212-214 Market Street, Brighton

Submitted Pursuant to Article 80B of the Boston Zoning Code

December 20, 2016

Submitted By:
City Realty Group, LLC
320 Washington Street
Brookline, MA 02445

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

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In Association With:
Embarc Studio
Boston Survey, INC.
Design Consultant, INC.
CK Strategies

Table of Contents

Appendices

1.0 PROJECT SUMMARY / OVERVIEW

1.1 Introduction

This Package is being submitted on behalf of City Realty Group, LLC (the "Proponent") for a new mixed-use development that is approximately 35,775 gross square feet in size, and includes twenty-nine residential units and 1,045 square feet of commercial space. The Proposed Project, which is located at 212-214 Market Street, will include thirty-two associated parking spaces and a 215-square foot bike room at the ground level. (Please see **Figure 1.1.** Project Locus.)

The Project Site comprises approximately 14,150 square feet of underutilized commercial land. The Project will include combining three existing parcels into one lot. These parcels include: Parcel ID 2202177000, Parcel ID 2202175000, and Parcel ID 2202174000. The Proposed Project includes a redevelopment of the Project Site by replacing the existing facilities of an office building and single family home with a new mixed-use building, landscape design, vehicular and pedestrian access measures and improvements. The current estimated cost of this Project, based upon the most recent plans, is approximately $9,800,000.

The vision of the Project is to revitalize the neighborhood by replacing the existing office building and single family home with a residential building that will add new housing units to the increasingly popular Brighton community. As part of the community benefits related to the Proposed Project, the existing and unsightly commercial buildings will be demolished, and will be replaced with a new residential energy efficient building.

The Proposed Project will exceed the 20,000-square foot total build-out requirement for a project in a Boston neighborhood, and therefore required the preparation of filing(s) under the Small Project Review regulations, pursuant to Article 80 of the Boston Zoning Code. The Proponent will also seek zoning dimensional relief from the Code from the Boston Zoning Board of Appeal related to the size and change of use for the Proposed Project.

Figure 1.1
Project Locus

1.2 Detailed Project Description

The Proposed Project sits on approximately 14,150 square feet of underutilized land along Market Street and Saybrook Street. The location lies within a commercial section of Brighton along Market Street, but also a residential neighborhood along Saybrook Street. The developers came up with a project that is conducive to the neighborhood, and integrated both commercial and residential uses in to their building. The Market Street portion of the Project lies within a Neighborhood Shopping Subdistrict (NS-.5), and the Saybrook portion of the Project lies within a Three-Family Subdistrict (3F-4000). The current site contains an office building, a single-family dwelling, and a vacant lot. As part of the community benefits related to this Project, the old commercial buildings will be demolished, and new market rate residential housing with neighborhood commercial space will be developed. The Proposed Project will serve to invigorate this section of Brighton and bring residential foot traffic to the neighborhood.

The Proposed Project will be constructed as a five-story residential market rate development with ground-floor commercial space. The building will be ideally situated within close proximity to several bus routes and the soon-to-be-completed Boston Landing T Station, making it convenient for future resident commuters. The Project will be near McKinney Park, which will give residents access to usable open green space to utilize. The Project will be walking distance to many neighborhood shops and restaurants that will service the new residents of the development and will contribute to the local economy. The Developers are proposing a project that would include both residential units and neighborhood commercial space that will revitalize an otherwise underutilized site, and will take advantage of its ideal location.

The Developers are proposing a mixed-use project that will include twenty-nine residential units and 1,045 square feet of commercial space along the ground floor of the building. The units will have a variety of different sizes and bedrooms, which will accommodate Brighton's diverse and growing population. The units will be comprised of five one-bedroom units, sixteen two-bedroom units, three two-bedroom/den units, and five three-bedroom units. Over half the units will have exterior decks, which will provide residents with usable outdoor space. The Developers understand that parking is always a concern to the neighborhood residents, and therefore are proposing a ground level interior parking facility that will house thirty-two parking spaces and bike racks for bike storage. Furthermore, a separate bike room has been proposed, which will accommodate additional bicycle space and encourage residents to use alternative means of transportation. The Proposed Project's proximity to the Boston Landing MBTA station and bus lines will minimalize community impact from resident/patron parking from the Proposed Project.

The second component of the Proposed Project will include 1,045 square feet of commercial space along the Market Street side of the building. The commercial space will accommodate the needs of Brighton's growing population. The Brighton community has been looking to add more commercial space to new projects to ensure that residents can both live and have access to neighborhood retail opportunities.

The Proposed Project is subject to Small Project Review under Article 80B of the Boston Zoning Code. In parallel with this application, the Proposed Project will seek zoning relief from the Boston Zoning Code at the Boston Zoning Board of Appeal related to the size and change of use of the land and structures that currently sit on them.

The Proposed Project will completely revitalize this section of Market Street, and will bring necessary residential housing to an underutilized corridor. The site is attractive due to its proximity to public transportation and all of the many shops and restaurants along Market and Washington Street.

Table 1-1. Approximate Project Dimensions of 212-214 Market Street

Lot Area:	14,150
Gross Building Footprint Area:	10,315
Gross Square Feet:	36,890
FAR:	2.60
Floors:	5
Height:	54'6"

2.0 General Information

2.1 Project Schedule

Project Schedule: 212-214 Market Street Project	
Construction Commencement:	Spring/Summer 2017
Construction Completion:	Fall 2018
Status of Project Design:	Schematic

2.2 Project Proponent

City Realty Group, LLC, founded in 2004, has grown to become a leading full service real estate firm dedicated to buying, selling, renting, developing and managing property in the Boston area. Since its conception, City Realty Group and its managing partners have overseen over $500 million in real estate transactions. City Realty Group's current portfolio consists of over 600 stabilized units as well as over 50 properties currently in various stages of development.

City Realty Group, LLC, is run by Managing Partners Fred Starikov and Steve Whalen. Fred Starikov has over eighteen years of experience in real estate, and has overseen $500 million in real estate transactions. Mr. Starikov has a proven ability to quickly analyze market data and execute plans precisely in order to achieve optimal returns.

Steve Whalen has over twenty-two years of experience in real estate, with broad expertise in commercial and residential property acquisition, disposition, and leasing. Mr. Whalen excels in relationship management and conflict resolution, and has honed his command of real estate practices while employed with Equis Corp. and NAI Hunneman Commercial.

City Realty Group, LLC has extensive experience in managing and developing real estate, and in managing businesses, which will guide this Proposed Project to completion.

2.3 Public Benefits

The Proposed Project will provide substantial benefits to the City of Boston and the Brighton community. The Proposed Project will generate both direct and indirect economic and social benefits to the Brighton neighborhood. The Proposed Project provides for:

- Creating much needed market rate residential housing in the Brighton Neighborhood.
- Creating on-site affordable rental units, which will meet the Boston Redevelopment Authority affordable housing standards.
- Revitalizing three underutilized parcels and replacing the current vacant lot, office use, and single-family dwelling with housing and retail space.

- Creating commercial retail space along Market Street to accommodate Brighton's growing population of residents, which will allow residents to not only live, but also shop and have access to amenities in the neighborhood.

- Constructing a building that will incorporate open space in the form of decking and terraces, solar panels, and energy efficient appliances, which will result in a high LEED standard for the Project.

- Constructing a ground level parking facility that will accommodate parking spaces for the unit residents.

- Encouraging alternative modes of transportation through the use of bicycling and walking, due to the close proximity of the bus lines and the MBTA at Boston Landing Station; and the high number of bicycle stations on the ground floor.

- Creating bike racks and a dedicated bike room for storage of bikes within the building to encourage bicycling as a mode of transportation, allowing for less vehicular traffic.

- Adding revenue in the form of property taxes to the City of Boston.

- Creating full-time jobs (commercial retail).

- Creating temporary construction and labor jobs.

2.4 Compliance with Boston Zoning Code – Use and Dimensional Requirements

The Site is located in a Neighborhood Shopping Subdistrict (NS-.5)/Three-Family Subdistrict (3F-4,000) in the Brighton Neighborhood District, Article 51 of the Boston Zoning Code (the "Code"). (See **Table 2.1 and Table 2.2.** 212-214 Market Street – Zoning Compliance). It is likely that the City of Boston Inspectional Services Department will view the Site as being in a Neighborhood Shopping Subdistrict, as the majority of the property lies within this Subdistrict. However, since the Site is located in two different Zoning Subdistricts it is necessary to view the proposal under each classification independently.

Three-Family Subdistrict (3F-4,000)

Multi-family dwellings are a Forbidden Use under Article 51, Table A. Therefore, a Use Variance would need to be obtained from the City of Boston Zoning Board of Appeals. Additionally, the proposed Retail Use is a Forbidden Use as well. The Proposed Project also seeks relief from several requirements of the existing zoning outlined in Article 51. The proposed structure exceeds the maximum allowable floor-area-ration ("FAR"). It also exceeds the height limitations for the district and will require relief from the Zoning Board of Appeal. Other likely zoning violations include additional lot area per dwelling unit and various dimensional regulations such as front setback, and rear setback. The commercial space on the first floor will also likely require a Use Variance.

For a project of this size, 2.0 parking spaces would be required per dwelling unit. Therefore, per Code, fifty-eight parking spaces would be required. An additional Variance would be required for the parking violation.

Neighborhood Shopping Subdistrict (NS-.5)

Multi-family dwellings are a Conditional Use under Article 51, Table B. Therefore, a Use Variance would need to obtained from the City of Boston Zoning Board of Appeals. Local Retail Uses and Restaurants are an Allowed Use on the first floor in a Neighborhood Shopping Subdistrict, so no Variance would be required for this proposed use. The Proposed Project also seeks relief from several requirements of the existing zoning outlined in Article 51. The proposed structure exceeds the maximum allowable floor-area-ration ("FAR"). It also exceeds the height limitations for the district and will require relief from the Zoning Board of Appeal. Other likely zoning violations may include dimensional regulations, such as rear setback.

For a project of this size, 2.0 parking spaces would be required per dwelling unit. Therefore, per Code, fifty-eight parking spaces would be required. An additional Variance would be required for the parking violation.

Regardless of what Subdistrict the Site is viewed as, the Site will consist of 14,150 square feet of land. The Site is located in an area that contains residential and commercial uses. The design team feels that given this location, and the structures influencing the design, as well as comparable developments in the neighborhood, that the proposed building's height, mass and scale are appropriate for this location and conducive to the Brighton neighborhood.

Table 2.1. 212-214 Market Street - Zoning Compliance

Categories	Neighborhood Shopping Subdistrict	Proposed Project
Minimum Lot Area (Square Feet)	None	14,150 S.F.
Floor Area Ratio	.5	2.52
Minimum Lot Width	None	189 Feet
Minimum Lot Frontage	None	70 Feet, 6 Inches
Minimum Front Yard	None	4 Feet
Minimum Side Yard	None	Varies: 5 Feet, 1.5 Inches-12 Feet, 5 Inches
Minimum Rear Yard	20 Feet	15 Feet
Maximum Building Height	35 Feet	54 Feet, 6 Inches
Minimum Useable Open Space Per Dwelling Unit (Square Feet)	50 S.F. Per Unit	213 S.F. Per Unit
Off-Street Parking Spaces	2.0 Spaces Per Unit (58)	32 Spaces
Rear Yard Maximum Occupancy by Accessory Building (Percent)	N/A	N/A

Table 2.2. 212-214 Market Street - Zoning Compliance

Categories	Three-Family Subdistrict	Proposed Project
Minimum Lot Area (Square Feet)	4,000 S.F. for 1 or 2 units	14,150 S.F.
Additional Lot Area per Dwelling Unit	2,000 S.F. Per Unit	487 S.F. Per Unit
Floor Area Ratio	.8	2.52
Minimum Lot Width	45 Feet	189 Feet
Minimum Lot Frontage	45 Feet	70 Feet, 6 Inches
Minimum Front Yard	20 Feet	4 Feet
Minimum Side Yard	At least 5 feet from a side lot line and 10 feet from an existing structure on an abutting lot, and the aggregate side yard width shall be not less than 15 feet.	Varies: 5 Feet, 1.5 Inches-12 Feet, 5 Inches
Minimum Rear Yard	30 Feet	15 Feet
Maximum Building Height	35 Feet	54 Feet, 6 Inches
Minimum Useable Open Space Per Dwelling Unit (Square Feet)	65 S.F. Per Unit	213 S.F. Per Unit
Off-Street Parking Spaces	2.0 Spaces per Unit (58)	32 Spaces
Rear Yard Maximum Occupancy by Accessory Building (Percent)	N/A	N/A

2.5 Public Review Process and Agency Coordination

The 212-214 Market Street development team has provided extensive community outreach efforts for the Proposed Project, including community meetings in the Brighton neighborhood, and presentations before the elected officials. As part of the process, the development team has held an abutter's meeting to explain the Project to surrounding neighbors that will be directly impacted during and after construction. The Proponent received positive feedback from the neighbors, and has made design changes accordingly. The development team also appeared before the Brighton-Allston Improvement Association.

Finally, the development team has met individually with all of Brighton's elected officials and their staff members, including: Representative Kevin Honan, City Councilor Mark Ciommo, and Mayor's Office of Neighborhood Services Liaison for Brighton, Warren O'Reilly. Brighton's elected officials have had input during the community outreach process, and have had staff presence at all community meetings.

The Proponent has also discussed the Proposed Project with representatives of the Boston Planning and Development Agency ("BPDA") prior to filing this Briefing Package in order to identify issues/concerns as well as design requirements related to the Proposed Project. Meetings have been held with the BPDA's planners and urban design staff, and the Project design has changed based upon the feedback received.

The Proponent will continue to meet with public agencies, neighborhood representatives, local business organizations, abutting property owners, and other interested parties, and will follow the requirements of Article 80 pertaining to the public review process.

3.0 URBAN DESIGN AND SUSTAINABILITY

3.1 Site and Surroundings

The Project Site is located in Brighton, and is bounded by Market Street, Saybrook Street and residential buildings along Lawrence Place. The Proposed Site sits on approximately 14,150 square feet of underutilized commercial space along Market Street and Saybrook Street. The current site has been used as an office building and a single-family dwelling. As part of the proposal the existing buildings, including the dilapidated office building, will be demolished. The Project Site sits across the street from ScrubaDub Auto Wash Center, which is located at 235 Market Street. The Site is primarily abutted in the rear and side by two and three-family residential buildings. The remainder of the abutting buildings are comprised of commercial buildings, condominium dwellings and apartment complexes. For existing site pictures see **Appendix B**.

3.2 Shadow Study

Comparative shadow studies were done for the Winter and Summer Solstice as well as for the Spring and Fall Equinox at the times of 9am, 12pm, and 6pm, showing both the existing conditions and the proposed building. Saybrook Street lies on the southern face of the site and is not impacted by any shadows cast by the proposed. The impact to Market Street to the west of the site is the most at the early morning hours but shadows start to shift away from Market street by 12pm. Shadows cast on the direct abutters on Saybrook Street and to the rear of the building at Lawrence Place are relatively minor, with the greatest impact occurring in the late afternoon and in the Winter months. This is due to the increased 15'-0" side yard setback at the eastern property line, in addition to the building stepping down from Market Street from five stories to four stories, and then to three stories at the side yard setback. These changes are a product of multiple meetings with community members. See **Appendix E** for the complete Shadow Study.

3.3 Urban Design Concept

The Proposed Project is a mixed-use development spanning three sites at the corner of Market and Saybrook Street. We have located the residential lobby and 1,045 square feet of commercial space at grade along Market Street to add to the public street scape. We have also engaged Blair Hines Design Associates to incorporate design elements of Complete Streets including the inclusion of permeable pavers, public benches and bike parking, and street trees along Market Street. Through multiple meetings with the community we have modified the massing of the building to step down away from Market Street in height from five stories to four stories to three stories to more closely match the height of the existing buildings along Saybrook Street. In addition, we have increased the side yard setback to 15'-0" along the property line at 16-18 Saybrook Street.

3.4 Materials and Finishes

Along Market Street the proposed building incorporates a mixture of brick and clapboard siding taking inspiration from the context along Market Street extending towards Brighton Center. As the building turns the corner of Saybrook Street the materials transition to predominately clapboard siding to tie into the neighborhood context of Saybrook Street. All clapboard will be durable fiber cement to maintain quality of finish. Fenestration will be residential scale to fit into the streetscape on both Market and Saybrook Streets. All building materials will be sustainable sourced and environmentally friendly when possible.

3.5 Urban Design Drawings

The Proposed Project's urban design drawings and perspectives are contained in **Appendix A** and include:

	Plot Plan
	Boston Planning & Development Map
A-1	Proposed Floor Plans - Ground Floor Plan
A-2	Proposed Floor Plans – Second Floor
A-3	Proposed Floor Plans – Third Floor
A-4	Proposed Floor Plans – Fourth Floor
A-5	Proposed Floor Plans – Fifth Floor/Roof
A-6	Proposed Elevations

4.0 GEOTECHNICAL INFORMATION

A geotechnical investigation was performed at the site consisting of four borings. The results indicated that the site is underlain by 5 to 8.5 feet of miscellaneous fill underlain by a deposit of medium dense to dense fine to coarse sand. The groundwater table was encountered a depth of 12-feet below existing grade. It is anticipated that the proposed building will be supported by conventional strip and spread footings bearing on natural sands or structural fill. The fill soils will have to be removed and replaced with compacted structural fill prior to foundation and slab construction. See **Appendix F** for the complete Geotechnical Report.

5.0 TRANSPORTATION INFORMATION

For the 214 Market Street project, capacity analyses were carried out for 2016 Existing, 2023 No-Build, and 2023 Build conditions. Comparing No-Build to Build conditions is key to this analysis. Taking credit for existing trips generated, and adjusting for the non-motor vehicle modal split, the project is expected to generate five (5) net new vehicle-trips during the morning peak hour and eleven (11) net new vehicle-trips during the evening peak hour. Based on the results of the traffic model, during both the morning and evening peak hours, increases in delay are minimal and no movements decrease in level of service going from the No-Build to the Build conditions. There will be minimal impact on surrounding traffic networks. See **Appendix H** for the complete Transportation Study.

6.0 Additional Project Information

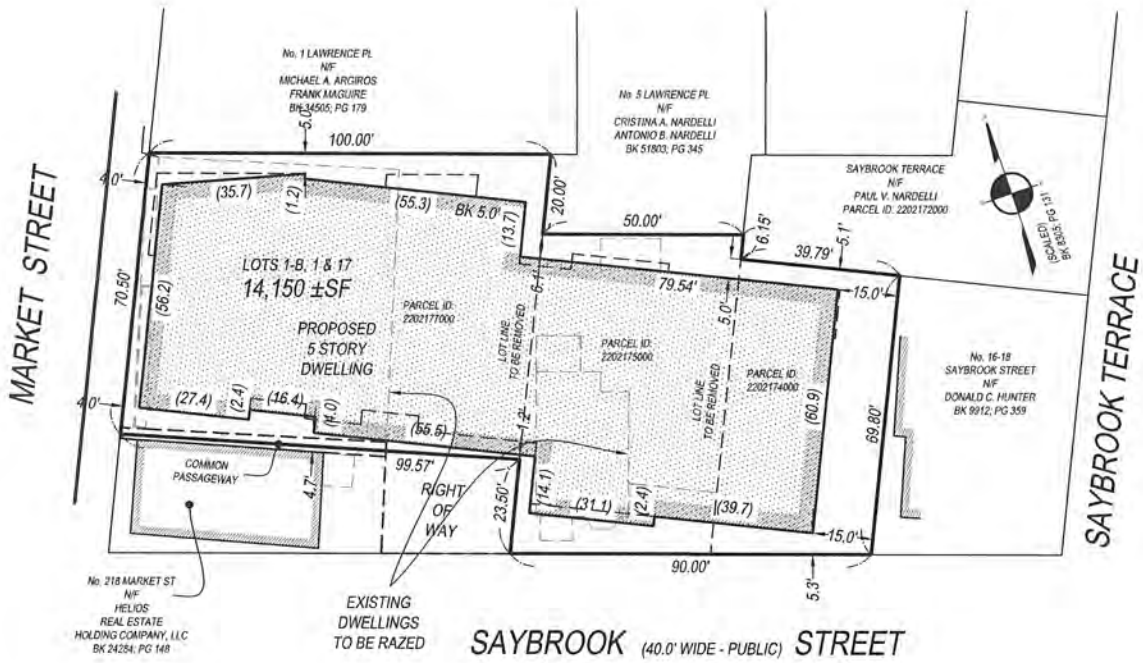
6.1 Preliminary List of Permits or Other Approvals Which May Be Sought

Agency Name	Permit or Action*
Local Agencies	
Boston Planning & Development Agency	Article 80 Review and Execution of Related Agreements; Section 80B-6 Certificate of Compliance
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Department of Public Works, Public Improvement Commission	Possible Sidewalk Repair Plan; Curb-Cut Permit; Street/Sidewalk Occupancy Permit; Other
Boston Zoning Board of Appeals	Possible Variances and Dimensional Relief from Existing Zoning Code Requirements
Boston Fire Department	Approval of Fire Safety Equipment
Boston Water and Sewer	Approval for Sewer and Water Connections; Construction Site Dewatering; and Storm Drainage
Boston Parks Department	Approval for Site Location in Relation to Nearby Parks
Boston Department of Inspection Services	Building Permits; Certificates of Occupancy; Other Construction-Related Permits

* This is a preliminary list based on project information currently available. It is possible that not all of these permits or actions will be required, or that additional permits may be needed.

6.2 Project Team

Project Name: 212-214 Market Street	Project Team Information
Property Owner / Developer	City Realty Group, LLC 320 Washington Street Brookline, MA 02445 Fred Starikov, Fred.Starikov@cityrealtyboston.com Steve Whalen, Steve.Whalen@cityrealtyboston.com
Article 80 Permitting Consultant / Legal Counsel / Outreach	Drago & Toscano, LLP 15 Broad Street, Suite 610 Boston, MA 02109 Jeffrey Drago, Esq., Jdrago@dtlawllp.com Matthew Eckel, Esq., Matt@dtlawllp.com
Architect	Embarc Studio 60 K Street, 3rd Floor Boston, MA 02127 Dartagnan Brown, dbrown@embarcstudio.com Dan Artiges, dartiges@embarcstudio.com
Consultants	CK Strategies
Transportation Planner / Engineer / Civil Engineer / Geotechnical Engineer	Design Consultant, Inc. 120 Middlesex Ave., Suite 20 Somerville, MA 02145 Stephen Sawyer, SSawyer@dci-ma.com Michael Clark, MClark@dci-ma.com



ZONING:

DISTRICT:	ALLSTON/BRIGHTON
SUB-DISTRICT:	NS-0.5
OVERLAYS:	NONE

PARCEL ID(S): 2202177000, 2202175000 & 2202174000 ARE TO BE CONSOLIDATED INTO ONE PARCEL WITH A TOTAL AREA OD 14,150 ±SF

REFERENCES:

DEED: BK 55671; PG 160
(4 SAYBROOK STREET)
BK 54574 PG 202
(214 MARKET STREET)
PLAN: BK 8305; PG 131
BK 2169; PG 447
BK 4138; PG 567
BK 1891; PG 243
L-4709; SAYBROOK ST

COMMONWEALTH OF MASSACHUSETTS
GEORGE C. COLLINS
No. 41784
PROFESSIONAL LAND SURVEYOR

FIELD BOOK	PAGE	INSP. BY	DRAFT. BY	CHECKED BY
J	N/A	DRM/JJH	SAP	GCC

I CERTIFY THAT THIS PLAN WAS MADE FROM AN INSTRUMENT SURVEY ON THE GROUND ON THE DATE OF JULY 18, 2015 AND ALL STRUCTURES ARE LOCATED AS SHOWN HEREON.

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) MAPS, THE MAJOR IMPROVEMENTS ON THIS PROPERTY FALL IN AN AREA DESIGNATED AS ZONE "X" (AREA DETERMINED TO BE OUTSIDE 0.2 % ANNUAL CHANCE FLOODPLAIN).
COMMUNITY-PANEL: 25021C0032E
EFFECTIVE DATE: 07-17-2012

PREPARED FOR:
LEOVOFS, LLC
320 WASHINGTON STREET
SUITE 3FF
BROOKLINE, MA 02445

NOTES:
PARCEL ID(S): 2202177000 & 2202175000 220217 4 000

CERTIFIED PLOT PLAN

SHOWING PROPOSED CONDITIONS AND LOT CONSOLIDATION AT

214 MARKET STREET & 4 SAYBROOK STREET BRIGHTON, MA

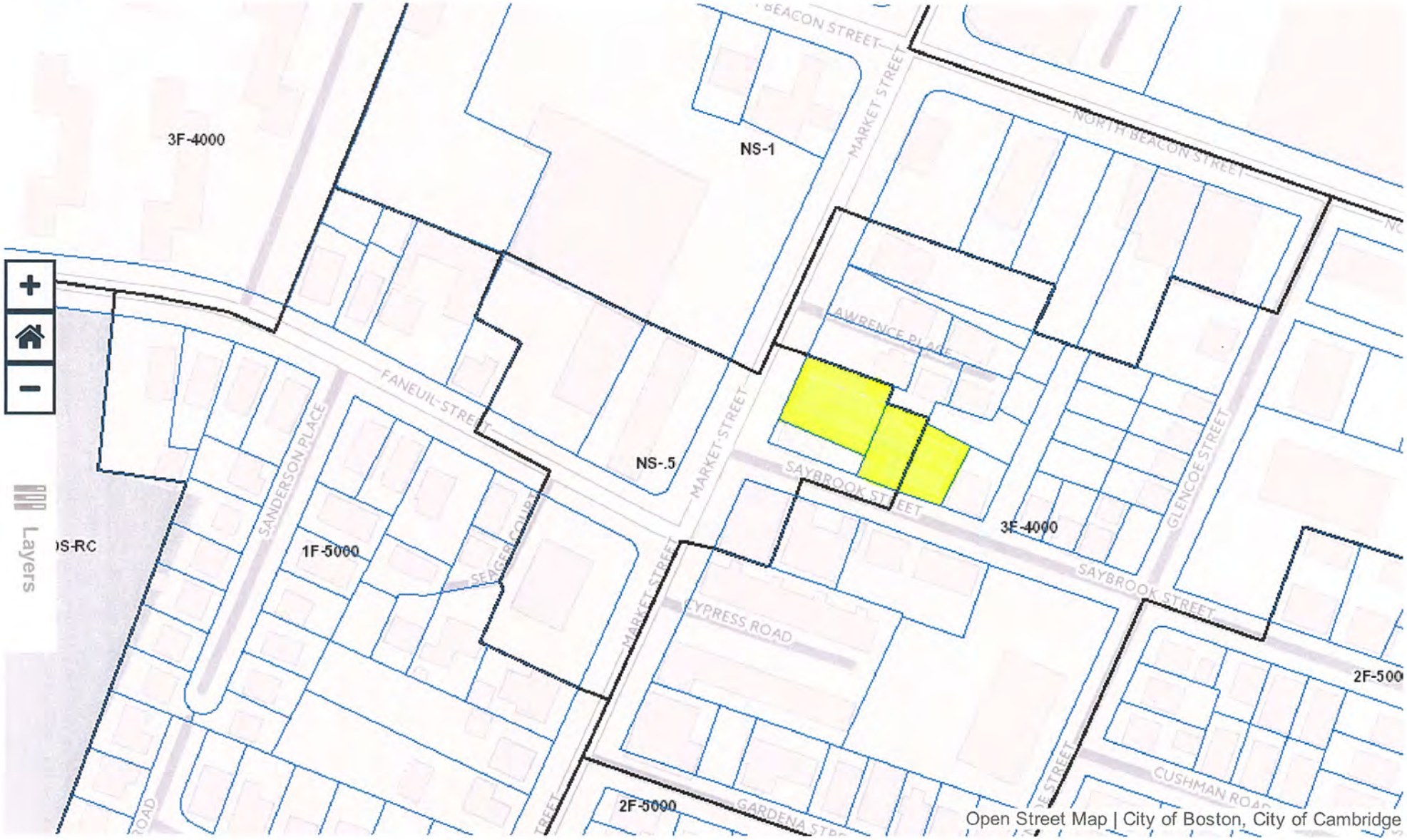
SCALE: 1 INCH = 30 FEET DATE: NOVEMBER 18, 2016

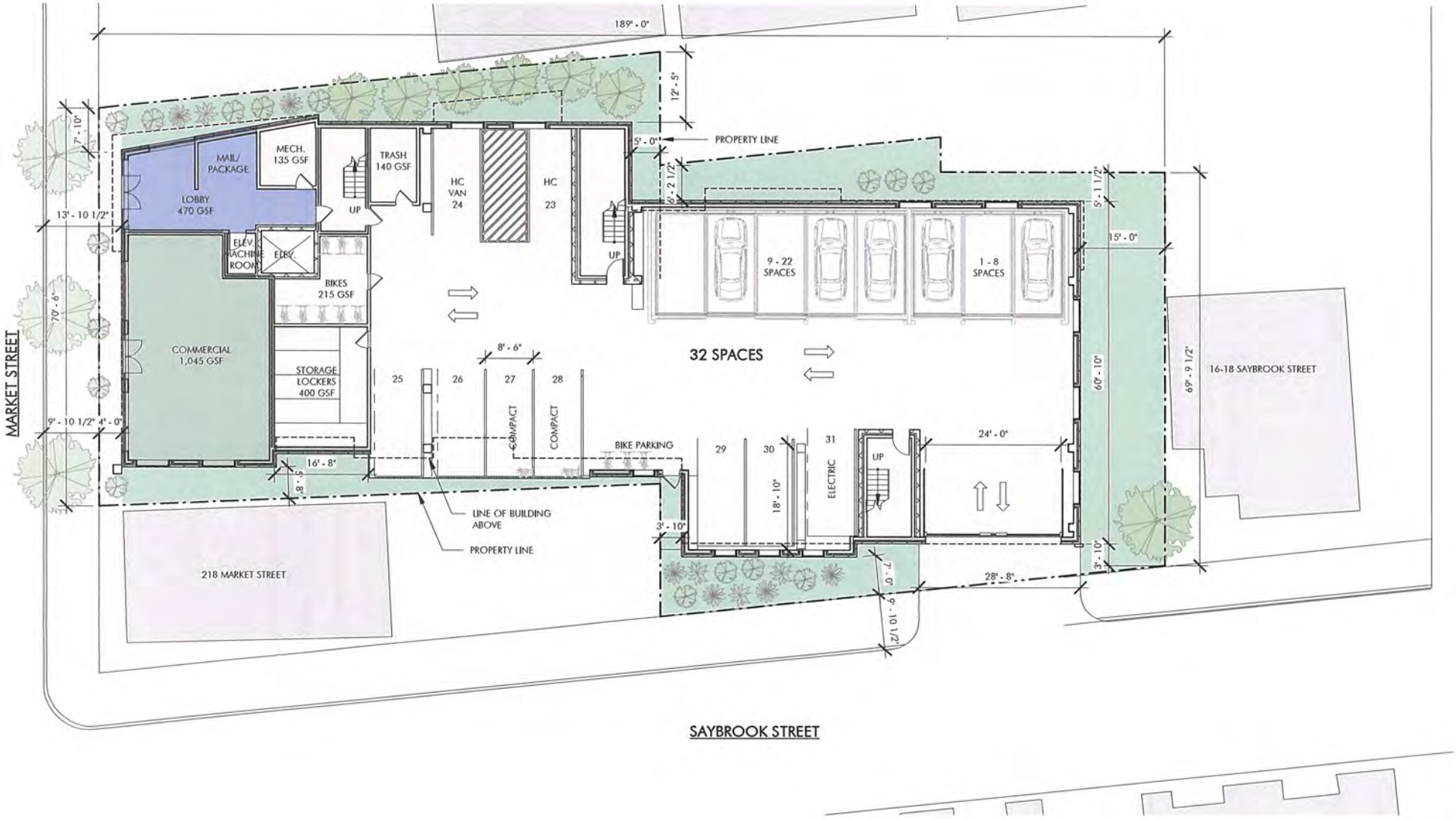
BOSTON SURVEY, INC.
UNIT C-4 SHIPWAY PLACE
CHARLESTOWN, MA 02129
(617)242-1313

JOB #15-00378 FILE #15-00378 - CPP.DWG

Zoning

214 Market street





1/16" = 1'-0"

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ARCHITECTURE+DESIGN

GROUND FLOOR PLAN

214 MARKET STREET
BRIGHTON, MA 02135

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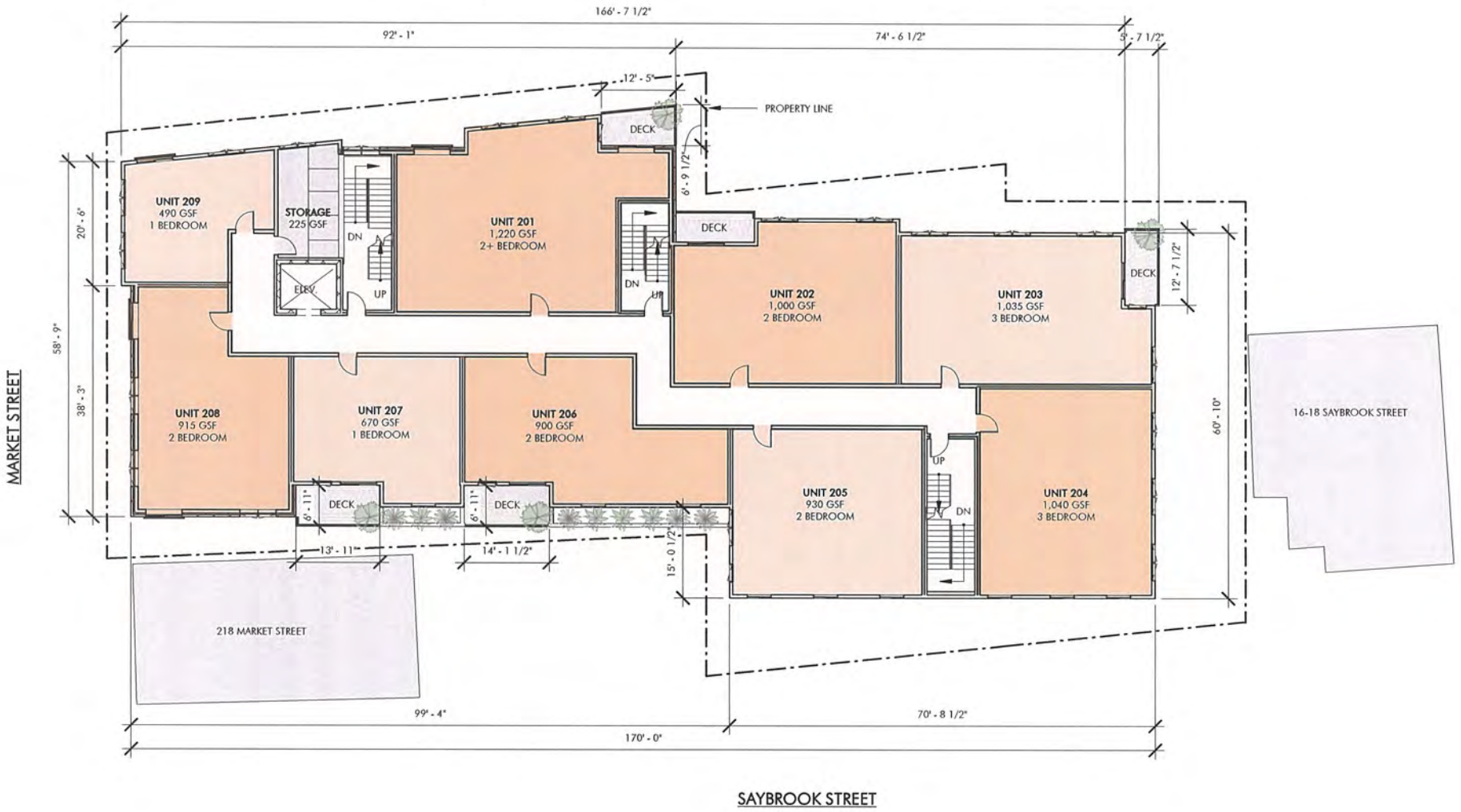

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SECOND FLOOR PLAN
214 MARKET STREET
BRIGHTON, MA 02135

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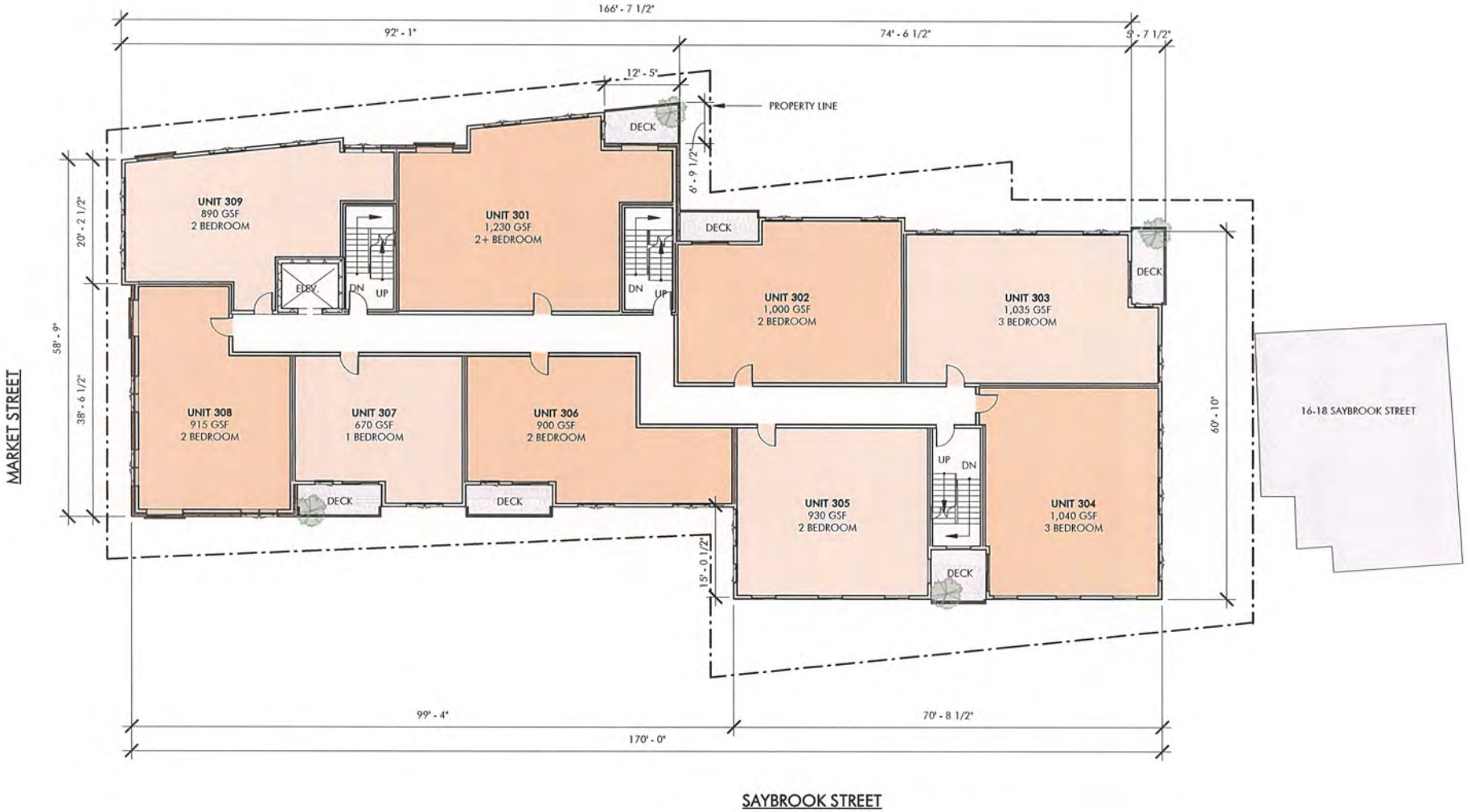

1/16" = 1'-0"

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ARCHITECTURE + DESIGN

THIRD FLOOR PLAN

214 MARKET STREET
BRIGHTON, MA 02135

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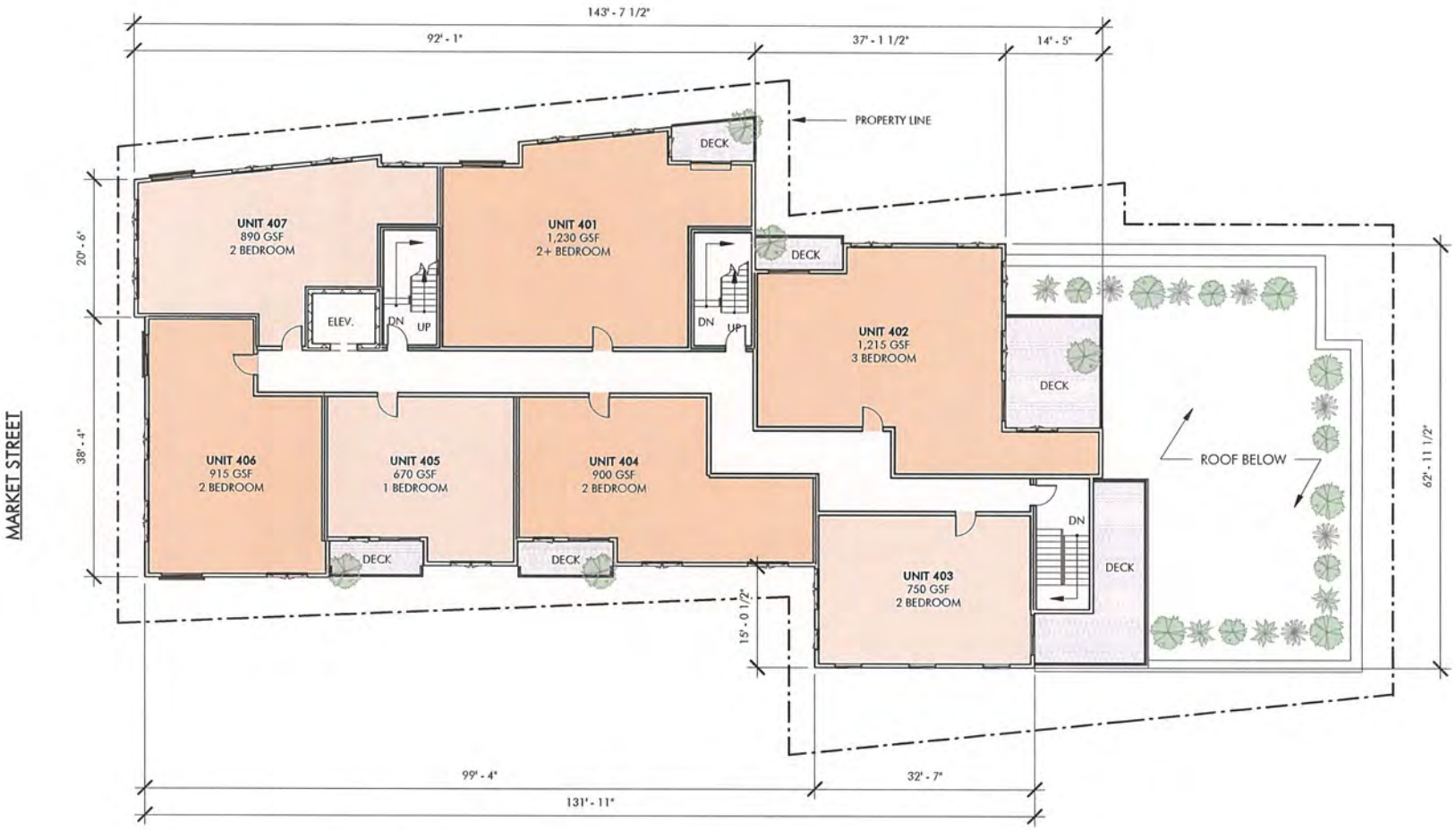

1/16" = 1'-0"

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ARCHITECTURE + DESIGN

FOURTH FLOOR PLAN

214 MARKET STREET
BRIGHTON, MA 02135

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FIFTH FLOOR/ ROOF PLAN

214 MARKET STREET
BRIGHTON, MA 02135

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SAYBROOK STREET ELEVATION

MARKET STREET ELEVATION

1/16" = 1'-0"

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ELEVATIONS
214 MARKET STREET
BRIGHTON, MA 02135

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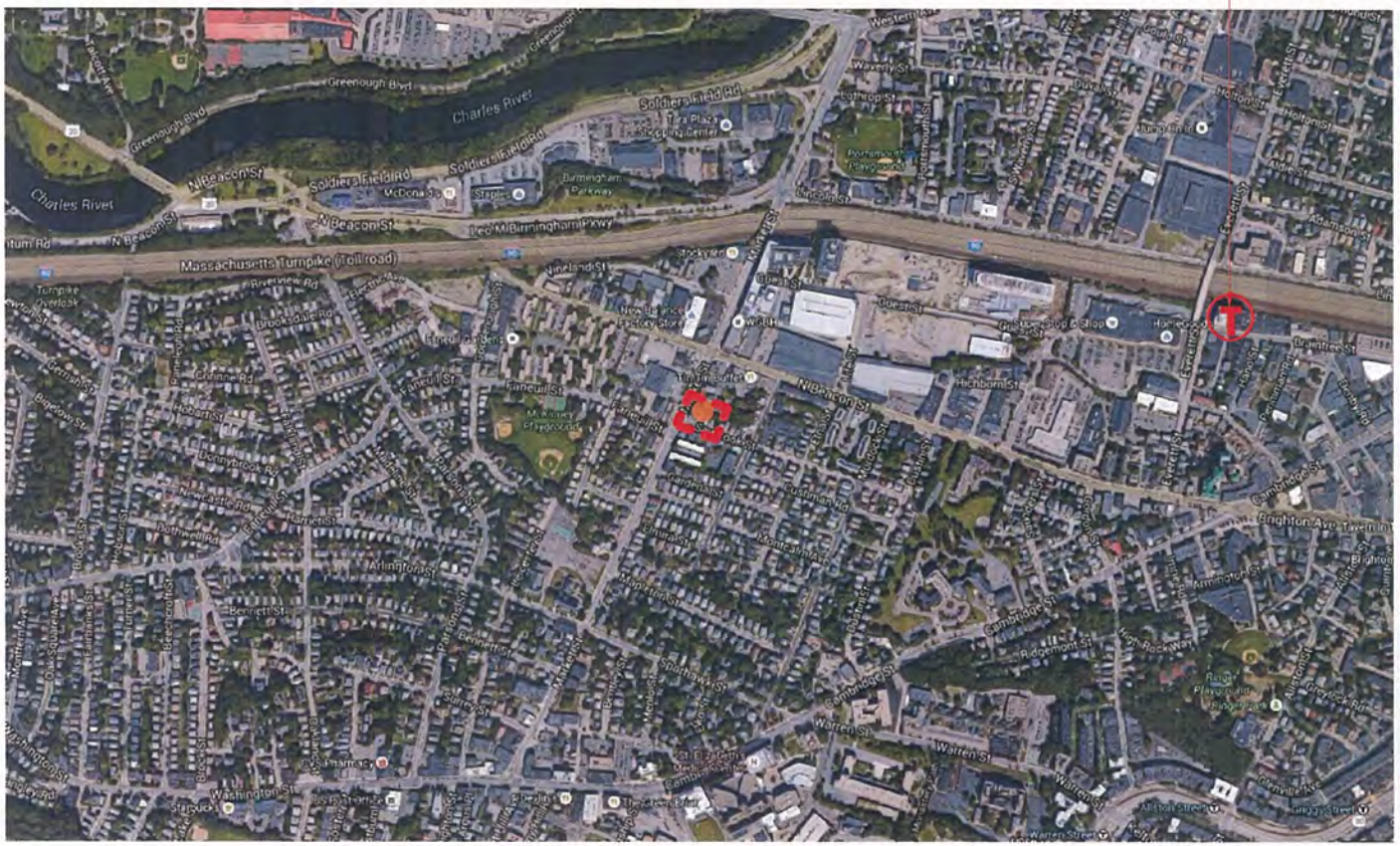
SITE OF FUTURE T STOP



WGBH - VIEW FROM MARKET STREET

NEW BALANCE HEADQUARTERS - VIEW FROM I-90

EMBARC STUDIO
ARCHITECTURE + DESIGN

SITE CONTEXT
214 MARKET STREET
BRIGHTON, MA 02135

EX1

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PROPOSED 214 MARKET STREET PROJECT

7 STORY WGBH BUILDING

PROPOSED 20 UNIT MIXED USE DEVELOPMENT AT 26 HITCHBORN

SITE OF NEW BALANCE'S NEW BOSTON LANDING HEADQUARTERS

EMBARC STUDIO
ARCHITECTURE + DESIGN

SITE MAP
214 MARKET STREET
BRIGHTON, MA 02135

EX2

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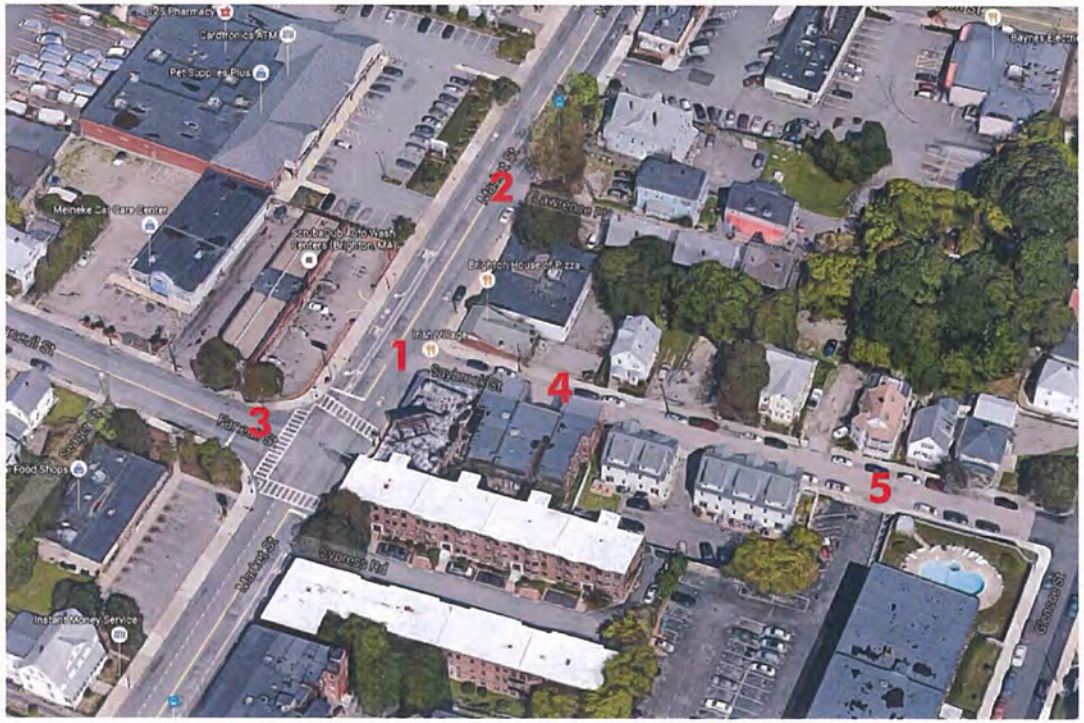

EMBARC STUDIO
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CONTEXT
214 MARKET STREET
BRIGHTON, MA 02135

EX3

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214 Market Street

214 Market Street – Rear View

214 Market Street

35 Glencoe Street – Apartment Building At The Corner Of Glencoe Street And Saybrook Street

View Down Saybrook Street Towards Market Street

9 Saybrook Street and Rear View of 214 Market

EMBARC STUDIO
ARCHITECTURE + DESIGN

VIEW FROM MARKET STREET SOUTH
214 MARKET STREET
BRIGHTON, MA 02135

R1

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DECEMBER 1, 2016 | EMBARC

EMBARC STUDIO
ARCHITECTURE + DESIGN

VIEW FROM MARKET STREET NORTH
214 MARKET STREET
BRIGHTON, MA 02135

R2

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DECEMBER 1, 2016 | EMBARC

EMBARC STUDIO
ARCHITECTURE + DESIGN

VIEW FROM SAYBROOK STREET
214 MARKET STREET
BRIGHTON, MA 02135

R3

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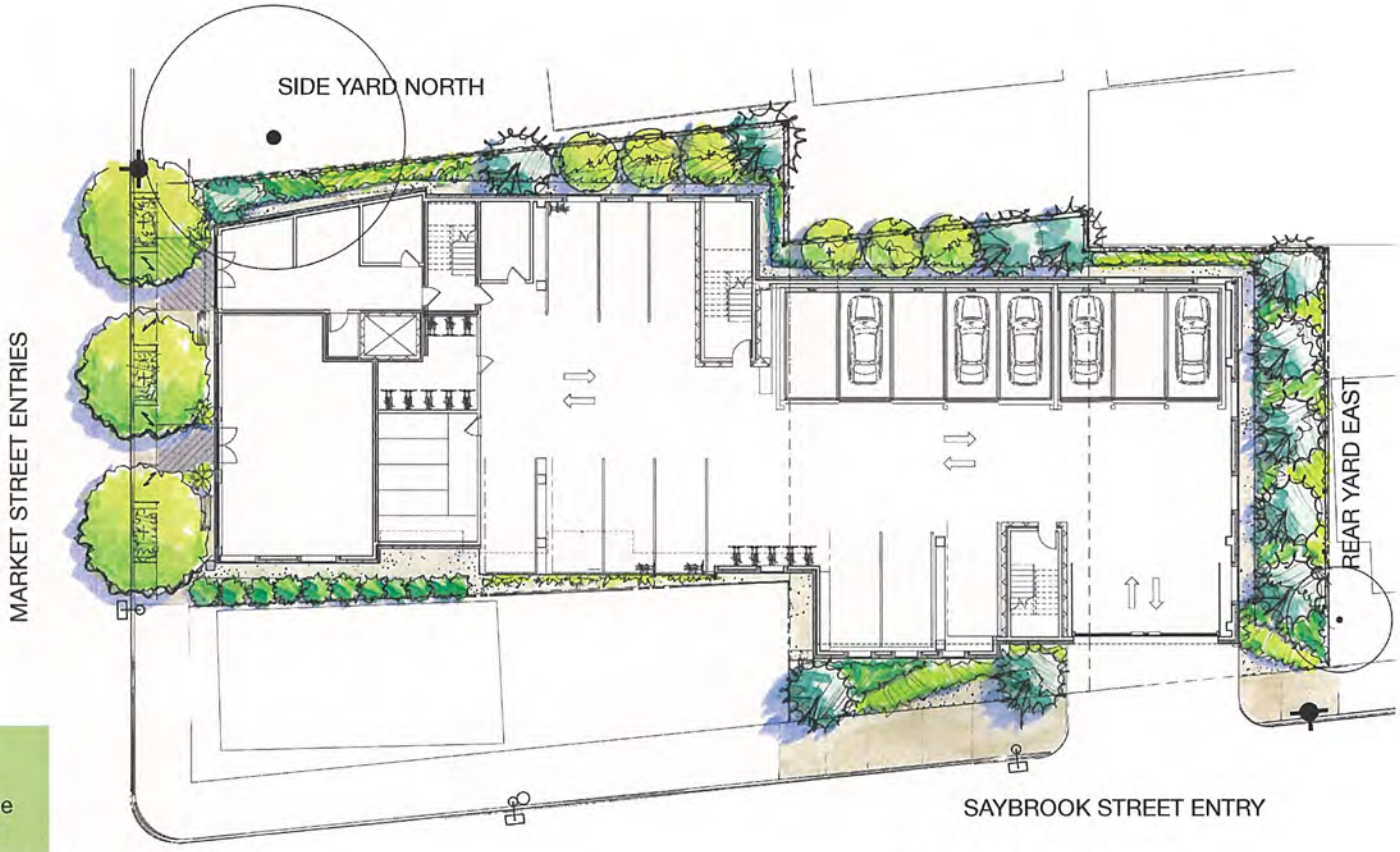
Neighborhood Main Street

Similar to Downtown Mixed-Use streets, these streets are also characterized by high volumes of pedestrian activity and a mix of uses along the sidewalk. The overall scale though is smaller than Downtown Strees, with typically narrower sidewalks such as those on Dorchester Avenue in Dorchester and along Centre and South Streets in Jamaica Plain. The focus is on providing access to the many entrances of small businesses lining the street. The Greenscape/Furnishing Zone should be as generous as possible and flexible in order to accommodate holiday events, farmers' markets, street fairs, and other community gatherings.

CONCEPT
Proposed design follows the guidelines set forth in the Complete Streets Neighborhood Main Street



EMBARC STUDIO
ARCHITECTURE + DESIGN

Blair Hines Design Associates
LANDSCAPE ARCHITECTS

MARKET STREET CONCEPTS
SCHEMATIC DESIGN
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

LI

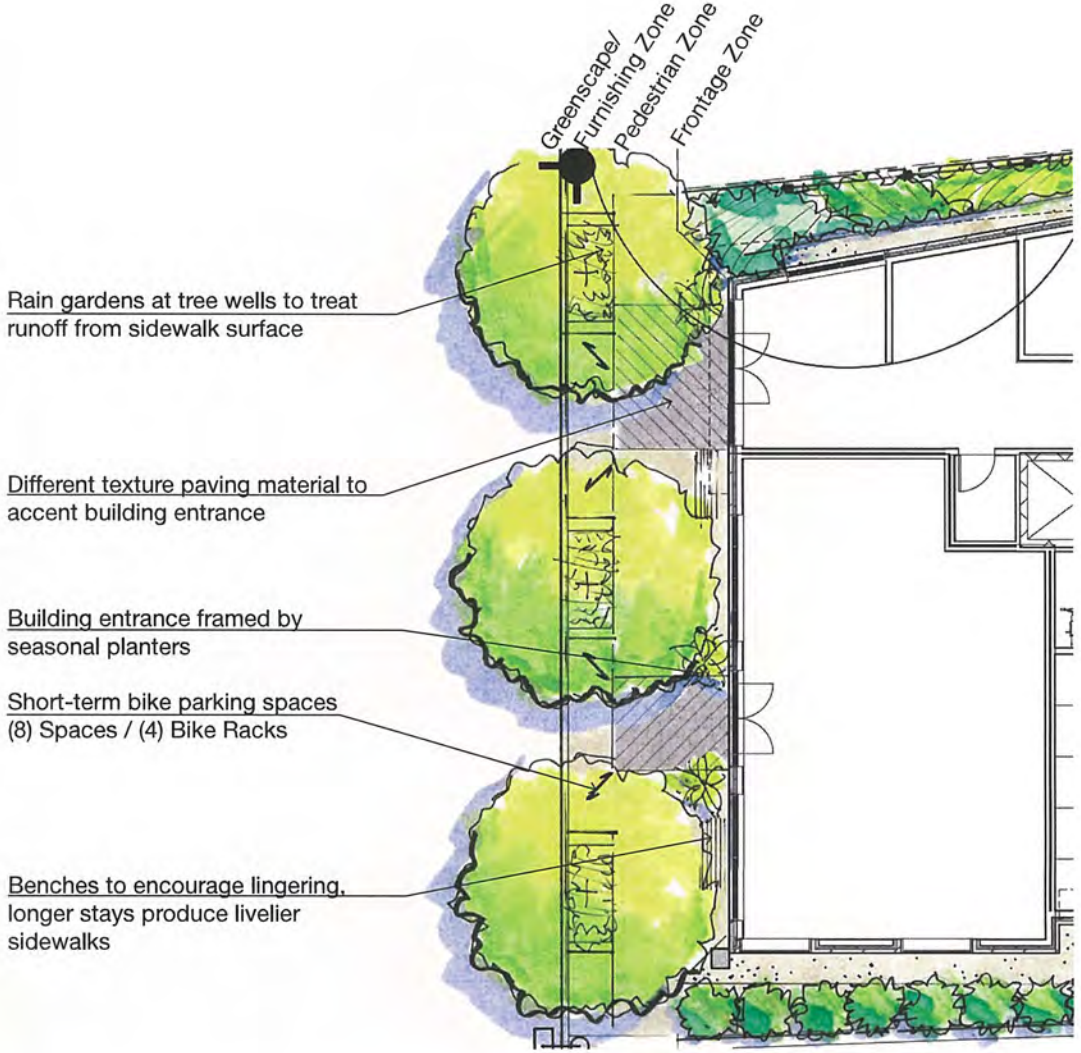
COMPLETE STREETS

GREENSCAPE ZONE OPTION:
STORMWATER PLANTER
Opportunity to improve stormwater management capturing, collecting and filtering the rainfall.

GREENSCAPE ZONE OPTION:
PERMEABLE PAVERS
Permeable pavers in tree well area

FRONTAGE ZONE OPTION:
Pedestrian amenities and paving accents for building entries

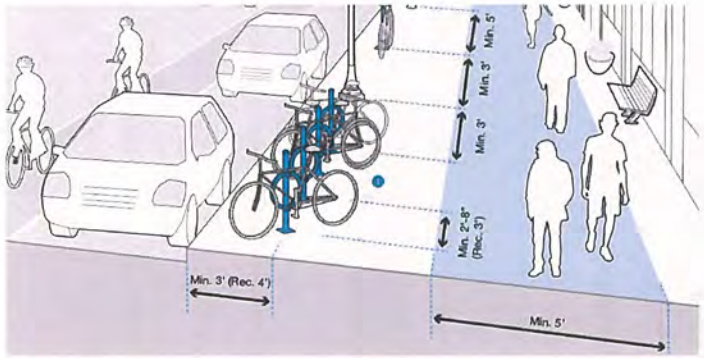
CONCEPT
Bring sustainable design elements as character defining/project identity features



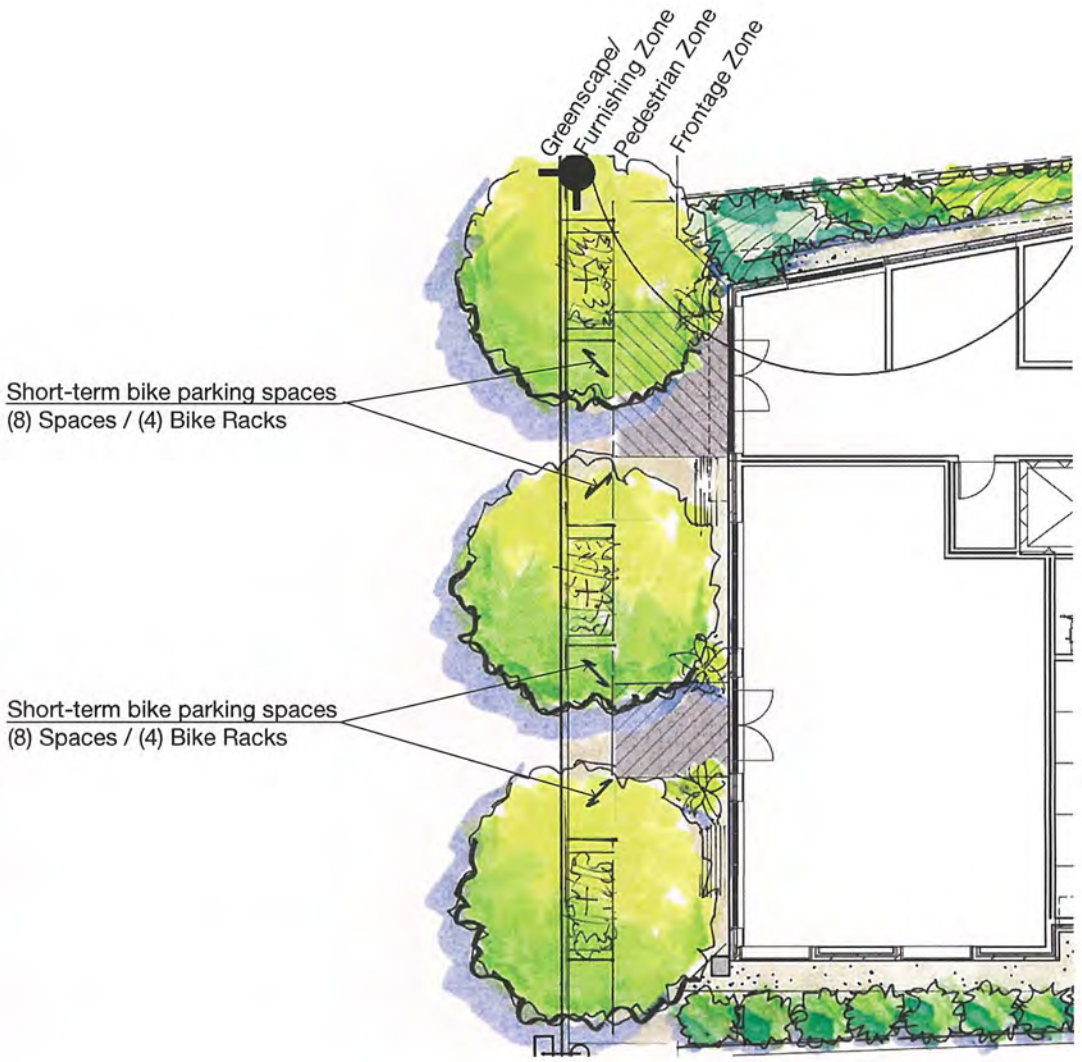
COMPLETE STREETS

FURNISHING ZONE TO INCLUDE BIKE PARKING:
Short-term bike parking for 8 bikes using 4 bike racks provided on the sidewalk close to the building entrances following the City of Boston's Bicycle Parking Guidelines

PROPOSED RACK



CONCEPT
Good bike parking design using permanently fixed racks, orderly appearance, secure and simple to use.



COMPLETE STREET BIKE PARKING

EMBARC STUDIO
ARCHITECTURE + DESIGN

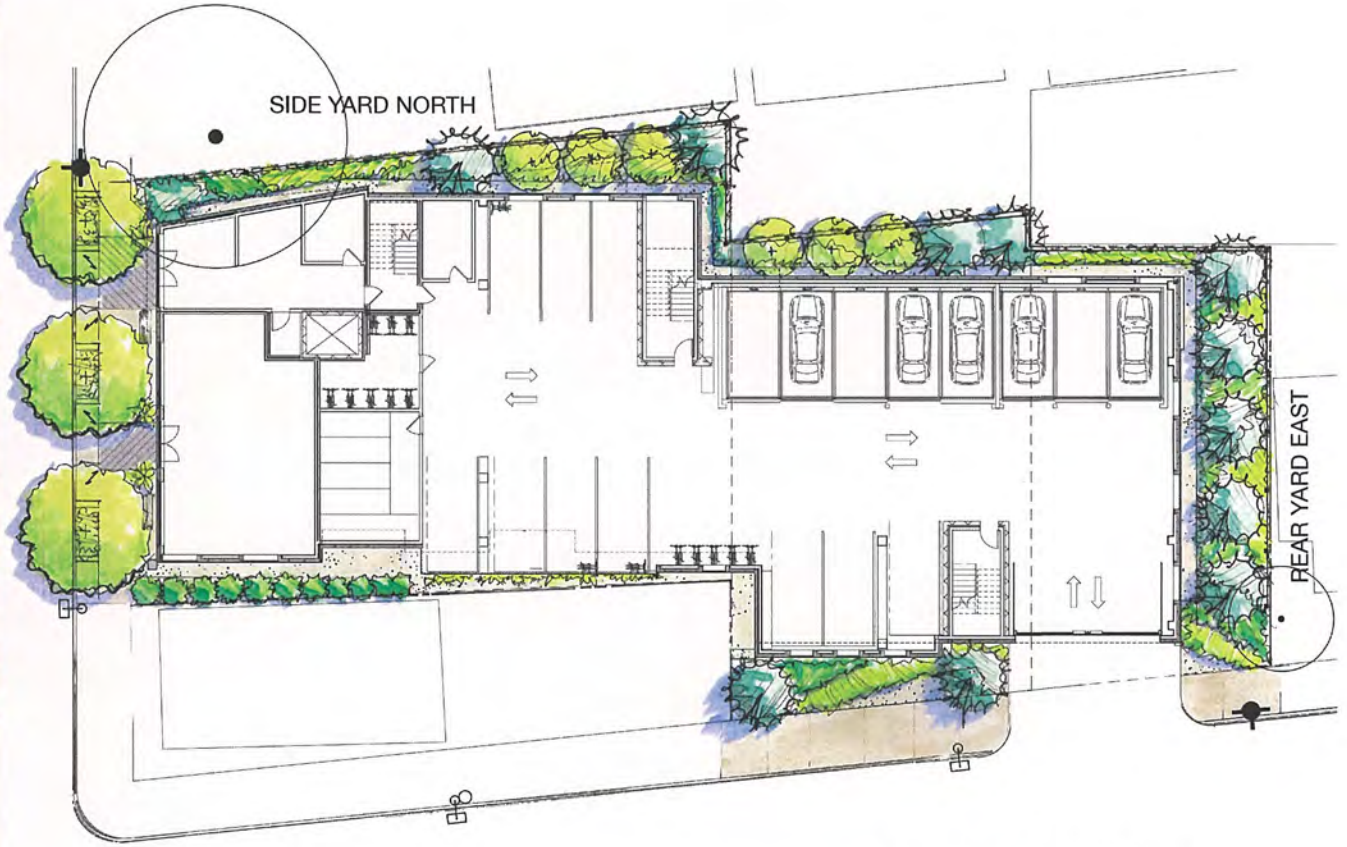
Blair Hines Design Associates
LANDSCAPE ARCHITECTS

SITE MATERIALS
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

L3

Columnar Trees Along Property Lines

CONCEPT
Narrow Trees for Narrow Site providing a soft screen for neighboring properties



EMBARC STUDIO
ARCHITECTURE + DESIGN

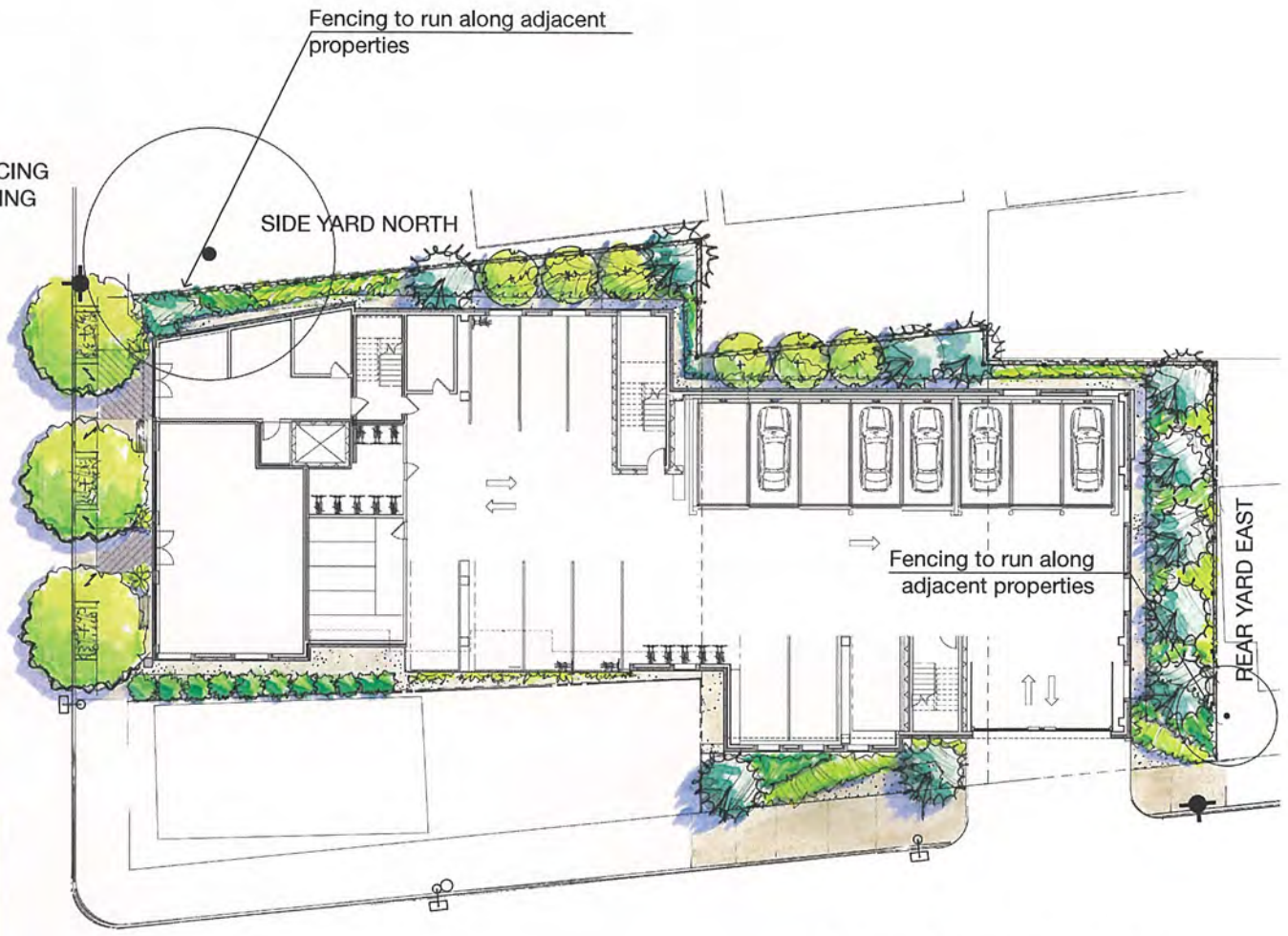
Blair Hines Design Associates
LANDSCAPE ARCHITECTS

SIDE AND REAR YARDS
SCHEMATIC DESIGN
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

L4

SIDE YARD NORTH FENCING
REAR YARD EAST FENCING

CONCEPT
Fencing can provide charming vertical element in the landscape as well as privacy for abutters



EMBARC STUDIO
ARCHITECTURE + DESIGN

Blair Hines Design Associates
LANDSCAPE ARCHITECTS

MIXED MEDIA FENCING
SCHEMATIC DESIGN
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

L5

SHRUBS FOR URBAN CONDITIONS

EMBARC STUDIO
ARCHITECTURE + DESIGN

Blair Hines Design Associates
LANDSCAPE ARCHITECTS

SITE MATERIALS
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

L6






EVERGREEN SHRUBS FOR URBAN CONDITIONS

EMBARC STUDIO
ARCHITECTURE + DESIGN

Blair Hines Design Associates
LANDSCAPE ARCHITECTS

SITE MATERIALS
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

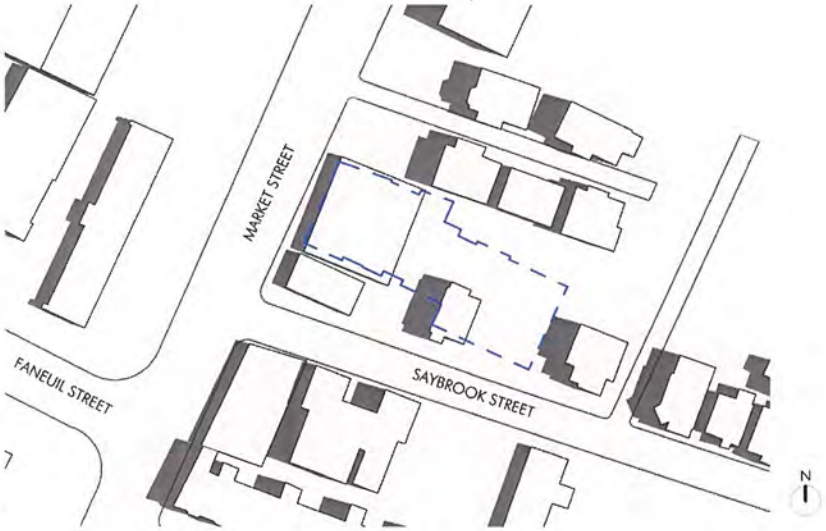
L7

EMBARC STUDIO
ARCHITECTURE + DESIGN

Blair Hines Design Associates
LANDSCAPE ARCHITECTS

ROOF DECK PLACEHOLDER IMAGES
SITE MATERIALS
214 MARKET STREET
BRIGHTON, MASSACHUSETTS

L8



9 A.M.

12 P.M.

6 P.M.

SUMMER SOLSTICE

1" = 80'-0"

EMBARC STUDIO
ARCHITECTURE+DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS1

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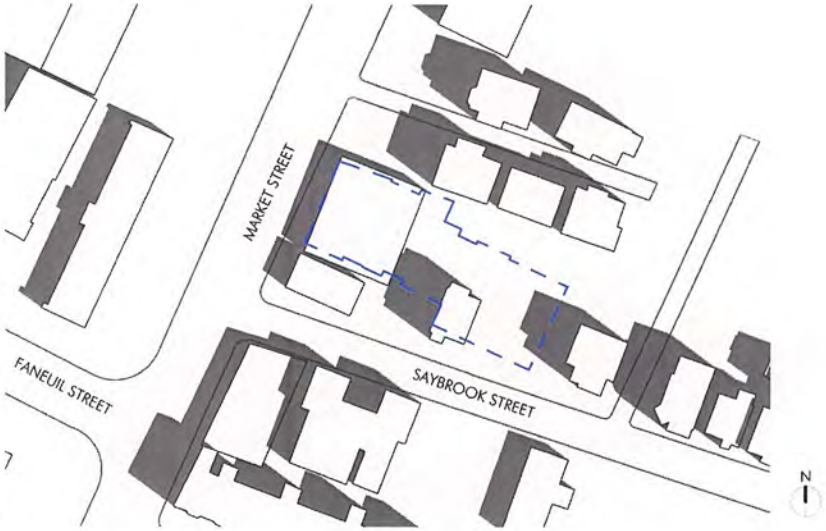

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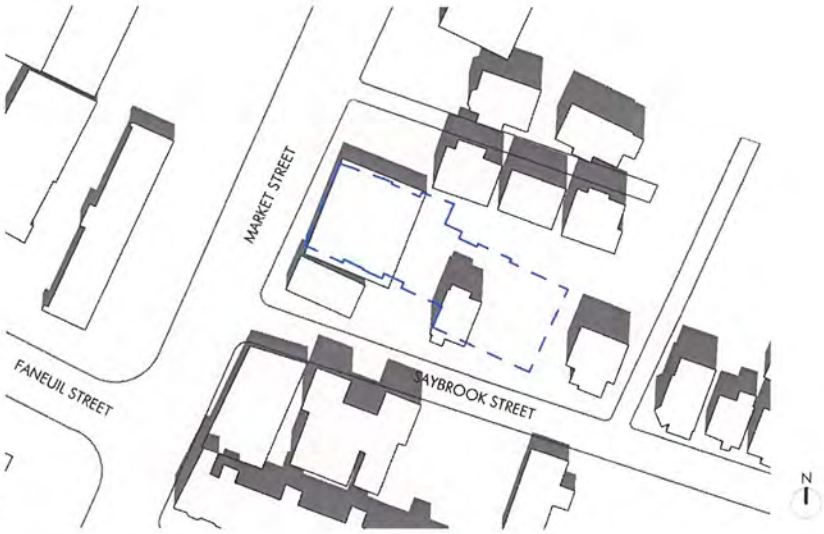

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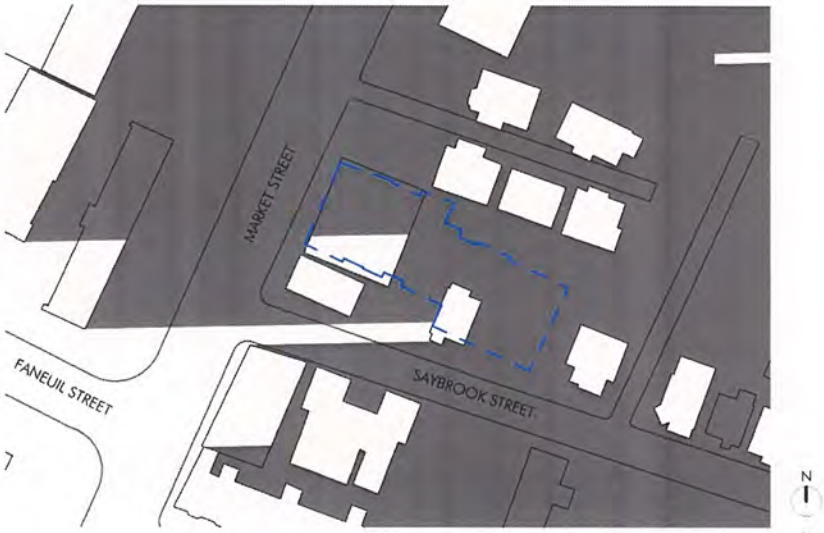

6 P.M.

1" = 80'-0"

SPRING/AUTUMN EQUINOX

EMBARC STUDIO
ARCHITECTURE+DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS2

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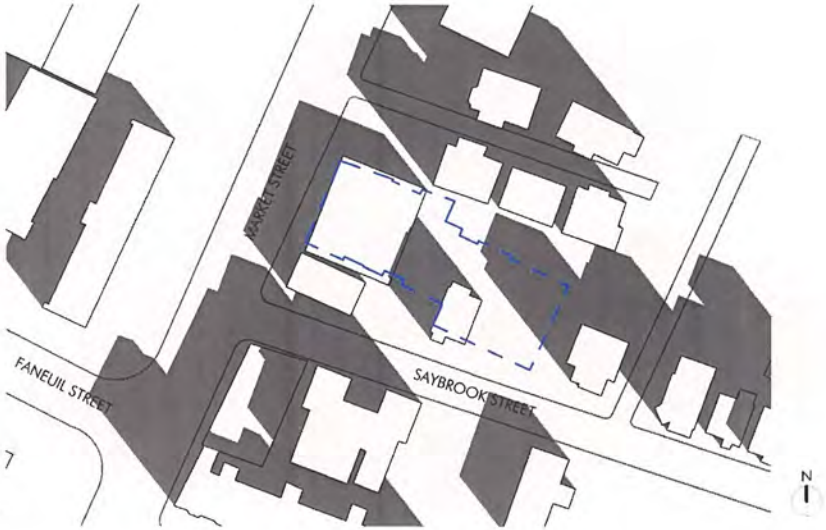

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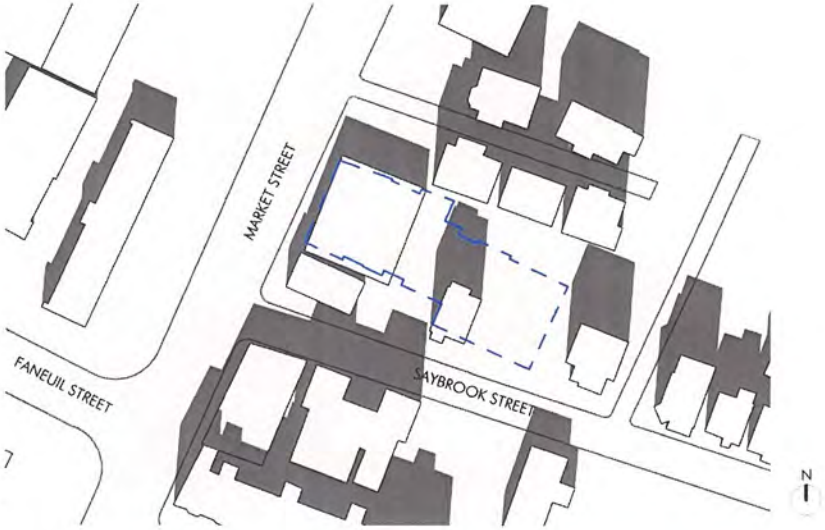

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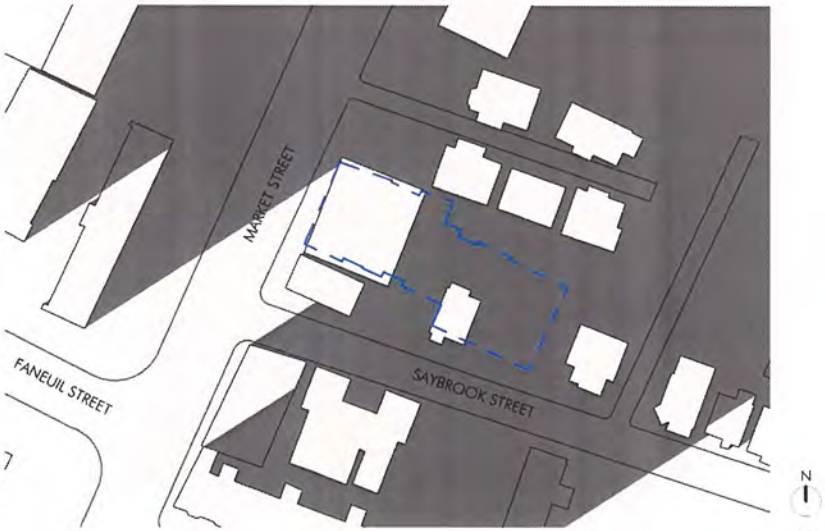

6 P.M.

1" = 80'-0"

WINTER SOLSTICE

EMBARC STUDIO
ARCHITECTURE+DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS3

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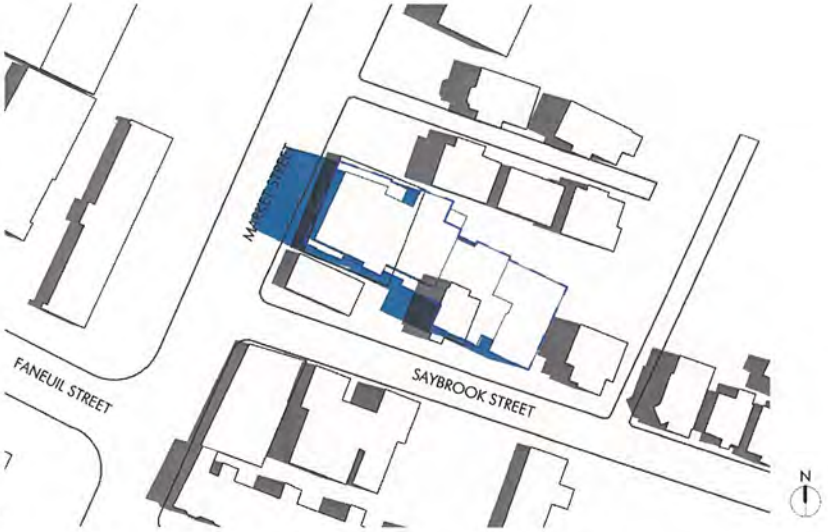

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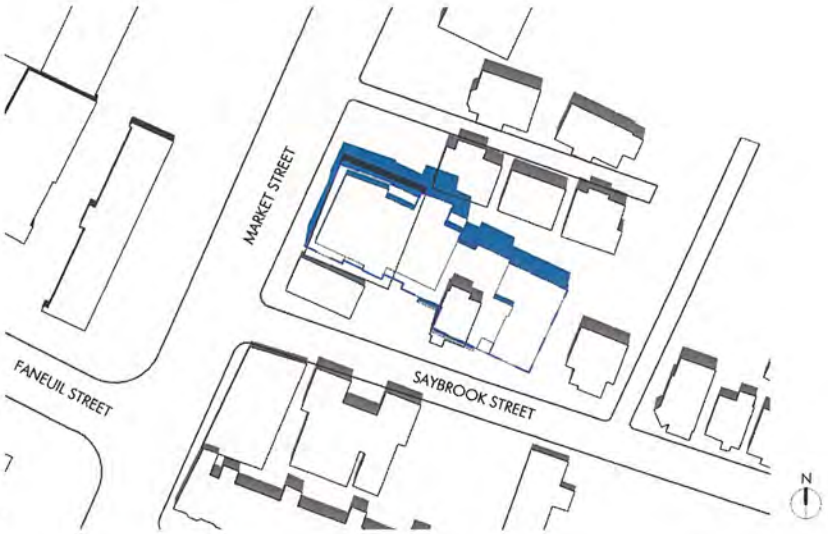

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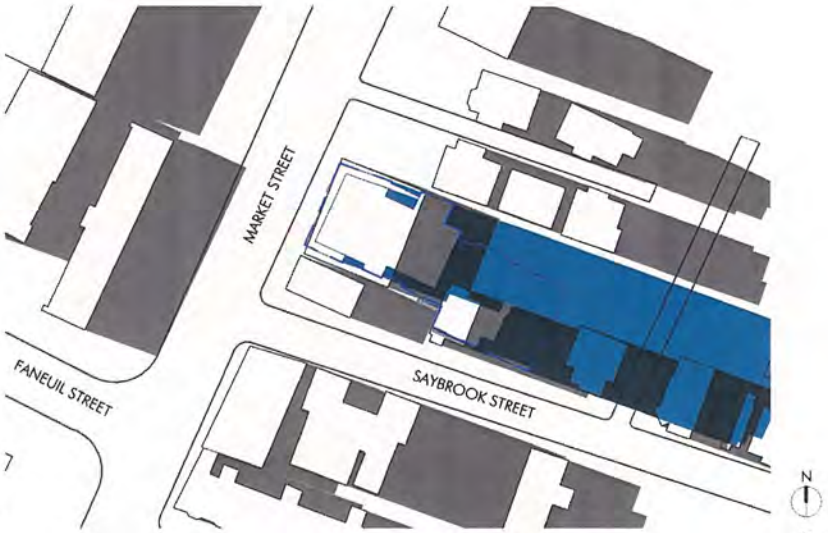

6 P.M.

SUMMER SOLSTICE

1" = 80'-0"

EMBARC STUDIO
ARCHITECTURE + DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS4

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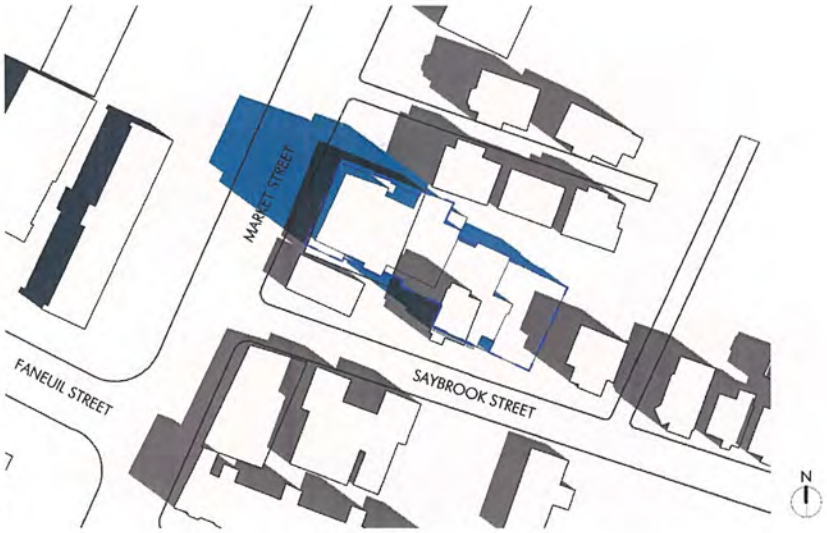

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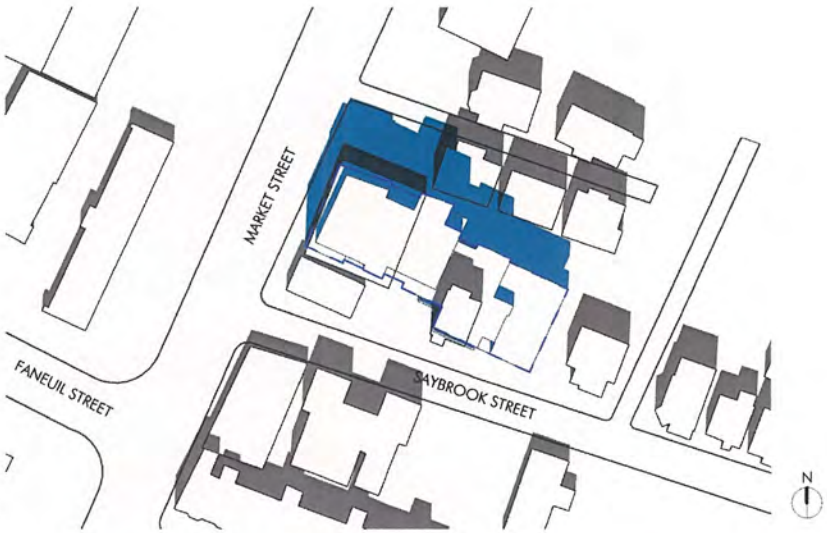

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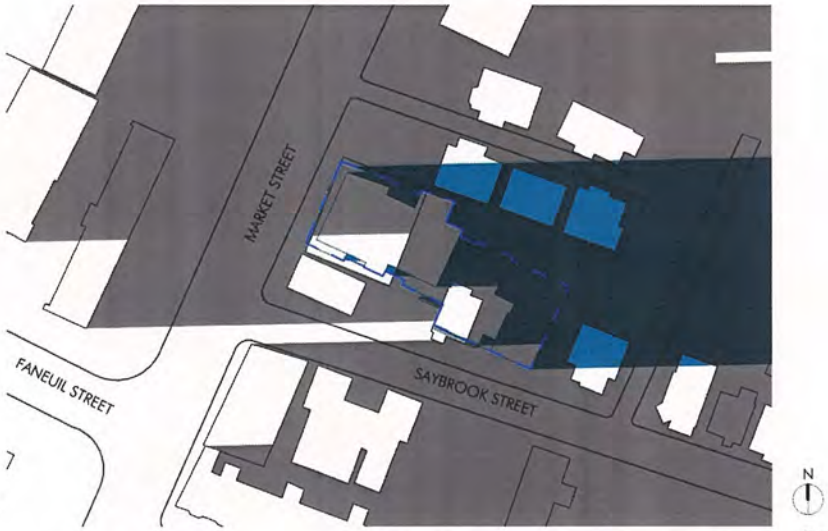

6 P.M.

SPRING/AUTUMN EQUINOX

1" = 80'-0"

EMBARC STUDIO
ARCHITECTURE+DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS5

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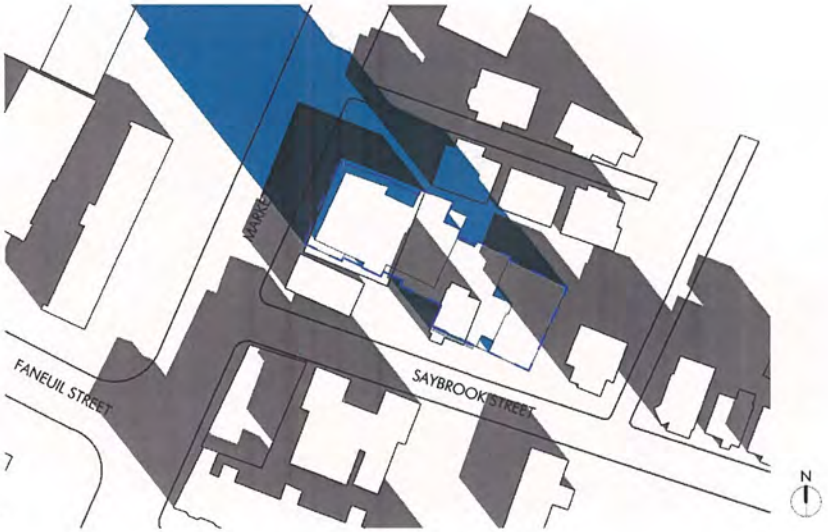

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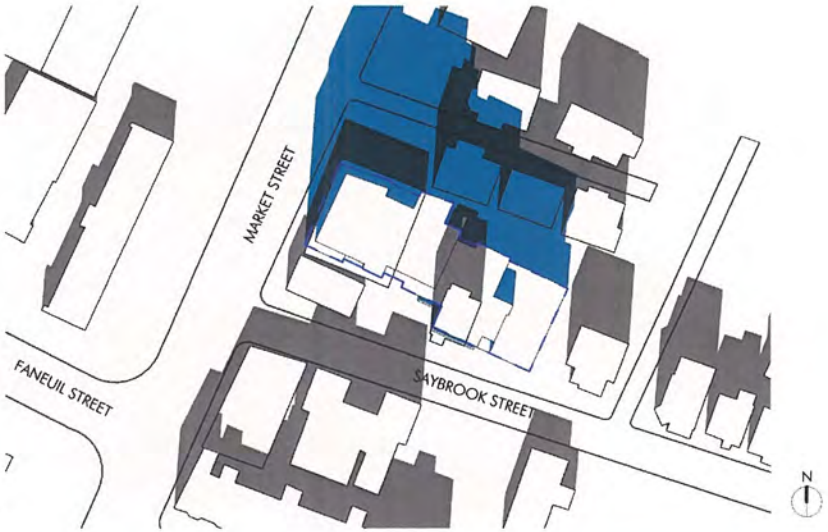

12 P.M.

6 P.M.

WINTER SOLSTICE

1" = 80'-0"

EMBARC STUDIO
ARCHITECTURE + DESIGN

SHADOW STUDIES
214 MARKET STREET
BRIGHTON, MA 02135

SS6

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DESIGN CONSULTANTS, INC.
Civil Engineering
Transportation
Water/Wastewater
Geotechnical
Land Surveying
Planning

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October 26, 2016

Josh Fetterman
CRM Property Management Corporation
320 Washington St, Suite 3FF
Brookline, MA 02445

RE: Geotechnical Investigations Letter Report
214 Market Street
Brighton, MA
DCI Project No. 2016-104

Dear Mr. Fetterman:

Design Consultants Inc. (DCI) is pleased to provide CRM Property Management Corporation (CRM) with this summary letter report for the geotechnical investigations associated with the proposed development at 214 Market Street in the Brighton section of Boston, Massachusetts.

Project Background

CRM is in the process of redeveloping the subject property into mixed us commercial-residential units. To this end, CRM has retained DCI's services to conduct geotechnical activities and to complete civil engineering design services.

The Site is located on **Figure 1** and the existing conditions are shown on **Figure 2**. The Site is a combination of three contiguous lots totaling 14, 170 square feet (0.33 acres) and is generally flat at about EL. 16.5 (NAVD 88). The Site parcels include:

- Lot 1B - One story commercial building at 214 Market Street with landscaping to the north and paved area to the east (7,312 square feet);
- Lot 1 – Two story residential building at 4 Saybrook Street with a yard and landscaping to the northeast (4,000 square feet); and
- Lot 17 – Open space and a gravel driveway to the east of 4 Saybrook Street (2,858 square feet).

It is our understanding that CRM is proposing the construction of a five-story, mixed use development at the Site. The proposed development is shown on the architectural drawings prepared by Embarc Architecture Design, dated July 13, 2016. The ground level includes a lobby, commercial space, parking for 32 spaces and appurtenances. The upper levels will house 32 residential units and a roof deck. A new driveway will be constructed off the Saybrook Street entrance to Lot 17.

In support of the impending development, CRM requested that the geotechnical investigations described herein be undertaken to better understand subsurface conditions. To this end, DCI reviewed available subsurface information and contracted with Soil Exploration Corporation (SEC) of Leominster, Massachusetts to drill four (4) borings at the Site (B-1 thru B-4) where shown on **Figure 2**. The drilling activities were conducted with full-time oversight by a professional geotechnical engineer from DCI. DCI was responsible for locating the explorations and SEC was responsible for coordinating the clearing of utilities by DigSafe.

Existing Subsurface Information

As part of our investigation, DCI reviewed the following available information:

1. Soil Survey Mapping from the U.S. Soil Conservation Service; and
2. *Limited Subsurface Investigation Report* for 214 Market Street, by FSL Associates (FSL), dated September 17, 2015.

U.S. Soil Conservation Service Soil Survey

The U.S. Department of Agriculture Soil Conservation Service Soil Survey of Suffolk County (2009 Update) indicates that conditions in the vicinity of the Site are Urban Land. Urban land consists of areas where 85 percent or more of the land is covered with impervious surfaces such as buildings and pavement.

FSL Limited Subsurface Investigation

FSL conducted a subsurface investigation at 214 Market Street for the purpose of evaluating the Site for contamination by a release of oil or hazardous material from on-Site or off-Site source(s), which, if present, could present an environmental liability under 310 CMR 40.0000. The subsurface investigation included the advancement of two (2) soil borings to a depth of 16 feet below ground surface (bgs); field screening of soil samples for total organic vapors; the installation of two (2) 1-inch micro monitoring wells to a depth of 15 feet bgs; and laboratory analysis of groundwater samples for chlorinated volatile organic compounds (CVOCs), volatile petroleum hydrocarbons (VPH), and extractable petroleum hydrocarbons/polycyclic aromatic hydrocarbons (EPH/PAH).

On August 26, 2015, FSL personnel conducted a subsurface investigation of the subject Site. FSL personnel supervised drilling operations performed by Lakeshore Environmental (Lakeshore) of Lynn, MA, utilizing a truck mounted geoprobe providing direct push to conduct the advancement of two (2) test borings, FSL-S1 and FSL-S2. Both test borings were advanced to a depth of 16 feet below grade surface (bgs). Monitoring wells FSL-MW1 and FSL-MW2 were installed at both respective borings using one-inch PVC piping and approximately ten (10) feet of slotted screening. Refer to **Figure 2** for the location of FSL-S1/FSL-MW1 and FSL-S2/FSL-MW2. Boring logs are provided in **Attachment One** and are summarized in **Table 1**.

FSL-S1 was advanced on the southern portion of the Property to a depth of approximately 16 feet bgs. The soil profile from 0-4 feet bgs consisted of dark brown/light brown sandy gravel mix, red clay brick remnants, and dark brown/gray sand and gravel. No olfactory scent was detected. The soil profile from 4-8 feet bgs consisted of dark brown/gray sand and gravel and light brown/gray sand and gravel with red clay brick remnants. The soil profile from 8-12 feet bgs consisted of light brown/green sand and gravel, gray/green sand and gravel, and light brown silt and gravel. The soil profile from 12-16 feet bgs consisted of light brown and red gravel and sand, and dark brown/gray sand. Groundwater was reached at 12 feet bgs.

FSL-S2 was advanced on the northern portion of the Property to a depth of approximately 16 feet bgs. The soil profile from 0-4 feet bgs consisted of brown urban fill, a layer of coal ash, and dark brown loam. The soil profile from 4-6 feet bgs consisted of dark brown loam, with a dark brown/gray sand. The soil profile from 6-12 feet bgs consisted of light brown/gray sand and gravel, light brown/red gravel and sand, and red/brown gravel and sand. The soil profile from 12-16 feet bgs consisted of brown/yellow sand and gray/green fine gravel and sand. Groundwater was reached at 12 feet bgs. Field screening for total organic vapors (TOV) was conducted at four (4) feet intervals using a MiniRae 2000 Photoionization Detector (PID), calibrated to a span gas cylinder containing 100 parts per million (ppm) Isobutylene. Field screening was carried out in accordance with the Massachusetts jar headspace analytical procedure. The ambient readings for all screenings ranged from 0.7 to 0.8 ppm.

On August 31, 2015, FSL collected groundwater samples from wells FSL-MW1 and FSL-MW2 and submitted the samples for CVOCs, VPH and EPH testing. All analytes were detected below applicable Massachusetts requirements. Refer to the FSL report for a summary of the field screening, analytic testing, conclusions and soil management recommendations.

Table 1
Summary of Boring Data

Boring	Approx. Ground Elevation (C.O.B. Datum)	Est. Bottom of Fill in Feet (and Elev.)	Est. Bottom of Sand in Feet (and Elev.)	Boring Depth (and Elev.)
FSL August 2015 Investigations				
FSL-MW1	27.0	8.0 (El. 19.0)	> 16.0 (El 11.0)	16.0 (El. 11.0)
FSL-MW2	27.0	6.0 (El. 21.0)	> 16.0 (El. 11.0)	16.0 (El. 11.0)
DCI September 2016 Investigations				
B-1	27.0	5.5 (El. 21.5)	14.5 (El. 12.5)	27.0 (El. 0.0)
B-2	27.0	5.0 (El. 22.0)	18.0 (El 9.0)	19.0 (El. 8.0)

Boring	Approx. Ground Elevation (C.O.B. Datum)	Est. Bottom of Fill in Feet (and Elev.)	Est. Bottom of Sand in Feet (and Elev.)	Boring Depth (and Elev.)
B-3	27.0	8.5 (El. 18.5)	16.0 (El. 11.0)	27.0 (El. 0.0)
B-4	27.0	5.0 (El. 22)	19.0 (El. 8.0)	27.0 (El. 0.0)

DCI Subsurface Investigations

On behalf of DCI, SEC drilled four geotechnical boreholes (B-1 through B-4) at the Site on September 28, 2016. The borings were drilled for estimating soil density through Standard Penetration Tests (SPTs). The borings were advanced using hollow stem augers and placing a head of water in the casing below the water table. Soil samples were obtained using a 2-inch split spoon sampler and samples were collected at 5-foot intervals. Boring logs prepared by DCI's geotechnical engineer are provided in Attachment One.

The borings are also located on Figure 1 and are summarized in Table 1.

Groundwater Monitoring

Groundwater observations were made at the time of drilling and on September 28, 2016, DCI and SEC gauged the groundwater depths from the newly drilled borehole casing. The results are provided in **Table 2**.

Table 2
Summary of September 28, 2016 Groundwater Observations

Well and Boring No.	Ground Elevation (C.O.B. Datum)	Estimated Groundwater Depth (Feet)	Estimated Groundwater Elevation (C.O.B. Datum)
FSL August 2015 Observations			
FSL-MW1	27.0	12.0	15.0
FSL-MW2	27.0	12.0	15.0
DCI September 2016 Observations			
B-1	27.0	16.5	10.5

Well and Boring No.	Ground Elevation (C.O.B. Datum)	Estimated Groundwater Depth (Feet)	Estimated Groundwater Elevation (C.O.B. Datum)
B-2	27.0	16.5	10.5
B-3	27.0	18.0	9.0
B-4	27.0	17.0	10.0

In August 2015, the equalized groundwater across the Site was consistently at a depth of 12 feet (EL. 15). In September 2016, the observed groundwater across the Site was about 5 feet lower and ranged from 16.5-feet-deep (EL. 10.5 in borings B-1 and B-2) to 18.0-feet-deep (EL. 9.0 in B-3).

Findings

The subsurface investigations for the 214 Market Street Site borings generally encountered the following subsurface conditions from the ground surface to depth:

- Asphalt – Three of the four borings (B-1, B-2 and B-3) encountered an approximate 0.2-foot layer of asphalt.

- Urban Fill - All borings encountered a layer of fill consisting of sand, with trace to little silt, trace to little gravel, and traces of wood, brick and glass. The fill is generally 5-feet deep and extends to a depth of about 8.5 feet at B-3. A dark brown "loam" material was encountered in FSL-MW2 and may be the former topsoil layer. SPT values indicates that the fill is loose (B-3, S-1) to medium dense. The fill and "loam" material is considered unsuitable for foundation bearing.

- Sand – All the borings encountered a fine to coarse sand with trace to little silt and gravel. The natural sand is medium dense to dense.

- Glacial Till - Below the natural sand, all borings encountered a layer of sand and gravel with little to some silt, cobbles and boulders. SPT results indicate the material is medium to very dense.

As noted above, the equalized groundwater across the Site in August 2015 was consistently at a depth of 12 feet (EL. 15). A year later, the observed groundwater across the Site ranges from 16.5-feet-deep (EL. 10.5 in borings B-1 and B-2) to 18.0-feet-deep (EL. 9.0 in B-3). Groundwater appears to be flowing in a southeasterly direction, as the fill increases with depth. Groundwater observations are expected to fluctuate, particularly when comparing equalized levels to post-

drilling levels. The higher levels should be factored into the foundation design. We recommend a design high groundwater level of El. 17.0.

Conclusions and Recommendations

The geotechnical investigations presented herein provide a general idea of the existing conditions and foundation needs for the Site development. The attached information can be used to develop the final geotechnical design requirements.

A review of the borings indicates that continuous and/or spread footings will be adequate for the Site, as long as near surface, loose to medium dense unsuitable materials containing wood, brick and glass have been over-excavated and replaced with compacted structural fill. It is anticipated that the footings will bear on compacted structural fill or the natural medium dense to dense underlying sand.

Foundations and retaining walls must be designed and constructed in accordance with the Massachusetts State Building Code (780 CMR 18). We recommend the following:

- All excavation activities and soil management planning should be coordinated with any environmental findings and conclusions. The combined geotechnical and environmental findings, conclusions and recommendations will dictate the final bottom of footing elevations.

- Footings dimensions shall be designed in accordance with the Massachusetts State Building Code (780 CMR 18). The minimum footing vertical depth shall be 1 foot and the minimum horizontal width of continuous footings shall be 2 feet. The bottom of footings shall be placed a minimum of 4-feet below the final grade for frost protection.

- Work shall be conducted in-the-dry and existing subgrades should be proof rolled.

- The existence of a 5- to 8.5-foot deep layer of fill (typically 5 feet) requires that footings be placed to a depth of at-least 5-feet-deep or over-excavation of unsuitable fill materials from below proposed footings at a depth of 4-feet-deep.

- All unsuitable soil (fill or remnants of former topsoil) shall be removed and replaced with clean structural fill that is compacted to 95% of the maximum dry density as determined by modified proctor (ASTM D1557-C). Clean structural fill shall also be placed against foundations and walls.

- Structural fill shall meet the following grain size requirements:

Sieve Size	Percent Finer by Weight
8-inch	100 (1)
3-inch	70-100
1-inch	45-90
No. 4	20-70
No. 10	15-60
No. 40	10-40
No. 200	0-10
Notes: *(1) Three-inch maximum particle size within 12 inches of slab, footing or pavement grade.*	

- For design purposes, the structural fill shall be assumed to have a dry unit weight of 120 pounds per cubic foot (pcf); a friction angle of 320; a coefficient of passive earth pressure (k_P) of 3.25; and a coefficient of active earth pressure (k_A) of 0.30.

- In general, the foundations are anticipated to be founded on 1-4.5 feet of compacted structural fill or the underlying medium dense to dense sand. In accordance with Massachusetts Building Code (780 CMR 18), Table 1804.3, we recommend an allowable net bearing pressure of 2 tons per square foot (TSF).

- Groundwater across the Site appears to have range from a depth of 12-feet-deep (August 2015, about El. 15.0) to 18.0-feet-deep (September 2016, about El. 9.0). From recent observations, groundwater appears to be flowing in a southeasterly direction, as the fill increases with depth. In light of the fluctuation, we recommend a design high groundwater level of El. 17.0.

- In order to promote positive drainage away from foundations, that bear on low permeable soils, we recommend that structural details incorporate best management groundwater practices in accordance with the Massachusetts Building Code (780 CMR 1806.5 and 1807.4.2). Section 1807.4.2 allows for the use of a properly filtered gravel or crushed stone as a foundation drain. The drain shall extend a minimum of 12-inches outside the edge of the footing and shall not extend to 6-inches from the top of the footing. If a drain tile or perforated pipe is used the pipe invert shall not be higher than the floor elevation.

- Given the nature of the Site, there is low potential for liquefaction. In accordance with 780 CMR 9.4.1.2.1 the Site is a Class C, and under 780 CMR 16 Table 1604.11, the seismic loads for Boston are S_S=0.29 and S_1=0.068.

- All excavations shall be carefully designed and managed so as not to undermine adjacent structures or violate local, state and federal safety requirements, such as Jackies Law and OSHA standards. The minimum ratio to prevent undermining of adjacent footings and structures is 1 horizontal to 1 vertical (1H:1V).

- A professional structural engineer shall be engaged to design all structures in accordance with the Massachusetts State Building Code. The structural engineer shall determine the appropriate factors of safety and the varying surcharge loads against each structure. We also recommend that a licensed geotechnical engineer be engaged during the design and construction process to ensure that our recommendations have been met.

Construction Monitoring. It is recommended that DCI be retained to provide the recommended monitoring services. This will enable DCI to observe compliance with the geotechnical design concepts and recommendations, and to facilitate design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction. Since variations in these conditions are possible, a Geotechnical Engineer should be present during construction to:

1. Observe the removal of any existing unsuitable materials from within the building limits.

2. Observe preparation of the foundation and slab bearing surfaces prior to forming and concreting.

3. Confirm the type and suitability of the natural soil deposits encountered in the foundation excavation.

4. Observe and test placement and compaction of structural fill, common fill, and crushed stone.

5. Review Contractor submittals for filling to conduct laboratory testing on samples of compacted granular fill and crushed stone materials.

Full-time monitoring for the placement and compaction of fill for support of structures, is required by the Massachusetts Building Code. As a guide, a Recommended Program for Special Inspections for Soils is attached.

We recommend that DCI be retained to provide the recommended construction monitoring services. This will permit DCI to observe compliance with the project design criteria, and to facilitate design changes in the event that subsurface conditions are different than those encountered in the explorations.

Specification and Plan Review. It is recommended that DCI be given an opportunity to review the final plans and specifications for the building, including earthwork, and related items, in order to confirm that the recommendations made in this report were interpreted and implemented as intended.

Closing

The analyses and recommendations submitted in this letter report are based in part upon the data obtained from the subsurface explorations. The nature and extent of variations across the Site may not become evident until further explorations are conducted or until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this letter.

The estimated groundwater levels in the borings are based on observations made during the borehole advancement and under the conditions stated on the logs. It is noted that fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, and other factors occurring since the time the borings were advanced.

In the event that any changes in the nature, design or location of the proposed 214 Market Street development are planned, the conclusions and recommendations contained in this letter report shall not be considered valid unless the changes are reviewed and conclusions of this report is modified or verified in writing by DCI.

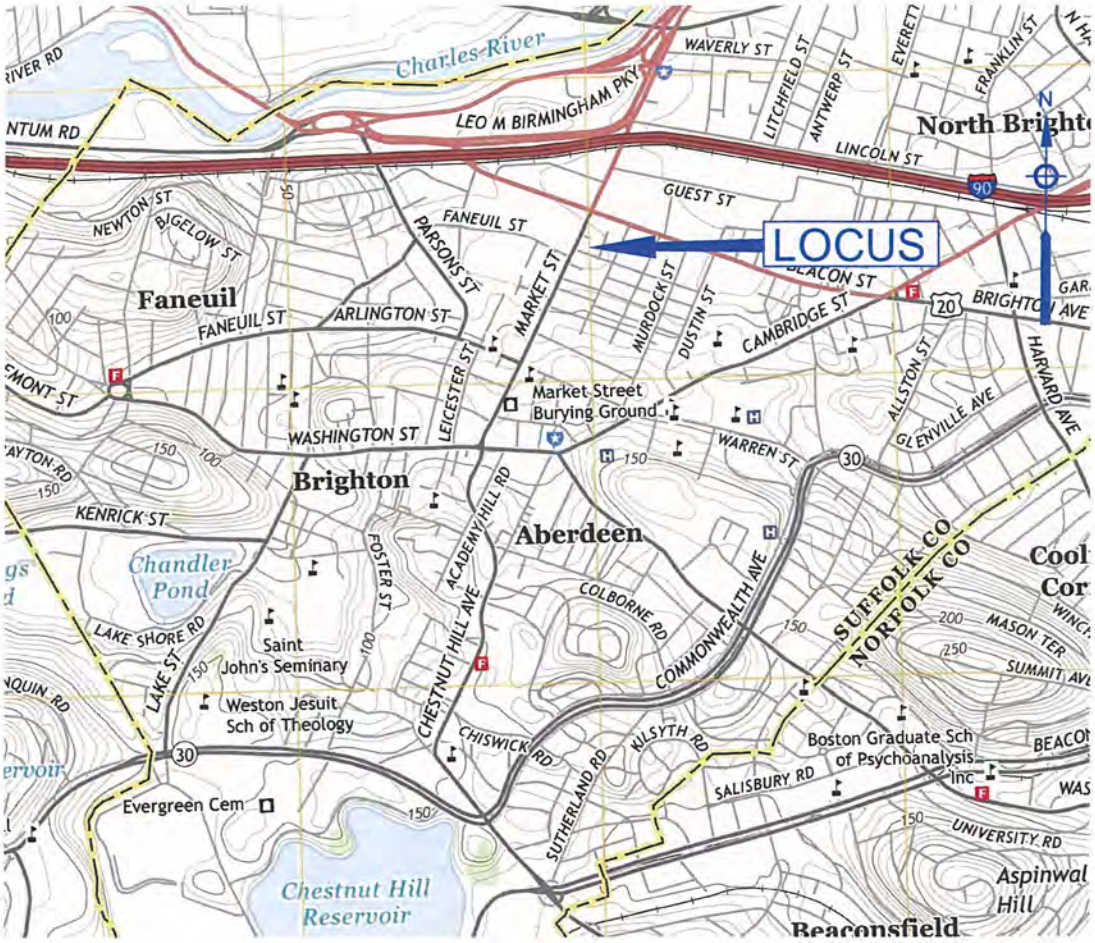
This preliminary geotechnical investigation report has been prepared for CRM and the 214 Market Street project. Our report is sufficient for final design and should be supplemented with detailed earthwork specifications for construction purposes. The specifications should be prepared by a licensed geotechnical engineer. This letter report is subject to the attached Limitations.

Should you have any questions or require additional information, please do not hesitate to call us. We can be reached at 617-689-1010.

Sincerely
Design Consultants Inc.

Michael F. Clark, P.E.
Principal-In-Charge

Attachments



SCALE: 1" = 2,000'

LATITUDE: 42.355° N
LONGITUDE: 71.149° W

REF: USGS TOPO QUAD
NEWTON, MA
2015

FIGURE 1

SITE LOCATION MAP

214 MARKET STREET
BRIGHTON, MA

Design Consultants, Inc.
CIVIL ENGINEERS and LAND SURVEYORS
SOMERVILLE - NEWBURYPORT - QUINCY

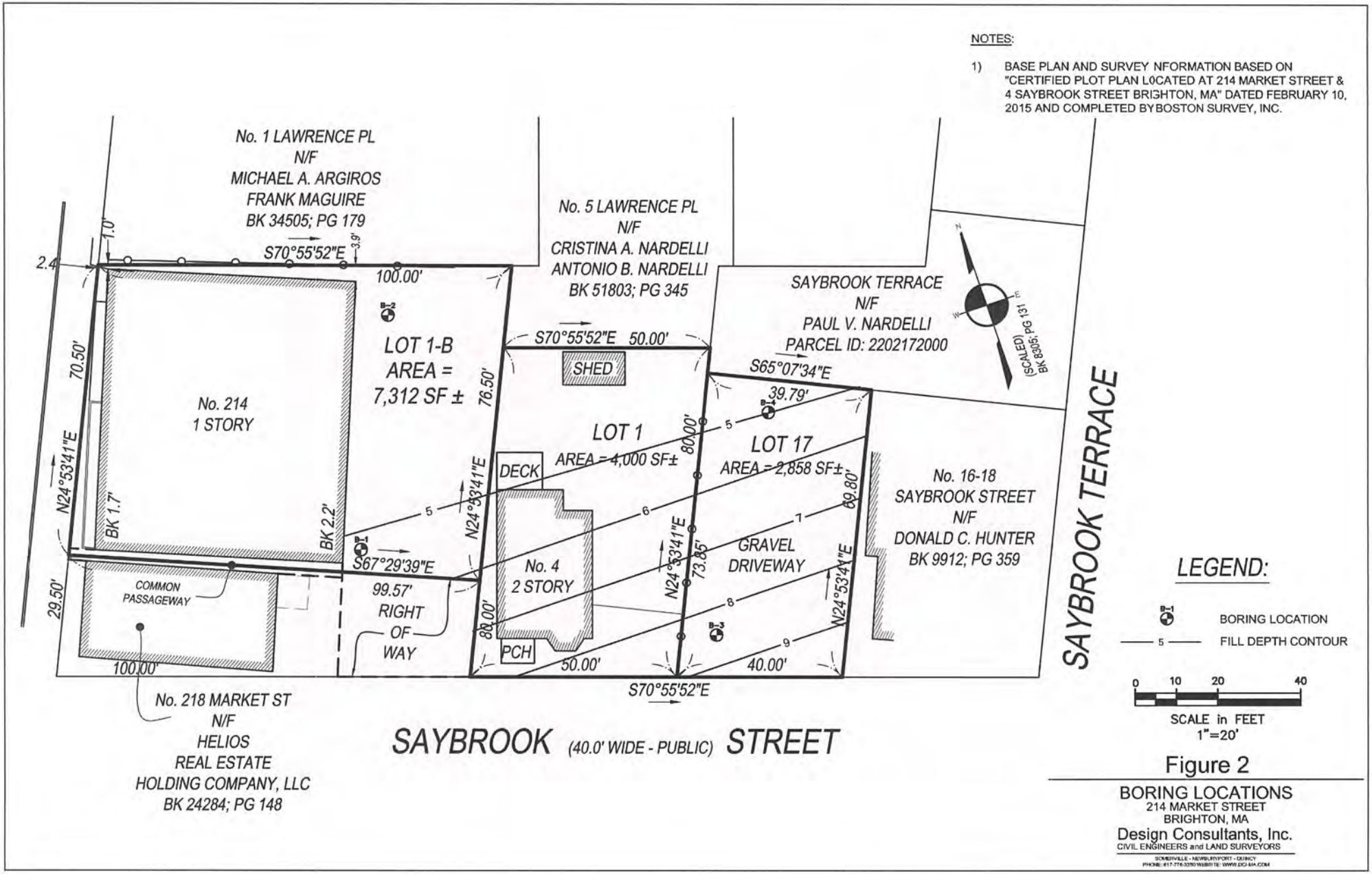


Figure 2

BORING LOCATIONS
214 MARKET STREET
BRIGHTON, MA

Design Consultants, Inc.
CIVIL ENGINEERS and LAND SURVEYORS
SOMERVILLE - NEWBURYPORT - QUINCY
PHONE: 617-776-3350 WEBSITE: WWW.DCI-MA.COM

BORING LOG

Project:	214 MARKET STREET
Location:	BRIGHTON, MA
Client:	CRM DEVELOPMENT CORP.
Driller:	SOIL EXPLORATIONS
Drilling Methods:	HOLLOW STEM AUGER
Weather:	60's, CLOUDY
Performed By:	PJS Date: 9/28/16
Checked By:	PGC Date: 10/5/16

DESIGN CONSULTANTS, INC.

Boring No:	B-1
Location:	See Plan
Approx. Ground Elevation:	27'
Approx. Groundwater Elevation:	16.5'
Date/Time of Groundwater Elevation:	8:45 AM
Datum:	NAVD 88
Project No.	2016-104

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	10 14 8 6	24"/13"	S-1, Top 2" ASPHALT, Bottom 11", SAND, Trace Gravel, Trace Silt, Trace Wood, Dark Brown Dry, Medium Dense	.2'	ASPHALT	(1)
2							
3						FILL	
4							
5	S-2	5 6 10 10	24"/24"	S-2, Top 7" Similar to S-1 Bottom 17", SAND F-M, Trace Silt, Tan, Dry, Medium Dense	5.5'		
6							
7						SAND	
8							
9							
10	S-3	12 9 10 15	24"/15"	S-3, SAND M-C, Little Gravel, Trace Silt, Red-Orange, Wet, Medium Dense	10'		(2)
11							
12						MEDIUM-COARSE SAND WITH GRAVEL	
13							
14					14.5'		
15	S-4	17 10 21 14	24"/14"	S-4, SAND And Silt, Little Gravel, Olive, Wet, Dense			
16							
17						TILL	
18							
19							
20							

NOTES:

(1) 2" thickness of asphalt

(2) Water observed at 10.5' below grade

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**214 MARKET STREET**
Location:	**BRIGHTON, MA**
Client:	**CRM DEVELOPMENT CORP.**
Driller:	**SOIL EXPLORATIONS**
Drilling Methods:	**HOLLOW STEM AUGER**
Weather:	**60's, CLOUDY**
Performed By:	**PJS** Date: **9/28/16**
Checked By:	**PGC** Date: **10/5/16**

DESIGN CONSULTANTS, INC.

Boring No:	**B-1**
Location:	**See Plan**
Approx. Ground Elevation:	**27'**
Approx. Groundwater Elevation:	**16.5'**
Date/Time of Groundwater Elevation:	**8:45 AM**
Datum:	**NAVD 88**
Project No.	**2016-104**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*Stratum*	*Note No.*
21	S-5	26 22 26 24	24"/19"	S-5, SAND, Some Gravel, Little Silt, Grey, Wet, Dense		TILL	
22							
23							
24							
25	S-6	18 23 28 33	24"/16"	S-6, SAND, Some Silt, Trace Gravel, Grey, Wet, Very Dense			
26							
27				BOTTOM OF BORING @ 27'			
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	214 MARKET STREET
Location:	BRIGHTON, MA
Client:	CRM DEVELOPMENT CORP.
Driller:	SOIL EXPLORATIONS
Drilling Methods:	HOLLOW STEM AUGER
Weather:	60's, CLOUDY
Performed By:	PJS Date: 9/28/16
Checked By:	PGC Date: 10/5/16

DESIGN CONSULTANTS, INC.

Boring No:	B-2
Location:	See Plan
Approx. Ground Elevation:	27'
Approx. Groundwater Elevation:	16.5'
Date/Time of Groundwater Elevation:	7:30 AM
Datum:	NAVD 88
Project No.	2016-104

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
					.2'	ASPHALT	(1)
1	S-1	6 6 6 4	24"/14"	S-1, SAND, Little Gravel, Trace Silt, Trace Glass, Dry, Dark Brown, Medium Dense			
2							
3						FILL	
4							
5					5'		
6	S-2	3 6 10 11	24"/21"	S-2, Top 4" Similar to S-1, Bottom 17" Fine SAND, Trace Roots at 5"-7", Tan, Red mottling at 21", Dry, Medium Dense		SAND	
7							
8							
9					9'		
10							(2)
11	S-3	8 9 9 8	24"/17"	S-3, Medium to Coarse SAND, Trace Silt, Trace Gravel, Red-Orange, Wet, Medium Dense			
12							
13						MEDIUM-COARSE SAND WITH GRAVEL	
14							
15							
16	S-4	12 15 18 24	24"/21"	S-4, Medium to Coarse SAND. Little Silt, Little Gravel, Grey, Wet, Dense			
17							
18					18'		
19	S-5	50/0"	0"/0"			TILL	(3)
20				BOTTOM OF BORING @ 19'			

NOTES:

(1) 2" thickness of asphalt

(2) Water observed at 10.5' below grade

(3) Auger refusal at 19' below grade, loud grinding

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**214 MARKET STREET**
Location:	**BRIGHTON, MA**
Client:	**CRM DEVELOPMENT CORP.**
Driller:	**SOIL EXPLORATIONS**
Drilling Methods:	**HOLLOW STEM AUGER**
Weather:	**60's CLOUDY**
Performed By:	**PJS** Date: **9/28/16**
Checked By:	**PGC** Date: **10/5/16**

DESIGN CONSULTANTS, INC.

Boring No:	**B-3**
Location:	**See Plan**
Approx. Ground Elevation:	**27'**
Approx. Groundwater Elevation:	**18'**
Date/Time of Groundwater Elevation:	**1:30 PM**
Datum:	**NAVD 88**
Project No.	**2016-104**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*Stratum*	*Note No.*
1	S-1	3 2 2 2	24"/15"	S-1, Top 2" ASPHALT Bottom 13", SAND, Little Silt, Trace Gravel, Trace Brick, Trace Glass, Dark Brown, Moist, Loose	.2'	ASPHALT	(1)
2							
3							
4						FILL	
5	S-2	5 6 9 8	24"/15"	S-2, Similar to S-1, No Brick, No Glass, Medium Dense			
6							
7							
8					8.5'		
9							(2)
10	S-3	15 12 10 9	24"/16"	S-3, Top 2" Similar to S-2, Bottom 14", Medium to Coarse SAND, Trace Gravel, Trace Silt, Light Brown, Wet, Medium Dense		MEDIUM-COARSE SAND WITH GRAVEL	
11							
12							
13							
14							
15	S-4	17 19 27 27	24"/23"	S-4, Top 11" Similar to bottom of S-3 Bottom 12", SAND, Some Silt, Little Gravel, Olive, Wet, Dense	16'		
16							
17							(3)
18						TILL	
19							
20							

NOTES:

(1) 2.5" of asphalt

(2) Water observed at 9' below grade

(3) Intermittent grinding from 17'-25'

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**214 MARKET STREET**
Location:	**BRIGHTON, MA**
Client:	**CRM DEVELOPMENT CORP.**
Driller:	**SOIL EXPLORATIONS**
Drilling Methods:	**HOLLOW STEM AUGER**
Weather:	**60's CLOUDY**
Performed By:	**PJS** Date: **9/28/16**
Checked By:	**PGC** Date: **10/5/16**

DESIGN CONSULTANTS, INC.

Boring No:	**B-3**
Location: **See Plan**	**See Plan**
Approx. Ground Elevation:	**27'**
Approx. Groundwater Elevation:	**18'**
Date/Time of Groundwater Elevation:	**1:30 PM**
Datum:	**NAVD 88**
Project No.	**2016-104**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*Stratum*	*Note No.*
21	S-5	17 29 23 21	24"/23"	S-5, Top 12", Medium-Coarse SAND, Trace Leaves, Probable Cave-in Bottom 11", SAND, Some Silt, Little Gravel, Wet, Very Dense		TILL	
22							
23							
24							
25	S-6	9 9 7 8	24"/12"	S-6, Similar to bottom of S-5, Medium Dense			
26							
27				BOTTOM OF BORING @ 27'			
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	214 MARKET STREET
Location:	BRIGHTON, MA
Client:	CRM DEVELOPMENT CORP.
Driller:	SOIL EXPLORATIONS
Drilling Methods:	HOLLOW STEM AUGER
Weather:	60's CLOUDY
Performed By:	PJS Date: 9/28/16
Checked By:	PGC Date: 10/5/16

DESIGN CONSULTANTS, INC.

Boring No:	B-4
Location:	See Plan
Approx. Ground Elevation:	27'
Approx. Groundwater Elevation:	17'
Date/Time of Groundwater Elevation:	11:00 AM
Datum:	NAVD 88
Project No.	2016-104

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
1	S-1	9 56 100/0"	12"/6"	S-1, SAND, Little Silt, Trace Gravel, Dark Brown, Dry, Dense, 7" Cobble pulled out of boring impeding sampling			
2							
3						FILL	
4							
5					5'		
6	S-2	6 5 9 10	24"/17"	S-2, Top 3" Similar to S-1, Trace Roots Bottom 14", Fine to Medium SAND, Trace Silt, Tan, Dry, Medium Dense Reddish Mottling @ 7'			
7						SAND	
8							
9					9.5'		
10							
11	S-3	12 11 7 8	24"/17"	S-3, Medium to Coarse SAND, Little Gravel, Trace Silt, Red-Orange, Wet, Medium Dense			
12							
13							
14						MEDIUM-COARSE SAND WITH GRAVEL	
15							
16	S-4	10 12 35 47	24"/22"	S-4, Similar to S-3, Greyish-Brown, Dense			
17							
18							
19					19'		
20						TILL	

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**214 MARKET STREET**
Location:	**BRIGHTON, MA**
Client:	**CRM DEVELOPMENT CORP.**
Driller:	**SOIL EXPLORATIONS**
Drilling Methods:	**HOLLOW STEM AUGER**
Weather:	**60's CLOUDY**
Performed By: **PJS**	Date: **9/28/16**
Checked By: **PGC**	Date: **10/5/16**

DESIGN CONSULTANTS, INC.

Boring No:	**B-4**
Location: **See Plan**	**See Plan**
Approx. Ground Elevation:	**27'**
Approx. Groundwater Elevation:	**17'**
Date/Time of Groundwater Elevation:	**11:00 AM**
Datum:	**NAVD 88**
Project No.	**2016-104**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	Stratum	Note No.
21	S-5	16 37 40 65	24"/24"	S-5, Top 12" Coarse SAND, Probable Blow-in Bottom 12", SAND, Some Silt, Little Gravel, Grey, Wet, Very Dense		TILL	
22							
23							
24							
25	S-6	15 18 17 19	24"/19"	S-6, SAND, Some Silt, Trace Gravel, Grey, Moist, Dense			
26							
27				BOTTOM OF BORING @ 27'			
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

LIMITATIONS

Subsurface Explorations

1. The analyses, recommendations, and designs contained in this letter report are based upon the subsurface explorations. The nature and extent of variations between these subsurface explorations may not become evident until construction. If variations are encountered during construction, it may require a re-evaluation of the recommendations contained in this letter report.

2. The generalized subsurface conditions presented in this letter report is intended to convey trends in subsurface conditions. The boundaries between soil and/or rock strata are approximate and idealized, and have been developed from widely spaced subsurface explorations and samples. Actual soil transitions are likely more gradual. For specific detailed information, refer to the individual test boring and/or test pit logs.

3. Water level readings have been made in the subsurface explorations under the conditions provided on the test boring, test pit and/or monitoring well logs. This data has been reviewed and interpretations have been made in this letter report. However, it is noted that fluctuations in the level of ground water occurs due to variation in rainfall, temperature, and other factors differing from the time the measurements were made.

Review

4. It recommended that Design Consultants Inc. be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the recommendations provided in the letter report.

5. In the event that any changes in the nature, design and/or location of the proposed construction are planned, the conclusions and recommendations contained in this letter report shall not be considered valid unless changes are reviewed and conclusions of the letter report are modified and verified in writing by Design Consultants Inc.

Construction

6. It is recommended that Design Consultants Inc. be retained to provide geotechnical engineering services during the earthwork phases of work. This is to observe compliance with the design concepts, specifications and recommendations, and to allow design changes the event subsurface conditions differ from those anticipated prior to the start of construction.

Use of Letter Report

7. This letter report has been prepared for the exclusive use of the CRM Property Management Corp. and its sub-consultants for the design and construction of the 214 Market Street, Brighton, Massachusetts in accordance with general accepted geotechnical engineering practice. No other warranty, expressed or implied is made.

8. This letter report has been prepared for this project by Design Consultants Inc. This letter report was completed for design purposes. Contractors wishing a copy of this report may secure it with the understanding that its scope is limited to evaluation and design considerations only.

DESIGN CONSULTANTS INC.

RECOMMENDED PROGRAM FOR SPECIAL INSPECTIONS FOR SOILS AND FOUNDATIONS

Program for Special Inspections

1. Special Inspections of soils and foundation work are for the purpose of providing assurance to the *Owner, Building Official* and *Registered Design Professional in Responsible Charge* (*Registered Design Professional*), that the construction complies with the soils and foundation components associated with the work performed by the Geotechnical Engineer (GE) of Record (*Approved Agency*). These tests and inspections are form quality assurance and does not relieve the Contractor or its Sub-Contractors of their responsibility for quality control of the work and any design that are responsible for.

2. The GE will direct the implementation of this program and select any *Special Inspectors* required to undertake the program.

3. Fees and costs related to the implementation of this program will be borne by the *Owner.*

Approved Agency and Special Inspector Requirements

1. Comply with the following:

    a. Approved Agency shall have a minimum of five years' experience in performing the type and scope of work required for this project.

    b. Special Inspector's shall be qualified on the basis of certification, education, registration and/or satisfactorily documented work experience appropriate to the assigned task.

Criteria for Special Inspections

1. The approved geotechnical report, and the construction documents prepared by the registered design professionals shall be used to determine compliance.

Required Verification and Inspection of Soils (Table 1704.7)

1. Verify materials below shallow foundations are adequate to achieve design bearing capacity.

2. Verify excavations are extended to proper depth and have reached proper material.

3. Perform classification and testing of compacted fill materials.

4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.

5. Prior to placement of compacted fill, observe subgrade and verify that the site has been prepared properly.

6. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report.

DCI
DESIGN CONSULTANTS, INC.

Accessibility Checklist

(to be added to the BRA Development Review Guidelines)

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

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

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

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

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

Accessibility Analysis Information Sources:

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

Project Information

Project Name:	212-214 Market Street
Project Address Primary:	212-214 Market Street Brighton, MA 02135
Project Address Additional:	N/A
Project Contact (name / Title / Company / email / phone):	Jeffrey Drago / Drago & Toscano, LLP / jdrago@dtlawllp.com / 617.391.9450

Team Description

Owner / Developer:	CRM Property Development Corp.
Architect:	Embarc Studio LLC.
Engineer (building systems):	TBD
Sustainability / LEED:	TBD
Permitting:	Drago & Toscano, LLP
Construction Management:	TBD

Project Permitting and Phase

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

PNF / Expanded PNF Submitted	Draft / Final Project Impact Report Submitted	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

Building Classification and Description

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

	Residential – One to Three Unit	Residential - Multi-unit, Four +	Institutional	Education
	Commercial	Office	Retail	Assembly
	Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and Other
First Floor Uses (List)	*Commercial and Residential Lobby*			

What is the Construction Type – select most appropriate type?

	Wood Frame	Masonry	Steel Frame	Concrete

Describe the building?

Site Area:	*14,150 SF*	Building Area:	*35,775 SF*
Building Height:	*54 Ft. 6 inches*	Number of Stories:	*5 Flrs.*
First Floor Elevation:	*0' Elev.*	Are there below grade spaces:	*No*

Assessment of Existing Infrastructure for Accessibility:

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

Provide a description of the development neighborhood and identifying characteristics.	The proposed site is in the Brighton neighborhood of Boston, situated between the McKinney Playground to the west and the Saint Joseph Preparatory School to the east. The current neighborhood is primarily single family residential developments with a corridor of retail and commercial buildings at the northern end of Market Street where it passes over the Mass Pike.
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.	Allston Street, Green line - B train, 1 mile walk / Market St @ Gardena St, 86 Bus, 413 foot walk / N Beacon St @ Market St, 64 Bus, 430 foot walk

List the surrounding institutions: hospitals, public housing and elderly and disabled housing developments, educational facilities, etc.	Surrounding institutions include St. Elizabeth's Hospital approximately ½ mile to the south east, Saint Joseph Preparatory High School approximately ¾ miles to the east, as well as the Saint Columbkille Partnership School 1/3 mile south west, and the Boston Green Academy and Brighton High School ½ mile to the southeast.
Is the proposed development on a priority accessible route to a key public use facility? List the surrounding: government buildings, libraries, community centers and recreational facilities and other related facilities.	The nearest facility in the neighborhood is the McKinney Playground just under ¼ of a mile from the site down Faneuil Street, while the nearest major public amenity is the Boston Public Library's Brighton Branch, approximately ½ mile south via Market Street.

Surrounding Site Conditions – Existing:

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

Are there sidewalks and pedestrian ramps existing at the development site?	Yes.
If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.	Existing sidewalks are concrete with granite curbs, both in poor condition.
Are the sidewalks and pedestrian ramps existing-to-remain? If yes, have the sidewalks and pedestrian ramps been verified as compliant? If yes, please provide surveyors report.	No.
Is the development site within a historic district? If yes, please identify.	No.

Surrounding Site Conditions – Proposed

This section identifies the proposed condition of the walkways and pedestrian ramps in and around the development site. The width of the sidewalk contributes to the degree of comfort and enjoyment of walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Typically, a five foot wide Pedestrian Zone supports two people walking

side by side or two wheelchairs passing each other. An eight foot wide Pedestrian Zone allows two pairs of people to comfortable pass each other, and a ten foot or wider Pedestrian Zone can support high volumes of pedestrians.

Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? See: www.bostoncompletestreets.org	Yes.
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	Neighborhood Main Street
What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	13' – 10 ½", Frontage Zone to be 4', Pedestrian Zone to be 5' – 10 ½", and the Furnishing Zone 4'.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	Furnishing Zone to have stormwater planters and permeable pavers, the Pedestrian Zone is to be standard concrete paving, to replace existing, with paving accents at building entrances as will the Frontage Zone.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?	N/A
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way?	No.
If yes above, what are the proposed dimensions of the sidewalk café or furnishings and what will the right-of-way clearance be?	N/A

Proposed Accessible Parking:

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

What is the total number of parking spaces provided at the development site parking lot or garage?	32
What is the total number of accessible spaces provided at the development site?	2, 1 Van accessible.
Will any on street accessible parking spaces be required? If yes, has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?	TBD
Where is accessible visitor parking located?	TBD
Has a drop-off area been identified? If yes, will it be accessible?	No, TBD.
Include a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations. Please include route distances.	Attached.

Circulation and Accessible Routes:

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

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

Provide a diagram of the accessible route connections through the site.	Attached.
Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	Residential Lobby to be a flush condition with the sidewalk at building exterior, as is the Commercial Space entry. The rear entry to the lobby is to be a flush doorway condition from the garage through the egress stairway, from the Lobby elevator access will provide access to upper floors.
Are the accessible entrance and the standard entrance integrated?	Yes.
If no above, what is the reason?	N/A
Will there be a roof deck or outdoor courtyard space? If yes, include diagram of the accessible route.	No.
Has an accessible routes way-finding and signage package been developed? If yes, please describe.	No.

Accessible Units: (If applicable)

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

What is the total number of proposed units for the development?	29
How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?	29 units for rent, 4 affordable and 25 market rate
How many accessible units are being proposed?	27 units will meet Group 1 requirements, 2 will meet Group 2 accessibility requirements.

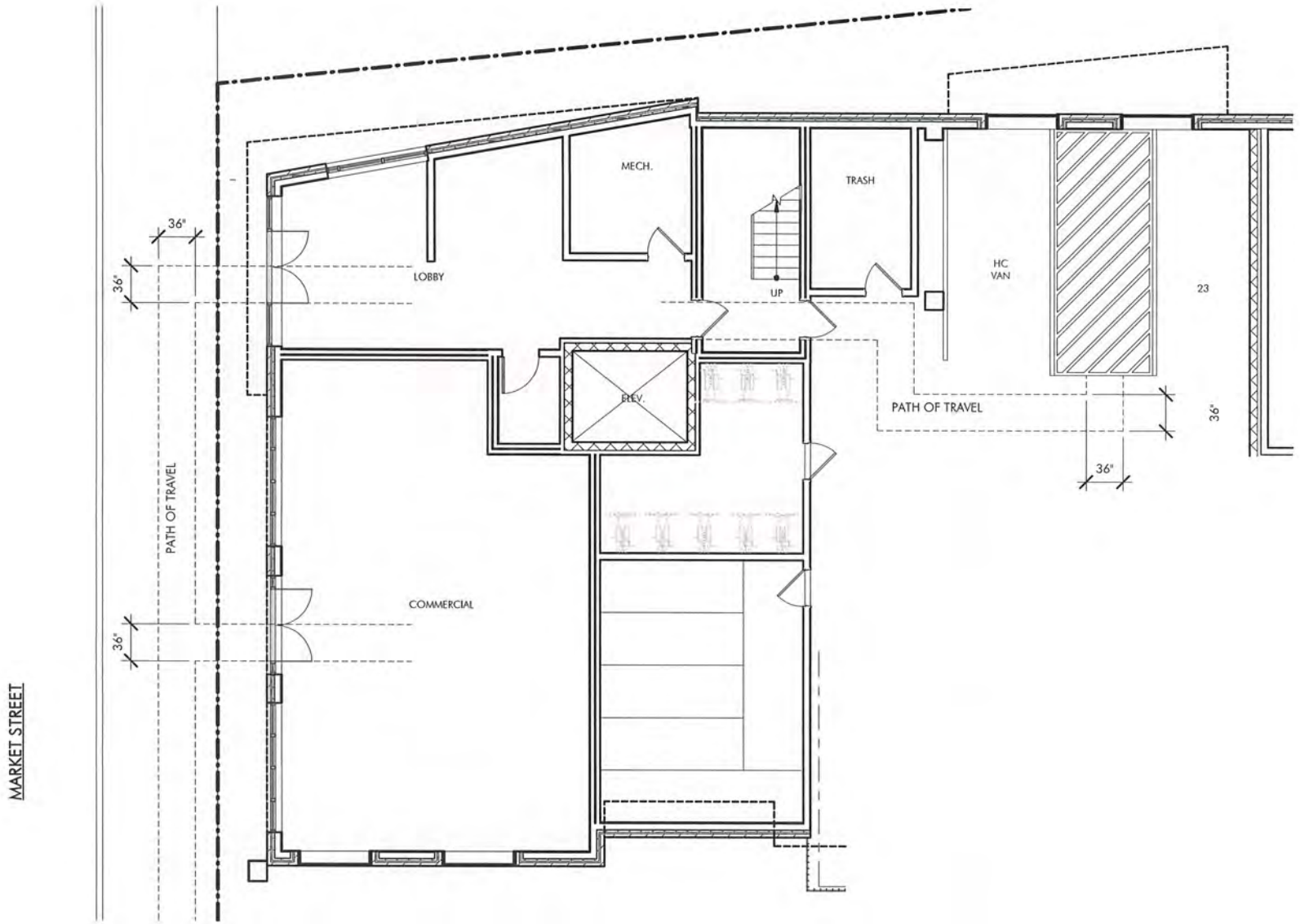
Article 80 | ACCESSIBILTY CHECKLIST

Please provide plan and diagram of the accessible units.	Specific unit plans have not been developed.
How many accessible units will also be affordable? If none, please describe reason.	TBD
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	No
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	No.
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	N/A

Thank you for completing the Accessibility Checklist!

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

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



1/8" = 1'-0"

EMBARC STUDIO
ARCHITECTURE+DESIGN

ACCESSIBILITY CHECKLIST
214 MARKET STREET
BRIGHTON, MA 02135

AC

 | 12/19/2016 3:27:54 PM | C:\Users\acurtis\Documents\16017_214 Market St_SD V2_acurtis.rvt

DECEMBER 19, 2016 | EMBARC

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2.0 Transportation

2.1 Introduction

2.1.1 Purpose of the Transportation Component

Design Consultants, Inc. has conducted an evaluation of the transportation impacts of the proposed residential development ("Project") to be located at 214 Market Street in the Brighton neighborhood of Boston, Massachusetts. This transportation study adheres to the Boston Transportation Department (BTD) Transportation Access Plan Guidelines and the Boston Redevelopment Authority's (BRA) Article 80 development review process. This study includes an evaluation of existing conditions, future conditions with and without the Project, projected parking demand, pedestrian activity, and transit services.

2.1.2 Project Description

The Project site is located in the Brighton neighborhood of Boston and is bordered by residences to the north and the east, Saybrook Street to the south, and Market Street to the west. Land use surrounding the site is a mix of commercial and residential uses.

The proposed Project will redevelop the site, which currently includes a 4,080 square foot office building and a single-family house, to construct a new building which will house 1,120 square feet of retail space, 7,738 square feet of common area, and 28,860 square feet of residential space (32 residential units). Site access will be provided via one new curb cut on Saybrook Street. The curb cut from Saybrook Street will provide access to an at-grade parking area providing 34 parking spaces, resulting in a parking ratio of 1.1 parking spaces per dwelling unit. Primary pedestrian access will be provided by a main entrance on Market Street. A sight distance analysis was carried out at the proposed location of the curb cut to ensure safe movements entering and exiting the site.

A safety analysis of the most recent three years of crash data was completed to identify possible existing safety issues within the study area that may need to be addressed as part of the traffic study. It was determined that none of the study intersections analyzed had crash rates above district or statewide averages. Capacity analyses for 2016 Existing, 2023 No-Build, and 2023 Build traffic conditions were carried out to assess

the impact that the new development at 214 Market Street will have on local traffic operations.

2.1.3 Transportation System

2.1.3.1 Study Area

The following three intersections in the Brighton neighborhood of Boston were examined in this traffic study, as agreed upon by the BTD:

- Market Street at North Beacon Street
- Market Street at Saybrook Street
- Saybrook Street at Glencoe Street

The intersections of Market Street at Saybrook Street and Saybrook Street at Glencoe Street are unsignalized, and the intersection of Market Street at North Beacon Street is signalized. Figure 2-4 illustrates a map showing study locations relative to the Project site.

The intersection of **Market Street at North Beacon Street** is a four-way, signalized intersection. Market Street approaches from the north and south, and North Beacon Street runs approximately east and west. There are marked crosswalks at each approach to the intersection. Near the intersection, parking is prohibited on each approach. Sidewalks are present on all sides of the intersection. Figure 2-1 shows an overhead view of this intersection.

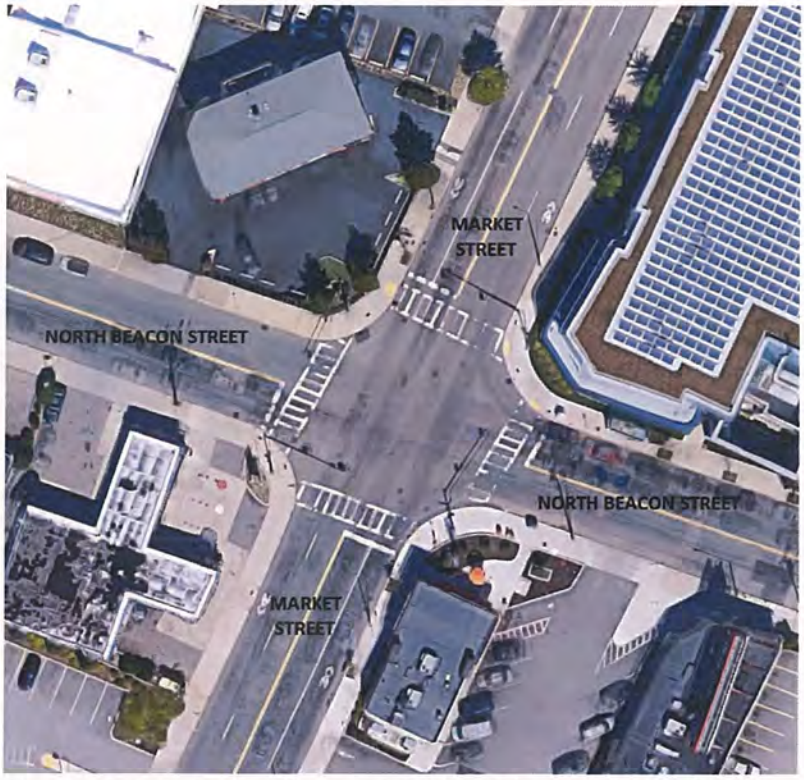


Figure 2-1: Intersection of Market Street at North Beacon Street

The intersection of **Market Street at Saybrook Street** is a three-way, unsignalized intersection. The Market Street approach carries one lane in the northbound direction and two lanes in the southbound direction. Saybrook Street is a one-way roadway in the eastbound direction and carries one travel lane. Sidewalks are provided at all approaches to the intersection. Crosswalks are present across Market Street just south of the intersection. Figure 2-2 shows an overhead view of this intersection.

Figure 2-2: Intersection of Market Street at Saybrook Street

The intersection of **Saybrook Street at Glencoe Street** is a four-way, unsignalized intersection. The Saybrook Street approach carries one lane in each direction and approaches from the east and continues to be a one-way roadway in the eastbound direction west of the intersection. The Glencoe Street approach carries one lane in each direction and approaches from the north and south. Sidewalks are provided at all approaches to the intersection. There are no marked crosswalks across any approach at the intersection. Figure 2-3 shows an overhead view of this intersection.

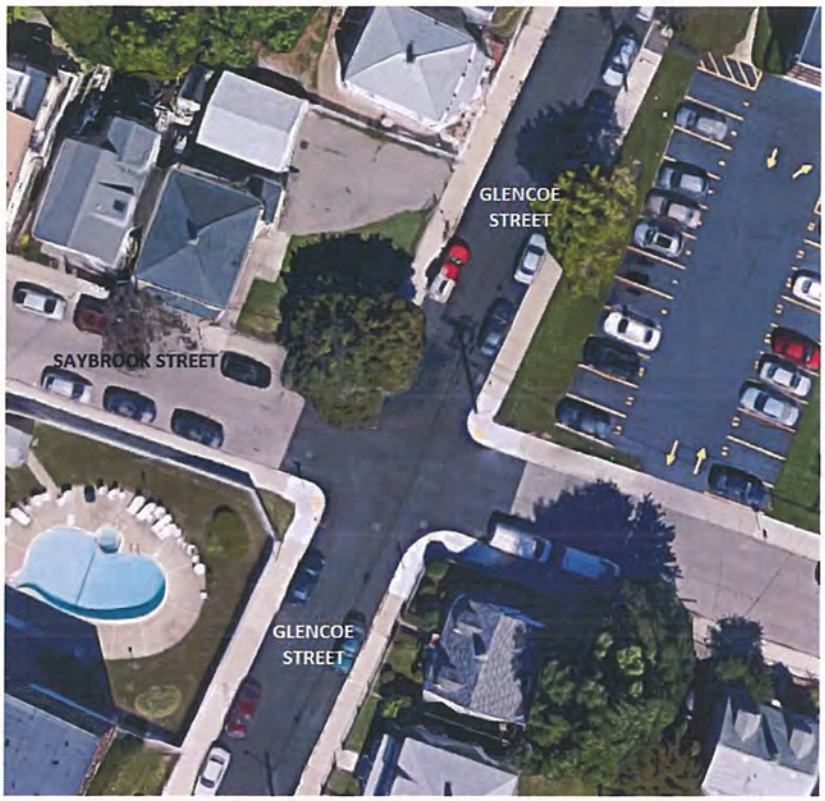
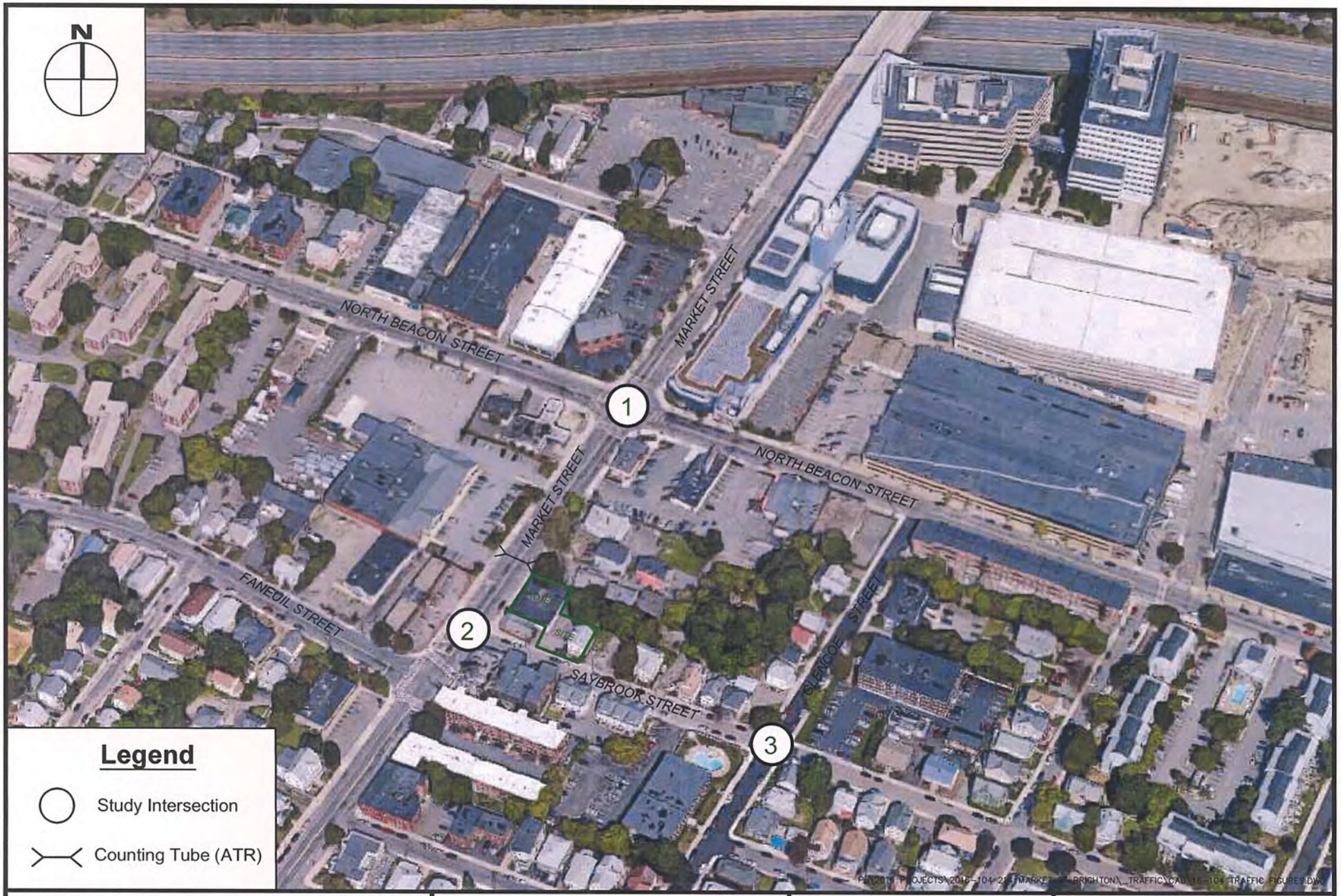


Figure 2-3: Intersection of Saybrook Street at Glencoe Street



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(617) 776-3350

214 MARKET STREET BRIGHTON, MA

Study Intersections

PROJECT NO.: 2016-104

DATE: NOVEMBER 2016

SCALE: N.T.S.

Figure 2-4

2.1.3.2 Streets

Market Street is classified as an urban minor arterial by MassDOT and the Boston Transportation Department (BTD), and is under the jurisdiction of the City. It runs approximately north and south through the study area, and carries one lane in each direction. Market Street is approximately 0.75 miles in length, and runs from its southern limit at its intersection with Washington Street and Chestnut Hill Avenue to its northern limit at its intersection with Lincoln Street and Leo M. Birmingham Parkway. Market Street has an approximate 46-foot wide curb-to-curb paved width in the vicinity of the study area. On-street parking is limited on Market Street within the study area. There are sidewalks on the both sides of the street in the vicinity of the Project, as well as a shared-lane markings ("sharrows") in both directions. Land use on Market Street is mixed residential and commercial. Figure 2-5 illustrates a typical street view of Market Street.

Figure 2-5: Street View of Market Street

Saybrook Street is classified as a local road according to MassDOT and by the BTD and is under City jurisdiction. It is a one-lane, one-way road in the vicinity of the Project. Saybrook Street runs in a primarily easterly direction and is approximately 0.25 miles in length. It intersects Market Street at its western limit and Dustin Street at its eastern limit. There are sidewalks provided on both sides of Saybrook Street in the vicinity of the Project site. Parking is allowed on both sides of Saybrook Street, and is mostly limited to residential parking. Land use along Saybrook Street is primarily residential in the vicinity of the Project site. Figure 2-6 illustrates a typical street view of Saybrook Street.

Figure 2-6: Street View of Saybrook Street Looking West

North Beacon Street (Route 20) is classified as an urban principal arterial according to MassDOT and the BTD. North Beacon Street is under City jurisdiction between its intersection with Cambridge Street/Brighton Avenue and its intersection with Leo M. Birmingham Parkway, Department of Conservation and Recreation (DCR) jurisdiction between Leo M. Birmingham Parkway and Charles River Road, and City jurisdiction again between Charles River Road and Watertown Square. However, between

Leo M. Birmingham Parkway and Charles River Road, North Beacon Street is under MassDOT jurisdiction when it crosses over the Charles River. It carries one lane in each direction near the Project site. North Beacon Street is approximately 2.5 miles long. There are sidewalks present on both sides in the vicinity of the site. Land use is primarily commercial. Figure 2-7 illustrates a typical street view of North Beacon Street.

Figure 2-7: Street View of North Beacon Street Looking East

Glencoe Street is classified as a local road according to MassDOT and the BTD, and is under City jurisdiction. It carries one lane in each direction. Glencoe Street is approximately 0.25 miles long, and runs from its northern limit with North Beacon Street to its southern limit, which is a dead end. There is no posted speed limit on Glencoe Street. There are sidewalks present on both sides in the vicinity of the site. Land use is primarily residential. Figure 2-8 illustrates a typical street view of Glencoe Street.

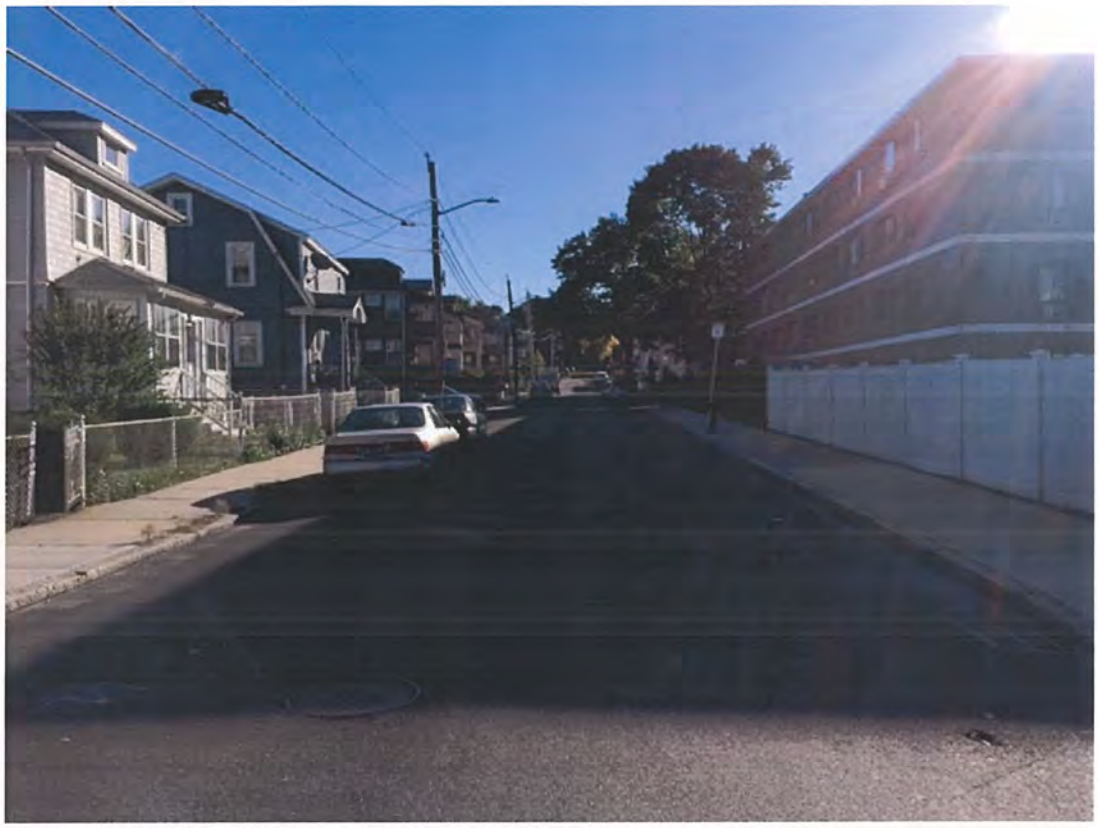

Figure 2-8: Street View of Glencoe Street Looking South

2.1.3.3 On-Street Parking

On-Street parking is allowed near the Project site, and is mostly restricted to residential parking. Residential permit parking is allowed along both Glencoe Street and Saybrook Street. Parking is prohibited along most of Market Street near the Project site, with the exception of a few parking spaces on the east side of the roadway just north of its intersection with Saybrook Street. Parking is prohibited along North Beacon Street just east and west of its intersection with Market Street, but is allowed otherwise. Figure 2-9 shows on-street parking near the Project site.

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214 MARKET STREET BRIGHTON, MA

On-Street Parking

PROJECT NO.: 2016-104

DATE: NOVEMBER 2016

SCALE: N.T.S.

Figure 2-9

2.1.3.4 Transit

Massachusetts Bay Transportation Authority (MBTA) Bus Service

In the vicinity of the Project site, MBTA bus routes 64 and 86 service the area. Bus route 64 runs along North Beacon Street and has a stop at the corner of North Beacon Street at Market Street, approximately 450 feet from the Project site. Route 64 runs from Oak Square in Brighton to the Kendall/MIT stop on the MBTA Red Line. Bus route 64 stops near the Central Square stop on the Red Line. Bus route 64 runs at approximately 15-20 minute intervals during the morning peak hour and approximately 30 minute intervals during the evening peak hour.

Bus route 86 runs along Market Street and has a stop approximately 200 feet north of the Project site. Route 86 runs from the Reservoir stop on the MBTA Green line and Sullivan Square Station on the MBTA Orange Line. Route 86 also stops in Harvard Square near the MBTA Red Line. Bus route 86 runs at approximately 10-15 minute intervals during the morning peak hour and 10-20 minute intervals during the evening peak hour.

Detailed schedules and bus routes can be found in the Appendix.

2.1.3.5 Bicycle Conditions and Facilities

Along Market Street, there are designated bicycle lanes in both directions south of its intersection with Saybrook Street, and a designated bicycle lane in the southbound direction for approximately 150 feet north of Faneuil Street. There are "sharrows" (shared lane markings) in the northbound direction and for approximately 300 feet in the southbound direction between Saybrook Street and North Beacon Street. North of its intersection with North Beacon Street, there are sharrows in both directions.

Along North Beacon Street, Saybrook Street, and Glencoe Street, there are no designated bicycle facilities.

2.1.3.6 Car Sharing

Car sharing refers to vehicles that are rented on an hourly or daily basis. There are several car sharing locations within one mile of the Project site. Figure 2-10 shows the location of the nearest car-sharing location relative to the Project location, not including peer-to-peer car sharing.

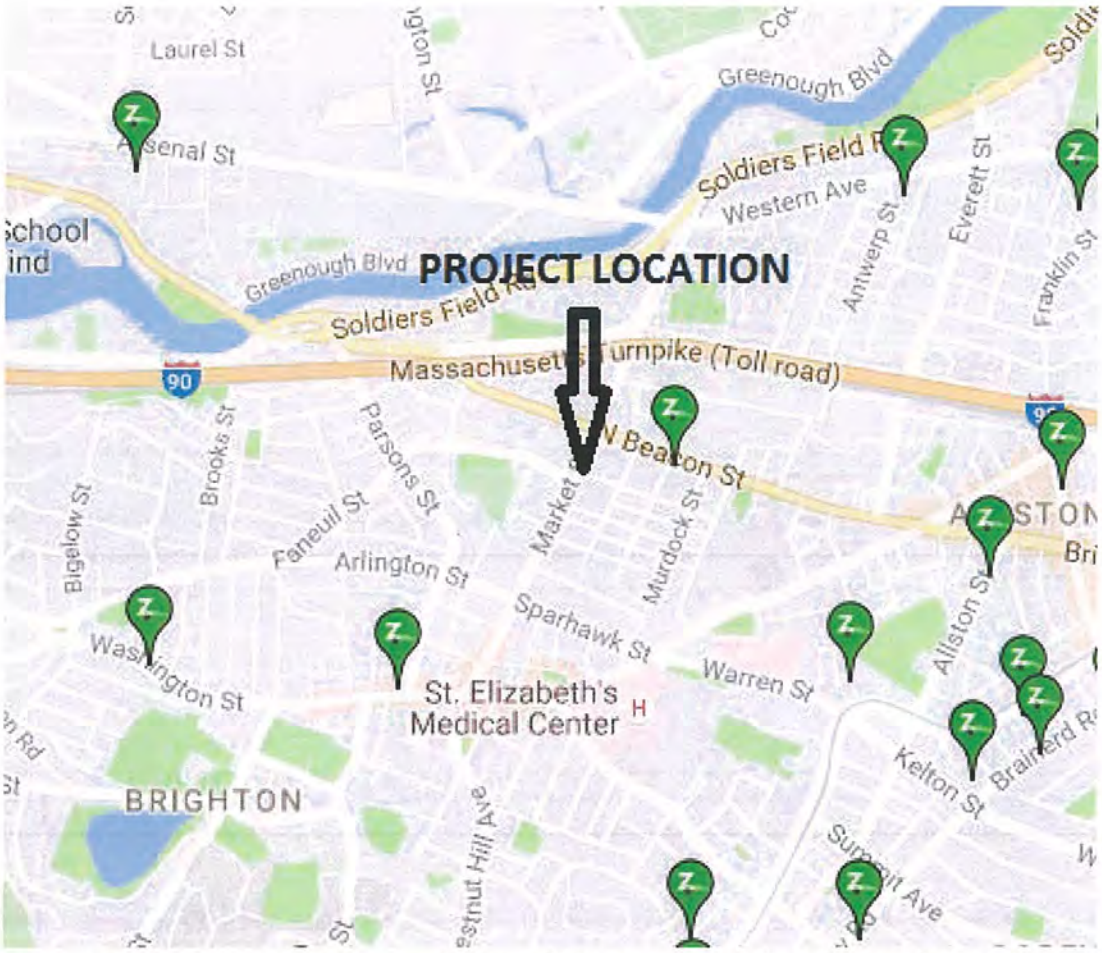


Figure 2-10: Car-Sharing Locations within an approximate 1-Mile Radius

2.1.4 Traffic Analysis

2.1.4.1 Study Methodology

This Access Plan follows a standard method to assess the transportation impacts of the proposed Project. Existing conditions are compared to two alternative future scenarios: a No-Build scenario, which takes into account traffic that will be generated by future development and overall growth; and a Build scenario, in which the proposed Project is also considered. The impacts of future developments are Project through a four-step process:

- Trip Generation
- Trip Distribution
- Mode Split
- Route Assignment

Trip Generation. The volume of vehicular trips that a land use will generate is projected based on empirical rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 9th Edition.* The trip generation rates for the proposed Project were calculated using the ITE manual. As is standard for traffic studies, credit was taken for existing uses that are being eliminated to determine the net change in trips generated by the site. Consequently the existing trips were subtracted from the expected trips for the proposed Project and the ***net new number of trips*** was calculated. Tables 2-1 through 2-3 show the trip generation calculations for the existing land uses, Table 2-4 shows the trip generation calculations for the proposed land use, and Table 2-5 shows the net number of trips that will be used in further trip generation calculations.

Table 2-1: ITE Trip Generation Rates for Existing Single-Family House

Land Use Code: 210			Single-Family House
	AM Peak Hour	PM Peak Hour	Daily
Dwelling Units	1	1	1
Trip Generation Rate	0.75	1.00	9.52
Total Trips	**1**	**1**	**10**
Entering%	25%	63%	50%
Exiting%	75%	37%	50%
Entering Trips	0	1	5
Exiting Trips	1	0	5

Table 2-2: ITE Trip Generation Rates for Existing Office Building

Land Use Code: 710			General Office Building
	AM Peak Hour	PM Peak Hour	Daily
Size per 1000 sq ft	4.080	4.080	4.080
Trip Generation Rate	1.56	1.49	11.03
Total Trips	**7**	**6**	**46**
Entering%	88%	17%	50%
Exiting%	12%	83%	50%
Entering Trips	6	1	23
Exiting Trips	1	5	23

Table 2-3: ITE Trip Generation Rates for Proposed Retail Space

Land Use Code: 920			Copy, Print, and Express Ship Store
	AM Peak Hour	PM Peak Hour	Daily
Size (per 1000 square feet)	1.120	1.120	1.120
Trip Generation Rate	2.78	7.41	--
Total Trips	**3**	**8**	**--**
Entering%	75%	44%	--
Exiting%	25%	56%	--
Entering Trips	2	4	--
Exiting Trips	1	4	--

Table 2-4: ITE Trip Generation Rates for Proposed 32-Unit Residential Building

Land Use Code: 220			Apartment
	AM Peak Hour	PM Peak Hour	Daily
Dwelling Units	32	32	32
Trip Generation Rates	0.51	0.62	6.65
Total Trips	**16**	**20**	**212**
Entering%	20%	65%	50%
Exiting%	80%	35%	50%
Entering Trips	3	13	106
Exiting Trips	13	7	106

Table 2-5: Net Number of Trips

	AM Peak Hour	PM Peak Hour
Existing Trips	8	7
Proposed Trips	19	28
Net Trips	**11**	**21**

These trip rates are unadjusted, as they only account for motorized traffic trips. Non-vehicle trips are deducted from the base trips in the Mode Split section below.

Trip Distribution. DCI estimated the trip distribution of Project-generated traffic from the site into the study area for the year 2023. The directional distribution of this Project-generated traffic is based on existing travel patterns, which were observed during the initial data collection in October 2016.

Standard practice is to employ the same trip distribution and assignment percentages for both inbound and outbound movements, acknowledging that the trip counts are estimates at this time. This technique accounts for nuances in estimating the future numbers. These nuances can include proximity to the transportation and roadway network intricacies. The trip distribution for this Project is shown graphically in Figure 2-11.

Mode Split. ITE's Trip Generation methods are typically based on data from suburban developments with no nearby transit service and no appreciable share of people walking or bicycling to or from the site. Commuting characteristics were analyzed from the 2010-2014 American Community Survey 5-Year Estimates. Census Data from the Census Tract for Brighton was

analyzed and used to estimate mode splits for journeys to work in the Project area. Table 2-6 displays estimated mode splits.

Table 2-6: Mode Split Data for Residents of Brighton

MEANS OF TRANSPORTATION TO WORK	
Car, truck, or van	54.3%
Drove alone	46.5%
Carpooled:	7.8%
In 2-person carpool	5.3%
In 3-person carpool	1.6%
In 4 person carpool	0.8%
Public transportation (excluding taxicab)	32.1%
Walked	3.8%
Bicycle	2.3%
Other means	1.8%
Worked at home	5.7%

Based on the modal split data above an Average Vehicle Occupancy (AVO) rate of 1.2 persons per vehicle was calculated. Since Land Use Code 220 takes into account an AVO of 1.1, the number of trips was adjusted by 1.1, and then the new AVO of 1.2 persons per vehicle based on local data for the Project area was applied to the preliminary trip generation calculations to determine the total number of Person-Trips that are expected to be generated by the Project. The number of non-vehicle trips was then determined by multiplying the person-trips by the percentage expected to utilize transit, bicycling and walking to access the Project site. The US Census Journey to Work data for Brighton is attached in the Appendix.

Trip Generation Summary

The public transit, walking, and biking mode share from the US Census Data for Brighton was taken and applied to the total person trips. By applying this non-vehicular mode split to the Trip Generation calculations, the amount of expected vehicle traffic associated with the 214 Market Street Project is reduced. The resulting adjusted vehicular traffic on the surrounding roadways was estimated and is summarized in Table 2-7.

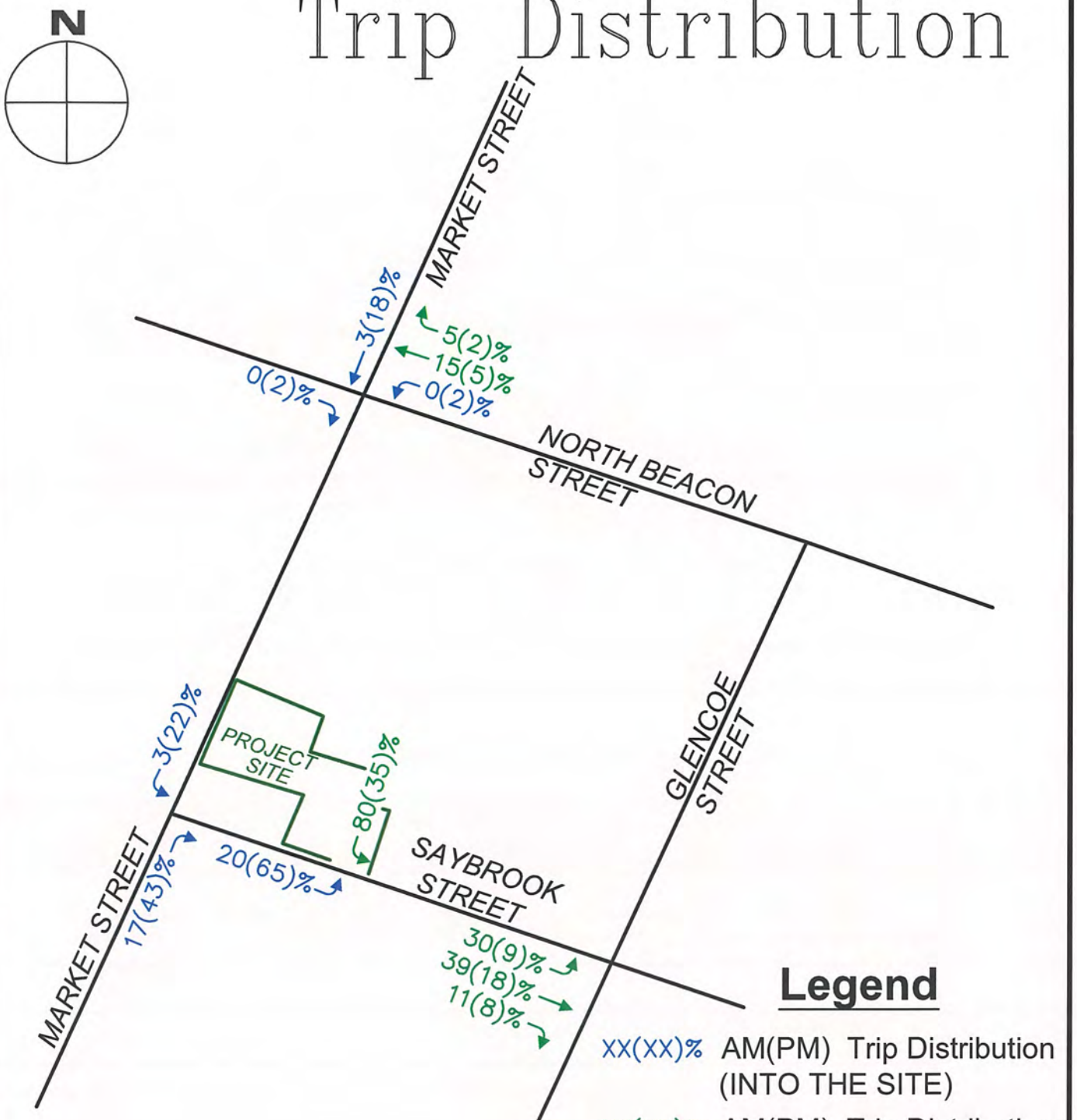
Table 2-7: Adjusted Trip Generation

	AM Peak Hour	PM Peak Hour
Base Trips	11	21
Total Person-Trips	12	23
Total Vehicle Trips	5	11
Entering Vehicle-Trips	1	7
Exiting Vehicle-Trips	4	4
Total Public Transportation Trips	4	7
Total Bicycle Trips	0	1
Total Walking Trips	1	1

As indicated in Table 2-7, the Project is expected to generate five (5) net new vehicle-trips during weekday morning peak hour and 11 net new vehicle-trips during weekday evening peak hour. Generated new transit trips are expected to be four (4) during the morning peak hour and seven (7) during the evening peak hour. New pedestrian trips are expected to be one (1) person-trip in the morning peak hour and one (1) person-trip during the evening peak hour. It is estimated that there will be zero (0) new bicycle trips generated during the morning peak hour and one (1) new bicycle trips generated during the evening peak hour.

Route Assignment. Vehicles will use the intersection of Market Street at Saybrook Street to enter the Project site and the intersection of Saybrook Street at Glencoe Street to exit the Project site. Additionally, there will be trips that originate from North Beacon Street at Market Street from the north, and along Market Street from the south.

Trip Distribution



Legend

XX(XX)% AM(PM) Trip Distribution (INTO THE SITE)

XX(XX)% AM(PM) Trip Distribution (OUT OF THE SITE)

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Figure 2-11
Trip Distribution

DATE: NOV. 2016

DCI PROJECT: 2016-104

2.1.4.2 Existing Traffic

DCI contracted with Accurate Counts to perform traffic data collection. Turning movement counts were collected in October 2016. In order to provide accurate analysis for separate peak periods during the day, Accurate Counts collected data for both morning (7am to 9am) and evening (4pm to 6pm) peak hours on a typical Wednesday. The traffic counts collected turning movements and pedestrian crossings at all three study intersections.

In addition, Accurate Counts also collected 24-hour Automatic Traffic Recorder (ATR) counts on two consecutive days during a Wednesday and Thursday period in October 2016. The ATR collected traffic volume data, vehicular speed data, vehicle classification data, and the length of gaps in between vehicles. The counts are summarized in 15-minute, hourly, and daily intervals. ATR data was collected at the following location and is summarized in Table 2-8:

- Market Street between Saybrook Street and Lawrence Place

Table 2-8: ATR Data Summary

Location	*ADT*	*85th Percentile Speed*	*Weekday AM Peak Hour*			*Weekday PM Peak Hour*		
			Volume	*K*	*Peak Direction*	*Volume*	*K*	*Peak Direction*
Market Street between Saybrook Street and Lawrence Street	11296	28 MPH SB & 25 MPH NB	1227	11%	63.9% NB	1200	11%	56.5% SB

As indicated in Table 2-8, the average weekday daily traffic on Market Street is approximately 11,296 vehicles. The 85th percentile speed is defined as the speed at or below which 85% of the vehicles are travelling. Throughout an average weekday, the 85th percentile speed is 28 MPH and 25 MPH in the southbound and northbound directions, respectively. Complete traffic count data is provided in the Appendix.

SEASONAL ADJUSTMENT

Roadway volumes vary throughout the year. According to *Traffic Impact Assessment (TIA) Guidelines* and *Traffic and Safety Engineering 25% Design Submission Guidelines*, both published by MassDOT, a seasonal factor may be applied to existing traffic volumes to compensate for this seasonal variation. Adjusting the collected data requires a comparison to annual trends. The guidelines indicate that the factor should be based primarily upon a relevant MassDOT permanent count station.

The closest permanent count station to the Project site was identified. Data from Count Station H13141 on Interstate 90 in Brighton was utilized. Monthly data from 2015 was used to calculate the seasonal factor. Based on this information, traffic volumes in October were determined to be higher than average conditions by 0.9%. Therefore, the unadjusted existing volumes were used for this report to provide a more conservative analysis. The MassDOT data examined for this seasonal adjustment is included in the Appendix.

The unadjusted existing traffic volumes for the morning and evening peak hours are shown in Figure 2-12.

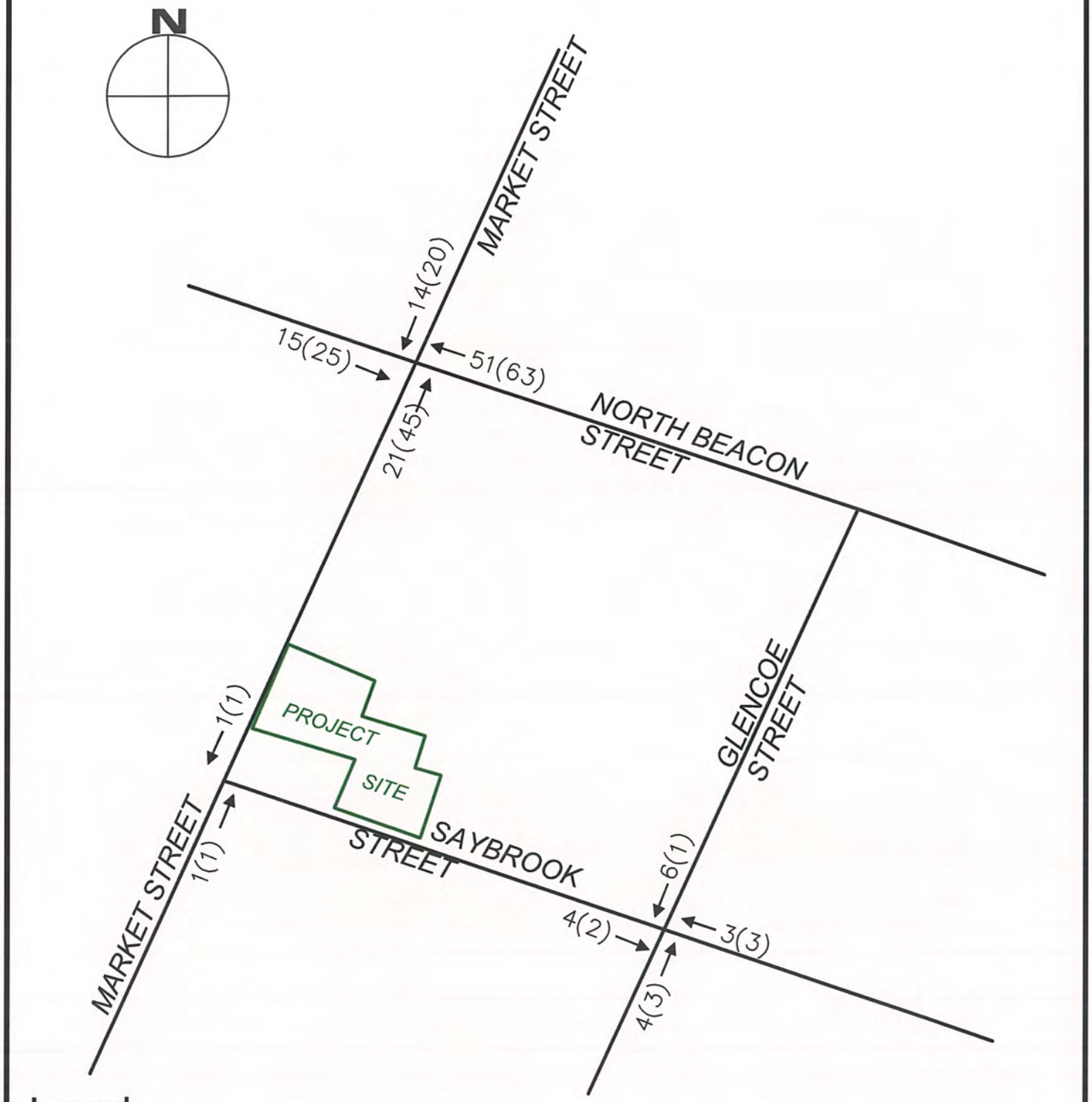
Existing Bicycle Traffic Volumes. Bicycle traffic was observed in the study area at each of the study intersections. Table 2-9 shows the total numbers of bicycles passing through each of the study intersections during both the morning and evening peak hours.

Table 2-9: Bicycles at the Study Intersections

	Number of Bicycles	
Intersection	**AM Peak Hour**	**PM Peak Hour**
Market Street at Saybrook Street	35	34
Market Street at North Beacon Street	40	41
Saybrook Street at Glencoe Street	5	5

Existing Pedestrian Traffic Volumes. Pedestrian traffic was tallied in the study area at each of the study intersections. Figure 2-12 shows the total number of pedestrians that pass through the study intersections during each of the peak hours.

Future Bicycle and Pedestrian Volumes. With the construction of the Project, there will be an expected increase in the bicycle and pedestrian volumes in the area. The Project is set to add a secure bicycle parking area, which will promote bicycle usage by residents. The census data from the Census Tract for Brighton shows that approximately 2.3% of residents bike to work and 3.8% walk to work. Given the number of expected trips generated by the Project, this would result in approximately six (6) daily bicycle trips and 11 daily walking trips for commuting. Moreover, the Pew Research Center reports a 53% bicycle ownership rate in the United States, showing latent demand for biking if there are safe bicycle facilities. Additionally, the Proponent will abide by the Boston Complete Streets Guidelines for any and all modifications, such as potentially adding street trees, and improving the streetscape.



Legend

XX(YY) → AM(PM) Peak Hour Existing Pedestrian Volumes

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DATE: NOV. 2016

DCI PROJECT: 2016-104

Figure 2-12
2016 Existing Pedestrian Traffic Volumes

2.1.4.3 Capacity Analysis

According to the TIA guidelines, both signalized intersection capacity analyses and stop- and yield-controlled intersection capacity analyses should be used for traffic impact studies. The Highway Capacity Manual (HCM) published by Transportation Research Board provides methodologies on how to calculate motor vehicle Level of Service (LOS), average delay, and volume-to-capacity ratios. Those terms are commonly used to measure performance levels for freeway sections, ramp junctions, weave sections, and intersections, both signalized and unsignalized.

Level of Service (LOS) is a term used to denote different operating conditions that occur under various traffic volume loads. It is a qualitative measure of the effect of a number of factors including geometrics, speed, travel delay, freedom to maneuver, and safety. The LOS is divided into a range of six letter grades, ranging from A to F, with A being the best and F the worst. LOS E and F are generally considered inadequate traffic operations in suburban and urban areas. The delay ranges differ slightly between unsignalized and signalized intersections due to driver expectations and behavior for each LOS. See Table 2-10 below for intersection LOS thresholds.

Table 2-10: Intersection LOS Thresholds

LOS	Signalized	Unsignalized
	Control Delay (sec/veh)	Control Delay (sec/veh)
A	0-10	0-10
B	>10-20	> 10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Source: 2000 Highway Capacity Manual

In this study, intersection performance measures were calculated in the form of volume to capacity (v/c) ratio, average intersection delay, 95th percentile queue lengths, level-of-service (LOS) of overall intersection performance, and the LOS of each approach. *Synchro 8.0 was the software used to execute the intersection analysis. Synchro 8.0*, a software program from Trafficware, uses the methodologies and thresholds outlined within the HCM. This is the preferred and recommended software of MassDOT. Traffic volume represents the travel demand observed and capacity represents the amount of traffic the intersection can

accommodate under prevailing conditions. A volume to capacity ratio that approaches or exceeds 1.0 indicates traffic congestion or poor operating conditions.

Three types of Synchro reports were created to analyze and compare intersection performance in this study:

- Main report – "Int: Lanes, Volumes, Timings",
- Int: Queues
- HCM Signalized/Unsignalized Report

For signalized intersections, LOS is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side street. The LOS for each movement is calculated by determining the length of gaps that are available in the conflicting traffic stream.

In the HCM Unsignalized Report 95th percentile queue length is estimated.

In Synchro 8, HCM 2000 reports and HCM 2010 reports are both available. Both of them use HCM methodology to measure the performance of the intersection.

Existing Conditions. The study intersections were analyzed for existing traffic conditions during the weekday morning and weekday evening peak hours. Existing intersection lane configurations and traffic control were modelled exactly the same as the current traffic operations which were field observed. The results of the existing conditions analysis are shown in Table 2-11 and volumes are shown in Figure 2-13. Detailed capacity analysis worksheets are included in the Appendix.

Table 2-11: 2016 Existing Conditions LOS

ID	East-West Road	North-South Road	Lane	Existing							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Saybrook Street	Market Street	NB RT	0.58	0.0	--	0	0.42	0.0	--	0
			SB LT	0.02	0.5	A	1	0.04	1.1	A	3
			Overall		--	--			--	--	
2	North Beacon Street	Market Street	EB LTR	0.40	16.1	B	93	0.35	16.3	B	126
			WB LTR	0.55	17.8	B	115	0.54	18.8	B	177
			NB LTR	0.62	14.1	B	165	0.59	20.9	C	191
			SB LTR	0.62	15.1	B	144	0.98	49.7	D	#445
			Overall		15.6	B			30.1	C	
3	Saybrook Street	Glencoe Street	EB LTR	0.11	7.6	A		0.08	7.3	A	
			NB TR	0.06	7.4	A		0.03	7.0	A	
			SB TL	0.07	7.5	A		0.06	7.4	A	
			Overall		--	--			--	--	

Volume-to-capacity (v/c), delay (seconds/veh), and Level of Service (LOS) obtained from HCM 2000 outputs in Synchro 8
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
# = volume for 95th percentile cycle exceeds capacity. If the v/c for this movement is less than 1.0, the 95th percentile queue will rarely be exceeded. Queue shown is maximum after two cycles.

As shown in Table 2-11, the study intersections currently operate under capacity and were found to have adequate levels of service. These conditions are existing and do not reflect any impact of the proposed Project.

No-Build Scenario. The study intersections were analyzed for estimated traffic conditions for year 2023 No-Build Conditions, during the weekday morning and weekday evening peak hours. Existing lane configurations and traffic control were assumed for this analysis.

REGIONAL GROWTH RATE

Based on discussions with the Boston Transportation Department (BTD), and based on traffic volume data compiled by MassDOT from count stations, an annual traffic growth rate for Brighton was chosen for analysis purposes. In order to provide an accurate and conservative analysis, a 1.0 percent compounded annual growth rate was used to account for general background traffic growth and development by others not yet identified.

These traffic conditions utilize the 2023 No-Build volumes shown in Figure 2-14. These volumes include a conservative regional growth rate of 1.0% per year combined with the existing traffic volumes. The results of the 2023 No-Build analysis are shown in Table 2-12. Detailed capacity analysis worksheets are included in the Appendix.

Table 2-12: 2023 No-Build Conditions LOS

ID	East-West Road	North-South Road	Lane	No-Build							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Saybrook Street	Market Street	NB RT	0.62	0.0	--	0	0.44	0.0	--	0
			SB LT	0.01	0.3	A	1	0.03	0.9	A	2
			Overall		--	--			--	--	
2	North Beacon Street	Market Street	EB LTR	0.40	16.1	B	96	0.37	16.7	B	136
			WB LTR	0.54	17.5	B	129	0.59	19.7	B	193
			NB LTR	0.69	15.9	B	190	0.59	20.9	C	197
			SB LTR	0.73	18.1	B	177	1.06	71.7	E	#507
			Overall		16.9	B			39.0	D	
3	Saybrook Street	Glencoe Street	EB LTR	0.08	7.3	A		0.07	7.2	A	
			NB TR	0.04	7.3	A		0.02	7.0	A	
			SB TL	0.02	7.2	A		0.05	7.3	A	
			Overall		--	--			--	--	

Volume-to-capacity (v/c), delay (seconds/veh), and Level of Service (LOS) obtained from HCM 2000 outputs in Synchro 8
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
# = volume for 95th percentile cycle exceeds capacity. If the v/c for this movement is less than 1.0, the 95th percentile queue will rarely be exceeded. Queue shown is maximum after two cycles.

As shown above, there are no changes in level of service for most movements, with the exception of the southbound movement and overall intersection at North Beacon Street at Market Street during the evening peak hour, which are explained below. However, this does not reflect any impact from the proposed Project. The expected impact due specifically to the proposed development at 214 Market Street is reflected in any changes going from the 2023 No-Build to the 2023 Build scenarios.

Weekday Evening Peak Hour

- The southbound left-through-right movement at the intersection of North Beacon Street at Market Street goes from an LOS of D to an LOS of E. This represents an increase of average delay of 22 seconds per vehicle.
- The overall intersection of North Beacon Street at Market Street goes from an LOS of C to an LOS of D. This represents an increase of average delay of 8.9 seconds per vehicle.

Build Scenario. Figure 2-15 shows the projected trips generated by the residential Project in the morning and evening peak hours, based on the trip generation, mode split, trip distribution, and trip assignment analysis shown in the methodology section above. In order to analyze future traffic conditions following the completion of the 214 Market Street Residential Project in the Brighton neighborhood of Boston, year 2023 Build Scenario

traffic volumes were calculated. To develop year 2023 Build traffic volumes, the calculated site-generated trips (Figure 2-15) were added to the 2023 No-Build traffic volumes (Figure 2-14). The resulting volumes are shown in Figure 2-16. These volumes were used to carry out intersection capacity analyses for future Build conditions.

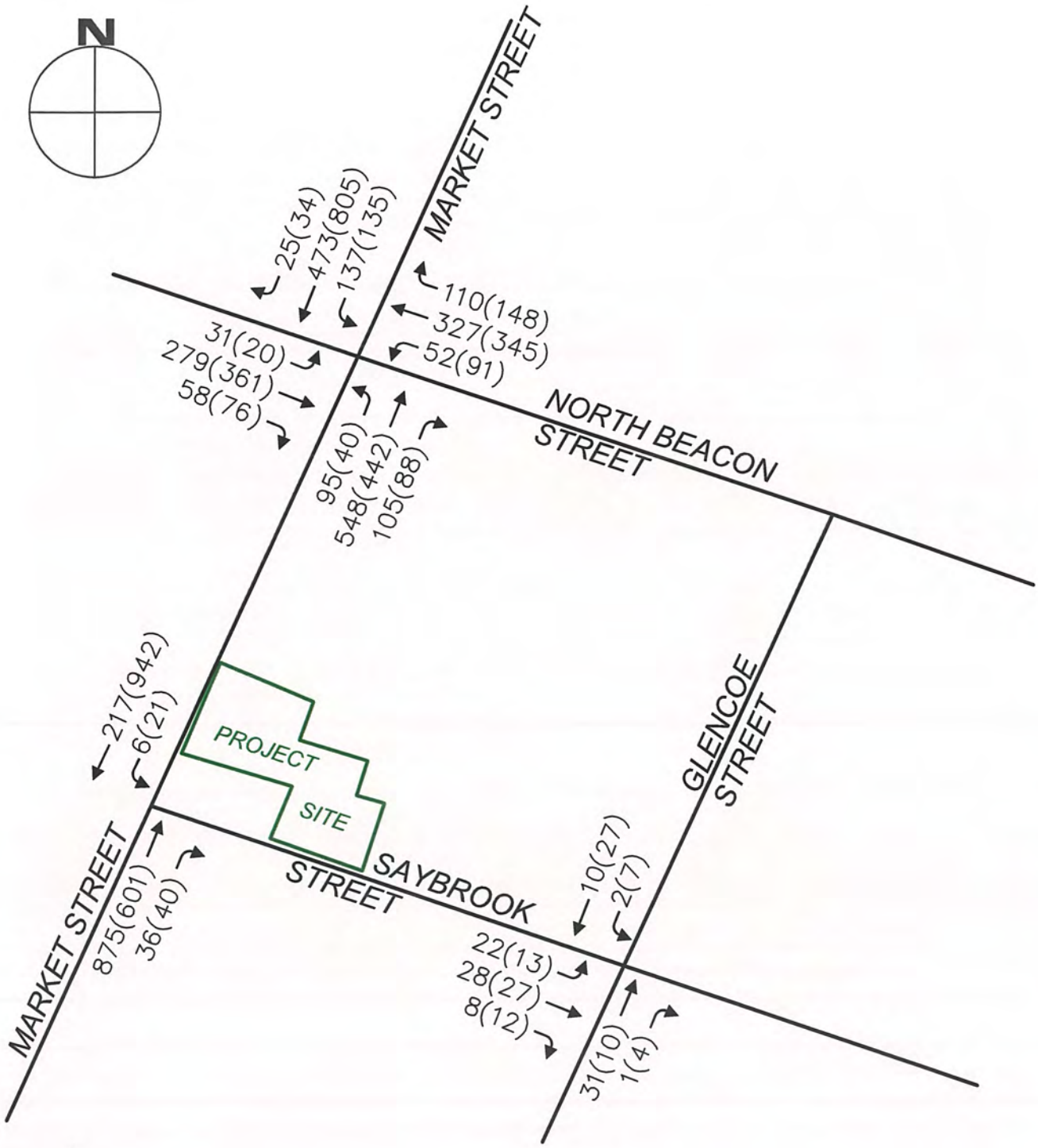
The study intersections were analyzed for estimated traffic conditions for year 2023 Build Conditions, during the weekday morning and weekday evening peak hours. Existing lane configurations and traffic control were assumed for this analysis. The results of the 2023 Build analysis are shown in Table 2-13. Detailed capacity analysis worksheets are included in the Appendix.

Table 2-13: 2023 Build Conditions LOS

ID	East-West Road	North-South Road	Lane	Build							
				AM Peak Hour				PM Peak Hour			
				v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)	v/c	Avg. delay / veh (s)	LOS	95th % Q (ft)
1	Saybrook Street	Market Street	NB RT	0.63	0.0	--	0	0.44	0.0	--	0
			SB LT	0.01	0.3	A	1	0.03	1.0	A	2
			Overall		--	--			--	--	
2	North Beacon Street	Market Street	EB LTR	0.40	16.1	B	96	0.37	16.7	B	136
			WB LTR	0.54	17.5	B	129	0.59	19.7	B	194
			NB LTR	0.69	15.9	B	190	0.59	20.9	C	197
			SB LTR	0.73	18.1	B	177	1.06	72.3	E	#508
			Overall		16.9	B			39.3	D	
3	Saybrook Street	Glencoe Street	EB LTR	0.08	7.4	A		0.07	7.2	A	
			NB TR	0.04	7.3	A		0.02	7.0	A	
			SB TL	0.02	7.2	A		0.05	7.3	A	
			Overall		--	--			--	--	

Volume-to-capacity (v/c), delay (seconds/veh), and Level of Service (LOS) obtained from HCM 2000 outputs in Synchro 8
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
# = volume for 95th percentile cycle exceeds capacity. If the v/c for this movement is less than 1.0, the 95th percentile queue will rarely be exceeded. Queue shown is maximum after two cycles.

As shown in Table 2-13, there are only minor increases in delay moving from the 2023 No-Build to 2023 Build conditions. During both the morning and evening peak hours, increases in delay are minimal. Although some movements experience an increase in delay, zero movements decrease in level of service going from No-Build to the Build conditions.



Legend

XX(YY) → AM(PM) Peak Hour Existing Volumes

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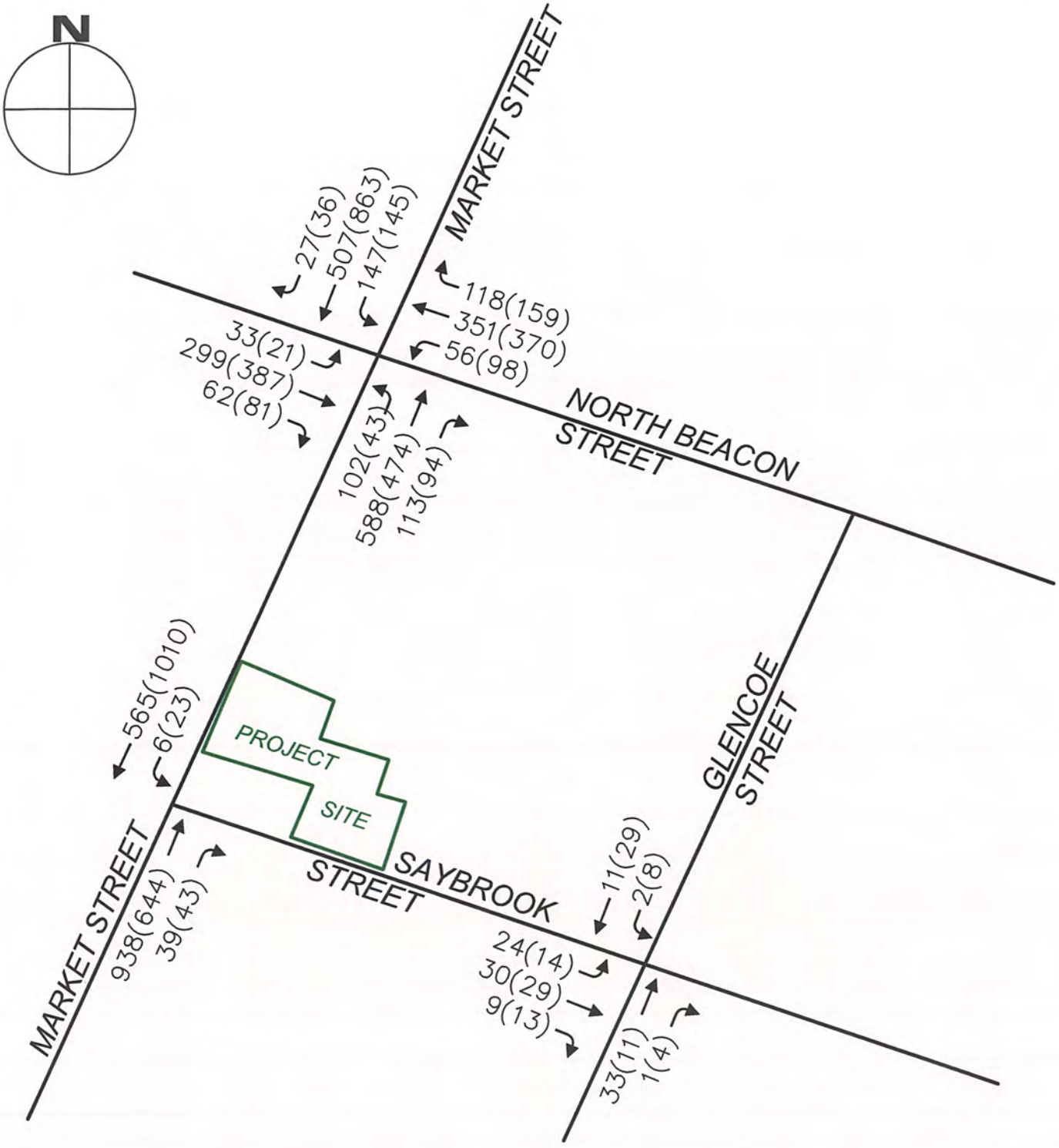
Figure 2-13
2016 Existing
Traffic Volumes

DATE: NOV. 2016

DCI PROJECT: 2016-104



Legend

XX(YY) → AM(PM) Peak Hour No-Build Volumes

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Figure 2-14
2023 No-Build
Traffic Volumes

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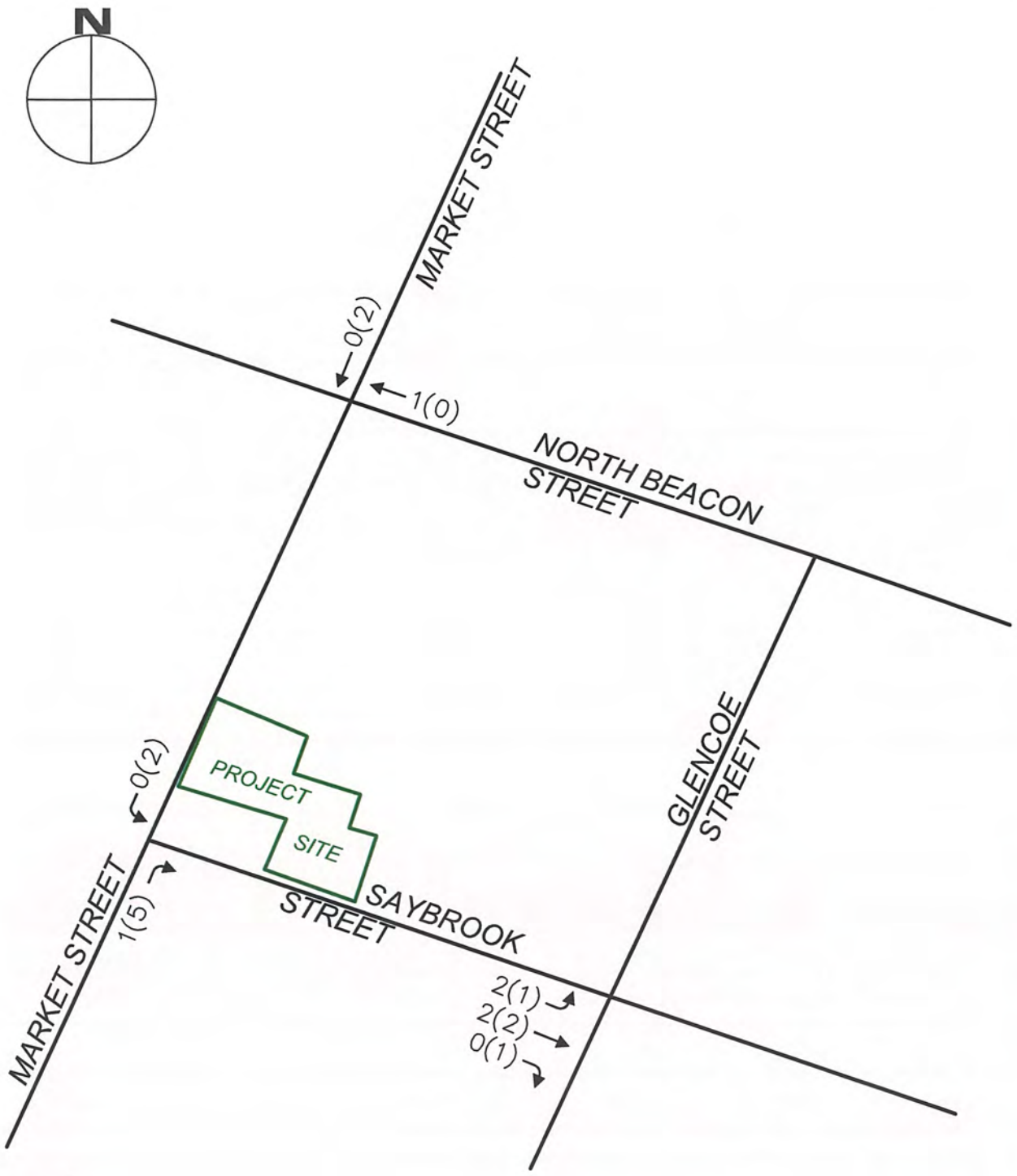
DCI PROJECT: 2016-104



Legend

XX(YY) → AM(PM) Peak Hour Project Trips

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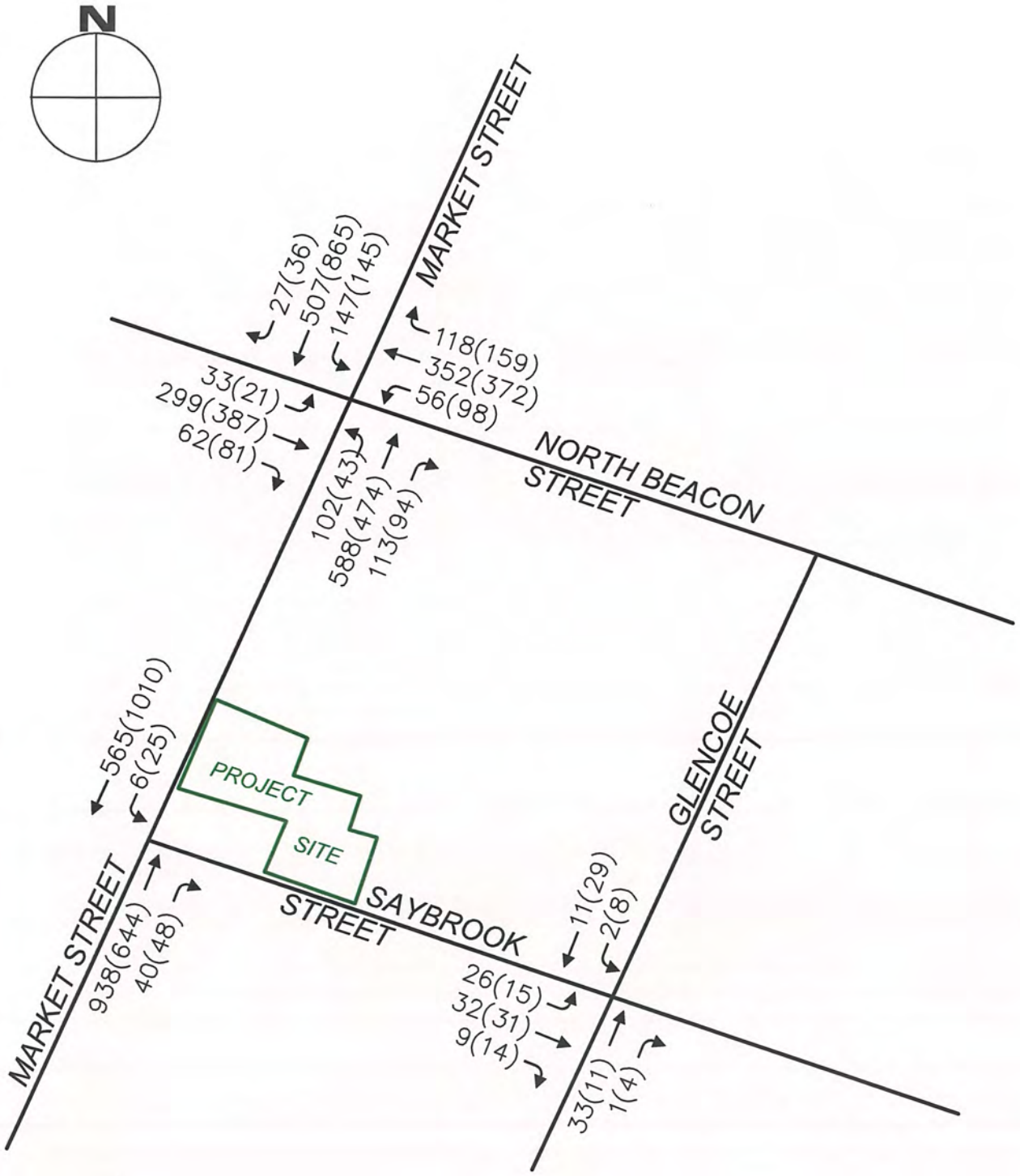
Figure 2-15
Project Trips



Legend

XX(YY) → AM(PM) Peak Hour Build Volumes

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Figure 2-16
2023 Build
Traffic Volumes

2.1.5 Evaluation of Traffic Impacts

Table 2-14 shows level of service at each study intersection, in each peak hour and each scenario. The comparison shows that the residential Project will have minimal effect on traffic operations at the study intersections.

Table 2-14: Level-of-Service Comparison: Existing, No-Build, Build Scenarios

ID	*East-West Road*	*North-South Road*	*Lane*	Existing		No-Build		Build	
				AM	PM	AM	PM	AM	PM
1	Saybrook Street	Market Street	*NB RT*	--	--	--	--	--	--
			SB LT	A	A	A	A	A	A
			Overall	--	--	--	--	--	--
2	North Beacon Street	Market Street	*EB LTR*	B	B	B	B	B	B
			WB LTR	B	B	B	B	B	B
			NB LTR	B	C	B	C	B	C
			SB LTR	B	D	B	E	B	E
			Overall	B	C	B	D	B	D
3	Saybrook Street	Glencoe Street	*EB LTR*	A	A	A	A	A	A
			NB TR	A	A	A	A	A	A
			SB TL	A	A	A	A	A	A
			Overall	--	--	--	--	--	--

LEGEND

LOS Declined from previous condition

As can be seen from Table 2-14 above, the development at 214 Market Street will have no significant impact on surrounding traffic networks. The direct impact of the Project on traffic conditions is reflected in the lack of change in Level of Service (LOS) between the No-Build and Build scenarios.

2.1.6 Parking

The Project at 214 Market Street will consist of 1,120 square feet of retail space, 32 residential units and 34 parking spaces. This results in a parking ratio of 1.1 parking spaces per dwelling unit. The resulting parking needs are shown in Table 2-15 on the subsequent page.

Table 2-15: Parking Need Calculation

Type	Size (per # of units)	Size (per 1000 Square Feet)	Range of Parking Spaces / Unit	Range of Parking Spaces / 1000 square feet	Range of Parking Spaces Required
Affordable	28		0.75-1.5		21 to 42
Market	4		0.75-1.5		3 to 6
Commercial		1.120		0.75-1.50	1 to 2
Total	32	1.120			**25 to 50**

Parking requirements set forth by the BTD are based on proximity to public transportation and housing type (Market vs. Affordable). For the purpose of this study, a range of required parking spaces was determined for the Project at 214 Market Street. As shown in Table 2-15, the proposed Project will require between 25 and 50 parking spaces. The 34 parking spaces that will be provided after redevelopment falls within this range. Further determinations will be made following discussions with BTD to determine the exact parking requirements for the proposed Project.

2.1.7 Safety

2.1.7.1 Crash Data and Analysis

Crash data from MassDOT for years 2012 through 2014 was reviewed within the jurisdiction of the Brighton neighborhood of Boston. These are the most recent years of data available through the MassDOT crash database. The MassDOT crash records offered the following information:

- Crash Location (General or Specific) / Direction of vehicle(s)
- Date / Time
- Roadway surface conditions / Light conditions / Weather conditions
- Crash Severity / Manner of Collision

The summary of the state crash analysis are shown in Table 2-16. Detailed crash analysis worksheets for each intersection for years 2012 through 2014 are contained in the Appendix.

Table 2-16: MassDOT Intersection Crash Summary 2012-2014

	Market Street at North Beacon Street	*Market Street at Saybrook Street*	*Saybrook Street at Glencoe Street*
Crash Severity			
Property Damage Only	2	1	0
Non-fatal Injury	2	0	0
Fatal Injury	0	0	0
Not Reported, Unknown	1	1	1
Total	*5*	*2*	*1*
Manner of Collision			
Sideswipe, Same Direction	1	0	0
Sideswipe, Opposite Direction	0	0	0
Angle	2	1	0
Rear-end	1	0	0
Head-on	0	0	1
Single Vehicle	1	0	0
Other, not reported	0	1	0
Total	*5*	*2*	*1*
Crash Averages			
Avg. Crashes per Year	1.67	0.67	0.33
Avg. Crash Rate (per MEV)	0.16	0.1	0.81

Table 2-16 is summarized below, and any notable trends or statistics from each intersection are pointed out.

The intersection of **Market Street at North Beacon Street** had five reported crashes over the three year study period. Two of the crashes resulted in property damage only and two resulted in non-fatal injuries. There were zero fatal crashes at this intersection during the three year study period. The five crashes at this intersection resulted in an average of 1.67 crashes per year, and a crash rate of 0.16 crashes per million entering vehicles (MEV). This crash rate is below the District 6 (0.70) and statewide (0.77) averages for signalized intersections.

The intersection of **Market Street at Saybrook Street** had two reported crashes over the three year study period according to MassDOT crash records. One of the crashes resulted in property damage only. The intersection of Market Street at Saybrook Street had an average of 0.67 crashes per year, and a crash rate of 0.10 crashes per MEV. This rate is below

the District 6 (0.53) and statewide (0.58) average for unsignalized intersections.

The intersection of **Saybrook Street at Glencoe Street** had one reported crash over the three year study period according to MassDOT crash records. The intersection of Saybrook Street at Glencoe Street had an average of 0.33 crashes per year, and a crash rate of 0.81 crashes per MEV. Although this rate is above the District 6 (0.53) and statewide (0.58) average for unsignalized intersections, it should be noted that this is a low-speed intersection, and the reason for the high crash rate is the low number of vehicles passing through the intersection.

Based on a review of the most recent available three years of data from MassDOT, it can be stated that there are not any salient existing safety deficiencies at the study intersections that need to be addressed as part of this study.

2.1.7.2 Sight Distance Analysis

Intersection Sight Distance

The location of the proposed site driveway on Sayborok Street was evaluated for available intersection sight distance (ISD). The sight distance analysis was carried out to ensure sufficient sight distance for turning maneuvers out of the site. The American Association of State Highway and Transportation Officials (AASHTO) required intersection sight distance requirements for various vehicle speeds are shown below in Table 2-17.

Table 2-17: AASHTO Minimum Recommended ISD

Design Speed (mph)	Intersection Sight Distance for Crossover, Right-Turn & Left-Turn Maneuvers (ft)
15	70
20	90
25	115
30	140
35	165
40	195
45	220
50	245

There is no posted speed limit on Saybrook Street. As Saybrook Street is a local road, the vehicle speed used for sight distance analysis was assumed

to be 30 miles per hour. Since Saybrook Street is a one-way street in the eastbound direction, vehicles exiting the site can only make a left out of the driveway. For a turning maneuver out of the site driveway, the required sight distance is 140 feet. Based on on-site measurements, the available sight distance for the proposed driveway is shown below in Table 2-20.

Table 2-18: Measured ISD at Saybrook Street Driveway

	Intersection Sight Distance for Crossover, Right-Turn & Left-Turn Maneuvers (ft)
	Looking West (For Left-Turn)
Required at 30mph	140
Measured	170

As shown in Table 2-18, the proposed site driveway at 214 Market Street meets the AASHTO recommended sight distances for the exiting maneuvers. The proposed driveway will be located approximately 170 feet east of the intersection of Saybrook Street and Market Street. These measurements were taken 15 feet back from the edge of traveled way, which is the standard location for intersection sight distance measurements. As proposed, the current plan does not require mitigation to improve intersection sight distance at the driveway for 214 Market Street.

2.1.8 Transportation & Parking Demand Management

In keeping with the City's efforts to reduce the dependency on automobile usage by encouraging travelers to use other alternatives to driving alone, the Proponent is committed to implementing Transportation Demand Management (TDM) measures to reduce dependency on autos and reduce parking demand. The nature and location of the proposed Project will facilitate TDM implementation. The site's proximity to multiple MBTA bus routes will contribute to reduced auto use by both residents and visitors.

2.1.8.1 Access Plan Agreement

The Proponent is prepared to take advantage of the site's pedestrian and transit access in marketing to future residents. TDM measures may include, but will not be limited to, the following:

- Post MBTA bus and commuter rail schedules and maps in common areas of the proposed building to inform tenants about nearby public transit

- Provide tenants with information and maps for nearby bicycle and pedestrian facilities in the area to promote pedestrian and bicycle travel
- Safe, secure bicycle storage conveniently located to encourage bicycle usage

2.1.8.2 Bicycle Accommodation

BTD has established guidelines requiring all projects that are subject to Transportation Access Plan Agreements (TAPA) to provide secure, covered bicycle parking for residents and employees, and short-term bicycle racks for visitors. The Proponent will work to ensure that sufficient on-site, secure storage will be provided to meet those guidelines.

2.1.9 Evaluation of Short-term/Construction Impacts

Most of the construction activities will be accommodated within the current site boundaries. 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 (CMP) to be filed with the BTD in accordance with the City's transportation maintenance plan requirements.

In order to minimize transportation impacts during the construction period, the following measures will be incorporated into the CMP:

- Limited construction worker parking will be permitted on-site; carpooling will be encouraged;
- A subsidy for MBTA passes will be considered for full-time employees; and
- Secure spaces will be provided on-site for workers' supplies and tools so they do not have to be brought to the Project site each day.

2.1.10 Conclusions

This Traffic Impact Study was prepared to provide an analysis of the expected impact on surrounding traffic networks resulting from the proposed redevelopment of the site at 214 Market Street in the Brighton neighborhood of Boston, Massachusetts. There is an existing office building and single-family house on site, which will be demolished to construct a new building which will house 1,120 square feet of retail space, 7,738 square

feet of common area, and 28,860 square feet of residential space (32 residential units). The site will be accessed via a curb cut on Saybrook Street, which will provide access to an at-grade parking area with 34 parking spaces, yielding a parking ratio of 1.1 parking spaces per dwelling unit.

In terms of safety, it was determined that there are no existing issues that need to be addressed as part of this study. The most recently available three years of crash data from MassDOT, 2012 through 2014, were reviewed for all three study intersections. It was determined that the crash rates calculated at the intersections of Market Street at North Beacon Street and Market Street at Saybrook Street were well below the District 6 and statewide averages. Although the intersection of Saybrook Street at Glencoe Street did have an above average crash rate, this is due to the low number of entering vehicles at the intersection, as there was only one crash at this intersection over the three year study period. Additionally, the location of the proposed site driveway was analyzed for safe intersection sight distance. It was determined that the location provides sufficient sight distance based on AASHTO standards.

Capacity analyses were carried out for the three study intersections for 2016 Existing, 2023 No-Build, and 2023 Build conditions. The Project is expected to generate five (5) net new vehicle-trips during the morning peak hour and eleven (11) net new vehicle-trips during the evening peak hour. During both the morning and evening peak hours, increases in delay are minimal and no movements decrease in level of service going from the No- Build to the Build conditions. Based on the trip generation and capacity analyses carried out, the proposed redevelopment of the site at 214 Market Street will have minimal impact on surrounding traffic networks.