | NO | ESTIMATED IMMEDIATE REPAIR COST | ç. | ORT OST | | |
| MB | ME | | | | IPTI | REF | pai | SHC R Ct | | |
| NU | NA | | A. | ST | SCR | ED | n Re | ED . | | |
| NO! | ION | | TITI | CO, | DE | 44T :DE | Teri | 1AT | | |
| SECTION NUMBER | SECTION NAME | DEGOLAGENDED WORK | QUANTITY | UNIT COST | UNIT DESCRIPTION | ESTIMATED IMMEDIATE COST | Short Term Repair? | ESTIMATED SHORT TERM REPAIR COST | GOLD TENTES | OR ADDITIONAL DESCRIPTION |
| | CONDITIONS | RECOMMENDED WORK | õ | 2 | מ | CBE | S | E. | COMMENTS | OR ADDITIONAL DESCRIPTION |
| 2.1 | Торо. | None | | | | | | | | |
| 2.2 | Pvm't/Pkg | None | | | | | | | | |
| 2.3 | Amenities | Repair concrete spalls at front stairs/railings | 1 | \$5,000 | allowance | \$5,000 | | | | |
| 2.3 | Amenities | Replace HP ramp | 1 | \$25,000 | allowance | | ~ | \$25,000 | Proposed work for | or this year |
| 2.4 | Utilities | Separate sprinkler feed | 1 | \$50,000 | allowance | | ~ | \$50,000 | Proposed work for | or this year |
| BUILI | DING CONDIT | TIONS | | | | | | | l | |
| 3.1 | Substruct. | Repair cracks in foundation walls | 1 | \$3,000 | allowance | \$3,000 | | | along rear | |
| 3.2 | Superstruct. | None | | | | | | | | |
| 3.3 | Facades | Remove rust and repaint exterior trim and doors | 1 | \$12,000 | allowance | | ~ | \$12,000 | at front and perin | nter |
| 3.3 | Facades | Renew/recaulk windows and doors | 2,400 | \$6.00 | per linear foot | | ~ | \$14,400 | | |
| 3.3 | Facades | Repair exterior ceiling | 1 | \$2,000 | allowance | | ~ | \$2,000 | at office entrance | , |
| 3.4 | Roof | None | | | | | | | | |
| 3.5 | Bsmt/Attic | None | | | | | | | | |
| 3.6 | ADA | Upgrade allowance | 1 | \$100,000 | allowance | \$100,000 | | | access to basmer | nt and upper floors, ADA compliant dressing rooms, bathrooms, offices |
| INTER | RIOR FINISHI | ES & COMPONENTS | | | | | | | | |
| 3.7 | Interior F & C | None | | | | | | | | |
| 3.8 | Mold/Asbestos | Abatement allowance | 1 | \$75,000 | allowance | | ~ | \$75,000 | abatement allowa | ance to do Immediate and Short Term repairs |
| BUILI | DING SYSTEM | AS . | | | | | | | | |
| 4.1 | Plumbing | Repair interior rain leaders | 1 | \$25,000 | allowance | \$25,000 | | | corroding- severa | al failures |
| 4.1 | Plumbing | Repair corroded sanitary lines Replace AHU (47,000 CFM) - Built Up Indoor Unit, Single Zone, | 1 | \$60,000 | allowance | \$60,000 | | | corroding- severa | al failures |
| 4.2 | HVAC | Constant Volume | 1 | \$93,010 | each | | ~ | \$93,010 | in basment at the | ater |
| 4.2 | HVAC | Replace Water Chiller (100 ton) - Reciprocating, Water Cooled | | \$112,413 | each | | ~ | | In basment in "L' | |
| 4.2 | HVAC | Replace Pump (5" size, 20 HP, to 1,350 GPM) In-line - End Section | 3 | \$11,181 | each, # per year | | ~ | \$33,543 | In basement in "I | ." |
| 4.2 | HVAC | Replace HX (120 GPM) Steam to Hot Water | 2 | \$16,380 | each, # per year | | ~ | \$32,760 | In basement in "I | ,", shell and tube heat exchangers |
| 4.3 | Electric | Replace panel board, 3 wire, 20 amp 1 pole, 20 circuits | 10 | \$3,000.00 | each | | ~ | \$30,000 | Various locations | 3 |
| 4.4 | F/L Safety | None | | | | | | | | |
| 4.5 | Elevators | Elevator modernization - 4 stories Traction | 1 | \$250,000 | each | | ~ | \$250,000 | | |
| MATE | RIAL CODE | VIOLATIONS | | | | | | | | |
| | | | | | | | | | | |

TABLE 1 - IMMEDIATE REPAIRS & SHORT TERM REPAIRS

| 264 Bos | Huntington ston, Massac | | | Re Prop Number of | | | Numb Pr | ilding Area: oer of Units: operty Age: alysis Term: | 26,688 1 92 10 | |
|------------|--|---|---------|-------------------------|------------------|---------------------------------------|--------------------|--|-------------------------|---------------------------|
| | SECTION NUMBER SECTION NAME SECTION NAME | | | UNIT COST | UNIT DESCRIPTION | ESTIMATED IMMEDIATE REPAIR COST | Short Term Repair? | ESTIMATED SHORT TERM REPAIR COST | COMMENTS C | OR ADDITIONAL DESCRIPTION |
| 5.0 | Codes | None | | | | | | | | |
| | TOTAL | | | | | \$193,000 | | \$617,713 | | |
| | 20% MARK- | UP FOR GENERAL CONDITIONS, OH&P, PERMITS, ENGINEERING | CONTING | ENCY | | \$38,600 | | \$123,543 | | |
| | TOTAL DEF | ERRED MAINTENANCE | | | | \$972,856 | | | | |

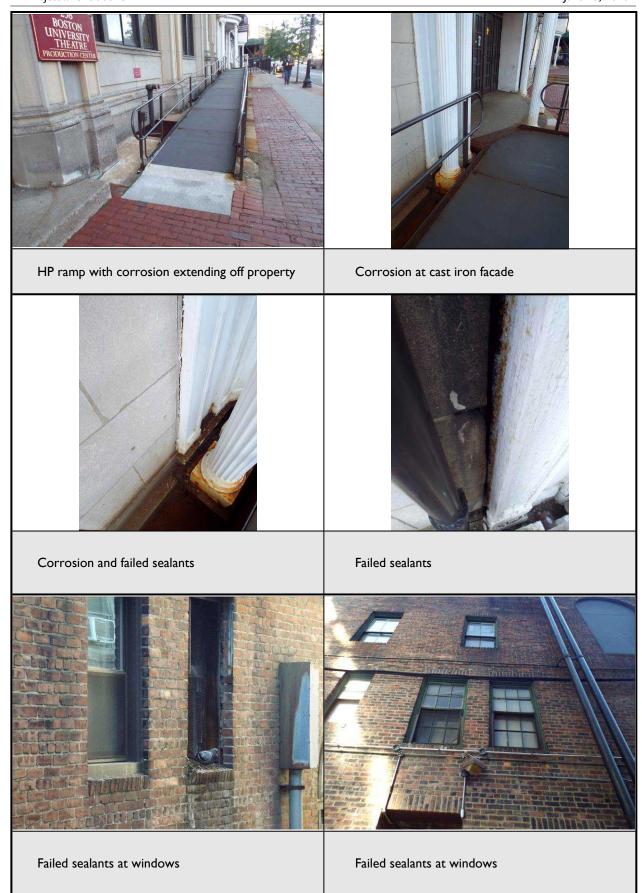
TABLE 2 - REPLACEMENT RESERVES

| IA | BLE 2 | - REPLACEMENT | KE | SEI | RVE | 3 | | | | | | | | | | | | | | | |
|---------------------|---|--|----------------------------------|---------------|-----------------------|-----------------------------|----------------------------------|--------------------|--------------------|----------------------------|---------|----------|--|---------|---------|--|--|---------|---------|-------------|------------------------------------|
| | 0 | - 264 Huntington Avenue | | ; | Site Su | rvey Date: | 06/15/17 | Bui | lding Area: | 26,688 | | | | | | | | | | | |
| | untington A | | | | | port Date: | 06/23/17 | Numb | er of Units: | 1 | | | | | | | | | | | |
| 1 | n, Massacl | | | | - | erty Type: | Mixed-use | l . | perty Age: | 92 | | | | | | | | | | | |
| EBI I | roject # | 1317000281 | | | | Buildings: | 1 | Ana | lysis Term: | 10 | | | | | | | | | | | |
| | | 1 | | N | 6.5 | of Floors: | 3 | | | | | | | | | 1.0 | | | | | |
| | | | | | REMAINING USEFUL LIFE | 8 | APPROXIMATE QUANTITY PER YEAR | | | ~ | 2018 | 2019 | 2020 | 2021 | 2022 | 1 C o s t | 2024 | 2025 | 2026 | 2027 | 41 |
| ~ | | | TIVE | | CT. | 001 | JAN | | ≥ | .PE | 2010 | 2017 | 2020 | 2021 | 2022 | 2023 | 2021 | 2023 | 2020 | 2027 | 101 |
| IBE. | Œ | | EC | 3E | SEF | TIL | $\tilde{\omega}$ | | 7110 | OST | | | | | | | | | | | ED SM |
| NOA | VAN | | EFF | E A | 192 | ANI | [AT] | | CRIF | DC | | | | | | | | | | | END : |
| NC. | N.C | | IGE IL L | Î. | l Will | 20 | XXA 5.4R | So | ESC | ATE | | | | | ۱, | \ \ \ | | | | 0. | WM THE |
| SECTION NUMBER | SECTION NAME | | AVERAGE EFFECTIVE USEFUL LIFE | EFFECTIVE AGE | MA. | TOTAL QUANTITY OVER TERM | 4PPROXIM PER YEAR | UNIT COST | UNIT DESCRIPTION | ESTIMATED COST PER YEAR | YEAR I | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | RECOMMENDED TOTAL OVER THE TERM |
| | | RECOMMENDED WORK | 4 S | EF | RE | 7.5 | AP PE | S | Ŝ | ES YE | YE | XE | XE | XE | XE | XE | XE | XE | XE | XE | RE OI |
| 2.1 | ONDITIONS Topo. | None | I | | | | | | | | | | | | | | | | | | |
| 2.1 | Pvm't/Pkg | None | | | $\overline{}$ | | | | | | | | | | | | | | | | |
| 2.3 | Amenities | None | | | | | | | | | | | | | | | | | | | |
| 2.4 | Utilities | None | | | | | | | | | | | | | | | | | | | |
| BUILDING CONDITIONS | | | | | | | | | | | | | | | | | | | | | |
| 3.1 | Substr. | None | | | | | | | | | | | | | | | | | | | |
| 3.2 | Superstr. | Fire escape inspections | 7 | 6 | 1 | 6 | 3 | \$5,000 | each | \$15,000 | 15,000 | | | | | | | 15,000 | | | \$30,000 |
| 3.3 | Facades | Replace operable aluminum-framed insulated windows (medium) | 35 | 30 | 5 | 40 | 40 | \$1,200 | each | \$48,000 | | | | | 48,000 | | | | | | \$48,000 |
| 3.3 | Facades | Replace exterior metal insulated door | 35 | var | | 6 | 2 | \$1,600 | each | \$3,200 | | 3,200 | | | 3,200 | | | | 3,200 | | \$9,600 |
| 3.3 | Facades | Clean and repoint brick | 40 | var | | 12,000 | 4,000 | \$10.00 | square foot | \$40,000 | | 40,000 | | | 40,000 | | | | 40,000 | | \$120,000 |
| 3.3 | Facades | Fire escape painting and repairs | 15 | var | | 6 | 3 | \$15,000 | allowance | \$45,000 | 45,000 | | | | | | | 45,000 | | | \$90,000 |
| 3.4 | Roof | Modified bitumen roof replacement - Theater | 20 | 18 | 2 | 8,000 | 8,000 | \$16.00 | per square foot | \$128,000 | | 128,000 | | | | | | | | | \$128,000 |
| 3.4 | Roof | EPDM 60 mil roof replacement -low rise | 20 | 16 | 4 | 6,400 | 6,400 | \$10.00 | square foot | \$64,000 | | | | 64,000 | | | | | | | \$64,000 |
| 3.5 | Bsmt/Attic | None | | | | | | | | | | | | | | | | | | | |
| 3.6 | ADA | None | | | | | | | | | | | | | | | | | | | |
| | | ES & COMPONENTS | | _ | | 2.400 | 2.400 | 612.00 | C . | #20 000 | | 1 | ı | | ı | 20.000 | T | T | | ı | #20 000 |
| 3.7 | Interior F & C | Carpet replacement - common area Theater carpet replacement | 8 | 2 | 6 | 2,400 4,000 | 2,400 4,000 | \$12.00 \$18.00 | square foot | \$28,800 \$72,000 | | | | | | 28,800 72,000 | | | | | \$28,800 \$72,000 |
| | | Common area painting-lobbies and | | | | | | | per square | | | | | | | | | | | | 1 |
| 3.7 | Interior F & C | lounges | 8 | 2 | 6 | 15,000 | 15,000 | \$1.50 | foot | \$22,500 | | | | | | 22,500 | | | | | \$22,500 |
| 3.7 | Interior F & C | Common area painting-offices, hallways, storage and theater work rooms | 8 | 2 | 6 | 30,000 | 30,000 | \$1.50 | per aquare foot | \$45,000 | | | | | | 45,000 | | | | | \$45,000 |
| 3.7 | Interior F & C | Office and Theater work rooms carpet and flooring replacement | 10 | var | | 1 | 1 | \$50,000 | allowance | \$50,000 | 50,000 | | | | | | | | | | \$50,000 |
| 3.7 | Interior F & C | Office and Theater work rooms ceiling replacement | 10 | var | | 1 | 1 | \$25,000 | allowance | \$25,000 | 25,000 | | | | | | | | | | \$25,000 |
| 3.7 | | Dressing room refurbishment | var | | | 1 | 1 | \$150,000 | allowance | \$150,000 | 150,000 | | | | | | | | | | \$150,000 |
| 3.7 | | Rest room refurbishment | var | 4 | | 1 250 | 1 250 | \$200,000 | allowance | \$200,000 | 200,000 | | | | | - | - | 150.000 | | | \$200,000 |
| 3.7 | | Theater chair replacment Abatement allowance for Replacement | 12 | 4 | 8 | 250 | 250 | \$600 | each | \$150,000 | | | | | | | | 150,000 | | | \$150,000 |
| 3.8 | nt | Reserve Items | var | | | 1 | 1 | \$200,000 | allowance | \$200,000 | 200,000 | | | | | | | | | | \$200,000 |
| _ | ING SYSTEM | 1S | , | , | | | | , | | | | | | | | | | | | | |
| 4.1 | Plumbing | None | | | | | | | | | | | | | | | | | | | |
| 4.2 | HVAC | Replace fan coil unit (3 ton) - CHW Cooling Only | 25 | var | | 16 | 4 | \$4,000 | each | \$16,000 | 16,000 | | | 16,000 | | | 16,000 | | | 16,000 | \$64,000 |
| 4.3 | Electric | None | | | | | | | | | | | | | | | | | | | |
| 4.4 | F/L Safety | None None | | | \vdash | | | | | | | | | | | - | - | - | | | |
| 4.5 | Elevators | None | | | | | ANNTA | L RECOMME | NDATIONS, U | NINEL ATED | 701.000 | 171.200 | | 80.000 | 91.200 | 168.300 | 16,000 | 210,000 | 43,200 | 16,000 | \$1,496,900 |
| | | | | | | | | | | | , | 1/1,200 | 106.09% | 109.27% | 112.55% | 115.93% | 119.41% | 122.99% | 126.68% | 130.48% | g1,470,700 |
| | INFLATION FACTOR, IN PERCENTAGE 1.0 ANNUAL RECOMMENDATIONS, INFLATED @ 3.00% AFTER YEAR O | | | | | | | | | | 176,336 | 100.07/0 | 87,418 | | 195,106 | | 258,274 | 54,724 | | \$1,615,486 | |
| $\overline{}$ | ANNUAL RECOMMENDATIONS, INFLATED @ 3.00% AFTER YEAR ONE 7 | | | | | | | | | | | , | | | 7 | 7 | | 7 1 1 | | , , | , -, -, |

TABLE 2 - REPLACEMENT RESERVES

| | THE TRUE TO THE TRUE TRUE TO THE TRUE TO THE TRUE TO THE TRUE TRUE | | | | | | | | | | | | | | | | | | | | |
|--|--|------------------|------------------------|---------|------------|--------------------|-------------------------|------|--------|----------------|------|----------|------------|-----------|----------|-----------|-----------------|-----------|------------|----------|--------------------------------|
| The Huntington - 264 Huntington Avenue | | | | Site Su | rvey Date: | 06/15/17 | 06/15/17 Building Area: | | 26,688 | | | | | | | | | | | | |
| 264 Huntington Avenue | | | Report Date: | | 06/23/17 | Number of Units: 1 | | 1 | | | | | | | | | | | | | |
| Boston, Massachusetts | | | Property Type: | | Mixed-use | Pro | operty Age: | 92 | | | | | | | | | | | | | |
| EBI Project # 1317000281 | | | Number of Buildings: 1 | | 1 | Analysis Term: | | 10 | | | | | | | | | | | | | |
| | | | Number of Floors: | | 3 | | | | | | | | | | | | | | | | |
| | | | 3.5 | | | TY | | | | Annual Costs | | | | | | | | | | | |
| | Œ | FECTIVE | E | | 177 | EK | II. | | | Z. | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 7.41 |
| ~ | | | 11. | | rUL. | 0, 1 | CA. | | NO. | rPi | | | | | | | | | | | 02 |
| ABER | | | -EC | GE | USEF | | E O | |)II.a | .os. | | | | | | | | | | | ED RM |
| NUN | VAA | | EFI | EA | | AN | 141 | 7 | CRI | DC | | | | | | | | | | | ENE TE |
| NC. | . NC | | GE TL | AII. | REMAINING | nō | PROXIM ? YE.AR | ISO. | ESC | 4TE | | | | | | | | | | 0 | AMI THE |
| SECTION |).II.(| | ERA EFC | τEC | MAI | TAL RM | ?RC | II C | Ш | 73/L 1.R | 18.1 | 1R2 | 183 183 | 1R4 | 18.5 | 186 | 1R 7 | 188 | 189 | 18.1 | COA ER 3 |
| SEC | SEC | RECOMMENDED WORK | AVERAGE: USEFUL LI | EFI | RE | 70. | API PEI | CIN. | UNII | ESTIN. YEAR | YE, | YE, | YE, | YE, | YE, | YE, | YE, | XE, | YE, | YE, | RECOMMENDED : OVER THE TERM |
| Notes: | | | | | | | | | | | | | N | ETPRESE | NT VALUI | E OF RECO | MMENDE | DTOTAL | ANNUAL R | RESERVES | \$1,496,900 |
| 1. | | | | | | | | | | | | PRES | SENT VALI | UE OF REC | OMMEND | ED TOTAI | ANNUAL | RESERVE | SPERSFI | PER YEAR | \$5.61 |
| 2. | | | | | | | | | | | | INFLATE | D VALUE | OF RECO | MENDE | D TOTAL A | INNUAL R | ESERVES | PER SF P | PER YEAR | \$6.05 |
| 1. | | | | | | <u> </u> | • | | | | | PRESE | NT VALUE | OF RECO | MMENDEI | TOTAL A | NNUAL RI | ESERVES I | PER UNIT I | PER YEAR | \$149,690.00 |
| 2. | | | | | | | | | | | IN | FLATED V | ALUE OF | RECOMN | IENDED 1 | OTAL AN | NUAL RES | SERVES P | ER UNIT F | PER YEAR | \$161,549.00 |







Damaged ceiling

Air handler at theater



Air handler tag

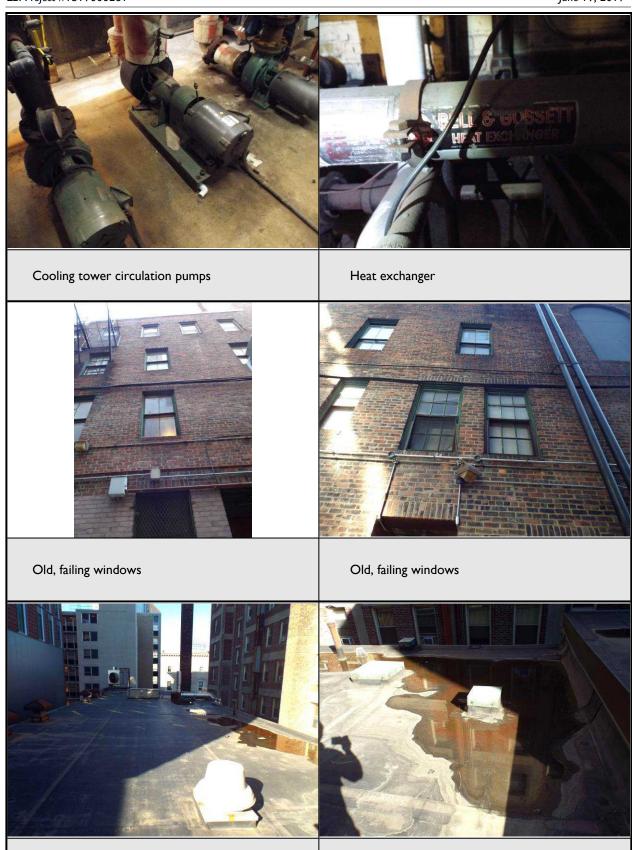
Chiller



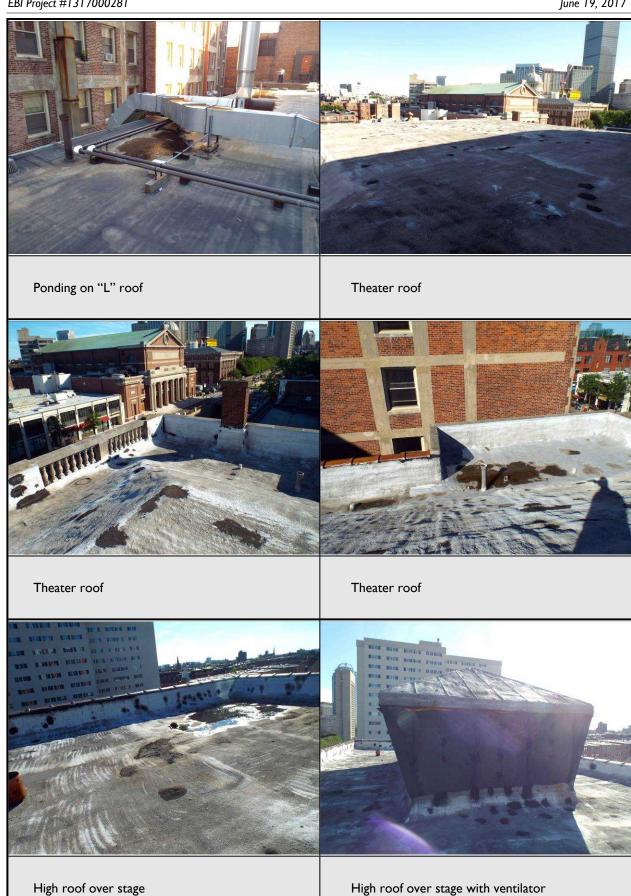
Chiller tag

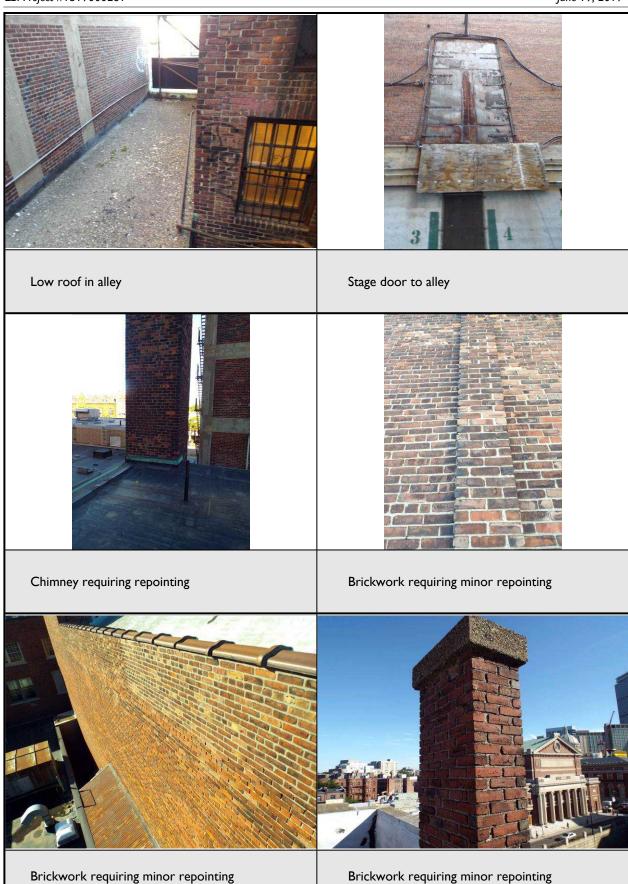
DC freight elevator and controls

Overview of "L" roof



Ponding on "L" roof









Fire escape

Fire escape





Fire escape

Lower lobby



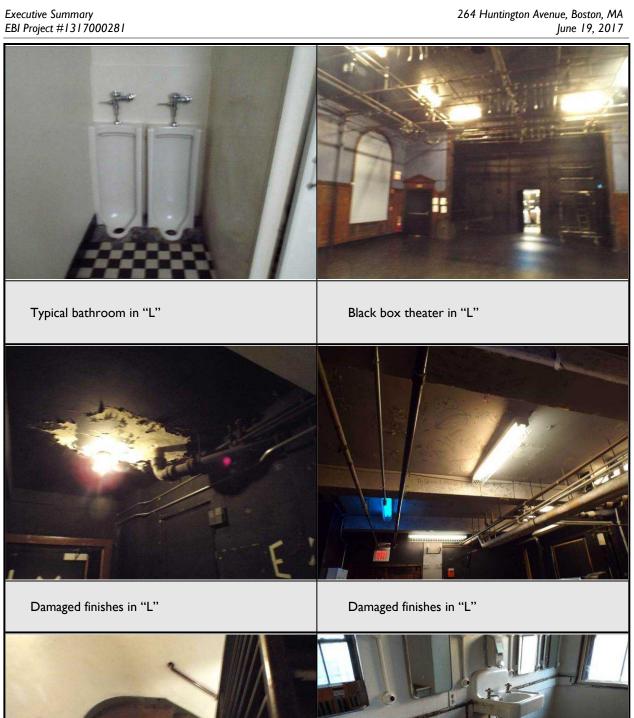
Upper lobby

Theater carpet and walls



Water damage to stairwell

Finishes in "L"





Abandoned dressing room

Stair finishes



Typical theater work room

Typical theater work room



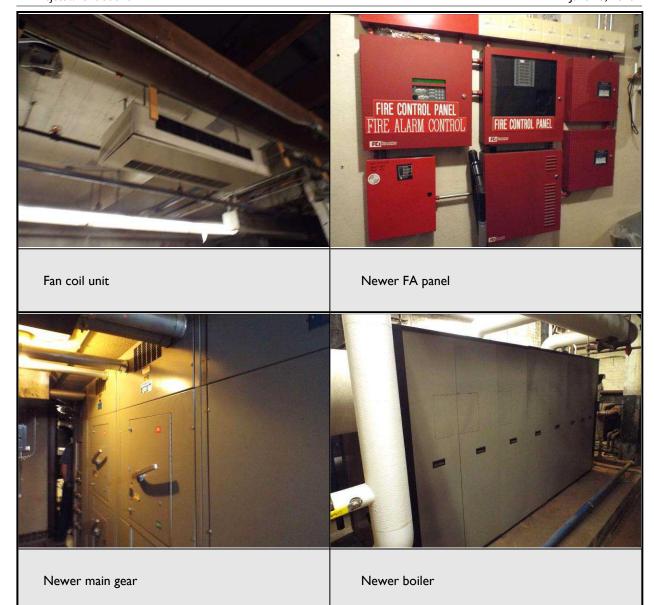
Typical theater work room

Typical theater work room



Typical hallway

Fan coil unit



Property Condition Report

The Huntington- 264 Huntington Avenue

264 Huntington Avenue Boston, Massachusetts

EBI Project No. 1117002485

May 18, 2017



Prepared for:

CRE Management, LLC 133 Pearl Street, Suite 300 Boston, MA 02110

Prepared by:

EBI Consulting

environmental engineering | due diligence



21 B Street Burlington, MA 01803 Tel: (781) 273-2500 Fax: (781) 273-3311 www.ebiconsulting.com

May 18, 2017

Mr. William Moisan CRE Management, LLC 133 Pearl Street, Suite 300 Boston, MA 02110

Subject: Property Condition Report, The Huntington- 264 Huntington Avenue

264 Huntington Avenue, Boston, Massachusetts

EBI Project #1117002485

Dear Mr. Moisan:

Attached please find EBI's Property Condition Report, (the Report) for the above-mentioned asset (the Subject Property). During the property survey and research, EBI's property surveyor met with agents representing the Subject Property, or agents of the owner, and reviewed the property and its history. The Report was completed according to the terms and conditions authorized by you, the Client. This Report has been completed in general conformance with ASTM E 2018–15; CRE Management, LLC's Scope of Work.

The purpose of this Report is to assist CRE Management, LLC, in its underwriting of a proposed mortgage loan on the Subject Property described herein.

This Report is prepared for, addressed to and may be relied upon by CRE Management, LLC, such other persons as may be designated by CRE Management, LLC and their respective successors and assigns.

Reliance on the Report and the information contained herein shall mean; (i) the Report may be relied upon by CRE Management, LLC and their respective successors and assigns in determining whether to make a loan or loans evidenced by a note or notes secured by the property or a pledge of equity interests in the borrower (the "Loan"); (ii) the Report may be relied upon by any potential purchaser, successor or assignee of any of the Loans or an interest therein in determining whether to purchase the Loan from CRE Management, LLC or an interest in the Loan or Loans or securities backed or secured by same, and any rating agency rating securities representing an interest in the Loan or backed or secured by the Loan; (iii) the Report may be referred to in and included, in whole or in part, with materials offering for sale the Loan or an interest in the Loan or securities backed or secured by the Loan; (iv) the Report speaks only as of its date in the absence of a specific written update of the Report signed and delivered by EBI Consulting.

EBI Consulting is an independent contractor, not an employee of either the issuer or the borrower, and its compensation was not based on the findings or recommendations made in the Report or on the closing of any business transaction.

Thank you for the opportunity to prepare this *Report*, and assist you with this project. Please call us if you have any questions or if *EBI Consulting* may be of further assistance.

Respectfully Submitted,

EBI CONSULTING

Natalie Matson Author Mr. Indra Deb, P.E., F. ASCE 617.715.1810 (Eastern Time) Reviewer / Technical Director, Structural Services

ideb@ebiconsulting.com

TABLE OF CONTENTS

| EXECUTIVE SUMMARY TABLE | Exhibit A |
|---|-----------|
| EXECUTIVE SUMMARY & PROPERTY DESCRIPTION | I |
| General Description | |
| Subject Property Summary | |
| Subject Property Description | 2 |
| Municipal Information & Zoning | 3 |
| I.0 PURPOSE & LIMITATIONS | 4 |
| 2.0 SITE CONDITIONS | 6 |
| 2.1 Topography | 6 |
| 2.2 Pavement and Parking | |
| 2.3 Landscaping, Site Improvements & Site Amenities | 6 |
| 2.4 Municipal Services & Utilities | |
| 2.5 Natural Hazards | 7 |
| 3.0 Building Conditions | 9 |
| 3.1 Substructure | 9 |
| 3.2 Superstructure | |
| 3.3 Facades | |
| 3.4 Roofing | 10 |
| 3.5 Basements/Attics | |
| 3.6 Americans With Disabilities Act (ADA) Accessibility | |
| 3.7 Interior Finishes & Components | |
| 3.8 Suspect Mold and Moisture | |
| 4.0 BUILDING SYSTEMS | |
| 4.1 Building Plumbing | |
| 4.2 HVAC | |
| 4.3 Building Electrical | |
| 4.4 Building & Site Fire & Life Safety | |
| 4.5 Elevators | |
| 5.0 MATERIAL CODE VIOLATIONS | |
| 5.1 Building Department | |
| 5.2 Fire Department | |
| 6.0 REFERENCES | 19 |
| 6.1 References Contacted | 19 |
| 7.0 IMMEDIATE REPAIRS AND REPLACEMENT RESERVES | 20 |
| 7.1 Table I - Immediate Repairs | 20 |
| 7.2 Table 2 - Replacement Reserves | 20 |
| APPENDIX A - PHOTOGRAPHS | |
| APPENDIX B - FIGURES, DRAWINGS, AND PLANS | |
| APPENDIX C - OTHER RELEVANT DOCUMENTS | |
| APPENDIX D - PROFESSIONAL QUALIFICATIONS | |

EXECUTIVE SUMMARY TABLE

| City and State: Boston Site Survey Date: May 5, 2017 Report Date: May 18, 2017 EBI Project #: 1117002485 | M | A | | | ty Age: | 92 | | |
|--|-------------|-------------|-------------------|------------------|----------|-----------------|----------------------|---------------------------------------|
| Report Date: May 18, 2017 | | | No. o | f units or to | | 2 | | |
| | | | | · · · | re feet: | 26,688 10 | | |
| EBITTOJECE III. | | | | Loan Analysis | Term: | 10 | | |
| .• | | | 10.00 | Allalysis | renn. | | I P. | D 1 |
| ection # Section Name | Excellent | | Condition Fair | Poor | NA | Action Required | Immediate Repairs | Replacement Reserves |
| SITE CONDITIONS | Excellent | <u> </u> | I all | 1 001 | 11/4 | Required | Перапз | i i i i i i i i i i i i i i i i i i i |
| 2.1 Topography and Drainage | | ~ | | | | | | |
| 2.2 Pavement and Parking | | Y | | | | | | |
| 2.3 Site Amenities & Landscaping | | > | | | | | | |
| 2.4 Utilities | | > | | | | | | |
| BUILDING CONDITIONS | | | | | | | | |
| 3.1 Substructure | | ✓ | | | | | | |
| 3.2 Superstructure | | > | | | | | | |
| 3.3 Facades (Walls, Windows & Doors) | | > | | | | | | |
| 3.4 Roofing | | > | | | | | | \$49,781 |
| 3.5 Basements/Attics | | > | | | | | | |
| 3.6 ADA Compliance | | > | | | | ✓ | \$0 | |
| NT. FINISHES & COMPONENTS | 5 | | | | | | | ' |
| 3.7 Interior Finishes & Components | | ✓ | | | | | | |
| 3.8 Suspect Mold | | > | | | | | | |
| BUILDING SYSTEMS | | | | ' | ' | | 1 | 1 |
| 4.1 Plumbing | | > | | | | | | |
| 4.2 HVAC | | > | | | | | | \$16,500 |
| 4.3 Electrical | | > | | | | | | |
| 4.4 Fire/Life Safety | | > | | | | | | |
| 4.5 Elevators | | \ | | | | | | |
| MATERIAL CODE VIOLATIONS | | | | | | | | |
| 5.0 Codes | | ✓ | | | | | | |
| OTHER STRUCTURES, AMENITI | ES, SPEC | IAL IN | TERES | T ITEN | 15 | | | • |
| None | | | | | | | | |
| | • | | | тс | TALS | | \$0 | \$66,281 |
| | | | | | | Dollars | * *** | , |
| | | | | | | per sf/yr | | |
| resent Value of Replacement Reserves | | | | | | \$0.21 | | \$66,281 |
| nflated Value of Replacement Reserves Co | st Estimate | <u> </u> | | | | \$0.22 | | \$70,781 |
| mmediate Repairs Cost Estimate Total Deferred Maintenance Cost Estim | A.C. | M. Let 19 | | | | | \$0 \$0 | _ |



EXECUTIVE SUMMARY & PROPERTY DESCRIPTION

GENERAL DESCRIPTION

The Subject Property, known as The Huntington- 264 Huntington Avenue, is located in Boston, Massachusetts at 264 Huntington Avenue. The Subject Property was reportedly constructed in 1925. The Subject Property consists of a two-story, approximately 26,688-net rentable square foot¹, multitenant, office, classroom, and theater facility on a 0.392-acre lot. The building contains a full, finished basement.

Ms. Natalie Matson of *EBI* surveyed the property on May 5, 2017 and was accompanied by, and interviewed the Technical Director Mr. Dan Ramirez, *Huntington Theater Company*. At the time of the survey, the weather was rainy and approximately 50° Fahrenheit. During the survey, representative areas of the site, tenant spaces, mechanical spaces, and mechanical equipment and building components were observed.

EBI's Pre-Survey Questionnaire was forwarded to the designated property contact. The information requested in the questionnaire assists in EBI's research of the Subject Property to obtain pertinent property data, discover existing physical deficiencies, chronic problems, the extent of repairs, if any, and their costs, and pending repairs and improvements. The Pre-Survey Questionnaire was completed and returned.

The Subject Property appears to be in good condition. It is *EBI's* professional opinion that the Remaining Useful Life (RUL) of the Subject Property is estimated to be not less than 35 years, based on its current condition and maintenance status, assuming any recommended Immediate Repairs or Replacement Reserves are completed, and appropriate routine maintenance and replacement items are performed on an annual or as-needed basis. Please see the Executive Summary Table for a compilation of recommended Immediate Repairs and/or Replacement Reserves.

SUBJECT PROPERTY SUMMARY

The following summary describes and comments on the primary Subject Property components. Please see the body of the *Report* for complete survey results for all sections.

PAVEMENT & PARKING

The property occupies the entire site and no on-site parking is provided.

Overall Condition NA

LANDSCAPING & AMENITIES

The property has two exterior stairwells and a ramp.

Overall Condition Good

BUILDING STRUCTURE & FACADES

The building structure consists of steel columns, beams, and joists with pre-engineered wood roof and floor trusses.

The primary exterior materials consist of brick veneer and concrete.

I Square footage obtained from the tax assessor's records.

Fixed and operable, sliding, windows are located at the front and side façades of the buildings on each floor.

Overall Condition Good

Roof

The Subject Property has a low-slope, fully-adhered, EPDM-membrane roof and a low-slope, built-up roof.

Overall Condition Good

MAJOR MECHANICAL SYSTEMS

The building is heated and cooled by rooftop-mounted, packaged, electric and gas, HVAC units, a chiller, and a gas boiler.

One water heater provide domestic hot water. Fire and life safety equipment includes various fire alarm devices and controls, and an automatic fire sprinkler and fire alarm system. Overhead traction hydraulic elevator service the building.

Overall Condition Good

SYSTEM RESPONSIBILITY

Reportedly, maintenance, and repair of the mechanical systems and interior finishes and plumbing, electrical, HVAC, life safety systems and components at the property are reportedly the responsibility of the Subject Property tenants until the end of June 2017.

Maintenance, and repair, and replacement of the roof, facades, mechanical systems and interior finishes and plumbing, electrical, HVAC, life safety systems and components at the property are reportedly the responsibility of the Subject Property owner.

SUBJECT PROPERTY DESCRIPTION

The Subject Property is comprised of the improvements described above, situated on an irregularly-shaped parcel with an address of 264 Huntington Avenue. The Subject Property has approximately 95 feet of frontage along Huntington Avenue.

Local surface arteries, Interstate, and state highway systems provide access to the property. The Subject Property is located approximately 0.38-mile from Interstate 90.

The site is slopes downward to the east.

The Subject Property is improved with one, "L"-shaped, building. One leg of the building has rough dimensions of 95 feet in length and 115 deep in depth, and the other leg has rough dimensions of 45 feet in length and 140 feet in depth.

The tenant spaces is directly accessed from the exterior and there are no common interior areas.

The interiors are divided into specialty services and support areas. Support areas include the offices, theaters workshops, utility areas, and restrooms.

| TENANT UNIT TYPES AND MIX | | | | | | | | | |
|--------------------------------|----------|--------------|------------|----------------------------|--|--|--|--|--|
| Түре | QUANTITY | VACANT UNITS | Down Units | APPROX. LEASED AREA (NRSF) | | | | | |
| Theater // offices // workshop | 2 | 0 0 | | 26,688 | | | | | |
| Totals: | 2 | 0 | 0 | 26,688 | | | | | |

| TENANT UNITS OBSERVED | | | | | | | | | |
|-----------------------|---|---------------------------|--|--|--|--|--|--|--|
| ADDRESS | TENANT NAME | COMMENTS | | | | | | | |
| 264 Huntington | Boston University of Fine and Applied Arts | Occupied. Good condition. | | | | | | | |
| Avenue | Huntington Theater Company | Occupied. Good condition. | | | | | | | |

In general, the Subject Property appears to have been constructed within industry standards and has been well maintained.

MUNICIPAL INFORMATION & ZONING

MUNICIPAL INFORMATION

"Readily available", "reasonably ascertainable", or "publicly viewable", municipal records at City of Boston Inspectional Services, Fire Department, and Zoning Department, were reviewed on-line.

ZONING

The municipal zoning office were consulted, the website were reviewed, and/or the zoning ordinance was reviewed to determine the zoning of the Subject Property. According to the information provided, the Subject Property appears to be located within an *Institutional* district, and appears to be a conforming use.

I.0 PURPOSE & LIMITATIONS

This Baseline Property Condition Report (the Report) has been prepared for the use of CRE Management, LLC, in accordance with our Standard Conditions for Engagement and Authorization Letter and Agreement signed by CRE Management, LLC, dated April 27, 2017 (the Agreement), and with the limitations described below, all of which are integral parts of this Report. A copy of the signed Agreement is maintained at the EBI Consulting office in Burlington, Massachusetts. To the extent any provisions of this Report conflict with the terms of the Agreement, the Agreement shall control.

The exclusive purpose of this Report is to assist CRE Management, LLC in its underwriting of a proposed mortgage loan on the Subject Property described in this Report. This Report has no other purpose and should not be relied upon by any other person or entity. Reliance upon this Report does not extend to property owners, or entities or individuals interested in purchasing the subject property. Amendments to EBI's limitations as stated herein that may occur after issuance of the Report are considered to be included in this Report. EBI's Agreement and Report extends to CRE Management, LLC only. By accepting draft and final reports, CRE Management, LLC agrees to these terms and limitations.

The information reported was obtained through sources deemed reliable, a visual site survey of areas readily observable, easily accessible or made accessible by the property contact and interviews with owners, agents, occupants, or other appropriate persons involved with the Subject Property. Municipal information was obtained through file reviews of reasonably ascertainable standard government record sources, and interviews with the authorities having jurisdiction over the property. Findings, conclusions and recommendations included in the *Report* are based on *EBI*'s visual observations in the field, the municipal information reasonably obtained, information provided by the Client, and/or a review of readily available and supplied drawings and documents. No disassembly of systems or building components or physical or invasive testing was performed. *EBI* renders no opinion as to the property condition at un-surveyed and/or inaccessible portions of the Subject Property. *EBI* relies completely on the information provided during the site survey, or provided or obtained during the writing of the draft *Report*, whether written, graphic or verbal, provided by the property contact, owner or agent, or municipal source, or as shown on any documents reviewed or received from the property contact, owner or agent, or municipal source, or as shown on any documents reviewed or received from the property contact, owner or agent, or municipal source, and assumes that information to be true and correct. *EBI* assumes no responsibility for property information or prior reports withheld or not provided during preparation of the *Report* for any reason whatsoever. The observations in this *Report* are valid on the date of the survey. *EBI* uses the date of first occupancy to establish the Subject Property age.

The contents of the *Report* are not intended to represent an in-depth acquisition analysis of the Subject Property, including, but not limited to, facades, roof, paving, mechanical, elevator, sprinkler, fire safety and electrical systems or components. Anyone wanting information about the condition or characteristics of these property systems or components should consult the appropriate professional. The extent of the physical survey for the production of this *Report* has been limited, by contract and agreed upon Scope of Work, (consistent with the guidelines of the *ASTM E 2018–15 Scope of Work*, as referenced below) to visual observations and a walk through of the property. Assumptions regarding the overall condition of the property have been developed based upon a survey of representative areas of the Subject Property. As such, no representation of *all* aspects of *all* areas or components is made.

Immediate Repairs as may be identified during the survey are typically limited to life, safety, health, building code violation or building or property stabilization issues observed at the Subject Property. Routine operational, normal, or customary annual maintenance or preventative maintenance items are not reported or included in this *Report*.

This assessment is based on the evaluator's opinion of the physical condition of the improvements and the estimated expected remaining useful life of those improvements, based on his observations in the field at the time of the survey, and the written or verbal information received. The conclusions presented are based on the evaluator's professional judgment. The actual performance of individual components or systems may vary from a reasonably expected standard and may be affected by circumstances that are not readily ascertainable or viewable, or that occur after the date of the survey.

Where quantities cannot be determined from information provided or physical takeoffs, lump sum estimates, or allowances are used. The costs shown are based on professional judgment and the apparent or actual extent of the observed defect, including the cost to design, procure, construct, and manage the repair or replacement. Where property-unique or specialty equipment is present, *EBI* relies solely on data regarding maintenance and/or replacement costs provided by the designated site contact or on-site individuals with first-hand knowledge of the specific equipment.

EBI provides Pre-Survey Questionnaires for completion by the designated site or property contact, as provided by CRE Management, LLC or their agent. The information requested in the questionnaire assists in EBI's research of the Subject Property to obtain pertinent property data, discover existing physical deficiencies, chronic problems, the extent of repairs, if any, and their costs, and pending repairs and improvements. If the completed Pre-Survey Questionnaire is not returned as of this Report, this is a limiting factor in EBI's analysis. If the questionnaire is returned at a later date showing a material difference from information provided in the Report, EBI will forward the questionnaire under separate cover. If no response is received, or no material difference is noted in the questionnaire, EBI's Report will not be modified.

EBI may not have been provided with roof design or installation details, and may not have been provided with warranty information (see Section 3.4 Roofing). EBI has relied on general industry performance of similar type roofs and general observations of the surface covering of the roof to determine if roof replacement is warranted during the analysis term. EBI is not responsible for roof failure that may occur earlier than estimated due to hidden conditions or defects that cannot be readily ascertainable by general observation.

EBI may not have been provided with façade reports, and cannot opine on costs to repair façades of buildings five stories or more without receipt of current façade reports (see Section 3.3 Facades). EBI has relied on general industry performance of similar façade systems and general observations of the surfaces of the façades to determine if repair or replacement is warranted during the analysis

term. EBI is not responsible for façade failures that may occur earlier than estimated due to hidden conditions or defects that cannot be readily ascertainable by general observation.

If the municipality in which the Subject Property is located has governing ordinances requiring façade studies, and a copy is not provided to EBI, this is a limiting factor in EBI's assessment and analysis. Prudent property management will have had façade reports completed on their high-rise property, and if a copy of the report is not provided to EBI, this too, is a limiting factor in EBI's assessment and analysis.

This Baseline Report was completed in general conformance with ASTM E 2018–15, Standard Guide for Property Condition Assessment: Baseline Property Condition Assessment Process, and with the scope of services approved by Legal Client Name.

The survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession, and in accordance with generally accepted practices of other consultants currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended. The *Report* speaks only as of its date, in the absence of a specific written update of the *Report*, signed and delivered by *EBI*.

Any additional information that becomes available after EBI's survey and draft submission concerning the Subject Property should be provided to EBI so that EBI's conclusions may be revised and modified, if necessary, at additional cost.

DEVIATIONS FROM THE GUIDE

EBI includes an analysis of estimated Replacement Reserves in this Report. EBI uses an approximate threshold of \$1,000 in aggregate for reporting Immediate Repair or Replacement Reserve items. Material life, safety, health, fire, or building code violation or building or property stabilization issues observed at the Subject Property will be reported regardless of cost.

CONDITION

EBI uses terms describing conditions of the various site, building, and system components. The terms used are defined below. It should be noted that a term applied to an overall system does not preclude that a part or a section of the system or component may be in a different condition.

Excellent The component or system is in new or like new condition and no deferred maintenance is recommended.

Good The component or system is sound and performing its function, and/or scheduled maintenance can be accomplished through routine maintenance. It may show signs of normal aging or wear and tear and some remedial and routine maintenance or rehabilitation work may be necessary.

Fair The component or system is performing, but may be obsolete or is approaching the end of its expected useful life. The component or system may exhibit evidence of deferred maintenance, previous repairs, or workmanship not in compliance with commonly accepted standards. Significant repair or replacement may be recommended to prevent further deterioration, restore it to good condition, prevent premature failure, or to prolong its expected useful life.

Poor The component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its typical expected useful life, excessive deferred maintenance, or state of disrepair. Present condition could contribute to, or cause, the deterioration of other adjoining elements or systems. Repair or replacement is recommended.

ABBREVIATIONS

EBI may use various abbreviations to describe various site, building or system components, or legal descriptions. Not all abbreviations may be applicable to all Reports. The abbreviations most often utilized are defined below.

| ACT | Acoustic Ceiling Tile | FOIA | Freedom Of Information Act |
|-------|--|------|--|
| ABS | Acrylonitrile Butadiene Styrene | FRT | Fire Retardant-treated Plywood |
| ADA | Americans with Disabilities Act | GFCI | Ground Fault Circuit Interrupter |
| ADAAG | Americans with Disabilities Act Accessibility Guidelines | GWB | Gypsum Wall Board |
| AHU | Air Handling Unit | HCA | Handicapped-accessible |
| APA | American Plywood Association | HID | High-intensity Discharge (lighting) |
| BTU | British Thermal Unit (a measurement of heat) | HVAC | Heating, Ventilating, and Air Conditioning |
| BTUH | British Thermal Units per Hour | kVA | Kilovolt Ampere |
| CFM | Cubic Feet per Minute | kW | Kilowatt |
| CMU | Concrete Masonry Unit | MBH | Thousand BTUs per Hour |
| CPVC | Chlorinated Poly Vinyl Chloride | MDP | Main Distribution Panel |
| DHW | Domestic Hot Water | OSB | Oriented Strand Board |
| DWH | Domestic Water Heater | PTAC | Packaged Terminal Air Conditioning (Unit) |
| EIFS | Exterior Insulating Finishing System | PVC | Poly Vinyl Chloride |
| EPDM | Ethylene Propylene Diene Monomer | RFI | Request for Information |
| EUL | Expected Useful Life or Effective Useful Life | RTU | Roof Top Unit |
| FF&E | Fixtures, Furnishings & Equipment | RUL | Remaining Useful Life |
| FCU | Fan Coil Unit | TPO | Thermoplastic Poly Olefin |
| FEMA | Federal Emergency Management Agency | UBC | Uniform Building Code |
| FHA | Forced Hot Air or Federal Housing Administration | VAV | Variable Air Volume |
| FHW | Forced Hot Water | VCT | Vinyl Composition Tile |
| FIRM | Flood Insurance Rate Map | VWC | Vinyl Wall Covering |
| | • | | |

2.0 SITE CONDITIONS

2.1 TOPOGRAPHY

DESCRIPTION

The Subject Property topography gently slopes down towards to east.

CONDITION

No topography problems were reported or observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

None

2.2 PAVEMENT AND PARKING

DESCRIPTION

The property occupies the entire site and no on-site parking is provided.

CONDITION

Not applicable.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

2.3 LANDSCAPING, SITE IMPROVEMENTS & SITE AMENITIES

DESCRIPTION

Concrete walkways are provided for pedestrian traffic in the alleyway. Two exterior stairs provide access to the building. One is constructed with precast concrete with steel pipe railings. One exterior stair provides access to the building and are constructed with metal stringers, steel treads and risers, and steel pipe railings.

CONDITION

The site stairs appear to be in good condition.

RECOMMENDATIONS

Please see *Table 1 – Immediate Repairs* for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

2.4 MUNICIPAL SERVICES & UTILITIES

2.4.1 Water & Sewer

DESCRIPTION

Boston Water and Sewer Commission provides water and sewer service to the Subject Property site. The sewer is discharged into the municipal lines beneath the abutting street.

2.4.2 Gas/Oil

DESCRIPTION

National Grid provides gas service to the Subject Property.

Wilkinson Oil Co delivers oil to the Subject Property. Number 2 fuel oil is stored in a five 275-gallon, aboveground, oil tanks in the basement of the main building. The age of the oil storage tanks is unknown and appear to be in good condition.

2.4.3 Electrical

DESCRIPTION

Eversource provides electric service to the site. The service enters the property overhead to a pole at the front of the site, and then runs to the main switchgear. The utility reportedly owns and maintains the lines up to the buildings.

2.4.4 Storm Drainage

DESCRIPTION

The storm water flow from the site is controlled via on-site structures discharging into the municipal system. The buildings' internal roof drains are tied to the sewer.

OVERALL CONDITION

There were no reported or observed problems with the Subject Property water, sewer, gas, oil, electric, or storm water drainage connections, systems, sizes, or capacities. The utilities appear to be configured and operated in a manner consistent with their intended use, adequate for the use type, and appear to be in good condition.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

2.5 NATURAL HAZARDS

DESCRIPTIONS

2.5.1 Seismic

Chapter 16 of the 1997 edition of the *Uniform Building Code (UBC)* was reviewed to determine the seismic zone of the Subject Property. Chapter 16 includes calculations for, and mapping of, earthquake (seismic) loads on structures. Figure 16-2, *Seismic Zone Map of the United States* delineates differing ratings of seismic load. These ratings indicate the severity of how horizontal ground motion and subsurface soil types affect a structure. Figure 16-2 shows the United States having seismic zones ranging from 0 to 4.

2.5.2 Flood Zone

The Federal Emergency Management Agency (FEMA) maps and rates flood hazard zones throughout the United States. These zones are depicted on a Flood Insurance Rate Map (FIRM), designated by Community Map and Panel numbers. The flood hazard zones range from Zone A or AE (AI – AI30), with Base Flood Elevations (BFE) determined, to Zone X (unshaded), areas outside the 500-year floodplain. EBI utilizes CDYS' RiskMeter (Transamerica Data) First American Flood Data Services' Flood Insights mapping system to obtain the Flood Zone Determination of the Subject Property. First American Flood Data Services searches the FEMA FIRM map and panel to obtain the Flood Zone Determination of the Subject Property.

CONCLUSIONS

2.5.1 Seismic

According to Figure 16-2 in the *UBC*, the Subject Property appears to be located in Zone 2A, with a low to moderate probability of damaging ground motion.

2.5.2 Flood Zone

The Subject Property Flood Zone Determination appears to be Zone X, defined as an area outside the 100 and 500 year floodplains, as shown on First American Flood Data Services' Flood Hazard Certification, Community Map # 250286, Panel # 0079J, dated March 16, 2016.

3.0 BUILDING CONDITIONS

3.1 SUBSTRUCTURE

DESCRIPTION

The majority of the Subject Property substructure was not visible due to the surrounding grade. The building contains a basement and portions of the substructure were partially visible from the basement. Based on *EBI*'s visual survey, the property appears to have concrete masonry unit foundations and castin-place, concrete footings supporting the load-bearing, exterior and interior, walls and/or columns. The structure includes concrete slabs-on-grade.

CONDITION

The substructure appears to be sound and in good condition. No indications of problems with the substructures were reported or observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.2 SUPERSTRUCTURE

DESCRIPTION

The superstructure is partially obscured from view by interior and exterior finishes.

The superstructure reportedly consists of steel columns, steel beams, and steel, truss joists supporting open-web, steel, floor and roof joists. Floor structures consist of lightweight concrete on steel decking, supported by the open-web, steel, floor joists. Roof structures consist of lightweight concrete on steel decking, supported by the open-web, steel, roof joists.

CONDITION

Based on the overall appearance and observed general condition of the building, the superstructure appears to be sound and in good condition. No problems were noted or reported.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.3 FACADES

DESCRIPTION – FACADES

During the site survey, representative building facades were viewed from the surrounding grade, from windows at upper floors, or adjacent buildings or roofs. In depth analysis of the façades is beyond the scope of work for this *Report*.

The primary exterior materials consist of red, brick veneer, and concrete.

DESCRIPTION – EXTERIOR DOORS AND WINDOWS

The exterior doors consist of average-quality, commercial-grade, aluminum and glass doors and hollow, metal doors accessing the tenant spaces at each building. Service and access doors are hollow metal.

Fixed and operable, sliding, windows are located at the front and rear façades of the buildings on each floor.

CONDITION

The observed areas of the facades appear to be in good condition overall. The observed sealants appear to be in good condition.

Aside from normal wear, the observed doors appear to be in good condition.

The windows observed appeared to be weather tight and in good condition.

Exterior areas of the Subject Property buildings to which access was provided, and in which building elements were readily observable, were visually surveyed for the presence of Wood Destroying Organisms (WDO), termites or termite activity. No observations were conducted within concealed locations (construction elements behind exterior or interior wall finishes, and other building components, etc.). No disassembly of systems or building components or physical or invasive testing was performed. *EBI* renders no opinion as to the property condition at un-surveyed and/or inaccessible portions of the Subject Property. During the visual survey of the Subject Property, evidence of WDO and termite activity was not observed.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.4 ROOFING

DESCRIPTION

The Subject Property has a low-slope, fully-adhered, EPDM-membrane roof. The Subject Property also has a low-slope, built-up, roof. The roofs are flashed with metal flashing.

The built-up roof age is unknown. The EPDM roof is approximately 15 years old. The roofs pitch toward internal drains.

CONDITION

In estimating the condition and effective useful life of roofs, *EBI* has relied on general industry performance of similar type roofs and general observations of the surface covering to determine if replacement is warranted during the analysis term. Discussions with tenants regarding the roof's condition revealed no negative comments.

The built-up and EPDM-membrane roofs appear to be in good condition. Roofs of this type typically have an average, effective useful life of approximately 18 and 20 years respectively, depending on the property's location, material type and quality, quality of installation, roof maintenance and exposure,

amount of roof traffic, and regional climatic conditions. Based on its reported age, observed current condition, and average, effective useful life, the roofs are expected to reach their life expectancy during the analysis term. Replacement Reserves are recommended for replacement during the analysis term.

The slope and drainage design of the building roof appeared to be generally adequate with the exception of ponding noted at two locations. These areas of ponding are recommended to be modified to provide positive drainage when each building roof is replaced.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

- EPDM roof replacement
- Built-up roof replacement

3.5 BASEMENTS/ATTICS

DESCRIPTION

The Subject Property has a full, finished basement.

No accessible attic areas are present at the property.

CONDITION

There were no reported or observed problems with the Subject Property basements or attics. There were no reported or observed problems with the Subject Property attics.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 - Replacement Reserves for the recommended items listed below:

None

3.6 AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY

DESCRIPTION

The Americans with Disabilities Act (ADA), Title III, 28 Code of Federal Regulations (CFR) Part 36, enacted July 26, 1990 and effective January 26, 1992; and revised on September 15, 2010 to include the 2010 Standards for Accessible Design, which are published in the 2011 CFR, and which went into effect on March 15, 2012, governs public accommodation and commercial properties. Title III of the ADA divides facilities into two basic categories: places of public accommodation and commercial facilities, with different obligations for each facility type. The provisions of Title III provide that persons with disabilities should have accommodations and access to public facilities that are equal, or similar, to those available to the general public. Assessment of any other Titles, or their provisions of the ADA, including those that govern employer and/or tenant responsibilities, is specifically excluded from this Scope of Work and Report. Additionally, many jurisdictions have state or local accessibility codes or guidelines that may differ from the ADA and ADAAG. Analysis of these codes is beyond the Scope of Work for this Report. Since tenants and employers at properties are usually responsible for making their leased areas ADAAG-compliant, assessment for ADAAG compliance in these areas was not completed.

Regardless of a property's age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Facilities initially occupied after the effective date are required to fully comply with the ADAAG. Existing facilities constructed prior to this date are held to the lesser standard of compliance as Title III calls for owners of buildings occupied prior to the effective date to expend "reasonable" sums, and make "reasonable efforts", to make "practicable" or "readily achievable" modifications to remove barriers, unless said modification would create an undue financial burden on the property or is structurally infeasible. When renovating buildings occupied prior to the effective date, the area renovated, and the path of travel accessing the renovated area, must comply with the ADAAG. As an alternative, a reasonable accommodation pertaining to the deficiency must be made. The definitions of "reasonable", "reasonable efforts", "practicable", and "readily achievable", are site dependent and vary based on the owner's financial status.

Due to the unique nature of each property, the extent of analysis required, and the many variables of compliance with the ADAAG guidelines, the evaluation of costs for full ADAAG compliance is beyond the scope of this Report. A separate ADAAG Compliance Audit may be ordered and may reveal additional aspects of the property that are not in compliance.

For the purposes of this Report the survey is limited to visual observations of only a representative sample of areas readily observable or easily accessible, and to those areas set forth in EBI's Modified Accessibility Compliance Checklist and Costs included in Appendix C of this Report. The survey is limited to identifying potential routine maintenance or renovation actions that can increase accessibility over time and may or may not, achieve full ADAAG compliance. Places of public accommodation at the Subject Property were visually observed for general compliance with the major requirements of the ADA, taking into consideration the current use of the property, its age and renovation history. No actual measurements were taken to verify compliance.

If you have additional questions concerning the ADA and the ADAAG, calls can be made to the *United States Department of Justice (USDOJ) ADA Hotline* at (800) 514-0301 followed by touching "7" on the touch tone keypad. Additionally, information is available online at the *USDOJ ADA* website at http://www.usdoj.gov/crt/ada/adastd94.pdf or http://www.access-board.gov/adaag/html/adaag.htm.

CONDITION

Portions of the Subject Property fall into the public accommodation category.

A visual review of the property, in conformance with EBI's Modified Accessibility Compliance Checklist and Costs, concluded that the Subject Property is not in general conformance with the ADAAG. Modifications recommended to bring the Subject Property into ADAAG compliance are detailed in EBI's Modified Accessibility Compliance Checklist and Costs included in Appendix C of this Report. Immediate Repairs are recommended to complete these modifications.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

• Complete ADA compliance upgrades

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

3.7 INTERIOR FINISHES & COMPONENTS

DESCRIPTION

The interior areas into which entry was made possible by the site contact are finished with averagequality materials consistent with similar property use types. The finishes generally consist of the materials listed in the table below.

| | TYPICAL INTERIOR FINISHES | | | | | | | | | | | | |
|------------------|--|--------------------------------|--------------------------------------|--|--|--|--|--|--|--|--|--|--|
| AREA OR ROOM | FLOOR | CEILING | | | | | | | | | | | |
| Offices | Carpet, vinyl tile | Painted GWB | Suspended acoustic tile, painted GWB | | | | | | | | | | |
| Workshops | Vinyl tile | Painted GWB | Suspended acoustic tile, painted GWB | | | | | | | | | | |
| Restrooms | Ceramic tile | Ceramic tile | Suspended acoustic tile, painted GWB | | | | | | | | | | |
| Stairs | Vinyl floor tile, carpet, wood, metal | Painted GWB | Exposed stair structure | | | | | | | | | | |
| Mechanical Rooms | Exposed concrete | Painted GWB, exposed structure | Exposed structure | | | | | | | | | | |

There are no interior common areas at the Subject Property.

The building has multiple stairways throughout the building. Each is constructed with wood stringers wood, treads and risers and wood railings or metal stringers with metal railings. The treads and risers are carpeted, vinyl tread, painted wood, or metal and the walls have painted, gypsum wallboard finishes.

CONDITION

A representative sampling of the tenant spaces were surveyed and comments regarding their condition are listed below.

| TENANT UNITS OBSERVED | | | | | | | | | | | | |
|--------------------------|---|---------------------------|--|--|--|--|--|--|--|--|--|--|
| Address | TENANT NAME | COMMENTS | | | | | | | | | | |
| 264 Huntington Avenue | Boston University of Fire and Applied Arts | Occupied. Good condition. | | | | | | | | | | |
| Avenue | Huntington Theater Company | Occupied. Good condition. | | | | | | | | | | |

The tenant spaces are in good condition.

Discussions with the owner's representative indicate that, according to the tenants' lease terms, the tenants are responsible for interior repairs, refurbishment, and renovations. New tenant refurbishment is not calculated in this *Report* as reserves for this work are typically carried elsewhere during underwriting.

RECOMMENDATIONS

Please see *Table 1 – Immediate Repairs* for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

3.8 SUSPECT MOLD AND MOISTURE

Interior areas of the Subject Property buildings to which access was provided, and in which building elements were readily observable, were reviewed for the presence of moisture and visible or olfactory evidence of microbial development (suspect mold). No observations were conducted within concealed locations (construction elements behind wall and ceiling finishes, and other building components, etc.). No sampling or testing was performed to confirm the presence of invisible airborne microbial elements. In addition to *EBI*'s observation efforts, property personnel did not indicate the presence of moisture or suspect mold during the survey, or in *EBI*'s Pre-Survey Questionnaire.

Representative Subject Property observations and interviews revealed no obvious visual or olfactory indications of the presence of active moisture or suspect mold. No recommendations concerning moisture or suspect mold are made at this time.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

4.0 BUILDING SYSTEMS

4. I BUILDING PLUMBING

DESCRIPTION

The observed supply piping is copper and the waste lines are reportedly PVC. The plumbing fixtures are vitreous china and cast iron with chrome fixtures.

Central, gas-fired, water heaters, 50 gallons in size, are located in the mechanical room and supply domestic hot water to the Subject Property.

Welded and threaded black iron pipe is used for gas piping throughout the Subject Property.

CONDITION

There were no reported or observed problems with the plumbing system components, operation, or capacities. Discussions with the owner's representative indicate that, according to the Subject Property lease terms, the tenants are responsible for interior plumbing repairs and replacement.

The water heater is approximately one year old, and based on its average, effective useful life and current condition, replacement of the water heaters is not anticipated during the analysis term.

The bathroom finishes and fixtures observed appeared to be in good condition and in working order.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

4.2 HVAC

DESCRIPTION

The Subject Property is heated and cooled by the following approximate count and size of units:

| | SUBJECT PROPERTY HVAC UNITS | | | | | | | | | | | | |
|--------------------|-----------------------------|----------------------------------|-----------------|----------------|-------------------|--|--|--|--|--|--|--|--|
| LOCATION | No. of Units | MANUFACTURER | APPROX. TONNAGE | APPROX. AGE | TYPE AND COMMENTS | | | | | | | | |
| C: do Do of (EDDM) | | Trane | 15 | Unknown | Rooftop unit | | | | | | | | |
| Side Roof (EPDM) | | Marley | Unknown | 2 | Cooling Tower | | | | | | | | |
| Mechanical Room | I | Weil-McLain | Unknown | 10 | Gas boiler | | | | | | | | |
| Mechanical Room | I | American Air Conditioning Co. | Unknown | Unknown | Air handler | | | | | | | | |

CONDITION

There were no reported or observed problems with the HVAC system sizes or operation. The observed mechanical equipment appears to be in good condition, appears to be well maintained.

The heating and cooling components are 2 to 10 years old. The average effective useful life of HVAC units of this size and type is 14 to 30 years, depending upon their location, maintenance and use type. Based on their average effective useful life, current condition and reported maintenance program, partial replacement of the HVAC rooftop units can be anticipated during the analysis term. Replacement Reserves are recommended accordingly.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• HVAC unit replacement

4.3 BUILDING ELECTRICAL

DESCRIPTION

The main distribution panel (MDP) is rated as a 1,800-Amp, three-phase, four-wire, 120/208-Volt main, feeding the feeding circuit breaker panels for each tenant space. The MDP is located in an electric room in the center of the building.

The Subject Property reportedly has copper wiring and standard electrical devices, switches, and fixtures consistent with the Subject Property use type. GFCI fixtures were observed in the kitchens and bathrooms during the survey.

CONDITION

There were no reported or observed problems with the electrical system sizes or capacities.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

4.4 BUILDING & SITE FIRE & LIFE SAFETY

DESCRIPTION

Observed fire and life safety systems serving the buildings include a multiple-zone, fire alarm control panel, an auto-dialer reportedly tying the system to the fire department, smoke and heat detectors, pull stations, illuminated exit lights with battery-backup, emergency battery lighting units, horn/light annunciators, fire extinguishers, building fire hoses, and a partial-coverage, wet-dry-pipe, sprinkler system with check valves and tamper and flow switches.

CONDITION

There were no reported or observed problems with the life safety system sizes or configuration. The fire alarm control panels, alarm system, and sprinkler system, are reportedly tested annually, were last tested on September 12, 2016, and appear to be in good condition. The water for the sprinkler system is currently tied into the adjacent building water supply, but is planned to be separated within the next few months.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

• None

4.5 ELEVATORS

DESCRIPTION

The Subject Property has one, 2,000-pound capacity, overhead-traction elevator. The elevator cab is finished with rubber flooring and wood walls. The elevator is only operated by the Subject Property tenant.

CONDITION

The elevator was reported, and appears, to be in good condition. The elevator is covered under an annual maintenance and service agreement that includes monthly inspections, repairs, and limited parts replacement. The current inspection certificate was not posted but is stored offsite.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

Please see Table 2 – Replacement Reserves for the recommended items listed below:

None

5.0 MATERIAL CODE VIOLATIONS

5.1 BUILDING DEPARTMENT

DESCRIPTION

The City of Boston Inspectional Services Department was consulted for open material violations, and to obtain, "readily available", "reasonably ascertainable", or "publicly viewable" documents regarding the Subject Property.

CONCLUSION

The department interviews and/or file reviews do not show open material violations on the Subject Property.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

5.2 FIRE DEPARTMENT

DESCRIPTION

The local fire department was consulted for open material violations.

CONCLUSION

The fire department interviews and/or file reviews do not show open material violations on the Subject Property.

RECOMMENDATIONS

Please see Table 1 – Immediate Repairs for the recommended items listed below:

None

6.0 REFERENCES

6. I REFERENCES CONTACTED

DESCRIPTION

A number of sources were contacted during the preparation of this Report.

The site contact or Key Site Manager was contacted to be interviewed to obtain information regarding conditions at the property. Additionally, a Pre-Survey Questionnaire was forwarded to the designated Subject Property contact. The Pre-Survey Questionnaire has been completed and returned to our offices. The information requested in the Pre-Survey Questionnaire is intended to assist in gathering information that may be material to identifying recognized environmental conditions in connection with the Subject Property. The Pre-Survey Questionnaire and any accompanying documentation is presented in Appendix C.

| KEY SITE MANAGER INTERVIEW | | | | | | | | | | | |
|--|-----------------------|--|----------------|--|--|--|--|--|--|--|--|
| CONTACT / AFFILIATION | DATE OF COMMUNICATION | YEARS ASSOCIATED WITH SUBJECT PROPERTY | TELEPHONE No. | | | | | | | | |
| Mr. Dan Ramirez, Technical Director Huntington Theater Company | 05/05/2017 | 15 | (617) 273-1583 | | | | | | | | |

The following individuals at state, county, or local municipal departments were consulted. Documentation applicable to the Subject Property in those departments was requested and reviewed when and where available and/or reasonably ascertainable.

| ADDITIONAL INTERVIEWS | | | | | | | | | | | |
|-------------------------------------|---------------|----------|----------------------|--|--|--|--|--|--|--|--|
| CONTACT / AFFILIATION | DATE OF | YEARS W/ | TELEPHONE No. AND/OR | | | | | | | | |
| CONTACT / AFFILIATION | COMMUNICATION | PROPERTY | EMAIL ADDRESS | | | | | | | | |
| Mr. Tony Remendez, Facility Manager | 05/05/2017 | 21 | Not provided | | | | | | | | |
| Boston University | | | · | | | | | | | | |

7.0 IMMEDIATE REPAIRS AND REPLACEMENT RESERVES

The cost estimates shown on the tables are based on data obtained from the Owner for items already planned, quotes from contractors, EBI's in-house estimating database and EBI's experience with costs and estimates for similar issues, property and building types, city cost indexes, and assumptions regarding future economic conditions. These projected costs are augmented by cost estimate resource documents such as the National Construction Estimator, R. S. Means Building Construction Cost Data, or R. S. Means Facilities Maintenance and Repair Cost Data, and Marshall Valuation Service publications.

7.1 TABLE I - IMMEDIATE REPAIRS

Each of the Immediate Repair items noted during the survey is listed in Table 1 – Immediate Repairs, and is compiled on the Executive Summary – Immediate Repairs and Replacement Reserves table. Items are grouped and cross-referenced by Report section. Immediate Repairs as may be identified during the survey are typically limited to life, safety, health, building code violation, or building / property stabilization issues observed at a Subject Property, and are typically expected to be addressed within one year.

7.2 TABLE 2 - REPLACEMENT RESERVES

Each of the Replacement Reserve items noted during the survey is listed in *Table 2 – Replacement Reserves*, and compiled on the *Executive Summary – Immediate Repairs and Replacement Reserves* table. Items are grouped and cross-referenced by *Report* section. Routine operational or customary annual maintenance items are not reported or included in this *Report*.

TABLE I - IMMEDIATE REPAIRS

The Huntington- 264 Huntington Avenue Site Survey Date: 5/5/2017 **Building Area:** 26,688 264 Huntington Avenue Report Date: 5/18/2017 **Number of Units:** 2 **Boston Property Type:** Office Property Age: 92 1117002485 EBI Project # Number of Buildings: Loan Term: 10

| | | | | Number of | Floors: | 2 | Analysis Term: 12 |
|----------------|----------------|----------------------------------|----------|-----------|------------------|---------------------------------------|--|
| SECTION NUMBER | SECTION NAME | RECOMMENDED WORK | QUANTITY | UNIT COST | UNIT DESCRIPTION | ESTIMATED IMMEDIATE REPAIR COST | COMMENTS OR ADDITIONAL DESCRIPTION |
| SITE | CONDITIONS | | | | | | |
| 2.1 | Торо. | None | | | | | |
| 2.2 | Pvm't/Pkg | None | | | | | |
| 2.3 | Amenities | None | | | | | |
| 2.4 | Utilities | None | | | | | |
| BUIL | DING CONDITI | ONS | | | | | |
| 3.1 | Substruct. | None | | | | | |
| 3.2 | Superstruct. | None | | | | | |
| 3.3 | Facades | None | | | | | |
| 3.4 | Roof | None | | | | | |
| 3.5 | Bsmt/Attic | None | | | | | |
| 3.6 | ADA | Complete ADA compliance upgrades | 1 | \$0 | action item | \$0 | Complete ADA compliance upgrades as detailed in the Modified Accessibility Compliance Checklist as part of routine maintenance operations. |
| INTE | RIOR FINISHES | & COMPONENTS | | | | | , |
| 3.7 | Interior F & C | None | | | | | |
| 3.8 | Mold | None | | | | | |
| BUIL | DING SYSTEMS | | | | | | |
| 4.1 | Plumbing | None | | | | | |
| 4.2 | HVAC | None | | | | | |
| 4.3 | Electric | None | | | | | |
| 4.4 | F/L Safety | None | | | | | |
| 4.5 | Elevators | None | | | | | |
| MAT | ERIAL CODE VI | OLATIONS | | | | | |
| 5.0 | Codes | None | | | | | |
| | SUBTOTAL | | | | | \$0 | |
| | 1.25 MULTIPLIE | ER . | | | | \$0 | |
| | TOTAL WITH | MULTIPLIER | | | | \$0 | |



EBI Consulting Table 1

TABLE 2 - REPLACEMENT RESERVES

The Huntington- 264 Huntington Avenue Site Survey Date: 5/5/2017 Building Area: 26,688 **264 Huntington Avenue** Report Date: 5/18/2017 Number of Units: 2 Property Type: Office Property Age: 92 **B**oston MA Number of Buildings: EBI Project # 1117002485 10 Loan Term: Number of Flo

| | | | Nu | ımber | of Floors: | 2 | Anal | ysis Term: | 12 | | | | | | | | | | | | | |
|--------------------|--------------------------------|-----------------------------|---------------|--------------------|-----------------------------|---------------------------------|-----------|--------------------|----------------------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------------------|
| | | ΕL | | | | | | | Annual Costs | | | | | | | | | | | | | |
| | | USEFUL | | 当 | ER | E | | | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | ¥ |
| SECTION NUMBER | RECOMMENDED WORK | AVERAGE EFFECTIVE I LIFE | EFFECTIVE AGE | REMAINING USEFUL L | TOTAL QUANTITY OVER TERM | APROXIMATE QUANTITY PER YEAR | UNIT COST | UNIT DESCRIPTION | ESTIMATED COST PER YEAR | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 | YEAR 11 | YEAR 12 | RECOMMENDED TOTAL OVER THE TERM |
| SITE CONDITIONS | | | | | | | | | | | | | | | | | | | | | | |
| 2.1 Topo. | None | | | | | | | | | | | | | | | | | | | | | |
| 2.2 Pvm't/Pkg | None | | | | | | | | | | | | | | | | | | | | | |
| 2.3 Amenities | None | | | | | | | | | | | | | | | | | | | | | |
| 2.4 Utilities | None | | | | | | | | | | | | | | | | | | | | | |
| BUILDING CONDIT | | | | | - | | | | I. | | | | | 1 | 1 | | | ı | | | | |
| 3.1 Substr. | None | | | | | | | | | | | | | | | | | | | | | |
| 3.2 Superstr. | None | | | | | | | | | | | | | | | | | | | | | |
| 3.3 Facades | None | | | | | | | | | | | | | | | | | | | | | |
| 3.4 Roof | EPDM roof replacement | 20 | 15 | 5 | 6,300 | 6,300 | \$4.00 | per square foot | \$25,200 | | | | | 25,200 | | | | | | | | \$25,200 |
| 3.4 Roof | Built up roof replacement | 18 | 16 | 2 | 10,925 | 10,925 | \$2.25 | per square foot | \$24,581 | | 24,581 | | | | | | | | | | | \$24,581 |
| 3.5 Bsmt/Attic | None | | | | | | | | | | | | | | | | | | | | | |
| 3.6 ADA | None | | | | | | | | | | | | | | | | | | | | | |
| INTERIOR FINISHES | & COMPONENTS | | | | | | | | | | | | | | | | | | | | | |
| 3.7 Interior F & C | None | | | | | | | | | | | | | | | | | | | | | |
| 3.8 Mold | None | | | | | | | | | | | | | | | | | | | | | |
| BUILDING SYSTEM | s | | | | | | | | | | | | | | | | | | | | | |
| 4.1 Plumbing | None | | | | | | | | | | | | | | | | | | | | | |
| 4.2 HVAC | HVAC unit replacement, per ton | 18 | 14 | 4 | 15 | 15 | \$1,100 | per ton | \$16,500 | | | | 16,500 | | | | | | | | | \$16,500 |
| 4.3 Electric | None | | | | | | | | | | | | | | | | | | | | | |
| 4.4 F/L Safety | None | | | | | | | | | | | | | | | | | | | | | |
| 4.5 Elevators | None | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | ANNUAL RE | COMMEND | ATIONS, UN | IINFLATED | | 24,581 | | 16,500 | 25,200 | | | | | | | | \$66,281 |
| | | | | | | INFLATION | N FACTOR, | IN PERCEN | TAGE 1.025 | 100.00% | 102.50% | 105.06% | 107.69% | 110.38% | 113.14% | 115.97% | 118.87% | 121.84% | 124.89% | 128.01% | 131.21% | |
| | | | ANNU | JAL RE | COMMEND | ATIONS, INF | | | | | 25,196 | | 17,769 | | | | | | | | | \$70,781 |
| Notes: | | | | | | • | | | | PRESENT VALUE OF RECOMMENDED TOTAL ANNUAL RESERVES PER SF PER YEAR | | | | | | \$0.21 | | | | | | |
| l. | | | | | | | | | | | | | | | | | | | | | | \$0.22 |
| 16 | | | | | | | | | | INFLATED VALUE OF RECOMMENDED TOTAL ANNUAL RESERVES PER SF PER YEAR | | | | | | | | | | | | |



EBI Consulting Table 2

APPENDIX A PHOTOGRAPHS



I. Street view of Subject Property.



2. Street façade of Subject Property



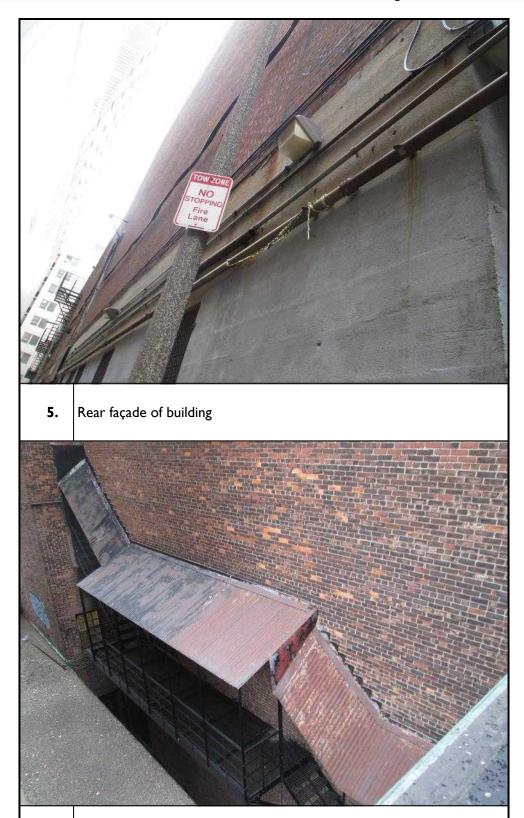
3. South façade of building



4. South façade of building

6.

Exterior fire escape stairways





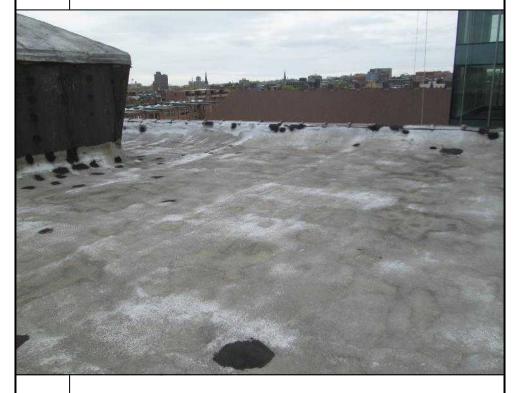
7. Exterior ADA ramp



8. Exterior concrete stairs



9. Main theater roof – built-up roof



10. Main theater roof – built-up roof



II. Main theater roof – built-up roof



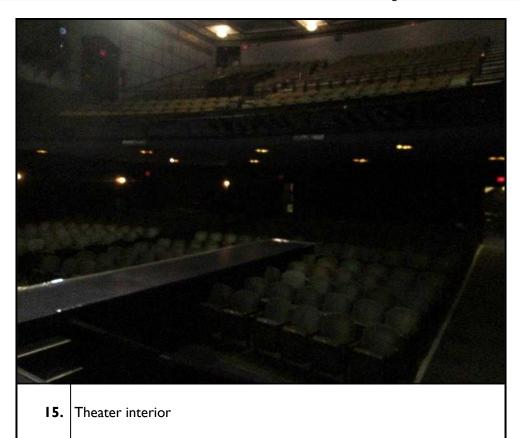
12. Side EPDM roof

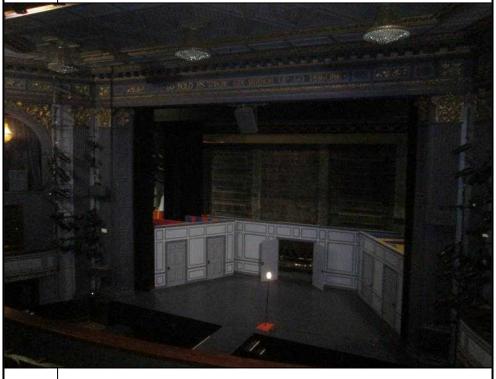


13. Rooftop chiller



14. Rooftop HVAC unit





16. Theater interior



17. Interior stairwell



18. Workshop area



19. Public bathroom finishes and fixtures



20. Public bathroom finishes and fixtures



21. Hallway interior



22. Theater interior



23. Fire alarm control panel



24. Fire alarm annunciator panel



25. Elevator interior



26. Elevator equipment



27. Sprinkler riser



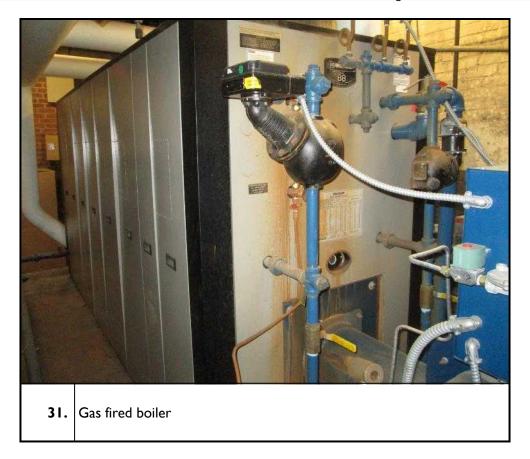
28. Electric water heater



29. Main electrical distribution panel and meter

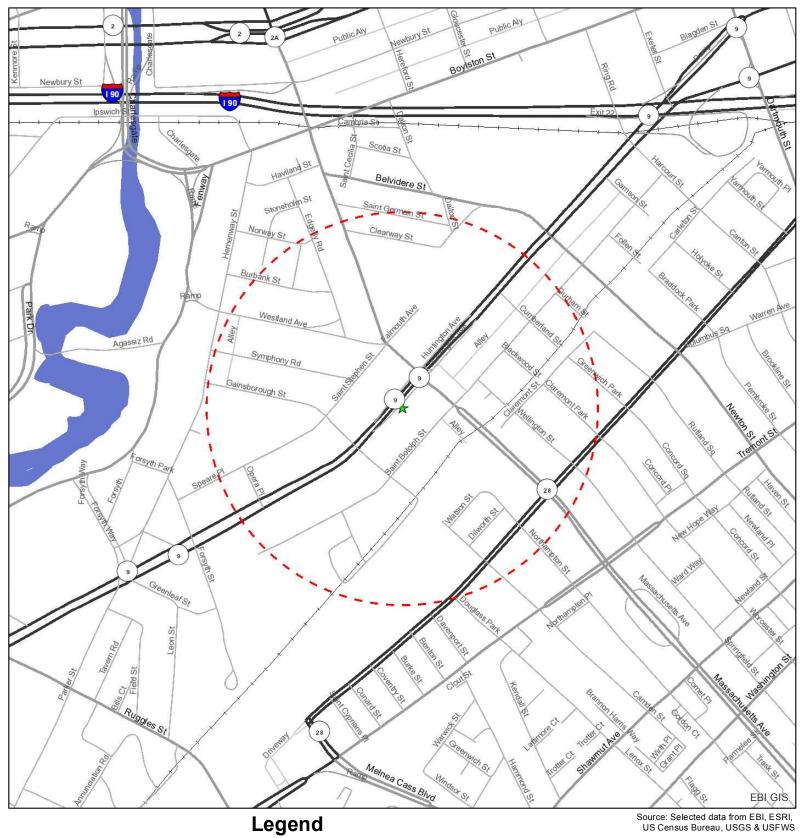


30. Air handler unit



APPENDIX B FIGURES, DRAWINGS AND PLANS

EBI Consulting 39



Project Site

Site Radius at ¼ and ½ mile

Date: 5/2/2017

Figure 1: Site Location Map

THE HUNTINGTON - 264 HUNTINGTON AVENUE 264 HUNTINGTON AVENUE BOSTON, MA 02115



FloodInsights



FloodInsights Report For:

Latitude: 42.341746 Longitude: -71.085489Original Input Address: Latitude: 42.341746 Longitude: -71.085489

Flood Zone Determinations (Non-Guaranteed)

SFHA Within 250 feet of multiple flood zones?

Out No

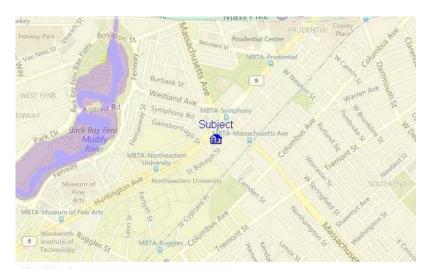
Map Number 25025C0079J

Community Community_Name Zone Panel Panel_Dte COBRA

250286 BOSTON, CITY OF X 0079J March 16, 2016 COBRA_OUT

FIPS CensusTract

25025 0104.05



FloodMap Legend



APPENDIX C OTHER RELEVANT DOCUMENTS

EBI Consulting 41

MODIFIED ACCESSIBILITY COMPLIANCE CHECKLIST AND COSTS

MA

The Huntington- 264 Huntington Avenue

264 Huntington Avenue

Boston

EBI Project #1117002485

| | Compliance Checklist | | | | Recommended Actions and Estin | Recommended Actions and Estimated Costs | | | | | | | | |
|----|---|-----|----------|-------------------|-------------------------------|---|------------|-------|------------|--|--|--|--|--|
| | Building History | Yes | No | Not Applicable | Comments/Disposition | | | | | | | | | |
| 1 | Has the management previously completed an ADA compliance review? | | <u> </u> | Аррисавіе | None reported | | | | | | | | | |
| 2 | Have any ADA improvements been made to the property? | | ~ | | None reported | | | | | | | | | |
| 3 | Does a Barrier Removal Plan exist for the property? | | ¥ | | None reported | | | | | | | | | |
| 4 | Has the Barrier Removal Plan been reviewed/approved by an arms- length third party such as an engineering firm, architectural firm, building department, other agencies, etc.? Has building ownership or management received any ADA-related | | | • | | | | | | | | | | |
| 5 | complaints that have not been resolved? | | ~ | | None reported | | | | | | | | | |
| 6 | Is any litigation pending related to ADA issues? | | ~ | | None reported | | | | | | | | | |
| | Parking | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | | | |
| 1 | Does there appear to be sufficient handicapped-accessible parking spaces with respect to the total number of reported spaces? | | | ~ | | | | | | | | | | |
| 2 | Does there appear to be sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)? | | | ~ | | | | | | | | | | |
| 3 | Do the accessible spaces appear to be marked with the International Symbol of Accessibility on the paving? | | | ~ | | | | | | | | | | |
| 4 | Do the accessible spaces appear to be marked with the International Symbol of Accessibility on a vertically-mounted sign? | | | ~ | | | | | | | | | | |
| 5 | Do the van-accessible spaces appear to be marked with a sign reading "Van-Accessible"? | | | ~ | | | | | | | | | | |
| 6 | Does there appear to be at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks? | | | • | | | | | | | | | | |
| 7 | Do curbs on the accessible routeappear to have depressed, ramped curb cuts at drives, paths, and drop-offs? | | | ~ | | | | | | | | | | |
| 8 | Does signage appear to exist directing you to accessible parking and an accessible building entrance? | | | ~ | | | | | | | | | | |
| | Ramps | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | | | |
| -1 | If there is a ramp from parking to an accessible building entrance, does it appear to meet slope requirements? (1:12) | • | | | | | | | | | | | | |
| 2 | Are ramps that appear longer than six feet (6'-0") complete with railings on both sides? | • | | | | | | | | | | | | |
| 3 | Does the width between railings appear to be at least 36 inches? | ~ | | | | | | | | | | | | |
| 4 | Is there a level landing for every 30 feet of apparent horizontal length of ramp, at the top, and at the bottom, of ramps and switchbacks? | • | | | | | | | | | | | | |
| | Entrances and Exits | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost | | | | | |
| 1 | Does the main accessible entrance doorway appear to be at least 32 inches wide? | • | | | | | | | | | | | | |
| 2 | If the main entrance does not appear to be accessible, are there alternate entrances that appear to be accessible? | | | ~ | | | | | | | | | | |
| 3 | Does the alternate accessible entrance appear to be able to be used independently? | | | ~ | | | | | | | | | | |
| 4 | is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)? | • | | | | | | | | | | | | |
| 5 | Do main entry doors, other than revolving doors, appear to be available? | ~ | | | | | | | | | | | | |
| 6 | If there are two main doors in series, does the minimum space between the doors appear to be 48 inches plus the width of any door swinging into the space? | • | | | | | | | | | | | | |



The Huntington- 264 Huntington Avenue 264 Huntington Avenue

Boston EBI Project #1117002485

MA

| Compliance Checklist Recommended Actions and Estimated Costs | | | | | | | | | |
|--|--|-------------|----|-------------------|--|----------|------------|----------|------------|
| | Paths of Travel | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| 1 | Does the main path of travel appear to be free of obstruction and appear to be wide enough for a wheelchair (at least 36 inches wide)? | > | | | | | | | |
| 2 | Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that appear to protrude MORE than four inches into walkways or corridors? | | v | | | | | | |
| 3 | walkways or corridors? Do floor surfaces appear to be firm, stable, and slip resistant (carpets wheelchair friendly)? | y | | | | | | | |
| 4 | Does it appear that at least one wheelchair-accessible public telephone is available? (only required if public phones are provided for the | > | | | | | | | |
| 5 | general public) Does it appear that wheelchair-accessible facilities (toilet rooms, exits, | • | | | | | | | |
| 6 | etc.) are properly identified with signage? Is there an apparent path of travel that does not require the use of | • | | | | | | | |
| 7 | stairs? If audible fire alarms are present, does it appear that visual alarms (strobe light alarms) also installed in all common areas? | > | | | | | | | |
| | [[strobe light alarms] also installed in all common areas: | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| ı | Do the call buttons appear to have visual signals to indicate when a call is registered and answered? | | | ✓ | | | | | |
| 2 | Does the "UP" button appear to be above the "DOWN" button? | | | ~ | | | | | |
| 3 | Does there appear to be visual and audible signals inside cars indicating floor change? | | | ~ | | | | | |
| 4 | Does there appear to be standard raised and Braille marking on both jambs of each hoist way entrance? | | | ~ | | | | | |
| 5 | Do elevator doors appear to have a reopening device that will stop and reopen a car door if an object or a person obstructs the door? | | | ~ | | | | | |
| 6 | Do elevator lobbies appear to have visual and audible indicators of car arrival? | | | ~ | | | | | |
| 7 | Does the elevator interior appear to provide sufficient wheelchair turning area (51" x 68")? | | | ~ | | | | | |
| 8 | Do elevator controls appear to be low enough to be reached from a wheelchair (48 inches front/side approach)? | | | ~ | | | | | |
| 9 | Do elevator control buttons appear to be designated by both Braille and by raised standard alphabet characters (mounted to the left of the button)? | | | ~ | | | | | |
| 10 | If a two-way emergency communication system is provided within the elevator cab, does it appear to be usable without voice communication? | | | • | | | | | |
| | Restrooms | Yes | No | Not Applicable | Comments/Disposition | Quantity | Unit Price | Units | Total Cost |
| ı | Do common area public restrooms appear to be located on an accessible route? | > | | | | | | | |
| 2 | Do pull handles appear to be push/pull or lever type? | > | | | | | | | |
| 3 | Does there appear to be audible and visual fire alarm devices in the toilet rooms? | > | | | | | | | |
| 4 | Do corridor access doors appear to be wheelchair-accessible (at least 32 inches wide)? | > | | | | | | | |
| 5 | Do public restrooms appear large enough to accommodate a wheelchair turnaround (60" turning diameter)? | > | | | | | | | |
| 6 | In unisex toilet rooms, does there appear to be safety alarms with pull cords? | > | | | | | | | |
| 7 | Do the stall doors appear to be wheelchair accessible (at least 32" wide)? | > | | | | | | | |
| 8 | Do grab bars appear to be provided in toilet stalls? | > | | | | | | | |
| 9 | Do the sinks appear to be provided with clearance for a wheelchair to roll under (29" clearance)? | > | | | | | | | |
| 10 | Do sink handles appear to be operable with one hand without grasping, pinching or twisting? | > | | | | | | | |
| П | Do exposed pipes under sink appear to be sufficiently insulated against contact? | | ~ | | Provide pipes beneath sinks with insulation. | 2 | \$50 | per sink | \$100 |
| 12 | Do soap dispensers, towel dispensers and other accessories appear to be reachable (48 inches front/side approach)? | > | | | | | | | |



The Huntington- 264 Huntington Avenue 264 Huntington Avenue Boston EBI Project #1117002485

MA

| | Compliance Checklist | | | | Recommended Actions and Estir | Recommended Actions and Estimated Costs | | | | | | |
|----|---|--|--|--|---------------------------------------|---|---------------|--------------|-------|--|--|--|
| 13 | Does the base of one mirror appear to be mounted no more than 40° from the floor? | | | | | | | | | | | |
| | | | | | Total Estimated Cost of Handicapped-A | Accessibility Co | mpliance Reco | mmendations: | \$100 | | | |

| | ADA PARKING COUNT REQUIREMENTS | | | | | | | | | | | | | |
|---|--------------------------------|-------|-------|--------|---------|---------|---------|---------|---------|--|--|--|--|--|
| Total Number of Spaces Provided on Property | 1-25 | 26-50 | 51-75 | 76-100 | 101-150 | 151-200 | 201-300 | 301-400 | 401-500 | 501-1,000 | ≥ 1,001 | | | |
| Minimum Number of Standard Handicapped-Accessible Spaces Required | ı | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Two percent (2%) of total space count | Twenty (20) spaces, plus one additional space for every 100 spaces > 1,000 | | | |
| Minimum Number of Accessible Spaces Designated as Van-Accessible | 1 | ı | - 1 | ı | - 1 | ı | 2 | 2 | 2 | One of every six (1:6) accessible spaces | One of every six (1:6) accessible space | | | |
| Total Accessible Parking Spaces Required on Property | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Two percent (2%) of total space count | Twenty (20) spaces, plus one additional space for every 100 spaces > 1,000 | | | |





Please fill out and sign this questionnaire to the best of your knowledge for the Engineer's site visit. Email to at or fax to, for our report files, and keep the original to provide to the Engineer.

| Sub | ject Property Name: | | | | _EBI Project #: | 1117002285 |
|-----------------|---|---|--|----------------------------------|---|--|
| | iress: 264 Huntings | on Ave | Rodon, MA | | | |
| | ject Property Owner: | | | | Purchase Da | te: 2016 |
| | Site Property Contact | | | Telephone: | | |
| Fax | | | | Email: | / | |
| - | DAN IZAHIREZ | TECHA | WAL DIRECTOR | Da | 1/4/4/ | 5/5/201 |
| You | r Name and title | | HON WELLE CO | | | Date |
| respo and fu | ional plans and documentation (see nd "N/A." Attach additional pages i ill completion is critical to a timely o CAL JURISDICTIONAL INF | necessary. This ompletion of our ORMATION | questionnaire and your res r reports, and timely loan ck I | ponses will be include osing. | the survey. For question d as an exhibit in the Engi | ns not applicable please ineer's report. Accurate |
| 1. | What is the property ID # | | | | | |
| 2. | What is the legal Municipa | | | | ? | |
| 3. | What is the assessors file | D number an | d tax file ID number if | available? | | |
| PRO | PERTY INFORMATION | | | | | |
| 4. | What is the size of the sub | ject property | lot or lots, in acres? | | | |
| 5. | How many parking spaces | (and HCP par | rking spaces) are prese | ent at the propert | y? NA | |
| 6. | How many buildings comp | rise the subje | ct property? | | | |
| | a. If the property is a m | all or large re | etail center, please con | firm and list own | ership of each buildir | ng. |
| 7. | What is the gross and net | rentable squa | are footage of the build | ling(s)? | | |
| 8. | What is the date of constr | uction of the | building(s)? When wa | s the building(s), | irst occupied? 1925 | |
| 9. | How many tenant spaces of | or apartments | are at the Subject Pro | perty? RU ! | Huntyton Their | er company |
| | a. If the property is apa | rtments, plea | se provide a unit and t | type count by bed | room and square fee | et. |
| 10. | Please list, to the best outilities. | | | | | |
| 11. | Please list, to the best of or electrical deficiencies o | | dge, any structural, wa | ter infiltration, m | old, roof, plumbing, | HVAC, Fire Alarm |
| 12. | During the last five years explain, with the approxim | have any mate cost. | ajor capital improvem | ents been made | to the site or buildi | ng(s)? If so, please |

13.

| Does the property have | YorN | Does the property have | YorN |
|--|------|---|------|
| Polybutylene piping | N | Compressed wood or composite board siding | N |
| Galvanized steel water lines | N | EIFS exterior finishes | N |
| ABS sanitary lines | N | Fire Retardant Treated plywood | AJ |
| Aluminum branch wiring | N | Cadet/Encore electric heaters installed 1982-99 | N |
| Omega (Central or CSC) brand sprinkler heads | لو | GE or Hotpoint dishwashers installed 1983-89 | P |

| 14. | Please list any deficiencies noted during any Building, Fire | or Health Department inspections in the last three years |
|-----|--|--|
| 15. | When were the fire alarm systems and/or sprinkler syste | m (if any) last tested? |
| 16. | Please list the following utility providers: | Electricity: |
| | Water: | Storm Drainage: |
| | Sanitary Sewer: | Natural Gas or Oil: |
| | Trash Hauler: and | Frequency of Pick-ups: |
| 17. | of \$2,000 please explain, with the approximate cost. | nent work to the property that will exceed an aggregate cost |
| 18. | Please list the responsible party for tenant improvements | and maintenance of major systems (if applicable). |

- 18. Please attach a brief history of the property. This information helps us properly assess, evaluate and understand your property, and will assist in the financial analysis. The information should include:
 - The date of approvals and construction, the contractor who built the property
 - History of major capital improvements, repairs, additions or modifications
- · History of fires or violations
- · A list of any ongoing maintenance issues
- · Tenant history, approximate turnover rate

DOCUMENT AND INFORMATION CHECKLIST

Please provide the following information (as much as possible in electronic format) so the Engineer or Scientist can proceed with the survey of the property. Asterisk (*) items are critical to report completion. The documents will become exhibits in the Consultant's report.

| A. Plans | B. Municipal Documents | C. Additional Information |
|---|--|--|
| ALTA Survey or Site Plan* Architectural Building Plans* - plans, elevations, wall section, foundation, HVAC & elec. schedules Reduced scale Site and Building Plans Extremely critical for properties in Seismically active zones 3 and 4* STRUCTURAL PLANS - Seismic Assessments are required for these properties. Structural drawings must be provided at the time of the site visit. If no drawings are provided, the report will be delayed and the Seismic Assessment may be overly conservative. | Certificate of Occupancy* Building Permit* Façade inspection compliance* Copy of tax cards Copy of violations B.I NYC Projects Department of Building Violations* Environmental Control Board Violations* Local Law 11 Facade Reports* | Capital expense report for I to 3 years* Tenant Rent Roll* Roof warranty History of recent improvements Schedule of Floor Area Measurements Gross and Rentable Square Feet Previous Due Diligence or Building Component Reports, including, but no limited to, façade*, roof*, mechanical*, electrical, elevator, sprinkler, fire alarm or life safety equipment, or pavement. Copy of most Recent Appraisal |

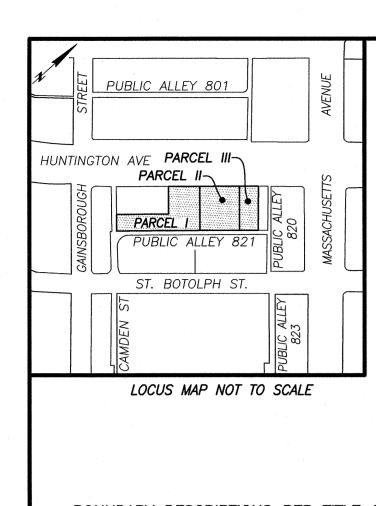
EBI ACCESS REQUIREMENTS

At the time of the site visit the Consultant is required to gain access to all areas of the property. This includes:

- All building roofs, unless pitched asphalt shingles. This may require you to obtain and provide a ladder.
- All building perimeters

spaces, manufacturing or assembly areas, or apartments, community rooms, exercise rooms, pool areas, storage rooms, attics and basements, garages.

All mechanical, electric, sprinkler, HVAC, utility, service, elevator, storage and equipment rooms



LIST OF VISIBLE ENCROACHMENTS

HUNTINGTON AVENUE

/1\ CONC. WALL CROSSES INTO EASEMENT FOR HIGHWAY PURPOSES.

PUBLIC ALLEY No.821

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY.

BUILDING CROSSES BOUNDARY. CONDUIT CROSSES BOUNDARY. BUILDING CROSSES BOUNDARY.

BUILDING CROSSES BOUNDARY. VENT CROSS BOUNDARY.

10' WIDE ALLEY

/9\ FIRE ESCAPE CROSSES BOUNDARY 8' WIDE ALLEY

FIRE ESCAPE CROSSES BOUNDARY FIRE ESCAPE CROSSES BOUNDARY

BOUNDARY DESCRIPTIONS PER TITLE COMMITMENT FILE No. 53157. ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY. HAVING AN EFFECTIVE DATE OF JANUARY 4. 2016.

PARCEL 1:

THE LAND IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, WITH THE BUILDINGS THEREON SHOWN AS LOTS A AND B ON A PLAN ENTITLED "PLAN OF LAND IN BOSTON, MASS." DATED JULY 20, 1922, BY ASPINWALL AND LINCOLN, CIVIL ENGINEERS, RECORDED WITH SUFFOLK DEEDS, BOOK 4384, PAGE 151, TOGETHER BEING BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHWESTERLY BY HUNTINGTON AVENUE. ONE HUNDRED (100) FEET: BY LAND NOW OR FORMERLY OF THE HUNTINGTON INVESTING CO., BEING NORTHEASTERLY

MARKED "BACK BAY POST OFFICE" ON SAID PLAN, ONE HUNDRED TWENTY

BY A PASSAGEWAY MARKED "PUBLIC ALLEY NO. 821" ON SAID PLAN. TWO SOUTHEASTERLY

HUNDRED TWENTY-SIX AND 86/100 (226.86) FEET; BY A TEN (10) FOOT PASSAGEWAY MARKED "PASSAGEWAY" ON SAID PLAN. SOUTHWESTERLY FORTY (40) FEET;

NORTHWESTERLY AGAIN BY A PASSAGEWAY EIGHT (8) FEET WIDE AS SHOWN ON SAID PLAN, ONE HUNDRED TWENTY-SIX AND 86/100 (126.86) FEET; AGAIN IN PART BY SAID EIGHT (8) FOOT PASSAGEWAY AND IN PART BY SOUTHWESTERLY

LAND NOW OR FORMERLY OF SARAH E. HODSON MARKED "9133 9/10 SQ. FT." ON SAID PLAN, EIGHTY (80) FEET.

CONTAINING 17,074.4 SQUARE FEET OF LAND, MORE OR LESS.

THE PREMISES ARE CONVEYED TOGETHER WITH ALL RIGHT, TITLE AND INTEREST OF THE GRANTOR IN AND TO SAID PASSAGEWAYS, AND SUBJECT TO RIGHTS OF OTHERS THEREIN AND TO RESTRICTIONS OF RECORD SO FAR AS NOW IN FORCE AND APPLICABLE.

PARCEL II:

A CERTAIN PARCEL OF LAND WITH THE BUILDINGS THEREON SITUATED AND NOW NUMBERED 256-258 INCLUSIVE ON HUNTINGTON AVENUE IN BOSTON, SUFFOLK COUNTY, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERLY CORNER OF SAID PARCEL AT THE SOUTHEASTERLY LINE OF HUNTINGTON AVENUE AT A POINT DISTANT ONE HUNDRED EIGHTY—THREE AND 71/100 FEET SOUTHWESTERLY FROM THE SOUTHERLY CORNER OF HUNTINGTON AVENUE AND MASSACHUSETTS

THENCE RUNNING SOUTHEASTERLY AT RIGHT ANGLES TO SAID SOUTHEASTERLY LINE OF HUNTINGTON AVENUE ONE HUNDRED TWENTY FEET TO A PASSAGEWAY SIXTEEN FEET WIDE WHICH RUNS PARALLEL TO SAID **HUNTINGTON AVENUE:**

TURNING AND RUNNING SOUTHWESTERLY BY SAID SIXTEEN-FOOT **THENCE** PASSAGEWAY NINETY-SIX AND 96/100 FEET:

TURNING AT RIGHT ANGLES AND RUNNING NORTHWESTERLY ONE HUNDRED THENCE TWENTY FEET TO SAID HUNTINGTON AVENUE, THIS LINE BEING PARALLEL WITH THE NORTHEASTERLY BOUNDARY LINE OF THE GRANTED PREMISES

AND NINETY-SIX AND 96/100 FEET DISTANT THEREFROM; TURNING AND RUNNING NORTHEASTERLY BY THE SOUTHEASTERLY LINE OF SAID HUNTINGTON AVENUE NINETY-SIX AND 96/100 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH SO MUCH OF SAID PASSAGEWAY AS LIES NORTHWESTERLY OF ITS MIDDLE LINE AND BETWEEN THE SIDE LINES OF SAID LOT EXTENDED, SAID PASSAGEWAY TO BE MAINTAINED IN COMMON BY THE ABUTTERS THEREON AND THEIR HEIRS AND ASSIGNS AND TO BE USED BY THEM AND BY THE ABUTTERS ON CONNECTING PASSAGEWAYS FOR WAY, PROSPECT, DRAINAGE AND THE

AND

LIKE.

THENCE

PARCEL III:

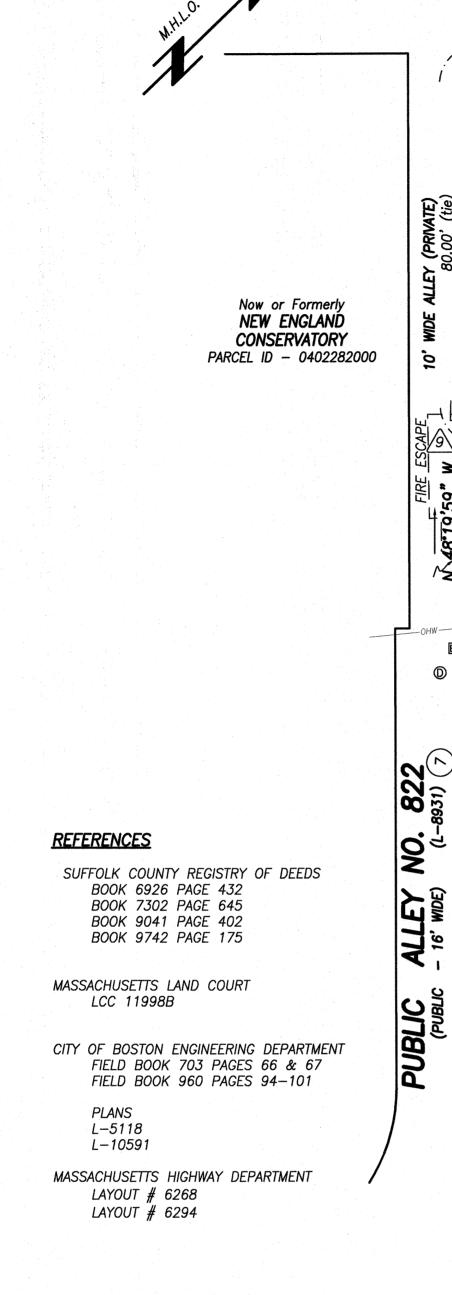
A CERTAIN PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATE AND NOW NUMBERED 252 TO 254 ON HUNTINGTON AVENUE. IN BOSTON. COUNTY OF SUFFOLK, MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

NORTHWESTERLY ON HUNTINGTON AVENUE, FORTY—FIVE AND 46/100 (45.46) FEET; BY LAND NOW OR LATE OF MIRIAM HIRSH BY A LINE RUNNING IN PART THROUGH THE BRICK PARTITION WALL, ONE HUNDRED AND TWENTY (120) BY A PASSAGEWAY SIXTEEN FEET WIDE (NOW KNOWN AS PUBLIC ALLEY SOUTHEASTERLY

NO. 821). FORTY-FIVE AND 46/100 (45.46) FEET; AND SOUTHWESTERLY BY LAND NOW OR LATE OF HUNTINGTON INVESTMENT COMPANY, ONE HUNDRED TWENTY (120) FEET.

CONTAINING 5,455 AND 1/10 SQUARE FEET OF LAND, BE ANY OR ALL OF SAID MEASUREMENTS OR CONTENTS MORE OR LESS, TOGETHER WITH THE FEE AND SOIL OF SAID PASSAGEWAY ADJOINING THE GRANTED PREMISES, TO THE MIDDLE THEREOF.

SAID PREMISES ARE CONVEYED SUBJECT TO A TAKING MADE BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS ACTING ON BEHALF OF THE CITY OF BOSTON UNDER AN ORDER DATED MARCH 23. 1977 RECORDED WITH SAID DEEDS IN BOOK 8942, PAGE



EXCEPTIONS FROM COVERAGE SCHEDULE B - SECTION 2. LISTED IN TITLE COMMITMENT FILE No. 53157 ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, HAVING AN EFFECTIVE DATE OF JANUARY 4, 2016.

- (3) RELEASE OF RIGHTS IN DISCONTINUED PORTION OF PUBLIC ALLEY NO. 821, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT TO NEW ENGLAND CONSERVATORY BY JUNIOR ACHIEVEMENT OF EASTERN MASSACHUSETTS DATED APRIL 25, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 362; AND TRUSTEES OF BOSTON UNIVERSITY DATED APRIL 29, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321, PAGE 364. (NOT LOCUS)
- (4) PUBLIC WAY EASEMENT TAKEN BY THE DEPARTMENT OF PUBLIC WORKS OF THE COMMONWEALTH OF MASSACHUSETTS TO WIDEN HUNTINGTON AVENUE, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS AS SHEET 1 OF 4, LAYOUT NO. 6268, FEDERAL AID PROJECT NO. U-234 (13), DATED MARCH 23, 1977 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 8942, PAGE 320. (AS SHOWN HEREON)
- (5) RIGHT TO USE THE PASSAGEWAY BY IMPLICATION AND AS SET FORTH IN DEED RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 6749, PAGE 235, IN COMMON WITH ALL PERSONS LAWFULLY ENTITLED THERETO. (AS SHOWN HEREON - NOT LOCUS)
- (6) COMMON LAW PARTY WALL RIGHTS AS IMPLIED BY DESCRIPTION IN DEED FROM JOSEPH M. ISENBERG AND GEORGE S. ISENBERG. AS TRUSTEES OF FERBUR REALTY TRUST TO TRUSTEES OF BOSTON UNIVERSITY RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 9742. PAGE 175. AND AS FURTHER DELINEATED ON THE 1938 BOSTON ATLAS AND THE NOVEMBER 2015 SURVEY BY FELDMAN LAND SURVEYORS. (AS SHOWN HEREON)
- APPURTENANT RIGHT TO USE A PORTION OF PUBLIC ALLEY NO. 822, AS SHOWN ON PLAN RECORDED WITH SAID REGISTRY OF DEEDS IN PLAN BOOK 7302, PLAN 145, BY GRANT DATED MAY 1, 1958 AND RECORDED WITH SAID REGISTRY OF DEEDS IN BOOK 7321. PAGE 365. (AS SHOWN HEREON - NOT LOCUS)

NOTES:

FASEMENT FOR HIGHWAY PURPOSES

AREA=400± SQ. FT.

126.94' (tie)

NO. 270

7 STORY BRICK & STONE

Now or Formerly

RIVIERA CONDOMINIUM

BOOK 12857. PAGE 240

(MASTER DEED)

PARCEL ID - 0402289186

ABOVE 8' WIDE PASSAGEWAY ABOVE

N 41.43'03" E \ 126.87" Calc.

FIRE ESCAPE-

___CONCRETE SIDEWALK

(126.86' Deed)

226.87' Calc. (226.86' Deed) FNT. [220.9']

LEGEND

DRAIN MANHOLE

ELECTRIC MANHOLE

SEWER MANHOLE

AREA DRAIN

MANHOLE

HYDRANT

SIGN

BOLLARD

LIGHT POLE

SECURITY LIGHT

PARKING METER

DECIDUOUS TREE

BOTTOM OF CURB

BOTTOM OF WALL

BOTTOM OF STEP

BUILDING HEIGHT

BITUMINOUS

CONCRETE

RECORD

OVER

------ METAL RAILING ----x---x----x CHAIN LINK FENCE ◆ ◆ ◆ ◆ ◆ ◆ ◆ WROUGHT IRON FENCE

· TYPICAL

· ENTRANCE

GATE POST

CONC.

VGC ·

OV

TYP.

ENT.

MHLO

[X.X]

BUILDING FOOTPRINT AREA

THRESHOLD ELEVATION

VERTICAL GRANITE CURB

MASSACHUSETTS HIGHWAY LAYOUT

LAND COURT CASE

BUILDING DIMENSION

TOP OF CURB

TOP OF WALL

TOP OF STEP

ELECTRIC HANDHOLE

CATCH BASIN

GAS SHUT OFF

WATER SHUT OFF

BOSTON WATER VALVE

STAND PIPE

LOADING RAMP

FIRE ESCAPE A

ELECTRIC WIRES & CONDUIT

RUNS ALONG FACE OF BUILDING

CONC. SIDEWALK

PAGE 8942, PAGE 320

OP,M. STREET VAULT OF BRICK

PUBLIC ALLEY 5 (PUBLIC - 16' WIDE) NO. 821

-BH=50.4°

BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN A ZONE "X" (UNSHADED). AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A) FLOOD INSURANCE RATE MAP (F.I.R.M.) FOR SUFFOLK COUNTY, MASSACHUSETTS, MAP NUMBER 25025C0079G, CITY OF BOSTON COMMUNITY NUMBER 250286, PANEL NUMBER 0079G, HAVING AN EFFECTIVE DATE OF SEPTEMBER 25, 2009.

(PUBLIC — VARIABLE WIDTH)

(MHLO 6268 & 6294)

OP.M. BRICK

DECORATIVE

ENTRYWAY (TYP)

BRICK

NO. 260-264

MULTI STORY BRICK & STONE

BFA=15,117± SQ. FT.

LOT AREA =

17,080± SQ. FT.

(AREA=400± SQ. FT. WITHIN

R.O.W. EASEMENT)

Now or Formerly TRUSTEES OF BOSTON

UNIVERSITY

BOOK 6926, PAGE 432

PARCEL ID -

0402290000-0402290001

ELECTRIC WIRES & CONDUIT RUNS ALONG FACE OF BUILDING

PARCEL

- 2) ZONING INFORMATION WAS NOT PROVIDED BY THE TITLE INSURER AS REQUIRED BY ITEM 6 (B) OF TABLE "A" IN THE 2011 ALTA SURVEY REQUIREMENTS.
- 3) THE PROPERTY SHOWN HEREON IS THE SAME PROPERTY DESCRIBED IN THE TITLE COMMITMENT.
- BUILDING HEIGHT SHOWN HEREON IS CALCULATED FROM THE AVERAGE GRADE PLANE ALONG HUNTINGTON AVENUE TO THE TOP OF ROOF. BY CITY OF BOSTON ZONING CODE. THE DEFINITION OF BUILDING HEIGHT IS TO THE TOP OF THE HIGHEST ROOF BEAM: THIS WAS INACCESSIBLE AT TIME OF SURVEY. THEREFORE THE BUILDING HEIGHT BY DEFINITION WOULD BE LESS THAN THE HEIGHT SHOWN HEREON.
- 5) NO PARKING WAS OBSERVED ON THE LOCUS PROPERTY.
- NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES WERE UNCOVERED WHILE CONDUCTING THIS SURVEY.
- TO: COMMONWEALTH LAND TITLE INSURANCE COMPANY; STEWART TITLE GUARANTY COMPANY; BANK OF NEW ENGLAND:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 7(A), 7(B)(1), 7(C), 8, 9, 11(A), 13, 17, AND 21 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 27, 2015.

FOR FELDMAN-LAND, SURVEYORS

DAMIEN J. RAFFLE, PLS (MA# 49629) djr@feldmansurveyors.com



EASEMENT FOR HIGHWAY PURPOSES

PAGE 8942, PAGE 320 \

AREA=388± SQ. FT.

96.99 METAL GRATE

N 41°42'48" E 242.49'

OP.M. TO BRICK

CONC.

METAL GRATE

CONDUIT RUNS ALONG

FACE OF BUILDING

AIR DUCT-

(97.17/EWV.)

NO. 256-258

2 STORY BRICK & STONE

BFA=10,216± SQ. FT.

PARCEL I

LOT AREA =

11,633± SQ. FT.

(AREA=388± SQ. FT.

WITHIN R.O.W. EASEMENT)

TOTAL AREA = 34,173 SQ. FT.

(TOTAL AREA WITHIN R.O.W. EASEMENT 970± SQ. FT.)

Now or Formerly

TRUSTEES OF BOSTON

UNIVERSITY

BOOK 9041. PAGE 402

PARCEL ID - 0402291000

-CONCRETE SIDEWALK

[97,1] 96,99', Calc. (96.96', Deed)

EASEMENT FOR HIGHWAY PURPOSES AVENUE

45.47 CONC.

NO. 252-254

2 STORY BRICK

PARCEL III

LOT AREA =

5,460± SQ. FT.

(182± SQ. FT. WITHIN

CONDUIT RUNS ALONG

_45.61' Calc. (45.46' Deed

FIRE ESCAPE

-IRON FENCE

STORY

BRICK

NO. 241

LNI. 0.05', Bk Calc

GP GP CONC. WALL

CONC. WALL

0.14' Bk (Held)

ST. BOTOLPH STREET

FACE OF BUILDING

R.O.W. EASEMENT)

BFA=4.776± SQ. FT.

METAL OMH OMH

CONC.

1 STY METAL

NO. 250

3 STORY BRICK

TREE WELL (TYP.)

○ MH

820

ALEX

PUBLIC

PAGE 8942, PAGE 320,

AREA=182± SQ. FT.

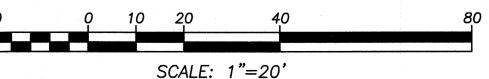
BRICK ST OF TO

ALTA/ACSM LAND TITLE SURVEY 252-264 HUNTINGTON AVENUE BOSTON (ROXBURY), MASS.

FELDMAN LAND SURVEYORS 112 SHAWMUT AVENUE BOSTON, MASS. 02118

NOVEMBER 27, 2015 PHONE: (617)357-9740 www.feldmansurveyors.com





RESEARCH PRF FIELD CHIEF CB PROJ MGR DJR APPROVED TO SHEET NO. 1 OF 1 CADD PRF/DCH FIELD CHECKED NB | CRD FILE 14951 | JOB NO. 14951 FILENAME: S:\PROJECTS\15000s\15011\DWG\15011-ALTA.dwa

APPENDIX D PROFESSIONAL QUALIFICATIONS

EBI Consulting 43



Natalie Matson

Environmental Engineer 21 B Street Burlington, MA 01803 Office: 781.418.2326 Fax: 781.418.2352

SUMMARY OF EXPERIENCE

Ms. Matson, E.I.T., an Environmental Engineer, has extensive experience in Phase I Environmental Site Assessments (ESAs). As a member of EBI Consulting's Real Estate group she has completed over 200 Phase I ESAs and Transaction Screens in ten states. In addition, she has assisted the Environmental Health and Safety Department with wastewater permits, stormwater permits, and contingency plans for various clients. She has also completed modeling and monitor reports for Radio Frequency and Electromagnetic (RF/EME) projects for EBI's Telecom group.

RELEVANT PROJECT EXPERIENCE

Ms. Matson has researched wastewater and stormwater permitting requirements for medical, industrial, and military institutions. Ms. Matson has completed over 300 RF/EME projects for Sprint Corporation. She has completed over 200 ASTM Phase 1 ESAs and Transaction Screens. These properties have included commercial, retail, industrial, and multi-family residential properties. ASTM investigations include correspondence and consultation with Federal, state, and local government offices. Additional services provided, as conditions outside of the ASTM standard, have included asbestos inspections, lead paint sampling, and radon sampling.

EDUCATION

Bachelor of Science in Civil Engineering from Tufts University, 2010

Master of Engineering in Civil and Environmental Engineering from Cornell University, 2011

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers Boston Society of Civil Engineering Section Society of Women Engineers

PROFESSIONAL REGISTRATIONS/TRAINING

E.I.T. - Massachusetts, April 2010 ASTM E 1527 Phase I Environmental Assessment (ESA) training, 2012 AHERA 24-hour Asbestos Inspector Accreditation, 2012 U.S. Department of Housing and Urban Development (HUD) lead based paint visual assessment training course, 2012



Mr. Indra Deb, P.E.

Technical Director-Structural Services
21 B Street
Burlington, MA 01803

Office: 617.715.1810 Mobile: 781.308.2686

SUMMARY OF EXPERIENCE

Mr. Deb has over 35 years of experience in multi-disciplined engineering analysis and design. Mr. Deb has a broad background in all aspects of building systems, including structural, HVAC, electrical, and plumbing, as well as building design. His expertise includes due diligence assessments (property condition assessments), Structural Observation reports, seismic reports (PML) and construction loan monitoring reports for industrial, commercial, office, parking garage and multi-family residential buildings.

Mr. Deb has more than 10 years of experience performing multifamily property inspections.

During construction period services, Mr. Deb's experience includes bidding process, negotiation with construction contracts, construction supervision and management, coordination among sub-consultants and sub-contractors, cost control and monitor construction scheduling, review shop drawings and also involved in solving field problems.

Mr. Deb has taught several building related courses (structural, HVAC, electrical, plumbing etc.) at Wentworth Institute and Boston University and was also involved in teaching professional registration preparation courses at Northeastern University.

Mr. Deb has successfully completed more than ten thousand of project assignments including due diligence site assessments and building-condition evaluations. Mr. Deb is responsible for professional quality and technical accuracy of the reports.

At EBI, Mr. Deb as a Technical Director-Structural Services in the Real Estate Division, he specializes in reviewing Property Condition Reports, Seismic Report (Probable Maximum Loss), Construction Monitoring Reports, and Structural Evaluations and review of structural observation reports of buildings.

RELEVANT PROJECT EXPERIENCE

Various Property Owners and Financial Institutions, Nationwide. Prepare and review property condition due diligence reports for thousands of property owners and financial institutions for portfolios and individual projects throughout the country. Property types included hotels, apartment complexes, retail, parking garage and office buildings. Clients have included LaSalle Bank, Sun Trust Bank, Bear Stearns, Principal Real Estate, Citigroup, and Property Analytics, CWCapital Asset Management, UBS Real Estate Finance, NCB, CBRE Capital Markets, Inc., Cambridge Savings Bank.

Mr. Deb has more than 10 years of experience performing multifamily property inspections and similar work for financial institutions.

Mr. Deb also prepares and reviews construction plan and cost reviews (CPCR), and construction monitoring reports (CMR) for various clients including Wachovia Bank, Prudential Mortgage Capital Co, Inland Mortgage Capital Corp., and Merrill Lynch Capital, among others.

He also prepares, reviews and checks the structural calculations and specifications for building design for Real Estate Division; antenna support and related equipment for telecommunication clients e.g. Metro PCS, AT&T, Verizon Wireless etc.



Mr. Indra Deb, P.E.

Technical Director-Structural Services 21 B Street Burlington, MA 01803 Office: 617.715.1810 Mobile: 781.308.2686

Prior to joining at EBI, Mr. Deb was the owner and President of an Engineering and Architectural Firm from 1986 to 2005. Mr. Deb's prior experience includes coordination and presentation of projects to municipalities (Planning Board, Conservation Commission, Board of Appeals, etc.) for approval. Responsibilities included Community Participation.

Mr. Deb was the Structural Engineer of Record for numerous building design, roads & highways and bridge design and renovation projects. He was also responsible for professional quality and technical accuracy of the projects.

Mr. Deb was also involved with stress analysis and design of structural components, job scoping of steel and concrete structures, foundation and support design for heavy industrial projects especially Pulp and Paper Plants. Performed structural analysis of buildings (Turbine Generator Building, Boiler Building etc.) including foundations, equipment foundation and building framework for process and power plants, material handling, air emission equipment etc.

He also performed structural analysis for conveyor galleries, water tank, cooling towers, and underground coal pits and coordinated with other designers and site engineers as problems arose in construction interference.

EDUCATION

B.S. Civil Engineering

Jadavpur University, Kolkata, India

M.S. Civil Engineering

Carnegie-Mellon University, Pittsburgh, PA

Graduate Certificate - Administration & Management

Harvard University, Cambridge, MA

PROFESSIONAL AFFILIATIONS

Fellow of American Society of Civil Engineers (ASCE)
Fellow of Boston Society of Civil Engineers (BSCE)
Conservation Commissioner, Town of Burlington, MA -1996 to Present

LICENSES

Construction Supervisor's License (Unrestricted) – Massachusetts

PROFESSIONAL REGISTRATIONS

NATIONAL COUNCIL OF ENGINEERING EXAMINERS (NCEES #42952).

Registered Professional Engineer in 22 states which includes Massachusetts (Civil & Structural), Alabama, Arizona, Delaware, Florida, Georgia, Indiana, Kansas, Maryland, Michigan, Nevada (Civil), New Hampshire, New Jersey, New York, North Carolina, Ohio, South Carolina, Texas, Virginia, Washington (Civil), West Virginia and Wisconsin.

The Huntington Apartment Buildings 420 Apartment Units Project Budget

Location: 252-258 Huntington Avenue

October 13, 2017

Note: All figures are preliminary estimates and subject to change.

Confidential - not for unauthorized distribution

The Huntington Apartment Buildings Sources and Uses

| Sources | | | | | | |
|--|-------------|---------------|-----------|----------|----------|------------|
| | | Costs | / Unit | / NSF | / GSF | % of Total |
| F | | A.A · · | A105 *** | نتنفر | A - = | |
| Equity | | \$43,425,994 | \$103,489 | \$122 | \$107 | 15.0% |
| Partner Equity | | \$43,425,994 | \$103,489 | \$122 | \$107 | 15.0% |
| Debt | | \$202,654,641 | \$482,947 | \$568 | \$500 | 70.0% |
| Total Sources | | \$289,506,629 | \$689,924 | \$812 | \$714 | 100.0% |
| Uses - Budget | | | | | | |
| | | Costs | / Unit | / NSF | / GSF | % of Total |
| Land Costs | | | | | | |
| Purchase Price | | \$27,050,000 | \$64,463 | \$75.84 | \$66.74 | 9.34% |
| Total Land Costs | | \$27,600,000 | \$65,774 | \$77.38 | \$68.10 | 9.53% |
| Hard Costs | | | | | | |
| Hard Costs | | \$195,587,655 | \$466,105 | \$548.36 | \$482.56 | 67.56% |
| Furniture Fixtures and Equipment | | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Information Technology | | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Hard Cost Contingency | 7.00% | \$13,691,136 | \$32,627 | \$38.39 | \$33.78 | 4.73% |
| Total Hard Costs | | \$209,278,791 | \$498,733 | \$586.74 | \$516.33 | 72.29% |
| Soft Costs | | | | | | |
| Title and Transfer Taxes | | \$798,300 | \$1,902 | \$2.24 | \$1.97 | 0.28% |
| Permits and Entitlement Fees | | \$585,017 | \$1,394 | \$1.64 | \$1.44 | 0.20% |
| Mock Up/ Model | | \$100,000 | \$238 | \$0.28 | \$0.25 | 0.03% |
| Owner Testing | | \$315,000 | \$751 | \$0.88 | \$0.78 | 0.11% |
| Inspectors/Administration | | \$88,000 | \$210 | \$0.25 | \$0.22 | 0.03% |
| Predevelopment Site Costs | | \$122,000 | \$291 | \$0.34 | \$0.30 | 0.04% |
| Architecture and Engineering Consultants | | \$9,854,985 | \$23,485 | \$27.63 | \$24.31 | 3.40% |
| Open | | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Legal | | \$380,000 | \$906 | \$1.07 | \$0.94 | 0.13% |
| Administration | | \$595,500 | \$1,419 | \$1.67 | \$1.47 | 0.21% |
| Insurance | | \$1,379,557 | \$3,288 | \$3.87 | \$3.40 | 0.48% |
| Real Estate Taxes (Construction Period) | | \$250,000 | \$596 | \$0.70 | \$0.62 | 0.09% |
| Marketing | | \$750,000 | \$1,787 | \$2.10 | \$1.85 | 0.26% |
| Leasing Commissions | | \$1,148,372 | \$2,737 | \$3.22 | \$2.83 | 0.40% |
| Operating Deficit | | \$1,898,864 | \$4,525 | \$5.32 | \$4.68 | 0.66% |
| Construction Management | 0.00% | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Developer Fee | 4.00% | \$8,371,152 | \$19,949 | \$23.47 | \$20.65 | 2.89% |
| Soft Cost Contingency | 7.00% | \$1,261,092 | \$3,005 | \$3.54 | \$3.11 | 0.44% |
| Total Soft Costs | | \$27,897,839 | \$66,483 | \$78.22 | \$68.83 | 9.64% |
| Total Development Costs Before Financing | | \$264,776,629 | \$630,990 | \$742.34 | \$653.26 | 91.46% |
| Senior Loan Interest | 4.50% (I/O) | \$24,000,000 | \$57,194 | \$67.29 | \$59.21 | 8.29% |
| Senior Loan Fees | 1.00% | \$730,000 | \$1,740 | \$2.05 | \$1.80 | 0.25% |
| Total Development Costs After Financing | | \$289,506,629 | \$689,924 | \$812 | \$714 | 100.00% |
| • | | | | | | |

The Huntington Apartment Buildings 124 Apartment Units Non-Chapter 121A Alternative

Location: 252-258 Huntington Avenue

October 13, 2017

Note: All figures are preliminary estimates and subject to change.

Confidential - not for unauthorized distribution

The Huntington Apartment 9 floors Assumptions and Sensitivities

Boston, MA

Equity

Equity Partner

Cash Flow Splits

Pro-rata share

First Cash Hurdle

Developer Promote

Developer Promote

Refi and Sale Event (IRR)

50/50 Cash Flow & Profit

50.0%

50.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

IRR/Mo

0.0%

0.0%

\$25,178,252 Leasing Commissions

\$25,178,252 Rent (per square foot)

Vacancy

Rent Growth

Reimbursement

| | | | | | Renta | l Assumptions | | | | | | |
|--|-----------|------------|--------------|-------------------------------|-------------|---------------|----------|---------------|--|--------|----------------|------------------|
| Asset Summary | | | | Rental | | Average | Rent PSF | Unit Rent | Refinancing Assumptions | | | |
| Building Address | | | | Unit Mix | Units | Size | / month | / month | Allow Cash-Out? | , | | No |
| Total Site Area | 17,093 SF | | | Afordable (13.5%) | 17 | 850 | \$1.90 | \$1,615 | Interest Rate | | | 4.50% |
| Total Retail | 29,550 | | | Studio | 38 | 565 | \$5.00 | \$2,827 | Amortization | | | 30 |
| Building GSF | 153,837 | | | 1 Bedroom | 38 | 850 | \$4.75 | \$4,038 | Term (months) | | | 120 |
| DX Possible | 0 | | | 2 Bedroom | 31 | 1,200 | \$4.50 | \$5,400 | Year 2 NOI | | | \$4,514,707 |
| FAR | 9.00 | | | Total/Average | 124 | 850 | \$4.33 | \$3,679 | DSCR | | | 1.25 |
| Parking Spaces | 114 | | | | | 105,644 | | 3.1% | Constant for Underwriting | | | 6.08% |
| Parking SF | 59,100 | | | Lease Up Assumptions | | | | | DSC Supportable Debt | | | \$59,401,855 |
| Net Rental SF | 105,644 | | | Occupancy Date / Month | | | Dec-20 | / 54 | Underwriting Value for 70% LTV | | | \$84,859,794 |
| Efficiency | 85% | | | Stabilization Period (months) | | | Dec-22 | 24 | Per Unit | | | \$682,773 |
| Gross Rental SF | 153,837 | | | Senior Refinance Date | | | Dec-22 | / 78 | Points & Fees | | 0.50% | (297,009) |
| Parking Minimum | 0.92 | | | | | | | | OLB on Senior and Mezz Loan at Refinance | | | (96,107,473) |
| | | | | Other Rental Income | Potential | Per Unit | Per NRSF | Notes | Net Refinance Proceeds | | | (37,002,627) |
| Construction Timing | | | | Parking | \$478,800 | \$4,200 | \$4.53 | \$350 / Space | | | | |
| Preconstruction Begin Date / Period (Months) | | Jun-16 | / 22 | Utility | 166,762 | \$1,342 | \$1.58 | \$0.13 | Sale Assumptions | | | |
| Horizontal Work Begin Date / Period (Months) | | Apr-18 | / 23 | Cable TV | - | \$0 | \$0.00 | \$0.00 | Sale Date (Date/Op. Month/Inv. Month) | Dec-25 | / 60 | / 114 |
| Horizontal Period (Months) | | | 2 | Miscellaneous Income | 80,787 | \$650 | \$0.76 | \$0.06 | Year 6 NOI | | | \$4,740,180 |
| Vertical Construction Begin Date / Period (Months) | | Jun-18 | / 30 | Net Retail Revenue | 1,625,250 | \$55 | \$15.38 | | Exit Cap Rate | | | 4.50% |
| Construction Period End Date | | Nov-20 | / 54 | Total Other Revenue | \$2,351,599 | \$18,921 | \$22.26 | | Sale Price at Exit | | | \$105,337,330 |
| Total Construction Months | | | / 32 | | | | | | Sale Price Per SF & Per Unit | | \$997 / SF | \$847,533 / Unit |
| Land Owner receives credit for land | | Jun-16 | | Operating Expense Assumptions | | Proforma | Per NRSF | Per Unit | Points & Fees | | 1.50% | (\$1,580,060) |
| Construction Financing | | | | Payroll | | 310,718 | \$2.94 | \$2,500 | Outstanding Debt at Sale | | | \$52,949,915 |
| Senior | | | | Administrative | | 62,144 | \$0.59 | \$500 | Net Sale Proceeds | | | \$50,807,355 |
| Interest Rate | | | 5.00% | Marketing | | 74,572 | \$0.71 | \$600 | | | | |
| Amortization | | | I/O | Maintenance | | 99,430 | \$0.94 | \$800 | Rental Assumptions | | Leaseup | Thereafter |
| Term (months) | | | 48 | Apartment Turnover | | 43,500 | \$0.41 | \$350 | Vacancy | | 50.0% | 5.0% |
| Senior LTV | | | 65.00% | Utilities | | 223,717 | \$2.12 | \$1,800 | Concessions | | 12.5% | 5.0% |
| Loan Amount | | | 93,519,220 | Insurance | _ | 55,929 | \$0.53 | \$450 | Rent Growth | | 0.0% | 2.0% |
| Points & Fees | | 1.00% | 730,000 | Operating Expenses | | 870,009 | \$8.24 | \$7,000 | Other Income Growth | | 0.0% | 2.0% |
| Interest Reserve | | 13,140,743 | 13,200,000 | Management Fee (3.0%) | | 185,491 | \$1.76 | \$1,492 | OpEx Growth | | 0.0% | 3.0% |
| Interest Reserve Sufficiency | | | YES | RET | | 714,650 | \$6.76 | \$5,750 | Real Estate Tax Growth | | 0.0% | 3.0% |
| | | | | Recurring Capex | _ | 43,500 | \$0.41 | \$350 | | | | |
| | | | | Total Expenses | | 1,813,650 | \$17.17 | \$14,592 | | | | |
| | | | | | | | | | _ | | | |
| Participation Assumptions | | | 4 | Retail Assumptions | | | Year 1 | Thereafter | Returns | | | |
| Equity Investment | | _ | \$50,356,503 | Tenant Improvements | | | \$50.00 | | | Deal | Equity Partner | Equity |

4.00%

\$55.00

82.0%

NNN

82.0%

3.0%

NNN

Profit

Multiple

Initial Equity

Total Profit

Pro-Rata cash flow 50/50

50/50 Cash Flow & Profit

IRR

(\$31,782,804)

-\$50,356,503

4,768,971

13,804,728

(31,782,804)

Total Deal

-0.6

(\$15,891,402)

-\$25,178,252

2,384,485

6,902,364

(15,891,402)

Equity Partner

-0.6

(\$15,891,402)

-\$25,178,252

2,384,485

6,902,364

(15,891,402)

Equity

-0.6

The Huntington Apartment 9 floors Sources and Uses

| Sources | | | | | | |
|--|-------------|------------------------|------------------|-------------------|------------------|------------|
| | | Costs | / Unit | / NSF | / GSF | % of Total |
| | | | | | | |
| Equity | | \$25,178,252 | \$202,582 | \$238 | \$164 | 17.5% |
| Partner Equity | | \$25,178,252 | \$202,582 | \$238 | \$164 | 17.5% |
| Debt | · | \$93,519,220 | \$752,446 | \$885 | \$608 | 65.0% |
| Total Sources | | \$143,875,723 | \$1,157,609 | \$1,362 | \$935 | 100.0% |
| Uses - Budget | | | | | | |
| | | Costs | / Unit | / NSF | / GSF | % of Total |
| Site Costs | | | | | | |
| Purchase Price | | \$27,050,000 | \$217,641 | \$256.05 | \$175.84 | 18.80% |
| Total Site Costs | | \$27,600,000 | \$222,067 | \$261.25 | \$179.41 | 19.18% |
| | | | | | | |
| Hard Costs Hard Costs | | ዕለው ወለው በያኃ | \$651 207 | \$766.24 | \$526.20 | 56.26% |
| | | \$80,948,948 | \$651,307 \$0 | \$766.24 | \$526.20 | 0.00% |
| Furniture Fixtures and Equipment Information Technology | | \$0 \$0 | \$0 \$0 | \$0.00 \$0.00 | \$0.00 \$0.00 | 0.00% |
| Hard Cost Contingency | 7.00% | \$5,666,426 | \$45,591 | \$0.00 \$53.64 | \$36.83 | 3.94% |
| Total Hard Costs | 7.00/0 | \$86,615,374 | \$696,898 | \$819.88 | \$563.03 | 60.20% |
| | | | | | | |
| Soft Costs | | | | | | |
| Title and Transfer Taxes | | \$798,300 | \$6,423 | \$7.56 | \$5.19 | 0.55% |
| Permits and Entitlement Fees | | \$208,466 | \$1,677 | \$1.97 | \$1.36 | 0.14% |
| Mock Up/ Model | | \$100,000 | \$805 | \$0.95 | \$0.65 | 0.07% |
| Owner Testing | | \$315,000 | \$2,534 | \$2.98 | \$2.05 | 0.22% |
| Inspectors/Administration | | \$104,000 | \$837 | \$0.98 | \$0.68 | 0.07% |
| Predevelopment Site Costs | | \$122,000 | \$982 | \$1.15 | \$0.79 | 0.08% |
| Architecture and Engineering Consultants | | \$6,382,110 | \$51,350 | \$60.41 | \$41.49 | 4.44% |
| Open | | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Legal | | \$380,000 | \$3,057 | \$3.60 | \$2.47 | 0.26% |
| Administration | | \$782,000 | \$6,292 | \$7.40 | \$5.08 | 0.54% |
| Insurance | | \$568,143 | \$4,571 | \$5.38 | \$3.69 | 0.39% |
| Real Estate Taxes (Construction Period) | | \$250,000 | \$2,011 | \$2.37 | \$1.63 | 0.17% |
| Marketing | | \$750,000 | \$6,034 | \$7.10 | \$4.88 | 0.52% |
| Leasing Commissions | | \$303,194 | \$2,439 | \$2.87 | \$1.97 | 0.21% |
| Operating Deficit | | \$630,344 | \$5,072 | \$5.97 | \$4.10 | 0.44% |
| Construction Management | 0.00% | \$0 | \$0 | \$0.00 | \$0.00 | 0.00% |
| Developer Fee | 4.00% | \$3,464,615 | \$27,876 | \$32.80 | \$22.52 | 2.41% |
| Soft Cost Contingency | 5.00% | \$572,178 | \$4,604 | \$5.42 | \$3.72 | 0.40% |
| Total Soft Costs | | \$15,730,349 | \$126,565 | \$148.90 | \$102.25 | 10.93% |
| Total Development Costs Before Financing | | \$129,945,723 | \$1,045,529 | \$1,230.03 | \$844.70 | 90.32% |
| Senior Loan Interest | 5.00% (I/O) | \$13,200,000 | \$106,206 | \$124.95 | \$85.81 | 9.17% |
| Senior Loan Fees | 1.00% | \$730,000 | \$5,874 | \$6.91 | \$4.75 | 0.51% |
| Total Development Costs After Financing | | \$143,875,723 | \$1,157,609 | \$1,362 | \$935 | 100.00% |
| | | += :=,=: =,, == | , -,, | Ŧ-,- 3 - | 7 | |

The Huntington Apartment 9 floors Boston, MA Cash Flow Pro Forma - Stabilized

TOTAL DEBT SERVICE

TOTAL CASH FLOW

TOTAL DEBT-BOY

TOTAL DEBT-EOY

DSCR

NOI/COST

3,611,766

757,602

59,401,855

58,443,569

1.21

3.0%

3,611,766

829,778

58,443,569

57,441,259

1.23

3.1%

3,611,766

902,941

57,441,259

56,392,903

1.25

3.1%

| | | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u> | <u>8</u> | <u>9</u> | 1 |
|---------------------------|---------|-----------|-----------|----------------|-----------|------------|-----------|----------------|-----------|-----------|-----------|
| INCOME | | | | | | | | | | | |
| RESIDENTIAL RENTAL INCOME | | | | | | | | | | | |
| Market Rate-Gross | \$51.94 | 5,486,920 | 5,596,658 | 5,708,592 | 5,822,763 | 5,939,219 | 6,058,003 | 6,179,163 | 6,302,746 | 6,428,801 | 6,557,377 |
| Super's Unit | | (48,450) | (49,419) | (50,407) | (51,416) | (52,444) | (53,493) | (54,563) | (55,654) | (56,767) | (57,902 |
| Vacancy | 5.00% | (274,346) | (279,833) | (285,430) | (291,138) | (296,961) | (302,900) | (308,958) | (315,137) | (321,440) | (327,869 |
| Net Market Rate Rent | | 5,164,124 | 5,267,406 | 5,372,755 | 5,480,210 | 5,589,814 | 5,701,610 | 5,815,642 | 5,931,955 | 6,050,594 | 6,171,606 |
| TOTAL RESIDENTIAL INCOME | | 5,164,124 | 5,267,406 | 5,372,755 | 5,480,210 | 5,589,814 | 5,701,610 | 5,815,642 | 5,931,955 | 6,050,594 | 6,171,606 |
| OTHER INCOME | | | | | | | | | | | |
| Parking | | 478,800 | 488,376 | 498,144 | 508,106 | 518,269 | 528,634 | 539,207 | 549,991 | 560,991 | 572,210 |
| Utility | | 166,762 | 170,097 | 173,499 | 176,969 | 180,509 | 184,119 | 187,801 | 191,557 | 195,388 | 199,296 |
| Cable TV | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous Income | | 80,787 | 82,402 | 84,050 | 85,731 | 87,446 | 89,195 | 90,979 | 92,798 | 94,654 | 96,547 |
| Net Retail Revenue | | 292,545 | 301,321 | 310,361 | 319,672 | 329,262 | 339,140 | 349,314 | 359,793 | 370,587 | 381,705 |
| TOTAL OTHER INCOME | | 1,018,894 | 1,042,197 | 1,066,054 | 1,090,479 | 1,115,485 | 1,141,087 | 1,167,301 | 1,194,140 | 1,221,620 | 1,249,759 |
| TOTAL INCOME | | 6,183,018 | 6,309,603 | 6,438,809 | 6,570,688 | 6,705,299 | 6,842,698 | 6,982,943 | 7,126,095 | 7,272,215 | 7,421,365 |
| EXPENSES | | | | | | | | | | | |
| OPERATING EXPENSES | | 1,099,000 | 1,131,970 | 1,165,929 | 1,200,907 | 1,236,934 | 1,274,042 | 1,312,263 | 1,351,631 | 1,392,180 | 1,433,946 |
| REAL ESTATE TAXES | | 714,650 | 736,090 | <u>758,172</u> | 780,918 | 804,345 | 828,476 | <u>853,330</u> | 878,930 | 905,298 | 932,456 |
| TOTAL EXPENSES | | 1,813,650 | 1,868,060 | 1,924,102 | 1,981,825 | 2,041,279 | 2,102,518 | 2,165,593 | 2,230,561 | 2,297,478 | 2,366,402 |
| | | 29% | 30% | 30% | 30% | 30% | 31% | 31% | 31% | 32% | 329 |
| NET OPERATING INCOME | _ | 4,369,367 | 4,441,544 | 4,514,707 | 4,588,864 | 4,664,020 | 4,740,180 | 4,817,350 | 4,895,534 | 4,974,737 | 5,054,963 |
| DEBT SERVICE (N/I EQUITY) | | | | | | | | | | | |
| INTEREST | | 2,653,479 | 2,609,456 | 2,563,410 | 2,515,248 | 2,464,875 | 2,412,187 | 2,357,078 | 2,299,438 | 2,239,150 | 2,176,092 |
| AMORTIZATION | | 958,287 | 1,002,310 | 1,048,356 | 1,096,517 | 1,146,891 | 1,199,579 | 1,254,688 | 1,312,328 | 1,372,616 | 1,435,674 |
| | | 200,207 | 1,002,010 | 1,010,000 | 1,070,017 | 1,1 10,071 | 1,1//,0// | 1,22 1,000 | 1,012,020 | 1,572,010 | 1,100,017 |

3,611,766

977,098

56,392,903

55,296,385

1.27

3.2%

3,611,766

1,052,254

55,296,385

54,149,494

1.29

3.2%

3,611,766

1,128,414

54,149,494

52,949,915

1.31

3.3%

3,611,766

1,205,584

52,949,915

51,695,227

1.33

3.3%

3,611,766

1,283,768

51,695,227

50,382,900

1.36

3.4%

3,611,766

1,362,971

50,382,900

49,010,284

1.38

3.5%

3,611,766

1,443,197

49,010,284

47,574,610

1.40

3.5%

APPENDIX 5

[N.A. – OMITTED INTENTIONALLY]

APPENDIX 6

DRAFT SECTION 6A CONTRACT

[inserted behind]

AGREEMENT BY AND BETWEEN THE CITY OF BOSTON

AND

OMG HUNTINGTON LIMITED PARTNERSHIP

Pursuant to Section 6A of Chapter121A of the Massachusetts General Laws

This Agreement ("<u>Agreement</u>") made this ___ day of _____, 2017, under Sections 6A, 10, 15, and 18C of Chapter 121A of the General Laws of the Commonwealth of Massachusetts is by and between QMG HUNTINGTON LIMITED PARTNERSHIP, a Massachusetts limited partnership, (hereinafter referred to as the "<u>Owner</u>") and the CITY OF BOSTON, a municipal corporation of the Commonwealth of Massachusetts (hereinafter referred to as the "<u>City</u>").

WITNESSETH:

WHEREAS, the Owner as the "<u>Applicant</u>" has caused to be filed with the Boston Redevelopment Authority d/b/a the Boston Planning and Development Agency (the "<u>Authority</u>"), an application dated October 13, 2017, (the "<u>Application</u>") under the provisions of said Chapter 121A of the Massachusetts General Laws and Chapter 652 of the Acts of 1960, as amended (collectively, "<u>Chapter 121A</u>") for approval of a project, as more particularly described in the Application (the "Project");

WHEREAS, as more particularly described in the Application, the Project comprises the construction of a mixed-use building (the "Tower") located at 252 and 258 Huntington Avenue, Boston, MA (the "Tower Parcel"), containing: (i) up to 426 residential units at the third through 32nd stories, served by a first- and second-story lobby and amenity space, as well as an underground, accessory parking garage for up to 114 vehicles (the "Residential Component"); (ii) up to 7,500 sf of retail/restaurant/services space on the first two stories (the "Retail Component"); and (iii) 14,000 sf of cultural space on the first two stories, with direct access to and from the adjacent Huntington Avenue Theatre (the "Cultural Component"). The Residential Component, Retail Component, and Cultural Component are each referred to as a "Project Component;"

WHEREAS, the Tower Parcel constitutes the entire project area under the Application (the "Project Area");

WHEREAS, as noted in the Application, the Project Area will be transferred to the Owner;

WHEREAS, prior to its construction of any portion of the Tower, Owner will enter a ground lease of its interest in the Project Area under a ground lease (the "<u>Ground Lease</u>") to QMG Huntington LLC, a Massachusetts limited liability company (the "<u>Ground Tenant</u>"), to enable Ground Tenant to develop, manage and operate the Project;

WHEREAS, upon completion of the construction of the Project, the Ground Tenant will enter into a sublease with Huntington Theatre Company, Inc., a Massachusetts non-profit corporation or its affiliate/assignee ("HTC") the terms of which require the Ground Tenant to deliver the Cultural Component to HTC in shell and core condition for future fit-out by HTC for a term of 100 years at a nominal rent (the "Sublease");

WHEREAS, the Authority approved the Project and consented to the designation of the Owner as the Owner of the Project by vote _____ 2017, adopting a certain Report and Decision on the Project (the "Report and Decision");

WHEREAS, the Mayor of the City approved the Authority's approval and consent on ______2017;

WHEREAS, the vote of the Authority and the approval of the Mayor of the City were filed with the office of the City Clerk on ______, 2017, (the "Approval Date"), and such approval has become final and binding pursuant to the provisions of Chapter 121A; and

WHEREAS, pursuant to the provisions of Chapter 121A, the City and the Owner have determined to enter into this Agreement with regard to the Project.

NOW, THEREFORE, in consideration of the foregoing recitals and the good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Owner and the City agree, effective thirty (30) days after the Approval Date, with the timely filing of a petition to challenge such Chapter 121A approval (the "Effective Date"):

- 1. The Owner hereby agrees with the City that, subject to Section 8, below, all activities of the Owner will be undertaken in accordance with the Application, the provisions of Chapter 121A as now in effect, the minimum standards for the financing, construction, maintenance, and management of the Project set forth in the Application (the "Minimum Standards"), and the terms and conditions set forth in the Report and Decision of the Authority approving the Project, consenting to the designation of the Owner as a Chapter 121A entity and authorizing the Owner and Ground Tenant to undertake the Project, which are incorporated herein by reference. Such activities of the Owner will include, without limitation, (i) the Owner's entry into the Ground Lease with Ground Tenant, and (ii) the Ground Tenant's entry of the Sublease with HTC with respect to the Cultural Component, and the delivery of the Cultural Component in shell and core condition to HTC or its affiliate/assignee in shell and core condition and the construction and operation of the Project in accordance with the Application submitted by Ground Tenant on behalf of Owner.
- 2. (a) Subject to the provisions and limitations of this Agreement, the Owner will pay to the Commonwealth of Massachusetts Department of Revenue or any successor department or agency ("DOR"), for each calendar year during which the Owner is subject to Chapter 121A and has the benefit of the tax exemption provided thereunder, the urban redevelopment excise required under Section 10 of Chapter 121A (the "Excise Tax"), provided however than in no event shall HTC or its affiliate/assignee be held liable for

any payment of excise tax to the Commonwealth of Massachusetts due to its sublease, use and occupancy of the Cultural Component as described herein.

(b) Subject to the provisions and limitations of this Agreement, the Owner will pay to the City with respect to each calendar year or portion thereof thereafter during which the Owner is subject to Chapter 121A, and has the benefit of the real estate tax exemption provided thereunder, an amount (the "<u>Differential Amount</u>") equal to the difference between: (i) the amounts set forth on <u>Exhibit A</u> hereto (the "<u>Contract Amount</u>"), and (ii) the Excise Tax paid.

For purposes of calculating the Excise Tax only, the term "<u>Gross Income</u>" shall mean only the revenues received by the Owner, and shall not include the income received by any Ground Tenant of the Owner.

All payments to the City shall be made on or before April of each year. Late payments will bear interest at the rate equal to the rate charged for delinquent real estate accounts by the City's Collector-Treasurer pursuant to M.G.L. c. 60. The City shall have all rights and remedies available to it for the collection of the Contract Amount in the event the Owner breaches its duty to pay.

Without limitation of the foregoing, Ground Tenant, HTC and its affiliates/assignees, tenants, subtenants and other occupants of the Project, and other persons or entities occupying or using the improvements of which the Project is a part, may pay amounts associated with their use and occupancy (including, without limitation, reimbursements and payments for common area maintenance, management, imposts, operating expenses and related fees) directly to the landlord/licensor under their leases, subleases, occupancy agreements or other applicable agreements, which amounts shall <u>not</u> be included in the Gross Income.

Any personal property within the Project that is owned by entities other than the Owner is not subject to this Agreement or the exemption granted pursuant to M.G.L. c. 121A.

- (c) Payment of amounts due hereunder shall be equitably prorated for any partial year during the periods set forth in this Section. Payment to the City of any Differential Amount shall be made by no later than April of each calendar year in which such a payment is due.
- 3. (a) The Owner shall file with the Commissioner of Assessing and the Authority by February 10, following the end of each calendar year during which this Agreement is in effect, a computation for such calendar year under the applicable formula set forth in Section 2, above, including, without limitation, the Contract Amount and the Differential Amount certified by an authorized representative of the Owner. Further the Owner shall file with the Commissioner of Assessing and the Collector-Treasurer of the City by April 1st of each calendar year during which this Agreement is in effect: (i) a certified copy of the Owner's urban redevelopment excise tax return for the preceding calendar year as filed with DOR; (ii) a statement of profit and loss, a balance sheet and a statement

of receipts and disbursements for the Project for the preceding calendar year; and (iii) audited financial statements for the Owner for the preceding calendar year.

- (b) In addition to the above, for any calendar year noted on Exhibit A during which the Contract Amount is based on an amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute (the "Chapter 59 Equivalent"), the Owner shall file with the Commissioner of Assessing responses to the information request attached to this Agreement as Exhibit B ("Information Request"). The Information Request shall be filed with the Commissioner of Assessing by February 1 following the end of an applicable calendar year. If the Information Request is not filed with the Commissioner of Assessing by February 1, the City will make its best efforts to estimate a Chapter 59 Equivalent and this estimate will be final and binding. In the event that information in the Information Request is not based on audited financials, this will be noted in the Information Request, and audited financials covering the relevant time period will be submitted to the Commissioner of Assessing no later than July 1.
- 4. The Owner shall allow the Commissioner of Assessing, or a representative of the Commissioner designated in writing, to examine all Excise Tax Returns and all attachments thereto filed by the Owner with the DOR.
- 5. Any Overpayment (as defined below) by the Owner with respect to any calendar year with respect to the Project shall be refunded by the City to the Owner as soon as practicable after the sending of a written notice to the City by the Owner of the discovery of such overpayment. Provided notice is received as herein stated, in the event that the amount of any Overpayment is not refunded prior to the date on which the next payment by the Owner becomes due under this Agreement, the Owner shall be entitled to offset the amount of such Overpayment against such next payment. For the purposes of this Agreement, an Overpayment by the Owner with respect to any calendar year shall include the following, but only to the extent that the following exceed collectively the Contract Amount for that calendar year: (a) (i) amounts paid by the Owner to the Commonwealth of Massachusetts, the City, or the Authority with respect to the Project pursuant to Sections 10, 15, and 18C of Chapter 121A, or (ii) any amounts paid by the Owner to the City as real estate or personal property tax pursuant to M.G.L. c. 59, as amended, or any successor statutes, with respect to the Project or the Project Area for any period during which this Agreement is in effect; or (b) amounts paid with respect to the Project or the Project Area as a different or additional tax resulting from the replacement of the current method of assessment of real estate taxes, provided however that such Overpayment shall not include the excise imposed by M.G.L. c. 64G, or any different or additional tax which does not result in the actual reduction of the City's real estate tax levy; or (c) any amounts paid by the Owner to the City of Boston with respect to the Project in excess of amounts actually due under this Agreement due to calculation error, inaccurate information or other inadvertent mistake after the end of the Owner's fiscal year on December 31. The notice shall be accompanied by supporting documentation, including but not limited to, ward and parcel number, the date payment was made to the DOR and/or to the City, the Contract Amount and the Excise Tax paid, and copies of both sides of all relevant cancelled checks.

Notwithstanding the foregoing, the City shall not be obligated to refund any Overpayment and/or grant any credit for interest, late fee, penalties or fines that may have been assessed if such Overpayment was due to either the Owner's failure to provide the financial information required by Section 3 of this 6A Contract or to the Owner's intentional provision of misleading financial information.

Notwithstanding the foregoing, any taxes assessed pursuant to Chapter 59 prior to the Effective Date shall not be the basis of a claim of Overpayment, e.g. if the Effective Date is January 1, 2019, the first and second quarter tax bills issued by the City for Fiscal Year 2019 shall not be the basis of a claim of Overpayment.

- 6. The Assessing Department hereby determines, in accordance with the seventh paragraph of Section 10 of Chapter 121A, that the fair cash value of the real and personal property constituting the Project, as of January 1, _____, and for each succeeding January 1 until and including the year next following the year in which the Owner's property tax exemption under Chapter 121A shall terminate, shall be an amount which, when used in the computation of the Excise Tax for or with respect to the previous calendar year, would not result in an Excise Tax greater than the Contract Amount due for such prior year. The Assessing Department agrees to certify to DOR and the Owner, pursuant to the second paragraph of Section 10 of Chapter 121A, on or before March 1 of each year a fair cash value calculated in accordance with the preceding sentence. The Assessing Department acknowledges that the Project constitutes all the real and personal property of the Owner for which it is required to establish a fair cash value under the provisions of Section 10 of Chapter 121A.
- 7. The obligations of the Owner under this Agreement, Contract and the Report and Decision are conditioned in all respects upon (a) the acquisition of a fee interest in the Project Area by Owner and the execution of the Ground Lease and Sublease; (b) the occurrence of the Effective Date and (c) the Project being exempt from taxation under Section 10 of Chapter 121A. The Owner shall not be held in any way liable for delays which may occur in the construction, repair and maintenance of the Project, or otherwise, by reason of scarcity of materials or labor, labor difficulties, damages by fire or other casualty or any other cause beyond the Owner's reasonable control. The Owner agrees to use reasonable efforts to cause all such permissions, variances, permits and licenses to be secured and all such delays to be overcome.
- 8. The Term of this Agreement shall commence on the Effective Date and expire on the date that is fifteen (15) years after the Effective Date, subject to any rights of the Owner to seek termination of the status of the Project as a Chapter 121A project as provided by law. The expiration date set forth above may also be extended in accordance with the terms of this Agreement, including Exhibit A attached hereto and the Application.

Notwithstanding the foregoing, upon termination of this Agreement the Owner shall pay or cause to be paid a gap payment to cover the time period between the termination date and the date the Project Area becomes taxable pursuant to Chapter 59 of the General Laws, provided however during the term of the 121A Approval and upon its expiration

the Cultural Component shall not be subject to real estate taxation and shall be treated as if it owned by an entity that is exempt from real estate taxation under M.G.L. c. 59, Section 5, as long as it is subleased to and used by HTC or its affiliate/assignee. The gap payment shall be equal to the Contract Amount that would have been made for such period if the Project had remained subject to this Agreement. The gap payment for the balance of the calendar year during which this Agreement terminates shall be payable on or before March 15 of the year following the year in which the Agreement terminates. Such amount for the first six (6) months of the year following the year in which this Agreement terminates shall be payable on or before June 30 of the year following the year in which this Agreement terminates. After termination, the Project shall not be subject to the obligations of Chapter 121A, enjoy the rights and privileges thereunder, or be subject to the terms, conditions, and obligations of this Agreement as provided in Chapter 121A; provided, however, the deviations and permissions granted by the Authority pursuant to the Report and Decision, shall survive such termination and shall remain in effect.

- 9. Notwithstanding any language to the contrary in the Application or any other document entered into between the Authority and the Owner, no amendment or modification of the terms and conditions of this Agreement shall be binding on the City without the prior written consent of the City. The Owner and the City further agree that, without mutual consent, any amendment subsequent to the delivery of this Agreement of any of the provisions of Chapter 121A of the General Laws or of Chapter 652 of the Acts of 1960 or of the Rules, Regulations and Standards now applicable to the Project shall not affect this Agreement.
- 10. All notices required pursuant to this Agreement shall be addressed as follows:

If to the City: City of Boston Assessing Department

One City Hall Square, Room 301

Boston, MA 02201

Attn: Commissioner and Corporation Counsel

If to the Owner: QMG Huntington Limited Partnership

133 Pearl Street

Boston, Massachusetts 02110

Attn: John Matteson

With Copy to: Dalton & Finegold, LLP

183 State Street, 5th Floor

Boston, MA 02109

Attn: Jared Eigerman, Esq.

and

Rubin & Rudman LLP 53 State Street Boston, MA 02109 Attn: James H. Greene, Esq. and Andrew H. Kara, Esq.

and

Nutter, McClennen & Fish LLP Seaport West 155 Seaport Boulevard Boston, Massachusetts 02210 Attn: Mary T. Marshall, Esq.

Each party may designate a different address provided that notice of said change is first given to the other party. Any such notice shall be deemed given as of the date such notice is (a) delivered to the party intended, (b) delivered to then designated address of the party intended, (c) rejected at then designated address of the party intended, provided such notice was sent prepaid, or (d) sent by nationally recognized overnight courier or by United States Certified Mail, return receipt requested, postage prepaid and addressed to then designated address of the party intended.

- 11. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their permitted successors and assigns. In the case of the Owner no successor shall benefit from the provisions of this Agreement unless it has been approved by the Authority. Each and every obligation and condition contained in this Agreement, in the Report and Decision, in the Application, or in any agreement or undertaking relating to the Report and Decision or the Application, shall be construed to apply only to the Project. The liability of the undersigned shall be limited solely to its interest in the Project, and no partner, member, venture, trustee, beneficiary, shareholder, officer, director, employee, agent, or the like of the Owner or their respective affiliates, successors or assigns (including, without limitation, mortgagees), or any person or entity directly or indirectly holding any interests in any of the foregoing from time to time, shall have or be subject to any personal liability hereunder or under any agreement or undertaking related hereto or required hereby. After any termination under Chapter 121A as to the Project, or authorized transfer of the Project and the Project Area to another party, or termination or transfer of any portion thereof, each in accordance with the Report and Decision of the Authority, the Application or as otherwise approved by the Authority, the Owner shall no longer be subject to the obligations hereof and shall have no further liability hereunder with respect to the Project or such portion of the Project, as the case may be, the City agreeing to look solely to such transferee.
- 12. If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provisions to the other persons and circumstances

- shall not be affected thereby and shall be enforced to the greatest extent permitted by law, provided that the substantive economic terms of this Agreement are not materially altered.
- 13. In order to facilitate separate ownership and financing of the Project, the owner of each Project Component within Tower within the Project Area, which term shall include the HTC or its affiliate/assignee as sublessee of the Cultural Component as described above shall be liable only for those obligations hereunder that relate to such Project Component, or any other area within the Project Area. Notwithstanding anything contained herein to the contrary, any non-compliance by a Project Component, or any other area within the Project Area, with respect to such Project Component or particular area, or the terms of its respective agreement, in accordance with the terms of Section 6A of M.G.L. c. 121A, shall not affect the compliance of any other Project Component, or any other area within the Project Area.

| Executed as a sealed instrument the day a | and year first above written. |
|---|--|
| APPROVED AS TO FORM: | CITY OF BOSTON |
| | By: |
| Corporate Counsel | Mayor |
| | By: Commissioner of Assessing |
| | Commissioner of Assessing |
| | QMG HUNTINGTON LIMITED PARTNERSHIP, a Massachusetts limited partnership |
| | By: QMG Huntington, LLC, a Massachusetts limited liability company its general partner |
| | By: Qianlong Huntington LLC, a Massachusetts limited liability company its Manager |
| | By: Fan Du, Manager |

Limited Joinder

The undersigned, being the Ground Tenant joins in the foregoing Agreement solely for the purpose of agreeing to submit to the Owner and to the Commissioner of Assessing the information required by Sections 2, 3 and 4 of the foregoing Agreement, as and when required by said Sections 2, 3 and 4. By the execution of this Agreement the City acknowledges and agrees that neither such joinder, nor the performance of the undertaking made herein, shall subject the undersigned to the provisions of Chapter 121A, including without limitation the Regulatory Agreement, and that only the Owner is an entity subject to said Chapter 121A with respect to the Project.

This Limited Joinder shall be binding upon and inure to the benefit of the City, the Owner and Ground Tenant and their respective successors and assigns.

By: QMG Huntington, LLC, a Massachusetts limited liability company, its general partner

> By: Qianlong Huntington LLC, a Massachusetts limited liability company, its Manager

> > By: ______ Name: Fan Du Title: Manager

EXHIBIT A

CONTRACT AMOUNTS FOR TOWER PARCEL1

| 1. | Year 12 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A3. |
|----|------------|---|
| 2. | Year 2 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 3. | Year 3 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 4. | Year 4 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |

^{1.} Provided the Sublease has been executed and remains in full force and effect, there shall be no taxes levied against the Cultural Component to HTC or its affiliate/assignee either under this Agreement, M.G.L. c. 121A, Section 10 or M.G.L. c. 59, as amended, or any successor statute, and the Cultural Component shall be treated as if it was owned directly and used by an entity that is exempt from taxation under M.G.L. c. 59, Section 5.

^{2.} A "<u>year</u>" for the purposes of this Agreement shall run from January 1, ____, through December 31, ____. Year 1 shall mean January 1, ____, through December 31, ____.

^{3.} For the purposes of this Agreement any "amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59 as amended or any successor statute" will utilize a valuation date of January 1 following the end of a payment year. Additionally, to determine the applicable tax rate, the City will average the tax rates for the two fiscal years contained within the payment schedule's calendar year. For example, payment year 2019 will be based on a Chapter 59 derived value of the property as of 1/1/2020 and the tax rate applied to the Chapter 59 derived value will be the average of the applicable fiscal year 2019 tax rate and the applicable fiscal year 2020 tax rate.

| 5. | Year 5 | An amount equal to the amount of any real estate taxes that would have |
|------------|------------|--|
| <i>J</i> . | () | been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| | | |
| 6. | Year 6 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 7. | Year 7 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 8. | Year 8 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 9. | Year 9 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 10. | Year 10 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 11. | Year 11 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 12. | Year 12 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| 13. | Year 13 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
| | • | |

| 14. | Year 14 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |
|-----|------------|--|
| 15. | Year 15 () | An amount equal to the amount of any real estate taxes that would have been paid to the City under M.G.L. c. 59, as amended, or any successor statute, with respect to the Residential Component and the Retail Component, if such parcels were not subject to M.G.L. c. 121A. |

EXHIBIT B

INFORMATION REQUEST TO BE INSERTED

APPENDIX 7

DRAFT REGULATORY AGREEMENT

[inserted behind]

REGULATORY AGREEMENT

QMG HUNTINGTON LIMITED PARTNERSHIP

Pursuant to Chapter 121A of the Massachusetts General Laws

This REGULATORY AGREEMENT (this "Agreement") is made as of this _____ day of _____, 2017, under Section 18C of Chapter 121A of the General Laws of The Commonwealth of Massachusetts, by and between QMG HUNTINGTON LIMITED PARTNERSHIP, a Massachusetts limited partnership ("Project Developer"), and the BOSTON REDEVELOPMENT AUTHORITY d/b/a Boston Planning and Development Agency a body politic and corporate and a public instrumentality organized under the laws of The Commonwealth of Massachusetts (the "Authority").

WITNESSETH:

WHEREAS, the Project Developer as the "Applicant" filed with the Authority an application dated October 13, 2017, (the "Application"), under the provisions of Chapter 121A of the Massachusetts General Laws and Chapter 652 of the Massachusetts Acts of 1960, both as amended (collectively, "Chapter 121A"), for approval of the Project, as defined in the Application, including but not limited to, the acquisition of all or a portion of the Project Area, as defined in the Application, and the construction of a mixed-use building (the "Tower") located at 252 and 258 Huntington Avenue, Boston, MA (the "Tower Parcel"), containing: (i) up to 426 residential units at the third through 32nd stories, served by a first- and second-story lobby and amenity space, as well as an underground, accessory parking garage for up to 114 vehicles (the "Residential Component"); (ii) up to 7,500 sf of retail/restaurant/services space on the first two stories (the "Retail Component"); and (iii) 14,000 sf of cultural space on the first two stories, with direct access to and from the adjacent Huntington Avenue Theatre (the "Cultural Component"). The Residential Component, Retail Component, and Cultural Component are each referred to as a "Project Component;"

WHEREAS, pursuant to the provisions of Chapter 121A, the Authority is requiring the Project Developer to enter into a Regulatory Agreement with the Authority;

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Project Developer agrees for itself, its successors and assigns, as follows:

- 1. <u>Description of the Project.</u> The Residential Component of the Project will comply with the Inclusionary Development Policy of the City of Boston ("IDP") in accordance with the approval granted for the Project.
- 2. <u>Project Financing.</u> The Project Developer shall finance its acquisition and development of the Project substantially as stated in Paragraph E.3 of the Report and Decision. The Project Developer will provide the Authority a breakdown of the allocation from the total cost of the Project applicable to the Project prior to the closing of construction financing for the Director of the Authority's review, approval, and confirmation of the total cost of development of the Project. All other financing shall be made only with the prior written approval of the Authority, including the identity and capability of the financing party or parties and the sufficiency of such financing and its compliance with the provisions of Chapter 121A and the Report and Decision for the Project.
- 3. <u>Separate Accounts, Expenditure of Project Income.</u> The Project Developer shall keep the accounts for the Project separate and apart from any other activities conducted by the Project Developer or its partners and shall not expend income from the Project other than earnings as described in Chapter 121A upon or for the benefit of any other of its activities.
- 4. <u>Inspections.</u> The Project Developer shall comply with the provisions contained in Chapter 121A, Section 8, relative to the inspection of buildings, and the enforcement of compliance with the financing program and rules and regulations applicable to the Project.
- 5. <u>Use Restriction.</u> The Project Developer shall use and operate the Residential Component of the Project for all IDP housing units in accordance with the approval granted for the Project. The Authority requires, and the Project Developer hereby covenants and agrees, to restrict the Residential Component of the Project by entering into a form of Affordable Rental Housing Agreement and Restriction to secure the affordability of all IDP units in the Residential Component of the Project.
- 6. Return Restriction. The partners of the Project Developer (the "Partners"), solely in their capacity as such, and not in their individual capacity, nor in their capacity as lessees or ground lessees or sublessees of, partners or members of any lessee, ground lessee, sublessee or other entity having an interest in the Project, or of any other entity, including, without limitation, QMG Huntington LLC, a Massachusetts limited liability company ("QMG"), each shall not receive or accept as net income from the Project, any sum in excess of an annual cumulative eight (8%) return of the amount invested in the Project for so long as the Project is subject to Chapter 121A; except that, if in any year the Partners have so received a sum less than the aforesaid eight percent (8%) return, they may receive in a subsequent year or years, additional sums not exceeding in the aggregate the amount of such deficiency, without interest. Nothing contained in this paragraph, however, shall be applicable to the distribution of proceeds from the sale of capital assets or equity interests in the Project or the refinancing of any Project loan.
- 7. <u>Urban Redevelopment Excise Tax; 6A Payments</u>. In consideration of the exemption of the Project Developer and all its real and personal property from taxation and betterments and special assessments and from the payment of any tax, excise or assessment to or for the Commonwealth or any of its political subdivisions on account of the Project, the Project

Developer will pay the excises with respect to the Project which a Chapter 121A entity would be bound to pay under the formulae and provisions set forth in Section 10 of Chapter 121A and agreed upon between the parties, as outlined in the Contract Pursuant to Section 6A of Chapter 121A of the Massachusetts General Laws, of even date between the Project Developer and the City of Boston.

- 8. Term of Agreement. Subject to the provisions of Paragraph 9 of this Agreement, the term of this Agreement shall commence on the Effective Date (as defined in the second paragraph of Section H of the Report and Decision) and expire fifteen (15) years from the Effective Date, subject to an earlier termination as provided in the Report and Decision. Neither the Project nor the Project Developer shall thereafter be subject to the obligations and duties of said Chapter 121A nor enjoy the rights and privileges thereunder, nor be subject to the terms, conditions and obligations of this Agreement as provided for in Chapter 121A, except that the deviations as approved by the Authority in its Report and Decision from the zoning, health and fire laws, codes, ordinances and regulations in effect in the City of Boston shall in all events survive the expiration or earlier termination of the terms hereof.
- Authority for a New or Amended Regulatory Agreement. If the Project Developer and or the mortgage lender or lenders to the Project Developer, acting either under the provisions of Section 11 (third and last paragraph) of Chapter 121A and the Acts of 1960, Chapter 652 ("Chapter 652"), Section 13A as amended, or under Section 16A of Chapter 121A, propose to sell, convey, exchange, give or otherwise transfer (collectively, "transfer") the Project, in whole or in part, to another Chapter 121A entity or entities, this Agreement, upon the prior approval of such transfer(s) and the transferee(s) by the Authority pursuant to the terms of this Agreement, shall be terminated or amended and a new Regulatory Agreement, pursuant to Section 18C of Chapter 121A, shall be entered into between the Authority and such transferee or transferees. Any requests by the Project Developer or others for termination of the Project, in whole or in part, as a Chapter 121A Project, shall be governed by the provisions of Chapter 121A, as amended and applicable.
- 10. <u>Agreement Binding on Successors and Assigns</u>. This Agreement shall be binding upon, and the benefits hereunder shall inure to, the Authority and the Project Developer, and their successors and assigns.
- 11. <u>Limited Liability</u>. Neither the Project Developer nor any Partners shall have any personal liability beyond its or their respective interests in the Project. In order to facilitate separate ownership and financing of the Project, the owner of each Project Component within Tower within the Project Area, which term shall include the HTC or its affiliate/assignee as sublessee of the Cultural Component as described above shall be liable only for those obligations hereunder that relate to such Project Component, or any other area within the Project Area. Notwithstanding anything contained herein to the contrary, any non-compliance by a Project Component, or any other area within the Project Area, with respect to such Project Component or particular area, or the terms of its respective agreement, in accordance with the terms of Section 6A of M.G.L. c. 121A, shall not affect the compliance of any other Project Component, or any other area within the Project Area.

- 12. <u>Transfers</u>. The Project Developer does hereby covenant and agree with the Authority that it will not voluntarily transfer, assign, convey, or sell or in any manner or hypothecate its interest in the Project without the prior written consent and approval of the Authority where such written consent and approval is required under the Report and Decision. Provided that such a transfer shall not be unduly conditioned or delayed, if the Project Developer has satisfied the following conditions: (a) the Project Developer has demonstrated that the proposed transferee has the economic resources, including equity or financing commitments or other resources to complete the Project; (b) the transferee assumes in writing all of the obligations hereunder; (c) the transferee has provided the Authority with a form of Disclosure of Beneficial Interests in form and substance similar to that on file from the Project Developer reasonably acceptable to the Authority; (d) the transferee meets the requisite Office of Foreign Asset Control disclosure requirement; and (e) the transferee, including its principals, is not in default of any City of Boston real estate tax obligations or is not in default of any City of Boston Fair Housing practices.
- 13. <u>Residential Condominiums or Cooperative Form of Ownership</u>. The Project Developer shall take no action to convert the Residential Component of the Project to either a condominium or cooperative form of ownership under applicable law, which shall constitute a fundamental change in the Project, without the prior approval of the Authority in accordance with Chapter 121A.
- 14. Accounts, Records and books; Access by Authority Representatives; Financial Reports. The Project Developer agrees that it will (a) maintain full and accurate accounts, records and books relative to the Project in such detail as the Authority may reasonably prescribe; (b) grant to the employees or representatives of the Authority at all times during normal business hours access to the Tower Project Area and to such of its accounts, records, and books as related to the Project Developer's obligations under this Agreement or Chapter 121A, upon reasonable prior notice by the Authority to the Project Developer; (c) permit said Authority or the City of Boston, or any of their approved accountants or auditors, to make reasonable annual audits of the accounts and financial records of the Project Developer which shall at all times be available in the Commonwealth of Massachusetts; and (d) furnish to the Authority such financial, operating, statistical and other reports, records, statements, and documents on a uniform and consistent basis as may be periodically or on a one-time basis reasonably required by the Authority and copies of contracts entered into by the Project Developer or other documents in the possession of the Project Developer as the Authority may from time to time reasonably require in connection with the Project Developer's obligations under this Agreement or Chapter 121A.
- 15. <u>Notices</u>. All notices required or permitted pursuant to this Regulatory Agreement shall be shall be addressed as follows:

If to the Authority:

Boston Redevelopment Authority
One City Hall Square

Boston MA 02210

Attn: Director

With a copy to: Boston Redevelopment Authority

One City Hall Square Boston, MA 02201 Attn: General Counsel

If to the Project Developer: OMG Huntington Limited Partnership

133 Pearl Street

Boston, Massachusetts 02110

Attn: John Matteson

With a copy to: Dalton & Finegold, LLP

183 State Street, 5th Floor

Boston, MA 02109

Attn: Jared Eigerman, Esq.

and

Rubin & Rudman LLP

53 State Street Boston, MA 02109

Attn: James H. Greene, Esq. and Andrew H. Kara, Esq.

and

Nutter, McClennen & Fish LLP

Seaport West

155 Seaport Boulevard

Boston, Massachusetts 02210 Attn: Mary T. Marshall, Esq.

Each party may designate a different address provided that notice of said change is first given to the other party. Any such notice shall be deemed given as of the date such notice is (a) delivered to the party intended, (b) delivered to the then designated address of the party intended, (c) rejected at the then designated address of the party intended, provided such notice was sent prepaid, or (d) sent by nationally recognized overnight courier or by United States Certified Mail, return receipt requested, postage prepaid and addressed to the then designated address of the party intended.

- 16. <u>Severability.</u> If any term or provision of this Agreement, or the application thereof to any person or circumstance, shall to any extent be invalid or unenforceable, the remainder of this Agreement, or the application of such terms to persons or circumstances other than those to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforced to the extent permitted by law.
- 17. Compliance with Applicable Laws, Codes, Ordinances and Regulations. The Project Developer shall cause the Project to be constructed in a good and workmanlike manner employing materials of good quality and so as to conform to the terms and conditions of the Application, Chapter 121A, zoning, building, health, and fire laws, codes, ordinances and regulations in effect in the City of Boston, except to the extent that the same may have been or may be duly varied or deviation has been or may be granted (collectively, the "Legal Requirements"). Compliance by the Project Developer with the Legal Requirements is subject only to the administrative jurisdiction of the Inspectional Services Department of the City of Boston ("ISD"), and the issuance by the ISD or other duly constituted authority of one or more certificates of occupancy or equivalent documents shall be treated as conclusive evidence of compliance of construction with the Legal Requirements.
- 18. <u>Non-Discrimination</u>. The Project Developer shall not effect or execute any covenant, agreement, lease, conveyance or other instrument whereby the Project or any part thereof is restricted on the basis of race, color, sex, sexual preference, religion, or national origin in the lease or occupancy thereof or employment therein.
- 19. <u>Project Changes</u>. Any changes, deviations, alterations or additions proposed to be made to the Project from and after the date of this Agreement that are inconsistent with the Report and Decision, shall be subject to prior review and approval by the Authority.
- 20. <u>Construction Employment</u>. In order to demonstrate its commitment to providing job opportunities, the Project Developer will enter into a Boston Residents Construction Employment Plan that meets the requirements of the Boston Residents Jobs Policy established by Chapter 30 of the Ordinances of 1983 and the Mayor's Executive Order Extending the Boston Residents Jobs Policy dated July 12, 1985, and consistent with Chapter 12 of the Ordinances of 1986, as amended by Chapter 17 of said ordinances.
- 21. Project Maintenance and Management. Upon completion of construction, the Project Developer shall, at its own cost and expense, keep and maintain the Project or cause it to be kept and maintained, in good repair, order and condition, casualty, condemnation and ordinary wear and tear accepted. The Project Developer may develop, operate, lease, ground lease, sublease, manage and maintain the Project or employ or contract with one or more parties, including but not limited to QMG, to develop, operate, manage and maintain the Project, or any portion thereof, pursuant to an operating or ground lease, lease, sublease, management agreement or other agreement. Any such party, including but not limited to QMG, under an operating, master or ground lease or sublease, management agreement or other agreement will in no event be subject to the provisions of Chapter 121A or the approval of the Authority. In no event shall any entity affiliated with the Project Developer be deemed to be an entity organized under or subject to Chapter 121A, it being understood that only the Project Developer is subject to the provisions of Chapter 121A with respect to the Project.

- 22. <u>Enforcement</u>. The Authority may enforce compliance with any of the provisions of this Agreement or any of its rules and regulations by an action in a court of appropriate jurisdiction. The Project Developer shall pay to the Authority all reasonable costs and expenses, including attorneys' fees, which may be incurred by the Authority in proceedings brought to enforce compliance, to the extent the Authority prevails.
- 23. <u>Relationship to Chapter 121A Approval</u>. If there are any inconsistencies with the terms and conditions of the Report and Decision and this Agreement, the terms and conditions of the Report and Decision shall govern.
- 24. <u>Titles to Sections</u>. The titles of the several Sections of this Agreement are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of the provisions of this Agreement.

[BALANCE OF PAGE INTENTIONALLY BLANK]

EXECUTED AS A SEALED INSTRUMENT as of the day and year first above written.

QMG HUNTINGTON LIMITED PARTNERSHIP, a Massachusetts limited partnership

By: QMG Huntington, LLC, a Massachusetts limited liability company, its general partner

> By: Qianlong Huntington LLC, a Massachusetts limited liability company, its Manager

> > By: ______ Name: Fan Du Title: Manager

BOSTON REDEVELOPMENT AUTHORITY

| | By: | |
|----------------------|--------|--|
| | Name: | |
| | Title: | |
| Approved as to Form: | | |
| | | |
| | | |

Boston Redevelopment Authority

APPENDIX 8

CHAPTER 121A ENTITY AGREEMENT

[inserted behind]

AGREEMENT OF LIMITED PARTNERSHIP

OF

QMG HUNTINGTON LIMITED PARTNERSHIP

This AGREEMENT OF LIMITED PARTNERSHIP is entered into and shall be effective as of this __day of _____ 2017 by and between QMG HUNTINGTON, LLC, as the General Partner, and the Persons whose names are set forth as Limited Partners on Exhibit A attached hereto and incorporated by reference herein, as the Limited Partners, pursuant to the provisions of the Massachusetts Uniform Limited Partnership Act, on the following terms and conditions:

Article I: The Partnership

- 1.1 <u>Formation</u>. The Partners hereby agree to form the Partnership as a limited partnership pursuant to the provisions of the Act and upon the terms and conditions set forth in this Agreement.
- 1.2 <u>Name</u>. The name of the Partnership shall be "QMG Huntington Limited Partnership," and all business of the Partnership shall be conducted in such name.
- 1.3 <u>Purpose</u>. The purpose of the Partnership is to engage in investment in, and ownership or leasehold interests in and development of, real estate and interests therein, including buying, acquiring, owning, leasing, operating, selling, financing, refinancing, disposing of and otherwise dealing with interests in real estate, directly or indirectly through joint ventures, partnerships or other entities, including without limitation, the redevelopment or leasing of certain real estate located in the City of Boston, Massachusetts, and to engage in any and all activities directly or indirectly related or incidental thereto.
- 1.4 <u>Principal Office</u>. The principal office of the Partnership shall be at 133 Pearl Street, Boston, Massachusetts 02110.
- 1.5 <u>Term.</u> The term of the Partnership shall commence on the date the Certificate of Limited Partnership described in Section 8 of the Act (the "Certificate") is filed in the office of the Secretary of State of Massachusetts in accordance with the Act, and shall continue until the winding up and liquidation of the Partnership and the completion of its business following a Liquidating Event, as provided in <u>Article XI</u> hereof.
- 1.6 <u>Registered Agent</u>. The registered agent for service of process on the Partnership shall be Andrew H. Kara, Esq., Rubin and Rudman LLP, a Massachusetts limited liability Partnership, or any successor as appointed by the General Partner in accordance with the Act. The registered office of the Partnership in the Commonwealth of Massachusetts is located at 53 State Street, Boston, MA 02110.

- 1.7 <u>Definitions</u>. Capitalized words and phrases used in this Agreement have the following meanings:
- (a) "Act" means the Massachusetts Uniform Limited Partnership Act, as set forth in Chapter 109 of the Massachusetts General Laws, as amended from time to time (or any corresponding provisions of succeeding law).
- (b) "Affiliate" means, with respect to any Person, (i) any Person directly or indirectly controlling, controlled by or under common control with such Person, (ii) any officer, director, general partner, member, or trustee of such Person, or (iii) any Person who is an officer, director, general partner, member, or trustee of any Person described in clause (i) or clause (ii) of this sentence. For purposes of this definition, the terms "controlling," "controlled by," and "under common control with" shall mean the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person or entity, whether through the ownership of voting securities, by contract or otherwise, or the power to elect at least fifty percent (50%) of the directors, managers, general partners, or Persons exercising similar authority with respect to such Person or entity.
- (c) "<u>Agreement</u>" means this Agreement of Limited Partnership, as amended from time to time. Words such as "herein," "hereinafter," "hereof," "hereto," and "hereunder," refer to this Agreement as a whole, unless the context otherwise requires.
- "Bankruptcy" means, with respect to any Person, a "Voluntary Bankruptcy" or an "Involuntary Bankruptcy." A "Voluntary Bankruptcy" means, with respect to any Person, (i) the inability of such Person generally to pay its debts as such debts become due, or an admission in writing by such Person of its inability to pay its debts generally, or a general assignment by such Person for the benefit of creditors; (ii) the filing of any petition or answer by such Person seeking to adjudicate it a bankrupt or insolvent, or seeking for itself any liquidation, winding up, reorganization, arrangement, adjustment, protection, relief, or composition of such Person or its debts under any law relating to bankruptcy, insolvency or reorganization or relief of debtors, or seeking, consenting to, or acquiescing in the entry of an order for relief or the appointment of a receiver, trustee, custodian or other similar official for such Person or for all or any substantial part of its property; or (iii) the taking of corporate action by such Person to authorize any of the actions set forth above. An "Involuntary Bankruptcy" means, with respect to any Person, without the consent or acquiescence of such Person, the entering of an order for relief or approving a petition for relief or reorganization or any other petition seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or other similar relief under any present or future bankruptcy, insolvency, or similar statute, law, or regulation, or the filing of any such petition against such Person which petition shall not be dismissed within ninety (90) days, or, without the consent or acquiescence of such Person, the entering of an order appointing a trustee, custodian, receiver or liquidator of such Person or of all or any substantial part of the property of such Person which order shall not be dismissed within

- sixty (60) days. The Partners intend that these definitions of Voluntary Bankruptcy and Involuntary Bankruptcy supersede the definitions set forth in Section 23 of the Act.
- (e) "<u>Capital Account</u>" means, with respect to any Partner, the Capital Account maintained for such Person in accordance with the following provisions:
 - (i) To each Person's Capital Account there shall be credited such Person's Capital Contributions, such Person's distributive share of Profits, and the amount of any Partnership liabilities assumed by such Person or that are secured by any Partnership Property distributed to such Person.
 - (ii) To each Person's Capital Account there shall be debited the amount of cash and the Gross Asset Value of any Partnership Property distributed to such Person pursuant to any provision of this Agreement, such Person's distributive share of Losses, and the amount of any liabilities of such Person assumed by the Partnership or that are secured by any property contributed by such Person to the Partnership.
 - (iii) In the event all or a portion of an interest in the Partnership is transferred in accordance with the terms of this Agreement, the transferee shall succeed to the Capital Account of the transferor to the extent it relates to the transferred interest.
 - (iv) In determining the amount of any liability for purposes of Sections 1.7(e)(i) and 1.7(e)(ii) hereof, there shall be taken into account Code Section 752(c) and any other applicable provisions of the Code and Regulations.
- (f) "<u>Capital Contributions</u>" means, with respect to any Partner, the amount of money and the initial Gross Asset Value of any property (other than money) contributed to the Partnership with respect to the interest in the Partnership held by such Partner.
- (g) "Code" means the Internal Revenue Code of 1986, as amended from time to time (or any corresponding provisions of succeeding law).
- (h) "Depreciation" means, for each Fiscal Year, an amount equal to the depreciation, amortization or other cost recovery deduction allowable with respect to an asset for such Fiscal Year, except that if the Gross Asset Value of an asset differs from its adjusted basis for federal income tax purposes at the beginning of such Fiscal Year, Depreciation shall be an amount that bears the same ratio to such beginning Gross Asset Value as the federal income tax depreciation, amortization or other cost recovery deduction for such Fiscal Year bears to such beginning adjusted tax basis; provided, however, that if the adjusted basis for federal income tax purposes of an asset at the beginning of such Fiscal Year is zero, Depreciation shall be determined with reference to such beginning Gross Asset Value using any reasonable method selected by the General Partner.

- (i) "<u>Fiscal Year</u>" means (i) the period commencing on the effective date of this Agreement and ending on December 31, 2017, (ii) any subsequent twelve (12) month period commencing on January 1 and ending on December 31, or (iii) any portion of the period described in clause (ii) for which the Partnership is required to allocate Profits and Losses pursuant to <u>Article III</u> hereof.
- (j) "General Partner" means any Person who (i) is referred to as such in the first paragraph of this Agreement or has become a General Partner pursuant to the terms of this Agreement, and (ii) has not ceased to be a General Partner pursuant to the terms of this Agreement.
- (k) "Gross Asset Value" means, with respect to any asset, the asset's adjusted basis for federal income tax purposes, except as follows:
 - (i) The initial Gross Asset Value of any asset contributed by a Partner to the Partnership shall be the gross fair market value of such asset, as determined by the contributing Partner and the General Partner, <u>provided</u>, that, if the contributing Partner is the General Partner, the determination of the fair market value of a contributed asset shall require the consent of the Limited Partners.
 - (ii) The Gross Asset Values of all Partnership assets shall be adjusted to equal their respective gross fair market values, as determined by the General Partner, as of the following times: (a) the acquisition of an additional interest in the Partnership by any new or existing Partner in exchange for more than a <u>de minimis</u> Capital Contribution or the performance of significant services; (b) the distribution by the Partnership to any Partner of more than a <u>de minimis</u> amount of Partnership Property as consideration for an interest in the Partnership; and (c) the liquidation of the Partnership within the meaning of Regulations Section 1.704-1(b)(2)(ii)(g); <u>provided</u>, <u>however</u>, that adjustments pursuant to clauses (a) and (b) above shall be made only if the General Partner reasonably determines that such adjustments are necessary or appropriate to reflect the relative economic interests of the Partners in the Partnership.
 - (iii) The Gross Asset Value of any Partnership asset distributed to any Partner shall be adjusted to equal the gross fair market value of such asset on the date of distribution as determined by the distributee and the General Partner, provided, that, if the distributee is the General Partner, the determination of the fair market value of the distributed asset shall require the consent of the Limited Partners.

If the Gross Asset Value of an asset has been determined or adjusted pursuant to Section 1.7(k)(i) or 1.7(k)(ii) hereof, such Gross Asset Value shall thereafter be adjusted by the Depreciation taken into account with respect to such asset for purposes of computing Profits and Losses.

- (l) "<u>Interest</u>" means the economic interest of a Limited Partner in Partnership capital, Profits, Losses, and distributions of the Partnership, including any and all other benefits to which the holder of such an interest may be entitled as provided in this Agreement, together with all obligations of such person to comply with the terms and provisions of this Agreement.
- (m) "<u>Limited Partner</u>" means any Person who (i) is referred to as such in the first paragraph of this Agreement or has become a Limited Partner pursuant to the terms of this Agreement, and (ii) who is the owner of a limited partner interest in the Partnership.
- (n) "Net Cash From Operations" means the gross cash proceeds from Partnership operations (including sales and dispositions in the ordinary course of business) less the portion thereof used to pay or establish reserves for all Partnership expenses, debt payments, capital improvements, replacements, and contingencies, all as determined by the General Partner. "Net Cash From Operations" shall not be reduced by depreciation, amortization, cost recovery deductions, or similar allowances, but shall be increased by any reductions of reserves previously established pursuant to the first sentence of either this Section 1.7(n) or Section 1.7(o) hereof.
- (o) "Net Cash From Sales or Refinancings" means the net cash proceeds from all sales and other dispositions (other than in the ordinary course of business) and all refinancings of Property, less any portion thereof used to establish reserves, all as determined by the General Partner. "Net Cash From Sales or Refinancings" shall include all principal and interest payments with respect to any note or other obligation received by the Partnership in connection with sales and other dispositions (other than in the ordinary course of business) of Property.
- (p) "<u>Nonrecourse Deductions</u>" has the meaning set forth in Sections 1.704-2(b)(1) and 1.704-2(c) of the Regulations.
- (q) "Nonrecourse Liability" has the meaning set forth in Section 1.704-2(b)(3) of the Regulations.
- (r) "<u>Partner Nonrecourse Debt</u>" has the meaning set forth in Section 1.704-2(b)(4) of the Regulations.
- (s) "<u>Partner Nonrecourse Debt Minimum Gain</u>" means an amount, with respect to each Partner Nonrecourse Debt, equal to the Partnership Minimum Gain that would result if such Partner Nonrecourse Debt were treated as a Nonrecourse Liability, determined in accordance with Section 1.704-2(i)(3) of the Regulations.
- (t) "<u>Partner Nonrecourse Deductions</u>" has the meaning set forth in Sections 1.704-2(i)(1) and 1.704-2(i)(2) of the Regulations.

- (u) "<u>Partners</u>" means the General Partner and the Limited Partners, where no distinction is required by the context in which the term is used herein. "<u>Partner</u>" means any one of the Partners.
- (v) "<u>Partnership</u>" means the partnership formed pursuant to this Agreement and the partnership continuing the business of this Partnership in the event of dissolution as herein provided.
- (w) "<u>Partnership Minimum Gain</u>" has the meaning set forth in Regulations Sections 1.704-2(b)(2) and 1.704-2(d) of the Regulations.
- (x) "Person" means any individual, partnership, limited liability company, corporation, association, trust, estate, custodian, nominee, or other entity in its own or any representative capacity.
- (y) "<u>Profits</u>" and "<u>Losses</u>" means, for each Fiscal Year, an amount equal to the Partnership's taxable income or loss for such year or period, determined in accordance with Code Section 703(a) (for this purpose, all items of income, gain, loss, or deduction required to be stated separately pursuant to Code Section 703(a)(1) shall be included in taxable income or loss), with the following adjustments:
 - (i) Any income of the Partnership that is exempt from federal income tax and not otherwise taken into account in computing Profits and Losses pursuant to this Section 1.7(y) shall be added to such taxable income or loss.
 - (ii) Any expenditures of the Partnership described in Code Section 705(a)(2)(B) or treated as Code Section 705(a)(2)(B) expenditures pursuant to Regulations Section 1.704-1(b)(2)(iv)(i), and not otherwise taken into account in computing Profits or Losses pursuant to this Section 1.7(y) shall be subtracted from such taxable income or loss.
 - (iii) In the event the Gross Asset Value of any Partnership asset is adjusted pursuant to Section 1.7(k)(ii) or Section 1.7(k)(iii) hereof, the amount of such adjustment shall be taken into account as gain or loss from the disposition of such asset for purposes of computing Profits and Losses.
 - (iv) Gain or loss resulting from any disposition of Partnership Property with respect to which gain or loss is recognized for federal income tax purposes shall be computed by reference to the Gross Asset Value of the property disposed of, notwithstanding that the adjusted tax basis of such property differs from its Gross Asset Value.

- (v) In lieu of the depreciation, amortization, and other cost recovery deductions taken into account in computing such taxable income or loss, there shall be taken into account Depreciation for such fiscal year or other period, computed in accordance with Section 1.7(h) hereof.
- (z) "<u>Property</u>" means all real and personal property acquired and operated by the Partnership and any improvements thereto, and shall include both tangible and intangible property.
- (aa) "<u>Regulations</u>" means the Income Tax Regulations, including Temporary Regulations, promulgated under the Code, as such regulations may be amended from time to time (including corresponding provisions of succeeding regulations).
- (ab) "<u>Transfer</u>" means, as a noun, any voluntary or involuntary transfer, sale, or other disposition and, as a verb, voluntarily or involuntarily to transfer, sell, or otherwise dispose of property.
- (ac) "Wholly Owned Affiliate" of any Person means (i) an Affiliate of such Person one hundred percent (100%) of the voting stock or beneficial ownership of which is owned directly by such Person or by any other Person who, directly or indirectly, owns one hundred percent (100%) of the voting stock or beneficial ownership of such Person, (ii) an Affiliate of such Person who, directly or indirectly, owns one hundred percent (100%) of the voting stock or beneficial ownership of such Person, and (iii) any Wholly Owned Affiliate of any Affiliate described in clause (i) or clause (ii) of this Section 1.7(ac).

Article II: Partners' Capital Contributions; Independent Activities

- 2.1 <u>General Partner</u>. The name, address, and Capital Contribution of the General Partner are in accordance with the percentages set forth on <u>Exhibit A</u> attached hereto. The General Partner has made the Capital Contribution in accordance with the percentages set forth on <u>Exhibit A</u> as of the date of this Agreement. Except for the Capital Contribution in accordance with the percentages specified on <u>Exhibit A</u> and the requirements of applicable state law, the General Partner shall not be required to make any other Capital Contribution to the Partnership.
- 2.2 <u>Limited Partners</u>. The name, address, and Capital Contribution of each Limited Partner are in accordance with the percentages set forth on <u>Exhibit A</u> attached hereto. The Limited Partner has made the Capital Contribution in accordance with the percentages set forth on <u>Exhibit A</u> as of the date of this Agreement. Except for the Capital Contribution in accordance with the percentages specified on <u>Exhibit A</u> and the requirements of applicable state law, the Limited Partners shall not be required to make any other Capital Contribution to the Partnership.

2.3 <u>Partners</u>. <u>Exhibit A</u> shall be amended by the General Partner from time to time to reflect changes, if any, in the information set forth therein. (Any amendment to <u>Exhibit A</u> made by the General Partner in accordance with this Agreement shall not be deemed an amendment of this Agreement for purposes of Section 8.1 hereof.)

2.4 <u>Independent Activities; Transactions With Affiliates.</u>

- (a) Each General Partner and any of its Affiliates shall be required to devote only such time to the affairs of the Partnership as such General Partner determines in its sole discretion may be necessary to manage and operate the Partnership. Each such Person, to the extent not otherwise directed by such General Partner, shall be free to serve any other Person or enterprise in any capacity that it may deem appropriate in its discretion.
- (b) Insofar as permitted by applicable law, each General Partner (acting on its own behalf) and each Limited Partner (acting on his own behalf) may, notwithstanding this Agreement, engage in whatever activities they choose, whether the same are competitive with the Partnership or otherwise, without having or incurring any obligation to offer any interest in such activities to the Partnership or any Partner. Neither this Agreement nor any activity undertaken pursuant hereto shall prevent any Partner from engaging in such other activities, or require any Partner to permit the Partnership or any other Partner to participate in any such activities, and as a material part of the consideration for the execution of this Agreement by each Partner, each Partner hereby waives, relinquishes, and renounces any such right or claim of participation.

Article III: Allocations

- 3.1 <u>Profits</u>. After giving effect to the special allocations set forth in Sections 3.3 and 3.4 hereof, Profits for any Fiscal Year shall be allocated in accordance with the percentages as set forth on <u>Exhibit A</u>.
- 3.2 <u>Losses</u>. After giving effect to the special allocations set forth in Sections 3.3 and 3.4 hereof, Losses for any Fiscal Year shall be allocated among the General Partner and the Limited Partners as set forth in Section 3.2(a) below, subject to the limitations in Section 3.2(b) below.
- (a) Losses for any Fiscal Year shall be in accordance with the percentages as set forth on Exhibit \underline{A} .
- (b) The Losses allocated pursuant to Section 3.2(a) hereof shall not exceed the maximum amount of Losses that can be so allocated without causing any Limited Partner to have an Adjusted Capital Account Deficit (as defined in Regulations Section 1.704-1(b)(2)(ii)(d)) at the end of any Fiscal Year. In the event some but not all of the Limited Partners would have Adjusted Capital Account Deficits as a consequence of an allocation of Losses pursuant to Section 3.2(a), the limitation set forth in this Section

- 3.2(b) shall be applied on a Limited Partner by Limited Partner basis so as to allocate the maximum permissible Losses to each Limited Partner under Section 1.704-2(b)(2)(ii)(d) of the Regulations. All Losses in excess of the limitation set forth in this Section 3.2(b) shall be allocated to the General Partner.
- 3.3 <u>Special Allocations</u>. The following special allocations shall be made in the following order:
- (a) Minimum Gain Chargeback. Except as otherwise provided in Section 1.704-2(f) of the Regulations, notwithstanding any other provision of this Article III, if there is a net decrease in Partnership Minimum Gain during any Fiscal Year, each General Partner and Limited Partner shall be specially allocated items of Partnership income and gain for such Fiscal Year (and, if necessary, subsequent Fiscal Years) in an amount equal to such Person's share of the net decrease in Partnership Minimum Gain, determined in accordance with Regulations Section 1.704-2(g). Allocations pursuant to the previous sentence shall be made in proportion to the respective amounts required to be allocated to each General Partner and Limited Partner pursuant thereto. The items to be so allocated shall be determined in accordance with Sections 1.704-2(f)(6) and 1.704-2(j)(2) of the Regulations. This Section 3.3(a) is intended to comply with the minimum gain chargeback requirement in Section 1.704-2(f) of the Regulations and shall be interpreted consistently therewith.
- Partner Minimum Gain Chargeback. Except as otherwise provided in (b) Section 1.704-2(i)(4) of the Regulations, notwithstanding any other provision of this Article III, if there is a net decrease in Partner Nonrecourse Debt Minimum Gain attributable to a Partner Nonrecourse Debt during any Fiscal Year, each Person who has a share of the Partner Nonrecourse Debt Minimum Gain attributable to such Partner Nonrecourse Debt, determined in accordance with Section 1.704-2(i)(5) of the Regulations, shall be specially allocated items of Partnership income and gain for such Allocation Year (and, if necessary, subsequent Allocation Years) in an amount equal to such Person's share of the net decrease in Partner Nonrecourse Debt Minimum Gain attributable to such Partner Nonrecourse Debt, determined in accordance with Regulations Section 1.704-2(i)(4). Allocations pursuant to the previous sentence shall be made in proportion to the respective amounts required to be allocated to each General Partner and Limited Partner pursuant thereto. The items to be so allocated shall be determined in accordance with Sections 1.704-2(i)(4) and 1.704-2(j)(2) of the This Section 3.3(b) is intended to comply with the minimum gain Regulations. chargeback requirement in Section 1.704-2(i)(4) of the Regulations and shall be interpreted consistently therewith.
- (c) <u>Qualified Income Offset</u>. In the event any Limited Partner unexpectedly receives any adjustments, allocations or distributions described in Regulations Section $1.704-1(b)(2)(ii)(\underline{d})(\underline{4})$, Regulations Section $1.704-1(b)(2)(ii)(\underline{d})(\underline{5})$, or Regulations Section $1.704-1(b)(2)(ii)(\underline{d})(\underline{6})$, items of Partnership income and gain shall be specially allocated to such Limited Partner in an amount and manner sufficient to eliminate, to the

extent required by the Regulations, the Adjusted Capital Account Deficit (as defined in Regulations Section 1.704-1(b)(2)(ii)(d)) of such Limited Partner as quickly as possible; provided, that an allocation pursuant to this Section 3.3(c) shall be made if and only to the extent that such Limited Partner would have an Adjusted Capital Account Deficit after all other allocations provided for in this <u>Article III</u> have been tentatively made as if this Section 3.3(c) were not in this Agreement.

- (d) Gross Income Allocation. In the event any Limited Partner has a deficit Capital Account at the end of any Allocation Year that is in excess of the sum of (i) the amount such Limited Partner is obligated to restore pursuant to any provision of this Agreement, and (ii) the amount such Limited Partner is deemed to be obligated to restore pursuant to the penultimate sentences of Regulations Sections 1.704-2(g)(1) and 1.704-2(i)(5), such Limited Partner shall be specially allocated items of Partnership income and gain in the amount of such excess as quickly as possible; provided, that an allocation pursuant to this Section 3.3(d) shall be made if and only to the extent that such Limited Partner would have a deficit Capital Account in excess of such sum after all other allocations provided for in this Article III have been tentatively made as if this Section 3.3(d) and Section 3.3(c) hereof were not in this Agreement.
- (e) <u>Nonrecourse Deductions</u>. Nonrecourse Deductions for any Allocation Year shall be specially allocated in accordance with the percentages as set forth on <u>Exhibit A</u>.
- (f) <u>Partner Nonrecourse Deductions</u>. Any Partner Nonrecourse Deductions for any Fiscal Year shall be specially allocated to the General Partner or Limited Partner who bears the economic risk of loss with respect to the Partner Nonrecourse Debt to which such Partner Nonrecourse Deductions are attributable in accordance with Regulations Section 1.704-2(i)(1).
- (g) Section 754 Adjustment. To the extent an adjustment to the adjusted tax basis of any Partnership asset pursuant to Code Section 734(b) or Code Section 743(b) is required, pursuant to Regulations Section $1.704-1(b)(2)(iv)(\underline{m})(\underline{2})$ or Regulations Section $1.704-1(b)(2)(iv)(\underline{m})(\underline{4})$, to be taken into account in determining Capital Accounts as the result of a distribution to a General Partner or Limited Partner in complete liquidation of its interest in the Partnership, the amount of such adjustment to the Capital Accounts shall be treated as an item of gain (if the adjustment increases the basis of the asset) or loss (if the adjustment decreases such basis) and such gain or loss shall be specially allocated to the General Partner and Limited Partners in accordance with their interests in the Partnership in the event that Regulations Section $1.704-1(b)(2)(iv)(\underline{m})(\underline{2})$ applies, or to the General Partner or Limited Partner to whom such distribution was made in the event that Regulations Section $1.704-1(b)(2)(iv)(\underline{m})(\underline{4})$ applies.
- 3.4 <u>Curative Allocations</u>. The allocations set forth in Sections 3.2(b) and 3.3 hereof (the "Regulatory Allocations") are intended to comply with certain requirements of the Regulations. It is the intent of the Partners that, to the extent possible, all Regulatory

Allocations shall be offset either with other Regulatory Allocations or with special allocations of other items of Partnership income, gain, loss, or deduction pursuant to this Section 3.4. Therefore, notwithstanding any other provision of this Article III (other than the Regulatory Allocations), the General Partner shall make such offsetting special allocations of Partnership income, gain, loss, or deduction in whatever manner the General Partner determines appropriate so that, after such offsetting allocations are made, each General Partner's and Limited Partner's Capital Account balance is, to the extent possible, equal to the Capital Account balance such General Partner or Limited Partner would have had if the Regulatory Allocations were not part of this Agreement and all Partnership items were allocated pursuant to Sections 3.1 and 3.2(a). In exercising its discretion under this Section 3.4, the General Partner shall take into account future Regulatory Allocations under Sections 3.3(a) and 3.3(b) that, although not yet made, are likely to offset other Regulatory Allocations previously made under Sections 3.3(e) and 3.3(f).

3.5 <u>Tax Allocations: Code Section 704(c)</u>. In accordance with Code Section 704(c) and the Regulations thereunder, income, gain, loss, and deduction with respect to any property contributed to the capital of the Partnership shall, solely for tax purposes, be allocated among the General Partner and Limited Partners so as to take account of any variation between the adjusted basis of such property to the Partnership for federal income tax purposes and its initial Gross Asset Value (computed in accordance with Section 1.7(k)(i) hereof).

In the event the Gross Asset Value of any Partnership asset is adjusted pursuant to Section 1.7(k)(ii) hereof, subsequent allocations of income, gain, loss, and deduction with respect to such asset shall take account of any variation between the adjusted basis of such asset for federal income tax purposes and its Gross Asset Value in the same manner as under Code Section 704(c) and the Regulations thereunder.

Any elections or other decisions relating to such allocations shall be made by the General Partner in any manner that reasonably reflects the purpose and intention of this Agreement. Allocations pursuant to this Section 3.5 are solely for purposes of federal, state, and local taxes and shall not affect, or in any way be taken into account in computing, any Person's Capital Account or share of Profits, Losses, other items, or distributions pursuant to any provision of this Agreement.

3.6 General Allocation Rules.

- (a) All allocations to the Limited Partners pursuant to this <u>Article III</u> shall, except as otherwise provided, be divided among them in proportion to their limited partner interests in the Partnership in accordance with the percentages as set forth on <u>Exhibit A</u>, as that exhibit may be amended from time to time.
- (b) The Partners are aware of the income tax consequences of the allocations made by this <u>Article III</u> and hereby agree to be bound by the provisions of this <u>Article III</u> in reporting their shares of Partnership income and loss for income tax purposes.

(c) Solely for purposes of determining a Partner's proportionate share of the "excess nonrecourse liabilities" of the Partnership, within the meaning of Treasury Regulations Section 1.752-3(a)(3), the Partners' interests in Partnership profits are in accordance with the percentages as set forth on Exhibit A.

Article IV: Distributions

- 4.1 <u>Net Cash From Operations</u>. Except as otherwise provided in Section 11.2 hereof, Net Cash From Operations, if any, shall be distributed, not later than the thirtieth (30th) day after the end of each fiscal quarter, in accordance with the percentages as set forth on Exhibit A.
- 4.2 <u>Net Cash From Sales or Refinancings</u>. Except as otherwise provided in Section 11.2 hereof, Net Cash From Sales or Refinancings shall be distributed, at such times as the General Partner may determine, in accordance with the percentages as set forth on Exhibit A.
- 4.3 <u>Division Among Limited Partners</u>. Except as otherwise provided herein, all distributions to the Limited Partners pursuant to this <u>Article IV</u> shall be divided among them in proportion to their limited partner interests in the Partnership, in accordance with the percentages as set forth on Exhibit A, as that exhibit may be amended from time to time.

Article V: Management

- 5.1 <u>Authority of the General Partner</u>. The General Partner shall have the sole and exclusive right to manage the business of the Partnership and shall have all of the rights and powers that may be possessed by general partners under the Act, including, without limitation, the right and power to:
 - (a) Conduct the Partnership's business, carry on its operations, and have and exercise the powers granted by the Act in any state in which the exercise of such powers may be necessary or convenient to effect the purposes for which the Partnership is organized;
 - (b) Acquire by purchase, lease, ground lease or otherwise any property that may be necessary, convenient, or incidental to the accomplishment of the purposes of the Partnership;
 - (c) Operate, maintain, finance, improve, construct, own, grant options with respect to, sell, convey, assign, mortgage, and lease any real estate and any personal property necessary, convenient, or incidental to the accomplishment of the purposes of the Partnership;

- (d) Execute any and all agreements, contracts, documents, certifications, and instruments necessary or convenient in connection with managing the business and affairs of the Partnership, including executing amendments to this Agreement and the Certificate, in accordance with the terms of this Agreement, both as General Partner and, if required, as attorney-in-fact for the Limited Partners pursuant to any power of attorney granted by the Limited Partners to the General Partner;
- (e) Borrow money and issue evidences of indebtedness necessary, convenient, or incidental to the accomplishment of the purposes of the Partnership, and secure the same by mortgage, pledge, or other lien on any Partnership Property;
- (f) Execute, in furtherance of any or all of the purposes of the Partnership, any deed, lease, mortgage, deed of trust, mortgage note, promissory note, bill of sale, contract, or other instrument purporting to convey or encumber any or all of the Partnership Property;
- (g) Prepay in whole or in part, refinance, recast, increase, modify, or extend any liabilities affecting the Partnership Property and in connection therewith execute any extensions or renewals of encumbrances on any or all of the Partnership Property;
- (h) Care for and distribute funds to the General Partner and Interest Holders by way of cash, income, return of capital, or otherwise, all in accordance with the provisions of this Agreement, and perform all matters in furtherance of the objectives of the Partnership or this Agreement;
- (i) Establish and maintain such cash or cash equivalent reserves as the General Partner, in his sole discretion, may deem appropriate in connection with the business and affairs of the Partnership;
- (j) Contract on behalf of the Partnership for, and pay and incur reasonable expenses in connection with, the employment and services of employees and/or independent contractors, such as lawyers and accountants, and delegate to such Persons the duty to manage or supervise any of the assets or operations of the Partnership;
- (k) Engage in any kind of activity and perform and carry out contracts of any kind (including contracts of insurance covering risks to Partnership Property and General Partner's liability) necessary or incidental to, or in connection with, the accomplishment of the purposes of the Partnership, as may be lawfully carried on or performed by a partnership under the laws of the Commonwealth of Massachusetts:

- Make any and all elections for federal, state, and local tax purposes, including, without limitation, any election, if permitted by applicable law: (i) to adjust the basis of Partnership Property pursuant to Code Sections 754, 734(b), and 743(b), or comparable provisions of state or local law, in connection with transfers of interests in the Partnership and Partnership distributions; (ii) to extend the statute of limitations for assessment of tax deficiencies against the General Partner and Interest Holders with respect to adjustments to the Partnership's federal, state, or local tax returns; and (iii) to the extent provided in Code Sections 6221 through 6231, to represent the Partnership, the General Partner, and the Interest Holders before taxing authorities or courts of competent jurisdiction in tax matters affecting the Partnership, the General Partner and the Interest Holders in their capacities as General Partner and Interest Holders, and to file any tax returns and execute any agreements or other documents relating to or affecting such tax matters, including agreements or other documents that bind the General Partner and Interest Holders with respect to such tax matters or otherwise affect the rights of the Partnership, General Partner and Interest Holders. Louis J. Grossman is specifically authorized to act as the "Tax Matters Partner" under the Code and in any similar capacity under state or local law;
- (m) Take, or refrain from taking, all actions, not expressly proscribed or limited by this Agreement, as may be necessary or appropriate to accomplish the purposes of the Partnership; and
- (n) Institute, prosecute, defend, settle, compromise, and dismiss lawsuits or other judicial or administrative proceedings brought on or in behalf of, or against, the Partnership or the Partners in connection with activities arising out of, connected with, or incidental to this Agreement, and to engage counsel or others in connection therewith.

If and for so long as more than one Person is a General Partner, the rights and powers of the General Partners hereunder shall be exercised by them in such manner as they may agree. In the absence of an agreement among the General Partners, no General Partner shall exercise any of such rights and powers without the unanimous consent of all of the General Partners.

5.2 Right to Rely on General Partner.

- (a) Any Person dealing with the Partnership may rely (without duty of further inquiry) upon a certificate signed by any General Partner as to:
 - (i) the identity of any General Partner or Limited Partner;
 - (ii) the existence or nonexistence of any fact or facts that constitute a condition precedent to acts by the General Partner or that are in any other manner germane to the affairs of the Partnership;

- (iii) the Persons who are authorized to execute and deliver any instrument or document of the Partnership; or
- (iv) any act or failure to act by the Partnership or any other matter whatsoever involving the Partnership or any Partner.
- (b) The signature of the General Partner shall be necessary and sufficient to convey title to any real property owned by the Partnership or to execute any promissory notes, trust deeds, mortgages, or other instruments of hypothecation, and all of the Partners agree that a copy of this Agreement may be shown to the appropriate parties in order to confirm the same, and further agree that the signature of the General Partner shall be sufficient to execute any "statement of partnership" or other documents necessary to effectuate this or any other provision of this Agreement. All of the Partners do hereby appoint the General Partner as their attorney-in-fact for the execution of any or all of the documents described in this Section 5.2(b).

Article VI: Role of Limited Partners

- 6.1 <u>Rights or Powers</u>. The Limited Partners shall not have any right or power to take part in the management or control of the Partnership or its business and affairs or to act for or bind the Partnership in any way.
- 6.2 <u>Voting Rights</u>. The Limited Partners shall have the right to approve or consent to the matters specifically reserved for its approval or consent that are set forth in this Agreement.

Article VII: Books and Records

- 7.1 <u>Books and Records</u>. The Partnership shall maintain at its principal place of business separate books of account for the Partnership which shall show a true and accurate record of all costs and expenses incurred, all charges made, all credits made and received, and all income derived in connection with the conduct of the Partnership and the operation of its business in accordance with generally accepted accounting principles consistently applied, and, to the extent inconsistent therewith, in accordance with this Agreement. Any Partner or his designated representative shall have the right, at any reasonable time, to have access to and inspect and copy the contents of such books or records.
- 7.2 <u>Annual Reports.</u> Within ninety (90) days after the end of each Partnership Fiscal Year, the General Partner shall cause to be prepared and each Partner to be furnished with financial statements for the Partnership, including the following: (i) a copy of the balance sheet of the Partnership as of the last day of such Fiscal Year; (ii) a statement of income or loss for the Partnership for such Fiscal Year; (iii) a statement of the Partners' Capital Accounts and changes therein for such Fiscal Year; and (iv) a statement of Partnership cash flow for such Fiscal Year.

7.3 <u>Tax Information</u>. Necessary tax information shall be delivered to each Partner after the end of each Fiscal Year of the Partnership together with the annual reports described in Section 7.2 hereof.

Article VIII: Amendments

- 8.1 <u>Amendments</u>. Amendments to this Agreement may be proposed by the General Partner or the Limited Partners. A proposed amendment shall be adopted and be effective as an amendment hereto only if it receives the affirmative vote of the General Partner and the Limited Partners.
- 8.2 <u>Exceptions</u>. Notwithstanding Section 8.1(a) hereof, this Agreement shall not be amended without the consent of each Partner adversely affected if such amendment would (a) convert a Limited Partner's interest in the Partnership into a General Partner's interest, (b) modify the limited liability of a Limited Partner, or (c) alter the interest of a Partner in Profits, Losses, or other items, or in any Partnership distributions.

Article IX: Transfers of Interests

- 9.1 <u>Restriction on Transfers</u>. Except as otherwise permitted by this Agreement, no Limited Partner shall Transfer all or any portion of its interest in the Partnership. In the event that any Limited Partner pledges or otherwise encumbers all or any part of its interest in the Partnership as security for the payment of a debt, any such pledge or hypothecation shall be made pursuant to a pledge or hypothecation agreement that requires the pledgee or secured party to be bound by all of the terms and conditions of this Article IX.
- 9.2 Permitted Transfers. Subject to the conditions and restrictions set forth in Section 9.3 hereof, a Limited Partner may at any time Transfer all or any portion of such Limited Partner's Interests to (a) the Partnership, (b) any other Limited Partner, (c) any member of the transferor's Family, (d) the transferor's executor, administrator, trustee, or personal representative to whom such Interests are transferred at death or involuntarily by operation of law, (e) upon the termination of a trust, the beneficiaries thereof in accordance with the terms of the governing trust instrument, (f) upon the termination of a custodianship under applicable state law, the individual for whom such Limited Partner held such Interests as custodian, or (g) any Purchaser in accordance with Section 9.4 hereof (any such Transfer being referred to in this Agreement as a "Permitted Transfer"). For purposes hereof, a Limited Partner's "Family" shall include only such Limited Partner's spouse, natural or adoptive lineal ancestors or descendants, and trusts for the exclusive benefit of any one or more of such Limited Partner and the individuals who are members of such Limited Partner's Family.
- 9.3 <u>Conditions to Permitted Transfers</u>. A Transfer shall not be treated as a Permitted Transfer under Section 9.2 hereof unless and until the following conditions are

satisfied:

- (a) Except in the case of a Transfer of Interests at death or involuntarily by operation of law, the transferor and transferee shall execute and deliver to the Partnership such documents and instruments of conveyance as may be necessary or appropriate in the opinion of counsel to the Partnership to effect such Transfer and to confirm the agreement of the transferee to be bound by the provisions of this <u>Article IX</u>. In the case of a Transfer of Interests at death or involuntarily by operation of law, the Transfer shall be confirmed by presentation to the Partnership of legal evidence of such Transfer, in form and substance satisfactory to counsel to the Partnership. In all cases, the Partnership shall be reimbursed by the transferor and/or transferee for all costs and expenses that the Partnership reasonably incurs in connection with such Transfer.
- (b) Except in the case of a Transfer at death or involuntarily by operation of law, the transferor shall furnish to the Partnership, if the General Partners so require in their discretion, an opinion of counsel, which counsel and opinion shall be satisfactory to the Partnership, that the Transfer will not cause the Partnership to terminate for federal income tax purposes.
- (c) The transferor and transferee shall furnish the Partnership with the transferee's taxpayer identification number and sufficient information to determine the transferee's initial tax basis in the Interests transferred, and any other information reasonably necessary to permit the Partnership to file all required federal and state tax returns and other legally required information statements or returns. Without limiting the generality of the foregoing, the Partnership shall not be required to make any distribution otherwise provided for in this Agreement with respect to any transferred Interests until it has received such information.
- (d) Except in the case of a Transfer of Interests at death or involuntarily by operation of law, either (a) such Interests shall be registered under the Securities Act of 1933, as amended, and any applicable state securities laws, or (b) the transferor shall provide an opinion of counsel, which opinion and counsel shall be satisfactory to the Partnership, to the effect that such Transfer is exempt from all applicable registration requirements and that such Transfer will not violate any applicable laws regulating the Transfer of securities.

9.4 Intentionally Deleted.

9.5 <u>Prohibited Transfers</u>. Any purported Transfer of Interests that is not a Permitted Transfer shall be null and void and of no force or effect whatever; <u>provided</u>, that, if the Partnership is required (or, in the sole and absolute discretion of the General Partners, elects) to recognize a Transfer that is not a Permitted Transfer, the interest transferred shall be strictly limited to the transferor's rights to allocations and distributions as provided by this Agreement with respect to the transferred Interests, which allocations and distributions may be applied (without limiting any other legal or equitable rights of the Partnership) to satisfy any debts, obligations, or liabilities for damages that the transferor or transferee of such

Interests may have to the Partnership.

In the case of a Transfer or attempted Transfer of Interests that is not a Permitted Transfer, the parties engaging or attempting to engage in such Transfer shall be liable to indemnify and hold harmless the Partnership and the Partners from all cost, liability, and damage that any of such indemnified Persons may incur (including, without limitation, incremental tax liability and lawyers' fees and expenses) as a result of such Transfer or attempted Transfer and efforts to enforce the indemnity granted hereby.

- 9.6 <u>Rights of Unadmitted Assignees</u>. A Person who acquires one or more Interests but who is not admitted as a substituted Limited Partner pursuant to Section 9.7 hereof shall be entitled only to allocations and distributions with respect to such Interests in accordance with this Agreement, and shall have no right to any information or accounting of the affairs of the Partnership, shall not be entitled to inspect the books or records of the Partnership, and shall not have any of the rights of a Limited Partner under the Act or this Agreement.
- 9.7 <u>Admission of Transferees of Interests as Partners</u>. Subject to the other provisions of this <u>Article IX</u>, a transferee of Interests may be admitted to the Partnership as a substituted Limited Partner only upon satisfaction of the conditions set forth below in this Section 9.7:
- (a) the General Partners consent in writing to such admission, which consent may be given or withheld in the sole and absolute discretion of the General Partners;
- (b) the Interests with respect to which the transferee is being admitted were acquired by means of a Permitted Transfer;
- (c) the transferee becomes a party to this Agreement as a Limited Partner and executes such documents and instruments as the General Partners may reasonably request as necessary or appropriate to confirm such transferee as a Limited Partner in the Partnership and such transferee's agreement to be bound by the terms and conditions hereof;
- (d) the transferee pays or reimburses the Partnership for all reasonable legal, filing, and publication costs that the Partnership incurs in connection with the admission of the transferee as a Limited Partner with respect to the transferred Interests; and
- (e) if the transferee is not an individual of legal majority, the transferee provides the Partnership with evidence satisfactory to counsel for the Partnership of the authority of the transferee to become a Partner and to be bound by the terms and conditions of this Agreement.
- 9.8 <u>Distributions and Allocations in Respect of Transferred Interests</u>. If any Interest is transferred during any Fiscal Year in compliance with the provisions of this <u>Article IX</u>, Profits, Losses, each item thereof, and all other items attributable to such Interest

for such Fiscal Year shall be divided and allocated between the transferor and the transferee by taking into account their varying interests during such Fiscal Year in accordance with Code Section 706(d), using any conventions permitted by law and selected by the General Partners. All distributions on or before the date of such Transfer shall be made to the transferor, and all distributions thereafter shall be made to the transferee. Solely for purposes of making such allocations and distributions, the Partnership shall recognize such Transfer not later than the end of the calendar month during which it is given notice of such Transfer; provided, that, if the Partnership is given notice of a Transfer at least ten (10) Business Days prior to the Transfer, the Partnership shall recognize such Transfer as of the date of such Transfer; and, provided further, that, if the Partnership does not receive a notice stating the date such Interest was transferred, and such other information as the General Partners may reasonably require, within thirty (30) days after the end of the Fiscal Year during which the Transfer occurred, then all of such items shall be allocated, and all distributions shall be made, to the Person who, according to the books and records of the Partnership, was the owner of such transferred Interest on the last day of the Fiscal Year during which the Transfer occurred. Neither the Partnership nor any General Partner shall incur any liability for making allocations and distributions in accordance with the provisions of this Section 9.8, whether or not any General Partner or the Partnership has knowledge of any Transfer of ownership of any Interest.

Article X: General Partners

- 10.1 <u>Additional General Partners</u>. Except as provided in this <u>Article X</u> and Section 11.1 hereof, no Person shall be admitted to the Partnership as a General Partner without the unanimous consent of the General Partners and the consent of the Limited Partners.
- 10.2 <u>Covenant Not to Withdraw, Transfer, or Dissolve</u>. Except as otherwise permitted by this Agreement, each General Partner hereby covenants and agrees not to (a) take any action to file a certificate of dissolution or its equivalent with respect to itself, (b) take any action that would cause a Voluntary Bankruptcy of such General Partner, (c) withdraw or attempt to withdraw from the Partnership, (d) exercise any power under the Act to dissolve the Partnership, (e) Transfer all or any portion of its interest in the Partnership as a General Partner, or (f) petition for judicial dissolution of the Partnership. Further, each General Partner hereby covenants and agrees to continue to carry out the duties of a General Partner hereunder until the Partnership is dissolved and liquidated pursuant to <u>Article XI</u> hereof.

10.3 Permitted Transfers.

(a) A General Partner may Transfer all or any part of its interest in the Partnership as a General Partner (i) at any time to any other General Partner, (ii) at any time to any Person who is such General Partner's Wholly Owned Affiliate on the day of such Transfer, (iii) at any time involuntarily by operation of law, or (iv) to any Person who is approved by the Limited Partners holding more than fifty percent (50%) of the interests of

all of the Limited Partners; <u>provided</u>, that no such Transfer shall be permitted unless and until (A) all of the conditions set forth in Section 9.3 hereof (other than Section 9.3(a)) are satisfied as if the Partnership interest being transferred were a Limited Partner interest, and (B) the transferor and transferee provide the Partnership with an opinion of counsel, which opinion and counsel shall be acceptable to counsel to the Partnership, to the effect that such Transfer will not cause the Partnership to become taxable as a corporation for federal income tax purposes.

- (b) A transferee of an interest in the Partnership from a General Partner hereunder shall be admitted as a General Partner with respect to such interest if, but only if, (i) at the time of such Transfer, such transferee is otherwise a General Partner, or (ii) the admission of such transferee as a General Partner is approved by the Limited Partners.
- (c) A transferee who acquires a Partnership interest from a General Partner hereunder by means of a Transfer that is permitted under this Section 10.3, but who is not admitted as a General Partner, shall have no authority to act for or bind the Partnership, to inspect the Partnership's books or records, to obtain any information or accounting of the affairs of the Partnership, or otherwise to be treated as a General Partner, and such transferee shall be entitled only to allocations and distributions with respect to such interest in accordance with this Agreement.
- 10.4 <u>Prohibited Transfers</u>. Any purported Transfer of any interest in the Partnership held by a General Partner that is not permitted by Section 10.3 above shall be null and void and of no force or effect whatever; <u>provided</u>, that, if the Partnership is required to recognize a Transfer that is not so permitted, the interest transferred shall be strictly limited to the transferor's rights to allocations and distributions as provided by this Agreement with respect to the transferred interest, which allocations and distributions may be applied (without limiting any other legal or equitable rights of the Partnership) to satisfy the debts, obligations, or liabilities for damages that the transferor or transferee of such interest may have to the Partnership.

10.5 Termination of Status as General Partner.

(a) A General Partner shall cease to be a General Partner upon the first to occur of (i) the Bankruptcy of such General Partner, (ii) the Transfer of a portion of such Partner's interest as a General Partner that causes such Partner to hold less than twenty-five percent (25%) of the interest that such Person initially held as a General Partner, (iii) such General Partner's dissolution, termination, death, permanent disability, or mental incompetence, (iv) the involuntary Transfer by operation of law of such General Partner's interest in the Partnership, or (v) the approval by the Limited Partners of a request by such General Partner to retire. In the event a Person ceases to be a General Partner without having transferred its entire interest as a General Partner, such Person shall be treated as an unadmitted transferee of a Partnership interest as a result of an unpermitted Transfer of an interest pursuant to Section 10.4 hereof.

If a General Partner ceases to be a General Partner for any reason hereunder, such Person shall continue to be liable as a Partner for all debts and obligations of the Partnership existing at the time such Person ceases to be a General Partner, regardless of whether, at such time, such debts or liabilities are known or unknown, actual or contingent. A Person shall not be liable as a General Partner for Partnership debts and obligations arising after such Person ceases to be a General Partner. Any debts, obligations, or liabilities in damages to the Partnership of any Person who ceases to be a General Partner shall be collectible by any legal means, and the Partnership is authorized, in addition to any other remedies at law or in equity, to apply any amounts otherwise distributable or payable by the Partnership to such Person to satisfy such debts, obligations, or liabilities.

(b) If at the time a Person ceases to be a General Partner such Person also holds an interest as a Limited Partner, such cessation shall not affect such Person's rights and obligations with respect to such interest.

Article XI: Dissolution and Winding Up

- 11.1 <u>Liquidating Events</u>. The Partnership shall dissolve and commence winding up and liquidating upon the first to occur of any of the following ("Liquidating Events"):
 - (a) December 31, 2115;
 - (b) the sale of all or substantially all of the Property;
 - (c) the unanimous vote of the Partners to dissolve, wind up, and liquidate the Partnership;
 - (d) the happening of any other event that makes carrying on the business of the Partnership unlawful, impossible, or impractical; or
 - (e) the occurrence of any event that causes the General Partner to cease to be a general partner under the Act, <u>provided</u>, that any such event shall not constitute a Liquidating Event if the Partnership is continued pursuant to this Section 11.1.

The Partners hereby agree that, notwithstanding any provision of the Act or the Massachusetts Uniform Partnership Act, the Partnership shall not dissolve prior to the occurrence of a Liquidating Event. Upon the occurrence of any event described in Section 11.1(e) hereof, the Partnership shall not be dissolved or required to be wound up if (i) at the time of such event there is at least one remaining General Partner and that General Partner carries on the business of the Partnership (any such remaining General Partner being hereby authorized to carry on the business of the Partnership), or (ii) at the time of such event there is no remaining General Partner and within ninety (90) days after such event all of the Limited Partners agree in writing to continue the business of the Partnership and to the appointment, effective as of the date of such event, of one or more successor General

Partners. If it is determined, by a court of competent jurisdiction, that the Partnership has dissolved prior to the occurrence of a Liquidating Event, or, if upon the occurrence of an event described in Section 11.1(e) hereof, the Limited Partners fail to appoint a successor General Partner effective as of such event and to agree to continue the business of the Partnership as provided in this Section 11.1, then the Partnership shall wind up its affairs in accordance with Section 11.2 hereof.

- Minding Up. Upon the occurrence of a Liquidating Event, the Partnership shall continue solely for the purposes of winding up its affairs in an orderly manner, liquidating its assets, and satisfying the claims of its creditors and Partners. No Partner shall take any action that is inconsistent with, or not necessary to or appropriate for, the winding up of the Partnership's business and affairs. The General Partner (or, in the event there is no remaining General Partner, any person elected by the Limited Partners) shall be responsible for overseeing the winding up and dissolution of the Partnership, shall take full account of the Partnership's liabilities and Property, shall cause the Property to be liquidated as promptly as is consistent with obtaining the fair value thereof, and shall cause the proceeds therefrom, to the extent sufficient therefor, to be applied and distributed in the following order:
 - (a) first, to the payment and discharge of all of the Partnership's debts and liabilities to creditors other than Partners;
 - (b) second, to the payment and discharge of all the Partnership's debts and liabilities to Partners; and
 - (c) the balance, if any, to the Partners in accordance with their Capital Accounts, after giving effect to all contributions, distributions, and allocations for all periods.

No General Partner shall receive any compensation for any services performed pursuant to this Article XI.

Accounts. In the event the Partnership is "liquidated" within the meaning of Regulations Section 1.704-1(b)(2)(ii)(g), (a) distributions shall be made pursuant to this Article XI to each General Partner and Limited Partner who has a positive Capital Account in compliance with Regulations Section 1.704-1(b)(2)(ii)(b)(2), and (b) if the General or any Limited Partner has a deficit balance in its Capital Account (after giving effect to all contributions, distributions, and allocations for all taxable years, including the taxable year during which such liquidation occurs), such General Partner shall contribute to the capital of the Partnership the amount necessary to restore such deficit balance to zero in compliance with Regulations Section 1.704-1(b)(2)(ii)(b)(3). If any Limited Partner who is not a General Partner has a deficit balance in his Capital Account (after giving effect to all contributions, distributions, and allocations for all taxable years, including the taxable year during which such liquidation occurs), such Limited Partner shall have no obligation

to make any contribution to the capital of the Partnership with respect to such deficit, and such deficit shall not be considered a debt owed to the Partnership or any other Person for any purpose whatsoever.

- 11.4 <u>Deemed Distribution and Recontribution</u>. Notwithstanding any other provisions of this <u>Article XII</u>, in the event the Partnership is liquidated within the meaning of Regulations Section 1.704-1(b)(2)(ii)(g) but no Liquidating Event has occurred, the Property shall not be liquidated, the Partnership's liabilities shall not be paid or discharged, and the Partnership's affairs shall not be wound up. Instead, solely for federal income tax purposes, the Partnership shall be deemed to have distributed the Property in kind to a new limited partnership, which shall be deemed to have assumed and taken subject to all Partnership liabilities, in exchange for an interest in the new limited partnership. Immediately thereafter, the Partnership shall be deemed to have liquidated by distributing interests in the new limited partnership to the General Partners and Limited Partners.
- 11.5 <u>Rights of General Partners and Limited Partners</u>. Except as otherwise provided in this Agreement, (a) each General Partner and Limited Partner shall look solely to the assets of the Partnership for the return of his Capital Contributions and shall have no right or power to demand or receive property other than cash from the Partnership, and (b) no Limited Partner shall have priority over any other Limited Partner as to the return of his Capital Contributions, distributions, or allocations.

Article XII: Miscellaneous

- 12.1 <u>Binding Effect</u>. Except as otherwise provided in this Agreement, every covenant, term and provision of this Agreement shall be binding upon and inure to the benefit of the Partners and their respective heirs, legatees, legal representatives, successors, transferees, and assigns.
- 12.2 <u>Governing Law</u>. The laws of the Commonwealth of Massachusetts shall govern the validity of this Agreement, the construction of its terms, and the interpretation of the rights and duties of the Partners.
- 12.3 <u>Waiver of Action for Partition; No Bill for Partnership Accounting</u>. Each of the Partners irrevocably waives any right that he may have to maintain any action for partition with respect to any of the Partnership Property. To the fullest extent permitted by law, each Partner covenants that he will not (except with the consent of the General Partner) file a bill for a Partnership accounting.
- 12.4 <u>Counterpart Execution</u>. This Agreement may be executed in any number of counterparts with the same effect as if all of the Partners had signed the same document. All counterparts shall be construed together and shall constitute one agreement.

In accordance with that certain application (the 12.5 Special Provisions. "Application") dated October 13, 2017 made by the Partnership as the "Applicant" and filed with the Boston Redevelopment Authority d/b/a the Boston Planning and Development Agency (the "Authority") under the provisions of said Chapter 121A of the Massachusetts General Laws and Chapter 652 of the Acts of 1960, as amended (collectively, "Chapter 121A") for approval of a project in the project area, as more particularly described in the Application (the "Project" and "Project Area"); for so long as (i) the Project and Project Area remain subject to the provisions of Chapter 121A, as amended, and (ii) the Partnership is bound by the provisions of a Regulatory Agreement with respect to the Project and Project Area with the Authority, the Partners, solely in their capacity as such, and not in their individual capacity, nor in their capacity as lessees or ground lessees or sublessees of, partners or members of any lessee, ground lessee, sublessee or other entity having an interest in the Project or Project Area, or of any other entity, including, without limitation, QMG Huntington LLC, a Massachusetts limited liability company, each shall not receive or accept as net income from the Project or Project Area, any sum in excess of an annual cumulative eight (8%) return of the amount invested in the Project or Project Area for so long as the Project or Project Area is subject to Chapter 121A; except that, if in any year the Partners have so received a sum less than the aforesaid eight percent (8%) return, they may receive in a subsequent year or years, additional sums not exceeding in the aggregate the amount of such deficiency, without interest. Nothing contained in this paragraph, however, shall be applicable to the distribution of profits from the sale of capital assets or equity interests of the Project or the refinancing of any loan secured in whole or in part by the Project. The Project Area is further described on Exhibit A to that certain Ground Lease between the Partnership, as ground landlord, and QMG Huntington LLC, as ground tenant (the "Ground Lease"), and the Project is also further defined in the Ground Lease.

The remainder of this page is intentionally left blank. Signature page follows.

IN WITNESS WHEREOF, the parties have entered into this Agreement of Limited Partnership as of the day first above set forth.

General Partner:

QMG Huntington, LLC, a Massachusetts limited liability company, By: Qianlong Huntington LLC, a Massachusetts limited liability company, its Manager Name: Fan Du Title: Manager **Limited Partners:** Huntington Member LLC, a Massachusetts limited liability company By: ___ Name: John M. Matteson Title: Manager Qianlong Huntington LLC, a Massachusetts limited liability company,

By: ____

Name: Fan Du Title: Manager

Exhibit A

LIMITED PARTNERS

| General Partner | Capital Contribution | Percentage Interest |
|---|----------------------|---------------------|
| QMG Huntington, LLC 133 Pearl Street Boston, MA 02110 | \$2,970.00 | 99% |
| <u>Limited Partners</u> | | |
| Huntington Member LLC 133 Pearl Street Boston, MA 02110 | \$2.40 | 0.08 % |
| Qianlong Huntington LLC 133 Pearl Street Boston, MA 02110 | \$27.60 | 0.92% |
| | | Percentage Interest |
| <u>Totals</u> | \$3,000 | 100% |

APPENDIX 9

DRAFT AGREEMENT NOT TO DISPOSE OF INTERESTS

[inserted behind]

Agreement Not to Dispose of Interests

Agreement Not to Dispose of Interests In QMG Huntington Limited Partnership

The undersigned, in connection with this Agreement Not to Dispose of Interests In QMG Huntington Limited Partnership (this "Agreement") and an Application dated ______, 2017 (the "Application"), submitted by QMG Huntington Limited Partnership, as "Applicant", to the Boston Redevelopment Authority d/b/a the Boston Planning and Development Agency (the "Authority") for (i) approval to undertake, or cause to be undertaken, the construction of the Tower on the Tower Parcel, as defined in the Application (the "Project") under Chapter 121A of the General Laws and Chapter 652 of the Acts of 1960, as amended (collectively, "Chapter 121A"), and (ii) consent to the designation QMG Huntington Limited Partnership as an urban redevelopment entity under said Chapter 121A to undertake the Project (the "Project Developer"), in consideration of the approval of the Application as set forth in the Report and Decision adopted on , 2017 by the Authority pursuant to Chapter 121A (the "Approval"), and in order to comply with the Rules and Regulations of the Authority relating to such Project, hereby covenants with the Authority that it will not, prior to the date on which the Authority issues a certificate stating that the construction of the Project has been substantially completed (the "Certificate of Completion"), other than so-called punch list items, substantially in accordance with the Approval, dispose of its interest in the Project, without first obtaining permission from the Authority to do so, to the extent such approval is required under the Regulatory Agreement entered into by the Applicant and the BRA dated of even date herewith in connection with the Approval (the "Regulatory Agreement").

Nothing herein, in the Application, in the Approval or in any other approval granted or in any agreement executed pursuant to the Application (including without limitation, the Regulatory Agreement), shall prohibit a pledge or other transfer by way of security of such interest incident to any loan and/or equity placement made to finance the Project in whole or in part. In the event of the same, the holder thereof (and any party claiming by, through or under such holder) shall, upon its acquisition of such interest in the Project or any severable portion thereof, have the option, in accordance with Chapter 121A, Section 16A, of (1) holding the same subject to all provisions of Chapter 121A and having all of the powers, rights, privileges, benefits and exemptions set forth in chapter 121A; or (2) conveying or otherwise releasing its interest to a transferee who agrees as part of the terms of such transfer to hold the same subject to all of the provisions of Chapter 121A and who shall thereby have all of the powers, rights, privileges, benefits and exemptions set forth in Chapter 121A; or (3) subject to prior Authority written approval, holding the Project or any severable portion thereof so acquired free from all restrictions and limitations imposed by Chapter 121A and without any of the powers, rights, privileges, benefits and exemptions thereby conferred, provided, however, the deviations and permissions granted in the Approval, as the same may hereinafter be amended, shall survive and remain in effect; or (4) subject to prior Authority written approval, conveying or otherwise releasing its interest in the Project or a severable portion thereof to a purchaser to be held by such purchaser free of all restrictions and limitations imposed by Chapter 121A and without any of the powers, rights, privileges, benefits and exemptions thereby conferred; provided, however, the deviations and permissions granted in the Approval, as the same may hereinafter be amended,

shall survive and remain in effect. Nothing herein, in the Application, in the Approval or in any other approval granted or agreement executed pursuant to the Application shall prohibit transfers of interests that are permitted under the Regulatory Agreement.

Nothing herein, in the Application, in the Approval or in any other approval granted or in any agreement executed pursuant to the Application (including, without limitation, the Regulatory Agreement) shall require the Authority's approval, subject to prior written notice to the Authority, for, or prohibit, the sale, conveyance, encumbrance, pledge or other transfer, whether directly or indirectly, of any general or limited partnership interests in the Applicant or any beneficial interest in any general or limited partner of the Applicant, as long as the Applicant continues to be controlled, directly or indirectly, by an entity controlled by QMG Huntington, LLC. As used herein, the term "control" shall mean the ability of the controlling person(s) to direct or cause the direction of the day-to-day management of the controlled person, whether through ownership of voting securities, by agreement or otherwise, whether or not any other person has the right to approve certain major decisions of the controlled person.

Nothing herein, in the Application, in the Approval or in any other approval granted or agreement executed pursuant to the Application shall (a) prohibit transfer of interests that are permitted under the Regulatory Agreement, or (b) prohibit or restrict the leasing of the Project Area, as defined in the Application or a portion thereof pursuant to a lease, operating lease, ground lease, sublease or other instrument as contemplated in the Application, Approval and the Regulatory Agreement.

The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. The liability of the undersigned hereunder or its successors or assigns (including, without limitation, mortgagees) shall be limited solely to the interest of the undersigned in the Project, and no member, manager, officer, venturer, shareholder, officer, director or the like of the undersigned from time to time, or any such person's or entity's separate assets or property, shall have or be subject to any personal liability of the undersigned hereunder.

If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provisions to other persons and circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

This Agreement shall be governed and construed in accordance with the laws of the Commonwealth of Massachusetts, without regard to principles of conflicts of law. From and after the issuance of the Certificate of Completion this Agreement for the Project of the Project, as defined in the Application shall automatically terminate without the need for further action by the Applicant or the Authority.

[BALANCE OF PAGE INTENTIONALLY BLANK]

| EXECUTED as a sealed instrument as of this _ | day of | , 2017. |
|---|----------|---------|
| QMG Huntington Limited Partnership, a Massachusetts limited partnership | | |
| By: QMG Huntington, LLC, a Massachusetts limited liability compar its general partner | ny, | |
| By: Qianlong Huntington LLC, a Massachusetts limited liability its Manager | company, | |
| By: Name: Fan Du | | |

Title: Manager

APPENDIX 10

DEVIATIONS REQUESTED

The BPDA is authorized, with the approval of the Mayor, both before and after the approval of a project, to grant from time to time permission for the project to deviate from "any zoning, building, health or fire law, code, ordinance or regulation in effect in Boston," if it finds that such permission may be granted without substantially derogating from the intent and purposes of such law, code, ordinance or regulation. (St. 1960, c. 652, s. 13, para. 9, as appearing in St. 1965, c. 859, s. 2.)

Deviations from the Boston Zoning Code

The Applicant requests that the BPDA grant, and the Mayor Approve, the following deviations from the Boston Zoning Code, which the Applicant believes do not substantially derogate from the intent and purposes of the Zoning Code:

- 1. **Floor Area Ratio ("FAR"):** The maximum FAR permitted by right within the Huntington Institutional Subdistrict of the Fenway Neighborhood District, and south of Huntington Avenue, is 8.0. (Zoning Code s. 66-21, citing Table D.) The Project will result in an FAR of 23.7 (405,500 sf/17,093 sf).
- 2. **Building Height:** The maximum building height permitted by right within the Huntington Institutional Subdistrict of the Fenway Neighborhood District, and south of Huntington Avenue, is 90 feet. (*Id.*) The Tower will have a building height of 362 feet.
- **3. Usable Open Space:** The minimum usable open space per dwelling unit by right throughout the Huntington Institutional Subdistrict of the Fenway Neighborhood District is 75 sf per dwelling unit. (*Id.*) The Project will include approximately 3,700 sf of usable open space, in the form of a front setback, and a rooftop deck, serving 426 dwelling units.
- 4. Off-Street Parking and Loading: Normally, 0.75 parking spaces are required per dwelling unit in the Huntington Institutional Subdistrict of the Fenway Neighborhood District. (*Id.* s. 66-42, citing Table F.) The Project will include a 114-space garage beneath the Tower accessory to 426 dwelling units, which is a ratio of 0.27 parking spaces per dwelling unit. Proposed projects that are subject to Large Project Review with Transportation Access Plans ("TAPAs") that include a Parking Management Element, as is expected for this Project, must assess the need for alternative parking options, including car sharing, bicycle parking, and carpool/vanpool parking, to minimize the number of accessory parking spaces, promoting a more sustainable pattern of development and efficient use of land, and promoting good design. (*Id.* s. 66-42, citing Table F, n1.) The Project includes covered storage for up to 426 bicycles (one per

- dwelling unit). Loading for the Project will be approved as part of the Large Project Review of the Project undertaken in accordance with Section 80B of the Zoning Code.
- **5. Groundwater Conservation:** 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 would normally be approved by conditional use permit by the Boston Board of Appeal. (*Id.* ss. 32-4 and -5.) The Project is designed to comply fully with system requirements, but approval is sought without a conditional use permit.
- **6. Uses:** In addition to the uses already allowed as of right within the Project Area in accordance with Article 66 of the Code, the uses of the Project will include bar and restaurant, whether with or without live entertainment, including live entertainment after 10:30 p.m., in order to provide the appropriate uses for the Retail Component and the Cultural Component, in accordance with the expressed planning goals to activate the *Avenue of the Arts*.

APPENDIX 11

ENVIRONMENTAL FORMS

- Environmental Notification Form ("ENF"), filed June 30, 2017
- Evidence of Publication in the Environmental Monitor, published July 12, 2017
- MEPA Certificate, dated August 11, 2017

[inserted behind]

252-264 Huntington Avenue



Submitted to:

Executive Office of Energy and Environmental Affairs MEPA Office 100 Cambridge Street, Suite 900 Boston, MA 02114

Submitted by: QMG Huntington, 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 Haley & Aldrich, Inc. Nauset Strategies

June 30, 2017





June 30, 2017

Secretary Matthew A. Beaton

PRINCIPALS Executive Office of Energy & Environmental Affairs

Attn: MEPA Office

Theodore A Barten, PE 100 Cambridge Street, Suite 900

Margaret B Briggs Boston, MA 02114

Michael E Guski, CCM

Cindy Schlessinger

Michael D Howard, PWS

Stephen H Slocomb, PE

Richard M. Lampeter, INCE

www.epsilonassociates.com

Dale T Raczynski, PE Subject: 252-264 Huntington Avenue Environmental Notification Form

Dear Secretary Beaton: Lester B Smith, Jr

Robert D O'Neal, CCM, INCE On behalf of QMG Huntington, LLC, enclosed please find the Environmental Andrew D Magee Notification Form (ENF) for the 252-264 Huntington Avenue project proposed in

Boston, Massachusetts. Douglas J Kelleher

AJ Jablonowski, PE Please notice the ENF in the Environmental Monitor to be published on July 12, 2017.

The Public Comment period will extend through August 1, 2017 and the Certificate

David E Hewett, LEED AP will be issued on August 11, 2017. Dwight R Dunk, LPD

David C. Klinch, PWS, PMP By copy of this letter, I am advising recipients of the ENF that written comments may

be filed during the comment period, sent to the address above.

Samuel G. Mygatt, LLB Copies of the ENF may be obtained from Epsilon Associates at (978) 897-7100, or via 1943-2010

e-mail at csnowdon@epsilonassociates.com.

ASSOCIATES Thank you for your attention to this matter.

Sincerely, Maria B. Hartnett

EPSILON ASSOCIATES, INC. Geoffrev Starsiak

Y Maked

Talya Moked 3 Mill & Main Place, Suite 250 **Project Planner**

Maynard, MA 01754

cc: Circulation List

Enclosure

252-264 Huntington Avenue

Submitted to:

Executive Office of Energy and Environmental Affairs MEPA Office 100 Cambridge Street, Suite 900 Boston, MA 02114

Submitted by: QMG Huntington, 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 Haley & Aldrich, Inc. Nauset Strategies

June 30, 2017



Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

| For Office Use Only | | | | |
|--|--------|----------------------|---|--|
| EEA#: | | | | |
| MEPA Analyst: | | | | |
| | | | | |
| The information requested on this form nelectronically for review under the Massa | | | | |
| Project Name: 252-264 Huntington Ave | nue | | | |
| Street Address: 252-264 Huntington Av | enue | | | |
| Municipality: Boston | | Watershed: Bostor | n Harbor | |
| Universal Transverse Mercator Coord | | Latitude: 42° 20' 3 | | |
| UTM(Zone 19) Easting: 328226 Northing: | 468984 | Longitude: 71° 05 | ′ 07″W | |
| Estimated commencement date: Late: | 2018 | Estimated comple | etion date: Early 2020 | |
| Project Type: Mixed-use | | Status of project of | design: 20 %complete | |
| Proponent: QMG Huntington, LLC | | | | |
| Street Address: 133 Pearl Street | | | | |
| Municipality: Boston | | State: MA | Zip Code: 02110 | |
| Name of Contact Person: Corinne Snow | wdon | | | |
| Firm/Agency: Epsilon Associates, Inc. | | Street Address: 3 / | Mill & Main Place, Suite 250 | |
| Municipality: Maynard | | State: MA | Zip Code: 01754 | |
| Phone: (978) 897-7100 | Fax: (| 978) 897-0099 | E-mail: csnowdon@ epsilonassociates.com | |
| Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)? | | | | |
| ☐Yes ⊠No | | | | |
| If this is an Expanded Environmental Notice of Project Change (NPC), are you | | , , , | MR 11.05(7)) or a | |
| a Single EIR? (see 301 CMR 11.06(8)) a Special Review Procedure? (see 301 CMR 11.09) a Waiver of mandatory EIR? (see 301 CMR 11.11) The procedure of the pro | | | | |
| Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)? Approval in accordance with MGL c. 121A of a new urban redevelopment project consisting of 100 or more residential units | | | | |
| Which State Agency Permits will the project require? Approval in accordance with MGL c. 121A of a new urban redevelopment project; Massachusetts Historical Commission: Determination of No Adverse Effect on Historic Properties; Massachusetts Department of Transportation: Highway Access Permit (if applicable); Department of Environmental Protection, Division of Air Quality Control: Notification Prior to Construction | | | | |

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:

The Proponent is seeking to develop the Project in accordance with M.G.L. c. 121A

| Summary of Project Size & Environmental Impacts | Existing | Change | Total |
|---|----------|------------------|---------|
| LAND | | | |
| Total site acreage | 0.78 | | |
| New acres of land altered | | 0 | |
| Acres of impervious area | 0.78 | 0.78 | 0.78 |
| Square feet of new bordering vegetated wetlands alteration | | 0 | |
| Square feet of new other wetland alteration | | 0 | |
| Acres of new non-water dependent use of tidelands or waterways | | 0 | |
| STRUCTURES | | | |
| Gross square footage* | 65,662 | 3 <i>7</i> 5,492 | 438,154 |
| Number of housing units | 0 | 426 | 426 |
| Maximum height (feet) | 40 | 322 | 362 |
| TRANSPORTATION | | | |
| Vehicle trips per day | | | |
| Unadjusted | 556 | 2,822 | 3,378 |
| Adjusted | 210 | 630 | 840 |
| Parking spaces | 0 | 114 | 114 |
| WASTEWATER | | | |
| Water Use (Gallons per day) | 22,118 | 59,882 | 82,000 |
| Water withdrawal (GPD) | 0 | 0 | 0 |
| Wastewater generation/treatment (GPD) | 20,108 | 54,437 | 74,545 |
| Length of water mains (miles) | 0 | 0 | 0 |
| Length of sewer mains (miles) | 0 | 0 | 0 |
| Has this project been filed with MEPA before? ☐ Yes (EEA #) ☑No Has any project on this site been filed with MEPA before? | | | |
| ☐ Yes (EEA #) ⊠No | | | |

^{*}Note that the Theatre use is included in both the existing and proposed conditions.

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Describe the existing conditions and land uses on the project site:

The approximately 34,173 square foot site comprises three parcels: 252, 258, and 264 Huntington Avenue. Located in a portion of the Fenway neighborhood known as the Avenue of the Arts district of Boston, the site is generally bounded: on the northwest by Huntington Avenue, on the northeast by a three-story, mixed-use building commonly known as 250 Huntington Avenue; on the southeast by Public Alley 821; and to the southwest by Public Alley 822.

The northerly edge of the site is burdened by a highway easement measuring approximately 240-feet long by four-feet deep, which is improved and used as a public sidewalk. The parcel known as 264 Huntington Avenue includes the 890-seat Boston University Theatre and its four-story masonry annex, and 252 and 256 Huntington Avenue each have two-story, masonry buildings, with ancillary uses to the Theatre.

Describe the proposed project and its programmatic and physical elements:

The goal of the 252-264 Huntington Avenue project is to redevelop former university property along Boston's Avenue of the Arts, while leaving intact the 890-seat theatre at 264 Huntington Avenue, known as the Boston University Theatre. The Proponent will leave undisturbed the Boston University Theatre and annex, first opened in 1925 as the Jewett Repertory Theater, and gift them to the Huntington Theatre Company (HTC) for \$1. Redevelopment at the Project site will in turn focus upon the two adjacent parcels known as 252 and 258 Huntington Avenue. The existing buildings there will be demolished to construct a new, 32-story mixed-use building. Once HTC has been gifted ownership of the Theatre and annex, they may renovate these buildings, however, the funding and timing for this work will be independent of the Project, and will not increase the seating capacity of the Theatre.

The Project, as shown in the table below, includes construction of an approximately 405,500 square foot building that will include up to 426 residential units, approximately 7,500 square feet of retail/restaurant space on the first two levels, and approximately 114 parking spaces within a four-level underground garage. In addition, approximately 14,000 square feet on the first and second floors of the new building will be set aside for the use by the theatre operator, with direct, interior access to and from the adjacent theatre. The residential units include a mix of studio, one-, and two-bedroom apartments. Covered, secure storage for bicycles will be provided on site for the residents. Loading, deliveries and trash collection will be through an off-street loading area on Public Alley No. 821.

The Project façade is designed to serve as an extension of the B.U. Theatre, with theatre functions dominating the sidewalk and bringing the Theatre out to the street edge. The Project will provide a new lobby and accessible entrance for the Theatre, and new opportunities for retail/ restaurant space that will complement the surrounding cultural uses. A smaller residential lobby will also be located along Huntington Avenue, at the midpoint of the new building, and to the left of the residential lobby entrance, there will be a third entrance to a large retail/restaurant space. All three entrances will connect visually to the streetscape through full-height, exterior storefront windows. The second floor, above the new Theatre lobby, will provide break-out space for theatregoers during intermissions, and will include a large, outdoor balcony above the new Theatre lobby, distinguishing the new building to the east from the old Theatre façade.

The design of the new building is inspired by Greek drama masks. These "masks" manifest themselves as large light and dark bands that wrap the façade and will serve as an iconic focal point for the Avenue of the Arts, because of the site's location near the intersection of Massachusetts Avenue and Huntington Avenue.

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.

IMPACTS

The sections below describe the Project's anticipated impacts on the environment.

Transportation

Howard Stein Hudson conducted an evaluation of the transportation impacts of the Project, including an evaluation of the existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian and bicycle activity. The Project is expected to generate approximately 840 adjusted vehicle trips per day. During a typical weekday, an estimated total of 162 and 213 new a.m. and p.m. peak hour trips are anticipated to be generated from the Project site, respectively. The Project is expected to have minimal impact upon traffic operations, with the intersections continuing to operate the same in the Build Condition as the No-Build Condition. The Project will take advantage of transit and walk/bicycle opportunities to limit the number of vehicular trips generated.

The complete transportation analysis is included as Attachment D.

Air Quality

A microscale analysis of carbon monoxide was completed to provide information on the Project's impact to air quality from mobile sources. Results of the microscale analysis showed that all predicted CO concentrations are well below one-hour and eight-hour NAAQS. Therefore, it can be concluded that there are no anticipated adverse air quality impacts resulting from increased traffic in the area.

Infrastructure

The Project is expected to increase wastewater generation by 54,437 gallons per day above the existing condition. The Project is not expected to exceed existing sewer capacities. The Proponent will coordinate with the Boston Water and Sewer Commission (BWSC) on the design and capacity of the proposed connections to the existing sewer system through the BWSC's Site Plan Review process.

The Project is estimated to require 59,882 gallons per day of water above the existing condition. All reasonable efforts to reduce water consumption will be made: aeration fixtures and appliances will be chosen for water conservation qualities and in public areas, metering faucets and high-efficiency low-flow urinals and toilets will be installed. The Project's water connections with be reviewed by BWSC through their Site Plan Review process.

The Project will meet or reduce the existing peak rates and volumes of runoff from the site and promote stormwater recharge to the greatest extent possible.

The Project will mitigate the stormwater volume equal to one-inch of stormwater runoff from impervious areas to the greatest extent possible. Different approaches to stormwater recharge management will be assessed during the design process. It is anticipated that the stormwater recharge systems will work passively to 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 in the private site along Huntington Avenue. 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.

Construction

Construction of the Project will cause temporary local impacts including construction vehicle traffic, noise, vibration, waste, and potential dust. Each of these impacts will be kept within reasonable limits by policies and practices, including work hour limitations, traffic routing, equipment standards, and waste management planning, to be outlined in the Proponent's Construction Management Plan, which will be submitted to the City of Boston's Transportation Department for review and approval.

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:

NOTE: The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.

The Proponent evaluated constructing an as-of-right building on the Project site, which would have included demolishing the B.U. Theatre and constructing a new, eight-story building with approximately 232,500 square feet of office space and 17,000 square feet of ground floor retail/restaurant space. Impacts associated with wastewater generation and water usage would be less in the As-of-Right Alternative, and trip generation would be similar under the As-of-Right Alternative, however, this alternative would not leave intact the B.U. Theatre. The Preferred Alternative, described above, will ensure the long-term stability of this cultural institution, with the Proponent donating fee simple ownership of the Theatre property to the company. Construction at the rest of the Project site will strengthen and highlight the Theatre's presence on the Avenue of the Arts, and lower-level space for use by the theatre company will span across the site.

A tabular summary of the development programs and potential environmental impacts of a No-Build Alternative, as well as the As-of-Right and Preferred Alternatives is provided the table below.

| | Preferred Alternative | As-of-Right Alternative | No-Build Alternative |
|--|--------------------------|----------------------------|-------------------------|
| Building Program (approximate dim | ensions) | | |
| Parking | 114 spaces | 188 spaces | None |
| New Residential | 426 units | None | None |
| New retail/restaurant | 7,500 sf | 17,000 sf | None |
| New theatre space | 14,000 sf | None | None |
| Existing theatre space | 890 seats | None | 890 seats |
| Office | None | 232,500 | 30,000 sf |
| Impacts | | | |
| Impervious Area | 0.78 acre | 0.78 acre | 0.78 acre |
| Total Project-Generated Trips Unadjusted Adjusted Water Usage | 3,378 840 82,000 | 3,290 1,338 44,206 | 556 210 22,118 |
| Wastewater Generation | 74,545 | 40,188 | 20,108 |

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:

The Proponent is committed to implementing appropriate transportation demand management measures upon the completion of the Project. TDM measures, which will include publicizing transit information, on-site bicycle storage, and minimal on-site parking, will encourage travelers to use alternatives to driving, especially during peak periods. The proposed TDM measures are discussed in further detail in Attachment D.

The Project will leave intact the 890-seat theatre at 264 Huntington Avenue, known as the B.U. Theatre. When Boston University sold the Project site, the Huntington Theatre Company lost its long-standing subsidy from B.U. To ensure the long-term stability of this cultural institution, the Proponent will donate fee simple ownership of the Theatre property to the company. Construction at the rest of the Project site will strengthen and highlight the Theatre's presence on the Avenue of the Arts, and lower-level space for use by the theatre company will span across the site.

The Project will improve the Avenue of the Arts. First and second floor uses will be visible from the street and open to the public. The largest such use will be up to 14,000 square feet of new lobby, reception, and entertainment space for use by the Theatre during its 150-200 annual performances. Approximately 7,500 sf of restaurant/retail uses will further activate Huntington Avenue, in place of current college and university uses.

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.

The Proponent will follow City and MassDEP guidelines that direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent and its construction team will evaluate the Commonwealth's Clean Air Construction Initiative. A Construction Management Plan (CMP) agreeable to the Proponent and the City of Boston Transportation Department will include detailed information on specific construction mitigation measures and construction methodologies to minimize impacts to abutters and the local community. The CMP will also define truck routes chosen to minimize impacts to city and neighborhood streets as well as appropriate truck queuing locations. "Don't Dump - Drains to Charles River" plaques will be installed at storm drains that are replaced or installed as part of the Project, and "No Idling" signs will be posted at the loading, delivery, pick-up and drop-off areas of the Project. Specific measures will also be in place to minimize the impacts of fugitive dust, noise, and vibration during construction.

If the project is proposed to be constructed in phases, please describe each phase: The Project will be constructed in a single phase.

ADEAC OF CRITICAL ENVIRONMENTAL CONCERN.

| Is the project within or adjacent to an Area of Critical Environmental Concern? |
|--|
| Yes (Specify) |
| No. |
| if yes, does the ACEC have an approved Resource Management Plan? Yes No; If yes, describe how the project complies with this plan. |
| if yes, describe now the project compiles with this plan. |
| Will there be stormwater runoff or discharge to the designated ACEC? Yes No; If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC. |
| RARE SPECIES: |
| Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see |
| http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm) |
| ☐Yes (Specify) ⊠No |
| HISTORICAL /ARCHAEOLOGICAL RESOURCES: |
| Does the project site include any structure, site or district listed in the State Register of Historic Place |
| or the inventory of Historic and Archaeological Assets of the Commonwealth? |
| ⊠Yes (Specify) □No |
| If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ⊠Yes (256-258 Huntington Avenue) □No |
| WATER RESOURCES: |
| Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? |
| YesNo; |
| if yes, identify the ORW and its location. |
| (NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and |
| bordering |
| wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of |
| Critical |
| Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the |
| Surface Water Quality Standards, 314 CMR 4.00.) |
| Are there any impaired water bodies on or within a half-mile radius of the project site?Yes _XNo; if yes, |
| identify the water body and pollutant(s) causing the |
| impairment: |
| |

Is the project within a medium or high stress basin, as established by the Massachusetts

| Water Resources Commission? | Yes | Χ | No |
|-----------------------------|-----|---|----|
|-----------------------------|-----|---|----|

STORMWATER MANAGEMENT:

Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations:____

The Project will meet or reduce the existing peak rates and volumes of runoff from the site and promote stormwater recharge to the greatest extent possible.

The Project will mitigate the stormwater volume equal to one-inch of stormwater runoff from impervious areas to the greatest extent possible. Different approaches to stormwater recharge management will be assessed during the design process. It is anticipated that the stormwater recharge systems will work passively to 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 in the private site along Huntington Avenue. 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.

MASSACHUSETTS CONTINGENCY PLAN:

| MIN (00) (011002110 00) (110111021101112) (1111) |
|---|
| Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? Yes No _X; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification): |
| Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes No _X; if yes, describe which portion of the site and how the project will be consistent with the AUL: |
| Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN? Yes No _X; if yes, please describe: |

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered

for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:_

The Project will divert construction waste from local landfills by recycling waste material generated on the Project Site to the greatest extent practicable. The disposal contract between the Proponent and its construction manager will include specific requirements to ensure that construction procedures require the necessary segregation, reprocessing, reuse, and recycling of materials when possible. As part of the overall LEED goal, the Proponent is seeking to recycle a minimum of 75% of construction waste materials. For the materials that cannot be recycled, solid waste will be transported in covered trucks to an approved solid waste facility per MassDEP Regulations for Solid Waste Facilities, 310 CMR 16.00.

(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills.

See 310 CMR 19.017 for the complete list of banned materials.)

Will your project disturb asbestos containing materials? Yes ____ No ___; if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm If asbestos containing material is encountered, it will be handled and disposed of in full compliance with all applicable regulations

Describe anti-idling and other measures to limit emissions from construction equipment:

The Proponent will follow City and MassDEP guidelines which will direct the evaluation and mitigation of construction impacts. As part of this process, the Proponent and construction team will evaluate the Commonwealth's Clean Air Construction Initiative. To the extent feasible, the Proponent will require the Project's construction contractor(s) to use after-engine emission controls such as diesel oxidation catalysts or diesel particulate filters on construction vehicles and use of Ultra Low Sulfur Diesel fuel in off-road engines. "No Idling" signs will be included at the loading, delivery, pick-up and drop-off areas.

DESIGNATED WILD AND SCENIC RIVER:

| Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes No _X; if yes, specify name of river and designation: |
|--|
| If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River? |
| Yes No; if yes, specify name of river and designation:; |
| if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" |
| resources of the Wild and Scenic River or the stated purposes of a Scenic River. |
| Yes No ; |
| if yes, describe the potential impacts to one or more of the "outstandingly remarkable" resources or |
| stated purposes and mitigation measures proposed. |

ATTACHMENTS:

1. List of all attachments to this document.

Attachment A ENF Figures

Attachment B Circulation List

Attachment C List of Anticipated Federal and Municipal Permits and Reviews Attachment D Transportation Analysis/TDM Measures

- 2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries. See Attachment A, Figure 1.
- 3.. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities. See Attachment A, Figure 2.
- Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts. See Attachment A, Figures 3 and 4.
- 5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase). See Attachment A, Figure 5.
- 6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2). See Attachment B.
- 7. List of municipal and federal permits and reviews required by the project, as applicable. **See Attachment C.**

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

| A. Does the project meet or exceed any rX_ Yes No; if yes, specify each thr | | elated to land (s | ee 301 CMR 11.03(1) | |
|---|---|---|-------------------------------|--|
| Approval in accordance with MGL c. 1 of 100 or more residential units | 21A of a new urb | an redevelopme | ent project consisting | |
| II. Impacts and Permits | | | | |
| A. Describe, in acres, the current and pro | posed character o | | as follows: | |
| | Existing | <u>Change</u> | <u>Total</u> | |
| Footprint of buildings | 0.691 | -0.12 | 0.679 | |
| Internal roadways Parking and other paved areas | <u>0</u> 0.094 | 0 0.012 | 0 106 | |
| Other altered areas | 0.094 | 0.012 | <u> </u> | |
| Undeveloped areas | 0 | 0 | 0 | |
| Total: Project Site Acreage | 0.785 | 0.785 | 0.785 | |
| B. Has any part of the project site been in the project site currently. C. Is any part of the project site currently. | ny acres of land in will be converted or proposed to be | agricultural use to nonagricultura in active forestry | (with prime state or all use? | |
| Yes X No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation: | | | | |
| D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? Yes _X No; if yes, describe: | | | | |
| E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction? Yes_X No; if yes, does the project involve the release or modification of such restriction? YesX_ No; if yes, describe: | | | | |
| F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? _X Yes No; if yes, describe: | | | | |
| G. Does the project require approval of a existing urban renewal plan unde | | | | |
| III. Consistency | | nlan | | |
| A. Identify the current municipal compound Title: Avenue of the Arts Design | | | ber 2015 | |
| B. Describe the project's consistency with that plan with regard to:1) economic development | | | | |
| The Guidelines recommend active ground floor programming. The Project will provide a variety of active ground floor uses, including approximately 7,500 sf of restaurant/retail space, and approximately 14,000 sf of theatre space including a new lobby and accessible entrance. These ground floor uses complement existing uses in the area and | | | | |

will help activate this portion of Huntington Avenue.

2) adequacy of infrastructure

The Project site is located just a short walk from several nearby MBTA subway stations, including the Symphony Station (Green Line) within one half block, and the Massachusetts Avenue Station (Orange Line), two blocks away. Several bus routes are also nearby. The Project site is also located within walking distance from numerous services and amenities. The Project site also includes local public and private utility services that are anticipated to be adequate for the proposed development.

open space impacts

Located on a site that has been previously developed, this Project will maintain available open space elsewhere.

4) compatibility with adjacent land uses

The Project will retain the existing B.U. Theatre and create a new lobby and accessible entrance to the Theatre with greater visibility on the Avenue, consistent with the Guidelines goal of providing institutional expression. The new residential units and ground floor restaurant/retail space will complement the existing uses in the area.

C. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA) RPA: Metropolitan Area Planning Council

Title: MetroFuture Date June 2009

- D. Describe the project's consistency with that plan with regard to:
- 1) economic development

The MetroFuture Plan predicts moderate economic growth across the region in the coming years. The development of the Project will support growth in the area by creating additional housing resources close to public transportation and major employers, and will provide ground-floor retail that will bring new revenue to the City.

2) adequacy of infrastructure

The Plan predicts that population growth will be concentrated in municipalities already well served by infrastructure, with slower growth in less developed areas where infrastructure is more limited. The Project site is located just a short walk from several nearby MBTA subway stations, including the Symphony Station (Green Line) within one half block, and the Massachusetts Avenue Station (Orange Line), two blocks away. Several bus routes are also nearby. The Project site is also located within walking distance from numerous services and amenities. The proximity to the bus stops, and services makes the Project site an ideal location for pedestrian oriented development that promotes community connectivity. The Project is not anticipated to adversely affect water, sewer, gas, electrical, or communications systems in the area.

3) open space impacts

The MetroFuture Plan directs over 60 percent of commercial and housing growth to previously developed areas to minimize loss of open space. Located on a site that has been previously developed, this Project will maintain available open space elsewhere.

RARE SPECIES SECTION

I. '

II.

| | | olds / Permits |
|----|-------|--|
| A. | VVIII | the project meet or exceed any review thresholds related to rare species or habitat (see 301 CMR 11.03(2))? Yes _ X No; if yes, specify, in quantitative terms: |
| | | E: If you are uncertain, it is recommended that you consult with the Natural Heritage and gered Species Program (NHESP) prior to submitting the ENF.) |
| В. | Doe | es the project require any state permits related to rare species or habitat? Yes _X_ No |
| C. | Doe | es the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? Yes _X No. |
| D. | If yo | bu answered "No" to <u>all</u> questions A, B and C, proceed to the Wetlands, Waterways, and Tidelands Section . If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Rare Species section below. |
| | | ts and Permits es the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? Yes No. If yes, 1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? Yes No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species? Yes No; if yes, attach the letter of determination to this submission. |
| | | 2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? Yes No; if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts |
| | | 3. Which rare species are known to occur within the Priority or Estimated Habitat? |
| | | 4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? Yes No |
| | | 4. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? Yes No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? Yes No |
| B. | Will | the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? Yes No; if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat: |

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

| I. | Thresholds / Permits A. Will the project meet or exceed any review thresholds related to wetlands, waterways, and tidelands (see 301 CMR 11.03(3))? YesX_ No; if yes, specify, in quantitative terms: | | | | |
|-----|---|---|---|--|--|
| | B. Does the project require any state pe waterways, or tidelands? Yes _X | | | | |
| | C. If you answered "No" to both question answered "Yes" to either question A or of Waterways, and Tidelands Section below | juestion B, fill out the re | | | |
| II. | Wetlands Impacts and Permits A. Does the project require a new or ar Act (M.G.L. c.131A)? Yes I No; if yes, list the date and MassDEI been issued? Yes No; Was the project require a Variance from the project require and project require a variance from the project require and project require a | No; if yes, has a Notice P file number:; i s the Order of Condition | of Intent been filed? Yes f yes, has a local Order of Conditions s appealed? Yes No. Will | | |
| | B. Describe any proposed permanent of the project site: | r temporary impacts to v | wetland resource areas located on | | |
| | C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent: | | | | |
| | <u>Coastal Wetlands</u> | Area (square feet) or Length (linear feet) | Temporary or Permanent Impact? | | |
| | Land Under the Ocean Designated Port Areas Coastal Beaches Coastal Dunes Barrier Beaches Coastal Banks Rocky Intertidal Shores Salt Marshes Land Under Salt Ponds Land Containing Shellfish Fish Runs Land Subject to Coastal Storm Flowage Inland Wetlands Bank (If) Bordering Vegetated Wetlands Isolated Vegetated Wetlands Land under Water Isolated Land Subject to Flooding Borderi ng Land Subject to Flooding Riverfront Area | | | | |
| | D. Is any part of the project: 1. proposed as a limited project 2. the construction or alteration 3. fill or structure in a velocity z | of a dam? Yes | | | |

| | dredging or disposal of dredged material? Yes No; if yes, describe the volume of dredged material and the proposed disposal site: a discharge to an Outstanding Resource Water (ORW) or an Area of Critical Environmental Concern (ACEC)? Yes No subject to a wetlands restriction order? Yes No; if yes, identify the area (in sf): located in buffer zones? Yes No; if yes, how much (in sf) |
|------|---|
| | E. Will the project: 1. be subject to a local wetlands ordinance or bylaw? Yes No 2. alter any federally-protected wetlands not regulated under state law? Yes No; if yes, what is the area (sf)? |
| 111. | A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? Yes No; if yes, is there a current Chapter 91 License or Permit affecting the project site? Yes No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands: |
| | B. Does the project require a new or modified license or permit under M.G.L.c.91? Yes No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? Current Change Total If yes, how many square feet of solid fill or pile-supported structures (in sf)? |
| | C. For non-water-dependent use projects, indicate the following: Area of filled tidelands on the site: Area of filled tidelands covered by buildings: For portions of site on filled tidelands, list ground floor uses and area of each use: Does the project include new non-water-dependent uses located over flowed tidelands? Yes No Height of building on filled tidelands |
| | Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks. |
| | D. Is the project located on landlocked tidelands? Yes No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact: |
| | E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations?Yes No; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact: |
| | F. Is the project non-water-dependent and located on landlocked tidelands or waterways or tidelands subject to the Waterways Act and subject to a mandatory EIR? Yes No; (NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.) |
| | G. Does the project include dredging? Yes No; if yes, answer the following questions: What type of dredging? Improvement Maintenance Both |

| What is the proposed dredge volume, in cubic yards (cys) |
|--|
| What is the proposed dredge footprintlength (ft)width (ft)depth (ft); |
| Will dredging impact the following resource areas? |
| Intertidal Yes_ No_; if yes, sq ft |
| Outstanding Resource Waters Yes_ No_; if yes, sq ft |
| Other resource area (i.e. shellfish beds, eel grass beds) Yes No; if yes sq ft |
| If yes to any of the above, have you evaluated appropriate and practicable steps |
| to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either |
| avoidance or minimize is not possible, mitigation? |
| If no to any of the above, what information or documentation was used to support this determination? |
| Provide a comprehensive analysis of practicable alternatives for improvement dredging in |
| accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the |
| sediment shall be included in the comprehensive analysis. |
| Sediment Characterization |
| Existing gradation analysis results?YesNo: if yes, provide results. |
| Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6?Yes |
| No; if yes, provide results. |
| Do you have sufficient information to evaluate feasibility of the following management |
| options for dredged sediment? If yes, check the appropriate option. |
| Beach Nourishment |
| Unconfined Ocean Disposal |
| Confined Disposal: |
| Confined Aquatic Disposal (CAD) |
| Confined Disposal Facility (CDF) |
| Landfill Reuse in accordance with COMM-97-001 |
| Shoreline Placement |
| Upland Material Reuse |
| In-State landfill disposal |
| Out-of-state landfill disposal |
| (NOTE: This information is required for a 401 Water Quality Certification.) |
| IV. Consistency: |
| A. Does the project have effects on the coastal resources or uses, and/or is the project located |
| within the Coastal Zone? Yes No; if yes, describe these effects and the projects consistency |
| with the policies of the Office of Coastal Zone Management: |
| man and pondice of the office of Codetal Zerie management. |
| B. Is the project located within an area subject to a Municipal Harbor Plan? Yes No; if yes, |
| identify the Municipal Harbor Plan and describe the project's consistency with that plan: |
| |

WATER SUPPLY SECTION

| Does the project require any state permits ecify which permit: If you answered "No" to both questions A aswered "Yes" to either question A or question below. Pacts and Permits Describe, in gallons per day (gpd), the volutivities at the project site: Municipal or regional water supply Withdrawal from groundwater Withdrawal from surface water Interbasin transfer OTE: Interbasin Transfer approval will be reter supply source is located is different from the source will be discharged.) | and B, proceed on B, fill out the same and source Existing | to the Wastew e remainder of the of water use for the of water use for the original origina | vater Section. If the Water Supply or existing and pr | you Section |
|---|--|---|---|---|
| swered "Yes" to either question A or question below. Pacts and Permits Describe, in gallons per day (gpd), the volutivities at the project site: Municipal or regional water supply Withdrawal from groundwater Withdrawal from surface water Interbasin transfer OTE: Interbasin Transfer approval will be reter supply source is located is different from | on B, fill out the ime and source Existing | e remainder of to the contract of the contract | or existing and pr | Section |
| Describe, in gallons per day (gpd), the volutivities at the project site: Municipal or regional water supply Withdrawal from groundwater Withdrawal from surface water Interbasin transfer DTE: Interbasin Transfer approval will be refer supply source is located is different from | Existing | Change asin and commi | <u>Total</u> | roposed |
| Withdrawal from groundwater Withdrawal from surface water Interbasin transfer OTE: Interbasin Transfer approval will be reter supply source is located is different from | equired if the b | asin and commi | | |
| ter supply source is located is different fror | | | unitv where the p | |
| • , | | | | |
| If the source is a municipal or regional sup idequate capacity in the system to accomm | | | | at there |
| If the project involves a new or expanded purce, has a pumping test been conducted? as and a summary of the alternatives considerations. | Yes I | No; if yes, attacl | h a map of the dr | r ·illing |
| What is the currently permitted withdrawal y)?Will the project require an increa ch of an increase (gpd)? | se in that with | | | |
| Does the project site currently contain a water main, or other water supply facility, or way YesNo. If yes, describe existing and | ill the project in | nvolve construct | tion of a new faci | ility? |
| Perm Flow pacity of water supply well(s) (gpd) pacity of water treatment plant (gpd) | | isting Avg <u>Pr</u> ily Flow | oject Flow To | <u>tal</u> |
| , | actor of water | | e involved, what | is the |
| If the project involves a new interbasin trar | | g or proposed? | | |
| | | | ction of the transfer, and is the interbasin transfer existing or proposed? | ction of the transfer, and is the interbasin transfer existing or proposed? |

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

| Thresholds / Permits A. Will the project meet or exceed any review thresholds related to wastewater (see 301 CMR 11.03(5))? Yes _X No; if yes, specify, in quantitative terms: | | | | | | | | |
|---|--------------------|---------------------------------------|---------------|--|--|--|--|--|
| B. Does the project require any state perm specify which permit: | nits related to wa | stewater? Yes | x No; if yes, | | | | | |
| C. If you answered "No" to <u>both</u> questions A and B, proceed to the Transportation Traffic Generation Section . If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Wastewater Section below. | | | | | | | | |
| II. Impacts and Permits A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems): | | | | | | | | |
| | Existing | <u>Change</u> | <u>Total</u> | | | | | |
| Discharge of sanitary wastewater Discharge of industrial wastewater TOTAL | | | | | | | | |
| Discharge to groundwater Discharge to outstanding resource water Discharge to surface water Discharge to municipal or regional wastew | Existing | <u>Change</u> | <u>Total</u> | | | | | |
| facility TOTAL | | | | | | | | |
| B. Is the existing collection system at or near its capacity? Yes No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows: | | | | | | | | |
| C. Is the existing wastewater disposal facility at or near its permitted capacity? Yes No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows: | | | | | | | | |
| D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility? Yes No; if yes, describe as follows: | | | | | | | | |
| <u>P</u> 6 | | xisting Avg <u>Proje</u> aily Flow | ct Flow Total | | | | | |
| Wastewater treatment plant capacity (in gallons per day) | | | | | | | | |

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?

| will be discharged is different from the basin and community where the source of water s located.) | | | | | |
|---|-----|--|----------|--------------------|--------------------|
| | | Does the project involve new sewer service I WRA) or other Agency of the Commonwealth | | | |
| G. Is there an existing facility, or is a new facility proposed at the project treatment, processing, combustion or disposal of sewage sludge, sludwastewater reuse (gray water) or other sewage residual materials? the capacity (tons per day): | | | | | it, screenings, |
| | Sto | orage | Existing | <u>Change</u> | <u>Total</u> |
| | Tre | eatment ocessing | | | |
| | Со | ombustion | | | |
| | Dis | posal | | | |
| H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal. | | | | | |
| Ш | | nsistency | -1 - (| Maria Para Liberto | |
| | Α. | Describe measures that the proponent will t local plans and policies related to wastewater | | | ate, regional, and |
| B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? Yes No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan: | | | | | umber for the plan |
| | | | | | |

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? _X__ Yes ___ No; if yes, specify, in quantitative terms:

2,822 net new unadjusted ADT at the Project site.

- B. Does the project require any state permits related to **state-controlled roadways**? ___ Yes __**X**_ No: if yes, specify which permit:
- C. If you answered "No" to <u>both</u> questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

| | Existing | <u>Cnange</u> | <u>ı otai</u> | |
|---------------------------------|---|---------------|---------------|--|
| Number of parking spaces | 0 | +114 | 114 | |
| Number of vehicle trips per day | - | | | |
| Unadjusted | <u>556</u> | 2,822 | 3,378 | |
| Adjusted | 210 | 630 | 840 | |
| ITE Land Use Code(s): | LUC 441 – Live Theater (Existing to remain) | | | |
| | LUC 710 – General Office (Existing) | | | |
| | LUC 220 – Apartment (Proposed) | | | |
| | LUC 820 – Shopping Center (Proposed) | | | |
| | | | | |

B. What is the estimated average daily traffic on roadways serving the site?

| <u>Roadway</u> | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|---|-----------------|---------------|--------------|
| 1. Huntington Ave., west of Gainsborough St. | <u>17,800</u> | +216 | 18,016 |
| 2. St. Botolph St. east of Gainsborough St | 3,350 | +379 | 3,729 |
| 3. Massachusetts Ave., north of St. Botolph St. | 24,500 | +224 | 24,724 |

- C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement: **Not applicable.**
- D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

The Project is located proximate to Symphony Station at the intersection of Huntington Avenue/Massachusetts Avenue and provides access to the MBTA Green Line E Branch. The Massachusetts Avenue Station on the MBTA Orange Line is also located less than 1,000 feet from the Project. Several MBTA bus lines including Routes CT1, 1, 39, and 43 also travel along either Huntington Avenue or Massachusetts Avenue in the vicinity of the site, providing excellent public transportation options. There are also three Hubway stations located within a quarter-mile of the Project site, providing easy access to bike-share opportunities.

The Proponent will implement a comprehensive Transportation Demand Management (TDM) program to minimize automobile usage and Project-related traffic impacts. TDM measures may include, but are not limited to, the following:

- Provide orientation packets to new residents containing information on available transportation choices, including transit routes and schedules.
- Encourage future commercial tenants to provide on-site and online sale of MBTA passes for employees through the building management office.
- Encourage future commercial tenants to subsidize employees' purchase of monthly transit passes.
- Provide transit, bike, and pedestrian access information on the Project website.
- Provide secure, covered bicycle storage on the Project site to support a ratio of one bicycle per residential units.
- C. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? ____ Yes __X_ No; if yes, describe if and how will the project will participate in the TMA:
- D. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? __X_ Yes ____ No; if yes, generally describe:

The Project is in proximity to Symphony Station on the MBTA Green Line E branch and the Massachusetts Avenue station on the MBTA Orange Line. The Green Line provides access to Downtown Boston to the east. The Orange Line provides access to Downtown Boston, Somerville, and Malden to the north and Roxbury, Jamaica Plain, and Forest Hills to the south. It is expected that tenants and visitors to the Project will use these public transportation lines to access the site.

E. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

There is no penetration of approach airspace of a nearby airport.

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

The Project has been designed to be consistent with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian, and bicycle transportation facilities and services. The Project has been specifically designed and located to promote pedestrian and bicycle travel and the use of public transportation in order to reduce the traffic and parking demands of the Project. The Project site is located approximately ¼ mile from the MBTA's Symphony and Massachusetts Avenue Stations along the Green and Orange Lines, respectively. The Project is also near several MBTA bus routes that travel along Massachusetts Avenue and Huntington Avenue, including routes CT1, 1, 39, and 43.

The Project is subject to the City of Boston's Article 80 Large Project Review process to ensure that it complies with all local requirements related to traffic, transit, pedestrian, and bicycle transportation facilities and services.

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

| ١. | A. Will the project meet or exceed any review thresholds related to roadways or other transportation facilities (see 301 CMR 11.03(6))? Yes _ X No; if yes, specify, in quantitative terms: |
|-----|---|
| | B. Does the project require any state permits related to roadways or other transportation facilities ? Yes _ X _ No; if yes, specify which permit: |
| | C. If you answered "No" to <u>both</u> questions A and B, proceed to the Energy Section . If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Roadways Section below. |
| II. | Transportation Facility Impacts A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site: |
| | B. Will the project involve any 1. Alteration of bank or terrain (in linear feet)? 2. Cutting of living public shade trees (number)? 3. Elimination of stone wall (in linear feet)? |

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

ENERGY SECTION

| I. | Thresholds / Permits A. Will the project meet or exceed any review thresholds related to energy (see 301 CMR 11.03(7))? Yes _X No; if yes, specify, in quantitative terms: |
|-----|--|
| | B. Does the project require any state permits related to energy ? Yes _ X No; if yes, specify which permit: |
| | C. If you answered "No" to <u>both</u> questions A and B, proceed to the Air Quality Section . If you answered "Yes" to <u>either</u> question A or question B, fill out the remainder of the Energy Section below. |
| II. | Impacts and Permits A. Describe existing and proposed energy generation and transmission facilities at the project site: Existing Change Total |
| | B. If the project involves construction or expansion of an electric generating facility, what are: 1. the facility's current and proposed fuel source(s)? 2. the facility's current and proposed cooling source(s)? |
| | C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way?YesNo; if yes, please describe: |
| | D. Describe the project's other impacts on energy facilities and services: |
| Ш | Consistency Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services: |

AIR QUALITY SECTION

| I. | Thresholds A. Will the project meet or exceed any review th 11.03(8))? Yes _X No; if yes, specify, in | | | see 301 CMR |
|-----|---|--------------------------|--------------------|------------------|
| | B. Does the project require any state permits re specify which permit: | elated to air qua | ılity? Yes _ | X_ No; if yes, |
| | C. If you answered "No" to <u>both</u> questions A an Section . If you answered "Yes" to <u>either</u> question Quality Section below. | | | |
| II. | II. Impacts and Permits A. Does the project involve construction or mod 7.00, Appendix A)? Yes No; if yes, descriper day) of: | | | |
| | | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
| | Particulate matter Carbon monoxide Sulfur dioxide Volatile organic compounds Oxides of nitrogen Lead Any hazardous air pollutant Carbon dioxide | | | |
| | B. Describe the project's other impacts on air re | sources and air | quality, including | g noise impacts: |

III. Consistency

- A. Describe the project's consistency with the State Implementation Plan:
- B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

| I. Thresholds / Permits A. Will the project meet or exceed any review thresholds related to solid or hazardous wast 301 CMR 11.03(9))? YesX_ No; if yes, specify, in quantitative terms: | | | | | | | | |
|--|--|-------------------|-------------------|---|-----|--|--|--|
| B. Does the project require any state permits related to solid and hazardous waste ?Y_No; if yes, specify which permit: | | | | | | | | |
| | C. If you answered "No" to both Resources Section. If you and remainder of the Solid a | swered "Yes" to | either question A | | al | | | |
| II. | | | | the storage, treatment, processir what is the volume (in tons per da | | | | |
| | Storage Treatment, processing Combustion Disposal | Existing | <u>Change</u> | <u>Total</u> | | | | |
| | | | | the storage, recycling, treatment e volume (in tons or gallons per o | | | | |
| | Storage Recycling Treatment Disposal | _ | <u>Change</u> | <u>Total</u> | | | | |
| | C. If the project will generate so alternatives considered for re-us | | | emolition or construction), describ | е | | | |
| | D. If the project involves demol | ition, do any bui | ldings to be dem | olished contain asbestos? | | | | |
| | E. Describe the project's other | solid and hazard | lous waste impa | cts (including indirect impacts): | | | | |
| III | . Consistency Describe measures that the pr | oponent will tak | e to comply with | the State Solid Waste Master Pla | an: | | | |

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

| I. | Thresholds / Impacts A. Have you consulted with the Massachusetts Historical Commission? YesX_ No; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? Yes No; if yes, attach correspondence N/a |
|-----|---|
| | B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth?X_ Yes No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? X Yes No; if yes, please describe: |
| | The proposed Project will require the demolition of 256-258 Huntington Avenue; this building's architect and date of construction are not known. The Boston Landmarks Commission will be afforded an opportunity to review the proposed demolition through the Article 85 Demolition Delay review process. |
| | C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? Yes _X No; if yes, does the project involve the destruction of all or any part of such archaeological site? Yes No; if yes, please describe: |
| | D. If you answered "No" to <u>all parts of both</u> questions A, B and C, proceed to the Attachments and Certifications Sections. If you answered "Yes" to <u>any part of either</u> question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below. |
| II. | Impacts Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources: |
| | As indicated above, the Project's only direct impact on historic resources involves the |

As indicated above, the Project's only direct impact on historic resources involves the demolition of the building at 256-258 Huntington Avenue. The Project's proposed retention of the historic Boston University Theatre at 264 Huntington Avenue will enhance the Project's visual relationship with the ten State- and National Register-listed resources that exist within a

III. Consistency

quarter-mile radius of the site.

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

The Project Proponent will comply with all federal, state, regional, and local regulations relating to the preservation of historic and archaeologic resources. These will include the Boston Landmarks Commission's Article 85 review process for the proposed demolition of 256-258 Huntington Avenue.

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

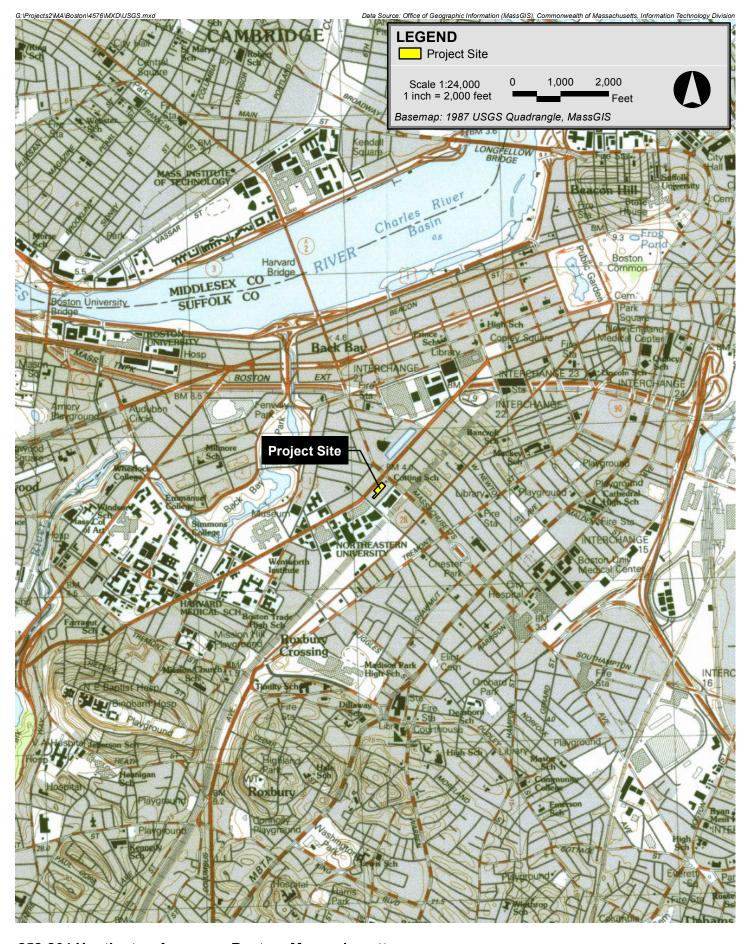
(Name) Boston Herald (Date) July 5, 2017

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

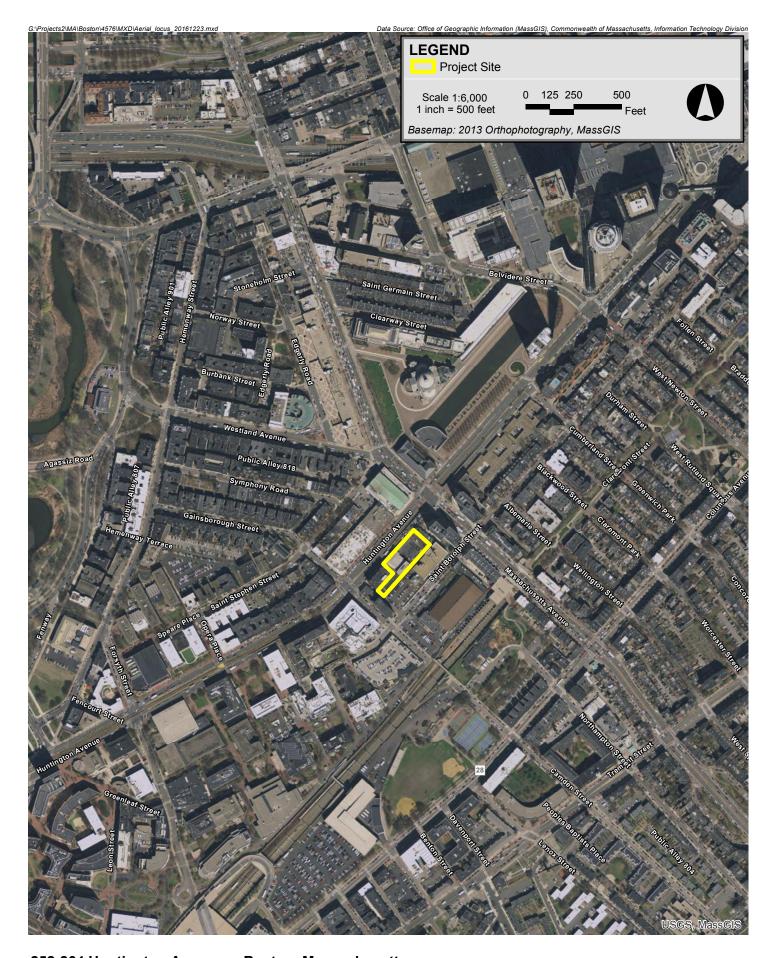
| Signatures: Cas a 0/7 Date Signature of Responsible Officer or Proponent | Date Signature of person preparing ENF (if different from above) | | | | |
|--|--|--|--|--|--|
| | | | | | |
| John Matteson | Talya Moked | | | | |
| Name (print or type) | Name (print or type) | | | | |
| QMG Huntington, LLC Firm/Agency | Epsilon Associates Firm/Agency | | | | |
| 133 Pearl Street | 3 Mill & Main Place, Suite 250 | | | | |
| Street | Street | | | | |
| Boston , MA 02110 | Maynard, MA 01754 | | | | |
| Municipality/State/Zip | Municipality/State/Zip | | | | |
| (617) 292-0101 | (978) 897-7100 | | | | |
| Phone | - Phone | | | | |

Attachment A

ENF Figures



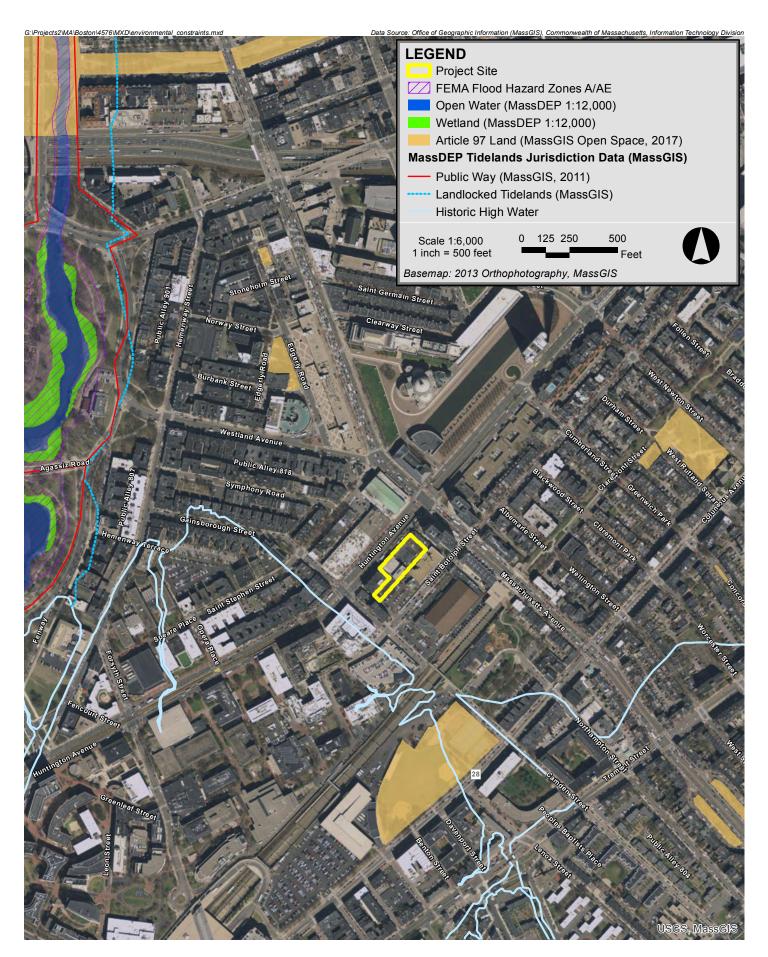




252-264 Huntington Avenue B

Boston, Massachusetts

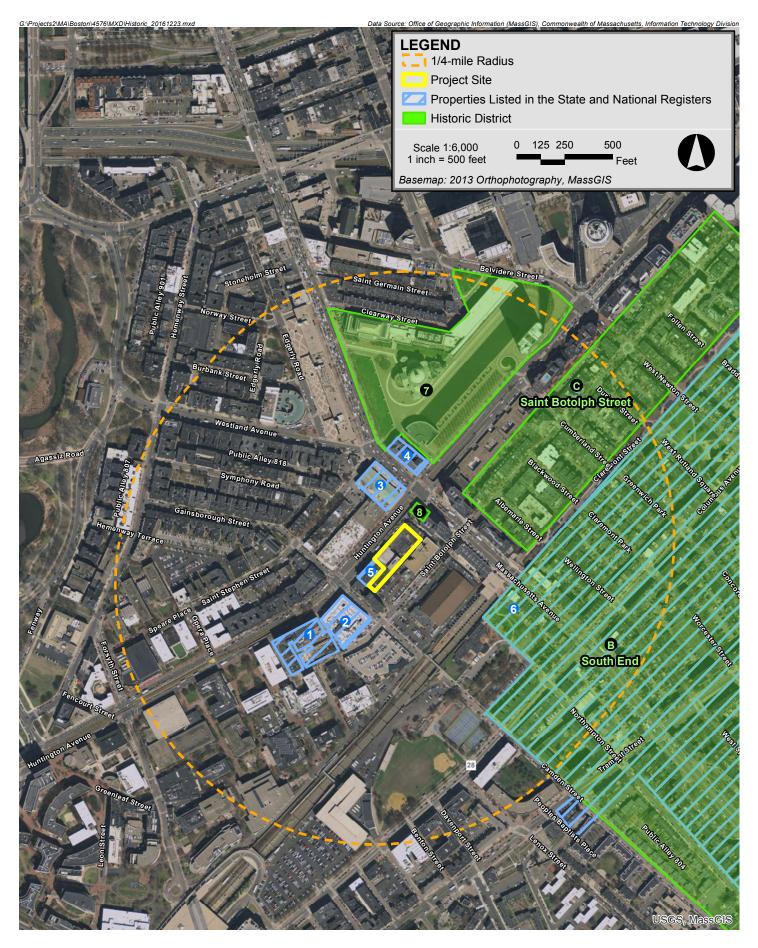




252-264 Huntington Avenue

Boston, Massachusetts

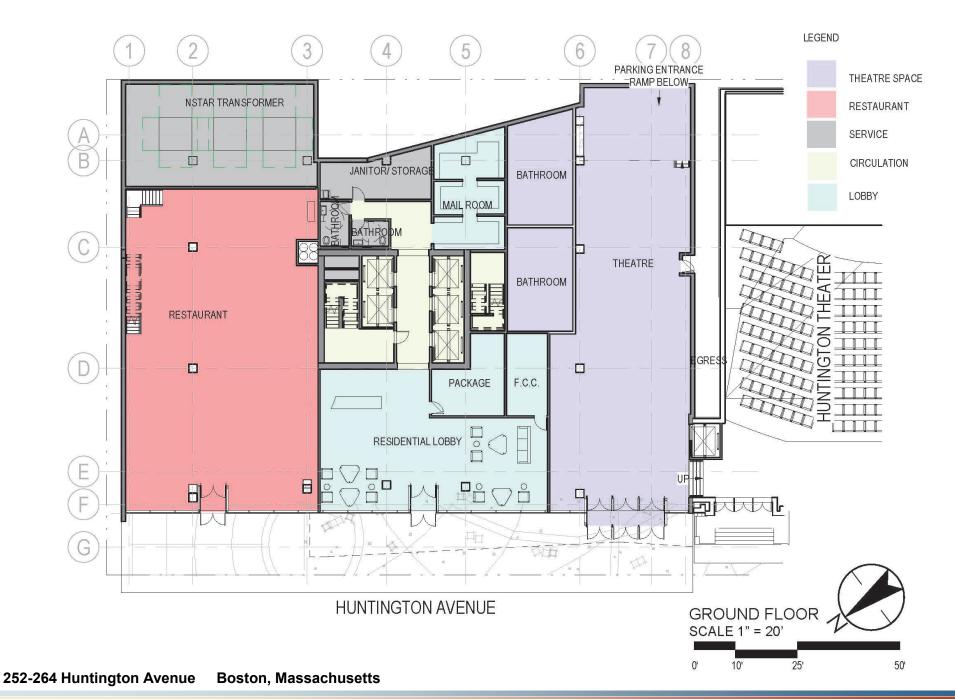




252-264 Huntington Avenue

Boston, Massachusetts







Attachment B

Circulation List

ATTACHMENT B CIRCULATION LIST

Matthew A. Beaton, Secretary
Executive Office of Energy and
Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900

Department of Environmental Protection Commissioner's Office One Winter Street

Boston, MA 02108

Boston, MA 02114

Department of Environmental Protection Northeast Regional Office Attn: MEPA Coordinator 205B Lowell Street Wilmington, MA 01887

Massachusetts Department of Transportation Public/Private Development Unit 10 Park Plaza Boston, MA 02116

Massachusetts Department of Transportation District #6 Attn: MEPA Coordinator 185 Kneeland Street Boston, MA 02111

Massachusetts Historical Commission The MA Archives Building 220 Morrissey Boulevard Boston, MA 02125 Metropolitan Area Planning Council 60 Temple Place, 6th Floor Boston, MA 02111

Massachusetts Water Resource Authority Attn: MEPA Coordinator 100 First Avenue Charlestown Navy Yard Boston, MA 02129

Boston City Council Attn: Michelle Wu, President 1 City Hall Square, Suite 550 Boston, MA 02201

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

Boston Conservation Commission Boston Environment Department One City Hall Plaza, Room 805 Boston, MA 02201

Boston Public Health Commission 1010 Massachusetts Avenue, 2nd Floor Boston, MA 02118

Attachment C

List of Local and Federal Permits

ATTACHMENT C ANTICIPATED LOCAL AND FEDERAL PERMITS AND APPROVALS

The table below presents a preliminary list of permits and approvals from local and federal agencies that are expected to be required for the Project, based on currently available information. It is possible that only some of these permits or actions will be required, or that additional permits or actions will be required.

Anticipated Local and Federal Permits and Approvals

| Agency/Department | Permit/Approval/Action | | | |
|--|---|--|--|--|
| City o | f Boston | | | |
| Boston Civic Design Commission | Schematic Design Review | | | |
| Boston Committee on Licenses/Public Safety | Parking Garage Permit | | | |
| Commission | 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) | | | |
| υ στο το τροποίο τη | Chapter 121A Approval, including approval of | | | |
| | storm water infiltration, and deviations for | | | |
| | maximum FAR, maximum building height, | | | |
| | minimum usable open space, and accessory | | | |
| | residential parking | | | |
| | Cooperation Agreement | | | |
| | Boston Residents Construction Employment Plan | | | |
| | Affordable Housing Agreement and Restriction | | | |
| 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 | | | |
| Boston Hansportation Department | Construction Management Plan | | | |
| | Street and Sidewalk Occupant Permits | | | |
| Boston Water and Sewer Commission | Water and Sewer Connection Permits | | | |
| Doston Water and Jewer Commission | General Service Application | | | |
| | Site Plan Review | | | |
| | Infiltration and Inflow (I&I) Fee | | | |

Attachment D

Transportation

D.1 Introduction

Howard Stein Hudson (HSH) has conducted an evaluation of the transportation impacts of the proposed Project. This transportation study adheres to the Boston Transportation Department (BTD) *Transportation Access Plan Guidelines* and Boston Planning and Development Agency Article 80 Large Project Review process. This study includes an evaluation of the existing conditions, future conditions with and without the Project, projected parking demand, loading operations, transit services, and pedestrian and bicycle activity. The Project will have minimal impact on the study area intersections and the pedestrian and public transportation facilities in the area.

D.1.1 Project Description

The Project, located in Boston's Fenway-Kenmore neighborhood, is bounded on the northwest by Huntington Avenue; on the northeast by Public Alley 820; on the southeast by Public Alley 821; and to the southwest by Public Alley 822. The Project will include the construction of a new mixed-use building consisting of the following components:

Residential Tower – Located at 254-260 Huntington Avenue, a residential tower consisting of 426 residential units and approximately 7,500 square feet of ground-floor restaurant/retail space will be constructed.

Theatre Expansion – Located on the first and second floor of the new building at 254-260 Huntington Avenue will be approximately 14,000 sf of auxiliary space for the Boston University Theatre at 260-264 Huntington Avenue, including the theater's main entrance and lobby, patron services such as the box office, the bar, and restrooms. There will also be a function room for special events.

Theatre Building – Located at 260-264 Huntington Avenue, is the existing Boston University Theatre which will remain as currently used, and will therefore not have any new traffic impacts associated with it.

Vehicular access to the proposed on-site parking will be provided off of Public Alley 821. The parking will be provided in a below-grade garage that will accommodate up to 114 vehicles in four levels of below grade. The Project will also include on-site, secure, and covered storage for up to 426 bicycles (one per unit). An on-site loading dock will be provided for move-in/move-out activity and deliveries and will be accessed from Public Alley No. 821. The Proponent will work with the BTD and BPDA to refine the design of the site access points for the Project.

A preliminary site plan is shown in Figure D-1. Table D-1 shows the proposed land uses.

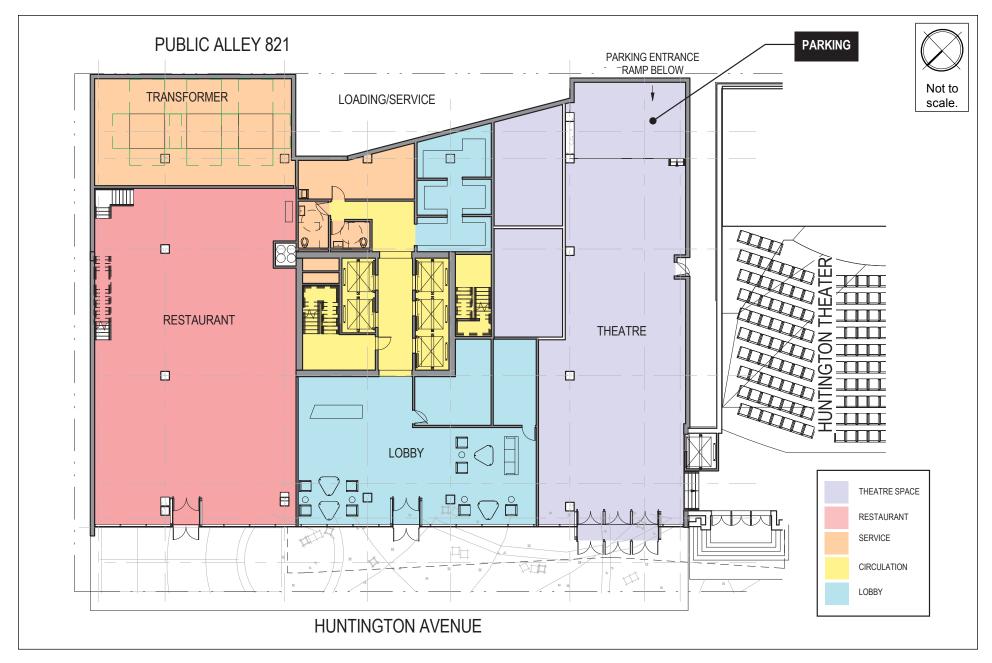


Table D-1 Proposed Project Land Uses

| Land Use | Proposed Project |
|------------------------|------------------|
| B.U. Theatre Expansion | 14,000 sf |
| Residential Tower | 426 units |
| Retail/Restaurant | 7,500 sf |

D.1.2 Study Methodology

This transportation study and its supporting analyses were conducted in accordance with BTD guidelines, and are described below.

The Existing (2017) Condition analysis includes an inventory of the existing transportation conditions such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analyses evaluate potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2024, based on a seven-year horizon from the year of the filing of this traffic study.

The No-Build (2024) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project site.

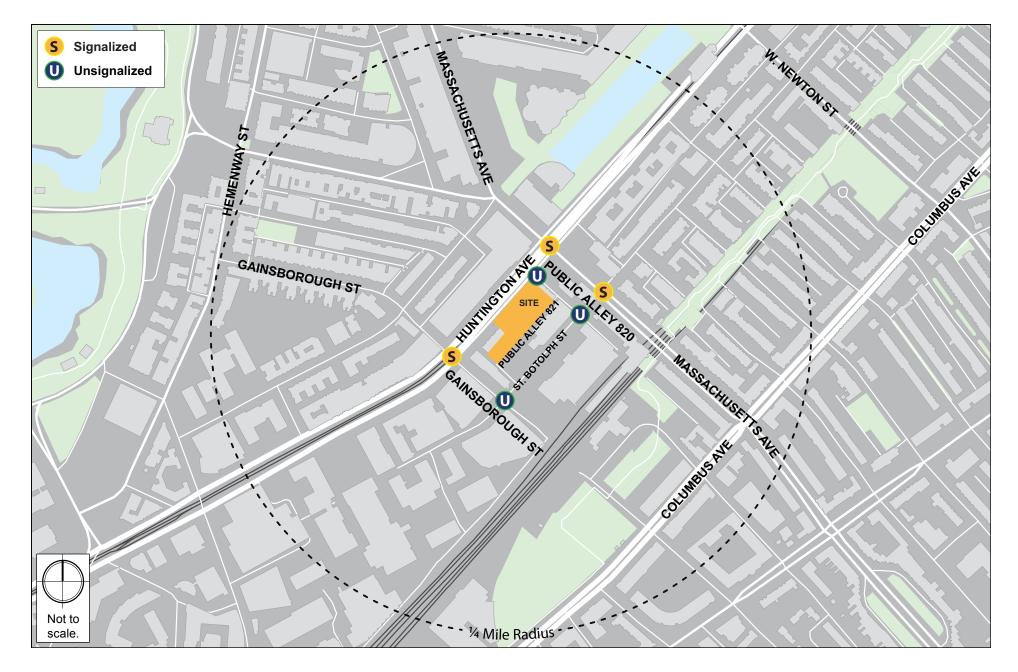
The Build (2024) Condition analysis includes a net increase in traffic volume due to the addition of Project-generated trip estimates to the traffic volumes developed as part of the No-Build (2024) Condition analysis. The transportation study identifies expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities and deficiencies.

The final part of the transportation study identifies measures to mitigate Project-related impacts and to address any traffic, pedestrian, bicycle, transit, safety, or construction related issues that are necessary to accommodate the Project.

An evaluation of short-term traffic impacts associated with construction activities is also provided.

D.1.3 Study Area

The transportation study area is generally bounded by Public Alley 820 to the northeast, Huntington Avenue to the northwest, Alley 822 to the southwest, and Alley 821 to the southeast. The study area, shown in Figure D-2 includes the following six intersections:





- Huntington Avenue/Massachusetts Avenue (signalized);
- Massachusetts Avenue/Saint Botolph Street (signalized);
- Huntington Avenue/Gainsborough Street (signalized);
- Saint Botolph Street/Alley 823/ Public Alley 820 (unsignalized);
- Saint Botolph Street/Gainsborough Street (unsignalized); and
- Huntington Avenue/Public Alley 820 (unsignalized)

D.2 Existing (2017) Condition

This section includes descriptions of existing study area roadway geometries, intersection traffic control, peak-hour vehicular and pedestrian volumes, average daily traffic volumes, transit availability, parking, curb usage, and loading conditions.

D.2.1 Existing Roadway Conditions

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

Huntington Avenue is a two-way, four lane roadway divided by the MBTA E branch of the Green Line. Huntington Avenue is located adjacent to the northwest of the Project site and generally runs in an east-west direction between the Jamaicaway in Mission Hill to the west and Dartmouth Street in Back Bay to the east. Huntington Avenue is classified as an urban primary arterial under BTD jurisdiction. On-street parking and sidewalks are provided along both sides of the roadway. The through traffic on Huntington Avenue travels underneath Massachusetts Avenue, with additional at-grade lanes for local access and to travel to/from Massachusetts Avenue.

Massachusetts Avenue is a two-way, four lane roadway located to the northeast of the Project site and generally runs in a north-south direction between Columbia Road to the south and the Cambridge City line to the north, where it continues through Cambridge, Arlington, and Lexington. Massachusetts Avenue is classified as an urban primary arterial under BTD jurisdiction. Sidewalks are provided along both sides of the roadway. On-street parking is not provided in the vicinity of the Project site. Painted bicycle lanes are also provided along both sides of Massachusetts Avenue in the vicinity of the Project site.

Gainsborough Street is a two-way, two lane roadway located to the southwest of the Project site. Gainsborough Street generally runs in a northwest-southeast direction between the MBTA Orange Line tracks to the southeast and Hemenway Street to the northwest. Gainsborough Street is classified as a local roadway under BTD jurisdiction. On-street parking and sidewalks are provided along both sides of the roadway.

Saint Botolph Street is a two-way, two lane roadway located to the southeast of the Project site. Saint Botolph Street generally runs in an east-west direction between Northeastern University to the west and Copley Place to the east. Saint Botolph Street is classified as a local roadway under BTD jurisdiction. On-street parking and sidewalks are provided along both sides of the roadway.

Public Alleys 820, 821, and 822 are a series of single-lane roadways that provide access to the Project site and adjacent properties. The Public Alleys operate with two-way travel, but can only accommodate a single vehicle due to the narrow width of the roadways. The Public Alleys primarily serve back of house uses for the adjacent buildings such as trash/recycling pick-up, and loading/service operations.

D.2.2 Existing Intersection Conditions

The existing study area intersections are described below. Intersection characteristics such as traffic control, lane usage, pedestrian facilities, pavement markings, and adjacent land use are described.

Huntington Avenue/Massachusetts Avenue is a six-legged intersection with four approaches located north of the Project site. The Huntington Avenue eastbound approach consists of a shared left-turn/through lane and a shared through/right-turn lane. The Huntington Avenue westbound approach consists of a shared left-turn/through lane and a right-turn only lane. The Massachusetts Avenue northbound approach consists of a left-turn only lane, a through lane, a through/right-turn lane, and a bicycle lane. The Massachusetts Avenue southbound approach consists of a through lane, a through/right-turn lane, and a bicycle lane. On-street parking is prohibited along the Massachusetts Avenue approaches to the intersection. Crosswalks, wheelchair ramps, and pedestrian signal equipment are provided across all approaches of the intersection.

Massachusetts Avenue/Saint Botolph Street is a four-legged intersection with four approaches located east of the Project site. The St. Botolph Street eastbound and westbound approaches both consist of a single travel lane. The Massachusetts Avenue northbound and southbound approaches both consist of a left-turn only lane, a through lane, and a through/right-turn lane. Residential permit parking is provided along all approaches to the intersection. Crosswalks, wheelchair ramps, and pedestrian signal equipment are provided across all approaches of the intersection.

Huntington Avenue/Gainsborough Street is a four-legged intersection with three approaches located southwest of the Project site. The Huntington Avenue eastbound and westbound approaches both consist of a left-turn only lane, a through lane, and a through/right-turn lane. The Gainsborough Street northbound approach consists of a single travel lane. North of

Huntington Avenue, Gainsborough Street is one-way departing the intersection in the northbound direction. On-street metered parking is provided along the approaches of the intersection. Crosswalks, wheelchair ramps, and pedestrian signal equipment are provided across all approaches to the intersection.

Saint Botolph Street/Alley 823/Public Alley 820 is a four-legged intersection with four approaches located east of the Project site. All four approaches consist of a single travel lane. On-street resident permit parking is provided along the St. Botolph Street westbound approach. A crosswalk is provided across the St. Botolph Street eastbound approach. Wheelchair ramps are provided across the Alley 823 northbound approach and Public Alley 820 southbound approach. The alleys accommodate two-way travel, but the widths only allow for a single vehicle to pass in one direction.

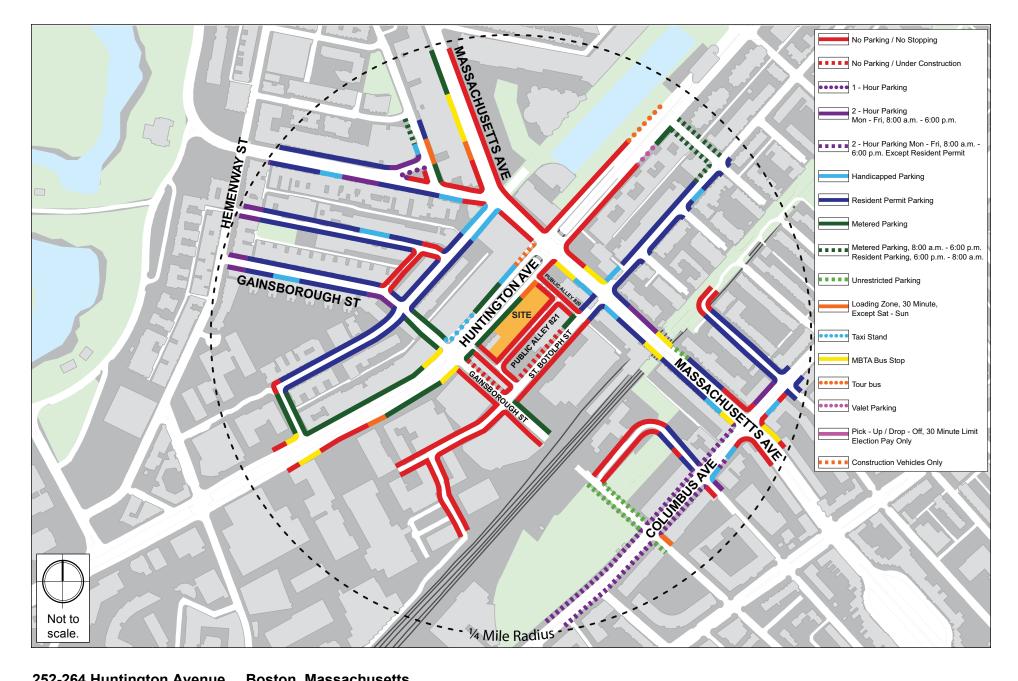
Saint Botolph Street/Gainsborough Street is a four-legged intersection with four approaches located southwest of the Project site. All four approaches consist of a single travel lane. On-street metered parking is provided along the east side of the Gainsborough Street northbound approach. Crosswalks and pedestrian signal equipment are provided across all approaches to the intersection.

Huntington Avenue/Public Alley 820 is a three-legged intersection with two approaches located northeast of the Project site. The Huntington Avenue eastbound approach consists of a through lane and a through/right-turn lane. Public Alley 820 northbound approach consists of a single travel lane. On-street parking is prohibited along all approaches to the intersection. Public Alley 820 accommodates two-way travel, but the width only allows for a single vehicle to pass in one direction.

- **St. Botolph Street/Public Alley 822** is a three-legged intersection with three approaches located northeast of the Project site. The St. Botolph Street eastbound and southbound approaches consist of single travel lanes. The Public Alley 822 approach consists of a single travel lane that accommodates two-way travel, but only allows for a single vehicle to pass in one direction.
- St. Botolph Street/Public Alley 823 is a three-legged intersection with three approaches located northeast of the Project site. The St. Botolph Street eastbound and southbound approaches consist of single travel lanes. The Public Alley 823 approach consists of a single travel lane that accommodates two-way travel, but only allows for a single vehicle to pass in one direction.

D.2.3 Existing Parking and Curb Use

The curb use within a quarter mile of the Project site, or about a five minute walk, is generally restricted to metered parking, commercial parking, and resident parking. Some additional curb uses include MBTA bus stops, two-hour parking, and handicapped spaces. Figure D-3 shows the on-street parking within a quarter mile of the Project site.





D.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 carsharing 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 car share services provide an important transportation option by reducing the need to rent or own a vehicle. Figure D-4 shows the nearby car sharing locations, with a total of six Zipcar locations.

D.2.5 Existing Pedestrian Conditions

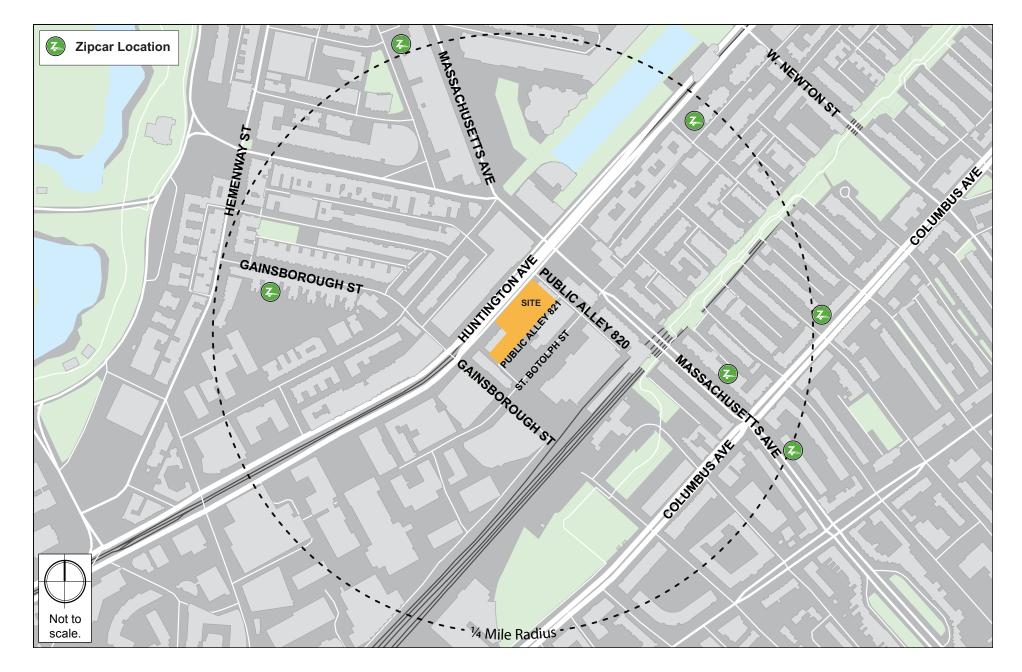
In the vicinity of the Project site, the sidewalks and pedestrian facilities are generally in good condition. Most sidewalks are at least ten feet in width with street trees and/or landscaping. The sidewalks maintain a clear zone for pedestrians to walk without obstructions. Potential pedestrian obstructions such as street lights, trees, and parking meters are located along the curb. The sidewalks are typically concrete, with some portions made of brick.

To determine the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the vehicular Turning Movement Counts (TMCs) at the study area intersections and are presented in Figure D-5. The heaviest pedestrian volumes occur along Massachusetts Avenue and Huntington Avenue. All study area intersections experience moderate to high levels of pedestrian activity, indicating the walkable nature of the Project site.

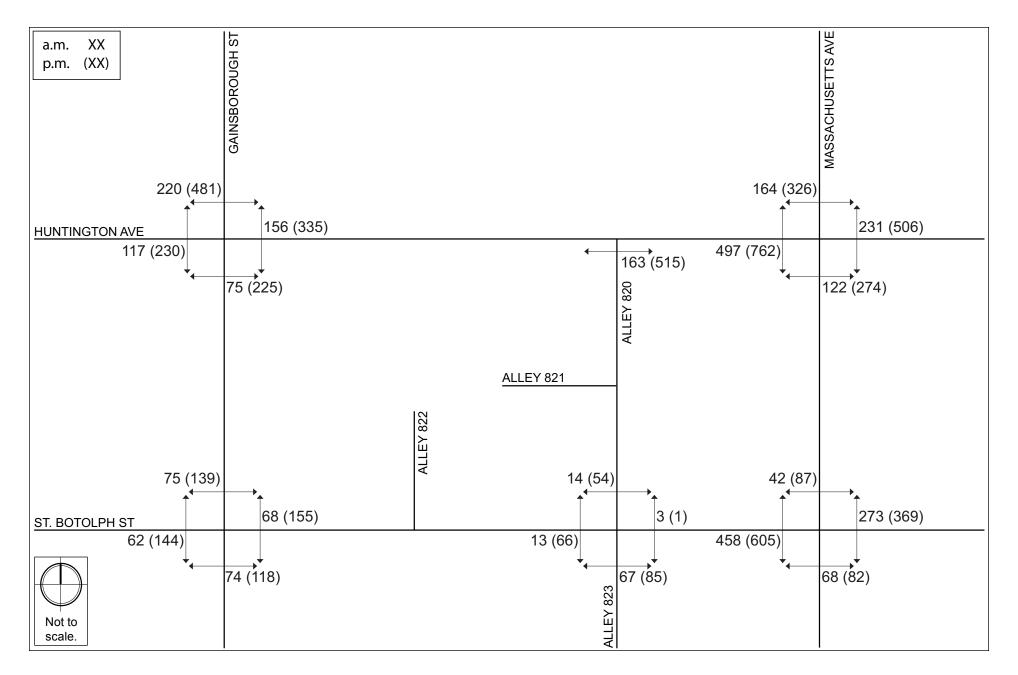
D.2.6 Existing Bicycle Conditions

In recent years, bicycle use has increased dramatically throughout the City of Boston. The Project site is conveniently located near several bicycle facilities. Southwest Corridor Park is an off-street path between Forest Hills Station in Jamaica Plain and Back Bay Station. The City of Boston's "Bike Routes of Boston" map indicates that the Southwest Corridor Park is designated as beginner routes, suitable for all types of bicyclists including new cyclists, cyclists with limited on-road experience, and/or children. Columbus Avenue and Saint Botolph Street are designated as intermediate routes, suitable for riders with some on-road experience. Massachusetts Avenue and Huntington Avenue are designated as advanced routes suitable for traffic-confident cyclists; however, a protected bicycle lane was recently installed along Massachusetts Avenue.

Bicycle counts were conducted concurrent with the vehicular TMCs and are presented in Figure D-6. As shown in the figure, bicycle activity is heaviest along Massachusetts Avenue. Further, the bicycle counts were conducted in 2016, prior to the installation of the bicycle lane that was recently installed.







| a.m. XX p.m. (XX) | GAINSBOROUGH ST ← 12 (18) ← 0 (2) | | ← 9 (9) ← 58 (44) | 0 (0) |
|--|--|------------------------|--|---|
| 0 (1) 1 12 (17) → 0 (3) → | 3 (3) + 6 (4) + 2 (4) + | 27 (50) → 08 ALLEY 821 | 25 (41) → 0 (2) → 2 (7) → | $\begin{array}{c} 2 (0) \stackrel{\rightarrow}{\rightarrow} \\ 58 (42) \stackrel{\rightarrow}{\rightarrow} \\ 3 (2) \stackrel{\rightarrow}{\rightarrow} \end{array}$ |
| ST. BOTOLPH ST | Prince (2) (2) | ← 3 (7) | ← 6 (4) ← 97 (109) ← 2 (4) | 100 ← 12 (7) 10 ← 12 (7) 10 ← 0 (3) |
| 0 (2) → 3 (0) → Not to scale. | $ \begin{array}{c} 2(2) \rightarrow \\ 0(2) \rightarrow \\ \end{array} $ | ALLEY 823 ← (8) 5 | $ \begin{array}{c} 1 (2) \xrightarrow{*} \\ 7 (5) \\ 2 (2) \end{array} $ | $ \begin{array}{c} 5 (6) \rightarrow \\ 94 (11) \rightarrow \\ 1 (4) \rightarrow \end{array} $ |

D.2.6.1 Bicycle Sharing Services

Hubway, launched in July 2011, is a bicycle sharing system with more than 180 stations and 1,600 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 D-7, three Hubway stations are located within one quarter-mile of the Project site.

D.2.7 Existing Public Transportation

The Project is located near several public transportation facilities. Symphony Station of the MBTA E Branch of the Green Line is located at the Huntington Avenue/Massachusetts Avenue intersection, fewer than 300 feet from the Project, and Massachusetts Avenue Station of the MBTAs Orange Line is located fewer than 1,000 feet away. The MBTA Route 39 bus travels adjacent to the Project site along Huntington Avenue and the nearest stop is approximately 500 feet away. The MBTA Route 1 bus travels along Massachusetts Avenue and is located approximately 300 feet away from the Project site. The local MBTA public transportation services are listed in Table D-2 and mapped in Figure D-8.

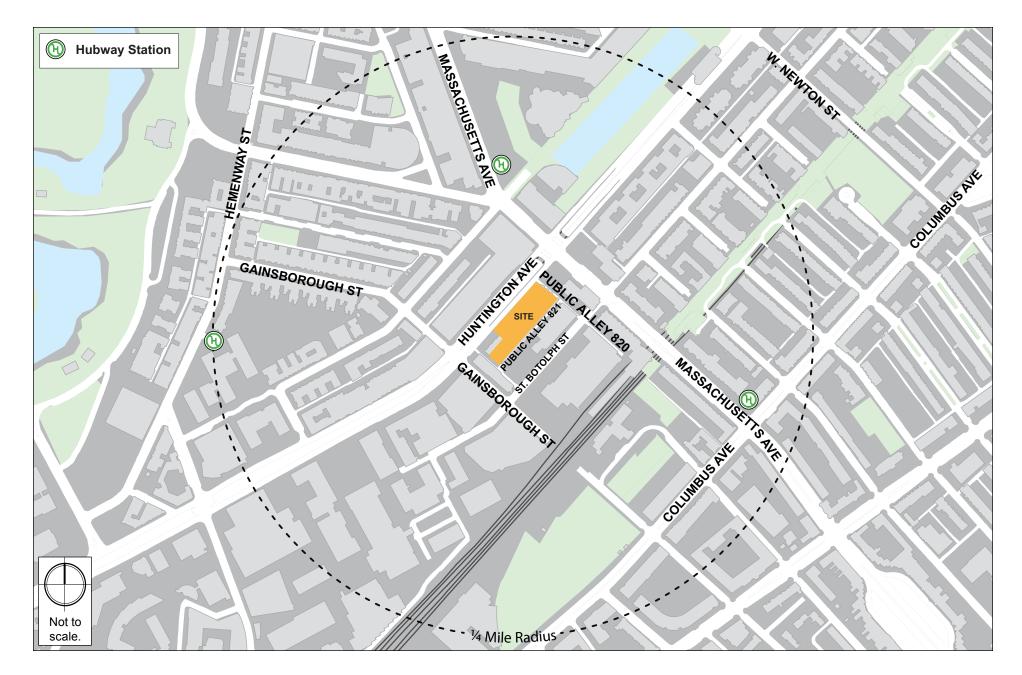
Table D-2 Public Transportation Services

| Transit Service | Description Rapid Transit Routes | Rush-hour Headway (in minutes)* | | | | |
|------------------------------------|--|---------------------------------------|--|--|--|--|
| Green Line | E Line: Lechmere – Riverside | 6 | | | | |
| Orange Line Forest Hills-Oak Grove | | 6 | | | | |
| | Local Bus Routes | | | | | |
| CT1 | Central Square Cambridge – BU Medical Campus/BMC | 20 | | | | |
| 1 | Harvard/Holyoke Street – Dudley Station | 10 | | | | |
| 39 | Forest Hills Station – Back Bay Station | 6 | | | | |
| 43 | Ruggles Station – Park & Tremont Streets | 20 | | | | |

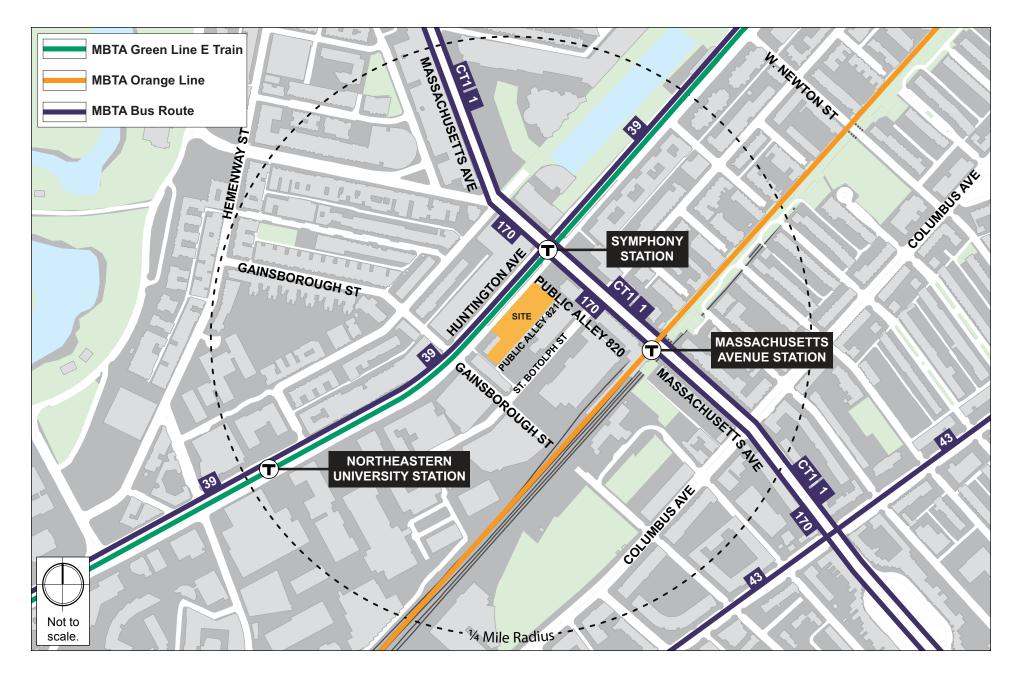
^{*} Headway is the time between trains.

D.2.8 Existing Traffic Data

Traffic volume data was collected in the study area intersections on Friday, April 29, 2016. Automatic Traffic Recorders (ATRs) were utilized to collect daily traffic volumes and Turning Movement Counts were conducted during the weekday a.m. and weekday p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively) at the study area intersections. The TMCs included traffic classification including car, heavy vehicle, pedestrian, and bicycle movements. The detailed traffic counts are provided in the Appendix.









D.2.8.1 Seasonal Adjustment

In order to account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT were reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the April TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6) during the month of April is 0.92. This indicates that average month traffic volumes are approximately eight percent less than the traffic volumes that were collected. The traffic counts were not adjusted downward to reflect average month conditions in order to provide a conservatively high analysis consistent with the peak season traffic volumes.

D.2.9 Existing (2017) Traffic Volumes

Existing traffic volumes were collected to develop the 2017 Existing Condition vehicular traffic volumes. A 0.5% yearly growth rate was applied to the 2016 traffic data to reflect projected traffic counts in 2017. Since the traffic counts were conducted in 2016, the intersection of Massachusetts Avenue/Huntington Avenue has been reconfigured. Previously, left-turns along the Massachusetts Avenue northbound approach were prohibited. The current and reconfigured intersection provides an exclusive left-turn lane along the Massachusetts Avenue northbound approach. To account for this change, a portion of the left-turns along Massachusetts Avenue northbound were reassigned from St. Botolph Street to Huntington Avenue. The 2017 Existing Condition weekday a.m. Peak Hour and weekday p.m. Peak Hour traffic volumes are shown in Figure D-9 and Figure D-10, respectively.

D.2.10 Traffic Operations Analysis

Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM).

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table D-3 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered acceptable in an urban area. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway.

| HUNTINGTON AVE | | GAINSBOROUGH ST GAINSBOROUGH ST 30 37 37 38 437 38 | | | - 75 → 791 | MASSACHUSETTS AVE 8 9 6 8 9 6 |
|----------------|---|---|--------------------------|---|------------------------------|--|
| HUNTINGTON AVE | 21 ≤ 36 ↑ 564 → 91 → | 22 4 4 4 1 2 3 3 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 | | 151 → | 83 → 12 → 56 → | 902 4 7 7 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| | | | ALLEY 822 | ALLEY 821 2 → | <u>↑</u> | |
| ST. BOTOLPH ST | ← 5 ← 63 ← 60 | ← 47 ← 14 ← 60 | ∞ | 2 | ←111 ←1 07 3 00 €23 | 18 ← 12 ← 38 |
| Not to scale. | 9 ↑ 6 → 2 → | 13 + + + + + | 5 - ↑ 68 → | † 67 PT | P 9 → 6 → 57 → | 63 → 1005 → 51 → |

| | GAINSBOROUGH ST | | | | ↑ ↑ MASSACHUSETTS AVE |
|----------------|---|----------------------------------|-------------------------------|--|-----------------------------|
| HUNTINGTON AVE | 56 679 39 19 |) | | ↓ ↓ ▶ | 5 1 |
| | 27 ± ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ | • | ALLEY 821 ↓ | The state of the | 885 → 75 → |
| ST. BOTOLPH ST | 27 | ↑ 8 ↑ 12 ↑ ALLEY 822 66 | 2 → 1 → | 5 | ± 30 ← 25 <i>∓</i> 71 |
| Not to scale. | 30 → 8 ½ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | 198→ | 709 → → PTEY 823 → → HTEY 823 | ¶ ↑ 38 → 16 → 161 → | 52 → 969 → 61 → |

Table D-3 Vehicle Level of Service Criteria

| | Average Stopped Delay (sec/veh) | | | | | |
|------------------|---------------------------------|---------------------------|--|--|--|--|
| Level of Service | Signalized Intersection | Unsignalized Intersection | | | | |
| A | ≤10 | ≤10 | | | | |
| В | > 10 and ≤20 | > 10 and ≤15 | | | | |
| С | > 20 and ≤35 | >15 and ≤25 | | | | |
| D | > 35 and ≤55 | > 25 and ≤35 | | | | |
| E | > 55 and ≤80 | >35 and ≤50 | | | | |
| F | >80 | >50 | | | | |

Source: 2000 Highway Capacity Manual, Transportation Research Board.

In addition to delay and LOS, the operational capacity and vehicular queues are calculated and used to further quantify traffic operations at intersections. The following describes these other calculated measures.

The volume-to-capacity (v/c) ratio is a measure of congestion at an intersection approach. A v/c ratio below one indicates that the intersection approach has adequate capacity to process the arriving traffic volumes over the course of an hour. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

The 50th percentile queue length, measured in feet, represents the maximum queue length during a cycle of the traffic signal with typical (or median) entering traffic volumes.

The 95th percentile queue length, measured in feet, represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during five percent of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only five percent of the time and would typically not occur during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" scenario. Queues at the intersection are generally below the 95th percentile queue throughout the course of the peak hour. It is also unlikely that the 95th percentile queues for each approach to the intersection will occur simultaneously.

Table D-4 and Table D-5 summarize the Existing (2017) Condition capacity analysis for the study area intersection during the weekday a.m. Peak Hour and the weekday p.m. Peak Hour. The detailed analysis sheets are provided in the Appendix.

Table D-4 Existing (2017) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) | | | | |
|--|--------------|--------------|--------------|----------------------------------|----------------------------------|--|--|--|--|
| Signalized Intersections | | | | | | | | | |
| Massachusetts Avenue/Huntington Avenue | E | <i>7</i> 9.5 | - | - | - | | | | |
| Huntington Ave EB left/thru thru/right | E | 58.5 | 0.60 | 74 | 100 | | | | |
| Huntington Ave WB left/thru thru/right | D | 52.8 | 0.45 | 58 | 94 | | | | |
| Massachusetts Ave NB left | Е | 56.3 | 0.48 | 45 | m86 | | | | |
| Massachusetts Ave NB thru thru/right | F | 91.5 | 1.05 | ~436 | #601 | | | | |
| Massachusetts Ave SB thru thru/right | E | 76.9 | 1.03 | ~391 | #565 | | | | |
| Massachusetts Avenue/Saint Botolph Street | В | 10.4 | - | - | - | | | | |
| St. Botolph St EB left | D | 43.1 | 0.08 | 8 | m23 | | | | |
| St. Botolph St EB thru/right | D | 49.4 | 0.38 | 56 | 90 | | | | |
| St. Botolph St WB left | D | 46.3 | 0.26 | 34 | 59 | | | | |
| St. Botolph St WB thru/right | D | 42.9 | 0.15 | 26 | 48 | | | | |
| Massachusetts Ave NB left | Α | 5.5 | 0.21 | 11 | 23 | | | | |
| Massachusetts Ave NB thru thru/right | В | 10.6 | 0.53 | 217 | 273 | | | | |
| Massachusetts Ave SB left | Α | 1.0 | 0.11 | 2 | m2 | | | | |
| Massachusetts Ave SB thru thru/right | Α | 3.1 | 0.49 | 37 | m37 | | | | |
| Gainsborough Street/ Huntington Avenue | В | 12.1 | - | - | - | | | | |
| Huntington Ave EB left | В | 12.9 | 0.18 | 19 | 43 | | | | |
| Huntington Ave EB thru thru/right | В | 14.0 | 0.45 | 131 | 176 | | | | |
| Huntington Ave WB left | Α | 6.9 | 0.13 | 10 | 23 | | | | |
| Huntington Ave WB thru thru/right | Α | 7.8 | 0.29 | 68 | 95 | | | | |
| Gainsborough St NB left/thru/right | С | 26.5 | 0.25 | 32 | 69 | | | | |
| Unsig | nalized Inte | ersections | | | | | | | |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | - | - | - | | | | |
| St. Botolph St EB left/thru/right | Α | 0.1 | 0.00 | - | 0 | | | | |
| St. Botolph St WB left/thru/right | Α | 0.1 | 0.00 | - | 0 | | | | |
| Alley 823 NB left/thru/right | Α | 9.3 | 0.00 | - | 0 | | | | |
| Alley 820 SB left/thru/right | Α | 9.2 | 0.00 | | 0 | | | | |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - | | | | |
| St. Botolph St EB left/thru/right | Α | 7.6 | 0.039 | - | 2.5 | | | | |
| St. Botolph St WB left/thru/right | Α | 9.1 | 0.033 | - | 2.5 | | | | |
| Gainsborough St NB left/thru/right | Α | 8.2 | 0.177 | - | 15 | | | | |
| Gainsborough St SB left/thru/right | А | 8.8 | 0.195 | - | 17.5 | | | | |

Table D-4 Existing (2017) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|------------------------------------|---------------|--------------|--------------|----------------------------------|----------------------------------|
| Un | signalized li | ntersections | | | |
| Huntington Avenue/Alley 820 | - | - | - | - | - |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 820 NB right | Α | 0.0 | 0.00 | - | 0 |
| Alley 820/Alley 821 | - | - | - | - | - |
| Alley 821 EB left/right | Α | 8.3 | 0.00 | - | 0 |
| Alley 820 NB left/thru | Α | 7.2 | 0.00 | - | 0 |
| Alley 820 SB thru/right | Α | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | Α | 0.5 | 0.00 | - | 0 |
| St. Botolph St WB thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 822 SB left/right | Α | 8.9 | 0.01 | - | 1 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Grey shading indicates LOS E or F.

Table D-5 Existing (2017) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) | | | | |
|--|-----|-----------|--------------|----------------------------------|----------------------------------|--|--|--|--|
| Signalized Intersections | | | | | | | | | |
| Massachusetts Avenue/Huntington Avenue | F | 159.3 | - | - | - | | | | |
| Huntington Ave EB left/thru thru/right | E | 58.1 | 0.59 | <i>7</i> 5 | 101 | | | | |
| Huntington Ave WB left/thru thru/right | D | 52.7 | 0.47 | 68 | 106 | | | | |
| Massachusetts Ave NB left | F | 82.3 | 0.65 | 55 | m98 | | | | |
| Massachusetts Ave NB thru thru/right | F | 120.1 | 1.06 | ~480 | #629 | | | | |
| Massachusetts Ave SB thru thru/right | F | 224.4 | 1.41 | ~721 | #800 | | | | |

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

Table D-5 Existing (2017) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) | | | | |
|--|-----|-----------|--------------|----------------------------------|----------------------------------|--|--|--|--|
| Signalized Intersections | | | | | | | | | |
| Massachusetts Avenue/Saint Botolph Street | E | 64.6 | - | - | - | | | | |
| St. Botolph St EB left | D | 53.6 | 0.26 | 37 | 55 | | | | |
| St. Botolph St EB thru/right | F | 90.2 | 0.96 | 210 | 211 | | | | |
| St. Botolph St WB left | F | 146.1 | 1.05 | ~100 | #119 | | | | |
| St. Botolph St WB thru/right | D | 52.9 | 0.28 | 59 | 70 | | | | |
| Massachusetts Ave NB left | Α | 8.2 | 0.26 | 13 | 25 | | | | |
| Massachusetts Ave NB thru thru/right | D | 44.7 | 0.64 | 290 | 338 | | | | |
| Massachusetts Ave SB left | Α | 6.4 | 0.31 | 21 | m16 | | | | |
| Massachusetts Ave SB thru thru/right | Е | 77.8 | 0.65 | 511 | m391 | | | | |
| Gainsborough Street/ Huntington Avenue | В | 10.2 | - | - | - | | | | |
| Huntington Ave EB left | В | 11.6 | 0.28 | 20 | 58 | | | | |
| Huntington Ave EB thru thru/right | Α | 9.9 | 0.47 | 123 | 201 | | | | |
| Huntington Ave WB left | Α | 4.9 | 0.18 | 8 | 23 | | | | |
| Huntington Ave WB thru thru/right | Α | 5.1 | 0.37 | 76 | 131 | | | | |
| Gainsborough St NB left/thru/right | D | 48.0 | 0.64 | 65 | 117 | | | | |
| Unsignalized Intersections | | | | | | | | | |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | - | - | - | | | | |
| St. Botolph St EB left/thru/right | Α | 0.0 | 0.00 | - | 0 | | | | |
| St. Botolph St WB left/thru/right | Α | 0.5 | 0.01 | - | 1 | | | | |
| Alley 823 NB left/thru/right | В | 14.5 | 0.04 | - | 3 | | | | |
| Alley 820 SB left/thru/right | В | 12.5 | 0.01 | - | 1 | | | | |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - | | | | |
| St. Botolph St EB left/thru/right | Α | 8.5 | 0.173 | - | 15 | | | | |
| St. Botolph St WB left/thru/right | Α | 9.5 | 0.138 | - | 12.5 | | | | |
| Gainsborough St NB left/thru/right | Α | 8.9 | 0.204 | - | 20 | | | | |
| Gainsborough St SB left/thru/right | А | 9.5 | 0.263 | - | 25 | | | | |
| Huntington Avenue/Alley 820 | - | - | - | - | - | | | | |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.07 | - | 0 | | | | |
| Alley 820 NB right | Α | 8.8 | 0.00 | - | 0 | | | | |

Table D-5 Existing (2017) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|---------------------------------|------------------|-------------|--------------|----------------------------------|----------------------------------|
| | Unsignalized Int | tersections | | | |
| Alley 820/Alley 821 | - | - | - | - | - |
| Alley 821 EB left/right | A | 8.5 | 0.00 | - | 0 |
| Alley 820 NB left/thru | А | 0.0 | 0.00 | - | 0 |
| Alley 820 SB thru/right | А | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | А | 0.0 | 0.00 | - | 0 |
| St. Botolph St WB thru/right | А | 0.0 | 0.06 | - | 0 |
| Alley 822 SB left/right | A | 9.9 | 0.03 | - | 2 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Grey shading indicates LOS E or F.

As shown in Table D-4 and Table D-5, the following movements were shown to operate near or at capacity:

The signalized intersection of Massachusetts Avenue/ Huntington Avenue currently operates at LOS E during the a.m. peak hour and at LOS F during the p.m. peak hour under the Existing Condition. The Huntington Avenue eastbound approach operates at LOS E during both the a.m. and p.m. peak hours. The Massachusetts Avenue northbound left lane and the Massachusetts southbound approach operate at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour. The Massachusetts Avenue northbound through lane and through/right-turn lane operates at LOS F during both the a.m. and p.m. peak hours. The longest queues at the intersection occur in the Massachusetts Avenue northbound through lane and through/right-turn lane during the a.m. peak hour and the Massachusetts Avenue southbound approach during the p.m. peak hour.

The signalized intersection of Massachusetts Avenue/Saint Botolph Street operates at LOS B during the a.m. peak hour and LOS E during the p.m. peak hour. The St. Botolph Street eastbound and westbound approaches have movements that operate at LOS F during the p.m. peak hour. The Massachusetts Avenue southbound through lane and through/right lane operates at LOS E during the p.m. peak hour. The longest queues at the intersection occur in the Massachusetts Avenue northbound through lane and through right lane during the a.m. peak hour and in the Massachusetts Avenue southbound through lane and through right lane during the p.m. peak hour.

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

D.3 No-Build (2024) Condition

The No-Build (2024) Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with background traffic growth independent of any specific project, traffic associated with other planned specific developments, and planned infrastructure improvements that will affect travel patterns throughout the study area. The No-Build (2024) Condition does not include the Project-generated trips. These infrastructure improvements include roadway, public transportation, pedestrian and bicycle improvements.

D.3.1 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 per year annual traffic growth rate applies to traffic volumes in the vicinity of the Project site.

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.

D.3.2 Specific Development Traffic Growth

Traffic volumes associated with the larger or closer known development projects can affect traffic patterns throughout the study area within the future analysis time horizon. Nearby development projects were identified in the vicinity of the Project and are shown in Figure D-11. Traffic volumes associated with the following projects were directly incorporated into the future conditions traffic volumes:

Northeastern University-Interdisciplinary Science and Engineering Center (ISEC): This project includes approximately 197,000 gross square feet (gsf) of research and office space for new faculty, interdisciplinary research clusters/ collaborative space, specialized teaching labs, classrooms, and student space. This project is constructed.

1 Dalton Street (Belvidere/Dalton East): This project will consist of a 215 room hotel, 174 residential condominium units, and ancillary retail. This project is currently under construction.

Traffic volumes for all other nearby development projects, listed in Table D-6, are expected to have minimal impact on the study area and are assumed to be included in the general background traffic growth.

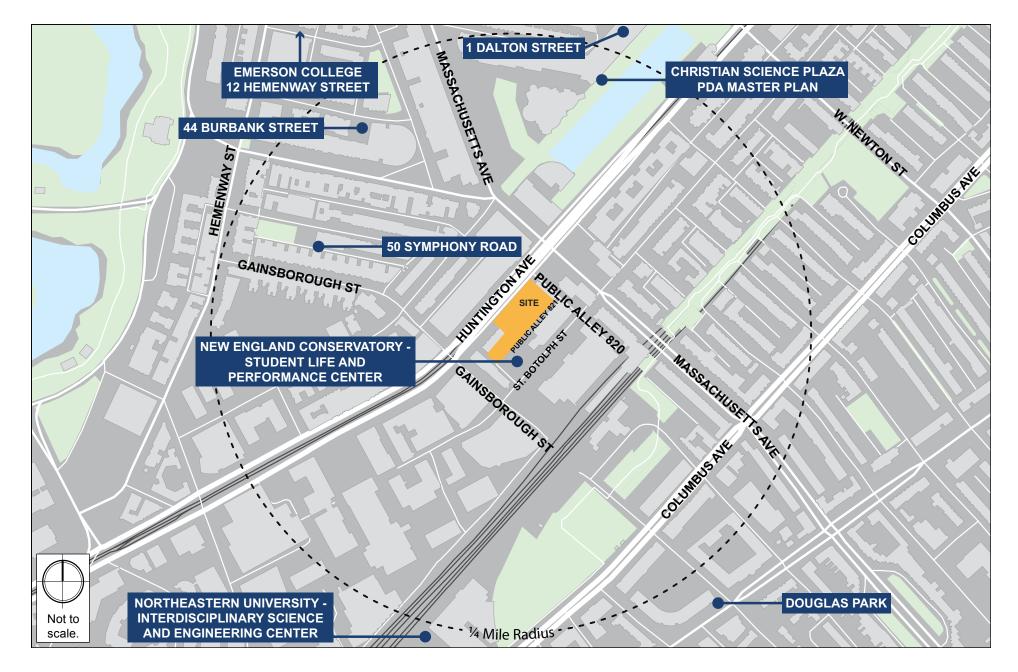




Table D-6 Other Development Projects in the Project Vicinity

| Project | Program Description | Status |
|---|--|--------------------------|
| Emerson College: 12 Hemenway Street | Project consists of temporarily leasing the site for 115 students | Board Approved |
| 44 Burbank Street | Project consists of 34 homeownership units, 34 rental units | Construction Complete |
| 50 Symphony Road | Proposal calls for the construction of 20 residential condominium units and 11 off-street parking spaces. | Board Approved |
| New England Conservatory (NEC) -Student Life and Performance Center | Proposal calls for the construction of a new 135,000 sf Residence Hall and Student Life Center and the construction of a 65,000 sf Academic and Administration building. | Under Construction |
| Douglass Park | Proposal calls for five stories and 44 rental units | Board Approved |

D.3.3 Proposed Infrastructure Improvements

A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby improvement projects in the vicinity of the study area. The following two roadway projects have been identified:

Gainsborough Street and St. Botolph Street Improvements: As part of the New England Conservatory project, Gainsborough Street and St. Botolph Street will be upgraded with enhanced pedestrian accommodations. This project is currently under construction, concurrently with the development of the new NEC building.

Vision Zero Project: As part of the City of Boston's Vision Zero project, the traffic signal at the intersection of Massachusetts Avenue and St. Botolph Street will be upgraded to provide leading pedestrian intervals and an optimal traffic signal timing and phasing plan.

These two projects were incorporated into the future conditions analyses.

D.3.4 No-Build (2024) Condition Traffic Volumes

The one-half percent per year annual growth rate was applied to the Existing (2017) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above were added to develop the No-Build (2024) Condition traffic volumes. The No-Build (2024) weekday a.m. Peak Hour and weekday p.m. Peak Hour traffic volumes are shown on Figure D-12 and Figure D-13, respectively.

| | GAINSBOROUGH ST 40 469 488 88 | | ←78 ←823 | MASSACHUSETTS AVE 40 417 105 5 |
|--|---|---------------------|---|---|
| HUNTINGTON AVE 22 ★ 37 → 584 → 94 → | 1 1 1 2 3 3 3 3 3 3 5 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 | → 951 HLEY 820 | 86 ^ 12 → 58 → | 9350 \$ 82 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ |
| | ALLEY 822 | ALLEY 821 | | |
| ST. BOTOLPH ST | ← 49 ← 14 ← 62 | ← 115 ← 1 ← 3 | ↑ 41 ← 914 ← 31 | 19 ← 12 ← 39 |
| $ \begin{array}{c} 9 \rightarrow \\ 6 \rightarrow \\ 2 \rightarrow \end{array} $ Not to scale. | ↑↑↑ 5 ↑ 70 → | ALLEY 823 ← ↓ 2 → | 9 ↑ 6 ↑ 59 ↑ | 65 1 1049 → 53 → |

| | | GAINSBOROUGH ST | | | | | MASSACHUSETTS AVE |
|----------------|--------------------------------|---------------------------------|---------------------|---------------------------|-----------------|---|--|
| HUNTINGTON AVE | | 1 58 1 6 703 1 40 1 20 | | | | 120 ←1036 ←1* | 10 ± 35 10 ± 34 119 10 ± 1 |
| | 28 ⊈ 53 ↑ 690 → 126 → | 31 → 56 → 36 → | | | ALLEY 820 2 → | 60 <u>↑</u> 30 ↑ 69 ↑ | 83 - 920 + 96 - |
| | | ↑ _42 | ALLEY 822 | ALLEY 821 ↓ 2 ♣ 1 → | | | |
| ST. BOTOLPH ST | ↑ 9 ← 29 ← 125 ∓ 3 | 1 42 4 23 4 42 5 3 | ∞ ² ↓ | ↓ ↓ | ←99 ←5 ⊊2 | ← 27 ← 1123 ← 74 | 1 1 |
| Not to scale. | 8 ^ 31 → 2 → | 3.↓ 69 46.↓ | 205→ | 411EY 823 ← ← | ¶ * ოო | 39 -^ 17 → 167 → | 54 → 1025 → 63 → |



D.3.5 No-Build (2024) Condition Traffic Operations Analysis

The No-Build (2024) Condition capacity analysis uses the same methodology as the Existing (2017) Condition capacity analysis. Table D-7 and Table D-8 present the No-Build (2024) Condition capacity analysis for the a.m. and p.m. peak hours, respectively. The shaded cells in the tables indicate a worsening in LOS to LOS E or F between the Existing (2017) Condition and the No-Build (2024) Condition. The detailed analysis sheets are provided in the Appendix.

Table D-7 No-Build (2024) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) | | |
|---|---------------|--------------|--------------|----------------------------------|----------------------------------|--|--|
| Signalized Intersections | | | | | | | |
| Massachusetts Avenue/Huntington Avenue | F | 88.3 | - | _ | - | | |
| Huntington Ave EB left/thru thru/right | E | 56.7 | 0.54 | 65 | 103 | | |
| Huntington Ave WB left/thru thru/right | E | 55.8 | 0.50 | 66 | 104 | | |
| Massachusetts Ave NB left | D | 41.6 | 0.31 | 36 | m39 | | |
| Massachusetts Ave NB thru thru/right | F | 89.5 | 0.77 | 446 | 523 | | |
| Massachusetts Ave SB thru thru/right | F | 101.0 | 1.09 | ~448 | #598 | | |
| Massachusetts Avenue/Saint Botolph Street | E | 55. <i>7</i> | - | _ | - | | |
| St. Botolph St EB left | D | 44.7 | 0.07 | 7 | m23 | | |
| St. Botolph St EB thru/right | D | 50.0 | 0.34 | 49 | m96 | | |
| St. Botolph St WB left | D | 46.5 | 0.21 | 28 | 64 | | |
| St. Botolph St WB thru/right | D | 44.3 | 0.13 | 23 | 54 | | |
| Massachusetts Ave NB left/ thru thru/right | E | 72.0 | 0.82 | 345 | 457 | | |
| Massachusetts Ave SB left | С | 21.4 | 0.19 | 15 | m1 <i>7</i> | | |
| Massachusetts Ave SB thru thru/right | D | 38.7 | 0.54 | 287 | m263 | | |
| Gainsborough Street/ Huntington Avenue | В | 11.7 | - | - | - | | |
| Huntington Ave EB left | В | 12.9 | 0.18 | 19 | 44 | | |
| Huntington Ave EB thru thru/right | В | 13.4 | 0.44 | 135 | 181 | | |
| Huntington Ave WB left | Α | 6.9 | 0.13 | 10 | 23 | | |
| Huntington Ave WB thru thru/right | А | 7.8 | 0.29 | 70 | 96 | | |
| Gainsborough St NB left/thru/right | С | 26.3 | 0.24 | 31 | 71 | | |
| Un | signalized II | ntersections | | | | | |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | _ | - | - | | |
| St. Botolph St EB left/thru/right | Α | 0.1 | 0.00 | - | 0 | | |
| St. Botolph St WB left/thru/right | Α | 0.1 | 0.00 | - | 0 | | |
| Alley 823 NB left/thru/right | Α | 9.4 | 0.00 | - | 0 | | |
| Alley 820 SB left/thru/right | Α | 9.3 | 0.00 | - | 0 | | |

Table D-7 No-Build (2024) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|---|---------------|--------------|--------------|----------------------------------|----------------------------------|
| Un | signalized li | ntersections | | | |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - |
| St. Botolph St EB left/thru/right | Α | 7.6 | 0.039 | - | 2.5 |
| St. Botolph St WB left/thru/right | Α | 9.1 | 0.033 | - | 2.5 |
| Gainsborough St NB left/thru/right | Α | 8.3 | 0.183 | - | 17.5 |
| Gainsborough St SB left/thru/right | Α | 8.8 | 0.202 | - | 20 |
| Huntington Avenue/Alley 820 | - | - | - | - | - |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 820 NB right | Α | 0.0 | 0.00 | - | 0 |
| Alley 820/Alley 821 | - | - | - | - | - |
| Alley 821 EB left/right | Α | 8.3 | 0.00 | - | 0 |
| Alley 820 NB left/thru | Α | 7.2 | 0.00 | - | 0 |
| Alley 820 SB thru/right | Α | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | Α | 0.5 | 0.00 | - | 0 |
| St. Botolph St WB thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 822 SB left/right | Α | 8.9 | 0.01 | - | 1 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Grey shading indicates decrease to LOS E or F from Existing Conditions.

Table D-8 No-Build (2024) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|--|--------------|------------|--------------|----------------------------------|----------------------------------|
| Si | gnalized Int | ersections | | | |
| Massachusetts Avenue/Huntington Avenue | F | 115.3 | - | - | - |
| Huntington Ave EB left/thru thru/right | E | 56.3 | 0.53 | 67 | 105 |
| Huntington Ave WB left/thru thru/right | D | 53.5 | 0.51 | <i>7</i> 5 | 114 |
| Massachusetts Ave NB left | С | 22.8 | 0.45 | 21 | m1 <i>7</i> |
| Massachusetts Ave NB thru thru/right | D | 35.8 | 0.79 | 322 | m294 |
| Massachusetts Ave SB thru thru/right | F | 207.9 | 1.37 | ~675 | #830 |

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

Table D-8 No-Build (2024) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) | | |
|--|--------------|--------------|--------------|----------------------------------|----------------------------------|--|--|
| Signalized Intersections | | | | | | | |
| Massachusetts Avenue/Huntington Avenue | F | 115.3 | - | - | - | | |
| Huntington Ave EB left/thru thru/right | E | 56.3 | 0.53 | 67 | 105 | | |
| Huntington Ave WB left/thru thru/right | D | 53.5 | 0.51 | <i>7</i> 5 | 114 | | |
| Massachusetts Ave NB left | С | 22.8 | 0.45 | 21 | m1 <i>7</i> | | |
| Massachusetts Ave NB thru thru/right | D | 35.8 | 0.79 | 322 | m294 | | |
| Massachusetts Ave SB thru thru/right | F | 207.9 | 1.37 | ~675 | #830 | | |
| Massachusetts Avenue/Saint Botolph Street | D | 40.0 | - | - | - | | |
| St. Botolph St EB left | D | 39.5 | 0.17 | 27 | 56 | | |
| St. Botolph St EB thru/right | Е | 55.2 | 0.67 | 146 | 216 | | |
| St. Botolph St WB left | D | 51.4 | 0.48 | 56 | 103 | | |
| St. Botolph St WB thru/right | D | 39.7 | 0.19 | 40 | 75 | | |
| Massachusetts Ave NB left/thru thru/right | E | 67.6 | 0.92 | 412 | #658 | | |
| Massachusetts Ave SB left | В | 12.9 | 0.51 | 6 | m6 | | |
| Massachusetts Ave SB left/thru thru/right | В | 11.3 | 0.68 | 84 | m41 | | |
| Gainsborough Street/ Huntington Avenue | В | 12.9 | - | - | - | | |
| Huntington Ave EB left | В | 11.8 | 0.28 | 22 | 61 | | |
| Huntington Ave EB thru thru/right | Α | 9.8 | 0.47 | 131 | 214 | | |
| Huntington Ave WB left | F | 82.2 | 0.69 | 41 | #112 | | |
| Huntington Ave WB thru thru/right | Α | 5.2 | 0.37 | 76 | 136 | | |
| Gainsborough St NB left/thru/right | D | 48.4 | 0.65 | 68 | 122 | | |
| Un | signalized I | ntersections | | | | | |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | - | - | - | | |
| St. Botolph St EB left/thru/right | Α | 0.0 | 0.00 | - | 0 | | |
| St. Botolph St WB left/thru/right | Α | 0.5 | 0.01 | - | 1 | | |
| Alley 823 NB left/thru/right | В | 14.7 | 0.04 | - | 3 | | |
| Alley 820 SB left/thru/right | В | 12.7 | 0.01 | - | 1 | | |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - | | |
| St. Botolph St EB left/thru/right | А | 8.6 | 0.179 | - | 15 | | |
| St. Botolph St WB left/thru/right | Α | 9.6 | 0.142 | - | 12.5 | | |
| Gainsborough St NB left/thru/right | Α | 9 | 0.213 | - | 20 | | |
| Gainsborough St SB left/thru/right | Α | 9.7 | 0.272 | - | 27.5 | | |

Table D-8 No-Build (2024) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|-------------------------------------|---------------|--------------|--------------|----------------------------------|----------------------------------|
| Un. | signalized li | ntersections | | | |
| Huntington Avenue/Alley 820 | - | - | - | - | - |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.08 | - | 0 |
| Alley 820 NB right | Α | 8.8 | 0.00 | - | 0 |
| Alley 820/Alley 821 | - | - | - | | - |
| Alley 821 EB left/right | Α | 8.5 | 0.00 | - | 0 |
| Alley 820 NB left/thru | Α | 0.0 | 0.00 | - | 0 |
| Alley 820 SB thru/right | Α | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | Α | 0.0 | 0.00 | - | 0 |
| St. Botolph St WB thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 822 SB left/right | Α | 9.9 | 0.03 | - | 2 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Grey shading indicates decrease to LOS E or F from Existing Conditions.

As shown in Table D-7 and Table D-8, the majority of intersections and approaches operate at the same LOS as the Existing (2017) Condition.

The signalized intersection of Massachusetts Avenue/Huntington Avenue will decrease from LOS E to LOS F during the a.m. peak hour under the No-Build Condition. The Huntington Avenue westbound approach decreases from LOS D to LOS E during the a.m. peak hour. The Massachusetts Avenue southbound approach decreases from LOS E to LOS F during the a.m. peak hour. The longest queues continue to occur in the Massachusetts Avenue northbound through lane and through/right-turn lane in the a.m. peak hour and the Massachusetts Avenue southbound approach during the p.m. peak hour.

The signalized intersection of Massachusetts Avenue/Saint Botolph Street worsens from LOS B to LOS E during the a.m. peak hour and improves from LOS E to LOS D during the p.m. peak hour. The Massachusetts northbound approach decreases from LOS B to LOS E during the a.m. peak hour and LOS D to LOS E during the p.m. peak hour. The longest queues continue to occur in the Massachusetts Avenue northbound approach during both the a.m. and p.m. peak hours. The analysis of this intersection incorporates the traffic signal timing and phasing proposed as part of the Vision Zero project. It is expected that the signal timings will be adjusted as needed to provide the most optimal operations once the design is implemented.

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

D.4 Build (2024) Condition

As previously summarized, the Project will include the construction of a new mixed-use building. The Project will consist of approximately 426 residential units, approximately 7,500 square feet of ground floor restaurant/retail space and approximately 14,000 sf of auxiliary space for the B.U. Theatre. Vehicular access to the garage will be provided via a new curb cut along Public Alley 821.

D.4.1 Vehicle Site Access and Circulation

Vehicular access to the proposed on-site parking will be via Public Alley 821. This public alley can be accessed from Huntington Avenue eastbound and Saint Botolph Street. Pedestrian access to the residential lobby and the retail space will be located along Huntington Avenue.

The garage will be below-grade with a capacity of up to 114 vehicles and will consist of four below-grade levels for parking. A loading dock large enough to accommodate an SU-36 vehicle (36-foot long box truck) will be located along Public Alley 821, adjacent to the garage. The parking and loading locations are previously shown in Figure D-1.

D.4.2 Parking

As previously mentioned, the Project will contain 114 parking spaces in a below-grade garage. This results in a parking ratio of approximately 0.27 parking spaces per dwelling unit. Due to the convenient location of the Project site, it is not expected that many of the future residents will own or need personal vehicles.

D.4.3 Loading and Service Accommodations

Loading and service operations will occur at an on-site loading dock located off of Public Alley 821. Residential move-in/move-out activity will take place within the designated loading area on-site. Truck trip estimates for the residential element of the Project are based on data provided in the Truck Trip Generation Rates by Land Use in the Central Artery/Tunnel Project Study Area (CTPS) report¹. Deliveries to the Project site will likely be SU-36 trucks and smaller delivery vehicles. Residential units primarily generate delivery trips related to small packages and prepared food. Based on the CTPS report, the Project is expected to generate two light truck trips per day to the site.

¹ Truck Trip Generation Rates by Land Use in the Central Artery/Tunnel Project Study Area; Central Transportation Planning Staff; September 1993.

D.4.4 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure bicycle parking for residents and short-term bicycle racks for visitors. Based on BTD guidelines, the Project will supply a minimum of 426 secure bicycle parking/storage spaces on-site.

D.4.5 Trip Generation Methodology

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 BTD, 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 vehicle occupancy rates (VOR). 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 Project:

Land Use Code 220—Residential Apartment. This land use code is defined as dwelling units located within the same building with at least three other dwelling units. Trip generation estimates are based on ITE's average rate per dwelling unit.

Land Use Code 820—Shopping Center. This land use code is defined as a commercial establishment that is planned, developed, owned, and managed as a unit. Trip generation estimates are based on ITE's average rate per 1,000 square feet.

The 14,000 sf of auxiliary space for the Boston University Theatre, including the theater's main entrance and lobby, patron services such as the box office, the bar, and restrooms as well as the function room for special events is not considered in the trip generation calculations. The Project will not increase the seating capacity of the theater building itself. Thus, operations of the theatre with the increased auxiliary space are expected to be similar to the current operations and will not result in an increase of vehicular trips to/from the site.

The BTD provides vehicle, transit, and walking mode split rates for different areas of Boston. Mode share splits from the area in which the Project is located were obtained from BTD 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 D-9.

The unadjusted vehicular trips were converted to person trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)². The person trips were then distributed to different modes according to the splits shown in Table D-9. The trip generation for the Project by mode is shown in Table D-10, with the detailed trip generation information provided in the Appendix.

Table D-9 Travel Mode Shares

| Land Use | | Walk Trips | Transit Trips | Auto Trips | Vehicle Occupancy Rate (VOR) |
|-----------|-----|------------|---------------|------------|---------------------------------|
| Land Ose | | waik ilips | <u> </u> | Auto Trips | Rate (VOR) |
| | | 1 | Daily | T T | |
| Apartment | In | 57% | 19% | 24% | 1.13 |
| лрантен | Out | 57% | 19% | 24% | 1.13 |
| Doto:I | In | 55% | 16% | 29% | 1.78 |
| Retail | Out | 55% | 16% | 29% | 1.78 |
| | | | a.m. Peak Ho | our | |
| | In | 59% | 22% | 19% | 1.13 |
| Apartment | Out | 64% | 15% | 21% | 1.13 |
| D-4-:I | In | 57% | 19% | 24% | 1.78 |
| Retail | Out | 61% | 13% | 26% | 1.78 |
| | | | p.m. Peak Ho | our | |
| A | In | 64% | 15% | 21% | 1.13 |
| Apartment | Out | 59% | 22% | 19% | 1.13 |
| D ('I | In | 61% | 13% | 26% | 1.78 |
| Retail | Out | 57% | 19% | 24% | 1.78 |

Source: Boston Transportation Department

D.4.6 Project Trip Generation

The mode share percentages shown in Table D-9 were applied to the number of person trips to develop walk/bicycle, transit, and vehicle trip generation estimates. The trip generation for the Project by mode is shown in Table D-10. The detailed trip generation information is provided in the Appendix.

a 2009 National Household Travel Survey.

b Based on rates published by the Boston Transportation Department for Area 8 – Harbor Point.

² Summary of Travel Trends: 2009 National Household Travel Survey; FHWA; Washington, DC; June 2011.

Table D-10 Trip Generation Summary

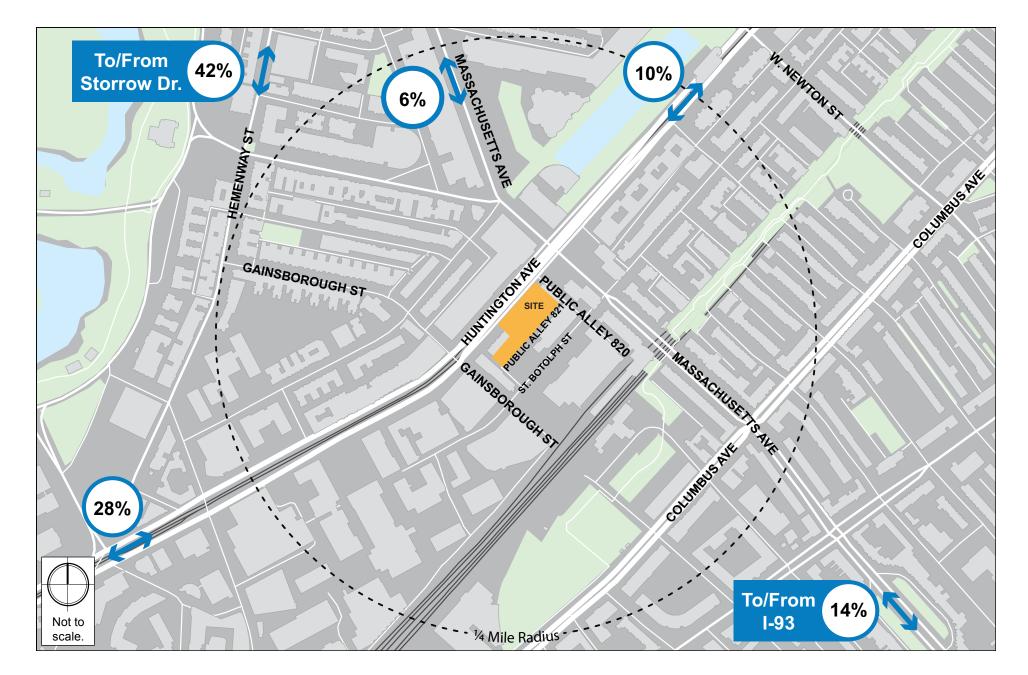
| | | Walk/Bike/Other | | |
|------------------------|--------------|-----------------|---------------|------------|
| Land Use | | Trips | Transit Trips | Auto Trips |
| | | Daily | | |
| A nartmanta | In | 912 | 304 | 340 |
| Apartment ^a | Out | 912 | 304 | 340 |
| D -4-:1b | In | 156 | 46 | 47 |
| Retail ^b | Out | 156 | 46 | 47 |
| Total Daily Trip | DS . | 2,136 | 700 | 774 |
| | | a.m. Peak Hour | | |
| A ta | In | 29 | 11 | 8 |
| Apartment ^a | Out | 126 | 30 | 36 |
| D -4-:1b | In | 4 | 1 | 1 |
| Retail ^b | Out | 3 | 1 | 1 |
| Total a.m. Peak | k Hour Trips | 162 | 43 | 46 |
| | | p.m. Peak Hour | | |
| A | In | 124 | 29 | 36 |
| Apartment ^a | Out | 61 | 23 | 18 |
| D - 4 - :1h | In | 14 | 3 | 3 |
| Retail ^b | Out | 14 | 5 | 3 |
| Total p.m. Peal | k Hour Trips | 213 | 60 | 60 |

Source: Boston Transportation Department

As shown in Table D-10, the Project is expected to generate 2,136 new walk/bicycle trips on a daily basis, with 162 new trips during the a.m. peak hour and 213 new trips during the p.m. peak hour. The Project is expected to generate 700 new transit trips on a daily basis, with 43 new trips during the a.m. peak hour and 60 new trips during the p.m. peak hour. The Project is expected to generate 774 new vehicular trips on a daily basis, with 46 new vehicular trips during the a.m. peak hour and 60 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.

a Based on ITE LUC 220 – 426 Apartment units, average rate.

b Based on ITE LUC 820 -7,500 square feet (sf), average rate





D.4.7 Trip Distribution

The vehicular trip distribution is based on BTD guidelines, using origin-destination characteristics for the area that encompasses the Project site. The vehicle trip distribution is shown in Figure D-14.

D.4.8 Build (2024) Traffic Volumes

The vehicle trips were distributed through the study area. The Project-generated trips for the weekday a.m. Peak Hour and weekday p.m. Peak Hour are shown in Figure D-15 and Figure D-16, respectively. The trip assignments were added to the No-Build (2024) Condition vehicular traffic volumes to develop the Build (2024) Condition vehicular traffic volumes. The Build (2024) weekday a.m. Peak Hour and weekday p.m. Peak Hour traffic volumes are shown on Figure D-17 and Figure D-18, respectively.

D.4.9 Build (2024) Condition Traffic Operations Analysis

The Build (2024) Condition capacity analysis uses the same methodology as the Existing (2017) Condition capacity analysis and the No-Build (2024) Condition capacity analysis. Table D-11 and Table D-12 present the Build (2024) Condition capacity analysis for the weekday a.m. Peak Hour and weekday p.m. Peak Hour, respectively. The shaded cells in the tables indicate a worsening of LOS to an LOS of E or F between the No-Build (2024) Condition and the Build (2024) Condition. The detailed analysis sheets are provided in the Appendix.

| | GAINSBOROUGH ST | | | MASSACHUSETTS AVE |
|----------------|-----------------------|------------------------------|---------------------------|-------------------|
| HUNTINGTON AVE | | | 4 → | ↓ 1 |
| 3 → | (10) (16) | ALLEY 820 (6) → | (2) ^ (4) → | |
| | ALLEY 822 | ALLEY 821 (6) → (5) → (9) | | |
| ST. BOTOLPH ST | (26) (9Z) 1 (26) √ | (<u>\$</u>) ~ 6 | ري م | |
| Not to scale. | 3 → | ALLEY 823 | (5) → | ← |

| | GAINSBOROUGH ST | | | MASSACHUSETTS AVE |
|----------------|---------------------|--|---------------------------|-------------------|
| HUNTINGTON AVE | | | ← 19 | √ 4 |
| 11 → | ↑ (6) (9) | ALLEY 820 (3) → | (1) ^ (2) → | |
| |) ALLEY 822 | ALLEY 821 (3) → ↑ ∞ × × × × × × × × × × × × × × × × × × | | |
| ST. BOTOLPH ST | (15) (ST) 1 (15) | <u>(v)</u> ← 28 | ↑ 23 | |
| Not to scale. | 11 - | ALLEY 823 | (3) → | ₽ |



| | | GAINSBOROUGH ST | | | | MASSACHUSETTS AVE |
|----------------|-------------------------------|---|------------------------|--|--|---|
| HUNTINGTON AVE | | 10 ← 40 ← 469 ← 38 ← 8 | | | ↑ 78 + 827 | 40← 17← 106⊊ 2 |
| | 22 ★ 37 → 584 → 97 → | 33 ↑ 46 ↓ 19 ↓ | | | ALLEY 820 6 → 1988 | 935 → 82 4 |
| | | | ALLEY 822 | <i>/</i> → | ← 6 ← 115 9 ⁴ ← 115 | |
| ST. BOTOLPH ST | ↑ 5 ← 65 ← 65 | 14 ← 62 ← 62 | ₹ ← 117 | 27 | ← 115 ← 1 46 ← 15 47 4 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 19 ← 12 ← 39 |
| Not to scale. | 9 ↑ 6 → 2 → | 7 → 13 → 7 → 7 → 7 → 7 → 7 → 7 → 7 → 7 → 7 → | 8 _ 70 → | 4 + 69 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + | → 9 → 6 → 64 → | 66 → 1049 → 53 → |

| | | EAINSBOROUGH ST EAINSBOROUGH ST F 58 ← 703 | | | | 120 1055 1 | MASSACHUSETTS AVE 32 4 4 7 123 |
|----------------|-------------------------------|---|--------------------------|---|--------------------|----------------------------------|-------------------------------------|
| HUNTINGTON AVE | | 1 58 1 703 1 40 1 20 | | | • | 1 1 1 | ₹ 123 § 1 |
| | 28 € | 36 → 36 → 36 → | ALLEY 822 | $ \begin{array}{c} 158 \rightarrow \\ 1 \rightarrow \end{array} $ ALLEY 821 $ \begin{array}{c} 5 \rightarrow \\ 4 \rightarrow \end{array} $ | 28 → ALLEY 820 5 → | 61 ↑ 32 → 69 → | 83 → 820 → 86 → 86 |
| ST. BOTOLPH ST | ↑9 ↑29 ↓3 | 1 57 ← 23 ← 42 ⊊ 3 | 4 12 4 12 4 ← 103 | ↑ 1 → | | ← 50 ← 1123 ← 74 | ± 31 ← 26 ≠ 74 |
| Not to scale. | 8 ^ 31 → 2 → | 98 4 \$69 1 ↑ ↑ | 11 - 205 → | | | 39 ^ 17 → 170 → | 1025 → 63 → 63 → |



Table D-11 Build (2024) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|---|--------------------------|---------------|----------------------|----------------------------------|----------------------------------|
| | <i>gnalized Int</i> F | 88.1 | | | |
| Massachusetts Avenue/Huntington Avenue Huntington Ave EB left/thru thru/right | F E | 57.5 | 0.56 | - 68 | 106 |
| Huntington Ave WB left/thru thru/right | E | 55.9 | 0.50 | 66 | 104 |
| Massachusetts Ave NB left | | | | | |
| | D F | 41.5 | 0.31 | 36 | m39 |
| Massachusetts Ave SP thru thru/right | F | 89.3 100.9 | 0. <i>77</i> 1.10 | 446 | 523 #603 |
| Massachusetts Ave SB thru thru/right | | | 1.10 | ~452 | #603 |
| Massachusetts Avenue/Saint Botolph Street | E | 57.2 | - 0.07 | - | - 22 |
| St. Botolph St EB left | D | 44.7 | 0.07 | 7 | m23 |
| St. Botolph St EB left/thru/right | D | 50.7 | 0.37 | 54 | m102 |
| St. Botolph St WB left | D | 46.6 | 0.21 | 29 | 64 |
| St. Botolph St WB left/thru/right | D | 44.3 | 0.13 | 23 | 54 |
| Massachusetts Ave NB left/thru thru/right | E | 72.3 | 0.82 | 348 | 463 |
| Massachusetts Ave SB left | С | 21.5 | 0.19 | 15 | m17 |
| Massachusetts Ave SB thru thru/right | D | 41.4 | 0.55 | 289 | m265 |
| Gainsborough Street/ Huntington Avenue | В | 12.4 | - | - | - |
| Huntington Ave EB left | В | 12.9 | 0.18 | 19 | 44 |
| Huntington Ave EB thru thru/right | В | 13.4 | 0.44 | 135 | 181 |
| Huntington Ave WB left | Α | 6.9 | 0.14 | 10 | 23 |
| Huntington Ave WB thru thru/right | Α | 7.8 | 0.29 | 70 | 96 |
| Gainsborough St NB left/thru/right | С | 30.9 | 0.32 | 50 | 99 |
| Un | signalized li | ntersections | T | Г | Г |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | - | - | - |
| St. Botolph St EB left/thru/right | Α | 0.1 | 0.00 | - | 0 |
| St. Botolph St WB left/thru/right | Α | 0.1 | 0.00 | - | 0 |
| Alley 823 NB left/thru/right | Α | 9.4 | 0.00 | - | 0 |
| Alley 820 SB left/thru/right | В | 10.4 | 0.02 | - | 2 |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - |
| St. Botolph St EB left/thru/right | Α | 7.7 | 0.04 | - | 2.5 |
| St. Botolph St WB left/thru/right | Α | 9.2 | 0.033 | - | 2.5 |
| Gainsborough St NB left/thru/right | Α | 8.4 | 0.218 | - | 20 |
| Gainsborough St SB left/thru/right | Α | 9 | 0.21 | - | 20 |

Table D-11 Build (2024) Condition Capacity Analysis Summary, Weekday a.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|-------------------------------------|---------------|--------------|--------------|----------------------------------|----------------------------------|
| Un. | signalized li | ntersections | | | |
| Huntington Avenue/Alley 820 | - | - | - | - | - |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 820 NB right | Α | 8.9 | 0.03 | - | 2 |
| Alley 820/Alley 821 | - | - | - | | - |
| Alley 821 EB left/right | Α | 8.5 | 0.01 | - | 1 |
| Alley 820 NB left/thru | Α | 7.2 | 0.00 | - | 0 |
| Alley 820 SB thru/right | Α | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | Α | 0.8 | 0.01 | - | 0 |
| St. Botolph St WB thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 822 SB left/right | Α | 9.1 | 0.04 | - | 3 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Table D-12 Build (2024) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|--|---------------|---------------|--------------|----------------------------------|----------------------------------|
| Si | ignalized Int | ersections | | | |
| Massachusetts Avenue/Huntington Avenue | F | 121. <i>7</i> | - | - | - |
| Huntington Ave EB left/thru thru/right | Е | 56.5 | 0.54 | 68 | 106 |
| Huntington Ave WB left/thru thru/right | D | 53.7 | 0.52 | 76 | 116 |
| Massachusetts Ave NB left | С | 21.8 | 0.45 | 20 | m16 |
| Massachusetts Ave NB thru thru/right | D | 40.7 | 0.79 | 292 | m259 |
| Massachusetts Ave SB thru thru/right | F | 216.7 | 1.39 | ~692 | #848 |
| Massachusetts Avenue/Saint Botolph Street | D | 50.9 | - | - | - |
| St. Botolph St EB left | D | 39.4 | 0.17 | 27 | 56 |
| St. Botolph St EB thru/right | Е | 55.4 | 0.68 | 148 | 218 |
| St. Botolph St WB left | D | 51.5 | 0.48 | 56 | 103 |
| St. Botolph St WB thru/right | D | 39.5 | 0.19 | 40 | 75 |
| Massachusetts Ave NB left/thru thru/right | F | 83.0 | 0.96 | 437 | #685 |
| Massachusetts Ave SB left | В | 13.6 | 0.52 | 6 | m6 |
| Massachusetts Ave SB thru thru/right | В | 13.3 | 0.70 | 101 | m42 |

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

Table D-12 Build (2024) Condition Capacity Analysis Summary, Weekday p.m. Peak Hour (Continued)

| Intersection/Approach | LOS | Delay (s) | V/C Ratio | 50th Percentile Queue (ft) | 95th Percentile Queue (ft) |
|--|---------------|--------------|--------------|----------------------------------|----------------------------------|
| Si | gnalized Int | ersections | T | | |
| Gainsborough Street/ Huntington Avenue | В | 13.8 | - | - | - |
| Huntington Ave EB left | В | 12.6 | 0.29 | 23 | 64 |
| Huntington Ave EB thru thru/right | В | 10.6 | 0.49 | 140 | 228 |
| Huntington Ave WB left | F | 82.2 | 0.69 | 41 | #112 |
| Huntington Ave WB thru/ thru/right | А | 5.7 | 0.37 | 81 | 144 |
| Gainsborough St NB left/thru/right | D | 50.2 | 0.68 | 79 | 134 |
| Un | signalized li | ntersections | | | |
| Saint Botolph Street/ Alley 823/ Alley 820 | - | - | - | - | - |
| St. Botolph St EB left/thru/right | А | 0.0 | 0.00 | - | 0 |
| St. Botolph St WB left/thru/right | Α | 0.4 | 0.01 | - | 1 |
| Alley 823 NB left/thru/right | В | 15.0 | 0.04 | - | 3 |
| Alley 820 SB left/thru/right | В | 14.5 | 0.03 | - | 2 |
| Saint Botolph Street/ Gainsborough Street | - | - | - | - | - |
| St. Botolph St EB left/thru/right | Α | 8.7 | 0.182 | - | 17.5 |
| St. Botolph St WB left/thru/right | Α | 9.7 | 0.144 | - | 12.5 |
| Gainsborough St NB left/thru/right | Α | 9.2 | 0.241 | - | 22.5 |
| Gainsborough St SB left/thru/right | Α | 10 | 0.295 | - | 30 |
| Huntington Avenue/Alley 820 | - | - | - | - | - |
| Huntington Ave EB thru thru/right | Α | 0.0 | 0.08 | - | 0 |
| Alley 820 NB right | А | 8.9 | 0.01 | - | 1 |
| Alley 820/Alley 821 | - | - | - | - | - |
| Alley 821 EB left/right | А | 8.7 | 0.01 | - | 1 |
| Alley 820 NB left/thru | Α | 7.3 | 0.02 | - | 1 |
| Alley 820 SB thru/right | А | 0.0 | 0.00 | - | 0 |
| Saint Botolph Street/ Alley 822 | - | - | - | - | - |
| St. Botolph St EB left/thru | Α | 0.4 | 0.01 | - | 1 |
| St. Botolph St WB thru/right | Α | 0.0 | 0.07 | - | 0 |
| Alley 822 SB left/right | А | 9.7 | 0.05 | - | 4 |

^{~ 50&}lt;sup>th</sup> percentile volume exceeds capacity. Queue is maximum after two cycles.

Grey shading indicates decrease to LOS E or F from Existing Conditions.

^{# 95}th percentile volume exceeds capacity.

m = Queue is metered from upstream signal.

As shown in Table D-11 and Table D-12, the intersections continue to operate the same as the No-Build (2024) Condition during the Build (2024) Condition. The Project is expected to have minimal impact on the surrounding transportation network. The Project will take advantage of transit and walk/bicycle opportunities to limit the number of vehicular trips generated.

D.5 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project 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 periods. The Proponent is prepared to take advantage of the Project site's convenient Huntington Avenue location and transit access in marketing the development to future residential and commercial tenants.

To maintain a sustainable development over time, the Proponent will encourage the use of public transportation, ridesharing, bicycling, and walking through implementation of the demand management measures described below.

The primary alternative transportation modes to be encouraged will be public transportation, ridesharing, bicycling, and walking. The TDM measures for the Project may include, but are not limited, to the following:

- ◆ The Proponent will provide orientation packets to new residents containing information on the available transportation choices, including transit routes and schedules;
- 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. The Project will have a web site that will include transportation-related information for patrons, workers, and visitors;
- The building will provide parking ratios consistent with BTD's goals;
- Posting information about public transportation and car-sharing options;
- Providing transit, bike, and pedestrian access information on the Project website;
- Encouraging future commercial tenants to provide on-site and on-line sale of MBTA passes for employees through the building management office;

- Encouraging future commercial tenants to subsidize on-site full-time employees' purchase of monthly transit passes; and
- Providing information on bus and subway routes and schedules to residents and commercial employees.

D.6 Transportation Mitigation Measures

The Proponent will continue to work with the City of Boston to create a Project that efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use. To the extent feasible, the Proponent will bring all abutting sidewalks and pedestrian ramps to the City of Boston standards in accordance with the Boston Complete Streets design guidelines³. This will include the reconstruction and widening of the sidewalks where possible, the installation of new, accessible ramps, improvements to street lighting where necessary, planting of street trees, and providing bicycle storage racks surrounding the site, where appropriate.

The Proponent is responsible for preparation of the Transportation Access Plan Agreement (TAPA), a formal legal agreement between the Proponent and the BTD. The TAPA formalizes the findings of the transportation study, mitigation commitments, elements of access and physical design, travel demand management measures, and any other responsibilities that are agreed to by both the Proponent and the BTD. Because the TAPA must incorporate the results of the technical analysis, it must be executed after these other processes have been completed. 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.

The Proponent will also 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.

D.7 Evaluation of Short-term Construction Impacts

Details of the overall construction schedule, working hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a Construction Management Plan to be filed with BTD in accordance with the City's transportation maintenance plan requirements.

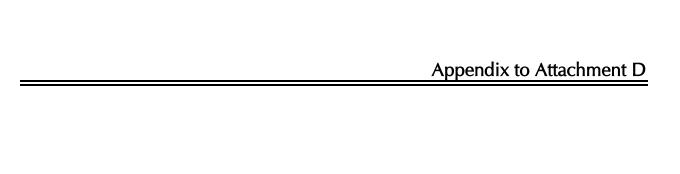
To minimize transportation impacts during the construction period, the following measures will be considered for the Construction Management Plan:

Limited construction worker parking on-site;

³ The sidewalk along the Project's Huntington Street frontage is controlled by MassDOT.

- ♦ Encouragement of worker carpooling;
- Consideration of a subsidy for MBTA passes for full-time employees; and
- ◆ Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

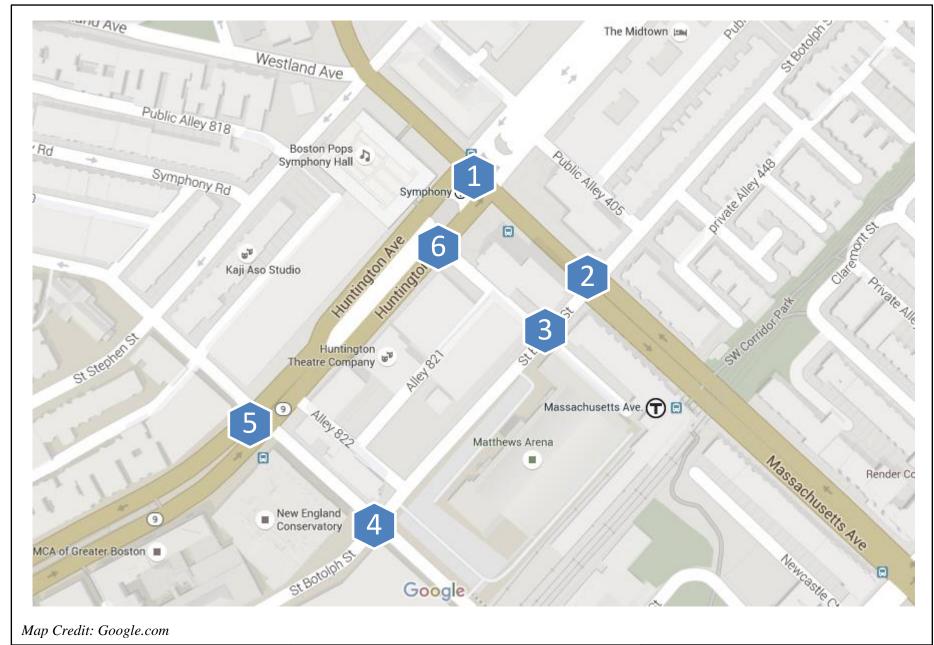
The Construction Management Plan to be executed with the City prior to commencement of construction will document all committed measures.



TRANSPORTATION TECHNICAL APPENDIX

- TRAFFIC COUNTS
- TRIP GENERATION CALCULATIONS
- INTERSECTION CAPACITY ANALYSIS WORKSHEETS

TRAFFIC COUNTS



BOSTON TRAFFIC DATA

BYD ID: 0001_HSH

Collected on April 27, 2016

Boston, MA

of TMC's: 06

Client: Howard Stein Hudson

Contact: Michael Santos, P.E., PTOE

Location: 01 0001_HSH BTD#: Boston, MA Location: Street 1: Mass Ave Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | | | | | | | , | | | | | | | | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| | | Mass | s Ave | | | Mass | s Ave | | | Hunting | ton Ave | | | Hunting | ton Ave | |
| | | North | bound | | | South | bound | | | Eastb | oound | | | Westl | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 205 | 19 | 0 | 1 | 189 | 14 | 0 | 20 | 5 | 17 | 0 | 14 | 6 | 7 |
| 7:15 AM | 0 | 0 | 221 | 22 | 0 | 0 | 200 | 19 | 0 | 29 | 5 | 13 | 1 | 25 | 5 | 7 |
| 7:30 AM | 0 | 0 | 227 | 16 | 0 | 0 | 183 | 20 | 0 | 10 | 2 | 15 | 1 | 20 | 5 | 10 |
| 7:45 AM | 0 | 0 | 230 | 17 | 0 | 0 | 189 | 15 | 0 | 28 | 2 | 15 | 0 | 20 | 2 | 14 |
| 8:00 AM | 0 | 0 | 219 | 17 | 0 | 0 | 215 | 21 | 0 | 16 | 3 | 13 | 0 | 23 | 4 | 8 |
| 8:15 AM | 0 | 1 | 204 | 19 | 0 | 1 | 175 | 22 | 0 | 22 | 1 | 15 | 1 | 26 | 4 | 12 |
| 8:30 AM | 0 | 2 | 209 | 18 | 0 | 0 | 188 | 23 | 0 | 21 | 3 | 15 | 0 | 11 | 4 | 10 |
| 8:45 AM | 0 | 2 | 202 | 18 | 0 | 0 | 159 | 15 | 0 | 22 | 1 | 11 | 0 | 7 | 2 | 3 |

| | | | s Ave bound | | | Mass Ave Huntington A Southbound Eastbound | | | | | | | | | | |
|------------|--------|------|----------------|-------|--------|--|------|-------|--------|------|------|-------|--------|------|------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 194 | 22 | 0 | 0 | 250 | 31 | 0 | 22 | 5 | 12 | 1 | 21 | 7 | 12 |
| 4:15 PM | 0 | 1 | 240 | 15 | 0 | 0 | 294 | 30 | 0 | 17 | 7 | 22 | 0 | 24 | 10 | 10 |
| 4:30 PM | 0 | 0 | 201 | 14 | 0 | 0 | 245 | 39 | 0 | 11 | 9 | 19 | 0 | 27 | 11 | 7 |
| 4:45 PM | 0 | 1 | 229 | 25 | 0 | 0 | 215 | 22 | 0 | 10 | 5 | 6 | 1 | 28 | 6 | 7 |
| 5:00 PM | 0 | 1 | 211 | 21 | 0 | 1 | 239 | 21 | 0 | 20 | 8 | 20 | 0 | 25 | 6 | 10 |
| 5:15 PM | 0 | 0 | 196 | 19 | 0 | 0 | 233 | 26 | 0 | 10 | 2 | 15 | 0 | 20 | 8 | 10 |
| 5:30 PM | 0 | 0 | 221 | 20 | 0 | 0 | 214 | 22 | 0 | 9 | 5 | 16 | 1 | 26 | 2 | 9 |
| 5:45 PM | 0 | 0 | 214 | 16 | 0 | 1 | 264 | 21 | 0 | 7 | 4 | 10 | 1 | 16 | 2 | 15 |

| AM PEAK HOUR | 1 | Mass | s Ave | | | Mass | s Ave | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|-----------------------|-------|-------|--------|------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 7:15 AM | | Northbound Southbound | | | | | | | | Easth | oound | | | Westl | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | 0 | 0 | 897 | 72 | 0 | 0 | 787 | 75 | 0 | 83 | 12 | 56 | 2 | 88 | 16 | 39 |
| PHF | | 0. | 98 | | | 0. | 91 | | 0.80 | | | | 0.95 | | | |
| HV~% | | 8.6% 6.2% | | | | | | | 10. | .5% | | 7.0% | | | | |

| | EAK HOUR :15 PM | | | s Ave bound | | | Mass South | | | | • | ton Ave | | | Hunting Westl | ton Ave | |
|---|--------------------|--------|-----------|----------------|-------|--------|---------------|------|-------|--------|------|---------|-------|--------|------------------|---------|-------|
| | to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5 | :15 PM | 0 | 3 | 881 | 75 | 0 | 1 | 993 | 112 | 0 | 58 | 29 | 67 | 1 | 104 | 33 | 34 |
| | PHF | | 0. | 94 | | | 0.8 | 85 | | 0.80 | | | | 0.96 | | | |
| i | HV % | | 3.0% 3.8% | | | | | | | 0.8% | | | | 3.3% | | | |

Location: 01 0001_HSH BTD#: Boston, MA Location: Street 1: Mass Ave Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | | | | | | s Ave bound | | | - | ton Ave | | Huntington Ave Westbound | | | | |
|------------|--------|------|------|-------|--------|------|----------------|-------|--------|------|---------|-------|-----------------------------|------|------|-------|--|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 7:00 AM | 0 | 0 | 29 | 4 | 0 | 0 | 16 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 3 | 1 | |
| 7:15 AM | 0 | 0 | 17 | 3 | 0 | 0 | 7 | 2 | 0 | 4 | 2 | 1 | 1 | 6 | 1 | 0 | |
| 7:30 AM | 0 | 0 | 20 | 4 | 0 | 0 | 20 | 0 | 0 | 1 | 2 | 0 | 1 | 2 | 2 | 3 | |
| 7:45 AM | 0 | 0 | 13 | 1 | 0 | 0 | 20 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 2 | |
| 8:00 AM | 0 | 0 | 17 | 2 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 8:15 AM | 0 | 0 | 17 | 6 | 0 | 0 | 12 | 0 | 0 | 7 | 1 | 2 | 1 | 4 | 1 | 0 | |
| 8:30 AM | 0 | 0 | 13 | 2 | 0 | 0 | 10 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 8:45 AM | 0 | 0 | 19 | 2 | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |

| | | | s Ave bound | | | | s Ave bound | | | | ton Ave | | | | ton Ave | |
|------------|--------|------|----------------|-------|--------|------|----------------|-------|--------|------|---------|-------|--------|------|---------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 11 | 3 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 1 |
| 4:15 PM | 0 | 0 | 6 | 2 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 6 | 1 | 0 | 0 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 3 | 4 | 0 | 0 | 14 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 |
| 5:00 PM | 0 | 0 | 5 | 3 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 5:15 PM | 0 | 0 | 5 | 1 | 0 | 0 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 5:30 PM | 0 | 0 | 5 | 1 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 6 | 2 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| AM PEAF | K HOUR | | Mass | s Ave | | | Mass | Ave | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|---------|--------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 7:00 | AM | | North | bound | | | South | bound | | | Eastb | ound | | | Westl | oound | |
| to |) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:00 | AM | 0 | 0 | 79 | 12 | 0 | 0 | 63 | 2 | 0 | 9 | 5 | 3 | 2 | 12 | 6 | 6 |
| PH | F | | 0. | 69 | | | 0. | 81 | | | 0. | 61 | | | 0. | 81 | |

| PM PEAK HOUR | | Mass | s Ave | | | Mass | Ave | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 4:00 PM | | North | bound | | | South | bound | | | Easth | ound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:00 PM | 0 | 0 | 26 | 10 | 0 | 0 | 46 | 3 | 0 | 0 | 0 | 0 | 2 | 6 | 1 | 1 |
| PHF | | 0. | 64 | | | 0. | 82 | | | | | | | 0. | 50 | |

Location: 01 BTD#: 0001_HSH Location: Boston, MA Street 1: Mass Ave Street 2: Huntington Ave Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | Mass Ave Northbound | | | | Mass Ave Southbound | | | | untington A Eastbound | | | | untington Av Westbound | | |
|------------|------|------|------------------------|-----|------|------|------------------------|-----|------|------|--------------------------|-----|------|------|---------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 3 | 0 | 11 | 0 | 1 | 0 | 15 | 0 | 0 | 0 | 52 | 0 | 0 | 0 | 33 | |
| 7:15 AM | 0 | 7 | 0 | 15 | 0 | 7 | 0 | 10 | 3 | 0 | 0 | 54 | 0 | 1 | 0 | 33 | |
| 7:30 AM | 0 | 9 | 1 | 14 | 0 | 9 | 3 | 27 | 2 | 0 | 0 | 81 | 0 | 0 | 0 | 53 | |
| 7:45 AM | 0 | 15 | 0 | 34 | 0 | 12 | 2 | 32 | 2 | 1 | 0 | 94 | 0 | 1 | 0 | 43 | |
| 8:00 AM | 1 | 12 | 0 | 19 | 0 | 12 | 1 | 36 | 4 | 0 | 0 | 114 | 0 | 0 | 0 | 36 | |
| 8:15 AM | 0 | 17 | 2 | 33 | 0 | 13 | 3 | 45 | 6 | 0 | 0 | 137 | 0 | 1 | 0 | 54 | |
| 8:30 AM | 1 | 17 | 1 | 26 | 0 | 17 | 5 | 46 | 10 | 0 | 1 | 127 | 0 | 0 | 1 | 72 | |
| 8:45 AM | 0 | 12 | 0 | 44 | 0 | 16 | 0 | 37 | 5 | 0 | 1 | 119 | 0 | 0 | 0 | 69 | |

| | | | Mass Ave | | | | Mass Ave Southbound | | | | untington A | | | | untington A Westbound | | |
|------------|------|------|----------|-----|------|------|------------------------|-----|------|------|-------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 1 | 12 | 0 | 49 | 0 | 7 | 1 | 153 | 10 | 0 | 1 | 194 | 0 | 0 | 0 | 130 | |
| 4:15 PM | 0 | 5 | 0 | 76 | 0 | 4 | 1 | 139 | 5 | 0 | 0 | 208 | 1 | 1 | 0 | 114 | |
| 4:30 PM | 0 | 10 | 1 | 124 | 0 | 13 | 2 | 123 | 8 | 0 | 1 | 230 | 2 | 1 | 0 | 129 | |
| 4:45 PM | 1 | 8 | 0 | 195 | 0 | 8 | 4 | 125 | 8 | 0 | 0 | 307 | 2 | 2 | 0 | 134 | |
| 5:00 PM | 0 | 5 | 0 | 86 | 0 | 5 | 1 | 72 | 10 | 0 | 0 | 174 | 1 | 1 | 0 | 131 | |
| 5:15 PM | 0 | 13 | 2 | 55 | 0 | 10 | 2 | 76 | 11 | 0 | 1 | 195 | 4 | 2 | 0 | 120 | |
| 5:30 PM | 0 | 10 | 0 | 66 | 0 | 15 | 4 | 95 | 10 | 0 | 1 | 228 | 3 | 1 | 0 | 135 | |
| 5:45 PM | 0 | 14 | 0 | 67 | 0 | 14 | 2 | 83 | 10 | 2 | 5 | 165 | 2 | 2 | 0 | 120 | |

| AM PEAK HOUR ¹ | | | Mass Ave | | | | Mass Ave | | | H | untington A | ve | | н | untington A | ve | |
|---------------------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 7:15 AM | | | Northbound | | | | Southbound | d | | | Eastbound | | | | Westbound | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 8:15 AM | 2 | 58 | 3 | 122 | 0 | 58 | 9 | 164 | 25 | 0 | 2 | 497 | 0 | 1 | 1 | 231 | |
| | | | | | | | | | | | | | | | | | |

| PM PEAK HOUR ¹ | | | Mass Ave | | | | Mass Ave | | | Н | untington A | ve | | Н | untington A | ve | |
|---------------------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 4:15 PM | | | Northbound | | | | Southbound | d | | | Eastbound | | | | Westbound | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 5:15 PM | 0 | 42 | 2 | 274 | 0 | 44 | 9 | 326 | 41 | 2 | 7 | 762 | 10 | 6 | 0 | 506 | |

¹ Peak hours corresponds to vehicular peak hours.

02 Location: 0001_HSH BTD#: Boston, MA Location: Street 1: Mass Ave Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | | | | | | | • | | , | | | | | | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| | | Mass | s Ave | | | Mass | s Ave | | | St. Boto | oloph St | | | St. Boto | oloph St | |
| | | North | bound | | | South | bound | | | Easth | oound | | | Westl | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 27 | 217 | 14 | 0 | 7 | 203 | 10 | 0 | 0 | 0 | 10 | 0 | 10 | 0 | 7 |
| 7:15 AM | 0 | 27 | 235 | 12 | 0 | 4 | 225 | 9 | 0 | 1 | 1 | 14 | 0 | 12 | 1 | 7 |
| 7:30 AM | 0 | 40 | 241 | 10 | 0 | 5 | 200 | 13 | 0 | 0 | 2 | 12 | 0 | 7 | 4 | 2 |
| 7:45 AM | 0 | 28 | 236 | 13 | 0 | 7 | 212 | 5 | 0 | 5 | 2 | 15 | 0 | 13 | 4 | 6 |
| 8:00 AM | 0 | 25 | 230 | 16 | 0 | 14 | 224 | 13 | 0 | 3 | 1 | 13 | 0 | 6 | 3 | 3 |
| 8:15 AM | 0 | 21 | 220 | 17 | 0 | 9 | 196 | 11 | 0 | 1 | 2 | 18 | 0 | 6 | 0 | 3 |
| 8:30 AM | 0 | 21 | 220 | 8 | 0 | 7 | 191 | 16 | 0 | 5 | 2 | 14 | 0 | 11 | 2 | 4 |
| 8:45 AM | 0 | 23 | 216 | 17 | 0 | 16 | 81 | 11 | 0 | 3 | 1 | 9 | 0 | 15 | 7 | 3 |

| | | | s Ave bound | | | | s Ave bound | | | St. Boto Eastb | oloph St oound | | | | oloph St bound | |
|------------|--------|------|----------------|-------|--------|------|----------------|-------|--------|-------------------|-------------------|-------|--------|------|-------------------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 21 | 208 | 12 | 0 | 12 | 265 | 6 | 0 | 6 | 4 | 26 | 0 | 14 | 3 | 2 |
| 4:15 PM | 0 | 14 | 242 | 9 | 0 | 14 | 322 | 4 | 0 | 7 | 2 | 31 | 0 | 13 | 1 | 7 |
| 4:30 PM | 0 | 25 | 200 | 12 | 0 | 13 | 275 | 3 | 0 | 9 | 4 | 31 | 0 | 16 | 7 | 6 |
| 4:45 PM | 0 | 52 | 225 | 30 | 0 | 29 | 212 | 8 | 0 | 16 | 7 | 59 | 0 | 28 | 9 | 14 |
| 5:00 PM | 0 | 24 | 224 | 10 | 0 | 15 | 258 | 11 | 0 | 6 | 3 | 39 | 0 | 14 | 5 | 3 |
| 5:15 PM | 0 | 24 | 207 | 21 | 0 | 14 | 247 | 7 | 0 | 1 | 4 | 31 | 0 | 7 | 4 | 7 |
| 5:30 PM | 0 | 25 | 222 | 26 | 0 | 19 | 234 | 3 | 0 | 7 | 0 | 28 | 0 | 19 | 8 | 12 |
| 5:45 PM | 0 | 29 | 220 | 13 | 0 | 25 | 260 | 5 | 0 | 3 | 1 | 26 | 0 | 11 | 7 | 7 |

| AM PEAK HOUR | | Mass | s Ave | | | Mass | s Ave | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| 7:15 AM | | North | bound | | | South | bound | | | Easth | ound | | | West | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | 0 | 120 | 942 | 51 | 0 | 30 | 861 | 40 | 0 | 9 | 6 | 54 | 0 | 38 | 12 | 18 |
| PHF | | 0. | 96 | | | 0. | 93 | | | 0. | 78 | | | 0. | 74 | |
| HV~% | | 7.8 | 8% | | | 6.0 | 6% | | | 16. | 7% | | | 4.8 | 3% | |

| PM PEAK HOUR | | Mass | s Ave | | | Mass | s Ave | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| 4:15 PM | | North | bound | | | South | bound | | | Easth | oound | | | Westl | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:15 PM | 0 | 115 | 891 | 61 | 0 | 71 | 1067 | 26 | 0 | 38 | 16 | 160 | 0 | 71 | 22 | 30 |
| PHF | | 0. | 87 | | | 0. | 86 | | | 0. | 65 | | | 0. | 60 | |
| HV~% | | 2.8 | 3% | | | 3.0 | 6% | | | 1. | 3% | | | 0.0 | 0% | |

02 Location: 0001_HSH BTD#: Boston, MA Location: Street 1: Mass Ave Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | | | | | | | | 0.10 | | | | | | | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|---------|----------|-------|
| | | Mass | s Ave | | | Mas | s Ave | | | St. Bote | oloph St | | | St. Bot | oloph St | |
| | | North | bound | | | South | bound | | | Eastl | oound | | | West | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 1 | 32 | 1 | 0 | 0 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 AM | 0 | 2 | 20 | 0 | 0 | 0 | 13 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 5 | 24 | 0 | 0 | 1 | 19 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 1 | 12 | 1 | 0 | 2 | 18 | 3 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 1 | 17 | 0 | 0 | 0 | 15 | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 2 | 22 | 1 | 0 | 1 | 14 | 3 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 2 | 13 | 0 | 0 | 0 | 5 | 5 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 8:45 AM | 0 | 2 | 20 | 1 | 0 | 0 | 7 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |

| | | | s Ave bound | | | | s Ave bound | | | | oloph St oound | | St. Botoloph St Westbound | | | | |
|------------|--------|------|----------------|-------|--------|------|----------------|-------|--------|------|-------------------|-------|------------------------------|------|------|-------|--|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 4:00 PM | 0 | 1 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 4:15 PM | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 4:30 PM | 0 | 0 | 7 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 4:45 PM | 0 | 2 | 7 | 0 | 0 | 1 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5:00 PM | 0 | 1 | 8 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 5:15 PM | 0 | 0 | 6 | 0 | 0 | 0 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5:30 PM | 0 | 0 | 6 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5:45 PM | 0 | 0 | 8 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |

| AM PEAK HO | UR | Ma | ss Ave | | | Mass | s Ave | | | St. Boto | oloph St | | | St. Boto | oloph St | | |
|------------|------|---------|--------|-------|------------------------|-------|-------|---|--------|----------|----------|-------|------------------------|----------|----------|-------|--|
| 7:00 AM | | Nor | hbound | | | South | bound | | | Eastb | oound | | | Westh | oound | | |
| to | U-Tu | rn Left | Thru | Right | U-Turn Left Thru Right | | | | U-Turn | Left | Thru | Right | U-Turn Left Thru Right | | | Right | |
| 8:00 AM | 0 | 9 | 88 | 2 | 0 | 3 | 68 | 7 | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 1 | |
| PHF | | | 0.73 | | | 0. | 85 | | | 0. | 50 | | 0.25 | | | | |

| PM PEAK HOUR | | Mass | s Ave | | | Mass | Ave | | | St. Boto | oloph St | | | St. Boto | loph St | | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|------------------------|----------|----------|---|--------|----------|---------|-------|--|
| 4:00 PM | | North | bound | | | South | oound | | | Eastb | ound | | | Westh | ound | | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn Left Thru Right | | | | U-Turn | Left | Thru | Right | |
| 5:00 PM | 0 | 3 | 36 | 0 | 0 | 1 | 50 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | |
| PHF | | 0. | 65 | | | 0. | 76 | | | 0. | 38 | | 0.25 | | | | |

Location: 02 BTD #: 0001_HSH Location: Boston, MA Street 1: Mass Ave Street 2: St. Botoloph St Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | Mass Ave | | | | Mass Ave | | | | t. Botoloph | | St. Botoloph St | | | | |
|------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|-----------------|------|-----------|-----|--|
| | | | Northbound | l | | : | Southbound | d | | | Eastbound | | | | Westbound | l | |
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 7:00 AM | 2 | 10 | 0 | 8 | 0 | 11 | 0 | 6 | 1 | 0 | 1 | 44 | 0 | 0 | 1 | 28 | |
| 7:15 AM | 0 | 18 | 1 | 10 | 0 | 10 | 1 | 3 | 0 | 1 | 1 | 67 | 0 | 0 | 1 | 20 | |
| 7:30 AM | 2 | 15 | 1 | 12 | 0 | 18 | 0 | 13 | 0 | 1 | 0 | 81 | 0 | 3 | 0 | 33 | |
| 7:45 AM | 2 | 23 | 1 | 9 | 0 | 14 | 1 | 9 | 1 | 0 | 2 | 90 | 0 | 2 | 2 | 49 | |
| 8:00 AM | 2 | 21 | 1 | 13 | 1 | 20 | 0 | 11 | 0 | 2 | 1 | 113 | 0 | 5 | 3 | 60 | |
| 8:15 AM | 1 | 22 | 0 | 17 | 0 | 27 | 2 | 6 | 0 | 1 | 0 | 115 | 0 | 1 | 2 | 67 | |
| 8:30 AM | 1 | 25 | 0 | 17 | 0 | 27 | 3 | 14 | 1 | 3 | 0 | 110 | 0 | 3 | 3 | 73 | |
| 8:45 AM | 1 | 26 | 0 | 21 | 1 | 23 | 1 | 11 | 0 | 1 | 1 | 120 | 0 | 3 | 1 | 73 | |

| | | | Mass Ave Northbound | | | | Mass Ave | | | | t. Botoloph Eastbound | | | | t. Botoloph Westbound | | |
|------------|------|------|------------------------|-----|------|------|----------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 1 | 26 | 0 | 19 | 0 | 22 | 0 | 22 | 0 | 1 | 1 | 121 | 0 | 1 | 0 | 35 | |
| 4:15 PM | 1 | 11 | 1 | 13 | 0 | 22 | 0 | 20 | 1 | 1 | 2 | 119 | 0 | 1 | 0 | 40 | |
| 4:30 PM | 0 | 22 | 0 | 26 | 0 | 26 | 0 | 20 | 1 | 2 | 1 | 114 | 0 | 0 | 0 | 64 | |
| 4:45 PM | 2 | 27 | 0 | 26 | 1 | 36 | 1 | 13 | 2 | 3 | 0 | 127 | 0 | 0 | 0 | 37 | |
| 5:00 PM | 1 | 25 | 2 | 20 | 2 | 21 | 1 | 23 | 0 | 2 | 0 | 150 | 1 | 0 | 0 | 92 | |
| 5:15 PM | 2 | 36 | 1 | 18 | 0 | 34 | 2 | 17 | 1 | 1 | 1 | 164 | 1 | 5 | 0 | 100 | |
| 5:30 PM | 3 | 28 | 0 | 16 | 2 | 25 | 0 | 28 | 0 | 1 | 1 | 165 | 1 | 1 | 0 | 96 | |
| 5:45 PM | 0 | 22 | 1 | 28 | 0 | 29 | 1 | 19 | 1 | 1 | 0 | 126 | 0 | 1 | 0 | 81 | |

| , | AM PEAK HOUR ¹ | | | Mass Ave | | | | Mass Ave | | | | t. Botoloph | | | | | t. Botoloph | | | | |
|---|---------------------------|------|------|------------|-----|------|------|------------|-----|-----------|------|-------------|-----|--|------|-----------|-------------|-----|--|--|--|
| | 7:15 AM | | | Northbound | | | | Southbound | | Eastbound | | | | | | Westbound | | | | | |
| | to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | | Left | Thru | Right | PED | | | |
| | 8:15 AM | 5 | 94 | 1 | 68 | 2 | 97 | 6 | 42 | 1 | 7 | 2 | 458 | | 0 | 12 | 9 | 273 | | | |
| _ | | | | | | | | | | | | | | | | | | | | | |

| PM PEAK HOUR | Ī | | Mass Ave | | | | Mass Ave | | | | s | t. Botoloph | St | | | St. Botoloph St | | | | | | |
|--------------|------|------|------------|-----|------------|------|----------|-----|--|------|-----------|-------------|-----|--|------|-----------------|-----------|-----|--|--|--|--|
| 4:15 PM | | | Northbound | l | Southbound | | | | | | Eastbound | | | | | | Westbound | | | | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | | | |
| 5:15 PM | 6 | 111 | 4 | 82 | 4 109 4 87 | | | | | | 2 5 2 605 | | | | | 3 7 0 369 | | | | | | |

¹ Peak hours corresponds to vehicular peak hours.

03 Location: 0001_HSH BTD#: Location: Boston, MA Street 1: Alley 823 Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | Alley | / 823 | | | Alley | / 823 | • | | St. Boto | oloph St | | | St. Boto | oloph St | |
|------------|---------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| | | North | bound | | | South | bound | | | Easth | oound | | | Westl | oound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 0 | 36 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 37 | 0 |
| 7:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 13 | 0 | 2 | 0 | 55 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 37 | 0 |
| 8:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 16 | 0 | 1 | 1 | 39 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 32 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 2 | 0 | 37 | 0 |
| 8:45 AM | 0 0 0 0 | | | | | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 41 | 0 |

| | | | / 823 bound | | | | / 823 bound | | | | oloph St oound | | | St. Boto Westl | oloph St cound | |
|------------|--------|------|----------------|-------|--------|------|----------------|-------|--------|------|-------------------|-------|--------|-------------------|-------------------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 0 | 1 | 29 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 19 | 0 |
| 4:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 43 | 0 | 2 | 2 | 31 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 69 | 0 |
| 5:00 PM | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 45 | 1 | 0 | 3 | 37 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 35 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 34 | 1 | 1 | 1 | 34 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 41 | 0 |

| AM PEAK HOUR | 1 | Alley | / 823 | | | Alley | 823 | | | St. Boto | oloph St | | | St. Boto | loph St | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|---------|-------|
| 7:15 AM | | North | bound | | | South | bound | | | Easth | oound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 67 | 0 | 3 | 1 | 168 | 0 |
| PHF | | 0. | 50 | | | 0. | 50 | | | 0. | 77 | | | 0. | 75 | |
| HV~% | | 0.0 | 0% | | | 0.0 | 0% | | | 17. | .1% | | | 11. | 8% | |

| | PM PEAK HOUR | | Alley | 823 | | | Alley | 823 | | | St. Boto | oloph St | | | St. Boto | loph St | |
|---|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|---------|-------|
| | 4:30 PM | | North | bound | | | South | bound | | | Easth | ound | | | Westl | oound | |
| | to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | 5:30 PM | 0 | 3 | 0 | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 206 | 1 | 2 | 5 | 172 | 0 |
| _ | PHF | | 0. | 38 | | | 0. | 50 | | | 0. | 63 | | | 0. | 65 | |
| | HV~% | | 0.0 | 0% | | | 0.0 |)% | | | 1.0 | 0% | | | 2.8 | 3% | |

03 Location: 0001_HSH BTD#: Boston, MA Location: Street 1: Alley 823 Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | Alley | / 823 | | | Alle | y 823 | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| | | North | bound | | | South | bound | | | Easth | oound | | | Westl | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 5 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 7 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |

| | | | / 823 bound | | | | 823 bound | | | | oloph St oound | | | | oloph St cound | |
|------------|--------|------|----------------|-------|--------|------|--------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| AM PEAK HOUR | 1 | Alley | 823 | | | Alley | 823 | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|--------------|--------|--------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| 7:45 AM | | Northl | bound | | | South | bound | | | Eastb | ound | | | Westl | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 18 | 0 |
| PHF | | #DI | V/0! | | | | | | | 0. | 70 | | | 0. | 64 | |

| PM PEAK HOUR | | Alley | / 823 | | | Alley | 823 | | | St. Boto | oloph St | | | St. Boto | loph St | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|----------|----------|-------|--------|----------|---------|-------|
| 4:00 PM | | North | bound | | | South | oound | | | Easth | oound | | | Westh | ound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 |
| PHF | | #DI | V/0! | | | | | | | 0. | 38 | | | 0. | 33 | |

Location: 03 BTD #: 0001_HSH Location: Boston, MA Street 1: Alley 823 Street 2: St. Botoloph St Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | Alley 823 | | | | Alley 823 | | | S | t. Botoloph | St | | S | t. Botoloph | St | |
|------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| | | | Northbound | l | | : | Southbound | b | | | Eastbound | | | | Westbound | | |
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 0 | 0 | 8 | | | | 2 | 0 | 1 | 0 | 1 | | | | 0 | |
| 7:15 AM | 0 | 0 | 0 | 20 | | | | 6 | 0 | 0 | 0 | 6 | | | | 0 | |
| 7:30 AM | 0 | 0 | 0 | 26 | | | | 10 | 0 | 1 | 0 | 9 | | 1 | | 1 | |
| 7:45 AM | 0 | 0 | 0 | 28 | | | | 7 | 0 | 0 | 0 | 5 | | | | 0 | |
| 8:00 AM | 0 | 0 | 0 | 26 | | | | 6 | 0 | 2 | 0 | 6 | | 1 | | 1 | |
| 8:15 AM | 0 | 0 | 0 | 25 | | | | 7 | 0 | 0 | 0 | 5 | | | | 0 | |
| 8:30 AM | 0 | 0 | 0 | 41 | | | | 8 | 0 | 3 | 0 | 7 | | 2 | | 2 | |
| 8:45 AM | 0 | 0 | 0 | 38 | | | | 9 | 0 | 0 | 0 | 5 | | | | 0 | |

| | | | Alley 823 Northbound | | | | Alley 823 Southbound | d | | | t. Botoloph Eastbound | | | | t. Botoloph : Westbound | | |
|------------|------|------|-------------------------|-----|------|------|-------------------------|-----|------|------|--------------------------|-----|------|------|----------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 0 | 0 | 33 | | | | 15 | 0 | 3 | 0 | 54 | | 2 | | 0 | |
| 4:15 PM | 0 | 0 | 0 | 25 | | | | 16 | 0 | 0 | 0 | 67 | | | | 0 | |
| 4:30 PM | 0 | 0 | 0 | 37 | | | | 21 | 0 | 2 | 0 | 29 | | 3 | | 0 | |
| 4:45 PM | 0 | 0 | 0 | 40 | | | | 25 | 0 | 0 | 0 | 46 | | | | 0 | |
| 5:00 PM | 0 | 0 | 0 | 48 | | | | 33 | 0 | 6 | 0 | 37 | | 4 | | 1 | |
| 5:15 PM | 0 | 0 | 0 | 37 | | | | 25 | 0 | 0 | 0 | 40 | | | | 0 | |
| 5:30 PM | 0 | 0 | 1 | 39 | 1 | | | 17 | 0 | 2 | 0 | 22 | | 2 | | 1 | |
| 5:45 PM | 0 | 0 | 0 | 30 | | | | 20 | 0 | 0 | 0 | 22 | | | | | |

| AM PEAK HOUR 7:15 AM | 1 | | Alley 823 Northbound | | | | Alley 823 Southbound | d | | S | t. Botoloph Eastbound | St | | | t. Botoloph Westbound | | |
|-------------------------|------|------|-------------------------|-----|------|------|-------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 8:15 AM | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 14 | 0 | 5 | 0 | 13 | 0 | 3 | 0 | 3 | |

| PM PEAK HOUR ¹ | | | Alley 823 | | | | Alley 823 | | | s | t. Botoloph | St | | s | t. Botoloph | St | |
|---------------------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 4:30 PM | | | Northbound | b | | | Southbound | b | | | Eastbound | | | | Westbound | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 5:30 PM | 0 | 0 | 0 | 85 | 0 | 0 | 0 | 54 | 0 | 8 | 0 | 66 | 0 | 7 | 0 | 1 | |

¹ Peak hours corresponds to vehicular peak hours.

04 Location: 0001_HSH BTD#: Location: Boston, MA Street 1: Gainsborough St Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | | rough St bound | | | | rough St bound | • | | | oloph St oound | | | | oloph St bound | |
|------------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|
| O | T = T | | | | | | | 5 | | | | 5 | | | | |
| Start Time | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 3 | 6 | 2 | 0 | 6 | 16 | 2 | 0 | 2 | 3 | 0 | 0 | 15 | 4 | 19 |
| 7:15 AM | 0 | 3 | 4 | 1 | 0 | 10 | 17 | 1 | 0 | 1 | 2 | 1 | 0 | 14 | 5 | 25 |
| 7:30 AM | 0 | 1 | 2 | 3 | 0 | 12 | 15 | 0 | 0 | 2 | 1 | 1 | 0 | 16 | 4 | 35 |
| 7:45 AM | 0 | 2 | 3 | 2 | 0 | 17 | 16 | 2 | 0 | 2 | 2 | 0 | 0 | 12 | 3 | 22 |
| 8:00 AM | 0 | 1 | 4 | 1 | 0 | 21 | 15 | 2 | 0 | 4 | 1 | 0 | 0 | 18 | 2 | 22 |
| 8:15 AM | 0 | 2 | 3 | 3 | 0 | 18 | 14 | 1 | 0 | 2 | 1 | 1 | 0 | 9 | 3 | 19 |
| 8:30 AM | 0 | 0 | 2 | 2 | 0 | 14 | 12 | 0 | 0 | 3 | 1 | 0 | 0 | 11 | 7 | 20 |
| 8:45 AM | 0 | 1 | 1 | 1 | 0 | 10 | 10 | 1 | 0 | 1 | 2 | 1 | 0 | 15 | 8 | 25 |

| | | | rough St bound | | | | rough St bound | | | | oloph St oound | | | St. Boto Westl | oloph St cound | |
|------------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|-------------------|-------------------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 13 | 11 | 1 | 16 | 4 | 2 | 0 | 2 | 3 | 1 | 0 | 4 | 4 | 25 |
| 4:15 PM | 0 | 0 | 15 | 10 | 0 | 20 | 7 | 1 | 0 | 2 | 2 | 1 | 1 | 4 | 3 | 18 |
| 4:30 PM | 0 | 0 | 17 | 9 | 1 | 28 | 7 | 5 | 0 | 2 | 5 | 0 | 2 | 3 | 2 | 28 |
| 4:45 PM | 0 | 1 | 15 | 18 | 0 | 35 | 3 | 1 | 0 | 1 | 20 | 1 | 0 | 17 | 10 | 40 |
| 5:00 PM | 0 | 1 | 19 | 9 | 2 | 35 | 11 | 2 | 0 | 4 | 2 | 1 | 1 | 12 | 4 | 25 |
| 5:15 PM | 0 | 1 | 16 | 8 | 0 | 25 | 7 | 1 | 0 | 1 | 3 | 0 | 0 | 9 | 6 | 24 |
| 5:30 PM | 0 | 0 | 12 | 6 | 1 | 22 | 8 | 2 | 0 | 4 | 3 | 0 | 0 | 7 | 2 | 26 |
| 5:45 PM | 0 | 2 | 13 | 7 | 0 | 21 | 9 | 1 | 0 | 4 | 2 | 0 | 1 | 9 | 4 | 25 |

| AM PEAK HOUR | 1 | Gainsbo | rough St | | | Gainsbo | rough St | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|--------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| 7:15 AM | | North | bound | | | South | bound | | | Easth | oound | | | Westl | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | 0 | 7 | 13 | 7 | 0 | 60 | 63 | 5 | 0 | 9 | 6 | 2 | 0 | 60 | 14 | 104 |
| PHF | | 0. | 84 | | | 0. | 84 | | | 0. | 85 | | | 0. | 81 | |
| HV % | | 4.8 | 3% | | | 6.8 | 8% | | | 47. | .1% | | | 12. | 6% | |

| PM PEAK HO | UR | | orough St bound | | | | rough St bound | | | | oloph St oound | | | St. Boto Westl | oloph St | |
|------------|--------|------|--------------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|-------------------|----------|-------|
| 4:30 PM | | | | D: 14 | | | | D: 1. | | | | D: 1. | | | | D: 1. |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:30 PM | 0 | 3 | 67 | 44 | 3 | 123 | 28 | 9 | 0 | 8 | 30 | 2 | 3 | 41 | 22 | 117 |
| PHF | | 0. | 84 | | | 0. | 82 | | | 0. | 45 | | | 0. | 68 | |
| HV~% | | 0. | 0% | | | 2. | 5% | | | 7. | 5% | | | 2.7 | 7% | |

04 Location: 0001_HSH BTD#: Location: Boston, MA Street 1: Gainsborough St Street 2: St. Botoloph St 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | Gainsbo Northl | rough St bound | | | | rough St bound | | | St. Boto Eastb | oloph St oound | | | St. Boto Westl | • | |
|------------|---------|-------------------|-------------------|-------|--------|------|-------------------|-------|--------|-------------------|-------------------|-------|--------|-------------------|------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 2 | 2 |
| 8:00 AM | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 2 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 2 | 4 |
| 8:30 AM | 0 0 0 0 | | | | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 4 |
| 8:45 AM | 0 0 0 0 | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |

| | | | rough St bound | | | | rough St bound | | | | oloph St oound | | | St. Boto Westl | oloph St cound | |
|------------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|------|-------------------|-------|--------|-------------------|-------------------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

| AM PEAK HOUR | | Gainsbo | rough St | | | Gainsbo | rough St | | | St. Boto | oloph St | | | St. Boto | oloph St | |
|--------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|----------|----------|-------|--------|----------|----------|-------|
| 7:45 AM | | North | bound | | | South | bound | | | Easth | oound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:45 AM | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 0 | 0 | 7 | 5 | 0 | 0 | 0 | 8 | 12 |
| PHF | | 0. | 25 | | | 0. | 75 | | | 0. | 75 | | | 0. | 71 | |

| PM PEAK HOUR | | Gainsbo | rough St | | | Gainsbo | rough St | | | St. Boto | oloph St | | | St. Boto | loph St | |
|--------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|----------|----------|-------|--------|----------|---------|-------|
| 4:00 PM | | North | bound | | | South | bound | | | Easth | ound | | | Westb | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 3 |
| PHF | | | | | | 0. | 75 | | | 0. | 75 | | | 0.3 | 33 | |

Location: 04 BTD #: 0001_HSH Location: Boston, MA Street 1: Gainsborough St Street 2: St. Botoloph St Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | insborough Northbound | | | | ainsborough Southboun | | | S | t. Botoloph Eastbound | | | | t. Botoloph Westbound | | |
|------------|------|------|--------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 1 | 0 | 15 | 0 | 1 | 0 | 19 | 0 | 1 | 0 | 18 | 0 | 1 | 0 | 15 | |
| 7:15 AM | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 20 | |
| 7:30 AM | 0 | 0 | 0 | 24 | 0 | 1 | 0 | 17 | 0 | 1 | 0 | 22 | 0 | 1 | 0 | 20 | |
| 7:45 AM | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 14 | |
| 8:00 AM | 0 | 1 | 0 | 18 | 1 | 0 | 0 | 20 | 0 | 1 | 0 | 16 | 0 | 0 | 0 | 19 | |
| 8:15 AM | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 17 | |
| 8:30 AM | 0 | 1 | 0 | 14 | 1 | 0 | 0 | 25 | 0 | 2 | 0 | 11 | 2 | 0 | 0 | 20 | |
| 8:45 AM | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 12 | |

| | | | ainsborough Northbound | | | | ainsborough Southboun | | | | t. Botoloph Eastbound | | | | t. Botoloph Westbound | | |
|------------|------|------|---------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 1 | 0 | 35 | 2 | 0 | 0 | 31 | 1 | 0 | 0 | 29 | 0 | 0 | 2 | 30 | |
| 4:15 PM | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 25 | |
| 4:30 PM | 0 | 0 | 1 | 36 | 1 | 0 | 0 | 19 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 45 | |
| 4:45 PM | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 42 | |
| 5:00 PM | 0 | 2 | 1 | 41 | 3 | 0 | 0 | 35 | 2 | 0 | 0 | 38 | 0 | 0 | 2 | 35 | |
| 5:15 PM | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 33 | |
| 5:30 PM | 0 | 1 | 0 | 52 | 1 | 1 | 0 | 28 | 1 | 0 | 0 | 45 | 0 | 0 | 0 | 25 | |
| 5:45 PM | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 35 | |

| AM PEAK HOUR ¹ 7:15 AM | • | | ainsborough Northbound | | | | ainsborough Southbound | | | | . Botoloph Eastbound | St | | | t. Botoloph Westbound | St | |
|--------------------------------------|------|------|---------------------------|-----|------|------|---------------------------|-----|------|------|-------------------------|-----|------|------|--------------------------|-----|--|
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 8:15 AM | 0 | 2 | 0 | 74 | 2 | 0 | 0 | 75 | 0 | 3 | 0 | 62 | 2 | 0 | 0 | 68 | |
| · | | | | | | | | | | | | | | | | | |

| PM PEAK HOUR ¹ | | Ga | ainsborough | St | | | Ga | ainsborough | n St | | s | t. Botoloph | St | | | S | t. Botoloph | St | |
|---------------------------|------|-----------|-------------|-----|--|------|------|-------------|------|------|------|-------------|-----|--------|------|------|-------------|-----|--|
| 4:30 PM | | | Northbound | ł | | | | Southbound | b | | | Eastbound | | | | | Westbound | 1 | |
| to | Left | Thru | Right | PED | | Left | Thru | Right | PED | Left | Thru | Right | PED | Ped SB | Left | Thru | Right | PED | |
| 5:30 PM | 0 | 0 2 2 118 | | | | 4 | 0 | 0 | 139 | 2 | 0 | 0 | 144 | 0 | 0 | 0 | 2 | 155 | |

¹ Peak hours corresponds to vehicular peak hours.

05 Location: 0001_HSH BTD#: Location: Boston, MA Street 1: Gainsborough St Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | | | | | | | • | | , | | | | | | |
|------------|---------|---------|----------|-------|--------|---------|----------|-------|--------|---------|----------|-------|--------|---------|----------|-------|
| | | Gainsbo | rough St | | | Gainsbo | rough St | | | Hunting | jton Ave | | | Hunting | gton Ave | |
| | | North | bound | | | South | bound | | | Easth | oound | | | West | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 15 | 5 | 6 | 0 | 0 | 0 | 0 | 10 | 7 | 100 | 15 | 0 | 4 | 70 | 13 |
| 7:15 AM | 0 | 19 | 9 | 8 | 0 | 0 | 0 | 0 | 10 | 9 | 122 | 16 | 1 | 6 | 92 | 20 |
| 7:30 AM | 0 | 22 | 6 | 4 | 0 | 0 | 0 | 0 | 5 | 1 | 141 | 19 | 2 | 15 | 105 | 9 |
| 7:45 AM | 0 | 17 | 5 | 5 | 0 | 0 | 0 | 0 | 3 | 14 | 149 | 21 | 2 | 6 | 107 | 4 |
| 8:00 AM | 0 | 19 | 8 | 1 | 0 | 0 | 0 | 0 | 3 | 12 | 149 | 29 | 3 | 7 | 89 | 6 |
| 8:15 AM | 0 | 11 | 15 | 4 | 0 | 0 | 0 | 0 | 1 | 9 | 139 | 23 | 2 | 4 | 95 | 3 |
| 8:30 AM | 0 9 6 8 | | | | 0 | 0 | 0 | 0 | 4 | 8 | 160 | 18 | 3 | 7 | 105 | 5 |
| 8:45 AM | 0 | 19 | 8 | 3 | 0 | 0 | 0 | 0 | 2 | 5 | 181 | 11 | 0 | 7 | 91 | 7 |

| | | | rough St bound | | | | rough St bound | | | | ton Ave | | | | ton Ave | |
|------------|------------|------|-------------------|-------|--------|------|-------------------|-------|--------|------|---------|-------|--------|------|---------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 20 | 14 | 11 | 0 | 0 | 0 | 0 | 4 | 6 | 131 | 17 | 3 | 3 | 151 | 13 |
| 4:15 PM | 0 | 15 | 7 | 6 | 0 | 0 | 0 | 0 | 6 | 11 | 182 | 28 | 3 | 4 | 153 | 7 |
| 4:30 PM | 0 | 25 | 17 | 7 | 0 | 0 | 0 | 0 | 7 | 10 | 154 | 31 | 5 | 10 | 137 | 13 |
| 4:45 PM | 0 | 26 | 16 | 5 | 0 | 0 | 0 | 0 | 6 | 15 | 167 | 25 | 5 | 5 | 141 | 13 |
| 5:00 PM | 0 | 26 | 13 | 11 | 0 | 0 | 0 | 0 | 7 | 13 | 170 | 42 | 6 | 10 | 129 | 12 |
| 5:15 PM | 0 26 13 11 | | | | 0 | 0 | 0 | 0 | 7 | 12 | 150 | 21 | 3 | 7 | 159 | 17 |
| 5:30 PM | 0 | 22 | 10 | 12 | 0 | 0 | 0 | 0 | 7 | 11 | 176 | 23 | 5 | 13 | 170 | 14 |
| 5:45 PM | 0 | 22 | 8 | 6 | 0 | 0 | 0 | 0 | 8 | 15 | 173 | 22 | 6 | 12 | 127 | 13 |

| AM PEAK HOUR | | Gainsbo | rough St | | | Gainsbo | rough St | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|---------|---------|-------|--------|---------|------------|-------|
| 7:15 AM | | North | bound | | | South | bound | | | Easth | oound | | | West | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | 0 | 77 | 28 | 18 | 0 | 0 | 0 | 0 | 21 | 36 | 561 | 85 | 8 | 34 | 393 | 39 |
| PHF | | 0. | 85 | | | | | | | 0. | 91 | | | 0. | 90 | |
| HV~% | | 12. | 6% | | | | | | | 6.9 | 9% | | | 9.4 | 1 % | |

| PM PEAK HOU 4:45 PM | R | | rough St bound | | | | rough St bound | | | _ | ton Ave | | | Hunting Westl | ton Ave | |
|------------------------|---------|------|-------------------|-------|---------|------|-------------------|-------|--------|------|---------|-------|--------|------------------|---------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:45 PM | 0-14111 | 101 | 52 | 34 | 0-14111 | 0 | 0 | n n | 27 | 51 | 663 | 111 | 19 | 35 | 599 | 56 |
| PHF | | | 94 | U - | | | | | | 0. | 92 | •••• | 10 | 0. | | |
| HV~% | | 3. | 2% | | | | | | | 2. | 8% | | | 2. | 5% | |

05 Location: 0001_HSH BTD#: Location: Boston, MA Street 1: Gainsborough St Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | Gainsbo North | rough St bound | | | | rough St bound | | | | ton Ave | | | _ | ton Ave | |
|------------|---------|------------------|-------------------|-------|--------|------|-------------------|-------|--------|------|---------|-------|--------|------|---------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 2 | 0 | 0 | 12 | 1 |
| 7:15 AM | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 1 | 10 | 1 |
| 7:30 AM | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 1 | 0 | 0 | 11 | 1 |
| 7:45 AM | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 8 | 2 |
| 8:00 AM | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 1 | 0 | 1 | 9 | 0 |
| 8:15 AM | 0 2 1 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 11 | 0 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 1 | 0 | 0 | 10 | 0 |
| 8:45 AM | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 1 | 0 | 0 | 9 | 1 |

| | | | Gainsbo | rough St | | | Gainsbo | rough St | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|---|------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| _ | | | North | bound | | | South | bound | | | Easth | oound | | | Westl | bound | |
| | Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | 4:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 0 | 0 | 4 | 1 |
| | 4:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 4 | 0 |
| | 4:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 1 | 0 | 0 | 4 | 0 |
| | 4:45 PM | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 1 | 1 | 3 | 0 |
| | 5:00 PM | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 4 | 0 |
| | 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 |
| | 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 5 | 0 |
| | 5:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 5 | 1 |

| AM PEAK HOU | R | Gainsbo | rough St | | | Gainsbo | rough St | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|-------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 7:00 AM | | North | bound | | | South | bound | | | Easth | ound | | | Westl | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:00 AM | 0 | 10 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 50 | 3 | 0 | 1 | 41 | 5 |
| PHF | | 0. | 70 | | | | | | | 0. | 81 | | | 0. | 90 | |

| PM PEAK HOUR | 1 | Gainsbo | rough St | | | Gainsbo | rough St | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|---------|----------|-------|--------|---------|----------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 4:00 PM | | Northl | bound | | | South | bound | | | Eastb | ound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:00 PM | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 29 | 4 | 1 | 1 | 15 | 1 |
| PHF | | 0.0 | 63 | | | | | | | 0. | 65 | | | 0. | 90 | |

Location: 05 BTD #: 0001_HSH Location: Boston, MA Street 1: Gainsborough St Street 2: Huntington Ave Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | ainsborough Northbound | | | | ainsborough Southboun | | | | untington A Eastbound | | | | untington A Westbound | | |
|------------|------|------|---------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 17 | 0 | 1 | 0 | 11 | 0 | 2 | 1 | 29 | |
| 7:15 AM | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 25 | 0 | 2 | 0 | 16 | 1 | 1 | 0 | 27 | |
| 7:30 AM | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 29 | 0 | 5 | 1 | 23 | 0 | 1 | 0 | 43 | |
| 7:45 AM | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 43 | 0 | 2 | 0 | 25 | 0 | 3 | 0 | 28 | |
| 8:00 AM | 1 | 0 | 2 | 19 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 29 | 0 | 4 | 0 | 32 | |
| 8:15 AM | 1 | 0 | 0 | 17 | 0 | 0 | 0 | 58 | 0 | 4 | 0 | 29 | 0 | 3 | 0 | 51 | |
| 8:30 AM | 0 | 5 | 0 | 24 | 0 | 0 | 0 | 60 | 0 | 4 | 0 | 26 | 0 | 3 | 0 | 28 | |
| 8:45 AM | 1 | 1 | 0 | 15 | 0 | 0 | 0 | 54 | 0 | 4 | 0 | 33 | 0 | 2 | 0 | 45 | |

| | | | ainsborough Northbound | | | | ainsborough Southboun | | | | untington A Eastbound | | | | untington A Westbound | | |
|------------|------|------|---------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|------|------|--------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 1 | 0 | 58 | 0 | 0 | 0 | 97 | 0 | 3 | 0 | 54 | 0 | 4 | 0 | 61 | |
| 4:15 PM | 0 | 2 | 0 | 56 | 0 | 0 | 0 | 107 | 0 | 4 | 0 | 53 | 0 | 9 | 1 | 56 | |
| 4:30 PM | 0 | 1 | 0 | 57 | 0 | 0 | 0 | 106 | 1 | 10 | 0 | 46 | 0 | 2 | 2 | 51 | |
| 4:45 PM | 0 | 0 | 1 | 56 | 0 | 0 | 0 | 135 | 0 | 4 | 1 | 65 | 1 | 0 | 0 | 87 | |
| 5:00 PM | 1 | 2 | 2 | 37 | 0 | 0 | 0 | 133 | 0 | 7 | 2 | 64 | 1 | 5 | 0 | 70 | |
| 5:15 PM | 0 | 2 | 0 | 81 | 0 | 0 | 0 | 100 | 0 | 4 | 0 | 53 | 0 | 7 | 0 | 78 | |
| 5:30 PM | 2 | 0 | 1 | 51 | 0 | 0 | 0 | 113 | 1 | 2 | 0 | 48 | 0 | 6 | 0 | 100 | |
| 5:45 PM | 0 | 2 | 1 | 58 | 0 | 0 | 0 | 113 | 1 | 3 | 1 | 70 | 0 | 6 | 1 | 67 | |

| AM PEAK HOUR ¹ 7:15 AM | • | | ainsborough Northbound | | | | ainsborough Southbound | | | | untington A | ve | | | untington A | | |
|--------------------------------------|------|------|---------------------------|-----|------|------|---------------------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 8:15 AM | 3 | 6 | 2 | 75 | 0 | 0 | 0 | 220 | 0 | 12 | 0 | 117 | 0 | 12 | 0 | 156 | |
| | | | | | | | | | | | | | | | | | |

| PM PEAK HOUR ¹ | | | insborough | | | | Ga | ainsborough | St | | Н | untington A | ve | | Н | untington A | ve | |
|---------------------------|------|---------------------|------------|---|--|---|------|-------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 4:45 PM | | | Northbound | t | | | | Southbound | t | | | Eastbound | | | | Westbound | | |
| to | Left | Left Thru Right PED | | | | | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 5:45 PM | 3 | 3 4 4 225 | | | | 0 | 0 | 0 | 481 | 1 | 17 | 3 | 230 | 2 | 18 | 0 | 335 | |

¹ Peak hours corresponds to vehicular peak hours.

Location: 06 0001_HSH BTD#: Boston, MA Location: Street 1: Alley 823 Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TOTAL (CARS & TRUCKS)

| | | | | | | | | • | | , | | | | | | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| | | Alley | 823 | | | Alley | y 823 | | | Hunting | ton Ave | | | Hunting | ton Ave | |
| | | North | bound | | | South | bound | | | Eastb | oound | | | Westl | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 1 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 1 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 |

| | | | / 823 bound | | | | / 823 bound | | | | ton Ave | | | | ton Ave | |
|------------|--------|------|----------------|-------|--------|------|----------------|-------|--------|------|---------|-------|--------|------|---------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 1 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 |

| AM PEAK HOUR | | Alley | / 823 | | | Alley | / 823 | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 7:00 AM | | North | bound | | | South | bound | | | Easth | oound | | | Westl | bound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 161 | 0 | 0 | 0 | 0 | 0 |
| PHF | | | | | | | | | | 0. | 86 | | | | | |
| HV~% | | | | | | | | | | 10. | .3% | | | | | |

| P | PM PEAK HOUR 4:15 PM | | | / 823 bound | | | Alley South | 823 bound | | | | ton Ave | | | Hunting Westl | ton Ave | |
|---|-------------------------|--------|------|----------------|-------|--------|----------------|--------------|-------|--------|------|---------|-------|--------|------------------|---------|-------|
| | to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | 5:15 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 152 | 1 | 0 | 0 | 0 | 0 |
| | PHF | | 0. | 50 | | | | | | | 0. | 80 | | | | | |
| | HV~% | | 0.0 | 0% | | | | | | | 0.8 | 3% | | | | | |

06 Location: 0001_HSH BTD#: Boston, MA Location: Street 1: Alley 823 Street 2: Huntington Ave 4/29/2016 Count Date: Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

TRUCKS

| | | | | | | | | | 0.10 | | | | | | | |
|------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| | | Alley | / 823 | | | Alley | y 823 | | | Hunting | ton Ave | | | Hunting | ton Ave | |
| | | North | bound | | | South | bound | | | Eastb | ound | | | Westk | bound | |
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |

| | | | / 823 bound | | | | 823 bound | | | | ton Ave | | | | ton Ave | |
|------------|--------|------|----------------|-------|--------|------|--------------|-------|--------|------|---------|-------|--------|------|---------|-------|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| AM PEAK HOUR | | Alley | / 823 | | | Alley | 823 | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 7:00 AM | | North | bound | | | South | bound | | | Easth | ound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| PHF | | | | | | | | | | 0. | 61 | | | | | |

| PM PEAK HOUR | | Alley | / 823 | | | Alley | 823 | | | Hunting | ton Ave | | | Hunting | ton Ave | |
|--------------|--------|-------|-------|-------|--------|-------|-------|-------|--------|---------|---------|-------|--------|---------|---------|-------|
| 5:00 PM | | North | bound | | | South | bound | | | Easth | ound | | | Westh | oound | |
| to | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| PHF | | | | | | | | | | 0. | 25 | | | | | |

Location: 06 BTD #: 0001_HSH Location: Boston, MA Street 1: Alley 823 Street 2: Huntington Ave Count Date: 4/29/2016 Day of Week: Wednesday Weather: Sunny, High of 57 F



PO BOX 1723, Framingham, MA 01701 Office: 978-746-1259 DataRequest@BostonTrafficData.com www.BostonTrafficData.com

PEDESTRIANS & BICYCLES

| | | | Alley 823 | | | | | Alley 823 | | | Н | untington A | ve | | Н | untington A | ve | |
|------------|------|------|------------|-----|--|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| | | | Northbound | 1 | | | | Southbound | d | | | Eastbound | | | | Westbound | l | |
| Start Time | Left | Thru | Right | PED | | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | |
| 7:15 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 25 | 0 | 0 | 0 | 0 | |
| 7:30 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 22 | 0 | 0 | 0 | 0 | |
| 7:45 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 31 | 0 | 0 | 0 | 0 | |
| 8:00 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 33 | 0 | 0 | 0 | 0 | |
| 8:15 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 46 | 0 | 0 | 0 | 0 | |
| 8:30 AM | | | | | | | | 0 | 0 | 0 | 11 | 0 | 45 | 0 | 0 | 0 | 0 | |
| 8:45 AM | | | | | | | | 0 | 0 | 0 | 6 | 0 | 39 | 0 | 0 | 0 | 0 | |

| | | | Alley 823 Northbound | I | | : | Alley 823 Southbound | d | | | untington A | | | | untington Av Westbound | | |
|------------|------|------|-------------------------|-----|------|------|-------------------------|-----|------|------|-------------|-----|------|------|---------------------------|-----|--|
| Start Time | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 81 | 0 | 0 | 0 | 0 | |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 85 | 0 | 0 | 0 | 0 | |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 80 | 0 | 0 | 0 | 0 | |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 90 | 0 | 0 | 0 | 0 | |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 112 | 0 | 0 | 0 | 0 | |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 125 | 0 | 0 | 0 | 0 | |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 143 | 0 | 0 | 0 | 0 | |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 135 | 0 | 0 | 0 | 0 | |

| AM PEAK HOUR | Ī | | Alley 823 | | | | Alley 823 | | | Н | untington A | ve | | | untington A | | |
|--------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 7:00 AM | | | Northbound | | | | Southbound | i | | | Eastbound | | | | Westbound | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 163 | 0 | 0 | 0 | 0 | |

| PM PEAK HOUR ¹ | Ī | | Alley 823 | | | | Alley 823 | | | н | untington A | ve | | Н | untington A | ve | |
|---------------------------|------|------|------------|-----|------|------|------------|-----|------|------|-------------|-----|------|------|-------------|-----|--|
| 4:15 PM | | | Northbound | t | | | Southbound | t | | | Eastbound | | | | Westbound | | |
| to | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | Left | Thru | Right | PED | |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 0 | 515 | 0 | 0 | 0 | 0 | |

¹ Peak hours corresponds to vehicular peak hours.

TRIP GENERATION CALCULATIONS

2016066 - Huntington Theater

Trip Generation Assessment

HOWARD STEIN HUDSON 19-Apr-2017 XX HARD CODED TO BALANCE

| Land Use | Size | Category | Directional Split | Average Trip Rate | Unadjusted Vehicle Trips | Assumed National Vehicle Occupancy Rate ¹ | Unadjusted Person-Trips | Primary Person Trips | Transit Share ² | Transit Person- Trips | Walk/Bike/ Other Share ² | Walk/ Bike/ Other Trips | | Auto Person- Trips | Assumed Local Auto Occupancy Rate ³ | Total Adjusted Auto Trips |
|------------------------------|-------|----------|----------------------|----------------------|-----------------------------|--|----------------------------|-------------------------|-------------------------------|-----------------------------|--|----------------------------|-----|-----------------------|---|---------------------------------|
| Daily Peak Hour | | | | | | | | | | | | | | | | |
| Apartment⁴ | 426 | Total | | 6.650 | 2,832 | 1.13 | 3,200 | 3,200 | 19% | 608 | 57% | 1,824 | 24% | 768 | 1.13 | 680 |
| | units | In | 50% | 3.325 | 1,416 | 1.13 | 1,600 | 1,600 | 19% | 304 | 57% | 912 | 24% | 384 | 1.13 | 340 |
| | | Out | 50% | 3.325 | 1,416 | 1.13 | 1,600 | 1,600 | 19% | 304 | 57% | 912 | 24% | 384 | 1.13 | 340 |
| Shopping Center ⁵ | 7.5 | Total | | 42.700 | 320 | 1.78 | 570 | 570 | 16% | 92 | 55% | 312 | 29% | 166 | 1.78 | 94 |
| | KSF | In | 50% | 21.350 | 160 | 1.78 | 285 | 285 | 16% | 46 | 55% | 156 | 29% | 83 | 1.78 | 47 |
| | | Out | 50% | 21.350 | 160 | 1.78 | 285 | 285 | 16% | 46 | 55% | 156 | 29% | 83 | 1.78 | 47 |
| Total | | Total | | | 3,152 | | 3,770 | 3,770 | | 700 | | 2,136 | | 934 | | 774 |
| | | In | | | 1,576 | | 1,885 | 1,885 | | 350 | | 1,068 | | 467 | | 387 |
| | | Out | | | 1,576 | | 1,885 | 1,885 | | 350 | | 1,068 | | 467 | | 387 |
| AM Peak Hour | | | | | | | | | | | | | | | | |
| Apartment ⁴ | 426 | Total | | 0.51 | 217 | 1.13 | 246 | 246 | | 41 | | 155 | | 50 | 1.13 | 44 |
| | units | In | 20% | 0.102 | 43 | 1.13 | 49 | 49 | 22% | 11 | 59% | 29 | 19% | 9 | 1.13 | 8 |
| | | Out | 80% | 0.408 | 174 | 1.13 | 197 | 197 | 15% | 30 | 64% | 126 | 21% | 41 | 1.13 | 36 |
| Shopping Center ⁵ | 7.5 | Total | | 0.96 | 7 | 1.78 | 12 | 12 | | 2 | | 7 | | 3 | 1.78 | 2 |
| | KSF | In | 62% | 0.595 | 4 | 1.78 | 7 | 7 | 19% | 1 | 57% | 4 | 24% | 2 | 1.78 | 1 |
| | | Out | 38% | 0.365 | 3 | 1.78 | 5 | 5 | 13% | 1 | 61% | 3 | 26% | 1 | 1.78 | 1 |
| Total | | Total | | | 224 | | 258 | 258 | | 43 | | 162 | | 53 | | 46 |
| | | In | | | 47 | | 56 | 56 | | 12 | | 33 | | 11 | | 9 |
| | | Out | | | 177 | | 202 | 202 | | 31 | | 129 | | 42 | | 37 |
| PM Peak Hour | | | | | | | | | | | | | | | | |
| Apartment⁴ | 426 | Total | | 0.62 | 264 | 1.13 | 298 | 298 | | 52 | | 185 | | 61 | 1.13 | 54 |
| | units | In | 65% | 0.403 | 172 | 1.13 | 194 | 194 | 15% | 29 | 64% | 124 | 21% | 41 | 1.13 | 36 |
| | | Out | 35% | 0.217 | 92 | 1.13 | 104 | 104 | 22% | 23 | 59% | 61 | 19% | 20 | 1.13 | 18 |
| Shopping Center ⁵ | 7.5 | Total | | 3.71 | 27 | 1.78 | 48 | 48 | | 8 | | 28 | | 12 | 1.78 | 6 |
| | KSF | In | 48% | 1.781 | 13 | 1.78 | 23 | 23 | 13% | 3 | 61% | 14 | 26% | 6 | 1.78 | 3 |
| | | Out | 52% | 1.929 | 14 | 1.78 | 25 | 25 | 19% | 5 | 57% | 14 | 24% | 6 | 1.78 | 3 |
| Total | | Total | | | 291 | | 346 | 346 | | 60 | | 213 | | 73 | | 60 |
| | | In | | | 185 | | 217 | 217 | | 32 | | 138 | | 47 | | 39 |
| | | Out | | | 106 | | 129 | 129 | | 28 | | 75 | | 26 | | 21 |

^{1. 2009} National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational

^{2.} Mode shares based on peak-hour BTD Data for Area 4

^{3.} Local vehicle occupancy rates based on 2009 National vehicle occupancy rates

^{4.} ITE Trip Generation Manual, 9th Edition, LUC 220 (Apartment), average rate

^{5.} ITE Trip Generation Manual, 9th Edition, LUC 820 (Shopping Center), average rate

INTERSECTION CAPACITY ANALYSIS WORKSHEETS

| Existing (2017) Cor | | III. Fea | K HOUI | | | | | | | | | | | | | 2016066::Huntington Thea |
|---|-----------------|-----------|------------|-------|-------|------------------|------|-------|-------------|------|------|-------------|----------|------|-----|--------------------------|
| | • | - | • | F | • | — | • | 4 | † | ~ | - | ↓ | 4 | | | |
| Lane Group | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Lane Configurations | | 414 | | | | | | ሻ | † 1> | | | † 1> | | | | |
| Traffic Volume (vph) | 83 | 12 | 56 | 2 | 88 | 41} 16 | 39 | 58 | 902 | 72 | 0 | 791 | 75 | | | |
| Future Volume (vph) | 83 | 12 | 56 | 2 | 88 | 16 | 39 | 58 | 902 | 72 | 0 | 791 | 75 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | | 0.93 | | | | 0.80 | | 0.86 | 0.97 | | | 0.95 | | | | |
| Frt | | 0.944 | | | | 0.960 | | | 0.989 | | | 0.987 | | | | |
| Flt Protected | | 0.973 | | | | 0.970 | | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 0 | 2650 | 0 | 0 | 0 | 2536 | 0 | 1624 | 2903 | 0 | 0 | 2847 | 0 | | | |
| Flt Permitted | | 0.973 | · | · | | 0.970 | · | 0.950 | 2000 | | | 20 | | | | |
| Satd. Flow (perm) | 0 | 2541 | 0 | 0 | 0 | 2082 | 0 | 1401 | 2903 | 0 | 0 | 2847 | 0 | | | |
| Right Turn on Red | | | No | · | | 2002 | No | | 2000 | No | | 2011 | No | | | |
| Satd. Flow (RTOR) | | | 110 | | | | 110 | | | 110 | | | 110 | | | |
| Link Speed (mph) | | 30 | | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 159 | | | | 495 | | | 334 | | | 341 | | | | |
| Travel Time (s) | | 3.6 | | | | 11.3 | | | 7.6 | | | 7.8 | | | | |
| Confl. Peds. (#/hr) | 41 | 0.0 | 31 | 231 | 31 | 11.0 | 41 | 497 | 1.0 | 231 | 231 | 7.0 | 497 | | | |
| Confl. Bikes (#/hr) | 41 | | 31 | 231 | JI | | 1 | 431 | | 58 | 231 | | 58 | | | |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.95 | 0.95 | 0.95 | 0.95 | 0.98 | 0.98 | 0.98 | 0.91 | 0.91 | 0.91 | | | |
| Heavy Vehicles (%) | 10% | 33% | 2% | 100% | 13% | 25% | 15% | 0.90 | 7% | 14% | 0.91 | 8% | 3% | | | |
| Adj. Flow (vph) | 10% | 33% 15 | 70 | 100% | 93 | 25% 17 | 41 | 59 | 920 | 73 | 0% | 869 | 3% 82 | | | |
| | 104 | 10 | 70 | 2 | 93 | 17 | 41 | 29 | 920 | 13 | U | 009 | 02 | | | |
| Shared Lane Traffic (%) | 0 | 189 | 0 | 0 | 0 | 153 | 0 | 59 | 993 | 0 | 0 | 951 | 0 | | | |
| Lane Group Flow (vph) Turn Type | Split | 189 NA | U | Split | | NA | U | Prot | 993 NA | U | U | 951 NA | U | | | |
| | Spiit 7 | NA 7 | | | Split | 1NA 5 | | | | | | | | 2 | c | |
| Protected Phases | | - / | | 5 | 5 | 5 | | 3 | 1 | | | 1 | | 2 | 6 | |
| Permitted Phases | - | , | | _ | _ | _ | | 2 | | | | | | | | |
| Detector Phase | 7 | 7 | | 5 | 5 | 5 | | 3 | 1 | | | 1 | | | | |
| Switch Phase | 0.0 | 0.0 | | | | 0.0 | | | 40.0 | | | 40.0 | | 4.0 | 4.0 | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 | | 8.0 | 10.0 | | | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 23.5 | 23.5 | 23.5 | | 15.5 | 20.5 | | | 20.5 | | 6.0 | 6.0 | |
| Total Split (s) | 22.0 | 22.0 | | 25.0 | 25.0 | 25.0 | | 18.0 | 43.0 | | | 43.0 | | 6.0 | 6.0 | |
| Total Split (%) | 18.3% | 18.3% | | 20.8% | 20.8% | 20.8% | | 15.0% | 35.8% | | | 35.8% | | 5% | 5% | |
| Maximum Green (s) | 15.0 | 15.0 | | 17.5 | 17.5 | 17.5 | | 10.5 | 35.5 | | | 35.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 3.5 | 3.5 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | | 7.0 | | | | 7.5 | | 7.5 | 7.5 | | | 7.5 | | | | |
| Lead/Lag | | | | Lag | Lag | Lag | | Lag | Lead | | | Lead | | Lead | | |
| Lead-Lag Optimize? | | | | Yes | Yes | Yes | | Yes | Yes | | | Yes | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | Ped | | Ped | C-Max | | | C-Max | | Ped | Max | |
| Walk Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 1.0 | 7.0 | | | 7.0 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 10.0 | 10.0 | | 12.0 | 12.0 | 12.0 | | 6.0 | 6.0 | | | 6.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | | | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 14.3 | | | | 16.0 | | 9.1 | 39.1 | | | 39.1 | | | | |
| Actuated g/C Ratio | | 0.12 | | | | 0.13 | | 0.08 | 0.33 | | | 0.33 | | | | |
| v/c Ratio | | 0.60 | | | | 0.45 | | 0.48 | 1.05 | | | 1.03 | | | | |
| Control Delay | | 58.5 | | | | 52.8 | | 56.3 | 74.7 | | | 76.9 | | | | |
| Queue Delay | | 0.0 | | | | 0.0 | | 0.0 | 16.8 | | | 0.0 | | | | |
| Total Delay | | 58.5 | | | | 52.8 | | 56.3 | 91.5 | | | 76.9 | | | | |
| LOS | | E | | | | D | | E | F | | | E | | | | |
| Approach Delay | | 58.5 | | | | 52.8 | | | 89.5 | | | 76.9 | | | | |
| Approach LOS | | E | | | | D | | | F | | | E | | | | |
| Queue Length 50th (ft) | | 74 | | | | 58 | | 45 | ~436 | | | ~391 | | | | |
| Queue Length 95th (ft) | | 100 | | | | 94 | | m86 | #601 | | | #565 | | | | |
| Internal Link Dist (ft) | | 79 | | | | 415 | | | 254 | | | 261 | | | | |
| Turn Bay Length (ft) | | ,,,,, | | | | | | | | | | | | | | |
| Base Capacity (vph) | | 331 | | | | 369 | | 142 | 944 | | | 926 | | | | |
| Starvation Cap Reductn | | 0 | | | | 0 | | 0 | 37 | | | 0 | | | | |
| Spillback Cap Reductn | | 0 | | | | 0 | | 0 | 0 | | | 0 | | | | |
| Storage Cap Reductn | | 0 | | | | 0 | | 0 | 0 | | | 0 | | | | |
| Reduced v/c Ratio | | 0.57 | | | | 0.41 | | 0.42 | 1.09 | | | 1.03 | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | |
| Area Type: | CBD | | | | | | | | | | | | | | | |
| Cycle Length: 120 | ODD | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Actuated Cycle Length: 120 Offset: 31 (26%), Reference | d to phose 4.1 | NIDCD C+- | rt of Cros | n | | | | | | | | | | | | |
| Natural Cycle: 115 | u to priase 1:1 | NDOD, Old | it of Gree | | | | | | | | | | | | | |
| Control Type: Actuated-Cool | rdinatod | | | | | | | | | | | | | | | |
| Control Type. Actuated-C001 | uillateu | | | | | | | | | | | | | | | |

Intersection LOS: E ICU Level of Service C

Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 79.5
Intersection Capacity Utilization 66.6%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Massachusetts Avenue & Huntington Avenue #1 (R)

| Bell Flow (phippi) 1900 | | • | - | • | • | — | • | • | † | ~ | \ | ↓ | 4 |
|--|-------------------------|-------|-------|------|-------|----------|-------|-------|-------|------|----------|----------|------|
| Image | Lane Group | FRI | FRT | FRR | WRI | WRT | WRR | NRI | NRT | NRR | SBI | SRT | SBR |
| A | | | | LDI | | | אוטוו | | | וטוו | | | ODIN |
| | | | 6 | 57 | 38 | | 18 | | 1005 | 51 | | 865 | 40 |
| Bell Flow (priphy 1900 | Future Volume (vph) | | | | | | | | | | | | |
| orage Length (ft) 0 | Ideal Flow (vphpl) | | | | | | | | | | | | |
| page Langs 1 | Storage Length (ft) | | . 500 | | | | | | . 300 | | | .500 | |
| Separe Length (ft) So | Storage Lanes | | | | | | | | | | | | |
| ine Bulli, Factor 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.95 0.95 0.95 0.95 0.98 the color 0.985 0.990 0.990 0.990 0.990 0.990 the color 0.985 0.990 0.990 0.990 0.990 the color 0.985 0.990 0.990 0.990 0.990 the color 0.985 0.990 0.990 0.990 the color 0.980 0.990 0.990 0.990 the color 0.980 0.990 0.990 0.990 the color 0.980 0.990 0.990 0.990 the color 0.980 0.990 0.990 the color 0.980 0.990 0.990 the co | | | | | | | | | | | | | |
| ad Bike Factor 0.93 0.89 0.90 0.95 0.91 0.99 0.95 0.98 0.993 Protected 0.950 0.950 0.950 0.950 0.993 Protected 0.950 0.950 0.950 0.950 0.950 0.993 Protected 0.950 0.950 0.950 0.950 0.950 0.950 Protected 0.950 0.950 0.950 0.950 0.950 0.950 0.950 Protected 0.950 | Lane Util. Factor | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 | 0.95 | | 0.95 | 0.95 |
| the matter of th | Ped Bike Factor | | | | | | | | | 2.00 | | | 2.00 |
| Protected 0.950 | Frt | 2.50 | | | , | | | | | | | | |
| atic Flow (prof) 1128 1173 0 1624 1473 0 1504 2983 0 1477 2912 0 148 1473 0 1504 2983 0 1477 2912 0 148 1473 0 1504 1473 0 1504 1473 0 1504 1473 0 1505 0 1248 0 1227 1473 148 1473 0 1056 1473 0 1057 1473 0 1056 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 0 1057 1473 1473 1473 1473 1473 1473 1473 147 | Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Permitted | Satd. Flow (prot) | | 1173 | 0 | | 1473 | 0 | | 2953 | 0 | | 2912 | 0 |
| staf. Flow (perm) ght Turn on Red std. Flow (RTOR) std. Speed (mph) std. S | Flt Permitted | | | | | | | | _,,,, | _ | | | |
| ght Turn on Red att. Flow (RTOR) nk Speed (mph) nk | Satd. Flow (perm) | | 1173 | 0 | | 1473 | 0 | | 2953 | 0 | | 2912 | 0 |
| Side Flow (RTOR) 145 30 30 30 30 30 30 30 3 | | VIL | | | . 300 | | | 301 | 2000 | | JEU | LUIL | |
| nk Speed (mph) | | | | 140 | | | 110 | | | 140 | | 6 | 100 |
| ink Distance (ft) 145 337 341 334 avaer Time (s) 33.3 8.6 7.8 7.8 7.6 avaer Time (s) 3.3 8.6 7.8 7.8 7.6 avaer Time (s) 3.7 3.8 ava Pime (s) 3.7 4.8 avaer Time (s) 3.8 avaer Time Time Time Time Time Time Time Time | | | 30 | | | 30 | | | 30 | | | | |
| avel Time (s) | | | | | | | | | | | | | |
| confi. Petas (#thr) 42 68 68 42 458 273 273 458 onfi. Bikes (#thr) 0.78 0.78 0.78 0.78 0.78 0.74 0.74 0.74 0.96 0.96 0.96 0.93 <td></td> | | | | | | | | | | | | | |
| onfl. Bikes (#hn/) asak Hour Factor 0.78 0.78 0.78 0.78 0.78 0.78 0.74 0.74 0.74 0.74 0.76 0.96 0.96 0.96 0.93 0.93 0.93 0.93 0.93 asay Vehicles (%) 44% 0% 13% 0% 0% 0% 0% 0% 0% 8% 8% 2% 10% 8% 18% 19% 19% 19% 19% 19% 19% 19% 19% 19% 19 | | 40 | 3.3 | 60 | co | 0.6 | 40 | AFO | ٥.١ | 070 | 072 | 7.0 | AFO |
| sake Hour Factor 0.78 0.78 0.74 0.74 0.74 0.74 0.96 0.96 0.96 0.93 | | 42 | | | 68 | | | 458 | | | 2/3 | | |
| Barry Vehicles (%) | | 0.70 | 0.70 | | 0.77 | 0.7/ | | 0.00 | 0.00 | | 0.00 | 0.00 | |
| | Peak Hour Factor | | | | | | | | | | | | |
| | Heavy Vehicles (%) | | | | | | | | | | | | |
| ane Group Flow (vph) | Adj. Flow (vph) | 12 | 8 | 73 | 51 | 16 | 24 | 66 | 1047 | 53 | 32 | 930 | 43 |
| Im Type | Shared Lane Traffic (%) | | | | | | | | | | | | |
| Tributed Phases | Lane Group Flow (vph) | 12 | 81 | 0 | | 40 | 0 | 66 | 1100 | 0 | 32 | 973 | 0 |
| The company of the | Turn Type | Perm | NA | | Perm | NA | | pm+pt | | | pm+pt | | |
| Selector Phase 4 | Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Selector Phase 4 | Permitted Phases | 4 | | | 8 | | | 2 | | | 6 | | |
| witch Phase inimum Initial (s) | Detector Phase | 4 | 4 | | | 8 | | | 2 | | | 6 | |
| inimum Initial (s) 8.0 8.0 8.0 8.0 8.0 8.0 6.0 6.0 6.0 6.0 6.0 inimum Split (s) 26.0 26.0 26.0 26.0 26.0 10.0 75.0 13.0 68.0 12.0 12.0 13.0 13.0 14.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15 | Switch Phase | | | | | | | | | | | | |
| inimum Split (s) 26.0 26.0 26.0 26.0 26.0 10.0 75.0 10.0 68.0 but Split (s) 32.0 32.0 32.0 32.0 32.0 20.0 75.0 13.0 68.0 but Split (s) 26.7% 26.7% 26.7% 26.7% 26.7% 26.7% 26.5% 10.8% 56.7% aximum Green (s) 28.0 28.0 28.0 28.0 16.0 71.0 9.0 64.0 sall Split (%) 26.7% 28.0 28.0 28.0 16.0 71.0 9.0 64.0 aximum Green (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| Stall Split (s) 32.0 32.0 32.0 32.0 20.0 75.0 13.0 68.0 | | | | | | | | | | | | | |
| bital Split (%) 26.7% 26.7% 26.7% 26.7% 26.7% 16.7% 62.5% 10.8% 56.7% aximum Green (s) 28.0 28.0 28.0 28.0 16.0 71.0 9.0 64.0 allow Time (s) 3.0 | | | | | | | | | | | | | |
| aximum Green (s) | | | | | | | | | | | | | |
| Pellow Time (s) 3.0 | | | | | | | | | | | | | |
| I-Red Time (s) | | | | | | | | | | | | | |
| ost Time Adjust (s) 0.0 4.0 2.0 | | | | | | | | | | | | | |
| otal Lost Time (s) 4.0 5.0 2.0 | | | | | | | | | | | | | |
| Lead Lag Lad Lad Lag Lad Lad Lag Lad La | | | | | | | | | | | | | |
| Sead-Lag Optimize Yes Yes Yes Yes Yes Yes Ye | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | | | | |
| ehicle Extension (s) 2.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 3.0 7.0 7.0 7.0 3.0 0.0 | Lead/Lag | | | | | | | | | | | | |
| None None None None None None None None None C-Max | Lead-Lag Optimize? | | | | | | | | | | | | |
| Talk Time (s) 7.0 7.0 7.0 7.0 7.0 64.0 57.0 ash Dont Walk (s) 15.0 15.0 15.0 15.0 15.0 7.0 ash Dont Walk (s) 15.0 15.0 15.0 15.0 15.0 7.0 7.0 adoestrian Calls (#/hr) 110 110 110 0 0 0 0 0 0 0 0 0 0 0 0 0 | Vehicle Extension (s) | | | | | | | | | | | | |
| ash Dont Walk (s) 15.0 15.0 15.0 15.0 15.0 7.0 7.0 destrian Calls (#/hr) 110 110 110 110 0 0 0 0 0 0 0 0 0 0 0 | Recall Mode | None | | | None | None | | None | | | None | | |
| ash Dont Walk (s) 15.0 15.0 15.0 15.0 15.0 7.0 7.0 2 destrian Calls (#/hr) 110 110 110 110 0 0 0 0 0 0 0 0 0 0 0 | Walk Time (s) | | | | | | | | | | | | |
| Sedestrian Calls (#/hr) | Flash Dont Walk (s) | 15.0 | 15.0 | | 15.0 | 15.0 | | | 7.0 | | | 7.0 | |
| telffct Green (s) 22.0 22.0 22.0 87.9 84.0 86.5 81.7 telutated g/C Ratio 0.18 0.18 0.18 0.18 0.73 0.70 0.72 0.68 cellation 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 cellation 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 cellation 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 cellation 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 cellation 0.08 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.5 tellation 0.08 0.0 0.5 0.5 0.21 0.20 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.5 tellation 0.08 0.0 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 | Pedestrian Calls (#/hr) | | | | | | | | | | | | |
| chuated g/C Ratio 0.18 0.18 0.18 0.18 0.73 0.70 0.72 0.68 c Ratio 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 ontrol Delay 43.1 49.4 46.3 42.9 5.5 10.4 1.0 2.6 ueue Delay 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.5 otal Delay 43.1 49.4 46.3 42.9 5.5 10.6 1.0 3.1 DS D D D A B A A Optroach LOS D D D A B A A ueue Length 50th (ft) 8 56 34 26 11 217 2 37 ueue Length 95th (ft) m23 90 59 48 23 273 m2 m37 termal Link Dist (ft) 65 297 261 254 | Act Effct Green (s) | | | | | | | 87.9 | | | 86.5 | | |
| c Ratio 0.08 0.38 0.26 0.15 0.21 0.53 0.11 0.49 ontrol Delay 43.1 49.4 46.3 42.9 5.5 10.4 1.0 2.6 ueue Delay 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.5 otal Delay 43.1 49.4 46.3 42.9 5.5 10.6 1.0 3.1 0.8 oproach Delay 43.1 49.4 46.3 42.9 5.5 10.6 1.0 3.1 0.5 | Actuated g/C Ratio | | | | | | | | | | | | |
| Description Control Delay | v/c Ratio | | | | | | | | | | | | |
| ueue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.5 stal Delay 43.1 49.4 46.3 42.9 5.5 10.6 1.0 3.1 DS D D D D A B A A oproach Delay 48.6 44.8 10.3 3.0 3.0 oproach LOS D D B A A ueue Length 50th (ft) 8 56 34 26 11 217 2 37 ueue Length 95th (ft) m23 90 59 48 23 273 m2 m37 ternal Link Dist (ft) 65 297 261 254 mm 254 trm Bay Length (ft) 100 100 328 1985 arvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | Control Delay | | | | | | | | | | | | |
| otal Delay 43.1 49.4 46.3 42.9 5.5 10.6 1.0 3.1 DSS D D D D A B A A poproach Delay 48.6 44.8 10.3 3.0 poproach LOS D D B A ueue Length 50th (ft) 8 56 34 26 11 217 2 37 ueue Length 95th (ft) m23 90 59 48 23 273 m2 m37 ternal Link Dist (ft) 65 297 261 254 Im Bay Length (ft) 100 100 100 328 1985 arwation Cap Reductr 0 0 0 0 0 0 0 0 orage Cap Reductr 0 </td <td></td> | | | | | | | | | | | | | |
| DS | | | | | | | | | | | | | |
| proach Delay | LOS | | | | | | | | | | | | |
| D | | U | | | U | | | А | | | А | | |
| usue Length 50th (ft) 8 56 34 26 11 217 2 37 usue Length 95th (ft) m23 90 59 48 23 273 m2 m37 ternal Link Dist (ft) 65 297 261 254 Im Bay Length (ft) 100 100 ase Capacity (vph) 189 273 246 343 420 2066 328 1985 arvation Cap Reductn 0 0 0 0 0 540 orage Cap Reductn 0 0 0 0 0 0 orage Cap Reductn 0 0 0 0 0 0 | | | | | | | | | | | | | |
| ueue Length 95th (ft) m23 90 59 48 23 273 m2 m37 ternal Link Dist (ft) 65 297 261 254 254 m Bay Length (ft) 100 100 100 328 1985 arvation Cap Reductn 0 0 0 0 0 540 orrage Cap Reductn 0 0 0 0 364 0 0 orrage Cap Reductn 0 0 0 0 0 0 0 0 | | _ | | | ^. | | | | | | _ | | |
| ternal Link Dist (ft) 65 297 261 254 Im Bay Length (ft) 100 ase Capacity (vph) 189 273 246 343 420 2066 328 1985 aravation Cap Reducth 0 0 0 0 0 0 0 540 oillback Cap Reducth 0 0 0 0 0 364 0 0 orage Cap Reducth 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | |
| um Bay Length (ft) 100 ase Capacity (vph) 189 273 246 343 420 2066 328 1985 arvation Cap Reductn 0 0 0 0 0 0 540 oliblack Cap Reductn 0 0 0 0 0 364 0 0 orage Cap Reductn 0 0 0 0 0 0 0 0 | Queue Length 95th (ft) | m23 | | | 59 | | | 23 | | | m2 | | |
| ase Cápacitý (vph) 189 273 246 343 420 2066 328 1985 arvation Cap Reductn 0 0 0 0 0 0 0 540 billiback Cap Reductn 0 0 0 0 0 364 0 0 0 orage Cap Reductn 0 0 0 0 0 0 0 0 0 0 | Internal Link Dist (ft) | | 65 | | | 297 | | | 261 | | | 254 | |
| Janvation Cap Reductn 0 0 0 0 0 540 pillback Cap Reductn 0 0 0 0 364 0 0 porage Cap Reductn 0 0 0 0 0 0 0 | Turn Bay Length (ft) | | | | | | | | | | | | |
| pillback Cap Reductn 0 0 0 0 0 364 0 0 orage Cap Reductn 0 0 0 0 0 0 0 0 | Base Capacity (vph) | | | | | | | | | | | | |
| orage Cap Reductn 0 0 0 0 0 0 0 0 | Starvation Cap Reductn | | | | | | | | | | | | |
| orage Cap Reductn 0 0 0 0 0 0 0 0 | Spillback Cap Reductn | 0 | | | 0 | 0 | | 0 | 364 | | | | |
| | Storage Cap Reductn | | | | | | | | | | | | |
| | Reduced v/c Ratio | 0.06 | 0.30 | | 0.21 | 0.12 | | 0.16 | 0.65 | | 0.10 | 0.67 | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115

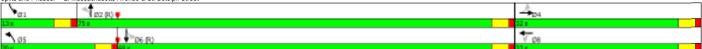
Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.53 Intersection Signal Delay: 10.1 Intersection LOS: B ICU Level of Service E

Intersection Capacity Utilization 83.2%

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



| See Column Colu | | ₾ | • | - | • | F | • | • | • | • | † | ~ | > | ļ | 1 | |
|--|-------------------------|-------|-------|-------|------|------|------|-------|------|------|----------|------|-------------|------|------|--|
| Line Configurations 1 | Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Traine Volume (poly) 1 | | | | | | | | | | | | | - | - | - | |
| Full by Mount policy 21 | | 21 | | 564 | 91 | 8 | | 453 | 39 | 22 | 29 | 18 | 0 | 0 | 0 | |
| Storage Light (1) | | 21 | 36 | 564 | 91 | 8 | | 453 | | 22 | 29 | 18 | 0 | 0 | 0 | |
| Sozgie Lawis 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | 1900 | | 1900 | 1900 | 1900 | | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Tipor Import 1 | Storage Length (ft) | | 125 | | 60 | | 100 | | 0 | 0 | | 0 | 0 | | 0 | |
| Liebe UIR Pickerier 9 | Storage Lanes | | 1 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Pad Blace Production | Taper Length (ft) | | 50 | | | | 50 | | | 50 | | | 50 | | | |
| Fit Producted | | 0.95 | | | 0.95 | 0.95 | | | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Fil-Poteched 0.550 | | | 0.91 | | | | 0.92 | | | | | | | | | |
| Side Flow (prot) | | | | 0.979 | | | | 0.988 | | | | | | | | |
| Fit Permission 0.428 0.330 0.487 7es 1 | | | | | | | | | | | | | | | | |
| Sake Flow (permy Company Company | | 0 | | 2903 | 0 | 0 | | 2885 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| Right Tumo Red Yes | | | | | | | | | | | | | | | | |
| Sidic Flow (RTCRC) ILIN Speed (mph) Sidic Flow (RTCRC) Side Flow (mph) Side State St | | 0 | 642 | 2903 | | 0 | 497 | 2885 | | 0 | 1310 | | 0 | 0 | | |
| Link Speaker (mph) | | | | | Yes | | | | Yes | | | Yes | | | Yes | |
| Lin Distance (try) Travel Time (s) 11.7 201 75 156 75 12.0 11.1 11.7 201 75 156 75 12.0 11.7 11.5 156 156 117 201 75 156 75 12.0 11.7 156 156 117 201 75 156 157 22.0 11.7 156 156 117 201 201 201 201 201 201 201 201 201 201 | | | | | | | | | | | | | | | | |
| Travel Time (s) | | | | | | | | | | | | | | | | |
| Conf. Places (afthry) 17 20 | | | | | | | | | | | | | | | | |
| Conf. Bisse (fathry 10 10 10 10 10 10 10 1 | | 47- | 000 | 12.2 | 7.5 | 456 | 7.5 | 11.1 | 000 | 44- | 7.1 | 450 | 450 | 6.1 | 44- | |
| Peak Holy Factor 1 | | 117 | 220 | | | 156 | 75 | | | 117 | | | 156 | | 117 | |
| Heavy Vehicles (%) 0% 6% 9% 2% 0% 0% 10% 10% 10% 10% 14% 7% 17% 0% 0% 0% 0% 0% 0% 0% | | 0.01 | 0.01 | 0.04 | | 0.00 | 0.00 | 0.00 | | 0.05 | 0.05 | | 0.05 | 0.05 | 0.05 | |
| Aid, Flow (ynb) 23 40 600 9 41 503 43 26 0 0 0 Same Clane Flow (ynb) Use Clane Flow (ynb) 0 83 720 0 0 50 50 50 0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | | | | | | | | | | | | | | | | |
| Shared Lane Traffic (%) Lane Group Flow(ph) 0 63 720 0 0 50 546 0 0 81 0 0 0 0 | | 0% | | | | 0% | | | | 14% | | | | | | |
| Lane Group Flow(uph) 0 63 720 0 0 50 546 0 0 81 0 0 0 0 Perm Tum Type Perm Perm NA Port De-PP NA Perm | | 23 | 40 | 620 | 100 | 9 | 41 | 503 | 43 | 26 | 34 | 21 | 0 | 0 | 0 | |
| Tum Type Perm Perm NA Prot DP-P NA Perm NA Permiteded Phases 1 | | ^ | 00 | 700 | ^ | 0 | | F40 | ^ | ^ | 0.4 | ^ | ^ | 0 | ^ | |
| Producted Phases 1 | | | | | U | | | | U | | | 0 | U | U | U | |
| Permitted Phases 1 | | Perm | Perm | | | | | | | Perm | | | | | | |
| Delector Phase 1 | | 1 | - 1 | | | ა | | 13 | | 2 | 2 | | | | | |
| Switch Phase Minimum Initial (g) 8.0 8.0 8.0 6.0 6.0 8.0 8.0 8.0 Minimum Spit (g) 56.0 56.0 56.0 56.0 10.0 10.0 30.0 30.0 Total Spit (g) 56.0 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spit (g) 50.0 | | 1 | | 1 | | 2 | | 1.2 | | | 2 | | | | | |
| Minimum Initial (s) 8.0 8.0 8.0 6.0 6.0 8.0 8.0 8.0 Minimum Spit (s) 56.0 56.0 56.0 10.0 10.0 30.0 30.0 Total Spit (g) 56.0 56.0 56.0 10.0 10.0 10.0 34.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 10.0 10.0 10.0 34.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 10.0 10.0 10.0 34.0 34.0 34.0 Total Spit (g) 56.0 56.0 56.0 10.0 10.0 10.0 34.0 34.0 34.0 Total Spit (g) 50.0 56.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 1 | | ļ | | - 1 | | 3 | 3 | 13 | | 2 | 2 | | | | | |
| Minimum Spit (s) 56.0 56.0 56.0 10.0 10.0 30.0 30.0 Total Spitt (s) 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 56.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 10.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 10.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 10.0 10.0 10.0 34.0 34.0 Total Spitt (s) 56.0 56.0 10.0 10.0 10.0 30.0 Total Spitt (s) 50.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 | | 8.0 | 8.0 | 8.0 | | 6.0 | 6.0 | | | 8.0 | 8.0 | | | | | |
| Total Spit (s) | | | | | | | | | | | | | | | | |
| Total Spiti (%) | | | | | | | | | | | | | | | | |
| Maximum Green (s) 510 510 510 60 60 880 280 Yellow Time (s) 30 30 30 20 20 20 20 30 30 30 Lost Time Adjust (s) 00 00 00 00 00 00 Icad/Lag Lead Lead< | | | | | | | | | | | | | | | | |
| Yellow Time (s) 3.0 3.0 3.0 2.0 2.0 2.0 3.0 3.0 3.0 | | | | | | | | | | | | | | | | |
| All-Red Time (s) 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3 3 Color Hodging (s) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Lost Time Adjust (s) 0.0 0.0 0.0 0.0 Total Lost Time (s) 5.0 5.0 4.0 6.0 Lead-Lag Q Dimize? Yes Yes Yes Yes Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Recall Mode C-Max C-Max C-Max None None None Walk Time (s) 46.0 46.0 None None None Pedestian Calls (#/hr) 0 0 0 17.0 17.0 Pedestian Calls (#/hr) 0 0 0 273 273 Actuated gC Ratio 0.55 55.0 65.0 24.0 Actuated gC Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Queue Length Stift (f) 19 131 10 68 3.2 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | | | | | | | | | | | | | | | | |
| Total Lost Time (s) | | | | | | | | | | | | | | | | |
| Lead/Lag Optimize? Yes | | | | | | | | | | | | | | | | |
| Lead-Lag Optimize? Yes | | Lead | | | | | | | | Lag | | | | | | |
| Recall Mode C-Max C-Max C-Max None None None Walk Time (s) 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0 7.0 | | Yes | Yes | Yes | | | | | | | | | | | | |
| Walk Time (s) 46.0 46.0 46.0 7.0 7.0 Flash Dont Walk (s) 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 62.0 65.0 24.0 Actuated g/C Ratio 5.5 5.5 5.5 0.62 0.65 0.24 V/C Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 Cueue Delay 0.0 | Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | |
| Flash Dont Walk (s) 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 | Recall Mode | C-Max | C-Max | C-Max | | None | None | | | None | None | | | | | |
| Pedestrian Calls (#hr) 0 0 0 273 273 Act Effe Green (s) 55.0 55.0 62.0 65.0 24.0 Actuated g/C Ratio 0.55 0.55 0.62 0.65 0.24 v/c Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 A Approach LOS B B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 </td <td></td> <td>46.0</td> <td></td> | | 46.0 | | | | | | | | | | | | | | |
| Act Effet Green (s) 55.0 55.0 62.0 65.0 24.0 Actuated g/C Ratio 0.55 0.55 0.62 0.65 0.24 Vic Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 A Approach LOS B A C C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 0 | | 5.0 | 5.0 | 5.0 | | | | | | 17.0 | 17.0 | | | | | |
| Actuated g/C Ratio 0.55 0.55 0.62 0.65 0.24 v/c Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 Approach LOS B A A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | Pedestrian Calls (#/hr) | 0 | 0 | 0 | | | | | | 273 | | | | | | |
| v/c Ratio 0.18 0.45 0.13 0.29 0.25 Control Delay 12.9 14.0 6.9 7.8 26.5 Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 Approach LOS B B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 408 234 187 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Control Delay 12.9 14.0 6.9 7.8 26.5 Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 A Approach LOS B A C C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Queue Delay 0.0 0.0 0.0 0.0 Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B A A C Approach Delay 13.9 7.7 26.5 Approach LOS B A C Oueue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (tt) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Total Delay 12.9 14.0 6.9 7.8 26.5 LOS B B B A A A C Approach Delay 13.9 7.7 26.5 Approach LOS B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 125 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| LOS B B B A A C Approach Delay 13.9 7.7 26.5 Approach LOS B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Approach Delay 13.9 7.7 26.5 Approach LOS B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 Spillback Cap Reducth 0 0 0 0 Storage Cap Reducth 0 0 0 0 | | | | | | | | | | | | | | | | |
| Approach LOS B A C Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | В | | | | Α | | | | | | | | | |
| Queue Length 50th (ft) 19 131 10 68 32 Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 Spillback Cap Reducth 0 0 0 0 Storage Cap Reducth 0 0 0 0 | | | | | | | | | | | | | | | | |
| Queue Length 95th (ft) 43 176 23 95 69 Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 187 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 Spillback Cap Reducth 0 0 0 0 Storage Cap Reducth 0 0 0 0 | | | | | | | | | | | | | | | | |
| Internal Link Dist (ft) 457 408 234 187 Turn Bay Length (ft) 125 100 | | | | | | | | | | | | | | | | |
| Turn Bay Length (ft) 125 100 Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reducth 0 0 0 0 0 Spillback Cap Reducth 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 | | | 43 | | | | 23 | | | | | | | | | |
| Base Capacity (vph) 353 1608 371 1880 379 Starvation Cap Reductn 0 0 0 0 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 | | | | 457 | | | | 408 | | | 234 | | | 187 | | |
| Starvation Cap Reductn 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | 46 | | | | | | | | | | | | |
| Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 | | | | | | | | | | | | | | | | |
| Storage Cap Reducth 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Reduced v/c Ratio 0.18 0.45 0.13 0.29 0.21 | | | | | | | | • | | | | | | | | |
| | Reduced v/c Ratio | | 0.18 | 0.45 | | | 0.13 | 0.29 | | | 0.21 | | | | | |

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 25 (25%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 12.1

Intersection Capacity Utilization 81.8%

Analysis Period (min) 15 Intersection LOS: B ICU Level of Service D

Splits and Phases: 3: Gainsborough Street & Huntington Avenue







| Existing (2017) Condit | 1011, u.i | iii. i cu | K I IOUI | | | | | | | | | | |
|-----------------------------------|-----------|-----------|----------|----------|-----------|-----------|------|------|----------|------|------|------|------|
| | • | - | • | F | • | ← | • | 4 | † | ~ | - | Ţ | 4 |
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | LUL | 4 | LDIX | *** | 1100 | 4 | WEIT | HUL | 4 | HUIT | ODL | 4 | ODIT |
| Traffic Volume (veh/h) | 1 | 67 | 0 | 3 | 1 | 111 | 0 | ٥ | 0 | 2 | ٥ | 0 | 2 |
| | 1 | 67 | 0 | 3 | 1 | 111 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Future Volume (Veh/h) | 1 | | U | 3 | 1 | | U | U | | 2 | U | | |
| Sign Control | | Free | | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.75 | 0.75 | 0.75 | 0.75 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 1 | 87 | 0 | 0 | 1 | 148 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| Pedestrians | | 13 | | | | 3 | | | 67 | | | 14 | |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | |
| Percent Blockage | | 1 | | | | 0 | | | 6 | | | 1 | |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | | None | | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | |
| pX, platoon unblocked | 1.00 | | | 0.00 | | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| vC, conflicting volume | 162 | | | 0.00 | 154 | | | 323 | 320 | 157 | 260 | 320 | 175 |
| vC1, stage 1 conf vol | 102 | | | U | 104 | | | 323 | 320 | 101 | 200 | 320 | 173 |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 158 | | | 0 | 154 | | | 320 | 317 | 157 | 257 | 317 | 171 |
| | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 0.0 | 0.2 | 7.1 | 0.0 | 0.2 |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 0 | 100 | | | 100 | 100 | 100 | 100 | 100 | 100 |
| cM capacity (veh/h) | 1411 | | | 0 | 1347 | | | 550 | 554 | 834 | 643 | 554 | 853 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 88 | 149 | 4 | 4 | | | | | | | | | |
| Volume Left | 1 | 1 | 0 | 0 | | | | | | | | | |
| Volume Right | 0 | 0 | 4 | 4 | | | | | | | | | |
| cSH | 1411 | 1347 | 834 | 853 | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | | | | | | | | | |
| Control Delay (s) | 0.1 | 0.1 | 9.3 | 9.2 | | | | | | | | | |
| Lane LOS | Α | Α.1 | 3.5 A | 3.2 A | | | | | | | | | |
| Approach Delay (s) | 0.1 | 0.1 | 9.3 | 9.2 | | | | | | | | | |
| Approach LOS | 0.1 | U. I | 9.3 A | 9.2 A | | | | | | | | | |
| | | | А | А | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 0.4 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 25.9% | IC | U Level o | f Service | | | Α | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| . , | | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | | |
|---|----------------------|---|--|---|---|------|------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 8.5 | | | | | | | | | | | | | | | |
| Intersection LOS | Α | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Movement | EBU I | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | | | 4 | | | | 4 | | | | 4 | | | | 44 | |
| Traffic Vol, veh/h | 0 | 9 | 6 | 2 | 0 | 60 | 14 | 47 | 0 | 7 | 13 | 7 | 0 | 60 | 63 | 5 |
| Future Vol, veh/h | 0 | 9 | 6 | 2 | 0 | 60 | 14 | 47 | 0 | 7 | 13 | 7 | 0 | 60 | 63 | 5 |
| Peak Hour Factor | 0.92 | 0.85 | 0.85 | 0.85 | 0.92 | 0.81 | 0.81 | 0.81 | 0.92 | 0.84 | 0.84 | 0.84 | 0.92 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles, % | 2 | 78 | 67 | 0 | 2 | 2 | 43 | 10 | 2 | 0 | 0 | 14 | 2 | 13 | 0 | 0 |
| Mvmt Flow | 0 | 11 | 7 | 2 | 0 | 74 | 17 | 58 | 0 | 8 | 15 | 8 | 0 | 71 | 75 | 6 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | EB | | | | WB | | | | NB | | | | SB | | |
| Opposing Approach | | WB | | | | EB | | | | SB | | | | NB | | |
| Opposing Lanes | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Left | | SB | | | | NB | | | | EB | | | | WB | | |
| Conflicting Lanes Left | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Right | | NB | | | | SB | | | | WB | | | | EB | | |
| Conflicting Lanes Right | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| HCM Control Delay | | 9.1 | | | | 8.2 | | | | 7.6 | | | | 8.8 | | |
| HCM LOS | | Α | | | | Α | | | | A | | | | Α | | |
| | | | | | | | | | | | | | | | | |
| Lane | NB | Ln1 EB | Ln1 \ | WBLn1 | SBLn1 | | | | | | | | | | | |
| Vol Left, % | 2 | 26% | 53% | 50% | 47% | | | | | | | | | | | |
| Vol Thru, % | 4 | 18% | 35% | 400/ | 400/ | | | | | | | | | | | |
| Vol Right, % | | | 00% | 12% | 49% | | | | | | | | | | | |
| | 2 | | 12% | 12% 39% | 49% | | | | | | | | | | | |
| | | 26% | | | | | | | | | | | | | | |
| Sign Control | | 26% | 12% | 39% Stop 121 | 4% Stop 128 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane | | 26% Stop | 12% Stop | 39% Stop | 4% Stop | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol | | 26% Stop \$ 27 7 13 | 12% Stop 17 9 6 | 39% Stop 121 60 14 | 4% Stop 128 60 63 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol | | 26% Stop S 27 7 13 7 | 12% Stop 17 9 6 2 | 39% Stop 121 60 14 47 | 4% Stop 128 60 63 5 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate | | 26% Stop \$ 27 7 13 | 12% Stop 17 9 6 2 | 39% Stop 121 60 14 | 4% Stop 128 60 63 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp | ę | 26% Stop S 27 7 13 7 32 1 | 12% Stop 17 9 6 2 20 | 39% Stop 121 60 14 47 149 | 4% Stop 128 60 63 5 152 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | 0. | 26% Stop Stop Stop Stop Stop Stop Stop Stop | 12% Stop 17 9 6 2 20 1 | 39% Stop 121 60 14 47 149 1 | 4% Stop 128 60 63 5 152 1 0.196 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) | 0. 4. | 26% Stop Stop Stop Stop Stop Stop Stop Stop | 12% Stop 17 9 6 2 20 1 033 874 | 39% Stop 121 60 14 47 149 1 0.177 4.274 | 4% Stop 128 60 63 5 152 1 0.196 4.624 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N | 0. | 26% Stop S 27 7 13 7 32 1 039 0 369 5 Yes | 12% Stop 17 9 6 2 20 1 033 874 Yes | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap | 0. 4. | 26% Stop Stop Stop Stop Stop Stop Stop Stop | 12% Stop 17 9 6 2 20 1 033 874 Yes 611 | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes 843 | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes 779 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time | 0. 4. | 26% Stop Stop Stop Stop Stop Stop Stop Stop | 12% Stop 17 9 6 2 20 1 033 874 Yes 611 891 | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes 843 2.286 | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes 779 2.636 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0. 4. 2. 0. | 26% Stop S 27 7 13 7 32 1 039 0 369 5 Yes 821 386 3 039 0 | 12% Stop 17 9 6 2 20 1 033 874 Yes 611 891 | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes 843 2.286 0.177 | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes 779 2.636 0.195 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay | 0. 4. 2. 0. | 26% Stop Stop Stop Stop Stop Stop Stop Stop | 12% Stop 17 9 6 2 20 1 033 874 Yes 611 891 033 9.1 | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes 843 2.286 0.177 8.2 | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes 779 2.636 0.195 8.8 | | | | | | | | | | | |
| Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0. 4. 2. | 26% Stop S 27 7 13 7 32 1 039 0 369 5 Yes 821 386 3 039 0 | 12% Stop 17 9 6 2 20 1 033 874 Yes 611 891 | 39% Stop 121 60 14 47 149 1 0.177 4.274 Yes 843 2.286 0.177 | 4% Stop 128 60 63 5 152 1 0.196 4.624 Yes 779 2.636 0.195 | | | | | | | | | | | |

| | → | • | • | • | 4 | <i>></i> |
|---|-------------|------|------|-------------|------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | † \$ | | | ^ | | # |
| Traffic Volume (veh/h) | 151 | 0 | 0 | 149 | 0 | 0 |
| Future Volume (Veh/h) | 151 | 0 | 0 | 149 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.86 | 0.86 | 0.92 | 0.92 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 176 | 0.00 | 0.02 | 162 | 0 | 0.20 |
| Pedestrians | 163 | | Ů | 102 | | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 16 | | | | | |
| Right turn flare (veh) | 10 | | | | | |
| | Raised | | | Raised | | |
| Median storage veh) | 2 | | | Raiseu 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | 400 | | | 109 | | |
| vC, conflicting volume | | | 176 | | 420 | 88 |
| vC, conflicting volume vC1, stage 1 conf vol | | | 1/6 | | 420 176 | 00 |
| | | | | | 244 | |
| vC2, stage 2 conf vol vCu, unblocked vol | | | 176 | | 420 | 88 |
| | | | | | | 6.9 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 100 |
| cM capacity (veh/h) | | | 1412 | | 618 | 959 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 117 | 59 | 81 | 81 | 0 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 0 | 0 | 0 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | |
| Volume to Capacity | 0.07 | 0.03 | 0.05 | 0.05 | 0.00 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Lane LOS | | | | | Α | |
| Approach Delay (s) | 0.0 | | 0.0 | | 0.0 | |
| Approach LOS | | | | | Α | |
| • | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 8.0% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |

| Existing (2017) Conditi | , a | ou | oui | | | |
|-----------------------------------|----------|----------|-------|---------------|-----------|-----------|
| | • | _ | 4 | † | - 1 | 4 |
| | | * | 1 | ı | ¥ | ~ |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ¥ | LDIT | 1102 | 4 | 7 | ODIT |
| Traffic Volume (veh/h) | T | 2 | 1 | 식 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 2 | 1 | 0 | 0 | 0 |
| Sign Control | | 2 | 1 | Free | Free | U |
| Sign Control Grade | Stop | | | | | |
| | 0% | 0.00 | 0.00 | 0% | 0% | 0.00 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 2 | 1 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2 | 0 | 0 | | | |
| vC1, stage 1 conf vol | | , | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2 | 0 | 0 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | UF | 0.2 | 7.1 | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1020 | 1085 | 1623 | | | |
| civi capacity (veri/ri) | 1020 | 1000 | 1023 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 2 | 1 | 0 | | | |
| Volume Left | 0 | 1 | 0 | | | |
| Volume Right | 2 | 0 | 0 | | | |
| cSH | 1085 | 1623 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0.00 | 0.00 | 0.00 | | | |
| Control Delay (s) | 8.3 | 7.2 | 0.0 | | | |
| Lane LOS | 0.3 A | 7.2 A | 0.0 | | | |
| | | | 0.0 | | | |
| Approach Delay (s) | 8.3 | 7.2 | 0.0 | | | |
| Approach LOS | Α | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 8.0 | | | |
| Intersection Capacity Utilization | | | 13.3% | IC | U Level o | f Service |
| Analysis Period (min) | | | 15 | | | |
| , , | | | | | | |

| | • | → | + | • | / | 1 |
|-----------------------------------|------|-----------|-------|-------|------------|---------|
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | LDL | 4 | 7 | 44DIX | ₩. | ODIX |
| Traffic Volume (veh/h) | 5 | 68 | 113 | 0 | 0 | 8 |
| Future Volume (Veh/h) | 5 | 68 | 113 | 0 | 0 | 8 |
| Sign Control | J | Free | Free | U | Stop | U |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 74 | 123 | 0.32 | 0.32 | 9 |
| Pedestrians | 3 | 74 | 123 | U | U | 9 |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| | | | | | | |
| Right turn flare (veh) | | None | None | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | 541 | | | |
| Upstream signal (ft) | | | 541 | | | |
| pX, platoon unblocked | 400 | | | | 207 | 123 |
| vC, conflicting volume | 123 | | | | 207 | 123 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | 400 | | | | 007 | 400 |
| vCu, unblocked vol | 123 | | | | 207 | 123 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 100 | 99 |
| cM capacity (veh/h) | 1464 | | | | 779 | 928 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total | 79 | 123 | 9 | | | |
| Volume Left | 5 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 9 | | | |
| cSH | 1464 | 1700 | 928 | | | |
| Volume to Capacity | 0.00 | 0.07 | 0.01 | | | |
| Queue Length 95th (ft) | 0 | 0 | 1 | | | |
| Control Delay (s) | 0.5 | 0.0 | 8.9 | | | |
| Lane LOS | Α | | Α | | | |
| Approach Delay (s) | 0.5 | 0.0 | 8.9 | | | |
| Approach LOS | | | Α | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.6 | | | |
| Intersection Capacity Utilization | | | 17.7% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | _ 000 |
| rulary old i bilou (illiii) | | | 13 | | | |

| | • | | • | F | • | - | * | 4 | † | ~ | / | Ţ | 1 | | | |
|--|--------------|-------------|------------|-------------|-------------|-------------|------------|-------------|--------------|------------|-----------|--------------|-------------|------------|------------|--|
| | - | _ | • | | | | | | | | | • | | | | |
| Lane Group | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Lane Configurations | 50 | 414 | 07 | | 405 | € \$ | 0.4 | * | ↑ ↑ | 7.5 | • | † ‡ | 440 | | | |
| Traffic Volume (vph) | 58 | 29 | 67 | 1 | 105 | 33 | 34 | 80 | 885 | 75 | 0 | 998 | 116 | | | |
| Future Volume (vph) Ideal Flow (vphpl) | 58 1900 | 29 1900 | 67 1900 | 1 1900 | 105 1900 | 33 1900 | 34 1900 | 80 1900 | 885 1900 | 75 1900 | 0 1900 | 998 1900 | 116 1900 | | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | 0.00 | 0.87 | 0.00 | 0.50 | 0.00 | 0.72 | 0.50 | 0.91 | 0.96 | 0.00 | 1.00 | 0.94 | 0.00 | | | |
| Frt | | 0.935 | | | | 0.971 | | 0.01 | 0.988 | | | 0.984 | | | | |
| Flt Protected | | 0.981 | | | | 0.970 | | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 0 | 2736 | 0 | 0 | 0 | 2840 | 0 | 1624 | 2992 | 0 | 0 | 2903 | 0 | | | |
| Flt Permitted | | 0.981 | | | | 0.970 | | 0.950 | | | | | | | | |
| Satd. Flow (perm) | 0 | 2587 | 0 | 0 | 0 | 2125 | 0 | 1482 | 2992 | 0 | 0 | 2903 | 0 | | | |
| Right Turn on Red | | | No | | | | No | | | No | | | No | | | |
| Satd. Flow (RTOR) | | | | | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | | 30 | | | 30 334 | | | 30 | | | | |
| Link Distance (ft) Travel Time (s) | | 159 3.6 | | | | 495 11.3 | | | 7.6 | | | 341 7.8 | | | | |
| Confl. Peds. (#/hr) | 82 | 3.0 | 69 | 506 | 69 | 11.3 | 82 | 762 | 7.0 | 506 | 506 | 7.0 | 762 | | | |
| Confl. Bikes (#/hr) | 02 | | 2 | 300 | 03 | | 6 | 102 | | 42 | 300 | | 44 | | | |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.96 | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.85 | 0.85 | 0.85 | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 100% | 4% | 3% | 0% | 0% | 2% | 13% | 0% | 4% | 3% | | | |
| Adj. Flow (vph) | 73 | 36 | 84 | 1 | 109 | 34 | 35 | 85 | 941 | 80 | 0 | 1174 | 136 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 193 | 0 | 0 | 0 | 179 | 0 | 85 | 1021 | 0 | 0 | 1310 | 0 | | | |
| Turn Type | Split | NA | | Split | Split | NA | | Prot | NA | | | NA | | | | |
| Protected Phases | 7 | 7 | | 5 | 5 | 5 | | 3 | 1 | | | 1 | | 2 | 6 | |
| Permitted Phases | | | | | | | | | | | | | | | | |
| Detector Phase | 7 | 7 | | 5 | 5 | 5 | | 3 | 1 | | | 1 | | | | |
| Switch Phase | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 40.0 | | | 40.0 | | 4.0 | 4.0 | |
| Minimum Initial (s) | 8.0 21.0 | 8.0 21.0 | | 8.0 23.5 | 8.0 23.5 | 8.0 23.5 | | 8.0 15.5 | 10.0 20.5 | | | 10.0 20.5 | | 1.0 6.0 | 1.0 6.0 | |
| Minimum Split (s) Total Split (s) | 21.0 | 22.0 | | 25.0 | 25.0 | 25.0 | | 18.0 | 43.0 | | | 43.0 | | 6.0 | 6.0 | |
| Total Split (%) | 18.3% | 18.3% | | 20.8% | 20.8% | 20.8% | | 15.0% | 35.8% | | | 35.8% | | 5% | 5% | |
| Maximum Green (s) | 15.0 | 15.0 | | 17.5 | 17.5 | 17.5 | | 10.5 | 35.5 | | | 35.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 3.5 | 3.5 | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | | 7.0 | | | | 7.5 | | 7.5 | 7.5 | | | 7.5 | | | | |
| Lead/Lag | | | | Lag | Lag | Lag | | Lag | Lead | | | Lead | | Lead | | |
| Lead-Lag Optimize? | | | | Yes | Yes | Yes | | Yes | Yes | | | Yes | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | | | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | Ped | | Ped | C-Max | | | C-Max | | Ped | Max | |
| Walk Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 1.0 | 7.0 | | | 7.0 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) Pedestrian Calls (#/hr) | 10.0 | 10.0 | | 12.0 0 | 12.0 0 | 12.0 0 | | 6.0 | 6.0 0 | | | 6.0 | | 0.0 | 0.0 | |
| Act Effct Green (s) | U | 14.3 | | U | U | 16.0 | | 9.7 | 38.5 | | | 38.5 | | U | U | |
| Actuated g/C Ratio | | 0.12 | | | | 0.13 | | 0.08 | 0.32 | | | 0.32 | | | | |
| v/c Ratio | | 0.59 | | | | 0.47 | | 0.65 | 1.06 | | | 1.41 | | | | |
| Control Delay | | 58.1 | | | | 52.7 | | 82.3 | 103.2 | | | 221.9 | | | | |
| Queue Delay | | 0.0 | | | | 0.0 | | 0.0 | 16.9 | | | 2.5 | | | | |
| Total Delay | | 58.1 | | | | 52.7 | | 82.3 | 120.1 | | | 224.4 | | | | |
| LOS | | Е | | | | D | | F | F | | | F | | | | |
| Approach Delay | | 58.1 | | | | 52.7 | | | 117.2 | | | 224.4 | | | | |
| Approach LOS Queue Length 50th (ft) | | E 75 | | | | D 68 | | e e | F ~480 | | | F ~721 | | | | |
| Queue Length 95th (ft) | | 101 | | | | 106 | | 55 m98 | #629 | | | #800 | | | | |
| Internal Link Dist (ft) | | 79 | | | | 415 | | 11130 | 254 | | | 261 | | | | |
| Turn Bay Length (ft) | | 70 | | | | 410 | | | 204 | | | 201 | | | | |
| Base Capacity (vph) | | 342 | | | | 414 | | 142 | 960 | | | 932 | | | | |
| Starvation Cap Reductn | | 0 | | | | 0 | | 0 | 327 | | | 0 | | | | |
| Spillback Cap Reductn | | 0 | | | | 0 | | 0 | 0 | | | 320 | | | | |
| Storage Cap Reductn | | 0 | | | | 0 | | 0 | 0 | | | 0 | | | | |
| Reduced v/c Ratio | | 0.56 | | | | 0.43 | | 0.60 | 1.61 | | | 2.14 | | | | |
| Intersection Summary | | | | | | | | | | | | | | | | |
| | CBD | | | | | | | | | | | | | | | |
| Cycle Length: 120 | ODD | | | | | | | | | | | | | | | |
| Actuated Cycle Length: 120 | | | | | | | | | | | | | | | | |
| Offset: 49 (41%), Referenced to | to phase 1:N | IBSB. Star | t of Greer | 1 | | | | | | | | | | | | |
| Natural Cycle: 145 | · | | | | | | | | | | | | | | | |
| Control Type: Actuated-Coordin | inated | | | | | | | | | | | | | | | |
| Maximum v/c Ratio: 1.41 | | | | | | | | | | | | | | | | |
| Intersection Signal Delay: 159. | | | | | tersection | | | | | | | | | | | |
| Intersection Capacity Utilization | n 74.7% | | | IC | U Level o | f Service D |) | | | | | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | | | | | |
| Volume exceeds capacity, | | | infinite. | | | | | | | | | | | | | |
| Queue shown is maximum a | | | | | | | | | | | | | | | | |
| # 95th percentile volume exc | | | may be lo | nger. | | | | | | | | | | | | |
| Queue shown is maximum a m Volume for 95th percentile | | | unetroom | eignal | | | | | | | | | | | | |
| | uudud 15 []] | otor ou DY | upoutalil | oigi iai. | | | | | | | | | | | | |

 $Z. \label{linear_project} Z. \label{linear_project} Z. \label{linear_project} Synchro \ensuremath{\mbox{Existing PM.syn}} Existing PM. syn HSH$

1: Massachusetts Avenue & Huntington Avenue

Splits and Phases:

↓†_{@1 (R)}

| | • | - | • | • | ← | • | 4 | † | / | \ | ţ | 4 |
|-------------------------|---------|-------|------|---------|----------|-------|---------------|----------|----------|----------|-------------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | T LDL | 1> | LDIN | YVDL | 7 | TIDIN | NDL 1 | † | HOIN | ODL. | ↑ ↑ | ODIN |
| Traffic Volume (vph) | 38 | 16 | 161 | 71 | 25 | 30 | 52 | 969 | 61 | 71 | T № 1072 | 26 |
| Future Volume (vph) | 38 | 16 | 161 | 71 | 25 | 30 | 52 | 969 | 61 | 71 | 1072 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 25 | 1300 | 0 | 25 | 1300 | 0 | 100 | 1000 | 0 | 0 | 1000 | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 50 | | J | 50 | | | 50 | | v | 50 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 |
| Ped Bike Factor | 0.88 | 0.87 | 1.00 | 0.93 | 0.91 | 1.00 | 0.93 | 0.98 | 0.30 | 0.95 | 0.99 | 0.53 |
| Frt | 0.00 | 0.864 | | 0.53 | 0.918 | | 0.53 | 0.991 | | 0.53 | 0.996 | |
| Fit Protected | 0.950 | 0.004 | | 0.950 | 0.310 | | 0.950 | 0.331 | | 0.950 | 0.330 | |
| | 1624 | 1268 | 0 | | 1436 | 0 | | 3064 | 0 | 1608 | 3071 | 0 |
| Satd. Flow (prot) | | 1208 | U | 1608 | 1430 | 0 | 1577 0.160 | 3004 | U | 0.164 | 30/1 | U |
| Flt Permitted | 0.671 | 1000 | 0 | 0.315 | 1/20 | 0 | | 2004 | 0 | | 2074 | 0 |
| Satd. Flow (perm) | 1007 | 1268 | 0 | 498 | 1436 | 0 | 248 | 3064 | 0 | 263 | 3071 | 0 |
| Right Turn on Red | | | No | | | No | | | No | | ^ | Yes |
| Satd. Flow (RTOR) | | | | | | | | | | | 3 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 145 | | | 377 | | | 341 | | | 334 | |
| Travel Time (s) | | 3.3 | | | 8.6 | | | 7.8 | | | 7.6 | |
| Confl. Peds. (#/hr) | 87 | | 82 | 82 | | 87 | 605 | | 369 | 369 | | 605 |
| Confl. Bikes (#/hr) | | | 5 | | | 7 | | | 111 | | | 109 |
| Peak Hour Factor | 0.65 | 0.65 | 0.65 | 0.60 | 0.60 | 0.60 | 0.87 | 0.87 | 0.87 | 0.86 | 0.86 | 0.86 |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% | 3% | 3% | 0% | 1% | 4% | 4% |
| Adj. Flow (vph) | 58 | 25 | 248 | 118 | 42 | 50 | 60 | 1114 | 70 | 83 | 1247 | 30 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 58 | 273 | 0 | 118 | 92 | 0 | 60 | 1184 | 0 | 83 | 1277 | 0 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | | pm+pt | NA | |
| Protected Phases | . 01111 | 4 | | . 51111 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | -7 | | 8 | | | 2 | | | 6 | - 3 | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | 4 | + | | U | U | | J | 2 | | | U | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 0.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | |
| | | | | | 8.0 | | | 6.0 | | | | |
| Minimum Split (s) | 26.0 | 26.0 | | 26.0 | 26.0 | | 10.0 | 77.0 | | 10.0 | 71.0 | |
| Total Split (s) | 31.0 | 31.0 | | 31.0 | 31.0 | | 18.0 | 77.0 | | 12.0 | 71.0 | |
| Total Split (%) | 25.8% | 25.8% | | 25.8% | 25.8% | | 15.0% | 64.2% | | 10.0% | 59.2% | |
| Maximum Green (s) | 27.0 | 27.0 | | 27.0 | 27.0 | | 14.0 | 73.0 | | 8.0 | 67.0 | |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | None | None | | None | None | | None | C-Max | | Max | C-Max | |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | | 66.0 | | | 60.0 | |
| Flash Dont Walk (s) | 15.0 | 15.0 | | 15.0 | 15.0 | | | 7.0 | | | 7.0 | |
| Pedestrian Calls (#/hr) | 169 | 169 | | 169 | 169 | | | 0 | | | 0 | |
| Act Effct Green (s) | 27.0 | 27.0 | | 27.0 | 27.0 | | 79.3 | 73.0 | | 83.1 | 76.7 | |
| Actuated g/C Ratio | 0.22 | 0.22 | | 0.22 | 0.22 | | 0.66 | 0.61 | | 0.69 | 0.64 | |
| v/c Ratio | 0.22 | 0.22 | | 1.05 | 0.22 | | 0.66 | 0.64 | | 0.69 | 0.65 | |
| | | | | | | | | | | | | |
| Control Delay | 41.9 | 90.2 | | 146.1 | 41.4 | | 8.2 | 17.0 | | 6.4 | 27.2 | |
| Queue Delay | 11.7 | 0.0 | | 0.0 | 11.6 | | 0.0 | 27.7 | | 0.0 | 50.6 | |
| Total Delay | 53.6 | 90.2 | | 146.1 | 52.9 | | 8.2 | 44.7 | | 6.4 | 77.8 | |
| LOS | D | F | | F | D | | Α | D | | Α | E | |
| Approach Delay | | 83.8 | | | 105.3 | | | 42.9 | | | 73.5 | |
| Approach LOS | | F | | | F | | | D | | | Е | |
| Queue Length 50th (ft) | 37 | 210 | | ~100 | 59 | | 13 | 290 | | 21 | 511 | |
| Queue Length 95th (ft) | 55 | 211 | | #119 | 70 | | 25 | 338 | | m16 | m391 | |
| Internal Link Dist (ft) | | 65 | | | 297 | | | 261 | | | 254 | |
| Turn Bay Length (ft) | 25 | | | 25 | | | 100 | | | | | |
| Base Capacity (vph) | 226 | 285 | | 112 | 323 | | 330 | 1863 | | 271 | 1963 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 1113 | |
| Spillback Cap Reductn | 141 | 0 | | 0 | 201 | | 0 | 730 | | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | Ö | 0 | | 0 | 0 | |
| Reduced v/c Ratio | 0.68 | 0.96 | | 1.05 | 0.75 | | 0.18 | 1.05 | | 0.31 | 1.50 | |
| | 0.50 | 0.00 | | | 00 | | 55 | | | 0.01 | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated Maximum v/c Ratio: 1.05 Intersection Signal Delay: 64.6 Intersection Capacity Utilization 100.5%

Intersection LOS: E

ICU Level of Service G

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Molume for 95th percentile queue is metered by upstream signal.



| | | • | - | • | F | • | — | • | 4 | † | ~ | > | ļ | 1 | |
|---------------------------------|---------|------------|---------------|------|-------|------------|----------|-------|-------|------------|--------|-------------|------|------|--|
| Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | 250 | ሻ | † \$ | LDIT | 1150 | ሻ | † | 115.1 | 1102 | 4 | , to t | 052 | 05. | 05.1 | |
| Traffic Volume (vph) | 27 | 51 | 666 | 122 | 19 | 39 | 679 | 56 | 30 | 54 | 35 | 0 | 0 | 0 | |
| Future Volume (vph) | 27 | 51 | 666 | 122 | 19 | 39 | 679 | 56 | 30 | 54 | 35 | 0 | 0 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Storage Length (ft) | | 125 | | 60 | | 100 | | 0 | 0 | | 0 | 0 | | 0 | |
| Storage Lanes | | 1 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Taper Length (ft) | | 50 | | | | 50 | | | 50 | | | 50 | | | |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped Bike Factor Frt | | 0.89 | 0.91 0.977 | | | 0.85 | 0.96 | | | 0.84 | | | | | |
| Fit Protected | | 0.950 | 0.977 | | | 0.950 | 0.909 | | | 0.987 | | | | | |
| Satd. Flow (prot) | 0 | 1583 | 2799 | 0 | 0 | 1567 | 3011 | 0 | 0 | 1423 | 0 | 0 | 0 | 0 | |
| Flt Permitted | U | 0.315 | 2133 | U | U | 0.297 | 3011 | U | U | 0.987 | U | U | U | U | |
| Satd. Flow (perm) | 0 | 467 | 2799 | 0 | 0 | 418 | 3011 | 0 | 0 | 1319 | 0 | 0 | 0 | 0 | |
| Right Turn on Red | - | | | Yes | - | | | Yes | | | Yes | • | | Yes | |
| Satd. Flow (RTOR) | | | 32 | | | | 17 | | | 20 | | | | | |
| Link Speed (mph) | | | 30 | | | | 30 | | | 30 | | | 30 | | |
| Link Distance (ft) | | | 537 | | | | 488 | | | 314 | | | 267 | | |
| Travel Time (s) | | | 12.2 | | | | 11.1 | | | 7.1 | | | 6.1 | | |
| Confl. Peds. (#/hr) | 230 | 481 | | 225 | 335 | 225 | | 481 | 230 | | 335 | 335 | | 230 | |
| Confl. Bikes (#/hr) | | | | 17 | | | | 18 | | | 4 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.88 | 0.94 | 0.94 | 0.94 | 0.25 | 0.25 | 0.25 | |
| Heavy Vehicles (%) | 0% | 4% | 3% | 2% | 5% | 3% | 3% | 0% | 4% | 0% | 6% | 0% | 0% | 0% | |
| Adj. Flow (vph) | 29 | 55 | 724 | 133 | 22 | 44 | 772 | 64 | 32 | 57 | 37 | 0 | 0 | 0 | |
| Shared Lane Traffic (%) | 0 | 84 | 857 | 0 | 0 | 66 | 836 | 0 | 0 | 126 | 0 | 0 | 0 | 0 | |
| Lane Group Flow (vph) Turn Type | Perm | Perm | NA | U | Prot | D.P+P | NA | U | Perm | NA | U | U | U | U | |
| Protected Phases | Perm | Perm | NA 1 | | 3 | D.P+P | 1 3 | | Perm | 2 | | | | | |
| Permitted Phases | 1 | 1 | | | J | 1 | 13 | | 2 | 2 | | | | | |
| Detector Phase | 1 | 1 | 1 | | 3 | 3 | 13 | | 2 | 2 | | | | | |
| Switch Phase | | • | • | | • | · | | | - | _ | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | | 6.0 | 6.0 | | | 8.0 | 8.0 | | | | | |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | | 10.0 | 10.0 | | | 30.0 | 30.0 | | | | | |
| Total Split (s) | 58.0 | 58.0 | 58.0 | | 10.0 | 10.0 | | | 32.0 | 32.0 | | | | | |
| Total Split (%) | 58.0% | 58.0% | 58.0% | | 10.0% | 10.0% | | | 32.0% | 32.0% | | | | | |
| Maximum Green (s) | 53.0 | 53.0 | 53.0 | | 6.0 | 6.0 | | | 26.0 | 26.0 | | | | | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 2.0 | 2.0 | | | 3.0 | 3.0 | | | | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | | | 3.0 | 3.0 | | | | | |
| Lost Time Adjust (s) | | 0.0 5.0 | 0.0 5.0 | | | 0.0 4.0 | | | | 0.0 6.0 | | | | | |
| Total Lost Time (s) Lead/Lag | Lead | Lead | Lead | | | 4.0 | | | Lag | Lag | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | | | | | | Yes | Yes | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | | | | |
| Recall Mode | C-Max | C-Max | C-Max | | None | None | | | Min | Min | | | | | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | | | | | | 7.0 | 7.0 | | | | | |
| Flash Dont Walk (s) | 5.0 | 5.0 | 5.0 | | | | | | 17.0 | 17.0 | | | | | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | | | | | | 0 | 0 | | | | | |
| Act Effct Green (s) | | 65.3 | 65.3 | | | 72.3 | 75.3 | | | 13.7 | | | | | |
| Actuated g/C Ratio | | 0.65 | 0.65 | | | 0.72 | 0.75 | | | 0.14 | | | | | |
| v/c Ratio | | 0.28 | 0.47 | | | 0.18 | 0.37 | | | 0.64 | | | | | |
| Control Delay | | 11.6 | 9.9 | | | 4.9 | 5.1 | | | 48.0 | | | | | |
| Queue Delay | | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | | | | | |
| Total Delay | | 11.6 B | 9.9 | | | 4.9 | 5.1 | | | 48.0 D | | | | | |
| LOS Approach Delay | | В | A 10.1 | | | Α | 5.1 | | | 48.0 | | | | | |
| Approach LOS | | | 10.1 B | | | | 5.1 A | | | 46.0 D | | | | | |
| Queue Length 50th (ft) | | 20 | 123 | | | 8 | 76 | | | 65 | | | | | |
| Queue Length 95th (ft) | | 58 | 201 | | | 23 | 131 | | | 117 | | | | | |
| Internal Link Dist (ft) | | - 55 | 457 | | | | 408 | | | 234 | | | 187 | | |
| Turn Bay Length (ft) | | 125 | | | | 100 | | | | | | | - | | |
| Base Capacity (vph) | | 304 | 1839 | | | 371 | 2272 | | | 357 | | | | | |
| Starvation Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Spillback Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Storage Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Reduced v/c Ratio | | 0.28 | 0.47 | | | 0.18 | 0.37 | | | 0.35 | | | | | |

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.2

Intersection Capacity Utilization 63.6%

Analysis Period (min) 15 Intersection LOS: B ICU Level of Service B

Splits and Phases: 3: Gainsborough Street & Huntington Avenue



| Exidency (2017) Condition | | | | | | | | | | | | - | |
|-----------------------------------|------|----------|-----------|-----------|------------|-----------|------|------|------|------|------|------|------|
| | • | - | • | ⋤ | 1 | ← | • | 1 | - ↑ | ~ | - | ¥ | 4 |
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Movement | EBL | | EBR | WBU | WBL | | WBR | NBL | | NBK | SBL | | SBR |
| Lane Configurations | ^ | 4 | | • | - | - ♣ | • | • | - ♣ | • | | | |
| Traffic Volume (veh/h) | 0 | 209 | 1 | 2 | 5 | 96 | 0 | 3 | 0 | 3 | 1 | 0 | 1 |
| Future Volume (Veh/h) | 0 | 209 | 1 | 2 | 5 | 96 | 0 | 3 | 0 | 3 | 1 | 0 | 1 |
| Sign Control | | Free | | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.63 | 0.63 | 0.63 | 0.65 | 0.65 | 0.65 | 0.65 | 0.38 | 0.38 | 0.38 | 0.50 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 0 | 332 | 2 | 0 | 8 | 148 | 0 | 8 | 0 | 8 | 2 | 0 | 2 |
| Pedestrians | | 66 | | | | 1 | | | 85 | | | 54 | |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | |
| Percent Blockage | | 6 | | | | 0 | | | 8 | | | 5 | |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | | None | | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | |
| pX, platoon unblocked | 0.99 | | | 0.00 | | . 10 | | 0.99 | 0.99 | | 0.99 | 0.99 | 0.99 |
| vC, conflicting volume | 202 | | | 0.00 | 419 | | | 650 | 636 | 419 | 560 | 637 | 268 |
| vC1, stage 1 conf vol | 202 | | | U | 413 | | | 030 | 030 | 413 | 300 | 031 | 200 |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 194 | | | ٥ | 419 | | | 645 | 631 | 419 | 555 | 632 | 261 |
| | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 0.5 | 0.2 | 7.1 | 0.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 0 | 99 | | | 97 | 100 | 99 | 99 | 100 | 100 |
| cM capacity (veh/h) | 1312 | | | 0 | 1058 | | | 297 | 345 | 586 | 371 | 344 | 692 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 334 | 156 | 16 | 4 | | | | | | | | | |
| Volume Left | 0 | 8 | 8 | 2 | | | | | | | | | |
| Volume Right | 2 | 0 | 8 | 2 | | | | | | | | | |
| cSH | 1312 | 1058 | 394 | 483 | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.01 | 0.04 | 0.01 | | | | | | | | | |
| Queue Length 95th (ft) | 0.00 | 1 | 3 | 1 | | | | | | | | | |
| Control Delay (s) | 0.0 | 0.5 | 14.5 | 12.5 | | | | | | | | | |
| Lane LOS | 0.0 | 0.5 A | 14.3 B | 12.3 B | | | | | | | | | |
| | 0.0 | 0.5 | 14.5 | 12.5 | | | | | | | | | |
| Approach Delay (s) Approach LOS | 0.0 | 0.5 | 14.5 B | 12.5 B | | | | | | | | | |
| Approach LOS | | | ь | В | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 0.7 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 32.2% | IC | U Level of | f Service | | | Α | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | | |
|--|------|---|---|--|---|------|------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 9.1 | | | | | | | | | | | | | | | |
| Intersection LOS | Α | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Movement | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | | | 4 | | | | 4 | | | | 4 | | | | 4 | |
| Traffic Vol. veh/h | 0 | 8 | 30 | 2 | 3 | 41 | 22 | 41 | 0 | 3 | 67 | 44 | 3 | 121 | 28 | 9 |
| Future Vol. veh/h | 0 | 8 | 30 | 2 | 3 | 41 | 22 | 41 | 0 | 3 | 67 | 44 | 3 | 121 | 28 | 9 |
| Peak Hour Factor | 0.92 | 0.45 | 0.45 | 0.45 | 0.68 | 0.68 | 0.68 | 0.68 | 0.92 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 38 | 0 | 0 | 0 | 0 | 5 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 22 |
| Mymt Flow | 0 | 18 | 67 | 4 | 4 | 60 | 32 | 60 | 0 | 4 | 80 | 52 | 4 | 148 | 34 | 11 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | EB | | | WB | | | | | NB | | | SB | | | |
| Opposing Approach | | WB | | | EB | | | | | SB | | | NB | | | |
| Opposing Lanes | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Left | | SB | | | NB | | | | | EB | | | WB | | | |
| Conflicting Lanes Left | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Right | | NB | | | SB | | | | | WB | | | EB | | | |
| Conflicting Lanes Right | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| HCM Control Delay | | 9.5 | | | 8.9 | | | | | 8.5 | | | 9.5 | | | |
| HCM LOS | | Α | | | Α | | | | | Α | | | Α | | | |
| | | | | | | | | | | | | | | | | |
| Lane | NE | 3Ln1 | EBLn1 | WBLn1 | SBLn1 | | | | | | | | | | | |
| Vol Left, % | | 3% | 20% | 39% | 77% | | | | | | | | | | | |
| Vol Thru, % | | | | | | | | | | | | | | | | |
| | į | 59% | 75% | 21% | 18% | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Vol Right, % | 3 | 59% | 75% | 21% | 18% | | | | | | | | | | | |
| Vol Right, % Sign Control | 3 | 59% 39% | 75% 5% | 21% 39% | 18% 6% | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane | 3 | 59% 39% Stop | 75% 5% Stop | 21% 39% Stop | 18% 6% Stop 161 123 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol | 3 | 59% 39% Stop 114 | 75% 5% Stop 40 | 21% 39% Stop 107 42 23 | 18% 6% Stop 161 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol | 3 | 59% 39% Stop 114 3 67 44 | 75% 5% Stop 40 8 30 2 | 21% 39% Stop 107 42 23 42 | 18% 6% Stop 161 123 29 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol | 3 | 59% 39% Stop 114 3 67 | 75% 5% Stop 40 8 30 | 21% 39% Stop 107 42 23 | 18% 6% Stop 161 123 29 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate | | 59% 39% Stop 114 3 67 44 136 | 75% 5% Stop 40 8 30 2 89 | 21% 39% Stop 107 42 23 42 157 | 18% 6% Stop 161 123 29 9 196 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | 0 | 59% 39% Stop 114 3 67 44 136 1 | 75% 5% Stop 40 8 30 2 89 1 0.137 | 21% 39% Stop 107 42 23 42 157 1 0.203 | 18% 6% Stop 161 123 29 9 196 1 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 1.533 Yes | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 1.533 Yes 787 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes 644 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes 768 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes 746 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 3.533 Yes 787 2.582 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes 644 3.594 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes 768 2.703 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes 746 2.839 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 1.533 Yes 787 2.582 0.173 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes 644 3.594 0.138 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes 768 2.703 0.204 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes 746 2.839 0.263 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 4.533 Yes 787 2.582 0.173 8.5 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes 644 3.594 0.138 9.5 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes 768 2.703 0.204 8.9 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes 746 2.839 0.263 9.5 | | | | | | | | | | | |
| Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0 4 | 59% 39% Stop 114 3 67 44 136 1 0.171 1.533 Yes 787 2.582 0.173 | 75% 5% Stop 40 8 30 2 89 1 0.137 5.538 Yes 644 3.594 0.138 | 21% 39% Stop 107 42 23 42 157 1 0.203 4.651 Yes 768 2.703 0.204 | 18% 6% Stop 161 123 29 9 196 1 0.261 4.794 Yes 746 2.839 0.263 | | | | | | | | | | | |

| | → | • | • | • | 4 | <i>></i> |
|-----------------------------------|-------------|------|-------|----------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | † 1> | | | ^ | | # |
| Traffic Volume (veh/h) | 153 | 1 | 0 | 226 | 0 | 2 |
| Future Volume (Veh/h) | 153 | 1 | 0 | 226 | 0 | 2 |
| Sign Control | Free | | | Free | Stop | _ |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.80 | 0.80 | 0.92 | 0.92 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 191 | 1 | 0.02 | 246 | 0.00 | 4 |
| Pedestrians | 515 | | U | 240 | U | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 49 | | | | | |
| | 49 | | | | | |
| Right turn flare (veh) | Raised | | | Raised | | |
| Median type | | | | | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 192 | | 830 | 96 |
| vC1, stage 1 conf vol | | | | | 192 | |
| vC2, stage 2 conf vol | | | | | 638 | |
| vCu, unblocked vol | | | 192 | | 830 | 96 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 100 |
| cM capacity (veh/h) | | | 1394 | | 244 | 948 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 127 | 65 | 123 | 123 | 4 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 1 | 0 | 0 | 4 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 948 | |
| Volume to Capacity | 0.07 | 0.04 | 0.07 | 0.07 | 0.00 | |
| Queue Length 95th (ft) | 0.07 | 0.04 | 0.07 | 0.07 | 0.00 | |
| | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 | |
| Control Delay (s) Lane LOS | 0.0 | 0.0 | 0.0 | 0.0 | | |
| | 0.0 | | 0.0 | | A | |
| Approach Delay (s) | 0.0 | | 0.0 | | 8.8 | |
| Approach LOS | | | | | Α | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 14.7% | IC | CU Level of | Service |
| Analysis Period (min) | | | 15 | | | |
| , analysis i office (fillin) | | | 10 | | | |

| Existing (2017) Condit | .c, p | ວน | | | | |
|-----------------------------------|-------|------|-------|----------|-----------|-----------|
| | • | _ | 4 | † | - 1 | 4 |
| | - | * | 7 | ı | ¥ | • |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | W | | | ની | 4 | |
| Traffic Volume (veh/h) | 2 | 1 | 0 | 0 | 1 | 0 |
| Future Volume (Veh/h) | 2 | 1 | 0 | 0 | 1 | 0 |
| Sign Control | Stop | | U | Free | Free | U |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 2 | 1 | U | U | 1 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1 | 1 | 1 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1 | 1 | 1 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1022 | 1084 | 1622 | | | |
| | | | | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 3 | 0 | 1 | | | |
| Volume Left | 2 | 0 | 0 | | | |
| Volume Right | 1 | 0 | 0 | | | |
| cSH | 1042 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 8.5 | 0.0 | 0.0 | | | |
| Lane LOS | Α | | | | | |
| Approach Delay (s) | 8.5 | 0.0 | 0.0 | | | |
| Approach LOS | Α | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 6.3 | | | |
| Intersection Capacity Utilization | | | 13.3% | 10 | U Level o | f Convinc |
| Analysis Period (min) | | | 15.5% | IC | O LEVEL O | I SELVICE |
| Alialysis Fellou (IIIIII) | | | 10 | | | |
| | | | | | | |

| | • | | + | • | <u> </u> | 1 |
|-----------------------------------|------|-----------------|----------|------|------------------|-----------|
| Mayamant | EBL | EBT | WBT | WBR | SBL | SBR |
| Movement Lane Configurations | EBL | €Î EBI | WB1 | WBK | SBL | SBK |
| Traffic Volume (veh/h) | 0 | 식 198 | 99 | 0 | '1' 12 | 8 |
| Future Volume (Veh/h) | 0 | 198 | 99 | 0 | 12 | 8 |
| Sign Control | U | Free | Free | U | Stop | 0 |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0.32 | 215 | 108 | 0.52 | 13 | 9 |
| Pedestrians | U | 213 | 100 | U | 13 | 9 |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | None | None | | | |
| Upstream signal (ft) | | | 527 | | | |
| pX, platoon unblocked | | | 321 | | | |
| vC, conflicting volume | 108 | | | | 323 | 108 |
| vC1, stage 1 conf vol | 100 | | | | 323 | 100 |
| vC1, stage 1 conf vol | | | | | | |
| vCu, unblocked vol | 108 | | | | 323 | 108 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | 4.1 | | | | 0.4 | 0.2 |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 100 | | | | 98 | 3.3 99 |
| cM capacity (veh/h) | 1483 | | | | 96 671 | 946 |
| | | | | | 0/1 | 940 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total | 215 | 108 | 22 | | | |
| Volume Left | 0 | 0 | 13 | | | |
| Volume Right | 0 | 0 | 9 | | | |
| cSH | 1483 | 1700 | 761 | | | |
| Volume to Capacity | 0.00 | 0.06 | 0.03 | | | |
| Queue Length 95th (ft) | 0 | 0 | 2 | | | |
| Control Delay (s) | 0.0 | 0.0 | 9.9 | | | |
| Lane LOS | | | Α | | | |
| Approach Delay (s) | 0.0 | 0.0 | 9.9 | | | |
| Approach LOS | | | Α | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.6 | | | |
| Intersection Capacity Utilization | | | 20.4% | ıc | U Level of | Service |
| Analysis Period (min) | | | 15 | IC. | O Level O | Service |
| Alialysis Fellou (IIIIII) | | | 13 | | | |

| | <u>John J</u> | → | • | F | • | + | • | 4 | † | <i>></i> | \ | | 4 | | | |
|--|---------------|--|------|-------|-------|---|------|---|---|-------------|----------|---|------|------|-----|--|
| ane Group | EBL | EBT | EBR | WBU | ₩BL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| ne Configurations | LUL | | LDIX | WDO | WDL | | WDIX | NO. | | NUIN | ODL | | ODIX | WZ. | 100 | |
| | 00 | 413 | | • | 405 | 413- | 40 | | ↑ ↑ | 00 | ^ | ↑ ↑ | 70 | | | |
| affic Volume (vph) | 86 | 12 | 58 | 2 | 105 | 17 | 40 | 60 | 935 | 82 | 0 | 823 | 78 | | | |
| ture Volume (vph) | 86 | 12 | 58 | 2 | 105 | 17 | 40 | 60 | 935 | 82 | 0 | 823 | 78 | | | |
| eal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| orage Length (ft) | 0 | | 0 | | 0 | | 0 | 150 | | 0 | 0 | | 0 | | | |
| orage Lanes | 0 | | 0 | | 0 | | 0 | 1 | | 0 | 0 | | 0 | | | |
| per Length (ft) | 50 | | | | 50 | | | 0 | | | 50 | | | | | |
| ne Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| | 0.55 | 0.93 | 0.55 | 0.55 | 0.55 | 0.33 | 0.55 | 1.00 | 0.97 | 0.55 | 1.00 | 0.95 | 0.55 | | | |
| d Bike Factor | | | | | | | | | | | | | | | | |
| | | 0.944 | | | | 0.964 | | | 0.988 | | | 0.987 | | | | |
| Protected | | 0.973 | | | | 0.968 | | 0.950 | | | | | | | | |
| td. Flow (prot) | 0 | 2651 | 0 | 0 | 0 | 2554 | 0 | 1624 | 2892 | 0 | 0 | 2846 | 0 | | | |
| Permitted | | 0.973 | | | | 0.968 | | 0.106 | | | | | | | | |
| td. Flow (perm) | 0 | 2545 | 0 | 0 | 0 | 2059 | 0 | 181 | 2892 | 0 | 0 | 2846 | 0 | | | |
| tht Turn on Red | • | 2040 | No | U | U | 2000 | No | 101 | 2002 | No | U | 2010 | No | | | |
| | | | INU | | | | INO | | | INU | | | INO | | | |
| td. Flow (RTOR) | | | | | | | | | | | | | | | | |
| k Speed (mph) | | 30 | | | | 30 | | | 30 | | | 30 | | | | |
| k Distance (ft) | | 159 | | | | 495 | | | 334 | | | 341 | | | | |
| evel Time (s) | | 3.6 | | | | 11.3 | | | 7.6 | | | 7.8 | | | | |
| nfl. Peds. (#/hr) | 41 | | 31 | 231 | 31 | | 41 | 497 | | 231 | 231 | | 497 | | | |
| nfl. Bikes (#/hr) | 71 | | VI. | 201 | U1 | | 1 | 101 | | 58 | 201 | | 58 | | | |
| | 2.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.05 | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | |
| ak Hour Factor | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.98 | 0.98 | 0.98 | 0.92 | 0.92 | 0.92 | | | |
| avy Vehicles (%) | 10% | 33% | 2% | 100% | 13% | 25% | 15% | 0% | 7% | 14% | 0% | 8% | 3% | | | |
| j. Flow (vph) | 93 | 13 | 63 | 2 | 111 | 18 | 42 | 61 | 954 | 84 | 0 | 895 | 85 | | | |
| ared Lane Traffic (%) | | | | | | | | | | | | | | | | |
| ne Group Flow (vph) | 0 | 169 | 0 | 0 | 0 | 173 | 0 | 61 | 1038 | 0 | 0 | 980 | 0 | | | |
| | | | U | | | | U | | NA | U | U | | U | | | |
| m Type | Split | NA | | Split | Split | NA | | pm+pt | | | | NA | | | | |
| tected Phases | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | 2 | 6 | |
| rmitted Phases | | | | | | | | 13 | | | | | | | | |
| tector Phase | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | | | |
| itch Phase | | | | | | | | | | | | | | | | |
| nimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 | | 8.0 | | | | 10.0 | | 1.0 | 1.0 | |
| imum Split (s) | 21.0 | 21.0 | | 23.5 | 23.5 | 23.5 | | 15.5 | | | | 20.5 | | 6.0 | 6.0 | |
| | | | | | | | | | | | | | | | | |
| al Split (s) | 22.0 | 22.0 | | 25.0 | 25.0 | 25.0 | | 18.0 | | | | 43.0 | | 6.0 | 6.0 | |
| tal Split (%) | 18.3% | 18.3% | | 20.8% | 20.8% | 20.8% | | 15.0% | | | | 35.8% | | 5% | 5% | |
| ximum Green (s) | 15.0 | 15.0 | | 17.5 | 17.5 | 17.5 | | 10.5 | | | | 35.5 | | 4.0 | 4.0 | |
| low Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | 3.5 | | 2.0 | 2.0 | |
| Red Time (s) | 3.5 | 3.5 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | 4.0 | | 0.0 | 0.0 | |
| st Time Adjust (s) | 0.0 | 0.0 | | 4.0 | 4.0 | 0.0 | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | |
| | | | | | | | | | | | | | | | | |
| al Lost Time (s) | | 7.0 | | | | 7.5 | | 7.5 | | | | 7.5 | | | | |
| id/Lag | | | | Lag | Lag | Lag | | Lag | | | | Lead | | Lead | | |
| ad-Lag Optimize? | | | | Yes | Yes | Yes | | Yes | | | | Yes | | Yes | | |
| nicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.0 | | | | 2.0 | | 2.0 | 2.0 | |
| call Mode | Ped | Ped | | Ped | Ped | Ped | | Ped | | | | C-Max | | Ped | Max | |
| lk Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 1.0 | | | | 7.0 | | 4.0 | 4.0 | |
| sh Dont Walk (s) | 10.0 | 10.0 | | 12.0 | 12.0 | 12.0 | | 6.0 | | | | 6.0 | | 0.0 | 0.0 | |
| | | | | | | | | | | | | | | | | |
| destrian Calls (#/hr) | 0 | 0 | | 0 | 0 | 0 | | 0 | | | | 0 | | 0 | 0 | |
| Effct Green (s) | | 14.2 | | | | 16.1 | | 48.2 | 55.7 | | | 37.9 | | | | |
| uated g/C Ratio | | 0.12 | | | | 0.13 | | 0.40 | 0.46 | | | 0.32 | | | | |
| | | 0.54 | | | | 0.50 | | 0.31 | 0.77 | | | 1.09 | | | | |
| | | U.04 | | | | 53.8 | | 41.6 | 38.4 | | | 97.2 | | | | |
| Ratio | | | | | | | | T1.0 | | | | | | | | |
| Ratio ntrol Delay | | 56.7 | | | | | | 0.0 | E1 1 | | | 20 | | | | |
| Ratio ntrol Delay eue Delay | | 56.7 0.0 | | | | 2.0 | | 0.0 | 51.1 | | | 3.8 | | | | |
| Ratio htrol Delay eue Delay al Delay | | 56.7 0.0 56.7 | | | | 2.0 55.8 | | 41.6 | 89.5 | | | 101.0 | | | | |
| Ratio htrol Delay eue Delay al Delay S | | 56.7 0.0 56.7 E | | | | 2.0 55.8 E | | | 89.5 F | | | 101.0 F | | | | |
| Ratio htrol Delay eue Delay al Delay S | | 56.7 0.0 56.7 | | | | 2.0 55.8 | | 41.6 | 89.5 | | | 101.0 | | | | |
| Ratio atrol Delay eue Delay al Delay S oroach Delay | | 56.7 0.0 56.7 E 56.7 | | | | 2.0 55.8 E 55.8 | | 41.6 | 89.5 F 86.8 | | | 101.0 F | | | | |
| Ratio Introl Delay Bue Delay al Delay S Broroach Delay Broroach LOS | | 56.7 0.0 56.7 E 56.7 | | | | 2.0 55.8 E 55.8 | | 41.6 D | 89.5 F 86.8 F | | | 101.0 F 101.0 F | | | | |
| Ratio Introl Delay sue Delay al Delay S oroach Delay oroach LOS sue Length 50th (ft) | | 56.7 0.0 56.7 E 56.7 E 65 | | | | 2.0 55.8 E 55.8 E | | 41.6 D | 89.5 F 86.8 F 446 | | | 101.0 F 101.0 F ~448 | | | | |
| Ratio Introl Delay eue Delay al Delay S proach Delay oroach LOS eue Length 50th (ft) eue Length 95th (ft) | | 56.7 0.0 56.7 E 56.7 E 65 103 | | | | 2.0 55.8 E 55.8 E 66 104 | | 41.6 D | 89.5 F 86.8 F 446 523 | | | 101.0 F 101.0 F ~448 #598 | | | | |
| Ratio Itrol Delay use Delay al Delay Soroach Delay oroach LOS use Length 50th (ft) rnal Link Dist (ft) | | 56.7 0.0 56.7 E 56.7 E 65 | | | | 2.0 55.8 E 55.8 E | | 41.6 D 36 m39 | 89.5 F 86.8 F 446 | | | 101.0 F 101.0 F ~448 | | | | |
| Ratio Itrol Delay use Delay al Delay S S S S S S S S S S S S S S S S S S S | | 56.7 0.0 56.7 E 56.7 E 65 103 79 | | | | 2.0 55.8 E 55.8 E 66 104 415 | | 41.6 D 36 m39 | 89.5 F 86.8 F 446 523 254 | | | 101.0 F 101.0 F ~448 #598 261 | | | | |
| Ratio Introl Delay use Delay al Delay S S S S S S S S S S S S S S S S S S S | | 56.7 0.0 56.7 E 56.7 E 65 103 | | | | 2.0 55.8 E 55.8 E 66 104 | | 41.6 D 36 m39 | 89.5 F 86.8 F 446 523 | | | 101.0 F 101.0 F ~448 #598 | | | | |
| Ratio Itrol Delay sue Delay al Delay S roach Delay roach LOS sue Length 50th (ft) sue Length 95th (ft) rnal Link Dist (ft) n Bay Length (ft) se Capacity (vph) | | 56.7 0.0 56.7 E 56.7 E 65 103 79 | | | | 2.0 55.8 E 55.8 E 66 104 415 | | 41.6 D 36 m39 150 199 | 89.5 F 86.8 F 446 523 254 | | | 101.0 F 101.0 F ~448 #598 261 | | | | |
| Ratio Itrol Delay ueue Delay al Delay S S S S S S S S S S S S S S S S S S S | | 56.7 0.0 56.7 E 56.7 E 65 103 79 | | | | 2.0 55.8 E 55.8 E 66 104 415 | | 41.6 D 36 m39 150 199 0 | 89.5 F 86.8 F 446 523 254 | | | 101.0 F 101.0 F ~448 #598 261 898 | | | | |
| Ratio Introl Delay Introl Delay Introl Delay Ital Delay Ital Delay S S S Proach LOS Introl Delay Introl | | 56.7 0.0 56.7 E 56.7 E 65 103 79 331 0 | | | | 2.0 55.8 E 55.8 E 66 104 415 372 0 96 | | 41.6 D 36 m39 150 199 0 | 89.5 F 86.8 F 446 523 254 1346 656 0 | | | 101.0 F 101.0 F ~448 #598 261 898 0 44 | | | | |
| Ratio Itrol Delay ueue Delay al Delay S S S S S S S S S S S S S S S S S S S | | 56.7 0.0 56.7 E 56.7 E 65 103 79 | | | | 2.0 55.8 E 55.8 E 66 104 415 | | 41.6 D 36 m39 150 199 0 | 89.5 F 86.8 F 446 523 254 | | | 101.0 F 101.0 F ~448 #598 261 898 | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated Maximum v/c Ratio: 1.09 Intersection Signal Delay: 88.3 Intersection Capacity Utilization 67.6%

Intersection LOS: F

ICU Level of Service C

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Molume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Massachusetts Avenue & Huntington Avenue

| | • | → | • | • | — | • | • | <u>†</u> | <u> </u> | <u> </u> | + | 4 | | | |
|-------------------------|---------------|----------|------------|----------------|------------|------------|------------|----------|------------|----------------|------------------|------------|------|------------|--|
| Lane Group | EBL | EBT | EBR | ₩BL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Lane Configurations | T T | | LDIN | WDL | | WDIX | INDL | | NDIX | SDL 1 | | JUIN | WZ | 200 | |
| | ግ 9 | 1> | 59 | 1 39 | } | 19 | 0.5 | 413 | 53 | 1 31 | ↑↑ 914 | 41 | | | |
| Traffic Volume (vph) | 9 | 6 | | | 12 | | 65 | 1049 | | | | | | | |
| Future Volume (vph) | | 6 | 59 1900 | 39 | 12 1900 | 19 1900 | 65 1900 | 1049 | 53 1900 | 31 1900 | 914 1900 | 41 1900 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | | 1900 | 1900 | | | 1900 | | | 1900 | | | | |
| Storage Length (ft) | 25 | | 0 | 25 | | 0 | 100 | | 0 | 50 | | 0 | | | |
| Storage Lanes | 1 | | U | 1 | | 0 | 0 | | 0 | 1 | | 0 | | | |
| Taper Length (ft) | 50 | 4.00 | 4.00 | 50 | 4.00 | 4.00 | 50 | 0.05 | 0.05 | 25 | 0.05 | 0.05 | | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | 0.98 | 0.96 | | 0.97 | 0.97 | | | 0.99 | | 0.99 | 0.99 | | | | |
| Frt | | 0.865 | | | 0.907 | | | 0.993 | | | 0.994 | | | | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | 0.950 | | | | | |
| Satd. Flow (prot) | 1128 | 1267 | 0 | 1624 | 1512 | 0 | 0 | 2966 | 0 | 1477 | 2955 | 0 | | | |
| Flt Permitted | 0.735 | | | 0.711 | | | | 0.782 | | 0.176 | | | | | |
| Satd. Flow (perm) | 856 | 1267 | 0 | 1182 | 1512 | . 0 | 0 | 2324 | 0 | 271 | 2955 | 0 | | | |
| Right Turn on Red | | | No | | | No | | | No | | | No | | | |
| Satd. Flow (RTOR) | | | | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 145 | | | 377 | | | 341 | | | 334 | | | | |
| Travel Time (s) | | 3.3 | | | 8.6 | | | 7.8 | | | 7.6 | | | | |
| Confl. Peds. (#/hr) | 11 | | 17 | 17 | | 11 | 115 | | 69 | 69 | | 115 | | | |
| Confl. Bikes (#/hr) | | | 7 | | | 12 | | | 94 | | | 97 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.93 | 0.93 | 0.93 | | | |
| Heavy Vehicles (%) | 44% | 0% | 13% | 0% | 0% | 0% | 8% | 8% | 2% | 10% | 8% | 18% | | | |
| Adj. Flow (vph) | 10 | 7 | 64 | 42 | 13 | 21 | 68 | 1093 | 55 | 33 | 983 | 44 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 10 | 71 | 0 | 42 | 34 | 0 | 0 | 1216 | 0 | 33 | 1027 | 0 | | | |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | | | | |
| Protected Phases | | 5 | | | 5 | | | 1 | | | 1 | | 2 | 6 | |
| Permitted Phases | 5 | | | 5 | | | 1 | | | 1 | | | | | |
| Detector Phase | 5 | 5 | | 5 | 5 | | 1 | 1 | | 1 | 1 | | | | |
| Switch Phase | | | | | | | | | | | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 25.5 | 25.5 | | 25.5 | 25.5 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (%) | 31.7% | 31.7% | | 31.7% | 31.7% | | 58.3% | 58.3% | | 58.3% | 58.3% | | 5% | 5% | |
| Maximum Green (s) | 32.5 | 32.5 | | 32.5 | 32.5 | | 64.5 | 64.5 | | 64.5 | 64.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | | | |
| Total Lost Time (s) | 5.5 | 5.5 | | 5.5 | 5.5 | | | 5.5 | | 5.5 | 5.5 | | | | |
| Lead/Lag | Lag | Lag | | Lag | Lag | | | | | | | | Lead | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | | C-Max | C-Max | | C-Max | C-Max | | Ped | Ped | |
| Walk Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 54.5 | 54.5 | | 54.5 | 54.5 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 17.0 | 17.0 | | 17.0 | 17.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | 20.0 | 20.0 | | 20.0 | 20.0 | | | 77.0 | | 77.0 | 77.0 | | | | |
| Actuated g/C Ratio | 0.17 | 0.17 | | 0.17 | 0.17 | | | 0.64 | | 0.64 | 0.64 | | | | |
| v/c Ratio | 0.07 | 0.34 | | 0.21 | 0.13 | | | 0.82 | | 0.19 | 0.54 | | | | |
| Control Delay | 44.7 | 50.0 | | 46.5 | 44.3 | | | 21.9 | | 21.4 | 24.8 | | | | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 50.1 | | 0.0 | 13.9 | | | | |
| Total Delay | 44.7 | 50.0 | | 46.5 | 44.3 | | | 72.0 | | 21.4 | 38.7 | | | | |
| LOS | D | D | | D | D | | | Е | | С | D | | | | |
| Approach Delay | | 49.3 | | | 45.5 | | | 72.0 | | | 38.2 | | | | |
| Approach LOS | | D | | | D | | | E | | | D | | | | |
| Queue Length 50th (ft) | 7 | 49 | | 28 | 23 | | | 345 | | 15 | 287 | | | | |
| Queue Length 95th (ft) | m23 | m96 | | 64 | 54 | | | 457 | | m17 | m263 | | | | |
| Internal Link Dist (ft) | | 65 | | | 297 | | | 261 | | | 254 | | | | |
| Turn Bay Length (ft) | 25 | | | 25 | | | | | | 50 | | | | | |
| Base Capacity (vph) | 231 | 343 | | 320 | 409 | | | 1491 | | 173 | 1896 | | | | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | 0 | 864 | | | | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 717 | | 0 | 0 | | | | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | 0 | 0 | | | | |
| Reduced v/c Ratio | 0.04 | 0.21 | | 0.13 | 0.08 | | | 1.57 | | 0.19 | 1.00 | | | | |
| | 0.04 | V.Z I | | 0.10 | 0.00 | | | 1.01 | | 0.10 | 1.00 | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110

Intersection LOS: E

ICU Level of Service H

Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 55.7
Intersection Capacity Utilization 114.5%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



| | • | • | → | • | F | • | + | • | • | † | ~ | / | | 1 | |
|--|-------|-------------|------------|------|-----------|------------|------------|------|-----------|---------------|------|----------|--------------|------|--|
| Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | LDU | <u> </u> | † | LDIN | WDU | WDL | † ‡ | WDIX | NDL | 4 | NDIX | JDL | ODI | ODIN | |
| Traffic Volume (vph) | 22 | 37 | 584 | 94 | 8 | 38 | 469 | 40 | 22 | 30 | 19 | 0 | 0 | 0 | |
| Future Volume (vph) | 22 | 37 | 584 | 94 | 8 | 38 | 469 | 40 | 22 | 30 | 19 | 0 | 0 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Storage Length (ft) | | 125 | | 60 | | 100 | | 0 | 0 | | 0 | 0 | | 0 | |
| Storage Lanes | | 1 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Taper Length (ft) | | 125 | | | | 50 | | | 50 | | | 50 | | | |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped Bike Factor | | 0.91 | 0.99 | | | 0.93 | 0.99 | | | 0.90 | | | | | |
| Frt | | 0.950 | 0.979 | | | 0.950 | 0.988 | | | 0.964 | | | | | |
| Flt Protected | 0 | 1566 | 2904 | 0 | 0 | 1548 | 2886 | 0 | 0 | 0.985 1371 | 0 | 0 | 0 | 0 | |
| Satd. Flow (prot) Flt Permitted | U | 0.425 | 2904 | U | U | 0.325 | 2000 | U | U | 0.985 | U | U | U | U | |
| Satd. Flow (perm) | 0 | 638 | 2904 | 0 | 0 | 490 | 2886 | 0 | 0 | 1309 | 0 | 0 | 0 | 0 | |
| Right Turn on Red | U | 000 | 2001 | Yes | U | 400 | 2000 | Yes | U | 1000 | Yes | Ū | Ū | Yes | |
| Satd. Flow (RTOR) | | | 26 | | | | 16 | | | 18 | | | | | |
| Link Speed (mph) | | | 30 | | | | 30 | | | 30 | | | 30 | | |
| Link Distance (ft) | | | 537 | | | | 488 | | | 314 | | | 267 | | |
| Travel Time (s) | | | 12.2 | | | | 11.1 | | | 7.1 | | | 6.1 | | |
| Confl. Peds. (#/hr) | 117 | 220 | | 75 | 156 | 75 | | 220 | 117 | | 156 | 156 | | 117 | |
| Confl. Bikes (#/hr) | | | | 12 | | | | 12 | | | 6 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Heavy Vehicles (%) | 0% | 6% | 9% | 2% | 0% | 6% | 10% | 10% | 14% | 7% | 17% | 0% | 0% | 0% | |
| Adj. Flow (vph) | 24 | 40 | 635 | 102 | 9 | 41 | 510 | 43 | 24 | 33 | 21 | 0 | 0 | 0 | |
| Shared Lane Traffic (%) | 0 | C.A | 737 | 0 | 0 | F0 | EEO | 0 | 0 | 78 | 0 | ٥ | 0 | 0 | |
| Lane Group Flow (vph) | | 64 Perm | NA | U | 0 | 50 | 553 NA | U | 0 Perm | 78 NA | U | 0 | U | 0 | |
| Turn Type Protected Phases | Perm | Perm | NA 1 | | Prot 3 | pm+pt 3 | 1 1 | | Perm | 2 | | | | | |
| Permitted Phases | 1 | 1 | | | 3 | 1 | 3 | | 2 | 2 | | | | | |
| Detector Phase | 1 | 1 | 1 | | 3 | 3 | 1 | | 2 | 2 | | | | | |
| Switch Phase | • | • | • | | | | | | _ | - | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | | 6.0 | 6.0 | 8.0 | | 8.0 | 8.0 | | | | | |
| Minimum Split (s) | 56.0 | 56.0 | 56.0 | | 10.0 | 10.0 | 56.0 | | 30.0 | 30.0 | | | | | |
| Total Split (s) | 56.0 | 56.0 | 56.0 | | 10.0 | 10.0 | 56.0 | | 34.0 | 34.0 | | | | | |
| Total Split (%) | 56.0% | 56.0% | 56.0% | | 10.0% | 10.0% | 56.0% | | 34.0% | 34.0% | | | | | |
| Maximum Green (s) | 51.0 | 51.0 | 51.0 | | 6.0 | 6.0 | 51.0 | | 28.0 | 28.0 | | | | | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 2.0 | 2.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 3.0 | 3.0 | | | | | |
| Lost Time Adjust (s) Total Lost Time (s) | | 0.0 5.0 | 0.0 5.0 | | | 0.0 4.0 | 0.0 5.0 | | | 0.0 6.0 | | | | | |
| Lead/Lag | Lead | Lead | Lead | | | 4.0 | Lead | | Lag | Lag | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | | | | Yes | | Yes | Yes | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| Recall Mode | C-Max | C-Max | C-Max | | None | None | C-Max | | None | None | | | | | |
| Walk Time (s) | 46.0 | 46.0 | 46.0 | | | | 46.0 | | 7.0 | 7.0 | | | | | |
| Flash Dont Walk (s) | 5.0 | 5.0 | 5.0 | | | | 5.0 | | 17.0 | 17.0 | | | | | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | | | | 0 | | 273 | 273 | | | | | |
| Act Effct Green (s) | | 57.0 | 57.0 | | | 62.8 | 65.0 | | | 24.0 | | | | | |
| Actuated g/C Ratio | | 0.57 | 0.57 | | | 0.63 | 0.65 | | | 0.24 | | | | | |
| v/c Ratio | | 0.18 | 0.44 | | | 0.13 | 0.29 | | | 0.24 | | | | | |
| Control Delay | | 12.9 | 13.4 | | | 6.9 | 7.8 | | | 26.3 | | | | | |
| Queue Delay | | 0.0 12.9 | 0.0 | | | 0.0 | 0.0 | | | 0.0 26.3 | | | | | |
| Total Delay LOS | | 12.9 B | 13.4 B | | | 6.9 A | 7.8 A | | | 20.3 C | | | | | |
| Approach Delay | | D | 13.3 | | | Α. | 7.7 | | | 26.3 | | | | | |
| Approach LOS | | | 13.3 B | | | | Α. | | | 20.3 C | | | | | |
| Queue Length 50th (ft) | | 19 | 135 | | | 10 | 70 | | | 31 | | | | | |
| Queue Length 95th (ft) | | 44 | 181 | | | 23 | 96 | | | 71 | | | | | |
| Internal Link Dist (ft) | | | 457 | | | | 408 | | | 234 | | | 187 | | |
| Turn Bay Length (ft) | | 125 | | | | 100 | | | | | | | | | |
| Base Capacity (vph) | | 363 | 1666 | | | 371 | 1881 | | | 379 | | | | | |
| Starvation Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Spillback Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Storage Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Reduced v/c Ratio | | 0.18 | 0.44 | | | 0.13 | 0.29 | | | 0.21 | | | | | |

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 69 (69%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 11.7

Intersection Capacity Utilization 82.5%

Analysis Period (min) 15 Intersection LOS: B ICU Level of Service E

Splits and Phases: 3: Gainsborough Street & Huntongton Avenue/Huntington Avenue





| | • | → | * | F | • | + | • | • | † | ~ | \ | | 4 |
|-----------------------------------|------|----------|-------|------|------------|-----------|------|------------|------------|------|------------|--------------|------|
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | 4 | | | | 4 | | | 4 | | | 4 | |
| Traffic Volume (veh/h) | 1 | 69 | 0 | 3 | 1 | 115 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Future Volume (Veh/h) | 1 | 69 | 0 | 3 | 1 | 115 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Sign Control | | Free | | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.75 | 0.75 | 0.75 | 0.75 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 1 | 90 | 0 | 00 | 1 | 153 | 00 | 0.00 | 0.00 | 4 | 0.00 | 0.00 | 4 |
| Pedestrians | | 13 | · | · | | 3 | · | · | 67 | | | 14 | |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | |
| Percent Blockage | | 1 | | | | 0.0 | | | 6 | | | 1 | |
| Right turn flare (veh) | | - ' | | | | J | | | J | | | | |
| Median type | | None | | | | None | | | | | | | |
| Median type Median storage veh) | | NOHE | | | | NOUE | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | 140 | | | | | | | |
| vC, conflicting volume | 167 | | | 0.00 | 157 | | | 331 | 328 | 160 | 268 | 328 | 180 |
| vC1, stage 1 conf vol | 107 | | | U | 107 | | | 331 | 320 | 100 | 200 | 320 | 100 |
| | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | 407 | | | 0 | 457 | | | 224 | 200 | 400 | 000 | 200 | 400 |
| vCu, unblocked vol | 167 | | | 0.0 | 157 | | | 331 7.1 | 328 6.5 | 160 | 268 7.1 | 328 6.5 | 180 |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 0.5 | 6.2 | 7.1 | 0.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 0 | 100 | | | 100 | 100 | 100 | 100 | 100 | 100 |
| cM capacity (veh/h) | 1404 | | | 0 | 1344 | | | 542 | 548 | 831 | 634 | 548 | 846 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 91 | 154 | 4 | 4 | | | | | | | | | |
| Volume Left | 1 | 1 | 0 | 0 | | | | | | | | | |
| Volume Right | 0 | 0 | 4 | 4 | | | | | | | | | |
| cSH | 1404 | 1344 | 831 | 846 | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | | | | | | | | | |
| Control Delay (s) | 0.1 | 0.1 | 9.4 | 9.3 | | | | | | | | | |
| Lane LOS | Α | Α | Α | Α | | | | | | | | | |
| Approach Delay (s) | 0.1 | 0.1 | 9.4 | 9.3 | | | | | | | | | |
| Approach LOS | | | Α | Α | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 0.4 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 25.9% | IC | U Level of | f Service | | | Α | | | | |
| Analysis Period (min) | | | 15 | IC | O LEVEL O | Service | | | А | | | | |
| Analysis Pellou (IIIIII) | | | 10 | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | | |
|----------------------------|------|-------|-------|-------|-------|------|------|-------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 8.5 | | | | | | | | | | | | | | | |
| Intersection LOS | Α. | | | | | | | | | | | | | | | |
| Intersection LOO | А | | | | | | | | | | | | | | | |
| Movement | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | 250 | | 4 | LDIT | 1150 | 1152 | 4 | ***** | 1150 | 1152 | 4 | HUIT | 050 | 002 | 4 | 05.1 |
| Traffic Vol., veh/h | 0 | 9 | 6 | 2 | 0 | 62 | 14 | 49 | 0 | 7 | 13 | 7 | 0 | 62 | 65 | 5 |
| Future Vol, veh/h | 0 | 9 | 6 | 2 | 0 | 62 | 14 | 49 | 0 | 7 | 13 | 7 | 0 | 62 | 65 | 5 |
| Peak Hour Factor | 0.92 | 0.85 | 0.85 | 0.85 | 0.92 | 0.81 | 0.81 | 0.81 | 0.92 | 0.84 | 0.84 | 0.84 | 0.92 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles, % | 2 | 78 | 67 | 0 | 2 | 2 | 43 | 10 | 2 | 0 | 0 | 14 | 2 | 13 | 0 | 0 |
| Mvmt Flow | 0 | 11 | 7 | 2 | 0 | 77 | 17 | 60 | 0 | 8 | 15 | 8 | 0 | 74 | 77 | 6 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | EB | | | | WB | | | | NB | | | | SB | | |
| Opposing Approach | | WB | | | | EB | | | | SB | | | | NB | | |
| Opposing Lanes | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Left | | SB | | | | NB | | | | EB | | | | WB | | |
| Conflicting Lanes Left | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Right | | NB | | | | SB | | | | WB | | | | EB | | |
| Conflicting Lanes Right | | 1 | | | | 1 | | | | 1 | | | | 1 | | |
| HCM Control Delay | | 9.1 | | | | 8.3 | | | | 7.6 | | | | 8.8 | | |
| HCM LOS | | Α | | | | Α | | | | Α | | | | Α | | |
| | | | | | | | | | | | | | | | | |
| Lane | ١ | NBLn1 | EBLn1 | WBLn1 | SBLn1 | | | | | | | | | | | |
| Vol Left, % | | 26% | 53% | 50% | 47% | | | | | | | | | | | |
| Vol Thru, % | | 48% | 35% | 11% | 49% | | | | | | | | | | | |
| Vol Right, % | | 26% | 12% | 39% | 4% | | | | | | | | | | | |
| Sign Control | | Stop | Stop | Stop | Stop | | | | | | | | | | | |
| Traffic Vol by Lane | | 27 | 17 | 125 | 132 | | | | | | | | | | | |
| LT Vol | | 7 | 9 | 62 | 62 | | | | | | | | | | | |
| Through Vol | | 13 | 6 | 14 | 65 | | | | | | | | | | | |
| RT Vol | | 7 | 2 | 49 | 5 | | | | | | | | | | | |
| Lane Flow Rate | | 32 | 20 | 154 | 157 | | | | | | | | | | | |
| Geometry Grp | | 1 | 1 | 1 | 1 | | | | | | | | | | | |
| Degree of Util (X) | | 0.039 | 0.033 | 0.184 | 0.202 | | | | | | | | | | | |
| Departure Headway (Hd) | | 4.387 | 5.892 | 4.283 | 4.636 | | | | | | | | | | | |
| Convergence, Y/N | | Yes | Yes | Yes | Yes | | | | | | | | | | | |
| Сар | | 818 | 609 | 841 | 776 | | | | | | | | | | | |
| Service Time | | 2.405 | 3.91 | 2.296 | 2.651 | | | | | | | | | | | |
| HCM Lane V/C Ratio | | 0.039 | 0.033 | 0.183 | 0.202 | | | | | | | | | | | |
| HCM Control Delay | | 7.6 | 9.1 | 8.3 | 8.8 | | | | | | | | | | | |
| HCM Lane LOS | | A | A | A | A | | | | | | | | | | | |
| HCM 95th-tile Q | | 0.1 | 0.1 | 0.7 | 0.8 | | | | | | | | | | | |

| | → | \rightarrow | • | • | • | / |
|------------------------|-------------|---------------|-------------------|----------|-------------|---------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | † 1> | | | ^ | | 7 |
| Traffic Volume (veh/h) | 156 | 0 | 0 | 154 | 0 | 0 |
| Future Volume (Veh/h) | 156 | 0 | 0 | 154 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.86 | 0.86 | 0.92 | 0.92 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 181 | 0.00 | 0.02 | 167 | 0.20 | 0.20 |
| Pedestrians | 163 | · | | 101 | | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 16 | | | | | |
| Right turn flare (veh) | 10 | | | | | |
| | Raised | | | Raised | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | 400 | | | 109 | | |
| | | | 181 | | 428 | 90 |
| vC, conflicting volume | | | 181 | | 428 181 | 90 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | 404 | | 246 | 00 |
| vCu, unblocked vol | | | 181 | | 428 | 90 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 100 |
| cM capacity (veh/h) | | | 1407 | | 615 | 956 |
| | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 121 | 60 | 84 | 84 | 0 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 0 | 0 | 0 | |
| | 1700 | 1700 | 1700 | 1700 | 1700 | |
| Volume to Capacity | 0.07 | 0.04 | 0.05 | 0.05 | 0.00 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Lane LOS | 2.0 | 3.0 | 0.0 | 0.0 | A | |
| Approach Delay (s) | 0.0 | | 0.0 | | 0.0 | |
| Approach LOS | 0.0 | | 0.0 | | Α. | |
| | | | | | Α | |
| Interposition Cummens | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| | | | 0.0 8.1% 15 | IC | CU Level of | Service |

| 110 2414 (2021) 001141 | | | | | | |
|-----------------------------------|------|------|-------|----------|------------|---------|
| | • | • | 4 | † | Ţ | 4 |
| | - | • | ١, | ı | ▼ | - |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ¥ | | | 4 | 1> | |
| Traffic Volume (veh/h) | 0 | 2 | 1 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 2 | 1 | 0 | 0 | 0 |
| Sign Control | Stop | | - ' | Free | Free | U |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | U | 2 | - 1 | U | U | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2 | 0 | 0 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2 | 0 | 0 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | 0.4 | 0.2 | 7.1 | | | |
| | 3.5 | 3.3 | 2.2 | | | |
| tF (s) | | 100 | 100 | | | |
| p0 queue free % | 100 | | | | | |
| cM capacity (veh/h) | 1020 | 1085 | 1623 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 2 | 1 | 0 | | | |
| Volume Left | 0 | 1 | 0 | | | |
| Volume Right | 2 | 0 | 0 | | | |
| cSH | 1085 | 1623 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0.00 | 0.00 | 0.00 | | | |
| | 8.3 | 7.2 | 0.0 | | | |
| Control Delay (s) | | | 0.0 | | | |
| Lane LOS | A | A | 0.0 | | | |
| Approach Delay (s) | 8.3 | 7.2 | 0.0 | | | |
| Approach LOS | Α | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 8.0 | | | |
| Intersection Capacity Utilization | | | 13.3% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |
| , , | | | | | | |

| Company Comp | 140 Balla (2024) 001 | | | | | | | | | _ | | | | , | | | |
|---|----------------------|------|------|------|------|------|------|------|-------|-------------|--------------|------|-------------|------|-----|-----|--|
| Lame Cologramics 4 1 | | , | - | • | F | • | _ | • | 1 | T | | - | ¥ | * | | | |
| Table Victories (poly) 50 | Lane Group | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Table Victories (poly) 50 | Lane Configurations | | 414 | | | | 414 | | 7 | ∱ 1> | | | ∱ 1> | | | | |
| Figure Victories (print) 190 90 90 190 190 190 190 190 190 190 1 | | 60 | 30 | 69 | 1 | 119 | 34 | 35 | | 920 | 96 | 0 | | 120 | | | |
| Messer M | | | | | 1 | | | | | | | | | | | | |
| Strays Longh (1) | | | | | | | | | | | | | | | | | |
| Stronge Large 1 | | | | | | | | | | | | | | | | | |
| Topic Ingerty 10 10 10 10 10 10 10 1 | | | | | | | | | | | | | | | | | |
| Linke URI Principle 1 | | | | - | | | | - | | | - | | | | | | |
| Post Barbor 0.87 | | | 0.95 | 0.95 | 0.95 | | 0.95 | 0.95 | | 0.95 | 0.95 | | 0.95 | 0.95 | | | |
| Fit Processor 1985 1986 | | 0.00 | | 0.00 | 0.00 | 0.00 | | 0.00 | 1.00 | | 0.00 | 1.00 | | 0.00 | | | |
| File Protected 0.952 | | | | | | | | | | | | | | | | | |
| Said Flow (prop) Planemided 0 9274 | | | | | | | | | 0.950 | 0.000 | | | 0.001 | | | | |
| File Permission 0 982 | | 0 | | 0 | ٥ | ٥ | | ٥ | | 2055 | ٥ | 0 | 2004 | ٥ | | | |
| Salet Flow (permy) Salet Flow (PTOK) Salet Flow | | U | | U | U | U | | U | | 2000 | U | U | 2304 | U | | | |
| Right Turn Or Rod No | | ٥ | | 0 | ٥ | ٥ | | ٥ | | 2055 | ٥ | 0 | 2004 | ٥ | | | |
| Solic Flore (PTOK) Link Speed (mph) 30 405 304 305 305 304 317 17 Travel Trave () 305 307 307 307 307 307 307 307 307 307 307 | | U | 2000 | | U | U | 2002 | | 101 | 2000 | | U | 2304 | | | | |
| Link Speed (mph) | | | | 140 | | | | 140 | | | 140 | | | 140 | | | |
| Likh Classification (19) | | | 30 | | | | 30 | | | 30 | | | 30 | | | | |
| Travel T | | | | | | | | | | | | | | | | | |
| Conff. Bisket (fint) | | | | | | | | | | | | | | | | | |
| Conf. Bisse (Irbn) | | 02 | 3.0 | 60 | EOG | 60 | 11.3 | 02 | 760 | 7.0 | EOG | EOG | 1.0 | 760 | | | |
| Peak Holy Factor 10 | | 02 | | | 500 | 09 | | | 702 | | | 500 | | | | | |
| Heary Vehicles (%) 0% 0% 0% 0% 0% 0% 0% | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | | 0.04 | 0.04 | | 0.00 | 0.00 | | | | |
| Adi, Flow (uph) 65 33 75 1 124 35 36 8 979 102 0 130 Shared Lane Triding (%) Lane Group Flow (uph) 0 1 7 7 5 5 5 3 1 1 2 6 Producted Phases 7 7 5 5 5 3 13 1 2 6 Permitted Phases 7 7 5 5 5 3 13 1 2 6 Windrum Initial (s) 80 80 80 80 80 80 100 10 10 10 Total Spit (s) 210 210 225 225 225 225 255 155 4 20 6 6 6 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10< | | | | | | | | | | | | | | | | | |
| Shared Lane Traffic (%) Lane Group Flow (ph) 0 0 173 0 0 0 196 0 88 1081 0 0 1256 0 | | | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | | 65 | 33 | /5 | 1 | 124 | 35 | 36 | 88 | 979 | 102 | U | 1126 | 130 | | | |
| Tum Type Split NA Split Split NA International Protected Phases 7 7 7 5 5 5 5 3 13 1 2 6 | | ^ | 470 | • | ^ | ^ | 400 | ^ | 00 | 1001 | ^ | ^ | 4050 | • | | | |
| Protected Phases 7 | | | | 0 | | | | 0 | | | 0 | 0 | | 0 | | | |
| Permitted Phases 7 | | | | | | | | | | | | | | | | | |
| Delector Phase 7 | | / | 1 | | 5 | 5 | 5 | | | 13 | | | 1 | | 2 | 6 | |
| Switch Phase Minimum Initial (a) 8.0 | | _ | _ | | _ | _ | _ | | | | | | | | | | |
| Minimum bitial (s) | | / | 1 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | | | |
| Minimum Spill (s) 21 0 21 0 23 5 2 | | | | | | | | | | | | | | | | | |
| Total Spit (s) | | | | | | | | | | | | | | | | | |
| Total Spiti (%) | | | | | | | | | | | | | | | | | |
| Maximum Green (s) 15.0 15.0 17.5 17.5 17.5 10.5 35.5 4.0 4.0 | | | | | | | | | | | | | | | | | |
| Yellow Time (s) 3.5 3.5 3.5 3.5 3.5 2.0 2.0 All-Red Time (s) 3.5 3.5 4.0 4.0 4.0 4.0 0.0 </td <td></td> | | | | | | | | | | | | | | | | | |
| All-Red Time (s) 3.5 3.5 4.0 4.0 4.0 4.0 4.0 0.0 0.0 0.0 Total Lost Time Adjust (s) 7.0 7.5 7.5 7.5 7.5 7.5 7.5 1.2 | | | | | | | | | | | | | | | | | |
| Lost Time (s) 0.0 0.0 0.0 0.0 0.0 0.0 1.0 1.0 1.0 1.0 | | | | | | | | | | | | | | | | | |
| Total Lost Time (s) 7.0 | | 3.5 | | | 4.0 | 4.0 | | | | | | | | | 0.0 | 0.0 | |
| Lead/Lag Optimize? Lag Lag Lag Lag Lag Lag Lag Lead | | | | | | | | | | | | | | | | | |
| Lead-Lag Optimize? Yes | | | 7.0 | | | | | | | | | | | | | | |
| Vehicle Extension (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 Recall Mode Ped Ped Ped Ped Ped Ped Ped Ped Max Ped Max Ped Pe | | | | | | | | | | | | | | | | | |
| Recall Mode Ped Walk Time (s) 4.0 <td></td> | | | | | | | | | | | | | | | | | |
| Walk Time (s) 4.0 4.0 4.0 4.0 4.0 1.0 10.0 12.0 12.0 12.0 6.0 0.0 | | | | | | | | | | | | | | | | | |
| Flash Dont Walk (s) 10.0 10.0 12.0 12.0 12.0 6.0 6.0 0.0 <td></td> | | | | | | | | | | | | | | | | | |
| Pedestrian Calls (#/hr) 0 | | | | | | | | | | | | | | | | | |
| Act Effct Green (s) 14.2 16.1 48.2 55.7 37.9 Actuated g/C Ratio 0.12 0.13 0.40 0.46 0.32 v/c Ratio 0.53 0.51 0.45 0.79 1.37 Control Delay 56.3 53.5 22.8 14.4 207.9 Queue Delay 0.0 0.0 0.0 21.4 0.0 Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length Soth (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn | | | | | | | | | | | | | | | | | |
| Actuated g/C Ratio 0.12 0.13 0.40 0.46 0.32 v/c Ratio 0.53 0.51 0.45 0.79 1.37 Control Delay 56.3 53.5 22.8 14.4 207.9 Queue Delay 0.0 0.0 0.0 21.4 0.0 Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 </td <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td></td> | | 0 | | | 0 | 0 | | | | | | | | | 0 | 0 | |
| v/c Ratio 0.53 0.51 0.45 0.79 1.37 Control Delay 56.3 53.5 22.8 14.4 207.9 Queue Delay 0.0 0.0 0.0 21.4 0.0 Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turm Bay Length (ft) 50 150 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 | | | | | | | | | | | | | | | | | |
| Control Delay 56.3 53.5 22.8 14.4 207.9 Queue Delay 0.0 0.0 0.0 21.4 0.0 Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) T 150 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<> | | | | | | | | | | | | | | | | | |
| Queue Delay 0.0 0.0 0.0 21.4 0.0 Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 50 150 254 261 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Total Delay 56.3 53.5 22.8 35.8 207.9 LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turm Bay Length (ft) 150 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| LOS E D C D F Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 5 150 5 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 323 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Approach Delay 56.3 53.5 34.8 207.9 Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) Turn Bay Length (ft) 5 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 323 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Approach LOS E D C F Queue Length 50th (ft) 67 75 21 322 -675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 150 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 323 0 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 | | | | | | | | | C | | | | | | | | |
| Queue Length 50th (ft) 67 75 21 322 ~675 Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 323 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Queue Length 95th (ft) 105 114 m17 m294 #830 Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) | | | | | | | | | | | | | | | | | |
| Internal Link Dist (ft) 79 415 254 261 Turn Bay Length (ft) 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 323 0 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Turn Bay Length (ft) 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reducth 0 0 0 323 0 Spillback Cap Reducth 0 0 0 0 Storage Cap Reducth 0 0 0 0 | | | | | | | | | m17 | | | | | | | | |
| Turn Bay Length (ft) 150 Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reducth 0 0 0 323 0 Spillback Cap Reducth 0 0 0 0 Storage Cap Reducth 0 0 0 0 | | | 79 | | | | 415 | | | 254 | | | 261 | | | | |
| Base Capacity (vph) 342 415 199 1375 916 Starvation Cap Reductn 0 0 0 323 0 Spillback Cap Reductn 0 0 0 0 Storage Cap Reductn 0 0 0 0 | Turn Bay Length (ft) | | | | | | | | | | | | | | | | |
| Starvation Cap Reductn 0 0 0 323 0 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | 342 | | | | 415 | | | 1375 | | | 916 | | | | |
| Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | 0.47 | | 0.44 | | | | | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 21 (18%), Referenced to phase 1:NBSB, Start of Green

Control Type: Actuated-Coordinated Maximum v/c Ratio: 1.37 Intersection Signal Delay: 115.3

Intersection LOS: F ICU Level of Service D

Intersection Capacity Utilization 76.6%

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Massachusetts Avenue & Huntongton Avenue



| | • | → | • | • | — | • | • | <u>†</u> | <i>/</i> ~ | <u> </u> | | 1 | | | |
|-------------------------|----------------|-----------|-------------|-------|------------------|------|-------|-----------|------------|------------|--------------|------------|-----|-----|--|
| Lane Group | EBL | EBT | EBR | ₩BL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Lane Configurations | LDL | | LDIN | WDL | | WDIX | INDL | | NDIX | JDL T | ↑ ↑ | ODIN | WZ. | 200 | |
| | 1 39 | 13 | 167 | 74 | 1 → 26 | 31 | 54 | 413 | 63 | | T P→ | 27 | | | |
| Traffic Volume (vph) | | 17 | | | | | | 1025 | | 74 | 1123 | | | | |
| Future Volume (vph) | 39 | 17 | 167 1900 | 74 | 26 | 31 | 54 | 1025 | 63 | 74 1900 | 1123 | 27 1900 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | 1900 | | | | |
| Storage Length (ft) | 25 | | 0 | 25 | | 0 | 100 | | 0 | 50 | | 0 | | | |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 1 | | 0 | | | |
| Taper Length (ft) | 50 | 4.00 | 4.00 | 50 | 4.00 | 4.00 | 50 | 0.05 | 0.05 | 25 | 0.05 | 0.05 | | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | 0.97 | 0.96 | | 0.98 | 0.97 | | | 0.98 | | | 0.99 | | | | |
| Frt | | 0.863 | | | 0.918 | | | 0.992 | | | 0.997 | | | | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.998 | | 0.950 | | | | | |
| Satd. Flow (prot) | 1624 | 1400 | 0 | 1608 | 1527 | 0 | 0 | 3072 | 0 | 1608 | 3081 | 0 | | | |
| Flt Permitted | 0.717 | | | 0.476 | | | | 0.734 | | 0.156 | | | | | |
| Satd. Flow (perm) | 1189 | 1400 | 0 | 789 | 1527 | 0 | 0 | 2260 | 0 | 264 | 3081 | 0 | | | |
| Right Turn on Red | | | No | | | No | | | No | | | No | | | |
| Satd. Flow (RTOR) | | | | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 145 | | | 377 | | | 341 | | | 334 | | | | |
| Travel Time (s) | | 3.3 | | | 8.6 | | | 7.8 | | | 7.6 | | | | |
| Confl. Peds. (#/hr) | 22 | | 21 | 21 | | 22 | 151 | | 92 | 92 | | 151 | | | |
| Confl. Bikes (#/hr) | | | 5 | | | 7 | | | 111 | | | 109 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Heavy Vehicles (%) | 0% | 0% | 1% | 1% | 0% | 0% | 3% | 3% | 0% | 1% | 4% | 4% | | | |
| Adj. Flow (vph) | 42 | 18 | 182 | 80 | 28 | 34 | 59 | 1114 | 68 | 80 | 1221 | 29 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 42 | 200 | 0 | 80 | 62 | 0 | 0 | 1241 | 0 | 80 | 1250 | 0 | | | |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | | | | |
| Protected Phases | | 5 | | | 5 | | | 1 | | | 1 | | 2 | 6 | |
| Permitted Phases | 5 | | | 5 | | | 1 | | | 1 | | | | | |
| Detector Phase | 5 | 5 | | 5 | 5 | | 1 | 1 | | 1 | 1 | | | | |
| Switch Phase | | | | | | | | | | | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 29.5 | 29.5 | | 29.5 | 29.5 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (%) | 31.7% | 31.7% | | 31.7% | 31.7% | | 58.3% | 58.3% | | 58.3% | 58.3% | | 5% | 5% | |
| Maximum Green (s) | 32.5 | 32.5 | | 32.5 | 32.5 | | 64.5 | 64.5 | | 64.5 | 64.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | | | |
| Total Lost Time (s) | 5.5 | 5.5 | | 5.5 | 5.5 | | | 5.5 | | 5.5 | 5.5 | | | | |
| Lead/Lag | Lead | Lead | | Lead | Lead | | Lead | Lead | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | | C-Max | C-Max | | C-Max | C-Max | | Ped | Ped | |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 12.0 | 12.0 | | 12.0 | 12.0 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 17.0 | 17.0 | | 17.0 | 17.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | 25.5 | 25.5 | | 25.5 | 25.5 | | | 71.5 | | 71.5 | 71.5 | | | | |
| Actuated g/C Ratio | 0.21 | 0.21 | | 0.21 | 0.21 | | | 0.60 | | 0.60 | 0.60 | | | | |
| v/c Ratio | 0.17 | 0.67 | | 0.48 | 0.19 | | | 0.92 | | 0.51 | 0.68 | | | | |
| Control Delay | 39.5 | 55.2 | | 51.4 | 39.7 | | | 34.7 | | 12.9 | 9.1 | | | | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 32.8 | | 0.0 | 2.2 | | | | |
| Total Delay | 39.5 | 55.2 | | 51.4 | 39.7 | | | 67.6 | | 12.9 | 11.3 | | | | |
| LOS | D | 55.2 E | | D D | D D | | | 67.0 E | | 12.3 B | В | | | | |
| Approach Delay | U | 52.5 | | U | 46.3 | | | 67.6 | | D | 11.4 | | | | |
| Approach LOS | | J2.3 | | | 40.3 D | | | 67.6 E | | | В | | | | |
| Queue Length 50th (ft) | 27 | 146 | | 56 | 40 | | | 412 | | 6 | 84 | | | | |
| Queue Length 95th (ft) | 56 | 216 | | 103 | 75 | | | #658 | | m6 | m41 | | | | |
| Internal Link Dist (ft) | 50 | 65 | | 103 | 297 | | | 261 | | 1110 | 254 | | | | |
| Turn Bay Length (ft) | 25 | 00 | | 25 | 291 | | | 201 | | 50 | 204 | | | | |
| | 322 | 379 | | 213 | 413 | | | 1346 | | 157 | 1835 | | | | |
| Base Capacity (vph) | | | | | | | | 1346 | | | | | | | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | | | 0 | 425 | | | | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 185 | | 0 | 0 | | | | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | 0 | 0 | | | | |
| Reduced v/c Ratio | 0.13 | 0.53 | | 0.38 | 0.15 | | | 1.07 | | 0.51 | 0.89 | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.92 Intersection Signal Delay: 40.0

Intersection LOS: D ICU Level of Service H

Intersection Capacity Utilization 116.4%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street





| | • | • | → | • | F | • | + | • | • | † | ~ | / | | 1 | |
|---------------------------------|-------|----------|-------------|------|-------|-------|----------|------|-------|----------|------|----------|--------------|------|--|
| Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | LDU | LDL N | † 1> | LDIN | WDU | WDL | † | WDIX | NDL | 4 | NDIX | JDL | 301 | ODIN | |
| Traffic Volume (vph) | 28 | 53 | 690 | 126 | 20 | 40 | 703 | 58 | 31 | 56 | 36 | 0 | 0 | 0 | |
| Future Volume (vph) | 28 | 53 | 690 | 126 | 20 | 40 | 703 | 58 | 31 | 56 | 36 | 0 | 0 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Storage Length (ft) | 1000 | 125 | 1000 | 60 | 1000 | 100 | 1000 | 0 | 0 | 1000 | 0 | 0 | 1000 | 0 | |
| Storage Lanes | | 1 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Taper Length (ft) | | 50 | | | | 50 | | | 50 | | | 50 | | | |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped Bike Factor | | 0.89 | 0.91 | | | 0.75 | 0.96 | | | 0.84 | | | | | |
| Frt | | | 0.977 | | | | 0.989 | | | 0.961 | | | | | |
| Flt Protected | | 0.950 | | | | 0.950 | | | | 0.988 | | | | | |
| Satd. Flow (prot) | 0 | 1583 | 2800 | 0 | 0 | 1567 | 3011 | 0 | 0 | 1429 | 0 | 0 | 0 | 0 | |
| Flt Permitted | | 0.318 | | | | 0.950 | | | | 0.988 | | | | | |
| Satd. Flow (perm) | 0 | 470 | 2800 | 0 | 0 | 1171 | 3011 | 0 | 0 | 1325 | 0 | 0 | 0 | 0 | |
| Right Turn on Red | | | | Yes | | | | Yes | | | Yes | | | Yes | |
| Satd. Flow (RTOR) | | | 32 | | | | 16 | | | 20 | | | | | |
| Link Speed (mph) | | | 30 | | | | 30 | | | 30 | | | 30 | | |
| Link Distance (ft) | | | 537 | | | | 488 | | | 314 | | | 267 | | |
| Travel Time (s) | | | 12.2 | | | | 11.1 | | | 7.1 | | | 6.1 | | |
| Confl. Peds. (#/hr) | 230 | 481 | | 225 | 335 | 225 | | 481 | 230 | | 335 | 335 | | 230 | |
| Confl. Bikes (#/hr) | | | | 17 | | | | 18 | | | 4 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | |
| Heavy Vehicles (%) | 0% | 4% | 3% | 2% | 5% | 3% | 3% | 0% | 4% | 0% | 6% | 0% | 0% | 0% | |
| Adj. Flow (vph) | 30 | 58 | 750 | 137 | 22 | 43 | 764 | 63 | 33 | 60 | 38 | 0 | 0 | 0 | |
| Shared Lane Traffic (%) | ^ | 00 | 007 | • | • | 05 | 007 | • | ^ | 404 | ^ | • | • | • | |
| Lane Group Flow (vph) | 0 | 88 | 887 | 0 | 0 | 65 | 827 | 0 | 0 | 131 | 0 | 0 | 0 | 0 | |
| Turn Type | Perm | Perm | NA 1 | | Prot | Prot | NA | | Perm | NA | | | | | |
| Protected Phases | 1 | 1 | 1 | | 3 | 3 | 1 | | _ | 2 | | | | | |
| Permitted Phases Detector Phase | 1 | 1 | 1 | | 3 | 3 | 3 | | 2 | 2 | | | | | |
| Switch Phase | - 1 | | - 1 | | ა | 3 | - 1 | | 2 | 2 | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | | 6.0 | 6.0 | 8.0 | | 8.0 | 8.0 | | | | | |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | | 10.0 | 10.0 | 23.0 | | 30.0 | 30.0 | | | | | |
| Total Split (s) | 58.0 | 58.0 | 58.0 | | 10.0 | 10.0 | 58.0 | | 32.0 | 32.0 | | | | | |
| Total Split (%) | 58.0% | 58.0% | 58.0% | | 10.0% | 10.0% | 58.0% | | 32.0% | 32.0% | | | | | |
| Maximum Green (s) | 53.0 | 53.0 | 53.0 | | 6.0 | 6.0 | 53.0 | | 26.0 | 26.0 | | | | | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 2.0 | 2.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 3.0 | 3.0 | | | | | |
| Lost Time Adjust (s) | 2.0 | 0.0 | 0.0 | | 2.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | 4.0 | 5.0 | | | 6.0 | | | | | |
| Lead/Lag | Lead | Lead | Lead | | | | Lead | | Lag | Lag | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | | | | Yes | | Yes | Yes | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| Recall Mode | C-Max | C-Max | C-Max | | None | None | C-Max | | Min | Min | | | | | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | | | | 7.0 | | 7.0 | 7.0 | | | | | |
| Flash Dont Walk (s) | 5.0 | 5.0 | 5.0 | | | | 5.0 | | 17.0 | 17.0 | | | | | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | | | | 0 | | 0 | 0 | | | | | |
| Act Effct Green (s) | | 67.0 | 67.0 | | | 6.0 | 75.0 | | | 14.0 | | | | | |
| Actuated g/C Ratio | | 0.67 | 0.67 | | | 0.06 | 0.75 | | | 0.14 | | | | | |
| v/c Ratio | | 0.28 | 0.47 | | | 0.69 | 0.37 | | | 0.65 | | | | | |
| Control Delay | | 11.8 | 9.8 | | | 82.2 | 5.2 | | | 48.4 | | | | | |
| Queue Delay | | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | | | | | |
| Total Delay | | 11.8 | 9.8 | | | 82.2 | 5.2 | | | 48.4 | | | | | |
| LOS | | В | Α | | | F | Α | | | D | | | | | |
| Approach Delay | | | 10.0 | | | | 10.8 | | | 48.4 | | | | | |
| Approach LOS | | | Α | | | | В | | | D | | | | | |
| Queue Length 50th (ft) | | 22 | 131 | | | 41 | 76 | | | 68 | | | | | |
| Queue Length 95th (ft) | | 61 | 214 | | | #112 | 136 | | | 122 | | | | | |
| Internal Link Dist (ft) | | | 457 | | | | 408 | | | 234 | | | 187 | | |
| Turn Bay Length (ft) | | 125 | 460- | | | 100 | 0000 | | | | | | | | |
| Base Capacity (vph) | | 315 | 1887 | | | 94 | 2263 | | | 359 | | | | | |
| Starvation Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Spillback Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Storage Cap Reductn | | 0 | 0 | | | 0.69 | 0 | | | 0 | | | | | |
| Reduced v/c Ratio | | 0.28 | 0.47 | | | 0.69 | 0.37 | | | 0.36 | | | | | |
| | | | | | | | | | | | | | | | |

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 4 (4%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69 Intersection Signal Delay: 12.9

Intersection LOS: B

ICU Level of Service C

Intersection Capacity Utilization 64.4%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Gainsborough Street & Huntongton Avenue







| 140 Balla (2021) 0011 | • | | | | | - | • | 1 | 4 | _ | _ | ı | 1 |
|-----------------------------------|------------|-------|-------|------|-----------|---------|------|------|------|------|------|------|------|
| | | - | * | F | • | - | _ | 7 | - 1 | | * | + | * |
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | 4 | | | | 4 | | | 4 | | | 4 | |
| Traffic Volume (veh/h) | 0 | 216 | 1 | 2 | 5 | 99 | 0 | 3 | 0 | 3 | 1 | 0 | 1 |
| Future Volume (Veh/h) | 0 | 216 | 1 | 2 | 5 | 99 | 0 | 3 | 0 | 3 | 1 | 0 | 1 |
| Sign Control | | Free | | | | Free | | | Stop | | | Stop | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.63 | 0.63 | 0.63 | 0.65 | 0.65 | 0.65 | 0.65 | 0.38 | 0.38 | 0.38 | 0.50 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 0.00 | 343 | 2 | 0.00 | 8 | 152 | 0.00 | 8 | 0.00 | 8 | 2 | 0.00 | 2 |
| Pedestrians | | 66 | | · | | 1 | | Ū | 85 | Ŭ | | 54 | |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | |
| Walking Speed (ft/s) | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | |
| Percent Blockage | | 6 | | | | 0.0 | | | 8 | | | 5.5 | |
| Right turn flare (veh) | | U | | | | · | | | | | | J | |
| Median type | | None | | | | None | | | | | | | |
| Median storage veh) | | INOHE | | | | NOUG | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | 140 | | | | | | | |
| vC, conflicting volume | 206 | | | 0.00 | 430 | | | 665 | 651 | 430 | 575 | 652 | 272 |
| vC1, stage 1 conf vol | 200 | | | U | 430 | | | 000 | 001 | 430 | 3/3 | 032 | 212 |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 206 | | | 0 | 430 | | | 665 | 651 | 430 | 575 | 652 | 272 |
| | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 0.0 | 0.2 | 7.1 | 0.0 | 0.2 |
| tC, 2 stage (s) | 0.0 | | | 0.0 | 0.0 | | | 2.5 | 4.0 | 2.2 | 2.5 | 4.0 | 2.2 |
| tF (s) | 2.2 100 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | | | | - | 99 | | | 97 | 100 | 99 | 99 | 100 | 100 |
| cM capacity (veh/h) | 1306 | | | 0 | 1048 | | | 290 | 338 | 578 | 362 | 337 | 686 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 345 | 160 | 16 | 4 | | | | | | | | | |
| Volume Left | 0 | 8 | 8 | 2 | | | | | | | | | |
| Volume Right | 2 | 0 | 8 | 2 | | | | | | | | | |
| cSH | 1306 | 1048 | 386 | 474 | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.01 | 0.04 | 0.01 | | | | | | | | | |
| Queue Length 95th (ft) | 0 | 1 | 3 | 1 | | | | | | | | | |
| Control Delay (s) | 0.0 | 0.5 | 14.7 | 12.7 | | | | | | | | | |
| Lane LOS | | Α | В | В | | | | | | | | | |
| Approach Delay (s) | 0.0 | 0.5 | 14.7 | 12.7 | | | | | | | | | |
| Approach LOS | 0.0 | 0.0 | В | В | | | | | | | | | |
| | | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 0.7 | | | | | | | | | | |
| Intersection Capacity Utilization | n | | 32.2% | IC | U Level o | Service | | | Α | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | | |
|--|------------------------|---|---|---|---|------|------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 9.2 | | | | | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Movement | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | | | 4 | | | | 4 | | | | 4 | | | | 4 | |
| Traffic Vol. veh/h | 0 | 8 | 31 | 2 | 3 | 42 | 23 | 42 | 0 | 3 | 69 | 46 | 3 | 125 | 29 | 9 |
| Future Vol. veh/h | 0 | 8 | 31 | 2 | 3 | 42 | 23 | 42 | 0 | 3 | 69 | 46 | 3 | 125 | 29 | 9 |
| Peak Hour Factor | 0.92 | 0.45 | 0.45 | 0.45 | 0.68 | 0.68 | 0.68 | 0.68 | 0.92 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 38 | 0 | 0 | 0 | 0 | 5 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 22 |
| Mymt Flow | 0 | 18 | 69 | 4 | 4 | 62 | 34 | 62 | 0 | 4 | 82 | 55 | 4 | 152 | 35 | 11 |
| Number of Lanes | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | EB | | | WB | | | | | NB | | | SB | | | |
| Opposing Approach | | WB | | | EB | | | | | SB | | | NB | | | |
| Opposing Lanes | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Left | | SB | | | NB | | | | | EB | | | WB | | | |
| Conflicting Lanes Left | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Right | | NB | | | SB | | | | | WB | | | EB | | | |
| Conflicting Lanes Right | | 1 | | | 1 | | | | | 1 | | | 1 | | | |
| HCM Control Delay | | 9.6 | | | 9 | | | | | 8.6 | | | 9.7 | | | |
| HCM LOS | | Α | | | Α | | | | | Α | | | Α | | | |
| | | | | | | | | | | | | | | | | |
| Lane | NB | BLn1 E | EBLn1 | WBLn1 | SBLn1 | | | | | | | | | | | |
| 6. 6/ | | 001 | | 0001 | | | | | | | | | | | | |
| Vol Left, % | | 3% | 20% | 39% | 77% | | | | | | | | | | | |
| | | 3% 58% | 20% 76% | 21% | 18% | | | | | | | | | | | |
| Vol Thru, % | Ę | | | | | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control | 5 | 58% | 76% | 21% | 18% 6% Stop | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control | 5 3 | 58% 39% | 76% 5% | 21% 39% Stop 110 | 18% 6% Stop 166 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol | 5 3 | 58% 39% Stop | 76% 5% Stop | 21% 39% Stop 110 43 | 18% 6% Stop 166 127 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol | 5 3 | 58% 39% Stop 118 3 | 76% 5% Stop 41 8 31 | 21% 39% Stop 110 43 24 | 18% 6% Stop 166 127 30 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol | | 58% 39% Stop 118 3 69 46 | 76% 5% Stop 41 8 31 | 21% 39% Stop 110 43 24 43 | 18% 6% Stop 166 127 30 9 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate | | 58% 39% Stop 118 3 | 76% 5% Stop 41 8 31 2 91 | 21% 39% Stop 110 43 24 43 162 | 18% 6% Stop 166 127 30 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp | 5 | 58% 39% Stop 118 3 69 46 140 | 76% 5% Stop 41 8 31 2 91 | 21% 39% Stop 110 43 24 43 162 | 18% 6% Stop 166 127 30 9 202 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | \$ 3 \$ | 58% 39% Stop 118 3 69 46 140 1 | 76% 5% Stop 41 8 31 2 91 1 0.141 | 21% 39% Stop 110 43 24 43 162 1 | 18% 6% Stop 166 127 30 9 202 1 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) | 5 3 5 9 0. | 58% 39% Stop 118 3 69 46 140 1 .178 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N | 0. 4. | 58% 339% Stop 118 3 69 46 140 1 .178 .559 Yes | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes | | | | | | | | | | | |
| Departure Headway (Hd) Convergence, Y/N Cap | 0. 4. | 58% 339% Stop 118 3 69 46 140 1 .178 .559 Yes 782 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes 641 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes 762 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes 743 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time | 0. 4. | 58% 39% Stop 118 3 69 46 140 1 .178 .559 Yes 782 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes 641 3.636 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes 762 2.74 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes 743 2.871 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0. 4. 2. 0. | 58% 39% Stop 118 3 69 46 140 1 .178 .559 Yes 782 .614 .179 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes 641 3.636 0.142 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes 762 2.74 0.213 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes 743 2.871 0.272 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay | 0. 4. 2. 0. | 58% 39% Stop 118 3 69 46 140 1 .178 .559 Yes 782 .614 .179 8.6 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes 641 3.636 0.142 9.6 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes 762 2.74 0.213 9 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes 743 2.871 0.272 9.7 | | | | | | | | | | | |
| Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 0. 4. 2. | 58% 39% Stop 118 3 69 46 140 1 .178 .559 Yes 782 .614 .179 | 76% 5% Stop 41 8 31 2 91 1 0.141 5.573 Yes 641 3.636 0.142 | 21% 39% Stop 110 43 24 43 162 1 0.211 4.685 Yes 762 2.74 0.213 | 18% 6% Stop 166 127 30 9 202 1 0.271 4.821 Yes 743 2.871 0.272 | | | | | | | | | | | |

| | → | • | • | ← | 1 | ~ |
|-----------------------------------|-------------|------|-------|----------|-------------|---------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ 1> | | | ^ | | 7 |
| Traffic Volume (veh/h) | 158 | 1 | 0 | 234 | 0 | 2 |
| Future Volume (Veh/h) | 158 | 1 | 0 | 234 | 0 | 2 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.80 | 0.80 | 0.92 | 0.92 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 198 | 1 | 0 | 254 | 0 | 4 |
| Pedestrians | 515 | | | | | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 49 | | | | | |
| Right turn flare (veh) | | | | | | |
| | Raised | | | Raised | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 199 | | 840 | 100 |
| vC1, stage 1 conf vol | | | | | 198 | |
| vC2, stage 2 conf vol | | | | | 642 | |
| vCu, unblocked vol | | | 199 | | 840 | 100 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 100 |
| cM capacity (veh/h) | | | 1385 | | 243 | 943 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 132 | 67 | 127 | 127 | 4 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 1 | 0 | 0 | 4 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 943 | |
| Volume to Capacity | 0.08 | 0.04 | 0.07 | 0.07 | 0.00 | |
| Queue Length 95th (ft) | 0.00 | 0.04 | 0.07 | 0.07 | 0.00 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 | |
| Lane LOS | 0.0 | 0.0 | 0.0 | 0.0 | Α. | |
| Approach Delay (s) | 0.0 | | 0.0 | | 8.8 | |
| Approach LOS | 0.0 | | 0.0 | | 0.0 A | |
| | | | | | А | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 14.9% | IC | CU Level of | Service |
| Analysis Period (min) | | | 15 | | | |

| 110 24114 (2021) 00114 | , - | | | | | |
|-----------------------------------|------|------|-------|---------------|------------|---------|
| | • | • | 4 | † | Ţ | 1 |
| | _ | * | .7 | ı | * | • |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ¥ | | | 4 | 7> | -05.1 |
| Traffic Volume (veh/h) | 2 | 1 | 0 | 식 0 | 1 | 0 |
| Future Volume (Veh/h) | 2 | 1 | 0 | 0 | 1 | 0 |
| Cian Control | | - 1 | U | | Free | U |
| Sign Control | Stop | | | Free | | |
| Grade | 0% | 0.00 | 0.00 | 0% | 0% | 0.00 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 2 | 1 | 0 | 0 | 1 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1 | 1 | 1 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1 | 1 | 1 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | 0.4 | 0.2 | 4.1 | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| | | 100 | 100 | | | |
| p0 queue free % | 100 | | | | | |
| cM capacity (veh/h) | 1022 | 1084 | 1622 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 3 | 0 | 1 | | | |
| Volume Left | 2 | 0 | 0 | | | |
| Volume Right | 1 | 0 | 0 | | | |
| cSH | 1042 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| | | | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | | | | |
| Control Delay (s) | 8.5 | 0.0 | 0.0 | | | |
| Lane LOS | Α | | | | | |
| Approach Delay (s) | 8.5 | 0.0 | 0.0 | | | |
| Approach LOS | Α | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 6.3 | | | |
| Intersection Capacity Utilization | | | 13.3% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |
| . , | | | | | | |

| ane Configurations artice Volume (veh/h) 0 205 103 0 12 8 utruer Volume (veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 205 103 0 12 8 utruer Volume (Veh/h) 0 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0 | | | | | | | |
|--|------------------------|------|------|------|------|-------------|---------|
| Section Sect | | • | | ← | • | _ | 2 |
| ane Configurations affic Volume (veh/h) | | - | - | | • | _ | - |
| artic Volume (veh/h) 0 205 103 0 12 8 artic Volume (veh/h) 0 205 103 0 12 8 gn Control Free Free Stop grade 0 0% 0% 0% ask Hour Factor 0.92 0.92 0.92 0.92 0.92 ourly flow rate (vph) 0 223 112 0 13 9 adestrians ane Width (ft) falking Speed (ft/s) ercent Blockage ight turn flare (veh) edian type None None edian storage veh) spstream signal (ft) \$\mathcal{X}\$, platoon unblocked \$\mathcal{Z}\$, conflicting volume 112 335 112 \$\mathcal{Z}\$, stage 2 conf vol \$\mathcal{Z}\$, unblocked vol 112 335 112 \$\mathcal{Z}\$, stage 1 6.4 6.2 \$\mathcal{Z}\$, 2 stage (s) (s) 2.2 3.5 3.3 0 queue free % 100 98 99 of depacity (veh/h) 1478 660 941 irection, Lane # EB1 WB1 SB1 olume Total 223 112 22 olume Right 0 0 9 SH 1478 1700 752 olume Right 0 0 0 9 SH 1478 1700 752 olume Logacity 0.00 0.0 9.9 opproach LoS A tersection Capacity Utilization 20.8% ICU Level of Service A | Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| raffic Volume (velvh) | | | | | | | |
| uture Volume (Veh/h) | | ٥ | | | ٥ | | 8 |
| Sign Control Free Free Stop O% O% O% O% O% O% O% O | | | | | | | |
| rade 0 0% 0% 0% 0% 0% 0% 09% 092 0.92 0.92 0.92 0.92 0.92 0.92 0.92 | | U | | | U | | J |
| eak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.99 | | | | | | | |
| ourly flow rate (vph) 0 223 112 0 13 9 edestrians ane Width (ft) falking Speed (ft/s) ercent Blockage ight turn flare (veh) edian type None None edian storage veh) pstream signal (ft) C, conflicting volume 112 335 112 C1, stage 1 conf vol C2, stage 2 conf vol C2, unblocked vol C3, single (s) C4 2 3 35 33 C9 2 4 4 1 6 4 6 2 C9 2 3 5 3 3 C9 2 4 2 3 5 3 3 C9 2 4 2 3 5 3 3 C9 2 4 3 5 3 3 C9 2 4 3 5 3 3 C9 2 5 3 5 3 3 C9 2 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | 0.00 | | | 0.00 | | 0.00 |
| edestrians ane Width (ft) Ialking Speed (ft/s) ercent Blockage gight turn flare (veh) edian type | | | | | | | |
| ane Width (ft) alking Speed (ft/s) ercent Blockage gight turn flare (veh) edian storage veh) pstream signal (ft) K, platoon unblocked C, conflicting volume 112 335 112 21, stage 1 conf vol 22, stage 2 conf vol 20, unblocked vol 315 335 112 335 112 335 112 335 112 335 112 335 33 112 335 33 112 335 33 112 335 33 112 335 33 33 30 30 30 30 30 30 30 30 30 30 30 | | 0 | 223 | 112 | 0 | 13 | 9 |
| /alking Speed (ft/s) ercent Blockage ight turn flare (veh) edian type | | | | | | | |
| ercent Blockage (ght turn flare (veh) edian type edian storage veh) pstream signal (ft) C, pattoon unblocked C, conflicting volume 112 1335 112 21, stage 1 conf vol 22, stage 2 conf vol 23, unblocked vol 112 335 112 335 112 335 112 335 112 335 112 335 33 112 335 33 112 335 33 112 335 33 112 335 33 33 30 30 30 30 30 30 30 30 30 30 30 | | | | | | | |
| Sedian type | | | | | | | |
| edian type | Percent Blockage | | | | | | |
| edian type | Right turn flare (veh) | | | | | | |
| edian storage veh) pstream signal (ft) 527 K, platoon unblocked C, conflicting volume 112 335 112 C1, stage 1 conf vol C2, unblocked vol C3, single (s) 4.1 6.4 6.2 C, 2 stage (s) (s) 2.2 3.5 3.3 C) queue free % 100 98 99 M capacity (veh/h) 1478 660 941 irrection, Lane # EB 1 WB 1 SB 1 olume Total 223 112 22 olume Left 0 0 13 olume Right 0 0 9 SH 1478 1700 752 olume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 opproach LOS A tersection Summary verage Delay verage | Median type | | None | None | | | |
| pstream signal (ft) 527 K, platon unblocked C1, stage 1 conf vol 22, stage 2 conf vol 22, stage 2 conf vol 2335 112 2335 112 24, unblocked vol 112 335 112 25, single (s) 4.1 6.4 6.2 27, 2 stage (s) (s) 2.2 3.5 3.3 20 queue free % 100 98 99 M capacity (veh/h) 1478 660 941 irrection, Lane # EB 1 WB 1 SB 1 olume Total 223 112 22 olume Left 0 0 13 olume Right 0 0 9 SH 1478 1770 752 olume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 prorach LOS A tersection Summary verage Delay tersection Capacity Utilization 20.8% ICU Level of Service A | Median storage veh) | | | | | | |
| A, platoon unblocked 2, conflicting volume 112 335 112 21, stage 1 conf vol 22, stage 2 conf vol 23, stage 2 conf vol 24, stage 2 conf vol 25, single (s) 4.1 6.4 6.2 27, 2 stage (s) 6.5 28, 2 stage (s) 7 29, 2 stage (s) 7 30, 0 queue free % 100 98 99 30, 0 queue free % 100 98 99 31, 0 queue Left 0 0 13 32, 0 queue Left 0 0 0 13 33, 0 queue Left 0 0 0 13 34, 0 queue Left 0 0 0 13 35, 0 queue Length 95th (ft) 0 0 9 36, 0 queue Length 95th (ft) 0 0 9 36, 0 queue Length 95th (ft) 0 0 9 36, 0 queue Length 95th (ft) 0 0 9 36, 0 queue Length 95th (ft) 0 0 9 37, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 9 38, 0 queue Length 95th (ft) 0 0 0 2 39, 0 queue Length 95th (ft) 0 0 0 2 30, 0 queue Length 95th (ft) 0 0 0 0, 0 0, 0 9, 0 30, 0 queue Length 95th (ft) 0 0 0 0, 0 0, 0 0, 0 0, 0 0, 0 0, 0 0 | Upstream signal (ft) | | | 527 | | | |
| C, conflicting volume 112 335 112 21, stage 1 conf vol 22, stage 2 conf vol 22, unblocked vol 112 335 112 2, single (s) 4.1 6.4 6.2 2, 2 stage (s) (s) 2.2 3.5 3.3 0 queue free % 100 98 99 M capacity (veh/h) 1478 660 941 irrection, Lane # EB 1 WB 1 SB 1 olume Total 223 112 22 olume Left 0 0 13 olume Right 0 0 9 SH 1478 1700 752 olume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 pproach LOS A tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | | | | · | | | |
| 21, stage 1 conf vol | | 112 | | | | 335 | 112 |
| C2, stage 2 conf vol C2, stage 2 conf vol C2, stage 2 conf vol C3, stage (s) C4 | | 112 | | | | 000 | 112 |
| Cu, unblocked vol 112 335 112 , single (s) 4.1 6.4 6.2 , single (s) 4.1 6.4 6.2 , single (s) (s) 5.2 stage (s) (s) 9.8 99 99 99 99 99 99 99 99 99 99 99 99 99 | | | | | | | |
| C, single (s) 4.1 6.4 6.2 C, 2 stage (s) (s) 2 2 3.5 3.3 C) queue free % 100 98 99 M capacity (veh/h) 1478 660 941 Irrection, Lane # EB 1 WB 1 SB 1 Colume Total 223 112 22 Colume Left 0 0 13 Colume Right 0 0 9 CH 1478 1700 752 Colume to Capacity 0.00 0.07 0.03 Useue Length 95th (ft) 0 0 2 Control Delay (s) 0.0 0.0 9.9 Control Delay (| | 112 | | | | 33E | 112 |
| C, 2 stage (s) (s) 2.2 3.5 3.3 0 0 queue free % 100 98 99 0 d capacity (veh/h) 1478 660 941 iriection, Lane # EB 1 WB 1 SB 1 olume Total 223 112 22 olume Left 0 0 13 olume Right 0 0 9 SH 1478 1700 752 olume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 pproach Delay (s) 0.0 0.0 9.9 pproach Delay (s) 0.0 0.0 9.9 reresection Capacity Utilization 20.8% ICU Level of Service A | | | | | | | |
| Column C | | 4.1 | | | | 0.4 | 0.2 |
| Queue free % | | 0.0 | | | | 0.5 | 0.0 |
| M capacity (veh/h) 1478 660 941 irrection, Lane # EB 1 WB 1 SB 1 plume Total 223 112 22 plume Left 0 0 13 plume Right 0 0 9 SH 1478 1700 752 plume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 pproach LOS A tersection Summary verage Delay tersection Capacity Utilization 20.8% ICU Level of Service A | tF (s) | | | | | | |
| SB SB SB SB SB SB SB SB | | | | | | | |
| Dilume Total 223 112 22 22 22 23 24 24 24 | cM capacity (veh/h) | 1478 | | | | 660 | 941 |
| Dilume Total 223 112 22 22 22 23 24 24 24 | Direction Lane # | FR 1 | WR 1 | SB 1 | | | |
| Dolume Left | | | | | | | |
| Delume Right | | | | | | | |
| SH 1478 1700 752 Johne to Capacity 0.00 0.07 0.03 June to Capacity 0.00 0.07 0.03 June to Capacity 0.00 0.0 0.0 A June to Capacity 0.00 0.0 0.0 A June to Capacity 0.00 0.0 June to Capacity 0.00 Ju | | | | | | | |
| polume to Capacity 0.00 0.07 0.03 ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A A pproach Delay (s) 0.0 0.0 9.9 pproach LOS A A tersection Summary 0.6 Control Testing C | | | - | | | | |
| ueue Length 95th (ft) 0 0 2 ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 pproach LOS A tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | cSH | | | | | | |
| ontrol Delay (s) 0.0 0.0 9.9 ane LOS A pproach Delay (s) 0.0 0.0 9.9 pproach LOS A tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | | | | | | | |
| A Default | | | | | | | |
| proach Delay (s) 0.0 0.0 9.9 proach LOS A tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | | 0.0 | 0.0 | | | | |
| proach LOS A tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | Lane LOS | | | | | | |
| Opproach LOS A tersection Summary Company verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | Approach Delay (s) | 0.0 | 0.0 | 9.9 | | | |
| tersection Summary verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | Approach LOS | | | Α | | | |
| verage Delay 0.6 tersection Capacity Utilization 20.8% ICU Level of Service A | Internation Comment | | | | | | |
| tersection Capacity Utilization 20.8% ICU Level of Service A | | | | | | | |
| | | | | | | | |
| nalysis Period (min) 15 | | | | | 10 | CU Level of | Service |
| | Analysis Period (min) | | | 15 | | | |

| Build (2024) Coriditi | • | _ <u>-</u> | • | F | • | ← | • | • | † | <i>></i> | <u> </u> | ļ | 4 | | | - |
|-------------------------|-------|------------------|------|-------|-------|----------|------|-------|------------|-------------|----------|------------|------|------|------|---|
| Long Croup | EBL | EBT | EBR | WBU | ₩BL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | CAC. | |
| Lane Group | EBL | | EBR | WBU | WBL | | WBR | | | NBK | SBL | | SBK | WZ | Ø6 | |
| Lane Configurations | | 41} 16 | | | | 414 | | ሻ | ↑ ↑ | | | ↑ ↑ | | | | |
| Traffic Volume (vph) | 88 | | 58 | 2 | 106 | 17 | 40 | 60 | 935 | 82 | 0 | 827 | 78 | | | |
| Future Volume (vph) | 88 | 16 | 58 | 2 | 106 | 17 | 40 | 60 | 935 | 82 | 0 | 827 | 78 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| Storage Length (ft) | 0 | | 0 | | 0 | | 0 | 150 | | 0 | 0 | | 0 | | | |
| Storage Lanes | 0 | | 0 | | 0 | | 0 | 1 | | 0 | 0 | | 0 | | | |
| Taper Length (ft) | 50 | | | | 50 | | | 50 | | | 50 | | | | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | | 0.93 | | | | 0.79 | | | 0.97 | | | 0.95 | | | | |
| Frt | | 0.946 | | | | 0.964 | | | 0.988 | | | 0.987 | | | | |
| Flt Protected | | 0.973 | | | | 0.968 | | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 0 | 2646 | 0 | 0 | 0 | 2554 | 0 | 1624 | 2892 | 0 | 0 | 2846 | 0 | | | |
| Flt Permitted | • | 0.973 | • | | | 0.968 | | 0.106 | 2002 | · | • | 2010 | • | | | |
| Satd. Flow (perm) | 0 | 2542 | 0 | 0 | 0 | 2063 | 0 | 181 | 2892 | 0 | 0 | 2846 | 0 | | | |
| Right Turn on Red | U | 2072 | No | U | U | 2000 | No | 101 | 2002 | No | U | 2040 | No | | | |
| Satd. Flow (RTOR) | | | INU | | | | INU | | | INU | | | INU | | | |
| | | 20 | | | | 20 | | | 20 | | | 20 | | | | |
| Link Speed (mph) | | 30 | | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 159 | | | | 495 | | | 334 | | | 341 | | | | |
| Travel Time (s) | | 3.6 | | | | 11.3 | | | 7.6 | | | 7.8 | | | | |
| Confl. Peds. (#/hr) | 41 | | 31 | 231 | 31 | | 41 | 497 | | 231 | 231 | | 497 | | | |
| Confl. Bikes (#/hr) | | | | | | | 1 | | | 58 | | | 58 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.98 | 0.98 | 0.98 | 0.92 | 0.92 | 0.92 | | | |
| Heavy Vehicles (%) | 10% | 33% | 2% | 100% | 13% | 25% | 15% | 0% | 7% | 14% | 0% | 8% | 3% | | | |
| Adj. Flow (vph) | 96 | 17 | 63 | 2 | 112 | 18 | 42 | 61 | 954 | 84 | 0 | 899 | 85 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 176 | 0 | 0 | 0 | 174 | 0 | 61 | 1038 | 0 | 0 | 984 | 0 | | | |
| Turn Type | Split | NA | | Split | Split | NA | - | pm+pt | NA | - | = | NA | - | | | |
| Protected Phases | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | 2 | 6 | |
| Permitted Phases | , | , | | J | J | J | | 13 | 13 | | | | | 2 | U | |
| Detector Phase | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | | | |
| | 1 | ı | | ິນ | J | 5 | | 3 | 13 | | | | | | | |
| Switch Phase | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | 40.0 | | 4.0 | 4.0 | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 | | 8.0 | | | | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 23.5 | 23.5 | 23.5 | | 15.5 | | | | 20.5 | | 6.0 | 6.0 | |
| Total Split (s) | 22.0 | 22.0 | | 25.0 | 25.0 | 25.0 | | 18.0 | | | | 43.0 | | 6.0 | 6.0 | |
| Total Split (%) | 18.3% | 18.3% | | 20.8% | 20.8% | 20.8% | | 15.0% | | | | 35.8% | | 5% | 5% | |
| Maximum Green (s) | 15.0 | 15.0 | | 17.5 | 17.5 | 17.5 | | 10.5 | | | | 35.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 3.5 | 3.5 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | 4.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | | 0.0 | | | | 0.0 | | 0.0 | | | | 0.0 | | | | |
| Total Lost Time (s) | | 7.0 | | | | 7.5 | | 7.5 | | | | 7.5 | | | | |
| Lead/Lag | | | | Lag | Lag | Lag | | Lag | | | | Lead | | Lead | | |
| Lead-Lag Optimize? | | | | Yes | Yes | Yes | | Yes | | | | Yes | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.0 | | | | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | Ped | | Ped | | | | C-Max | | Ped | Max | |
| Walk Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 1.0 | | | | 7.0 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 10.0 | 10.0 | | 12.0 | 12.0 | 12.0 | | 6.0 | | | | 6.0 | | 0.0 | 0.0 | |
| | 0 | 0.01 | | 12.0 | 12.0 | 0 | | 0.0 | | | | 0.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | | | U | 0 | | | 48.1 | EE C | | | | | U | U | |
| Act Effct Green (s) | | 14.2 | | | | 16.2 | | | 55.6 | | | 37.9 | | | | |
| Actuated g/C Ratio | | 0.12 | | | | 0.14 | | 0.40 | 0.46 | | | 0.32 | | | | |
| v/c Ratio | | 0.56 | | | | 0.51 | | 0.31 | 0.77 | | | 1.10 | | | | |
| Control Delay | | 57.5 | | | | 53.9 | | 41.5 | 38.3 | | | 98.9 | | | | |
| Queue Delay | | 0.0 | | | | 2.0 | | 0.0 | 51.1 | | | 2.0 | | | | |
| Total Delay | | 57.5 | | | | 55.9 | | 41.5 | 89.3 | | | 100.9 | | | | |
| LOS | | Е | | | | Е | | D | F | | | F | | | | |
| Approach Delay | | 57.5 | | | | 55.9 | | | 86.7 | | | 100.9 | | | | |
| Approach LOS | | Е | | | | Е | | | F | | | F | | | | |
| Queue Length 50th (ft) | | 68 | | | | 66 | | 36 | 446 | | | ~452 | | | | |
| Queue Length 95th (ft) | | 106 | | | | 104 | | m39 | 523 | | | #603 | | | | |
| Internal Link Dist (ft) | | 79 | | | | 415 | | | 254 | | | 261 | | | | |
| Turn Bay Length (ft) | | 13 | | | | -710 | | 150 | 207 | | | 201 | | | | |
| Base Capacity (vph) | | 330 | | | | 372 | | 199 | 1346 | | | 898 | | | | |
| | | 330 | | | | 0 | | | 656 | | | | | | | |
| Starvation Cap Reductn | | | | | | | | 0 | | | | 0 | | | | |
| Spillback Cap Reductn | | 0 | | | | 97 | | 0 | 0 | | | 45 | | | | |
| Storage Cap Reductn | | 0 | | | | 0 | | 0 | 0 | | | 0 | | | | |
| Reduced v/c Ratio | | 0.53 | | | | 0.63 | | 0.31 | 1.50 | | | 1.15 | | | | |
| | | | | | | | | | | | | | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated Maximum v/c Ratio: 1.10 Intersection Signal Delay: 88.1

Intersection LOS: F

ICU Level of Service C

Intersection Capacity Utilization 67.8%

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Molume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Massachusetts Avenue & Huntington Avenue

| | • | → | • | • | ← | • | • | <u>†</u> | <u> </u> | <u> </u> | + | 4 | | | |
|--------------------------------|-------|-----------------|------|-------|------------------|------|-------|----------------------|----------|----------|------------------|------|------|------------|--|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| Lane Configurations | LDL | | LDIN | YVDL | | WDIX | INDL | | NDIX | SDL 1 | | SDIX | WZ. | 100 | |
| Traffic Volume (vph) | 9 | 1 → 6 | 64 | 39 | 1 ≽ 12 | 19 | 66 | 41 3→ 1049 | 53 | 31 | ↑↑ 914 | 46 | | | |
| Future Volume (vph) | 9 | 6 | 64 | 39 | 12 | 19 | 66 | 1049 | 53 | 31 | 914 | 46 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| Storage Length (ft) | 25 | 1300 | 0 | 25 | 1300 | 0 | 100 | 1300 | 0 | 50 | 1300 | 0 | | | |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 1 | | 0 | | | |
| Taper Length (ft) | 50 | | · | 50 | | · | 50 | | | 50 | | | | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | 0.98 | 0.96 | | 0.97 | 0.97 | | | 0.99 | | 0.99 | 0.99 | | | | |
| Frt | | 0.864 | | | 0.907 | | | 0.993 | | | 0.993 | | | | |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | 0.950 | | | | | |
| Satd. Flow (prot) | 1128 | 1264 | 0 | 1624 | 1512 | 0 | 0 | 2966 | 0 | 1477 | 2948 | 0 | | | |
| Flt Permitted | 0.735 | | | 0.707 | | | | 0.777 | | 0.176 | | | | | |
| Satd. Flow (perm) | 856 | 1264 | 0 | 1176 | 1512 | 0 | 0 | 2309 | 0 | 271 | 2948 | 0 | | | |
| Right Turn on Red | | | No | | | No | | | No | | | No | | | |
| Satd. Flow (RTOR) | | | | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 145 | | | 377 | | | 341 | | | 334 | | | | |
| Travel Time (s) | | 3.3 | | | 8.6 | | | 7.8 | | | 7.6 | | | | |
| Confl. Peds. (#/hr) | 11 | | 17 | 17 | | 11 | 115 | | 69 | 69 | | 115 | | | |
| Confl. Bikes (#/hr) | | | 7 | | | 12 | | | 94 | | | 97 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.93 | 0.93 | 0.93 | | | |
| Heavy Vehicles (%) | 44% | 0% | 13% | 0% | 0% | 0% | 8% | 8% | 2% | 10% | 8% | 18% | | | |
| Adj. Flow (vph) | 10 | 7 | 70 | 42 | 13 | 21 | 69 | 1093 | 55 | 33 | 983 | 49 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 10 | 77 | 0 | 42 | 34 | 0 | 0 | 1217 | 0 | 33 | 1032 | 0 | | | |
| Turn Type | Perm | NA | | Perm | NA | | Perm | NA | | Perm | NA | | • | 0 | |
| Protected Phases | _ | 5 | | _ | 5 | | | 1 | | | 1 | | 2 | 6 | |
| Permitted Phases | 5 | _ | | 5 | _ | | 1 | | | 1 | | | | | |
| Detector Phase Switch Phase | 5 | 5 | | 5 | 5 | | 1 | 1 | | 1 | 1 | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 25.5 | 25.5 | | 25.5 | 25.5 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 70.0 | 70.0 | | 70.0 | 70.0 | | 6.0 | 6.0 | |
| Total Split (%) | 31.7% | 31.7% | | 31.7% | 31.7% | | 58.3% | 58.3% | | 58.3% | 58.3% | | 5% | 5% | |
| Maximum Green (s) | 32.5 | 32.5 | | 32.5 | 32.5 | | 64.5 | 64.5 | | 64.5 | 64.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 2.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.5 | 5.5 | | 5.5 | 5.5 | | | 5.5 | | 5.5 | 5.5 | | | | |
| Lead/Lag | Lag | Lag | | Lag | Lag | | | | | | | | Lead | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | | C-Max | C-Max | | C-Max | C-Max | | Ped | Ped | |
| Walk Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 54.5 | 54.5 | | 54.5 | 54.5 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 17.0 | 17.0 | | 17.0 | 17.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Act Effct Green (s) | 20.0 | 20.0 | | 20.0 | 20.0 | | | 77.0 | | 77.0 | 77.0 | | | | |
| Actuated g/C Ratio | 0.17 | 0.17 | | 0.17 | 0.17 | | | 0.64 | | 0.64 | 0.64 | | | | |
| v/c Ratio | 0.07 | 0.37 | | 0.21 | 0.13 | | | 0.82 | | 0.19 | 0.55 | | | | |
| Control Delay | 44.7 | 50.7 | | 46.6 | 44.3 | | | 22.3 | | 21.5 | 24.9 | | | | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 50.0 | | 0.0 | 16.5 | | | | |
| Total Delay | 44.7 | 50.7 | | 46.6 | 44.3 | | | 72.3 | | 21.5 | 41.4 | | | | |
| LOS | D | D | | D | D | | | Е | | С | D | | | | |
| Approach Delay | | 50.0 | | | 45.6 | | | 72.3 | | | 40.8 | | | | |
| Approach LOS | | D | | | D | | | E | | | D | | | | |
| Queue Length 50th (ft) | 7 | 54 | | 29 | 23 | | | 348 | | 15 | 289 | | | | |
| Queue Length 95th (ft) | m23 | m102 | | 64 | 54 | | | 463 | | m17 | m265 | | | | |
| Internal Link Dist (ft) | 0.5 | 65 | | 0.5 | 297 | | | 261 | | | 254 | | | | |
| Turn Bay Length (ft) | 25 | 0.10 | | 25 | 400 | | | 4404 | | 50 | 4004 | | | | |
| Base Capacity (vph) | 231 | 342 | | 318 | 409 | | | 1481 | | 173 | 1891 | | | | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 706 | | 0 | 865 | | | | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 706 | | 0 | 0 | | | | |
| Storage Cap Reductn | 0 | 0 | | 0 12 | 0 | | | 1.57 | | 0 10 | 1.01 | | | | |
| Reduced v/c Ratio | 0.04 | 0.23 | | 0.13 | 0.08 | | | 1.57 | | 0.19 | 1.01 | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 110

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.82 Intersection Signal Delay: 57.0

Intersection LOS: E ICU Level of Service H

Intersection Capacity Utilization 115.4%

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



| | • | • | → | • | F | • | ← | 4 | • | † | ~ | \ | | 1 | |
|---|-------|-------------|-------------|----------|-------|-------------|-------------|------|-------|-------------|----------|----------|--------------|------|--|
| Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | LDO | 7 | † | LDIN | WDO | Y N | † | WDIX | NUL | 4 | NUIX | ODL | ODI | ODIN | |
| Traffic Volume (vph) | 22 | 37 | 584 | 97 | 8 | 38 | 469 | 40 | 33 | 46 | 19 | 0 | 0 | 0 | |
| Future Volume (vph) | 22 | 37 | 584 | 97 | 8 | 38 | 469 | 40 | 33 | 46 | 19 | 0 | 0 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Storage Length (ft) | | 125 | | 60 | | 100 | | 0 | 0 | | 0 | 0 | | 0 | |
| Storage Lanes | | 1 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Taper Length (ft) | | 50 | | | | 50 | | | 50 | | | 50 | | | |
| Lane Util. Factor | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped Bike Factor | | 0.91 | 0.99 | | | 0.93 | 0.99 | | | 0.91 | | | | | |
| Frt | | | 0.979 | | | | 0.988 | | | 0.974 | | | | | |
| Flt Protected | | 0.950 | | | | 0.950 | | | | 0.983 | | | | | |
| Satd. Flow (prot) | 0 | 1566 | 2903 | 0 | 0 | 1548 | 2886 | 0 | 0 | 1411 | 0 | 0 | 0 | 0 | |
| Flt Permitted | ^ | 0.425 | 0000 | ^ | 0 | 0.324 | 0000 | 0 | ^ | 0.983 | ^ | ^ | ^ | 0 | |
| Satd. Flow (perm) Right Turn on Red | 0 | 638 | 2903 | 0 Yes | 0 | 489 | 2886 | Yes | 0 | 1342 | 0 Yes | 0 | 0 | Yes | |
| Satd. Flow (RTOR) | | | 27 | 165 | | | 16 | 165 | | 12 | 165 | | | 165 | |
| Link Speed (mph) | | | 30 | | | | 30 | | | 30 | | | 30 | | |
| Link Opeed (mph) Link Distance (ft) | | | 537 | | | | 488 | | | 314 | | | 267 | | |
| Travel Time (s) | | | 12.2 | | | | 11.1 | | | 7.1 | | | 6.1 | | |
| Confl. Peds. (#/hr) | 117 | 220 | | 75 | 156 | 75 | | 220 | 117 | | 156 | 156 | U. 1 | 117 | |
| Confl. Bikes (#/hr) | | | | 12 | | | | 12 | | | 6 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Heavy Vehicles (%) | 0% | 6% | 9% | 2% | 0% | 6% | 10% | 10% | 14% | 7% | 17% | 0% | 0% | 0% | |
| Adj. Flow (vph) | 24 | 40 | 635 | 105 | 9 | 41 | 510 | 43 | 36 | 50 | 21 | 0 | 0 | 0 | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 64 | 740 | 0 | 0 | 50 | 553 | 0 | 0 | 107 | 0 | 0 | 0 | 0 | |
| Turn Type | Perm | Perm | NA | | Prot | pm+pt | NA | | Perm | NA | | | | | |
| Protected Phases | | | 1 | | 3 | 3 | 1 | | | 2 | | | | | |
| Permitted Phases | 1 | 1 | | | • | 1 | 3 | | 2 | • | | | | | |
| Detector Phase | 1 | 1 | 1 | | 3 | 3 | 1 | | 2 | 2 | | | | | |
| Switch Phase | 8.0 | 0.0 | 0.0 | | 6.0 | 6.0 | 0.0 | | 8.0 | 8.0 | | | | | |
| Minimum Initial (s) Minimum Split (s) | 56.0 | 8.0 56.0 | 8.0 56.0 | | 10.0 | 6.0 10.0 | 8.0 56.0 | | 30.0 | 30.0 | | | | | |
| Total Split (s) | 56.0 | 56.0 | 56.0 | | 10.0 | 10.0 | 56.0 | | 34.0 | 34.0 | | | | | |
| Total Split (%) | 56.0% | 56.0% | 56.0% | | 10.0% | 10.0% | 56.0% | | 34.0% | 34.0% | | | | | |
| Maximum Green (s) | 51.0 | 51.0 | 51.0 | | 6.0 | 6.0 | 51.0 | | 28.0 | 28.0 | | | | | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 2.0 | 2.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 3.0 | 3.0 | | | | | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | | | | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | 4.0 | 5.0 | | | 6.0 | | | | | |
| Lead/Lag | Lead | Lead | Lead | | | | Lead | | Lag | Lag | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | | | | Yes | | Yes | Yes | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| Recall Mode | C-Max | C-Max | C-Max | | None | None | C-Max | | None | None | | | | | |
| Walk Time (s) | 46.0 | 46.0 | 46.0 | | | | 46.0 | | 7.0 | 7.0 | | | | | |
| Flash Dont Walk (s) | 5.0 | 5.0 | 5.0 | | | | 5.0 | | 17.0 | 17.0 | | | | | |
| Pedestrian Calls (#/hr) Act Effct Green (s) | 0 | 0 57.0 | 0 57.0 | | | 62.8 | 0 65.0 | | 273 | 273 24.0 | | | | | |
| Actuated g/C Ratio | | 0.57 | 0.57 | | | 0.63 | 0.65 | | | 0.24 | | | | | |
| v/c Ratio | | 0.37 | 0.37 | | | 0.03 | 0.03 | | | 0.24 | | | | | |
| Control Delay | | 12.9 | 13.4 | | | 6.9 | 7.8 | | | 30.9 | | | | | |
| Queue Delay | | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | | | | | |
| Total Delay | | 12.9 | 13.4 | | | 6.9 | 7.8 | | | 30.9 | | | | | |
| LOS | | В | В | | | Α | A | | | С | | | | | |
| Approach Delay | | | 13.4 | | | | 7.7 | | | 30.9 | | | | | |
| Approach LOS | | | В | | | | Α | | | С | | | | | |
| Queue Length 50th (ft) | | 19 | 135 | | | 10 | 70 | | | 50 | | | | | |
| Queue Length 95th (ft) | | 44 | 181 | | | 23 | 96 | | | 99 | | | | | |
| Internal Link Dist (ft) | | | 457 | | | | 408 | | | 234 | | | 187 | | |
| Turn Bay Length (ft) | | 125 | 4000 | | | 100 | 4601 | | | | | | | | |
| Base Capacity (vph) | | 363 | 1666 | | | 370 | 1881 | | | 384 | | | | | |
| Starvation Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Spillback Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Storage Cap Reductn Reduced v/c Ratio | | 0 0.18 | 0 0.44 | | | 0 0.14 | 0.29 | | | 0 0.28 | | | | | |
| Reduced NC Ratio | | 0.18 | U.44 | | | U. 14 | 0.29 | | | U.20 | | | | | |

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 69 (69%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 12.4

Intersection Capacity Utilization 82.5%

Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service E

Splits and Phases: 3: Gainsborough Street & Huntington Avenue







| Bulla (2024) Cortaillor | ı, a.iii. | Cani | ioui | | | | | | | | | | | |
|-----------------------------------|-----------|----------|-------|------|-----------|-----------|------|------|----------|----------|------|----------|------|--|
| | ۶ | → | • | F | • | ← | • | 1 | † | / | - | ↓ | ✓ | |
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | | 4 | | | | 4 | | | 4 | | | 4 | | |
| Traffic Volume (veh/h) | 1 | 69 | 0 | 3 | 1 | 115 | 6 | 0 | 0 | 2 | 5 | 0 | 2 | |
| Future Volume (Veh/h) | 1 | 69 | 0 | 3 | 1 | 115 | 6 | 0 | 0 | 2 | 5 | 0 | 2 | |
| Sign Control | | Free | | | | Free | | | Stop | _ | | Stop | _ | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | | |
| Peak Hour Factor | 0.77 | 0.77 | 0.77 | 0.75 | 0.75 | 0.75 | 0.75 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | |
| Hourly flow rate (vph) | 1 | 90 | 0 | 0 | 1 | 153 | 8 | 0 | 0 | 4 | 10 | 0 | 4 | |
| Pedestrians | | 13 | | | | 3 | | | 67 | | | 14 | | |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | | |
| Walking Speed (ft/s) | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | | |
| Percent Blockage | | 1 | | | | 0 | | | 6 | | | 1 | | |
| Right turn flare (veh) | | | | | | | | | | | | | | |
| Median type | | None | | | | None | | | | | | | | |
| Median storage veh) | | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | | | | | | | | | |
| vC, conflicting volume | 175 | | | 0 | 157 | | | 335 | 336 | 160 | 272 | 332 | 184 | |
| vC1, stage 1 conf vol | | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | | | |
| vCu, unblocked vol | 175 | | | 0 | 157 | | | 335 | 336 | 160 | 272 | 332 | 184 | |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 | |
| tC, 2 stage (s) | | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | |
| p0 queue free % | 100 | | | 0 | 100 | | | 100 | 100 | 100 | 98 | 100 | 100 | |
| cM capacity (veh/h) | 1395 | | | 0 | 1344 | | | 539 | 542 | 831 | 630 | 545 | 841 | |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | | |
| Volume Total | 91 | 162 | 4 | 14 | | | | | | | | | | |
| Volume Left | 1 | 1 | 0 | 10 | | | | | | | | | | |
| Volume Right | 0 | 8 | 4 | 4 | | | | | | | | | | |
| cSH | 1395 | 1344 | 831 | 679 | | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | 0.02 | | | | | | | | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 2 | | | | | | | | | | |
| Control Delay (s) | 0.1 | 0.1 | 9.4 | 10.4 | | | | | | | | | | |
| Lane LOS | Α | Α | Α | В | | | | | | | | | | |
| Approach Delay (s) | 0.1 | 0.1 | 9.4 | 10.4 | | | | | | | | | | |
| Approach LOS | | | Α | В | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | | |
| Average Delay | | | 0.7 | | | | | | | | | | | |
| Intersection Capacity Utilization | | | 27.4% | IC | U Level o | f Service | | | Α | | | | | |
| Analysis Period (min) | | | 15 | 10 | | . 2000 | | | | | | | | |
| , | | | .5 | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | |
|---|--|---|--|--|------|------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 8.6 | | | | | | | | | | | | | | |
| Intersection LOS | Α | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Movement | EBU E | BL EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | | 4 | | | | 4 | | | | 4 | | | | 4 | |
| Traffic Vol, veh/h | 0 | 9 6 | 2 | 0 | 62 | 14 | 75 | 0 | 7 | 13 | 7 | 0 | 65 | 65 | 5 |
| Future Vol. veh/h | 0 | 9 6 | | 0 | 62 | 14 | 75 | 0 | 7 | 13 | 7 | 0 | 65 | 65 | 5 |
| Peak Hour Factor | 0.92 0. | 85 0.85 | 0.85 | 0.92 | 0.81 | 0.81 | 0.81 | 0.92 | 0.84 | 0.84 | 0.84 | 0.92 | 0.84 | 0.84 | 0.84 |
| Heavy Vehicles, % | | 78 67 | | 2 | 2 | 43 | 10 | 2 | 0 | 0 | 14 | 2 | 13 | 0 | 0 |
| Mvmt Flow | 0 | 11 7 | 2 | 0 | 77 | 17 | 93 | 0 | 8 | 15 | 8 | 0 | 77 | 77 | 6 |
| Number of Lanes | 0 | 0 1 | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | ЕВ | | | WB | | | | NB | | | | SB | | |
| Opposing Approach | V | /B | | | EB | | | | SB | | | | NB | | |
| Opposing Lanes | | 1 | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Left | | SB | | | NB | | | | EB | | | | WB | | |
| Conflicting Lanes Left | | 1 | | | 1 | | | | 1 | | | | 1 | | |
| Conflicting Approach Right | 1 | √B | | | SB | | | | WB | | | | EB | | |
| Conflicting Lanes Right | | 1 | | | 1 | | | | 1 | | | | 1 | | |
| HCM Control Delay | 9 | 1.2 | | | 8.4 | | | | 7.7 | | | | 9 | | |
| HCM LOS | | Α | | | Α | | | | Α | | | | Α | | |
| | | | | | | | | | | | | | | | |
| Lane | NBL | n1 EBLn1 | WBLn1 | SBLn1 | | | | | | | | | | | |
| Lane | INDL | | | | | | | | | | | | | | |
| | 26 | | 41% | 48% | | | | | | | | | | | |
| Vol Left, % Vol Thru, % | | % 53% | | | | | | | | | | | | | |
| Vol Left, % Vol Thru, % | 26 | % 53% % 35% | 41% | 48% | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control | 26 48 | % 53% % 35% % 12% | 41% 9% 50% | 48% 48% | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 | 41% 9% 50% Stop 151 | 48% 48% 4% Stop 135 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 | 41% 9% 50% Stop 151 62 | 48% 48% 4% Stop 135 65 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 | 41% 9% 50% Stop 151 62 14 | 48% 48% 4% Stop 135 65 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 7 2 | 41% 9% 50% Stop 151 62 14 | 48% 48% 4% Stop 135 65 65 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Riptu, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 7 2 32 20 | 41% 9% 50% Stop 151 62 14 75 186 | 48% 48% 4% Stop 135 65 65 5 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 7 2 32 20 1 1 | 41% 9% 50% Stop 151 62 14 75 186 | 48% 48% 4% Stop 135 65 65 5 161 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 7 2 32 20 1 1 04 0.033 | 41% 9% 50% Stop 151 62 14 75 186 1 | 48% 48% 4% Stop 135 65 65 161 1 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) | 26 48 26 St | % 53% % 35% % 12% op Stop 27 17 7 9 13 6 7 2 32 20 1 1 104 0.033 61 5.94 | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 | 48% 48% 4% Stop 135 65 65 5 161 1 0.21 4.704 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, YN | 26 44 26 Si 0. 4.4 Y | % 53% % 35% % 12% pop Stop 27 17 7 9 13 6 7 2 332 20 1 1 04 0.033 61 5.94 es Yes | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes | 48% 48% 4% Stop 135 65 65 161 1 0.21 4.704 Yes | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap | 26 44 26 SI 0. 4.4 Y | % 53% % 35% % 12% pp Stop 27 17 7 9 13 6 7 2 32 20 1 1 04 0.033 61 5.94 es Yes 04 604 | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes 854 | 48% 48% 4% Stop 135 65 65 161 1 0.21 4.704 Yes 765 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time | 26 48 26 St 0. 4.4 Y 8 | % 53%% 35%% 12% opp Stopp 27 17 7 9 9 133 6 6 7 2 2 332 20 1 1 1 04 0.033 6es Yes 04 604 82 3.961 | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes 854 2.233 | 48% 48% 4% Stop 135 65 65 5 161 1 0.21 4.704 Yes 765 2.721 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 26 44 26 St 0. 4.4 Y 8 2.4 0. | % 53% 35% 35% 12% 512% 512% 512% 512% 512% 512% 512 | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes 854 2.233 0.218 | 48% 48% 4% Stop 135 65 65 5 161 1 0.21 4.704 Yes 765 2.721 0.21 | | | | | | | | | | | |
| Vol Left, % Vol Tru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay | 26 44 26 St 0. 4.4 Y 8 2.4 0. | % 53% % 35% % 12% | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes 854 2.233 0.218 8.4 | 48% 48% 4% Stop 135 65 65 5 161 0.21 4.704 Yes 765 2.721 0.21 | | | | | | | | | | | |
| Vol Left, % Vol Thru, % Vol Right, % Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 26 44 26 St 0. 4.4 Y 8 8 2.4 | % 53% 35% 35% 12% 512% 512% 512% 512% 512% 512% 512 | 41% 9% 50% Stop 151 62 14 75 186 1 0.218 4.218 Yes 854 2.233 0.218 A | 48% 48% 4% Stop 135 65 65 5 161 1 0.21 4.704 Yes 765 2.721 0.21 | | | | | | | | | | | |

| | → | • | • | ← | • | ~ |
|-----------------------------------|------------|------|-------|----------|------------|---------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | † Ъ | | | ^ | | 7 |
| Traffic Volume (veh/h) | 156 | 0 | 0 | 154 | 0 | 6 |
| Future Volume (Veh/h) | 156 | 0 | 0 | 154 | 0 | 6 |
| Sign Control | Free | | | Free | Stop | - |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.86 | 0.86 | 0.92 | 0.92 | 0.25 | 0.25 |
| Hourly flow rate (vph) | 181 | 0 | 0 | 167 | 0 | 24 |
| Pedestrians | 163 | | | | | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 16 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | Raised | | | Raised | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 181 | | 428 | 90 |
| vC1, stage 1 conf vol | | | | | 181 | |
| vC2, stage 2 conf vol | | | | | 246 | |
| vCu, unblocked vol | | | 181 | | 428 | 90 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | 5.8 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 97 |
| cM capacity (veh/h) | | | 1407 | | 615 | 956 |
| | ED 4 | ED 0 | MD 4 | MD 0 | | |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 121 | 60 | 84 | 84 | 24 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 0 | 0 | 24 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 956 | |
| Volume to Capacity | 0.07 | 0.04 | 0.05 | 0.05 | 0.03 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 2 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 8.9 | |
| Lane LOS | | | | | Α | |
| Approach Delay (s) | 0.0 | | 0.0 | | 8.9 | |
| Approach LOS | | | | | Α | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0,6 | | | |
| Intersection Capacity Utilization | 1 | | 14.8% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |

| Bulla (2024) Condition | , a.iii. | Cani | ioui | | | | 201000Huhlington The |
|---------------------------------|----------|------|-------|----------|------------|-----------|----------------------|
| | ۶ | • | 4 | † | ţ | 4 | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR | |
| ane Configurations | W | | | ર્ન | 1} | | |
| raffic Volume (veh/h) | 6 | 7 | 7 | Ö | 0 | 0 | |
| uture Volume (Veh/h) | 6 | 7 | 7 | 0 | 0 | 0 | |
| Sign Control | Stop | | | Free | Free | | |
| Grade | 0% | | | 0% | 0% | | |
| eak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| lourly flow rate (vph) | 7 | 8 | 8 | 0 | 0 | 0 | |
| edestrians | | | | | | | |
| ane Width (ft) | | | | | | | |
| /alking Speed (ft/s) | | | | | | | |
| ercent Blockage | | | | | | | |
| ight turn flare (veh) | | | | | | | |
| ledian type | | | | None | None | | |
| ledian storage veh) | | | | 110110 | 110110 | | |
| pstream signal (ft) | | | | | | | |
| X, platoon unblocked | | | | | | | |
| C, conflicting volume | 16 | 0 | 0 | | | | |
| C1, stage 1 conf vol | 10 | | | | | | |
| C2, stage 2 conf vol | | | | | | | |
| Cu, unblocked vol | 16 | 0 | 0 | | | | |
| C, single (s) | 6.4 | 6.2 | 4.1 | | | | |
| C, 2 stage (s) | 0.1 | 0.2 | | | | | |
| = (s) | 3.5 | 3.3 | 2.2 | | | | |
| 0 queue free % | 99 | 99 | 100 | | | | |
| M capacity (veh/h) | 997 | 1085 | 1623 | | | | |
| | | | | | | | |
| irection, Lane # | EB 1 | NB 1 | SB 1 | | | | |
| olume Total | 15 | 8 | 0 | | | | |
| olume Left | 7 | 8 | 0 | | | | |
| olume Right | 8 | 0 | 0 | | | | |
| SH | 1042 | 1623 | 1700 | | | | |
| olume to Capacity | 0.01 | 0.00 | 0.00 | | | | |
| ueue Length 95th (ft) | 1 | 0 | 0 | | | | |
| ontrol Delay (s) | 8.5 | 7.2 | 0.0 | | | | |
| ane LOS | Α | Α | | | | | |
| pproach Delay (s) | 8.5 | 7.2 | 0.0 | | | | |
| pproach LOS | Α | | | | | | |
| tersection Summary | | | | | | | |
| verage Delay | | | 8.1 | | | | |
| tersection Capacity Utilization | | | 13.3% | IC | CU Level o | f Service | A |
| nalysis Period (min) | | | 15 | | | | |
| , , , | | | | | | | |

| | ۶ | → | — | • | <u> </u> | 1 |
|-----------------------------------|------|----------|----------|------|------------|---------|
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | 4 | 7 | | W | -05.1 |
| Traffic Volume (veh/h) | 8 | 70 | 117 | 0 | 0 | 34 |
| Future Volume (Veh/h) | 8 | 70 | 117 | 0 | 0 | 34 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 76 | 127 | 0 | 0 | 37 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 541 | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 127 | | | | 221 | 127 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 127 | | | | 221 | 127 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 99 | | | | 100 | 96 |
| cM capacity (veh/h) | 1459 | | | | 762 | 923 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total | 85 | 127 | 37 | | | |
| Volume Left | 9 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 37 | | | |
| cSH | 1459 | 1700 | 923 | | | |
| Volume to Capacity | 0.01 | 0.07 | 0.04 | | | |
| Queue Length 95th (ft) | 0 | 0 | 3 | | | |
| Control Delay (s) | 0.8 | 0.0 | 9.1 | | | |
| Lane LOS | Α | | Α | | | |
| Approach Delay (s) | 0.8 | 0.0 | 9.1 | | | |
| Approach LOS | | | Α | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.6 | | | |
| Intersection Capacity Utilization | | | 20.4% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |
| | | | 10 | | | |

| | • | → | • | F | • | + | • | • | † | <i>/</i> ~ | <u> </u> | Ţ. | 4 | | | |
|---------------------------------------|-------|-----------|------|-------|-------|-----------|------|-------|-------------|------------|----------|-------------|------|------|-----|--|
| Lane Group | EBL | EBT | EBR | WBU | | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Ø2 | Ø6 | |
| | EBL | | EBR | WBU | WBL | | WBR | | | NBK | SBL | | SBK | WZ | סש | |
| Lane Configurations | | 414 | | | 100 | 414 | | 7 | † 1> | | | ↑ 1> | | | | |
| Traffic Volume (vph) | 61 | 32 | 69 | 1 | 123 | 34 | 35 | 83 | 920 | 96 | 0 | 1055 | 120 | | | |
| Future Volume (vph) | 61 | 32 | 69 | 1 | 123 | 34 | 35 | 83 | 920 | 96 | 0 | 1055 | 120 | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | |
| Storage Length (ft) | 0 | | 0 | | 0 | | 0 | 150 | | 0 | 0 | | 0 | | | |
| Storage Lanes | 0 | | 0 | | 0 | | 0 | 1 | | 0 | 0 | | 0 | | | |
| Taper Length (ft) | 50 | | | | 50 | | | 50 | | | 50 | | | | | |
| Lane Util. Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | | | |
| Ped Bike Factor | | 0.87 | | | | 0.70 | | | 0.95 | | | 0.94 | | | | |
| Frt | | 0.936 | | | | 0.973 | | | 0.986 | | | 0.985 | | | | |
| Flt Protected | | 0.982 | | | | 0.969 | | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 0 | 2747 | 0 | 0 | 0 | 2851 | 0 | 1624 | 2955 | 0 | 0 | 2909 | 0 | | | |
| FIt Permitted | | 0.982 | | | | 0.969 | | 0.106 | | | | | | | | |
| Satd. Flow (perm) | 0 | 2603 | 0 | 0 | 0 | 2080 | 0 | 181 | 2955 | 0 | 0 | 2909 | 0 | | | |
| Right Turn on Red | | | No | | | | No | | | No | | | No | | | |
| Satd. Flow (RTOR) | | | | | | | | | | | | | | | | |
| Link Speed (mph) | | 30 | | | | 30 | | | 30 | | | 30 | | | | |
| Link Distance (ft) | | 159 | | | | 495 | | | 334 | | | 341 | | | | |
| Travel Time (s) | | 3.6 | | | | 11.3 | | | 7.6 | | | 7.8 | | | | |
| Confl. Peds. (#/hr) | 82 | | 69 | 506 | 69 | | 82 | 762 | | 506 | 506 | | 762 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | 6 | | | 42 | | | 44 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.96 | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | | | |
| Heavy Vehicles (%) | 0% | 0% | 0% | 100% | 4% | 3% | 0% | 0% | 2% | 13% | 0% | 4% | 3% | | | |
| Adj. Flow (vph) | 66 | 35 | 75 | 1 | 128 | 35 | 36 | 88 | 979 | 102 | 0 | 1147 | 130 | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 176 | 0 | 0 | 0 | 200 | 0 | 88 | 1081 | 0 | 0 | 1277 | 0 | | | |
| Turn Type | Split | NA | | Split | Split | NA | | pm+pt | NA | | | NA | | | | |
| Protected Phases | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | 2 | 6 | |
| Permitted Phases | | | | | | | | 13 | | | | | | | | |
| Detector Phase | 7 | 7 | | 5 | 5 | 5 | | 3 | 13 | | | 1 | | | | |
| Switch Phase | | | | | | | | | | | | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 | | 8.0 | | | | 10.0 | | 1.0 | 1.0 | |
| Minimum Split (s) | 21.0 | 21.0 | | 23.5 | 23.5 | 23.5 | | 15.5 | | | | 20.5 | | 6.0 | 6.0 | |
| Total Split (s) | 22.0 | 22.0 | | 25.0 | 25.0 | 25.0 | | 18.0 | | | | 43.0 | | 6.0 | 6.0 | |
| Total Split (%) | 18.3% | 18.3% | | 20.8% | 20.8% | 20.8% | | 15.0% | | | | 35.8% | | 5% | 5% | |
| Maximum Green (s) | 15.0 | 15.0 | | 17.5 | 17.5 | 17.5 | | 10.5 | | | | 35.5 | | 4.0 | 4.0 | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | 3.5 | | 2.0 | 2.0 | |
| All-Red Time (s) | 3.5 | 3.5 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | 4.0 | | 0.0 | 0.0 | |
| Lost Time Adjust (s) | | 0.0 | | | | 0.0 | | 0.0 | | | | 0.0 | | | | |
| Total Lost Time (s) | | 7.0 | | | | 7.5 | | 7.5 | | | | 7.5 | | | | |
| Lead/Lag | | | | Lag | Lag | Lag | | Lag | | | | Lead | | Lead | | |
| Lead-Lag Optimize? | | | | Yes | Yes | Yes | | Yes | | | | Yes | | Yes | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 2.0 | | | | 2.0 | | 2.0 | 2.0 | |
| Recall Mode | Ped | Ped | | Ped | Ped | Ped | | Ped | | | | C-Max | | Ped | Max | |
| Walk Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 1.0 | | | | 7.0 | | 4.0 | 4.0 | |
| Flash Dont Walk (s) | 10.0 | 10.0 | | 12.0 | 12.0 | 12.0 | | 6.0 | | | | 6.0 | | 0.0 | 0.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | | 0 | 0 | 0 | | 0 | | | | 0 | | 0 | 0 | |
| Act Effct Green (s) | | 14.2 | | | | 16.2 | | 48.1 | 55.6 | | | 37.8 | | | | |
| Actuated g/C Ratio | | 0.12 | | | | 0.14 | | 0.40 | 0.46 | | | 0.32 | | | | |
| v/c Ratio | | 0.54 | | | | 0.52 | | 0.45 | 0.79 | | | 1.39 | | | | |
| Control Delay | | 56.5 | | | | 53.7 | | 21.8 | 13.6 | | | 216.7 | | | | |
| Queue Delay | | 0.0 | | | | 0.0 | | 0.0 | 27.2 | | | 0.0 | | | | |
| Total Delay | | 56.5 | | | | 53.7 | | 21.8 | 40.7 | | | 216.7 | | | | |
| LOS | | 50.5 E | | | | 55.7 D | | C C | D | | | F | | | | |
| Approach Delay | | 56.5 | | | | 53.7 | | | 39.3 | | | 216.7 | | | | |
| Approach LOS | | 50.5 E | | | | D | | | D D | | | F F | | | | |
| Queue Length 50th (ft) | | 68 | | | | 76 | | 20 | 292 | | | ~692 | | | | |
| Queue Length 95th (ft) | | 106 | | | | 116 | | m16 | m259 | | | #848 | | | | |
| Internal Link Dist (ft) | | 79 | | | | 415 | | 11110 | 254 | | | 261 | | | | |
| Turn Bay Length (ft) | | 13 | | | | 413 | | 150 | 234 | | | 201 | | | | |
| Base Capacity (vph) | | 343 | | | | 415 | | 199 | 1375 | | | 917 | | | | |
| Starvation Cap Reductn | | 343 | | | | 415 | | 199 | 340 | | | 917 | | | | |
| Spillback Cap Reductn | | 0 | | | | 0 | | 0 | 340 | | | 0 | | | | |
| | | 0 | | | | 0 | | 0 | 0 | | | | | | | |
| Storage Cap Reductn Reduced v/c Ratio | | 0.51 | | | | 0.48 | | 0.44 | 1.04 | | | 0 1.39 | | | | |
| Reduced WC Rallo | | 10.0 | | | | U.46 | | 0.44 | 1.04 | | | 1.59 | | | | |

Area Type: CBD
Cycle Length: 120
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 21 (18%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 135

Control Type: Actuated-Coordinated Maximum v/c Ratio: 1.39 Intersection Signal Delay: 121.7

Intersection Capacity Utilization 77.5%

Analysis Period (min) 15

Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Molume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Massachusetts Avenue & Huntington Avenue

Intersection LOS: F

ICU Level of Service D

| Lamb Configuration St. Lest Cest C | | • | → | • | • | + | • | • | <u>†</u> | ~ | <u> </u> | | 4 | | | |
|--|-------------------------|-------|----------|------|-------|-------|------|------|----------|------|----------|--------------|------|-----|-----|--|
| Lane Configurations 1 | Lane Group | FRI | | | • | WRT | WRR | - | - | • | SBI | - | SBR | Ø2 | Ø6 | |
| Traine Volume (reph) 39 17 170 72 26 31 59 1025 63 74 1122 50 Center Flow (repht) 39 177 170 74 26 31 59 1025 63 74 1122 50 Center Flow (repht) 190 1900 1900 1900 1900 1900 1900 1900 | | | | LDIN | | | WDIX | INDL | | NUIX | | | ODIN | DΣ | 200 | |
| Future Volume (right Park (Pirker) 39 17 170 74 28 31 59 1025 63 74 1122 50 Storage Lange (Right Park (Pirker) 1901 1900 190 | | | | 170 | | 26 | 21 | 50 | 1025 | 62 | | 1122 | EΛ | | | |
| West Description 1900 | | | | | | | | | | | | | | | | |
| Stronge Large In 19 | | | | | | | | | | | | | | | | |
| Storage Lander 1 | | | 1300 | | | 1300 | | | 1900 | | | 1300 | | | | |
| Tipor Turop (1) | | | | | | | | | | | | | | | | |
| Line Bull Friedor | | | | U | | | U | | | U | | | U | | | |
| Per Sake Factor 0.97 0.66 0.98 0.918 0.928 | | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 | 0.95 | | 0.95 | 0.95 | | | |
| First | | | | 1.00 | | | 1.00 | 0.55 | | 0.55 | 1.00 | | 0.55 | | | |
| Till Protected 0 500 | | 0.01 | | | 0.00 | | | | | | | | | | | |
| Saled Flow (prote) 1624 1400 0 1608 1527 0 0 3070 0 1608 3044 0 | | 0.950 | 0.000 | | 0.950 | 0.010 | | | | | 0.950 | 0.004 | | | | |
| Fit Permitted 0,717 | | | 1400 | 0 | | 1527 | 0 | 0 | | 0 | | 3044 | 0 | | | |
| Salet Flow (perm) 199 1400 0 779 1527 0 0 2177 0 261 3044 0 | | | 1700 | U | | 1021 | U | U | | U | | 3044 | U | | | |
| Right Tum On Fade No No No No No No No N | | | 1/100 | ٥ | | 1527 | ٥ | 0 | | ٥ | | 3044 | ٥ | | | |
| Sidie Flow (RICRO) 1.65 37 341 334 334 1.75 | | 1100 | 1700 | | 113 | 1021 | | U | 2111 | | 201 | 3044 | | | | |
| Link Speed (minh) | | | | 140 | | | 140 | | | 140 | | | 140 | | | |
| Link Defiance (f) | | | 30 | | | 30 | | | 30 | | | 30 | | | | |
| Travel Irms (e) | | | | | | | | | | | | | | | | |
| Confl. Bases (sightry) 22 21 21 22 151 92 92 151 | | | | | | | | | | | | | | | | |
| Conf. Bikes (Brhr) | | າາ | 3.3 | 21 | 21 | 0.0 | 22 | 151 | 1.0 | 02 | 02 | 1.0 | 151 | | | |
| Peak Hour Factor 0.92 | | 22 | | | 21 | | | 101 | | | 52 | | | | | |
| Heary Verbicles (N) | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.02 | | 0.00 | 0.00 | | | | |
| Adj. Flow (lph) 42 18 185 80 28 34 64 1114 68 80 1221 54 Stared Lane Traffic (%) Lane Group Flow (lph) 42 203 0 80 62 0 0 1246 0 80 1275 0 Premitted Phases 5 5 5 5 1 <td></td> | | | | | | | | | | | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | | |
| Lane Group Flow (riph) Lane Group Flow (riph) Perm NA Perm | | 42 | 10 | 100 | 00 | 20 | 34 | 04 | 1114 | 00 | 00 | 1221 | 54 | | | |
| Turn Type Perm NA Perm | | 40 | 202 | ٥ | 00 | co | ٥ | 0 | 1046 | ٥ | 00 | 1075 | ٥ | | | |
| Production Phases 5 5 5 1 1 1 2 6 Permitted Phases 5 5 5 5 1 1 1 Delector Phase 5 5 5 5 5 1 1 Delector Phase 5 5 5 5 5 1 1 Delector Phase 5 5 5 5 5 1 1 Delector Phase 5 5 5 5 5 5 Delector Phase 5 5 5 Delector Phase 5 5 5 Delector Phase 5 5 5 5 Delector Phase 5 5 5 5 5 Delector Phase 5 5 5 5 Delector Phase 5 5 5 5 Delector Phase 5 5 5 5 5 Delector Phase 5 5 5 5 5 Delector Phase 5 5 5 | | | | U | | | U | | | U | | | U | | | |
| Permitted Phases 5 | | Perm | | | Perm | | | Perm | | | Perm | | | 0 | ^ | |
| Delector Phase 5 | | _ | 5 | | _ | 5 | | | 1 | | | 1 | | 2 | р | |
| Switch Phase Minimum Initials (s) 8.0 8.0 8.0 8.0 8.0 10.0 10.0 10.0 10.0 | | | - | | | _ | | | | | | | | | | |
| Minimum Initial (s) 8.0 8.0 8.0 8.0 10. | | 5 | 5 | | 5 | 5 | | - 1 | 1 | | 1 | 1 | | | | |
| Minimum Spit (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | | 40.0 | 40.0 | | 40.0 | 40.0 | | 4.0 | 4.0 | |
| Total Spit (s) | | | | | | | | | | | | | | | | |
| Total Spirit (%) 31.7% 31.7% 31.7% 31.7% 31.7% 31.7% 31.7% 31.7% 31.7% 32.5 32.0 20.0 00. | | | | | | | | | | | | | | | | |
| Maximum Green (s) 32.5 32.5 32.5 32.5 34.5 35.5 3 | | | | | | | | | | | | | | | | |
| Vellow Time (s) 3.5 | | | | | | | | | | | | | | | | |
| All-Red Time (s) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 | | | | | | | | | | | | | | | | |
| Lost Time Adjust (s) | | | | | | | | | | | | | | | | |
| Total Lost Time (s) | | | | | | | | 2.0 | | | | | | 0.0 | 0.0 | |
| Lead/Lag | | | | | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | | | | | |
| Vehicle Extension (s) | | | | | | | | | | | | | | | | |
| Recall Mode | | | | | | | | | | | | | | | | |
| Walk Time (s) 7.0 7.0 7.0 7.0 7.0 12.0 12.0 12.0 12.0 4.0 4.0 4.0 Flash Dont Walk (s) 17.0 17.0 17.0 11.0 10.0 10.0 10.0 1.1 0.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0. | | | | | | | | | | | | | | | | |
| Flash Dont Walk (s) 17.0 17.0 17.0 17.0 17.0 10.0 10.0 10.0 | | | | | | | | | | | | | | | | |
| Pedestrian Calls (#hr) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Act Leffet Green (s) | | | | | | | | | | | | | | | | |
| Actuated g/C Ratio 0.21 0.21 0.21 0.21 0.21 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.6 | | | | | | | | 0 | | | | | | U | 0 | |
| v/c Ratio 0.17 0.68 0.48 0.19 0.96 0.52 0.70 Control Delay 39.4 55.4 51.5 39.5 41.6 13.6 10.7 Queue Delay 0.0 0.0 0.0 41.4 0.0 2.6 Total Delay 39.4 55.4 51.5 39.5 83.0 13.6 13.3 LOS D E D D F B B Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D D F B B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 25 297 261 254 Turn Bay Length (ft) 25 25 50 50 50 50 50 50 50 50 50 50 50 < | | | | | | | | | | | | | | | | |
| Control Delay 39.4 55.4 51.5 39.5 41.6 13.6 10.7 Queue Delay 0.0 0.0 0.0 0.0 0.0 41.4 0.0 2.6 Total Delay 39.4 55.4 51.5 39.5 83.0 13.6 13.3 LOS D E D D D F B B Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D F B B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 5 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Queue Delay 0.0 0.0 0.0 0.0 41.4 0.0 2.6 Total Delay 39.4 55.4 51.5 39.5 83.0 13.6 13.3 LOS D E D D F B B Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D D D F B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 | | | | | | | | | | | | | | | | |
| Total Delay 39.4 55.4 51.5 39.5 83.0 13.6 13.3 LOS D E D D F B B B Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D F B B B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 25 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| LOS D E D D F B B B Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D F B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 5 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Approach Delay 52.7 46.3 83.0 13.4 Approach LOS D D F B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 0 Spillback Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Approach LOS D D F B Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 400 Storage Cap Reductn 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 | | D | | | Ď | | | | | | В | | | | | |
| Queue Length 50th (ft) 27 148 56 40 437 6 101 Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 400 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Queue Length 95th (ft) 56 218 103 75 #685 m6 m42 Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 400 Spillback Cap Reductn 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Internal Link Dist (ft) 65 297 261 254 Turn Bay Length (ft) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 Spillback Cap Reducth 0 0 0 0 0 0 0 0 0 0 Storage Cap Reducth 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | |
| Turn Bay Length (tt) 25 25 50 Base Capacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 0 0 400 Starvaten 0 0 0 0 0 160 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 | | 56 | | | 103 | | | | | | m6 | | | | | |
| Base Cápacity (vph) 322 379 210 413 1295 155 1810 Starvation Cap Reductn 0 0 0 0 0 0 400 Spillback Cap Reductn 0 0 0 0 0 160 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 | Internal Link Dist (ft) | | 65 | | | 297 | | | 261 | | | 254 | | | | |
| Starvation Cap Reductn 0 0 0 0 400 Spillback Cap Reductn 0 0 0 160 0 0 Storage Cap Reductn 0 0 0 0 0 0 | Turn Bay Length (ft) | | | | | | | | | | | | | | | |
| Spillback Cap Reducth 0 0 0 160 0 0 Storage Cap Reducth 0 0 0 0 0 0 | Base Capacity (vph) | | | | | | | | | | | | | | | |
| Storage Cap Reductn 0 0 0 0 0 0 0 | Starvation Cap Reductn | | | | | | | | | | | | | | | |
| | Spillback Cap Reductn | | | | | | | | | | | | | | | |
| Reduced v/c Ratio 0.13 0.54 0.38 0.15 1.10 0.52 0.90 | Storage Cap Reductn | | | | | | | | - | | | | | | | |
| | Reduced v/c Ratio | 0.13 | 0.54 | | 0.38 | 0.15 | | | 1.10 | | 0.52 | 0.90 | | | | |

Area Type: CBD
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.96 Intersection Signal Delay: 47.2

Intersection LOS: D

ICU Level of Service H

Intersection Capacity Utilization 117.5%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



| Build (2024) Cond | ition, p.m. | Peak F | 10ur | | | | | | | | | | | | 2016066::Huntongton Theater |
|-------------------------|-------------|--------|-------------|------|-------|-------|-------------|------|-------|----------------|------|------|------|------|-----------------------------|
| | | • | → | • | F | 1 | ← | • | 4 | † | ~ | - | ļ | 1 | |
| Lane Group | EBU | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | | ሻ | † 1> | | | * | † 1> | | | | | | | | |
| Traffic Volume (vph) | 28 | 53 | 690 | 137 | 20 | 40 | 703 | 58 | 37 | ↔ 65 | 36 | 0 | 0 | 0 | |
| Future Volume (vph) | 28 | 53 | 690 | 137 | 20 | 40 | 703 | 58 | 37 | 65 | 36 | 0 | 0 | 0 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Storage Length (ft) | 1300 | 125 | 1300 | 60 | 1300 | 100 | 1300 | 0 | 0 | 1300 | 0 | 0 | 1300 | 0 | |
| Storage Lanes | | 123 | | 0 | | 1 | | 0 | 0 | | 0 | 0 | | 0 | |
| Taper Length (ft) | | 50 | | U | | 50 | | U | 50 | | U | 50 | | U | |
| | 0.95 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Lane Util. Factor | 0.93 | | 0.90 | 0.95 | 0.95 | | 0.95 | 0.90 | 1.00 | 1.00 0.84 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Ped Bike Factor | | 0.89 | | | | 0.75 | | | | | | | | | |
| Frt | | 0.050 | 0.975 | | | 0.050 | 0.989 | | | 0.965 | | | | | |
| Flt Protected | | 0.950 | | | | 0.950 | 2211 | | | 0.987 | | | | | |
| Satd. Flow (prot) | 0 | 1583 | 2774 | 0 | 0 | 1567 | 3011 | 0 | 0 | 1450 | 0 | 0 | 0 | 0 | |
| Flt Permitted | | 0.316 | | | | 0.950 | 2211 | | | 0.987 | | | | | |
| Satd. Flow (perm) | 0 | 467 | 2774 | 0 | 0 | 1177 | 3011 | 0 | 0 | 1339 | 0 | 0 | 0 | 0 | |
| Right Turn on Red | | | | Yes | | | | Yes | | | Yes | | | Yes | |
| Satd. Flow (RTOR) | | | 35 | | | | 16 | | | 17 | | | | | |
| Link Speed (mph) | | | 30 | | | | 30 | | | 30 | | | 30 | | |
| Link Distance (ft) | | | 537 | | | | 488 | | | 314 | | | 267 | | |
| Travel Time (s) | | | 12.2 | | | | 11.1 | | | 7.1 | | | 6.1 | | |
| Confl. Peds. (#/hr) | 230 | 481 | | 225 | 335 | 225 | | 481 | 230 | | 335 | 335 | | 230 | |
| Confl. Bikes (#/hr) | | | | 17 | | | | 18 | | | 4 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 0.92 | 0.92 | 0.92 | |
| Heavy Vehicles (%) | 0% | 4% | 3% | 2% | 5% | 3% | 3% | 0% | 4% | 0% | 6% | 0% | 0% | 0% | |
| Adj. Flow (vph) | 30 | 58 | 750 | 149 | 22 | 43 | 764 | 63 | 39 | 69 | 38 | 0 | 0 | 0 | |
| Shared Lane Traffic (%) | | | | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 88 | 899 | 0 | 0 | 65 | 827 | 0 | 0 | 146 | 0 | 0 | 0 | 0 | |
| Turn Type | Perm | Perm | NA | | Prot | Prot | NA | | Perm | NA | | | | | |
| Protected Phases | | | 1 | | 3 | 3 | 1 | | | 2 | | | | | |
| Permitted Phases | 1 | 1 | | | · | | 3 | | 2 | - | | | | | |
| Detector Phase | 1 | 1 | 1 | | 3 | 3 | 1 | | 2 | 2 | | | | | |
| Switch Phase | • | | | | U | U | | | _ | _ | | | | | |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | | 6.0 | 6.0 | 8.0 | | 8.0 | 8.0 | | | | | |
| Minimum Split (s) | 23.0 | 23.0 | 23.0 | | 10.0 | 10.0 | 23.0 | | 30.0 | 30.0 | | | | | |
| Total Split (s) | 58.0 | 58.0 | 58.0 | | 10.0 | 10.0 | 58.0 | | 32.0 | 32.0 | | | | | |
| Total Split (%) | 58.0% | 58.0% | 58.0% | | 10.0% | 10.0% | 58.0% | | 32.0% | 32.0% | | | | | |
| Maximum Green (s) | 53.0 | 53.0 | 53.0 | | 6.0 | 6.0 | 53.0 | | 26.0 | 26.0 | | | | | |
| Yellow Time (s) | 3.0 | 3.0 | 3.0 | | 2.0 | 2.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 | | 3.0 | 3.0 | | | | | |
| | 2.0 | 0.0 | 0.0 | | 2.0 | 0.0 | | | 3.0 | 0.0 | | | | | |
| Lost Time Adjust (s) | | 5.0 | | | | 4.0 | 0.0 | | | 6.0 | | | | | |
| Total Lost Time (s) | Local | | 5.0 | | | 4.0 | 5.0 | | 1 | | | | | | |
| Lead/Lag | Lead | Lead | Lead | | | | Lead | | Lag | Lag | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | | 0.0 | | Yes | | Yes | Yes | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | |
| Recall Mode | C-Max | C-Max | C-Max | | None | None | C-Max | | Min | Min | | | | | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | | | | 7.0 | | 7.0 | 7.0 | | | | | |
| Flash Dont Walk (s) | 5.0 | 5.0 | 5.0 | | | | 5.0 | | 17.0 | 17.0 | | | | | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | | | | 0 | | 0 | 0 | | | | | |
| Act Effct Green (s) | | 66.0 | 66.0 | | | 6.0 | 74.0 | | | 15.0 | | | | | |
| Actuated g/C Ratio | | 0.66 | 0.66 | | | 0.06 | 0.74 | | | 0.15 | | | | | |
| v/c Ratio | | 0.29 | 0.49 | | | 0.69 | 0.37 | | | 0.68 | | | | | |
| Control Delay | | 12.6 | 10.6 | | | 82.2 | 5.7 | | | 50.2 | | | | | |
| Queue Delay | | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | | | | | |
| Total Delay | | 12.6 | 10.6 | | | 82.2 | 5.7 | | | 50.2 | | | | | |
| LOS | | В | В | | | F | Α | | | D | | | | | |
| Approach Delay | | | 10.8 | | | | 11.3 | | | 50.2 | | | | | |
| Approach LOS | | | В | | | | В | | | D | | | | | |
| Queue Length 50th (ft) | | 23 | 140 | | | 41 | 81 | | | 79 | | | | | |
| Queue Length 95th (ft) | | 64 | 228 | | | #112 | 144 | | | 134 | | | | | |
| Internal Link Dist (ft) | | | 457 | | | | 408 | | | 234 | | | 187 | | |
| Turn Bay Length (ft) | | 125 | | | | 100 | | | | | | | | | |
| Base Capacity (vph) | | 307 | 1841 | | | 94 | 2231 | | | 360 | | | | | |
| Starvation Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Spillback Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Storage Cap Reductn | | 0 | 0 | | | 0 | 0 | | | 0 | | | | | |
| Reduced v/c Ratio | | 0.29 | 0.49 | | | 0.69 | 0.37 | | | 0.41 | | | | | |
| | | 3.20 | 0.70 | | | 5.00 | 0.01 | | | V.71 | | | | | |
| Intersection Summary | | | | | | | | | | | | | | | |
| Area Type: | CBD | | | | | | | | | | | | | | |

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 4 (4%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle: 65

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69 Intersection Signal Delay: 13.8

Intersection LOS: B

ICU Level of Service C

Intersection Capacity Utilization 64.9%

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Gainsborough Street & Huntington Avenue



| Balla (2021) Cortainon | , p | | - | | | | | | | | | | |
|-----------------------------------|------|----------|-------|------|------------|----------|------|------|------|------|------|------|------|
| | • | - | • | F | • | ← | • | 1 | Ť | ~ | - | ţ | 4 |
| Movement | EBL | EBT | EBR | WBU | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | 43- | | | | 4 | | | 4 | | | 4 | |
| Traffic Volume (veh/h) | 0 | 216 | 1 | 2 | 5 | 99 | 28 | 3 | 0 | 3 | 4 | 0 | 1 |
| Future Volume (Veh/h) | 0 | 216 | 1 | 2 | 5 | 99 | 28 | 3 | 0 | 3 | 4 | 0 | 1 |
| Sign Control | Ů | Free | | | Ū | Free | 20 | | Stop | | | Stop | |
| Grade | | 0% | | | | 0% | | | 0% | | | 0% | |
| Peak Hour Factor | 0.63 | 0.63 | 0.63 | 0.65 | 0.65 | 0.65 | 0.65 | 0.38 | 0.38 | 0.38 | 0.50 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 0.03 | 343 | 2 | 0.03 | 8 | 152 | 43 | 8 | 0.50 | 8 | 8 | 0.50 | 2 |
| Pedestrians | U | 66 | 2 | U | 0 | 132 | 43 | 0 | 85 | 0 | 0 | 54 | 2 |
| Lane Width (ft) | | 12.0 | | | | 12.0 | | | 12.0 | | | 12.0 | |
| | | 3.5 | | | | 3.5 | | | 3.5 | | | 3.5 | |
| Walking Speed (ft/s) | | 3.5 6 | | | | 3.5 | | | 3.5 | | | | |
| Percent Blockage | | b | | | | U | | | ď | | | 5 | |
| Right turn flare (veh) | | | | | | | | | | | | | |
| Median type | | None | | | | None | | | | | | | |
| Median storage veh) | | | | | | | | | | | | | |
| Upstream signal (ft) | | | | | | 145 | | | | | | | |
| pX, platoon unblocked | | | | 0.00 | | | | | | | | | |
| vC, conflicting volume | 249 | | | 0 | 430 | | | 686 | 694 | 430 | 596 | 674 | 294 |
| vC1, stage 1 conf vol | | | | | | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | | | | | | |
| vCu, unblocked vol | 249 | | | 0 | 430 | | | 686 | 694 | 430 | 596 | 674 | 294 |
| tC, single (s) | 4.1 | | | 0.0 | 4.1 | | | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.2 |
| tC, 2 stage (s) | | | | | | | | | | | | | |
| tF (s) | 2.2 | | | 0.0 | 2.2 | | | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |
| p0 queue free % | 100 | | | 0 | 99 | | | 97 | 100 | 99 | 98 | 100 | 100 |
| cM capacity (veh/h) | 1260 | | | 0 | 1048 | | | 280 | 319 | 578 | 350 | 328 | 667 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 | | | | | | | | | |
| Volume Total | 345 | 203 | 16 | 10 | | | | | | | | | |
| Volume Left | 0 | 8 | 8 | 8 | | | | | | | | | |
| Volume Right | 2 | 43 | 8 | 2 | | | | | | | | | |
| cSH | 1260 | 1048 | 377 | 387 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Volume to Capacity | 0.00 | 0.01 | 0.04 | 0.03 | | | | | | | | | |
| Queue Length 95th (ft) | 0 | 1 | 3 | 2 | | | | | | | | | |
| Control Delay (s) | 0.0 | 0.4 | 15.0 | 14.5 | | | | | | | | | |
| Lane LOS | | Α | В | В | | | | | | | | | |
| Approach Delay (s) | 0.0 | 0.4 | 15.0 | 14.5 | | | | | | | | | |
| Approach LOS | | | В | В | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | | |
| Average Delay | | | 0.8 | | | | | | | | | | |
| Intersection Capacity Utilization | | | 34.0% | IC | U Level of | Service | | | Α | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | | | |
|---|--|---|--|---|------|------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 9.4 | | | | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Movement | EBU E | BL EBT | EBR | WBU | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | SBL | SBT | SBR |
| Lane Configurations | | 4 | | | | 4 | | | | 4 | | | | 4 | |
| Traffic Vol. veh/h | 0 | 8 31 | 2 | 3 | 42 | 23 | 57 | 0 | 3 | 69 | 46 | 3 | 136 | 29 | 9 |
| Future Vol. veh/h | 0 | 8 31 | 2 | 3 | 42 | 23 | 57 | 0 | 3 | 69 | 46 | 3 | 136 | 29 | 9 |
| Peak Hour Factor | 0.92 0. | 15 0.45 | 0.45 | 0.68 | 0.68 | 0.68 | 0.68 | 0.92 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | | 38 0 | 0 | 0 | 0 | 5 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 22 |
| Mvmt Flow | 0 | 18 69 | 4 | 4 | 62 | 34 | 84 | 0 | 4 | 82 | 55 | 4 | 166 | 35 | 11 |
| Number of Lanes | 0 | 0 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Approach | | В | | WB | | | | | NB | | | SB | | | |
| Opposing Approach | V | /B | | EB | | | | | SB | | | NB | | | |
| Opposing Lanes | | 1 | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Left | | SB . | | NB | | | | | EB | | | WB | | | |
| Conflicting Lanes Left | | 1 | | 1 | | | | | 1 | | | 1 | | | |
| Conflicting Approach Right | ١ | IB | | SB | | | | | WB | | | EB | | | |
| Conflicting Lanes Right | | 1 | | 1 | | | | | 1 | | | 1 | | | |
| HCM Control Delay | 9 | .7 | | 9.2 | | | | | 8.7 | | | 10 | | | |
| HCM LOS | | Α | | Α | | | | | Α | | | Α | | | |
| | | | | | | | | | | | | | | | |
| Lane | NBL | 1 EBLn1 | WBLn1 | SBLn1 | | | | | | | | | | | |
| Vol Left, % | | % 20% | 34% | 78% | | | | | | | | | | | |
| Vol Thru, % | 58 | | 19% | 17% | | | | | | | | | | | |
| Vol Right, % | 39 | | 47% | 5% | | | | | | | | | | | |
| Sign Control | St | | Stop | Stop | | | | | | | | | | | |
| Traffic Vol by Lane | 1 | | 125 | 177 | | | | | | | | | | | |
| LT Vol | | 3 8 | | 138 | | | | | | | | | | | |
| Through Vol | | | | | | | | | | | | | | | |
| | | 31 | 24 | 29 | | | | | | | | | | | |
| RT Vol | | 16 2 | 58 | 9 | | | | | | | | | | | |
| RT Vol Lane Flow Rate | | 16 2 10 91 | 58 184 | 9 216 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp | 1. | 16 2 10 91 1 1 | 58 184 1 | 9 216 1 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) | 0.1 | 46 2 40 91 1 1 31 0.143 | 58 184 1 0.239 | 9 216 1 0.293 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) | 0.1· 4.6 | 46 2 40 91 1 1 31 0.143 32 5.643 | 58 184 1 0.239 4.673 | 9 216 1 0.293 4.879 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N | 1. 0.1 4.6 Y | 46 2 40 91 1 1 31 0.143 32 5.643 Yes | 58 184 1 0.239 4.673 Yes | 9 216 1 0.293 4.879 Yes | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap | 1. 0.1. 4.6 Y | 46 2 40 91 1 1 31 0.143 32 5.643 es Yes 68 631 | 58 184 1 0.239 4.673 Yes 763 | 9 216 1 0.293 4.879 Yes 732 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time | 1. 0.1. 4.6 Y 7. 2.6 | 46 2 40 91 1 1 1 31 0.143 32 5.643 98 Yes 58 631 96 3.716 | 58 184 1 0.239 4.673 Yes 763 2.735 | 9 216 1 0.293 4.879 Yes 732 2.938 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 1. 0.1. 4.6 Y 7. 2.6 0.1 | 46 2 40 91 1 1 1 81 0.143 32 5.643 Yes 58 631 96 3.716 32 0.144 | 58 184 1 0.239 4.673 Yes 763 2.735 0.241 | 9 216 1 0.293 4.879 Yes 732 2.938 0.295 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio HCM Control Delay | 1. 0.1. 4.6 Y 7. 2.6 0.1 | 166 2 140 91 1 1 131 0.143 132 5.643 143 Yes 158 631 159 3.716 159 0.144 17 9.7 | 58 184 1 0.239 4.673 Yes 763 2.735 0.241 9.2 | 9 216 1 0.293 4.879 Yes 732 2.938 0.295 | | | | | | | | | | | |
| RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio | 1. 0.1. 4.6 Y 7 2.6 0.1. | 46 2 40 91 1 1 1 81 0.143 32 5.643 Yes 58 631 96 3.716 32 0.144 | 58 184 1 0.239 4.673 Yes 763 2.735 0.241 9.2 A | 9 216 1 0.293 4.879 Yes 732 2.938 0.295 | | | | | | | | | | | |

| | - | • | • | • | • | <i>></i> |
|-----------------------------------|----------|------|-------|----------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ^ | | | ^ | | # |
| Traffic Volume (veh/h) | 158 | 1 | 0 | 234 | 0 | 5 |
| Future Volume (Veh/h) | 158 | 1 | 0 | 234 | 0 | 5 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.80 | 0.80 | 0.92 | 0.92 | 0.50 | 0.50 |
| Hourly flow rate (vph) | 198 | 1 | 0 | 254 | 0 | 10 |
| Pedestrians | 515 | | | 20. | | |
| Lane Width (ft) | 12.0 | | | | | |
| Walking Speed (ft/s) | 3.5 | | | | | |
| Percent Blockage | 49 | | | | | |
| Right turn flare (veh) | | | | | | |
| | Raised | | | Raised | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (ft) | 488 | | | 159 | | |
| pX, platoon unblocked | 700 | | | 100 | | |
| vC, conflicting volume | | | 199 | | 840 | 100 |
| vC1, stage 1 conf vol | | | 133 | | 198 | 100 |
| vC2, stage 2 conf vol | | | | | 642 | |
| vCu, unblocked vol | | | 199 | | 840 | 100 |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 |
| tC, Single (s) | | | 4.1 | | 5.8 | 0.5 |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 99 |
| cM capacity (veh/h) | | | 1385 | | 243 | 943 |
| | | | | | | 943 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | WB 2 | NB 1 | |
| Volume Total | 132 | 67 | 127 | 127 | 10 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 1 | 0 | 0 | 10 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 943 | |
| Volume to Capacity | 0.08 | 0.04 | 0.07 | 0.07 | 0.01 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 1 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 8.9 | |
| Lane LOS | | | | | Α | |
| Approach Delay (s) | 0.0 | | 0.0 | | 8.9 | |
| Approach LOS | | | | | Α | |
| | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | | 14.9% | IC | CU Level of | Service |
| Analysis Period (min) | | | 15 | | | |

| Balla (2021) Collain | , p | - Jak i | | | | |
|-------------------------------|------|---------|-------|----------|-----------|---------|
| | • | _ | 4 | † | - 1 | 1 |
| | | • | 4 | ı | ¥ | * |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| | | EDR | INDL | | | ODK |
| Lane Configurations | ¥ | | | નુ | Þ | |
| Traffic Volume (veh/h) | 5 | 4 | 28 | 0 | 1 | 0 |
| Future Volume (Veh/h) | 5 | 4 | 28 | 0 | 1 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 5 | 4 | 30 | 0 | 1 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage veh) | | | | 140116 | NONE | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 61 | 1 | 1 | | | |
| | 01 | - 1 | - 1 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | 0.1 | | , | | | |
| vCu, unblocked vol | 61 | 1 | 1 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 99 | 100 | 98 | | | |
| cM capacity (veh/h) | 928 | 1084 | 1622 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| | | | | | | |
| Volume Total | 9 | 30 | 1 | | | |
| Volume Left | 5 | 30 | 0 | | | |
| Volume Right | 4 | 0 | 0 | | | |
| cSH | 991 | 1622 | 1700 | | | |
| Volume to Capacity | 0.01 | 0.02 | 0.00 | | | |
| Queue Length 95th (ft) | 1 | 1 | 0 | | | |
| Control Delay (s) | 8.7 | 7.3 | 0.0 | | | |
| Lane LOS | Α | Α | | | | |
| Approach Delay (s) | 8.7 | 7.3 | 0.0 | | | |
| Approach LOS | Α | | | | | |
| | | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 7.4 | | | |
| Intersection Capacity Utiliza | tion | | 18.2% | IC | U Level o | Service |
| Analysis Period (min) | | | 15 | | | |

| | ٠ | → | + | • | \ | 4 |
|---------------------------------|----------------|----------|--------|------|------------|---------|
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | 4 | 1> | | W | |
| Traffic Volume (veh/h) | 11 | 205 | 103 | 0 | 12 | 23 |
| Future Volume (Veh/h) | 11 | 205 | 103 | 0 | 12 | 23 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 12 | 223 | 112 | 0 | 13 | 25 |
| Pedestrians | · - | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | 110110 | 110110 | | | |
| Upstream signal (ft) | | | 527 | | | |
| pX, platoon unblocked | | | 02. | | | |
| vC, conflicting volume | 112 | | | | 359 | 112 |
| vC1, stage 1 conf vol | 112 | | | | 000 | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 112 | | | | 359 | 112 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | 7.1 | | | | 0.1 | 0.2 |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 99 | | | | 98 | 97 |
| cM capacity (veh/h) | 1478 | | | | 634 | 941 |
| | | | | | 004 | 341 |
| Direction, Lane # | EB 1 | WB 1 | SB 1 | | | |
| Volume Total | 235 | 112 | 38 | | | |
| Volume Left | 12 | 0 | 13 | | | |
| Volume Right | 0 | 0 | 25 | | | |
| cSH | 1478 | 1700 | 808 | | | |
| Volume to Capacity | 0.01 | 0.07 | 0.05 | | | |
| Queue Length 95th (ft) | 1 | 0 | 4 | | | |
| Control Delay (s) | 0.4 | 0.0 | 9.7 | | | |
| Lane LOS | Α | | Α | | | |
| Approach Delay (s) | 0.4 | 0.0 | 9.7 | | | |
| Approach LOS | | | Α | | | |
| | | | | | | |
| Intersection Summary | | | 4.0 | | | |
| Average Delay | | | 1.2 | | | |
| Intersection Capacity Utilizati | on | | 28.1% | IC | U Level of | Service |
| Analysis Period (min) | | | 15 | | | |

MEPA Environmental Monitor

Jul 12, 2017 Volume 88, Issue 5

The Environmental Monitor

a publication of the Massachusetts Executive Office of Energy and Environmental Affairs Charlie Baker, Governor Matthew A. Beaton, Secretary

The Environmental Monitor provides information on projects under review by the Massachusetts Environmental Policy Act (MEPA) office, recent MEPA decisions of the Secretary of Energy & Environmental Affairs, and public notices from environmental agencies. Please note that the links on this page require the use of Adobe Acrobat Reader®, which is available free of charge at http://www.adobe.com/products/acrobat/readstep.html.

Projects Submitted June 16 - 30, 2017

Environmental Notification Forms

Environmental Impact Reports

Notices of Project Change

Forder-control located Bornets

Records of Decision

Environmental Notification Forms

Environmental Impact Reports

Notices of Project Change

Secretary's Certificates June 16 - 30, 2017

Other Projects Under Review

Environmental Notification Forms

Environmental Impact Reports

Notices of Project Change

Requests for Advisory Opinion

Public Notices

Submitting Public Notices

Site Visits

Projects Submitted June 16 - 30, 2017

Environmental Notification Forms

| EEA No. | Project Name | Location | Comments Due | For Copies | MEPA Analyst |
|---------|---|------------------------|-----------------|---|-----------------------------------|
| 15726 | 252-264 Huntington Avenue | Boston | 08/01/2017 | Corinne Snowdon (978) 461-7100 | Purvi Patel (617) 626-1029 |
| 15727 | Lower Basin Barracks Modernization Project | Boston | 08/01/2017 | Andrew Magee (978) 897-7100 | Page Czepiga (617) 626-1021 |
| 15728 | Neponset Wharf | Boston (Dorchester) | 08/15/2017 | Seth Lattrell (617) 607-2973 | Alex Strysky (617) 626-1025 |
| 15729 | 605 Chelsea Street/Cargo Ventures | Boston (East) | 08/01/2017 | Julie Conroy (617) 357-7044 ext. 205 | |
| 15730 | Autoport - Mystic Pier | Charlestown | 08/11/2017 | Richard Jabba (617)357-7044 ext.208 | Deirdre Buckley (617) 626-1044 |
| 15731 | Maria Hastings Elementary School | Lexington | 08/01/2017 | Patrick Goddard (781) 274-8902 | Erin Flaherty (617) 626-1128 |
| 15732 | Tekoa Reservoir Dam Removal Project | Montgomery | 08/11/2017 | Melissa Coady (413) 572-3224 | Erin Flaherty (617) 626-1128 |
| 15733 | Commander Shea Boulevard and No Name Traffic Improvement Project | Quincy | | Julia Meier (617) 607-0964 | Purvi Patel (617) 626-1029 |
| 15734 | Memorial Pond Restoration Project | Walpole | 08/01/2017 | Alex Patterson (401) 330-1233 | Erin Flaherty (617) 626-1128 |

252-258 Huntington Avenue Boston, Massachusetts





Charles D. Baker GOVERNOR

Karyn E. Polito LIEUTENANT GOVERNOR

> Matthew A. Beaton SECRETARY

The Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs 100 Cambridge Street, Suite 900 Boston, MA 02114

Tel: (617) 626-1000 Fax: (617) 626-1181 http://www.mass.gov/envir

August 11, 2017

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME

: 252-264 Huntington Avenue

PROJECT MUNICIPALITY

: Boston

PROJECT WATERSHED

: Boston Harbor

EEA NUMBER

: 15726

PROJECT PROPONENT

: QMG Huntington, LLC

DATE NOTICED IN MONITOR

: July 12, 2017

Pursuant to the Massachusetts Environmental Policy Act (MEPA) (M.G.L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** the preparation of an Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF), the project consists of redevelopment of former Boston University (BU) property located at 252 – 264 Huntington Avenue in Boston. Redevelopment will include demolition of existing buildings at 252 and 258 Huntington Avenue and construction of a 32-story mixed use building in their place. The project will leave intact the 890-seat theatre at 264 Huntington Avenue, known as the Boston University Theatre, and its annex, which will be gifted to the Huntington Theatre Company (HTC). Renovation of the theatre by HTC, which will not include an increase in its seating capacity, is not proposed at this time.

The project will construct an approximately 405,500 square foot (sf) building that will include 426 residential units, approximately 7,500 sf of retail/restaurant space on the first two floors, and approximately 114 parking spaces within a four-floor underground garage. Residential units will include a combination of studio, one-bedroom, and two-bedroom apartments, of which approximately 13 percent will be designated as affordable. In addition, approximately 14,000 sf on the first and second

floors of the new building will be reserved for HTC's use. The space will provide direct, interior access to the adjacent theatre and includes a new lobby, accessible entrance, break out space for theatre goers during intermission, and an outdoor balcony. Three separate entrances off Huntington Avenue will accommodate retail/restaurant space, residents, and theatre goers, respectively. Covered, secure bicycle storage will be provided on-site. Loading, deliveries, and trash collection will be managed through an off-site loading area on Public Alley No. 821. The project will be designed and constructed to be eligible for certification by the U. S. Green Building Council's Leadership in Energy and Environmental Design (LEED) at the Silver Level.

Project Site

The 34,173-sf project site is comprised of three parcels including 252, 258, and 264 Huntington Avenue. It is located just southwest of the intersection with Massachusetts Avenue in a portion of the Fenway neighborhood known as the Avenue of the Arts district of Boston. It is generally bound by Huntington Avenue to the northwest, a three-story, mixed use building (250 Huntington Avenue) to the northeast, Public Alley 821 to the southeast, and a seven-story, mixed use building (280 Huntington Avenue) and Public Alley 822 to the southwest. The 264 Huntington Avenue parcel contains the 890-seat BU Theatre and its four-story masonry annex, which was first opened in 1925 as the Jewett Repertory Theatre. The 252 and 256 Huntington Avenue parcels each have a two-story, masonry building with ancillary uses to the theatre.

The project site has excellent access to public transit. It is proximate to the Massachusetts Bay Transportation Authority (MBTA) Symphony Station at the intersection of Huntington Avenue/Massachusetts Avenue and provides access to the Green Line E Branch. It is located less than 1,000 feet from the MBTA Massachusetts Avenue Station which provides access to the Orange Line. Several MBTA bus lines including Routes CT1, 1, 39 and 43 travel along either Huntington Avenue or Massachusetts Avenue in the vicinity of the site. Three Hubway shared bicycle stations are located within a quarter-mile of the site. The project site includes buildings listed in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory).

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include demolition of a historic structure; an increase in average daily traffic trips (adt) of 2,822 (630 New adt if adjusted for mode share) for a total of 3,378 adt (840 adjusted); an increase in parking supply of 114 parking spaces; an increase in water use of approximately 59,882 gallons per day (gpd) for a project total of 82,000 gpd; and, an increase in wastewater generation of approximately 54,437 gpd for a project total of 74,545 gpd.

Measures to avoid, minimize and mitigate impacts include implementation of a transportation demand management (TDM) program to reduce vehicle trips and encourage alternative modes of transit; donation of the historic theatre at 264 Huntington Avenue to HTC to protect this cultural institution; construction of the project to strengthen and highlight the theatre's presence by affording interior access and 14,000 sf of new lobby, reception, and entertainment space for use by HTC; use of energy and water efficient features for building systems; upgrades to the stormwater management system; and implementation of construction best management practices (BMPs).

Jurisdiction and Permitting

The project is undergoing MEPA review and requires preparation of an ENF pursuant to 301 CMR 11.03(1)(b)(6), 301 CMR 11.03(6)(b)(13), and 301 CMR 11.03(10)(b) because it requires approval in accordance with M.G.L. c. 121A of a New urban redevelopment project that consists of 100 or more dwelling units, will generate 2,000 or more average daily trips (adt) on roadways providing access to a single location; and involves demolition of a Historic Structure listed in the Inventory. The project requires approval from the Boston Planning and Development Agency (BPDA) through the MGL c.121A process.

The project will also require Article 80 Large Project Review by the BPDA and Site Plan Approval from the Boston Water and Sewer Commission (BWSC), among other City of Boston approvals. The project is subject to review by MHC in compliance with M.G.L. Chapter 9, Section 26-27C.

Because the project is not seeking Financial Assistance from the Commonwealth, MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of required, or potentially required, State Agency Actions and that may cause Damage to the Environment as defined in the MEPA regulations. The subject matter of the New urban redevelopment project approval is sufficiently broad to confer the equivalent of broad scope jurisdiction over the potential environmental impacts of the project. Therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF provides a description of the project, preliminary project plans, an alternatives analysis, and a transportation study, and it identifies measures to avoid, minimize and mitigate project impacts. Comments identify issues that should be addressed during subsequent review and approval processes. Comment letters from residents question the assertion that the site meets the definition necessary to secure c. 121A tax relief and identify significant concerns with the size, massing and density of the proposed project.

The ENF provides an analysis of three alternatives in a tabular format: No Build; As-of-Right; and the Preferred Alternative as described herein. It also includes supplementary narratives comparing the As-of-Right and Preferred Alternatives. The ENF does not provide a narrative analyzing the No-Build Alternative which would leave the site in its current condition.

The As-of-Right Alternative consists of demolishing the theatre and constructing a new, eightstory building with approximately 232,500 sf of office space and 17,000 sf of ground floor retail/restaurant space. Compared to the Preferred Alternative, the As-of-Right Alternative would result in fewer impacts associated with trip generation (by 88 unadjusted adt), water use (by 37,794 gpd) and wastewater generation (by 34,357 gpd); however, it would include the demolition of the historic theatre

¹ The ENF did not identify that the project exceeded the ENF threshold pursuant to 301 CMR 11.03(6)(b)(13) and 301 CMR 11.03(10)(b). The project will generate approximately 2,822 unadjusted adt and require the demolition of a historic structure listed on the Inventory.

and an additional 74 parking spaces. The Proponent indicates that the Preferred Alternative will support the long-term stability of this cultural institution and include elements to showcase the theatre's presence on the Avenue of the Arts.

Transportation

The ENF includes a transportation study which was prepared in accordance with the Boston Transportation Department (BTD) *Transportation Access Plan Guidelines* and BPDA Article 80 Large Project Review. The study analyses the transportation impacts of the project and includes an evaluation of existing conditions, future conditions with and without the project, projected parking demand, loading operations, transit services, and pedestrian and bicycle activity. The study area includes six intersections. The project will generate an additional 840 new adt when adjusted for mode share, including 162 and 213 new vehicle trips during the weekday morning and evening peak hours, respectively. A total of 114 parking spaces will be provided on-site in an underground parking garage.

The transportation study evaluated traffic impacts in the 2017 Existing Condition, the 2024 No Build Condition, and the 2024 Build Condition. The study considered potential traffic from known development projects in the study area, background growth, and planned roadway improvements. The project is expected to have minimal impact on the surrounding transportation network. All intersections will continue to operate at the same level of service (LOS) during morning and evening peak hours in the 2024 No Build and Build Conditions.

As noted previously, the project site has excellent access to public transit within one-quarter mile including the MBTA Green and Orange Lines and several MBTA bus routes. The study identifies the following travel mode shares: 55 to 57 percent walk trips; 16 to 19 percent transit trips; and 24 to 29 percent vehicle trips depending on retail or apartment use. To reduce vehicle trips and project-related traffic impacts, the Proponent will implement a TDM program which may include, but will not be limited to, the following elements:

- Designate a transportation coordinator to:
 - o manage loading and service activities;
 - o provide alternative transportation materials to residents and building tenants; and
 - o provide an annual (or more frequent) report summarizing transit, ridesharing, bicycling, and other travel options;
- Provide orientation packets to new residents which contain information on available transportation choices, including transit routes and schedules;
- Encourage future commercial tenants to provide on-site and online sale of MBTA passes for employees through the building management office and subsidize monthly transit passes;
- Provide transit, bicycle, and pedestrian access information on the project website;
- Provide reduced parking (approximately 0.27 spaces/unit); and
- Provide secure, covered bicycle storage on the project site to support a ratio of one space per residential unit (approximately 426 bicycles).

Water and Wastewater

Water and wastewater from the project site will discharge to the existing water and sewer infrastructure which is owned and maintained by the BWSC. The project site is served by separate sanitary sewers and storm drains located in Public Alley No. 820, Public Alley No. 821, and Gainsborough Street, and potentially Huntington Avenue and Public Alley No. 822. Stormwater from the site is ultimately conveyed via BWSC infrastructure to the Deer Island Treatment Plant. The ENF indicates that adequate capacity is available to meet project demand.

The Massachusetts Department of Environmental Protection (MassDEP) regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including BWSC, to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gpd of new wastewater flows will be generated. The BWSC Site Plan Review process will include review of improvements and connections to BWSC infrastructure and consistency with BWSC policies, including requirements to remove infiltration and inflow (I/I). The Proponent should review the MWRA and BWSC comment letters for guidance on the respective permitting processes.

The project will incorporate water conservation measures to reduce water demand including efficient aeration fixtures and appliances, metering faucets, and low-flow toilets and faucets. To encourage water conservation by tenants, I encourage the Proponent to meter water use on an individual unit basis based on consumption.

Stormwater

The site is located within the City of Boston's Groundwater Conservation Overlay District The project site is covered by buildings and is entirely impervious. Stormwater from the site is ultimately conveyed via BWSC infrastructure to the Deer Island Treatment Plant. The project will be designed to meet or reduce stormwater runoff peak rates and volumes and will infiltrate the first one-inch of stormwater runoff from impervious areas to the greatest extent practicable to meet the BWSC stormwater quality and stormwater recharge requirements. The Proponent will consider alternative approaches to stormwater recharge including the use of recharge wells. The ENF indicates that it is likely that the system will work passively to infiltrate runoff into the ground via a gravity recharge system or a combination of storage tanks in the building and pumps. BWSC will review proposed service connections, assessment of project demands and system capacity. The Proponent will install plaques at storm drains to warn against dumping to the Charles River.

Historic Resources

The project includes demolition of the property at 252 – 258 Huntington Avenue which is listed in the Inventory. According to the ENF, this building's architect and date of construction are unknown. The Boston Landmarks Commission will review the proposed demolition through the Article 85 Demolition Delay review process. MHC comments indicate that, in its opinion, the building at 252 – 258 Huntington Avenue does not meet the criteria of eligibility for listing in the National Register of Historic Places (National Register) because both the interior and exterior have been heavily modified. The BU Theatre located at 264 Huntington Avenue is also listed on the Inventory. The theater will be

gifted to HTC for \$1. MHC comments indicate that, in its opinion, the theatre meets the criteria of eligibility for individual listing in the National Register.

The project requires review by MHC in compliance with M.G.L. Chapter 9, Section 26-27C (950 CMR 71.00) which will include consultation with MHC and the Boston Landmarks Commission. In its comments, MHC determined that the project will have "no adverse effect" on the BU Theatre. MHC comments note that renovation of the theatre by HTC may require MHC review.

Greenhouse Gas Emissions

According to the Proponent, approximately 13 percent of the units will be designated as affordable. Energy efficiency measures should be considered a critical component of lower-income housing to provide additional reduction in the cost of housing related to utility bills while reducing project-related GHG emissions. To achieve these reductions the project should include a high-performance building envelope, HVAC system, lighting and certification under the EnergyStar for New Homes rating system. I strongly encourage the Proponent to contact site utility providers as early as possible in the design process to discuss potential incentives available for the purchase and installation of energy efficient building materials and systems. I also encourage the Proponent to evaluate the feasibility of third-party photovoltaic (PV) systems to offset project-related GHG emissions. The project will use energy and water efficient features for mechanical, electrical, architectural, and structural systems, assemblies, and materials, where feasible. The Proponent will develop a Tenant Manual to educate tenants on energy efficiency to maximize energy reduction on-site.

Climate Change Adaptation

The project may be vulnerable to the effects of climate change including increased storm frequency with extreme rainfall and excessive heat events. I encourage the Proponent to evaluate final design elements to maximize adaptability of the site and structures over time. I encourage the Proponent to consider the following: operable windows, high-performance building envelopes, shade trees and shrubs, high reflective roof materials, permeable surfaces, and stormwater infiltration areas.

Construction

The project will be constructed in a single phase which is anticipated to take place over a two-year period. It will include demolition of the existing building at 252 – 258 Huntington Avenue and construction of a 32-story mixed use building. The project must comply with the Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54 during construction and demolition (C&D). All C&D activities should be undertaken in compliance with the conditions of all State and local permits. I refer the Proponent to the comments from MassDEP regarding recycling and demolition. Comments from MWRA indicate that the project may require a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA) for stormwater discharges from construction activities.

The Proponent should continue to evaluate construction impacts, strive to minimize impacts and consider feasible measures that can be implemented to minimize and mitigate these impacts. The Proponent will prepare a Construction Management Plan (CMP) in accordance with City of Boston

requirements that identifies construction mitigation measures and methodologies to minimize impacts. Designated truck routes and queuing locations will be established. The Proponent should implement and maintain erosion and sedimentation control measures, as appropriate. The Proponent may be required to comply with asbestos management, mitigation and permitting requirements per MassDEP regulations. The Proponent is committed to mitigating impacts from dust, noise, and vibration during construction. The disposal contract will include specific requirements to ensure material segregation, reprocessing, reuse, and recycling. The Proponent commits to a goal of recycling at least 75 percent of construction waste. The project must comply with 360 CMR 10.016, if it intends to install gas/oil separators in the underground garage.

The Proponent will evaluate participation in MassDEP's Clean Air Construction Initiative (CACI). The Proponent will require contractors to use after-engine emission controls such as diesel oxidation catalysts or diesel particulate filters on construction vehicles to the extent feasible. Off-road vehicles will use ultra-low sulfur diesel fuel (ULSD). The Proponent should establish protocols to limit excessive idling during the construction period. This may include driver training and periodic inspections by site supervisors. The project will post signage at loading, delivery, pick-up, and drop-off areas. The Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000) must be made to MassDEP.

Conclusion

The ENF has sufficiently defined the nature and general elements of the project for the purposes of MEPA review and demonstrated that the project's environmental impacts will be avoided, minimized and/or mitigated to the extent practicable. The project will be subject to review by the BPDA which has sufficient authority to address project consistency with City planning and c. 121A. Based on the information in the ENF and after consultation with State Agencies, I find that no further MEPA review is required.

August 11, 2017

Matthew A. Beaton

Comments Received:

| 07/25/2017 | Massachusetts Department of Environmental Protection (MassDEP) - |
|------------|--|
| | |

Northeast Regional Office (NERO)

07/27/2017 Boston Water and Sewer Commission (BWSC)

07/28/2017 Massachusetts Water Resources Authority (MWRA)

07/30/2017 Paul Johnson

08/01/2017 Alison Pultinas

08/01/2017 Massachusetts Historical Commission (MHC)

MAB/PPP/ppp



Commonwealth of Massachusetts Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker Governor

Karyn E. Polito Lieutenant Governor Matthew A. Beaton Secretary

> Martin Suuberg Commissioner

August 1, 2017

Matthew A. Beaton, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

Attn: MEPA Unit

Dear Secretary Beaton:

RE: Boston 252-264 Huntington Avenue Boston, MA EEA #15726

The Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Environmental Notification Form (ENF) submitted by Epsilon Associates, Inc. on behalf of QMG Huntington, LLC, to redevelop former university property along Boston's Avenue for the Arts district. The proposed project is to construct 426 residential units as part of a 32-story mixed use building. MassDEP provides the following comments.

Wastewater

The ENF indicates that the proposed project will generate increased wastewater flows of 54,437 gallons per day (gpd). MassDEP regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including the Boston Water & Sewer Commission (BWSC), to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gallons per day of new wastewater flows will be generated. Accordingly the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met.

Recycling/Demolition

MassDEP encourages the project proponent to make a significant commitment to C&D recycling activities as a sustainable measure for the project, consistent with comparable projects that have undergone MEPA reviews. In addition, the proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54, which provides:

"Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate."

For the purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, MassDEP considers an asphalt, brick, and concrete (ABC) rubble processing or recycling facility, (pursuant to the provisions of Section (3) under 310 CMR 16.05, the Site Assignment regulations for solid waste management facilities), to be conditionally exempt from the site assignment requirements, if the ABC rubble at such facilities is separated from other solid waste materials at the point of generation. In accordance with 310 CMR 16.05(3), ABC can be crushed on-site with a 30-day notification to MassDEP. However, the asphalt is limited to weathered bituminous concrete, (no roofing asphalt), and the brick and concrete must be uncoated or not impregnated with materials such as roofing epoxy. If the brick and concrete are not clean, the material is defined as construction and demolition (C&D) waste and requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

Pursuant to the requirements of 310 CMR 7.02 of the Air Pollution Control regulations, if the ABC crushing activities are projected to result in the emission of one ton or more of particulate matter to the ambient air per year, and/or if the crushing equipment employs a diesel oil fired engine with an energy input capacity of three million or more British thermal units per hour for either mechanical or electrical power which will remain on-site for twelve or more months, then a plan application must be submitted to MassDEP for written approval prior to installation and operation of the crushing equipment.

Asbestos removal notification on permit form BWP AQ04 (ANF 001) and building demolition notification on permit form BWP AQ06 must be submitted to MassDEP at least 10 working days prior to initiating work. If any asbestos-containing materials will need to be abated through non-traditional abatement methods, the proponent must apply for and obtain approval from MassDEP, through Application BWP AQ36 - Application for Non-Traditional Asbestos Abatement Work Practice Approval. Except for vinyl asbestos tile (VAT) and asphaltic-asbestos felt and shingles, the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by MassDEP, (310 CMR 19.061). No asbestos containing material including VAT, and/or asphaltic-asbestos felts or shingles may be disposed at a facility operating as

a recycling facility, (310 CMR 16.05). In addition, if the demolition project contain asbestos, the project proponent is advised that asbestos and asbestos-containing waste material are a special waste as defined in the Solid Waste Management regulations, (310 CMR 19.061). The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material.

The demolition activity also must conform to current Massachusetts Air Pollution Control regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10. As such, the proponent should propose measures to prevent and minimize dust, noise, and odor nuisance conditions, which may occur during the demolition. Again, MassDEP must be notified in writing, at least 10 days in advance of removing any asbestos, and at least 10 days prior to any demolition work. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Pollution Control regulations, (310 CMR 7.15 (2)).

Waste Ban Regulation – 310 CMR 19.017

Section 310 CMR 19.017 <u>Waste Bans</u> of the Massachusetts Solid Waste regulations prohibit the disposal of certain wastes in Massachusetts. These wastes include, but are not limited to, recyclable paper (including cardboard). The Massachusetts Organics Waste Ban on the disposal of commercial organic wastes by businesses and institutions also is in effect. It prohibits the disposal of organic wastes from businesses and institutions that generate a ton or more of organic materials per week, which necessitates the composting, conversion (such as anaerobic digestion), recycling or reuse of organic the waste.

As the lead state agencies responsible for helping the Commonwealth achieve its waste diversion goals, MassDEP and EEA have strongly supported voluntary initiatives by the private sector to institutionalize source reduction and recycling into their operations. Adapting the design, infrastructure, and contractual requirements necessary to incorporate reduction, recycling and recycled products into existing large-scale developments has presented significant challenges to recycling proponents. Integrating those components into developments such as this helps assist effective waste diversion programs. For example, facilities with minimal obstructions to trash receptacles and easy access to main recycling areas and trash chutes allow for implementation of recycling programs and have been proven to reduce cleaning costs by 20 percent to 50 percent. Other designs that provide sufficient space and electrical services will support consolidating and compacting recyclable material and truck access for recycling material collection.

By incorporating recycling and source reduction into the design, the proponent has the opportunity to join a national movement toward sustainable design. Sustainable design was endorsed in 1993 by the American Institute of Architects with the signing of its *Declaration of Interdependence for a Sustainable Future*. The project proponent may be aware of organizations that provide additional information and technical assistance, including Reuse Marketplace (http://www.reusemarketplace.org/), USEPA's WasteWise Program (www.epa.gov/wastewise/), and MassRecycle (http://www.massrecycle.org/). The listed organizations and programs are notable for offering valuable and effective waste reduction and recycling assistance, web-based resources, case studies, and tools for C&D projects.

The MassDEP Northeast Regional Office appreciates the opportunity to comment on this proposed project. Please contact <u>Kevin.Brander@state.ma.us</u> or at (978) 694-3236 for further information on wastewater issues. If you have any general questions regarding these comments, please contact me at <u>John.D.Viola@state.ma.us</u> or at (978) 694-3304.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

John D. Viola Deputy Regional Director

ce: Brona Simon, Massachusetts Historical Commission Rachel Freed, Kevin Brander, MassDEP-NERO



Boston Water and Sewer Commission

JUL 27 2017

MEH



980 Harrison Avenue Boston, MA 02119-2540 617-989-7000

July 25, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
Purvi Patel, EEA No. 15726
100 Cambridge Street, Suite 900
Boston, MA 02114

Re:

252-264 Huntington Avenue, PNF

Dear Secretary Beaton:

The Boston Water and Sewer Commission (the "Commission") has reviewed the Project Notification Form ("PNF") for the proposed Hunting Theatre project at 252-264 Huntington Avenue (the "Project") in Boston.

The proposed Project consists of the redevelopment of three lots—252, 258 and 264 Huntington Avenue. The Proponent intends to preserve the existing theater and build on the remaining two lots at 252 and 258 Huntington Avenue. The Proponent proposes to construct a 32-story building with up to 426 residential units, 14,000 square feet of cultural space, and up to 7,500 square feet of retail space. Also, the Proponent proposes approximately 114 parking spaces in a four-level underground garage, with off-street loading on Public Alley 821. Two existing office buildings will be demolished in order to accommodate the Project.

Water, sewer, and storm drain service for the site is provided by the Boston Water and Sewer Commission. For domestic water service the Project site is served by a 20-inch southern high water main and a 16-inch southern low water main on Huntington Avenue adjacent to the site. On the far north easterly side of Huntington Avenue there are a 12-inch and 8-inch southern low water mains. Water consumption for the Project is estimated at 79,063 gpd. It is anticipated that for water service the Project will connect to water mains located on Huntington Avenue.

Existing Boston Water and Sewer Commission combined and sanitary sewer mains are located in Public Alley No. 820, Public Alley No. 821, and Gainsborough Street, near to the Project site. Estimated sewage generation for the project is a net increase of 69,625 gallons per day (gpd). For sanitary discharges it is anticipated that the Project will connect to the existing sanitary sewer located on Public Alley No. 821.

For drainage the Project site is served by storm drains located on Public Alley No. 820, Public Alley No. 821, Huntington Avenue, Public Alley No. 822, and Gainsborough Street, near the Project site. The PNF does not indicate where the Proponent proposes to connect the Project to the drain system. The existing site is covered by three buildings and is entirely impervious.

The Commission has the following comments regarding the proposed Project:

General

- 1. The Proponent must submit a site plan and General Service Application to the Commission for the proposed Project. The site plan must show the location of the water mains, sewers and drains serving the Project site, as well as the locations of existing and proposed service connections. To assure compliance with the Commission's requirements, the Proponent should submit the site plan and General Service Application to the Commission's Engineering Customer Service Department for review when the design for the Project is at 50 percent complete.
- Any new or relocated water mains, sewers and storm drains must be designed and constructed at the Proponent's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans.
- 3. With the site plan the Proponent must provide detailed estimates for water demand (including water required for landscaping), wastewater generation, and stormwater runoff for the Project.
- 4. It is the Proponent's responsibility to evaluate the capacity of the water and sewer system serving the Project site to determine if the systems are adequate to meet future Project demands. With the site plan, the Proponent must include a detailed capacity analysis for the water and sewer systems serving the Project site, as well as an analysis of the impact the Project will have on the Commission's systems and the MWRA's systems overall. The analysis should identify specific measures that will be implemented to offset the impacts of the anticipated flows on the Commission and MWRA sewer systems.
- 5. Developers of projects involving disturbances of land of one acre or more are required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency. The Proponent is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required for the proposed Project, a copy of the Notice of Intent and any pollution prevention plan submitted to EPA pursuant to the permit must be provided to the Commission's Engineering Services Department prior to the commencement of construction.
- 6. Before the Proponent demolishes the existing structures existing water and drain connections that won't be re-used must be cut and capped in accordance with Commission standards. The Proponent must complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission. The completed form must be submitted to the City of Boston's Inspectional Services Department before a Demolition Permit will be issued.

Sewage/Drainage

7. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority (MWRA) and its member communities are implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/ inflow ("I/I")) in the system. Pursuant to the policy new developments with design flow exceeding 15,000 gpd of wastewater are subject to the Department of Environmental Protection's regulation 314 CMR 12.00, section 12.04(2)(d). This regulation requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow added. The Commission will require the Proponent to develop an inflow reduction plan consistent with the regulation. The 4:1 reduction should be addressed at least 90 days prior to activation of water service, and will be based on the estimated sewage generation provided with the Project site plan.

- 8. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission and the MWRA. The discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products for example, the Proponent will be required to obtain a Remediation General Permit from the EPA for the discharge.
- 9. The site plan must show in detail how drainage from the building's roof top and from other impervious areas will be managed. Roof runoff and other stormwater runoff must be conveyed separately from sanitary waste at all times.
- 10. The Project is located within Boston's Goundwater Conservation Overlay District (GCOD). The district is intended to promote the restoration of groundwater levels and reduce the impact of surface runoff. Projects constructed within the GCOD are required to include provisions for retaining stormwater and directing the stormwater towards the groundwater table for recharge.
- 11. The Proponent must fully investigate methods for infiltrating stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. A feasibility assessment for infiltrating stormwater on-site must be submitted with the site plan for the Project.
- 12. The Massachusetts Department of Environmental Protection (MassDEP) has established Performance Standards for Stormwater Management. The Standards address stormwater quality, quantity and recharge. In addition to Commission standards, the proposed Project will be required to meet MassDEP's Stormwater Management Standards.
- 13. In conjunction with the site plan and General Service Application the Proponent will be required to submit a Stormwater Pollution Prevention Plan. The plan must:
 - Specifically identify how the Project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.
 - Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.
 - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.
- 14. The Commission requests that the Proponent install a permanent casting stating: "Don't Dump: Drains to Boston Harbor" next to any new catch basin installed as part of the Project. The Proponent may contact the Commission's Operations Division for information regarding the purchase of the castings.
- 15. The Commission encourages the Proponent to explore additional opportunities for protecting stormwater quality by minimizing sanding and the use of deicing chemicals, pesticides and fertilizers.

Water

- 16. The Proponent is required to obtain a Hydrant Permit for use of any hydrant during construction of the Project. The water used from the hydrant must be metered. The Proponent should contact the Commission's Operations Department for information on obtaining a Hydrant Permit.
- 17. The Commission utilizes a Fixed Radio Meter Reading System to obtain water meter readings. Where a new water meter is needed, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, the Proponent should contact the Commission's Meter Installation Department.
- 18. The Proponent should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular the Proponent should consider indoor and outdoor landscaping which requires minimal use of water to maintain. If the Proponent plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should also be considered.

Thank you for the opportunity to comment on this Project.

Chief Engineer and Operations Officer

JPS/as

cc:

Fan Du, QMG Huntington, LLC Marianne Connolly, Mass. Water Resources Authority Maura Zlody, Boston Environment Department Phil Larocque, Boston Water and Sewer Commission

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard 100 First Avenue, Building 39 Boston, MA 02129

Frederick A. Laskey **Executive Director**

July 27, 2017

Telephone: (617) 242-6000 Fax: (617) 788-4899

TTY: (617) 788-4971

Matthew A. Beaton, Secretary Executive Office of Energy and Environmental Affairs 100 Cambridge St, Suite 900 Attn: MEPA Office, Purvi Patel Boston, MA 02114

Subject:

EOEEA #15726 - Environmental Notification Form

252-264 Huntington Avenue, Boston, MA

Dear Secretary Beaton:

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted by OMG Huntington, LLC (the "Proponent") for 252-264 Huntington Avenue (the "Project") proposed for 252-264 Huntington Avenue in Boston's Back Bay neighborhood. The Proponent's plan is to redevelop the former Boston University property, while leaving intact the 890-seat Theatre and annex. The existing buildings at the location will be demolished to construct a new 405,500 sq. ft., 32-story mixed use building that will include up to 426 residential units, 7,500 sq. ft. of retail space/restaurant, and a four-level underground 114 space parking garage.

MWRA's comments focus on Wastewater Flow issues emphasizing the need for Infiltration/Inflow (I/I) Removal and discharge permitting from the USEPA and approval from MWRA's Toxic Reduction and Control (TRAC) Department.

Wastewater

The ENF reports that the Project will increase wastewater flow by 54,437 gallons per day (gpd), from an existing wastewater flow of 20,108 gpd to 74,545 gpd. According to the Boston Water and Sewer Commission's (BWSC) storm drain and sewer maps, the Project site is served by BWSC separate sanitary sewers and storm drains. There is an existing 12-inch sanitary sewer that runs along Public Alley No. 820 and Public Alley No 821 and conveys flows to the 90-inch by 92-inch BWSC combined sewer in Gainsborough Street. Flows are conveyed through the BWSC system to MWRA's Ward Street Headworks for transport through MWRA's Boston Main Drainage Tunnel to the Deer Island Treatment Plant. Due to infiltration (groundwater) and inflow (rainwater) that can enter tributary community sanitary sewers and stormwater that enter tributary community combined sewers, sewer system capacity can be exceeded in large storms, contributing to combined sewer overflows (CSO) to MWRA's Cottage Farm CSO treatment facility in Cambridge, which discharges its treated flows to the Charles River Basin.

To ensure that the Project's wastewater flow does not increase system surcharging or overflows in large storms, the Proponent and BWSC should ensure a 4:1 offset of the Project's new wastewater flow by removing stormwater and/or infiltration and inflow (I/I) from a hydraulically related system(s). That is, there should be four gallons of extraneous flow removal for every gallon of new wastewater flow, in compliance with Massachusetts Department of Environmental Protection regulation and BWSC I/I policy. Increasing wastewater flow to the BWSC and MWRA sewer systems without offset can compromise the sewer system benefits and Charles River water quality benefits of MWRA's \$910 million region-wide (CSO) control plan.

Discharge Permitting

The MWRA prohibits the discharge of groundwater to the sanitary sewer system, pursuant to 360 C.M.R. 10.023(1) except in a combined sewer area when permitted by the Authority and the BWSC. The proposed Project has access to a storm drain and it is not located in a combined sewer area; therefore, the discharge of groundwater to the sanitary sewer system is prohibited and the Proponent must secure a USEPA-NPDES General Permit for stormwater discharges from its construction activities.

The Proponent must also comply with 360 C.M.R. 10.016, if it intends to install gas/oil separators in its underground parking garage. In addition to complying with 360 C.M.R. 10.000, the Owner must conform to the regulations of the Board of State Examiners of Plumbers and Gas Fitters, 248 C.M.R. 2.00 (State Plumbing Code), and all other applicable laws. The installation of the proposed gas/oil separators will require MWRA approval and may not be back filled until inspected and approved by the MWRA and the BWSC Plumbing Inspector. For assistance in obtaining an inspection, the Proponent should contact Mr. Steve Howard, Source Coordinator within the TRAC Department at (617) 305-5675.

Sincerely,
Mariann Connolly

Marianne Connolly

Senior Program Manager

Environmental Review and Compliance

cc:

David Kubiak, E&C Solomon Wondimu, E&C Kattia Thomas, TRAC Adam Horst, BWSC

C:15726HuntingtonAveBostonENF.docx

EFA # 15726 252 - 264 Huntington Ave, Boston / Redevelopment Proposal

info@peopleshousingboard.org

Sun 7/30/2017 11:59 PM

To:Patel, Purvi (EEA) <Purvi.Patel@MassMail.State.MA.US>;

Attn: MEPA Office

Purvi Patel (617) 626-1029,

EEA No.15726

100 Cambridge Street, Suite 900

Boston MA 02114

Re: 252 - 264 Huntington Avenue, Boston - Redevelopment Proposal

To whom it may concern.

1) The proposed redevelopment at the BU Theater site is an irrational and potentially harmful proposal on several fronts. Relative to environmental concerns, the proposed below grade parking and associated ground water table issues is an irresponsible and reckless proposition. Especially since, according to the developer at a community meeting they do not anticipate upwards of 50% of the 114 spaces will be utilized regularly by building residents.

With upwards of 1000 newly added neighborhood residents at the building, that would likely result in a massive uptick in pick up and drop off of ride shares in front of the building on Huntington Ave. This creates an almost constant standing vehicle carbon emission scenario proximate to the building.

2) More cars in the Huntington / Mass Ave area is the wrong answer.

Some obvious reasons:

- More standing vehicles means more carbon emissions. (see above)
- More danger to pedestrians & cyclists.
- Further congestion at the Huntington / Mass Ave intersection means more standing vehicles in the light cycles, during both peak and off peak hours. This will also increase standing vehicle traffic at the preceding light at Huntington and Gainsborough St.

That's all for now. It's important to note however, that to my knowledge the BRA did not formally or a t least clearly indicate to the general public that:

1) A MEPA review was in process

OR

2) 7/30/17 was the deadline for comments

Also.

MEPA does not show an email address to send comments electronically on the comments submission page, nor is there an email address for Purvi Patel on the EEA listing page...

Thank you for your consideration to these concerns;

Sincerely,

- Paul Johnson, **Boston Resident**

NEWS | OPINION | ANALYSIS BOSTON SUNDAY GLOBE JULY 16, 2017

Boston wants to fight climate change duringa historic building boom. There's one big problem: the glass tower. It's seductive - and inefficient

BY COURTNEY HUMPHRIES

farchitects, planners, and public officials in Boston mean everything they say about sustainability and climate readiness, why is the city's latest construction boom filling the skyline with so much glass? From the shimmering height of the Millennium Tower to the waterfront views of 22 Liberty, and a boxy office and condo complex going up at Pier 4, glass exteriors have become a major feature of today's urban landscape. Just as we associate periods in Boston's history with specific materials and styles — like 19th-century brick apartment blocks and 20th-century monumental concrete forms — glass is the material of the moment. The new buildings mimic others being

SHOWN DE

erected in New York, London, Dubai, Singapore, and other cities around the world. Glass walls have become a shortcut for architecture that is sleek, cosmopolitan, and of the moment.

Yet glass buildings also take a lot of energy to heat and cool. When New York started tracking energy use by skyscrapers, the gleaming 7 World Thade Center—one of that city's more efficient glass towers — scored worse than the 1930s-era Empire State Building, Oddly, glass buildings are proliferating even as cities like Boston set ambitious goals to deal with climate change. Former mayor Thomas Menino vowed to cultivate "the most sustainable city in the United States"; his successor, Martin Walsh, has called Boston "Ameri-

ca's climate champion" and set a goal of being carbon neutral by 2050.

Such rhetoric from City Hall resonates within an architecture profession that has embraced climate awareness in a big way. The "green" building industry has exploded in the past decade; green building conferences now draw tens of thousands of attendees every year. Sustainability is at the forefront of architecture curricula, and hundreds of thousands of architecture curricula, and hundreds of thousands of architects get certified in sustainable design. In specialty publications, architects and other building experts have been fretting about the popularity of glass exteriors for years.

TANGI CHE CATTOR PARTIES AN

August 1,2017

To: Purvi.Patel@state.ma.us

From : Alison Pultinas dpultinasboston@aol.com

re: EEA# 15726 /The Huntington 252-264 Huntington Avenue Boston

According to the submitted ENF for this proposed project, criteria for state review is the determination of adverse impact on historical resources and the stated intention to file for 121A status.

[from the MEPA website] "On ENFs, any agency or person may comment on the project, its alternatives, its potential environmental impacts, mitigation measures, and whether to require an EIR and, if so, what to require in the scope."

My concerns are the following-

The Gainsborough to Massachusetts block is highly significant in the City's history, buildings on both sides of Huntington are included in the Proposed Symphony Landmark District (Fenway/Kenmore Completion Report). Iconic cultural institutions are side by side with complementary residential and commercial properties. Their scale relates to the historic streetscape and similar design motifs – arched windows and arcades for example, are utilized. Their different materials and styles enliven and enrich the pedestrian experience.

The proposed demolition instead of reuse of 256-258 Huntington, a c.1916 building by the New York architect R. Thomas Short [see enclosed documentation] is a shame. The facade has a strong street presence and relates well to the neighboring landmarks, Horticultural Hall, Symphony Hall, Jordan Hall and the c. 1896 295 Huntington Avenue. Could the developers build behind it and forgo some of their excessive height and the underground parking? The arcades could be glassed in like the Central Boston Library renovation. Coney Island's landmarked Childs restaurant just had a similar renovation related to an adjoining theater.

Both Horticultural Hall and Symphony Hall are petitioned city landmarks, their protection zones should include the sidewalks and streetscapes. Shadows do impact historic masonry. Other recent developments in the neighborhood, the Grand Marc dormitory and New England Conservatory's new Student Life and Performance Center are considerably shorter then 32 stories. The Huntington Theater deserves a more respectful neighbor as well. Narrow sidewalks next to very tall buildings and uncomfortable wind conditions at the entrance to Symphony Station are not friendly gestures.

The 121A application must have facts to back up the assertion that the site is blighted, decadent or substandard as defined by MGL governing Chapter 121A and financial statements are required to determine whether the project is feasible by private enterprise without Chapter 121A tax relief.

"The Applicant should provide information to indicate why the project cannot proceed without governmental intervention." [from the BRA Rules and Regulations Governing Chapter 121A Projects]

Also from the BRA Rules and Regs on Chapter 121A projects-To determine "Public Use and Benefit" there's several factors to evaluate-

1. Whether the project aligns with overall planning and objectives of the City

2.the extent to which the project will eliminate the blighted conditions in the project area and surrounding neighborhood

3.whether the project has community support and lor is perceived as being beneficial for the neighborhood or the City

4. whether the economic impact warrants 121A status- measured in terms of jobs created, economic spin- off benefits for the neighborhood, answering critical needs of the community and providing greater public amenities than normally would result from such a project

Obviously there has been great community interest in maintaining the presence of the Huntington Theater in the area. However the question is whether this particular proposal is the only solution?'

I believe an EIR would be desirable to evaluate the proposed mitigation for wind and shadow, to understand the potential for 121A status [no financial information was provided in the ENF] and to consider a revised plan for a shorter building without the impacts on the neighboring historic block and potentially incorporating the arcaded facade of 258.

The excavation for the underground parking levels will be very close to both the MBTA E line tunnel and the adjoining historic properties, the theater and the Riviera Apartments. More detail is needed to understand the impacts of the required engineering.

Enclosed are pages from the recently approved Avenue of the Arts Guidelines, a recent essay from the Boston Globe on the sustainability of glass towers and documentation on 258 Huntington.

Sincerely,

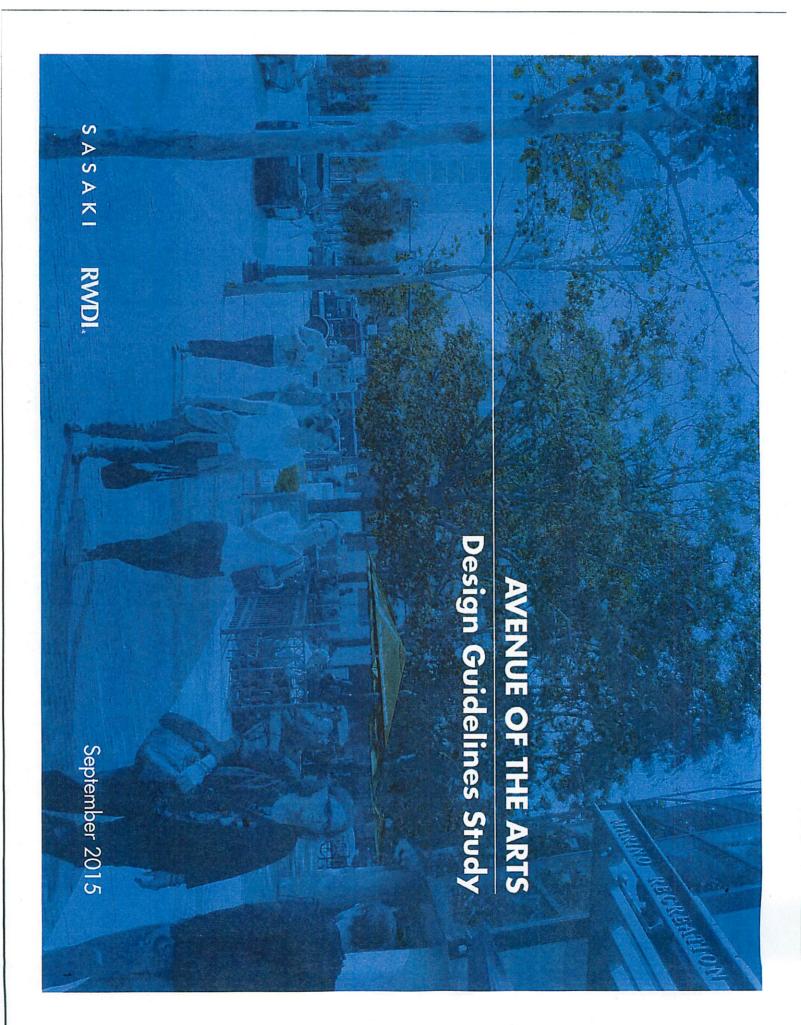
Alison Pultinas 81 Lawn Street.

Roxbury, Mass.. 02120

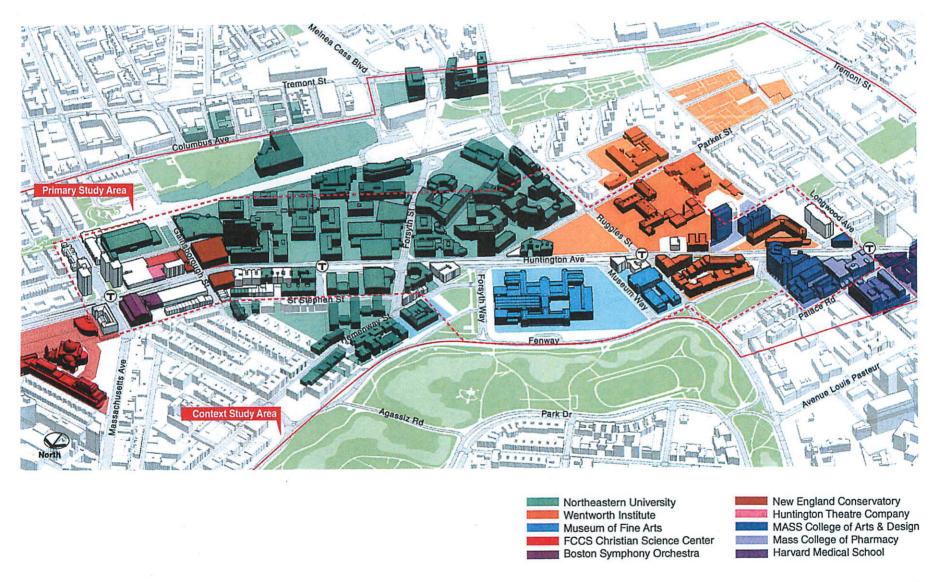
cc: City Councilor Josh Zakim

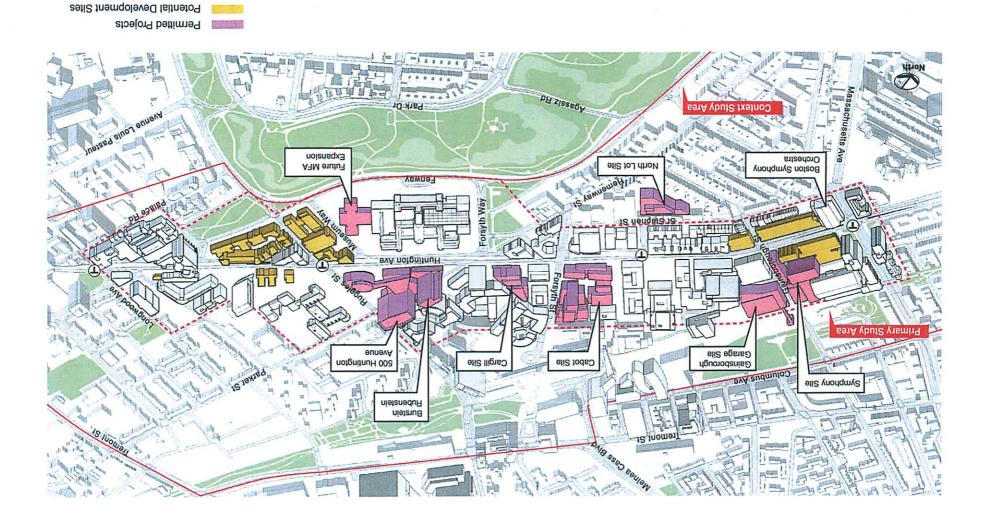
Boston Landmarks Commissioners

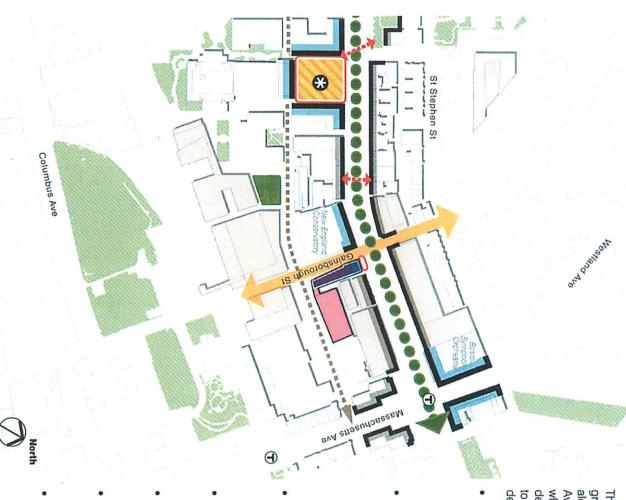
The Pultina



PRIMARY STUDY AREA: INSTITUTIONAL OWNERSHIP







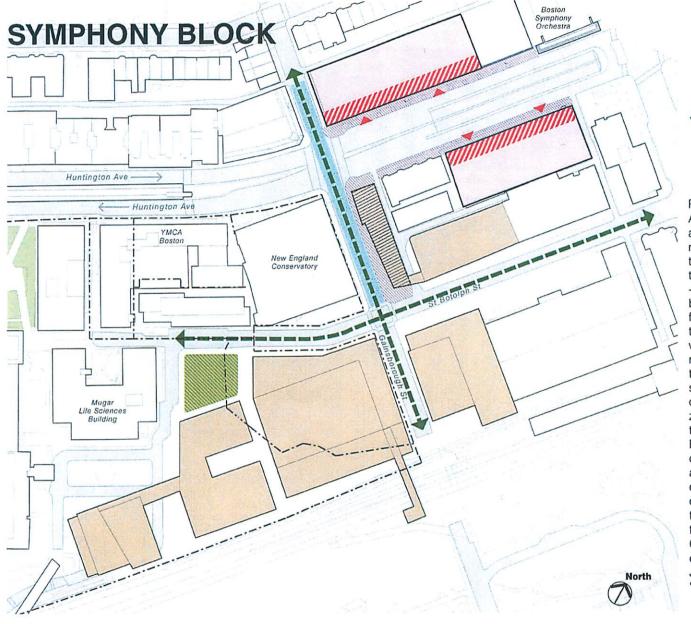
The overall concept diagram highlights the recommendations of the study in graphic form. It depicts a broad framework for development and the public realm along the length of Huntington Avenue from Massachusetts Avenue to Longwood Avenue. This framework provides the basis for the urban design guidelines which depict the recommended three dimensional approach for many of the development parcels in the study area. The diagram is purposefully abstracted to indicate the general strategy for Huntington Avenue and highlights these key design ideas:

- As represented by the green dotted line, Huntington Avenue should be conceived of as a continuous and coherent experience though the entire study area. Streetscape improvements - tree planting, light fixtures, wayfinding elements, and street furniture - and sidewalk widths should be as consistent as possible for the length of the Avenue so as to create a singular identity as the "Avenue of the Arts."
- Important cross streets are noted by the pink arrows. These crossings are important for vehicles, but along with the mid-block connections (shown with small red arrows) are more important as pedestrian crossings. Referred to as "sidestreets' elsewhere in this report, these streets provide important opportunities for streetscape improvements and in the blocks closest to Huntington Avenue itself provide opportunities for retail and ground level activation. Setbacks for a "cafe" or activity zone as needed should be prioritized on the side of these streets that receive the most sun.
- Pedestrian paths indicted by the grey dotted lines, help pedestrian navigation through the study area. To the greatest extent possible these paths should be reinforced and improved by new development. One such important pedestrian connection is the path extending from the Ruggles T station, along Museum Way to the Fenway.

 Light blue lines indicate the "iconic" buildings that represent many of the institutions along the Avenue. These special buildings should maintain the
- Light blue lines indicate the "iconic" buildings that represent many of the
 institutions along the Avenue. These special buildings should maintain their
 prominence along the Avenue so as to create hierarchy within the urban
 setting.
- The black lines at the edges of buildings along the Avenue and for the first block of the side streets, represent the important street wall continuity that the remainder of the buildings should provide. This creates an urban fabric or background condition against which iconic buildings should stand out. Special opportunities for landscape expression should occur at each of the "welcome mat" locations. Combined with active programming each of
- highlight the iconic buildings in many cases.

 Connections to both the larger open space systems, the Fenway and Southwest Corridor, are highlighted in green along with the important network of smaller scaled green spaces. Both help to provide movement through the site and access to large park systems.

these spaces provide further expression for individual institutions and help to



Active Ground Floor

Landscape Area

Sidewalk Improvement Area

Special Paving Treatment

Pedestrian Connectivity

Main Access / Entry

Permitted Projects

Retail uses abound along Huntington Avenue between Massachusetts Avenue and Gainsborough Street. It is one of the most lively and active areas of Huntington Avenue within the study area. Given the low height of the existing buildings - between 2 and 3 stories - this area may be subject to redevelopment in the near future. The guidelines recommend active ground floor uses for these parcels with a preference for ground floor convenience retail or restaurants to maintain the existing character. On the north side or Huntington Avenue, a maximum of 90' feet is recommended (existing zoning allows for 90'). So as to maintain the street wall at the height of the Boston Symphony Orchestra's facade columns the massing should stepback at approximately 60'. On the south side of Huntington Avenue a massing height of 90' feet is also recommended - so that future development here maintains the streetwall "fabric." The New England Conservatory tower at the intersection of Gainsborough and Huntington and Jordan Hall, should both read as the "iconic" buildings in this location.

Huntington Ave. Buildings Have Led Many Lives: Post Office, Restaurant, Cinema

BY ALISON PULTINAS

he exteriors of the two buildings on the block of Huntington Avenue between Gainsborough St. and Massachusetts Ave. have changed very little over the decades. Now, their future is threatened.

The development scenarios facing the BU Theatre on Huntington Ave. after its 2016 sale put the buildings' future in

question.

. Facing this uncertainty, *The Fenway News* has taken this opportunity to look back on that stretch of road: Who and what occupied the 252-254 and 258 addresses on Huntington Ave? Both are unusual for their two-to three-story scale, arcaded symmetrical facades, and foundations supported by wood pilings.

Roaring Twenties

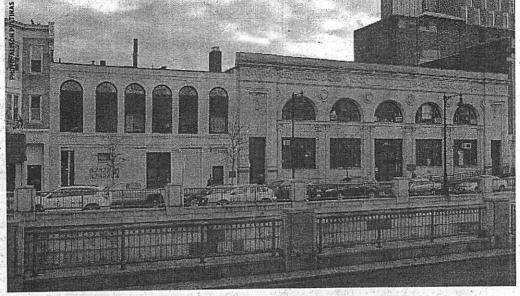
The story begins in 1916, when a group of New York real estate investors arranged with the federal government for two new Boston post office branches—one on Nashua Street near North Station (demolished in 1942) and the other at 258 Huntington Avenue. An innovative New York architect named Richard Thomas Short was hired to design both. The owners negotiated lucrative ten-year leases with the government.

Short was an inventive professional, known for his work on famous New York apartment buildings, including Alywn Court and the Red House, with his firm Hardee & Short. Later, as a solo practitioner, he specialized in public facilities—luxurious movie theaters on Long Island and in Brooklyn, the Shriner's Kismet Temple, Bushwick Hospital, and unusual police stations. Several of his building are official New York City landmarks. The New York Architectural Terra Cotta Co., based in Queens, was a partner on many of his projects, including 258 Huntington.

Then, in 1926, a new Back Bay post office was built on Stuart St., and 258 Huntington got a fresh start as a restaurant. Interestingly, this second incarnation was another New York enterprise called the Childs Dining Hall Company. The company was one of the country's first chain restaurants. Its motto: "The Nation's Host from Coast to Coast."

and New England." Now we have the Fenway Cultural District moniker—perhaps the meaning is not so dissimilar? Neon signs, late hours, movie theaters, concert halls and an opera house then; a highbrow Avenue of the Arts now. Either way, entertainment prevails.

Later Decades



252-258 Huntington Avenue

The interior of 258 was transformed into the "Old France" restaurant. It featured some of the standard elements of Childs decor: tiled floor, revolving door entrance, prominent signs, and, by 1934, outdoor seating beneath an awning. When prohibition ended in 1933, the restaurant hit its peak thanks to live music and dancing. Their ads in the Boston Globe promoted "Liquid cheer for every taste, sparkling music for dancing." There were other Childs restaurants downtown, but 258 Huntington was the largest in Boston, with an occupancy permit for 400 and a function room for banquets, reunions and private parties.

In 1928, local politician Charles Innes declared "the corner of Massachusetts and Huntington the amusement center of Boston The Old France wasn't the only show in town. Next door at 252-254 Huntington, the three-story building also rocked. In the early 1940s it was the second location for Jack Brown's Casa Manana supper club and dance hall. In 1946, The Showboat restaurant took over the space.

In 1965, the Symphony Cinemas opened at 252-254—the first movie shown was Shirley Clarke's *The Cool World*. With a second screen, the theater became known for Kung Fu and the censorship controversy around *I Am Curious (Yellow)*. (The cops seized Symphony's reels of the film thanks to its "pornographic" nature.) Scrafim Karalexis, manager of the theater, would later become established as a Hollywood producer in the

so-called "exploitation genre."

The Old France closed by 1949. Of all Childs restaurants in Boston, only 240 Boylston and 177 Tremont outlasted 258 Huntington, although they too shut down by the 1950s. The current interior at Teatro Boston (177 Tremont St.) has remnants of the original Childs, built in 1926—elaborate

gilded moldings and theatrical arched ceilings. Childs was bought out by Hotel Corporation of America, later known as Sonesta International.

The Cocoanut Grove nightclub fire of 1942 claimed 492 lives and contributed to the decline of the club scene as Boston moved into the 1950s. With urban renewal on the way, city life wasn't so fun anymore.

The non-profit Junior Achievement organization purchased 258 Huntington in 1951 and converted the ground floor to classrooms where teens focused on learning business skills.

Both buildings weathered the 1939-1941 construction on Huntington Avenue for the subway extension and the Mass. Ave. underpass, the demolition and construction associated with the Symphony Plaza towers in the 1970s, the widening of Huntington in 1977, and even the recent Symphony Streetscape MassDOT project.

The Avenue of the Arts Design Guidelines 2015 study labelled the property a "future development opportunity with a recommendation to not exceed the 90 foot height of Symphony Hall," and suggested "programming" the ground floors with retail. Really not so different from what business owners wanted in the 1920s.

The 1916 post office was an elegant public facility—maybe its influence is stronger than we realize.

Alison Pultinas lives on Mission Hill.
Sources include the Suffolk Registry of Deeds,
BPL's historic newspapers online, Boston's
building permit files and The Brooklyn Eagle
archives, James O'Connell's Dining Out in
Boston.

Location, ownership and detail must be correct, complete and legible. RECELVED Separate application required for every building. Plans must be filed with this application when required. Bos toni Boston, To the BUILDING COMMISSIONER: The undersigned applies for permission to amend plans on file of the following-described building Location * > FR Name of owner is? Name of architect is?... Descrip-Material of building is?.... tion of Style of roof?. Building. What was the building last used for? Building to be occupied for.... Progress of work to date.... DETAIL OF PROPOSED AMENDMENT. Construction of roof over work room shown on drawing #4 of framing plans. This drawing #4 corrects #4 now on file in the Department, Construction and details of clere-story shown on drawing #5 of framing plans. This drawing #5 is filed as required by note on architectural plans #3 and 5 and framing plan #4. Charge in material and spacing of wood floor beams for main floor. Proposed change is shown on drawing #6 of framing plans changing architect ural plan #1 and framing plan #2. authorized representative, Address.



The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth Massachusetts Historical Commission

June 31, 2017

Secretary Matthew A. Beaton Executive Office of Energy and Environmental Affairs 100 Cambridge Street Boston, MA 02114

ATTN: Purvi Patel, MEPA Office

RE: 252-264 Huntington Avenue Demolition and New Construction, 252 and 258 Huntington

Avenue, Boston (Fenway), MA; MHC# RC.62676, EEA# 15726

Dear Secretary Beaton:

Staff of the Massachusetts Historical Commission (MHC) have received the Environmental Notification Form (ENF) submitted for the above referenced project. After review of the information submitted and site visit, MHC staff have the following comments.

The proposed project consists of the demolition of the existing building at 252-258 Huntington Avenue and new construction of a 32-story mixed-use building. The Huntington Theatre at 264 Huntington Avenue will be undisturbed as part of this project and gifted to the Huntington Theatre Company for \$1.

The property at 252-258 Huntington Avenue (BOS.7487) is included in MHC's *Inventory of Historic and Archaeological Assets of the Commonwealth*. However, review of MHC files indicates that this property is not listed in the State Register of Historic Places. It is the opinion of MHC staff that the building at 252-258 Huntington does not meet the criteria of eligibility for listing in the National Register of Historic Places. The interior of the building has been heavily modified and no architectural details or character defining features remain. The exterior of the building has also been heavily modified.

Review of the MHC's *Inventory of Historic and Archaeological Assets of the Commonwealth* indicates that the Huntington Theatre, historically known as the Jewett Repertory Theatre, at 264 Huntington Avenue is included in the Inventory (BOS.7488). It is the opinion of MHC staff that the Huntington Theatre meets the criteria of eligibility for individual listing in the National Register of Historic Places under criteria A and C at the local level of significance.

After review of MHC's files and the information submitted, MHC has determined that the proposed project will have "no adverse effect" (950 CMR 71.07(2)(b)(2)) on the Huntington Theatre.

The MHC understands that the Huntington Theatre Company will be undertaking a renovation of the Huntington Theatre in the near future. The MHC looks forward to reviewing the renovation project if it will require any state and/or federal licensing, permitting, or funding. The MHC would also review the renovation project if the Huntington Theatre Company will seek state and/or federal historic rehabilitation tax credits.

These comments are offered to assist in compliance with M.G.L. Chapter 9, sections 26-27C (950 CMR 71.00) and MEPA (301 CMR 11). Please do not hesitate to contact Elizabeth Sherva of my staff if you have any questions.

Sincerely,

Brona Simon

State Historic Preservation Officer

Executive Director

Massachusetts Historical Commission

xc:

QMG Huntington, LLC

Cindy Schlessinger, Epsilon Associates Walter Heller, MassDOT – District 6 Boston Landmarks Commission

[N.A. – OMITTED INTENTIONALLY]

[N.A. – OMITTED INTENTIONALLY]

[inserted behind]

DISCLOSURE OF BENEFICIAL INTERESTS

[inserted behind]



August 3, 2017

Teresa Polhemus, Executive Director/Secretary Boston Planning & Development Agency 1 City Hall Square, 9th Floor Boston, MA 02201

Re:

Disclosure Statement per Disclosure Statement Policy of the BPDA for

252-264 Huntington Avenue, Boston, Massachusetts

Dear Executive Director/Secretary Polhemus:

Our office represents QMG Huntington, LLC, the developer of the 252-264 Huntington Avenue Project (the "Project"), located at 252-264 Huntington Avenue, in the City of Boston (the "Property"). Pursuant to the *Disclosure Statement Policy* adopted by the Boston Planning & Development Agency d/b/a Boston Redevelopment Authority on August 14, 2014, we hereby enclose a Disclosure Statement that contains all the information required by Section 80B-8.4 of the Boston Zoning Code.

Thank you for your attention to this matter.

Sincerely

Jared Eigerman

Enclosure:

Disclosure Statement

cc:

Tim Czerwienski, BPDA

Fan Du, QMG Huntington, LLC

John Matteson, QMG Huntington, LLC Steve Goodman, QMG Huntington, LLC

Michael Vaughan, Nauset Strategies

BOSTON REDEVELOPMENT AUTHORITY

DISCLOSURE STATEMENT

| A. | This Disclosure Statement is being filed in association with (check the appropriate box): | |
|----|--|--|
| | Large Project Review (Boston Zoning Code Section 80B); | |
| | Rule 2 C. (14) of the Rules and Regulations for M.G.L. c. 121A Projects in Boston; | |
| | The sale or lease of Urban Renewal parcels (formerly HUD form 6004); | |
| | A Boston Redevelopment Authority eminent domain taking under M.G.L. c. 121B where a PILOT Agreement will be executed with the City of Boston and the Boston Redevelopment Authority. | |
| В. | Project Information: | |
| 1) | Name of Project: | |
| | 252-264 Huntington Avenue Project | |
| 2) | Location: | |
| | 252-264 Huntington Avenue, Boston, MA 02115 | |

3) Applicant:

QMG Huntington, LLC

4) I hereby state, under penalties of perjury, that the true names and addresses of all Persons who have a Beneficial Interest (including the amount of their Beneficial Interest accurate to within one-tenth of one percent if such interest exceeds one percent. To be referred to herein as their "Percentage Interest") in the above-listed Project/Location are listed below in compliance with the provisions of the Boston Redevelopment Authority Disclosure Statement Policy.

C. NAME AND RESIDENCE OF EACH PERSON WITH SAID BENEFICIAL INTEREST (continue on separate sheet if necessary):

| Name | Address | Beneficial Interest |
|---------------|--|------------------------|
| John Matteson | 133 Pearl Street Boston, MA | 4% |
| Steve Goodman | 133 Pearl Street Boston, MA | 4% |
| Fan Du | 352 Hammond Street, Chestnut Hill, MA | 18.4% |
| Sheng Du | Shenzhen, China | 51.52% |
| Dan Gao | Shenzhen, China | 22.08% |

- D. The undersigned also acknowledges and states that except as stated below, none of the above-listed individuals is an official elected to public office in the Commonwealth of Massachusetts, nor is an employee of the State Department of Capital Planning and Operations.
- E. I hereby state, under the penalties of perjury, that the names and addresses of all firms and professional corporations employing attorneys, real estate brokers, architects, engineers, planners, or surveyors, and all other agents who have acted on behalf of any of the foregoing with respect to the application for Zoning Relief on the above-listed Project/Location are listed below in compliance with the provisions of the Boston Redevelopment Authority Disclosure Statement Policy.
- F. NAMES AND ADDRESSES OF ALL FIRMS AND PROFESSIONAL CORPORATIONS, AND AGENTS WHO HAVE ACTED ON SAID APPLICATION (continue on separate sheet if necessary):

| <u>Name</u> | Address | <u>Role</u> |
|---|---------------------------------------|-------------|
| Stantec Architecture James Gray B.K. Boley Zach Pursley | 311 Summer Street Boston, MA 02210 | Architect |

| The Levi-Nielsen Company, Inc. Scott Nielsen | 171 Gray Street Amherst, MA 01002 | Development Consultant |
|--|---|---|
| Dalton & Finegold, LLP Jared Eigerman | 183 State Street, 5 th Floor Boston, MA 02019 | Legal Counsel |
| Epsilon Associates, Inc. Cindy Schlessinger Talya Moked | 3 Mill & Main Place, Suite 250 Maynard, MA 0174 | Permitting Consultant |
| Howard Stein Hudson Guy Busa Michael Santos | 11 Beacon Street, Suite 1010 Boston, MA 02108 | Transportation and Parking Consultant |
| Nitsch Engineering Gary Pease John Schmid Brad Staples Deborah Danik | 2 Center Plaza, Suite 430 Boston, MA 02108 | Civil Engineer |
| Nauset Strategies Michael K. Vaughan | One Design Place, Suite 638 Boston, MA 02210 | Community Outreach |
| Wharf Partners Christine S. McMahon | One Design Place, Suite 638 Boston, MA 02210 | Permit Expediter |

SIGNED under the penalties of perjury as of July 27, 2017.

APPLICANT: QMG Huntington, LLC, a Massachusetts limited liability company

By: Qianlong Huntington, LLC, a Massachusetts limited liability

company

Its: Manager

By: Fan Du, Manager

SUPPLEMENTAL MATERIALS

- Use and Dimensional Restrictions on Theatre Parcel
- Use Restriction on Cultural Component

[to be provided under separate cover]