PROJECT NOTIFICATION FORM

139-149 Washington Street

Submitted to:
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Submitted by:
AvalonBay Communities, Inc.
51 Sleeper Street, Suite 750
Boston, MA 02210

Prepared by:
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

In Association with:
CBT Architects
Exclusive Real Estate
Goulston & Storrs
Howard Stein Hudson
Nitsch Engineering
Sanborn Head & Associates
Gregory Lombardi Design

October 26, 2016

Epsilon
ASSOCIATES INC.

PROJECT NOTIFICATION FORM

139-149 Washington Street

Submitted to:
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Submitted by:
AvalonBay Communities, Inc.
51 Sleeper Street, Suite 750
Boston, MA 02210

Prepared by:
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

In Association with:
CBT Architects
Exclusive Real Estate
Goulston & Storrs
Howard Stein Hudson
Nitsch Engineering
Sanborn Head & Associates
Gregory Lombardi Design

October 26, 2016

Table of Contents

Table of Contents

List of Appendices

List of Figures

List of Figures (Continued)

List of Tables

List of Tables (Continued)

Chapter 1.0

General Information

1.0 GENERAL INFORMATION

1.1 Introduction

AvalonBay Communities Inc., (the Proponent), proposes the redevelopment of 139-149 Washington Street, located between Monastery Road and Fidelis Way in the Brighton neighborhood of Boston. The proposed development includes the demolition of the existing structures and the construction of two new five- to six-story residential buildings, with one building containing apartments and one building containing condominiums (the Project).

The Project site is located in a vibrant residential neighborhood. The Project seeks to continue the residential feel on this portion of Washington Street by recreating the streetscape with an increased setback, allowing for a traditional sidewalk with trees, as well as a second row of trees and plantings, creating a front yard experience to match that of the neighborhood context across the street. In addition to the benefits to the public realm, the Project also provides new housing, including new homeownership units and new affordable housing, construction and permanent jobs, and improved tax revenues for the City.

This Project Notification Form (PNF) is being submitted to the Boston Redevelopment Authority d/b/a the Boston Planning and Development Agency ("BRA") to initiate review of the Project under Article 80B, Large Project Review, of the Boston Zoning Code.

1.2 Project Identification and Team

Name /Location:	139-149 Washington Street
Proponent:	AvalonBay Communities, Inc. 51 Sleeper Street, Suite 750 Boston, MA 02210 (617) 654-9500 Michael Roberts David Gillespie Michela DeSantis
Architect:	CBT Architects 110 Canal Street Boston, MA 02114 (617) 262-4354 Alfred Wojciechowski Catriel Tulian Jennifer Robinson

Community Outreach:	Exclusive Real Estate 10 Derne Street Boston, MA 02114 (617) 263-1157 Harry Collings Jay Walsh
Landscape Architect:	Gregory Lombardi Design 235 Massachusetts Avenue Cambridge, MA 02140 (617) 492-2808 Bill Madden Kurt Massey
Legal Counsel:	Goulston & Storrs 400 Atlantic Avenue Boston, MA 02110 (617) 482-1776 Marilyn Sticklor Brian Dugdale
Permitting Consultants:	Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Peggy Briggs Talya Moked
Transportation and Parking Consultant:	Howard Stein Hudson 11 Beacon Street, Suite 1010 Boston, MA 02108 (617) 482-7080 Guy Busa Michael Santos
Civil Engineer:	Nitsch Engineering 2 Center Plaza, Suite 430 Boston, MA 02108 (617) 338-0063 John Schmid, PE Jessica Yarmarkovich, EIT

Geotechnical Consultant: Sanborn Head & Associates
1 Technology Park Drive
Westford, MA 01886
(978) 392-0900
Kevin Stetson

1.3 Project Summary

The approximately 3.3-acre Project site is located at 139-149 Washington Street between Monastery Road and Fidelis Way in the Brighton neighborhood of Boston (see Figure 1-1). The existing buildings on the site, currently home to the St. John's Seminary Theological Institute and the ABCD Allston-Brighton Head Start, will be demolished as part of the Project.

The Project will include the construction of two new residential buildings. The first building will contain approximately 220 apartments with a mix of studio, one-bedroom, two-bedroom and three-bedroom units. The second building will contain approximately 30 condominiums with a mix of one-bedroom, two-bedroom and three-bedroom units. Approximately 220 parking spaces will be located on the lower floors of the first building and 30 parking spaces will be provided for the condominium building.

Section 2.2 includes additional information about the Project's program.

1.4 Public Benefits

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

Smart Growth/Transit-Oriented Development

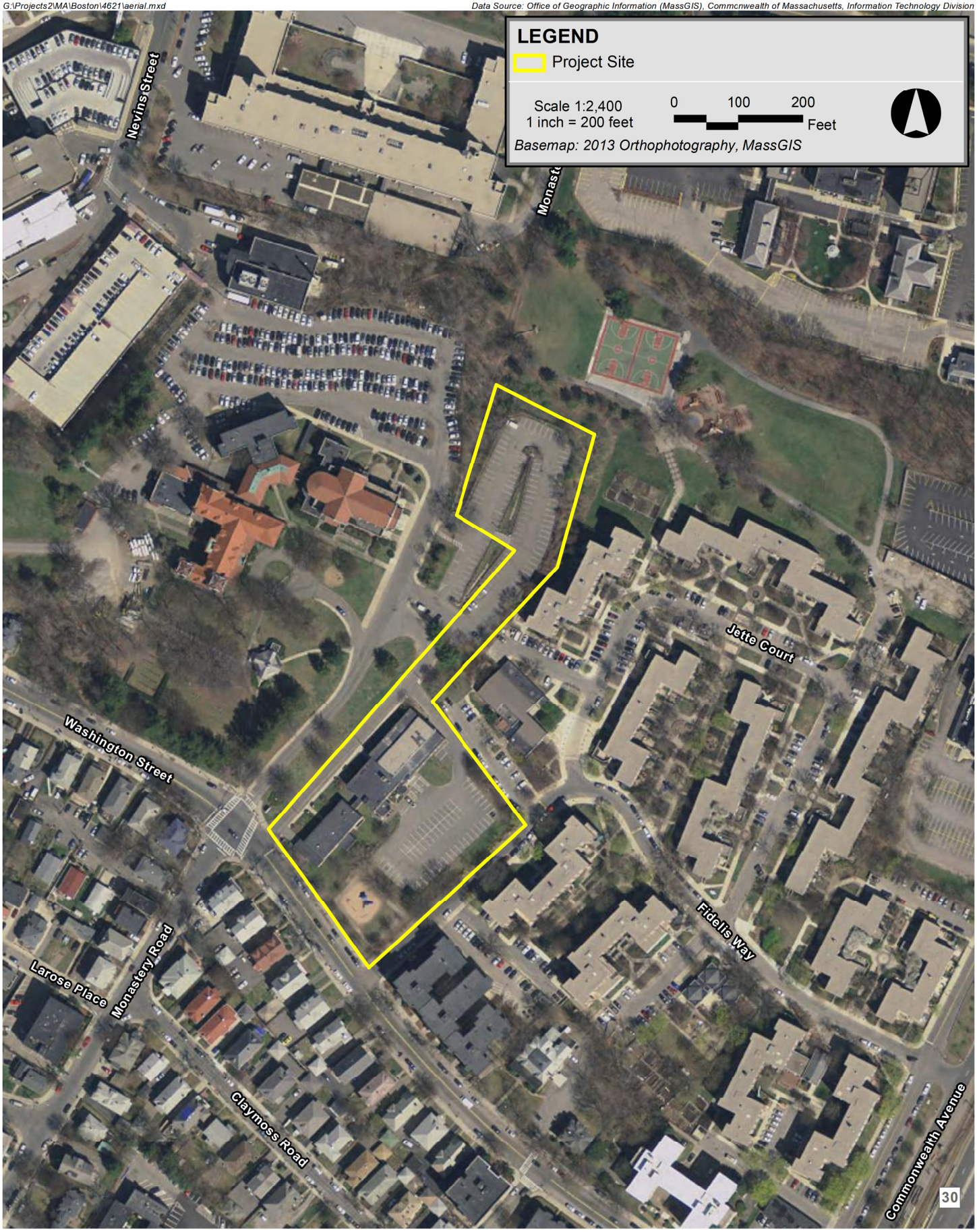
The Project is consistent with smart-growth and transit-oriented development principles. The Project site is well served by existing public transportation, including major regional rapid transit, and bus lines that provide easy access to the Project site from the Greater Boston region.

Affordable Housing

The Project will comply with the applicable Inclusionary Development Policy by providing on-site affordable units in both the rental and condominium components.

G:\Projects2\MA\Boston\4621\aerial.mxd

Data Source: Office of Geographic Information (MassGIS), Commcnwealth of Massachusetts, Information Technology Division



139-149 Washington Street Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 1-1

Aerial Locus Map

Improved Street and Pedestrian Environment

The Project will enhance the streetscape by increasing the setback, allowing for a traditional sidewalk with trees, as well as a second row of trees, and plantings, creating a front yard experience to match that of the neighborhood context across the street and create a two-sided street.

Sustainable Design/Green Building

The Proponent is committed to building a LEED certified project with a target of the Silver level, incorporating sustainable design features into the Project to preserve and protect the environment.

Increased Employment

The Project will create approximately 250 construction jobs and approximately 15 permanent jobs upon stabilization.

New Property Tax

The Project will result in increased tax revenues compared to the existing condition.

1.5 Zoning and Regulatory Controls

The Project site is located in the Allston-Brighton Neighborhood District, a neighborhood district that is governed by Article 51 of the Zoning Code (the "Code"). The southern (front) portion of the Project site (fronting along Washington Street) is located in the St. Gabriel's Monastery Conservation Protection Subdistrict (the "CPS Subdistrict") and the northern (rear) portion of the Project site is located within the St. Elizabeth's Hospital Medical Center Institutional Subdistrict (the "IS Subdistrict").

After implementation of the Project, the portion of the Project site in the IS Subdistrict will no longer be operated for institutional use.

The Proponent will seek zoning relief through a number of related actions: 1) a map amendment to remove the rear potion of the Project site from the IS Subdistict and consolidate the entire Project site in the CPS Subdistrict; 2) a text amendment to Article 51 to modify certain provisions pertaining to a PDA in the CPS Subdistrict; and 3) designation of the Project site as a Planned Development Area ("PDA") and adoption of a Development Plan for the Project site.

Uses

The uses of the Project for multi-family residential (except in the basement) and accessory parking are allowed in the CPS Subdistrict, but not in the IS Subdistrict. As noted above, it is proposed to consolidate zoning of the entire Project site in the CPS Subdistrict.

Dimensional Requirements

As noted above, it is proposed to consolidate zoning of the entire Project site in the CPS Subdistrict. The Project will seek zoning relief through modification of certain dimensional requirements applicable to a PDA in the CPS Subdistrict, followed by designation of the Project Site as a PDA and adoption of a Development Plan for the Project site.

Parking and Loading

Parking and loading requirements are determined through Article 80B Large Project Review. Current plans include an internal loading dock and 1 parking space per residential unit.

1.6 Legal Information

1.6.1 Legal Judgments Adverse to the Proposed Project

The Proponent is not aware of any legal judgments in effect or other legal actions pending which involve the Project.

1.6.2 History of Tax Arrears on Property

The Proponent does not own any real estate in Boston on which real estate tax payments are in arrears.

1.6.3 Evidence of Site Control/Nature of Public Easements

The Project site is owned by Roman Catholic Archbishop of Boston. The Proponent and Roman Catholic Archbishop of Boston are parties to a purchase and sale agreement regarding the Project site.

There are no public easements in or through the Project site, except an easement in favor of the Commonwealth of Massachusetts for tunnel for the conveyance of water, which runs in, through and under the Project site. All easements in effect will be accommodated as part of the design of the Project. See Appendix A for a site survey.

1.7 Anticipated Permits and Approvals

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

Table 1-1 Anticipated Permits and Approvals

Agency Name	Permit/Approval
Local	
Boston Planning and Development Agency	Article 80B Large Project Review and Execution of Related Agreements Recommendation of Text and Map Amendments to rezone portion of Site from IS Subdistrict to CPS Subdistrict and modify provisions applicable to a PDA Development Plan in CPS Subdistrict Approval of Development Plan and Recommendation of Petition for Map Amendment for PDA Designation Design Review
Boston Zoning Commission/Mayor	Approval of Text and Map Amendments to rezone portion of Site from IS Subdistrict to CPS Subdistrict and modify provisions applicable to a PDA Development Plan in CPS Subdistrict Approval of Development Plan and Map Amendment for PDA Designation
Boston Civic Design Commission	Schematic Design Review
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Water and Sewer Commission	Site Plan Review Water and Sewer Connection Permits
Public Improvement Commission/Public Works Department	Specific Repair Plan/Curb Cut Permit (as required) Permits/Canopy Licenses (as required) Agreement for Temporary Earth Retention systems, Tie-Back Systems and Temporary Support of Subsurface Construction (as required)
Public Safety Commission/Boston Committee on Licenses	Permit to Erect and Maintain Parking Structure Inflammables License
Boston Fire Department	Plan Review Approval of Fire Safety Equipment
Boston Parks and Recreation Commission	Approval for demolition/construction within 100 feet of Fidelis Way Park
Boston Landmarks Commission	Demolition delay for demolition of building in "Neighborhood" over 50 years of age
Boston Inspectional Services Department	Building Permit Other Construction-Related Permits Certificates of Occupancy
Federal	
EPA	NPDES Permit for Construction Activity on 1 acre or more

1.8 Public Participation

Since March of 2016, the Proponent and its Project team have met with elected officials, the City of Boston, abutters, neighborhood groups and other interested parties to discuss the Project. Elected officials and City agencies include City Councilor Ciommo, Representative Honan, Secretary William Francis Galvin, the Mayor's Office of Neighborhood Services, the Boston Transportation Department (BTD) and the BRA. Neighborhood groups include the Allston Brighton Community Development Corporation, the Brighton Allston Improvement Association, the Commonwealth Tenants Association, Steward Healthcare, and the Archdiocese of Boston. The Project team will continue to meet with the community as the Project moves forward.

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

1.9 Schedule

It is anticipated that construction will commence by the end of 2017, and will last approximately 24 months.

Chapter 2.0

Project Description

2.0 PROJECT DESCRIPTION

2.1 Existing Site and Area Context

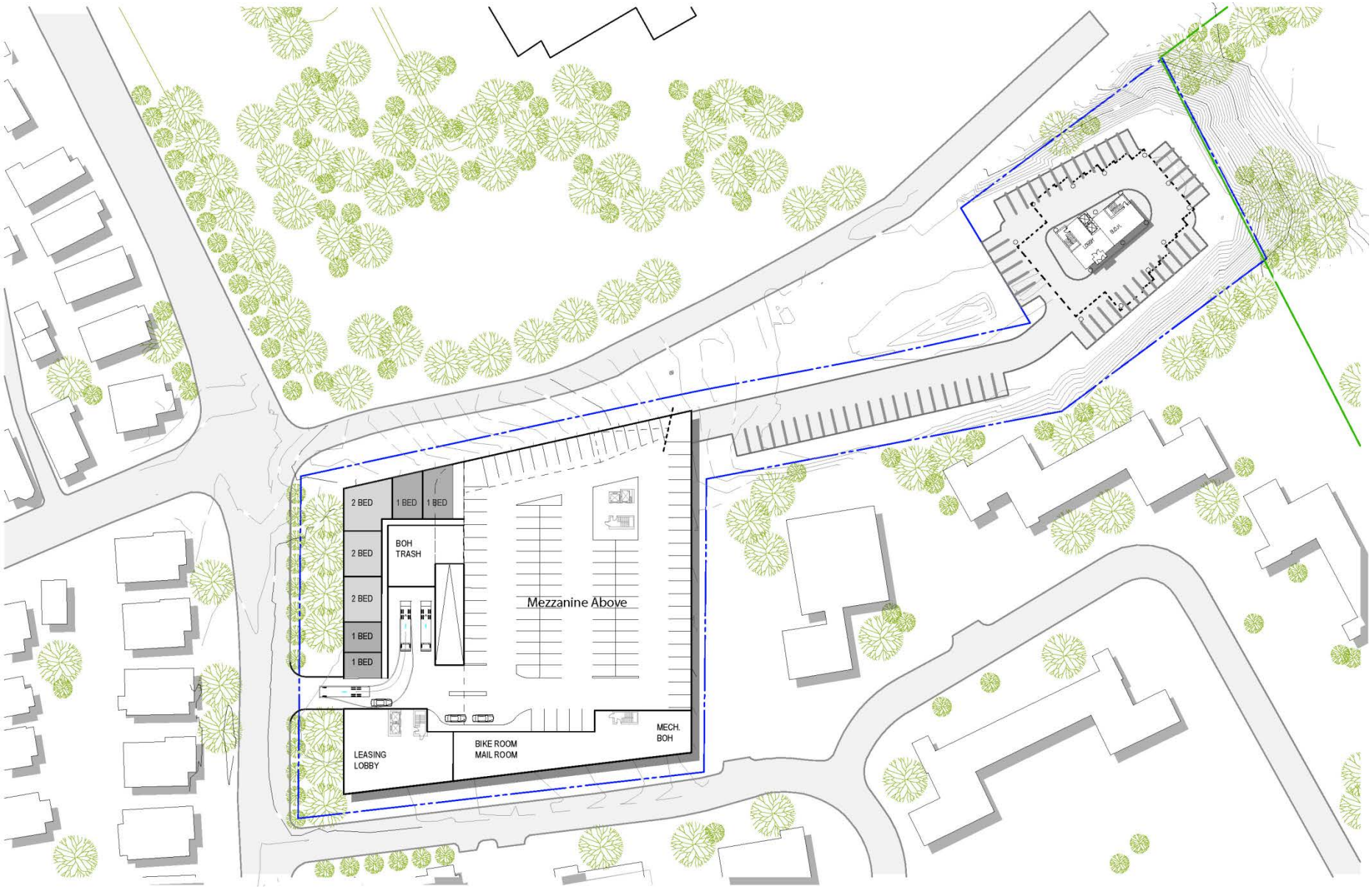
The approximately 3.3-acre Project site is located at 139-149 Washington Street between Monastery Road and Fidelis Way in the Brighton neighborhood of Boston. The site is currently home to the St. John's Seminary Theological Institute and the ABCD Allston-Brighton Head Start, as well as the adjacent parking lot. The northern portion of the site currently contains surface parking. The site includes a 15-foot slope from the curb to the northernmost reaches of the property line, its highest point. At this edge, the slope immediately drops off overlooking Fidelis Way Park.

The immediate neighborhood surrounding the site contains a mixture of institutional, retail and residential uses. To the northwest of the site is the St. Elizabeth's Medical Center. To the south and east of the site there is a mixture of single family homes, duplexes, and three to six-story multi-family residential buildings. Approximately a half-mile from the site to the northwest is the Brighton Center neighborhood, which contains a variety of small retail shops and restaurants on the ground floor with offices above.

The site is in close proximity to several MBTA bus routes and subway stations, including the MBTA Green line Washington Street subway stop, the 65 bus on Washington Street which connects the site to Brighton Center and Kenmore Square, and the 501/504 bus at the corner of Washington Street and Cambridge Street that provides limited stop access to downtown Boston and Back Bay. The Project site is also located along major bike routes, which has become an increasingly popular mode of transportation in recent years.

2.2 Project Description

The Project will include the construction of two new residential buildings. The first building, located on the southern portion of the site, will contain approximately 250 apartments with a mix of studio, one-bedroom, two-bedroom and three-bedroom units. Studio and one-bedroom units will comprise approximately 53 percent of the building, while two- and three-bedroom units will comprise approximately 47 percent. The second building will be located on the northern portion of the site and will contain approximately 30 condominiums with a mix of one-bedroom, two-bedroom and three-bedroom units. Approximately 27 percent of the units will be one-bedroom, approximately 53 percent of the units will be two-bedroom, and approximately 20 percent will be three-bedroom. Approximately 220 parking spaces will be located on the lower floors of the first building, and 30 parking spaces will be on the ground level of the second building, which results in a total parking ratio of 1 space per unit. The Project will include an approximately 18,000 sf central courtyard as an amenity for the residents, with additional amenity space included on the roofs of the buildings. Figures 2-1 to 2-8 include a site plan, floor plans, sections and elevations. Table 2-1 presents the Project program.



139-149 Washington Street Boston, Massachusetts

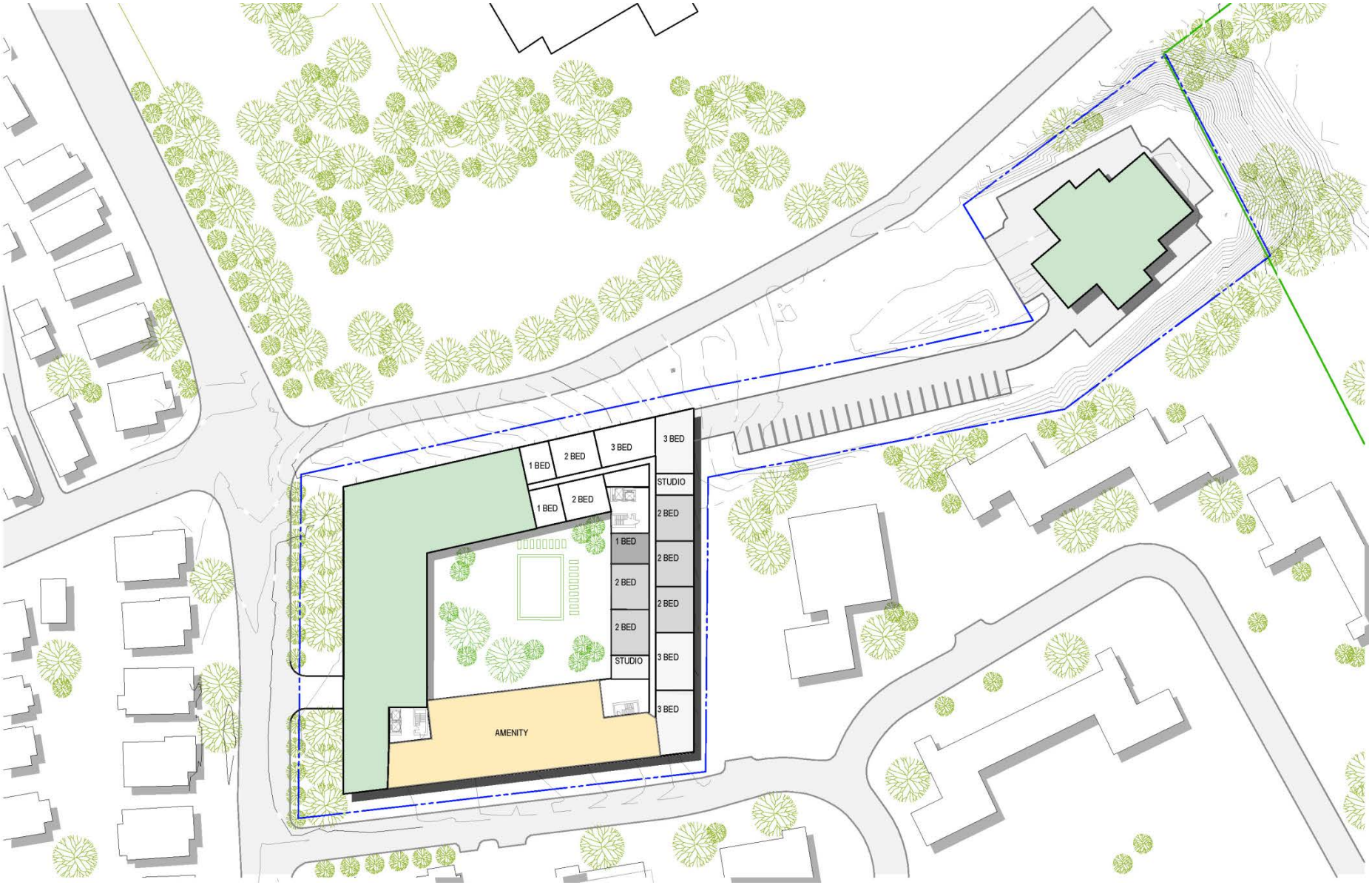
cbt

Figure 2-1
Ground Floor Plan

139-149 Washington Street Boston, Massachusetts

cbt

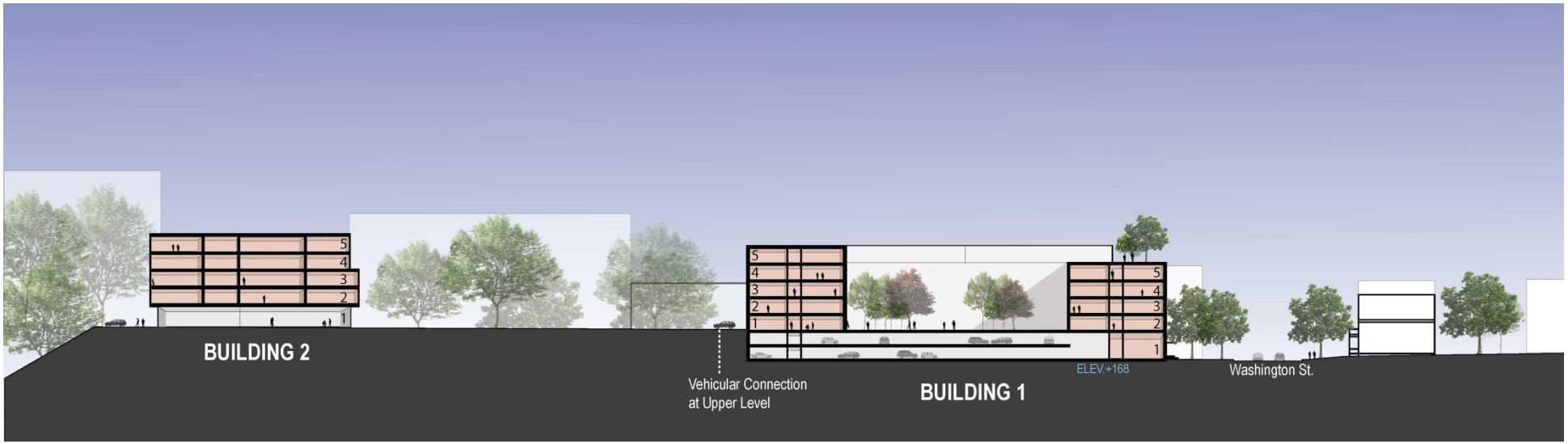
Figure 2-2
Typical Floor Plan



139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-3
Roof Plan



139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-4
Sections

Building 1 South Elevation

Building 1 West Elevation

139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-5
Elevations

Building 1 North Elevation

Building 1 East Elevation

139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-6
Elevations

Building 2 North Elevation

Building 2 West Elevation

139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-7
Elevations

Building 2 South Elevation

Building 2 East Elevation

139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-8
Elevations

Table 2-1 Project Program

Project Element	Approximate Dimension
Residential	
Rental units	220
Ownership units	30
Total Square Footage	**363,000 sf**
Height	Zoning height of 69 feet Height along Washington Street is approximately 62 feet (5 Stories)
Parking	250 spaces
FAR (not including parking)	3.0
Dwelling Units	75 units/acre

The Project includes several massing and architectural elements to effectively integrate into the neighborhood context. The Project places residential units at street level along Washington Street with direct access stoop entrances, emphasizing the residential nature of the neighborhood. The height along Washington Street will be five stories in order to relate to both the multifamily homes across the street and the taller buildings towards Commonwealth Avenue, thus re-establishing a contextual residential experience. Parking and loading will be de-emphasized by bringing these functions inside the building and creating a porte-cochere front door drop off feel. Loading, trash and move-in operations will be contained within the building.

The setback from the Washington Street curb will be increased from the existing 25 feet to 45 feet, allowing for a traditional sidewalk with two rows of trees and plantings, creating a front yard experience to match that of the neighborhood context across the street (see Figure 2-9).

2.2.1 Site Access Alternatives

Washington Street

The Project as currently proposed provides parking and loading access via a relocated curb cut on the portion of the Project site fronting Washington Street (see Figure 2-1).

Fidelis Way

In response to community and City agency comments, the Proponent is exploring an alternative for parking and loading access via Fidelis Way. Although the Proponent will continue to explore this alternative during the permitting process, Fidelis Way is not a public way within the control of the City, and, therefore, the ability to use Fidelis Way for access is subject to factors beyond the Proponent's control.

Fidelis Way is located adjacent to the eastern edge of the Project site. In this alternative, site users would turn off Washington Street and enter the site via one of two new curb cuts on Fidelis Way (see Figure 2-10). This alternative would still allow loading to be contained within the building footprint and would allow the Proponent to eliminate the curb cut on Washington Street. Separate curb cuts would be provided for the apartment building in the lower portion of the site and the condominium building in the upper portion of the site.

Monastery Road Extension

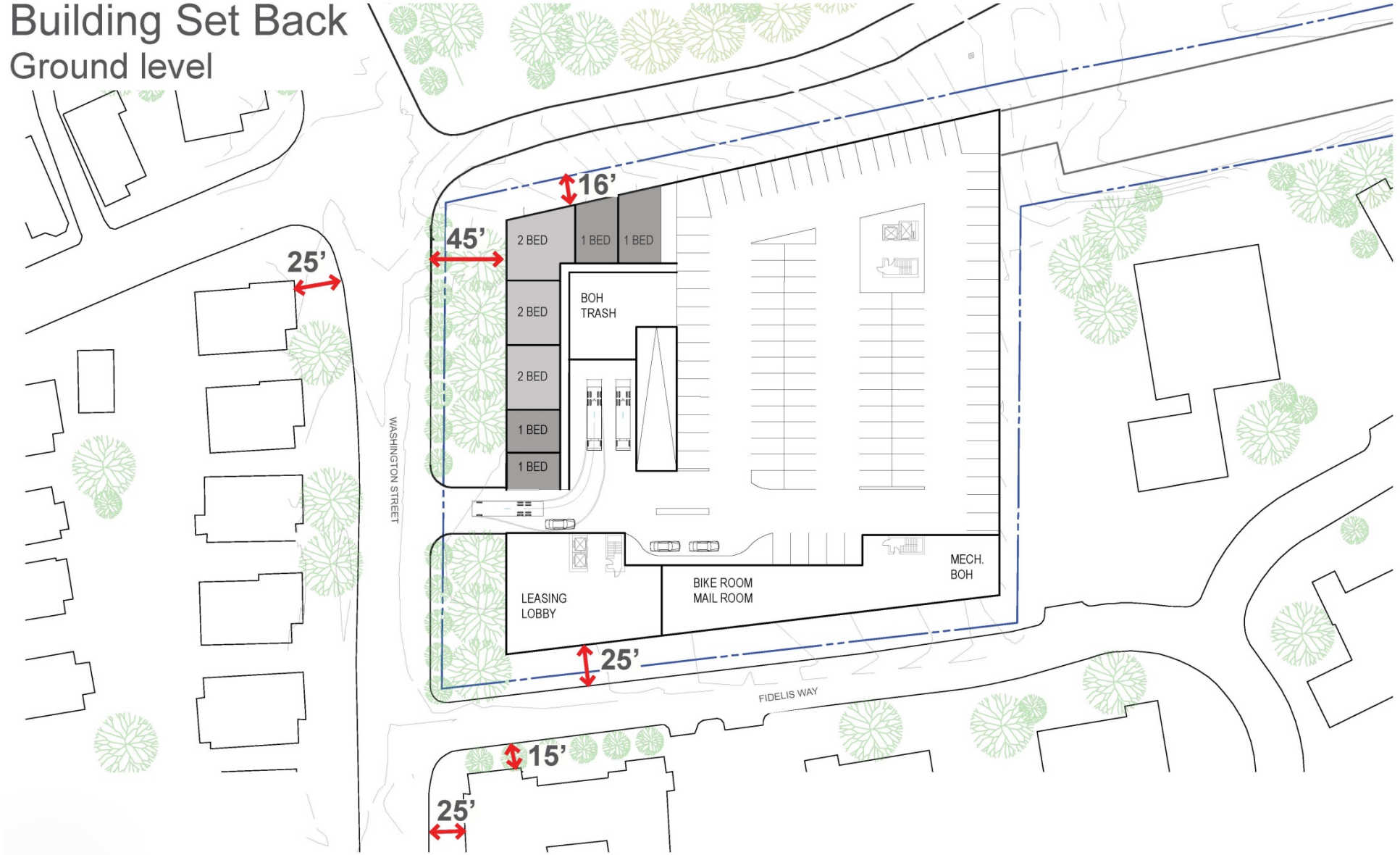
In response to community and City agency comments, the Proponent is also exploring an alternative for parking and loading access via a private driveway aligned with Monastery Road. Although the Proponent will continue to explore this alternative during the permitting process, this driveway is not a public way within the control of the City, and, therefore, the ability to use the driveway for access is subject to factors beyond the Proponent's control.

The driveway aligned with Monastery Road is located adjacent to the western edge of the Project site. In this alternative, site users would turn off Washington Street and enter the site via the signalized intersection at Washington Street/Monastery Road (see Figure 2-11). Due to the slope of the driveway at the entry point, this alternative poses challenges which limit access to both buildings, especially for loading access.

2.3 Evolution of Design

Since March of 2016, the Proponent and its Project team have met with elected officials, the City of Boston, abutters, neighborhood groups and other interested parties to discuss the Project. In response to comments provided during these meetings, the Proponent has made several revisions to the original design considered. The Proponent has since:

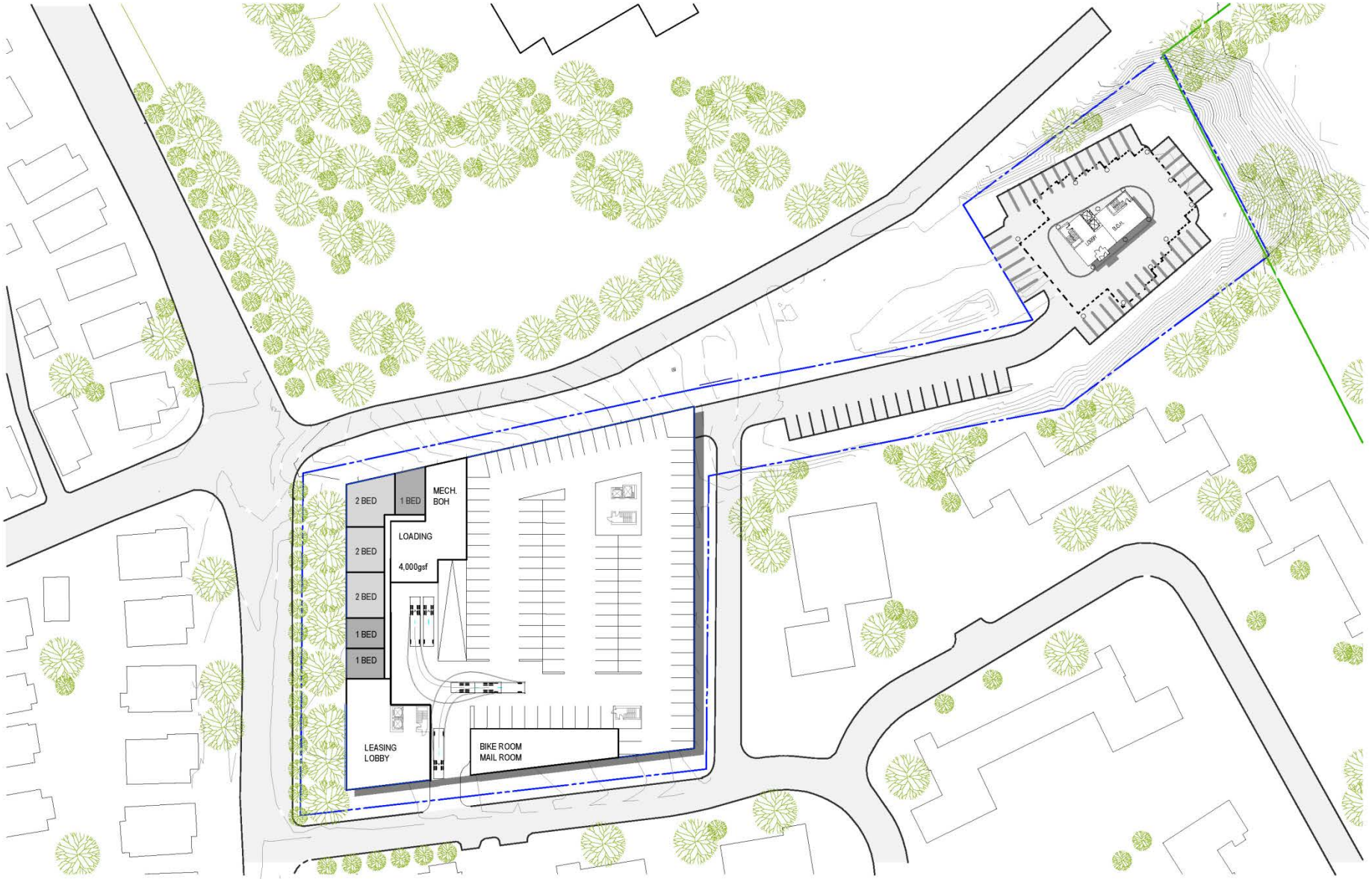
- Reduced the unit count by almost 13% to 250 units;
- Increased the parking ratio from 0.8 spaces per unit to 1.0 spaces per unit;
- Reduced the height of the building on Washington Street by setting the sixth floor back and using site grades to bury a portion of the parking garage;
- Increased the setback from Washington Street, allowing for an increased landscape buffer;
- Added a home ownership component; and
- Placed the loading dock inside the building footprint.



139-149 Washington Street Boston, Massachusetts

cbt

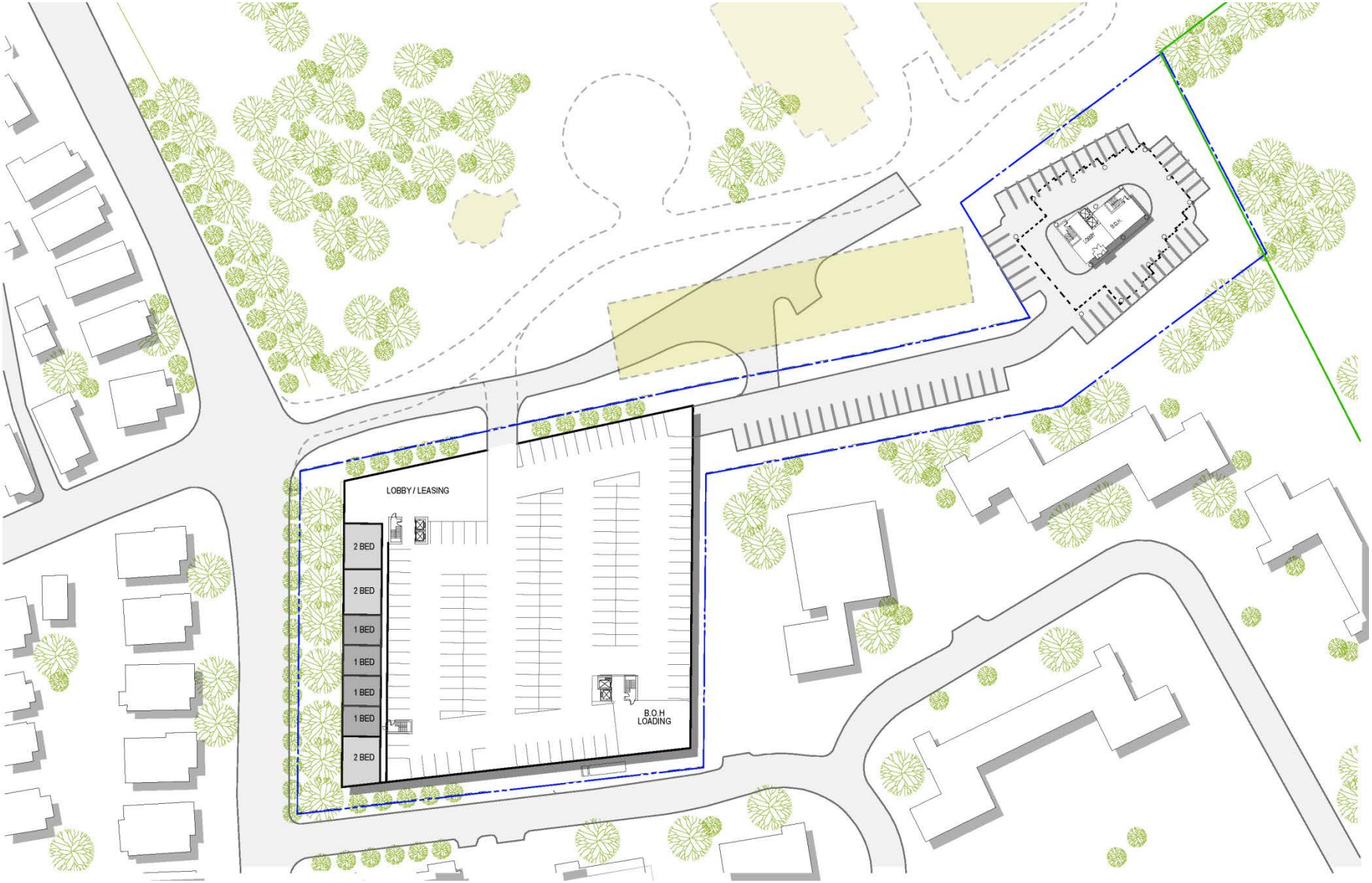
Figure 2-9
Setbacks



139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-10
Fidelis Way Alternative



139-149 Washington Street Boston, Massachusetts

cbt

Figure 2-11
Monastery Road Alternative

Chapter 3.0

Transportation

3.0 TRANSPORTATION

3.1 Introduction

Howard Stein Hudson (HSH) has conducted an evaluation of the transportation impacts of the redevelopment of 139-149 Washington Street in Boston's Brighton neighborhood. This transportation study adheres to the Boston Transportation Department (BTD) *Transportation Access Plan Guidelines* and Boston Planning & Development Agency (BRA) Article 80 Large Project Review process. This study includes an evaluation of the existing condition, future conditions with and without the Project, projected parking demand, loading operations, transit services, pedestrian and bicycle activity, and construction-period impacts. This study includes the traffic from both the proposed 101-105 Washington Street project and the 159-201 Washington Street project. The study also incorporates all proposed future development within the area, including proposed projects along Washington Street. Based on the finding of this study, the Project will have minimal impact on the study area intersections and the pedestrian and public transportation facilities in the area.

3.1.1 Project Description

The Project site is an approximately 3.3-acre property located at 139-149 Washington Street, currently accessed by two driveways on the north side of Washington Street at the signalized intersection with Monastery Road. The existing uses on the site include the Action for Boston Community Development (ABCD) Allston-Brighton Head Start program and the St. John's Seminary Theological Institute, both located toward the front of the site, adjacent to Washington Street. A surface parking lot containing 62 spaces serves both of these uses. A 142-space parking lot is also located in the rear of the Project site and on adjoining adjacent property; it is currently being used by St. Elizabeth's Medical Center as overflow/satellite parking. Approximately 80 percent (117 spaces) are located on the Project's property, with the remaining spaces located on the adjacent parcel.

The Project includes removal of the existing surface parking spaces and demolition of the existing buildings on site. Approximately 220 residential apartment units will be constructed in the portion of the site adjacent to Washington Street and approximately 30 condominium units will be constructed in the rear of the site. The Project will include approximately 250 parking spaces. The Project team is currently proposing site access via a relocated curb cut on Washington Street on the front portion of the Project site. In addition, two alternative access options are being explored (both of which are subject to gaining rights of access over properties which are not public ways): access off of Fidelis Way and access via the signalized intersection at Washington Street/Monastery Road. All three site access options will allow for parking and loading to occur on the Project site with no direct impact to the adjacent roadway network.

3.1.2 Study Methodology

This transportation study and its supporting analyses were conducted in accordance with BTD guidelines, and are described below.

The Existing (2016) Condition analysis includes an inventory of the existing transportation conditions such as traffic characteristics, parking, curb usage, transit, pedestrian circulation, bicycle facilities, loading, and site conditions. Existing counts for vehicles, bicycles, and pedestrians were collected at the study area intersections. A traffic data collection effort forms the basis for the transportation analysis conducted as part of this evaluation.

The future transportation conditions analyses evaluate potential transportation impacts associated with the Project. The long-term transportation impacts are evaluated for the year 2023, based on a seven-year horizon from the year of the filing of this traffic study.

The No-Build (2023) Condition analysis includes general background traffic growth, traffic growth associated with specific developments (not including this Project), and transportation improvements that are planned in the vicinity of the Project site.

The Build (2023) Condition analysis includes a net increase in traffic volume due to the addition of Project-generated trip estimates to the traffic volumes developed as part of the No-Build (2023) Condition analysis. The transportation study identifies expected roadway, parking, transit, pedestrian, and bicycle accommodations, as well as loading capabilities and deficiencies.

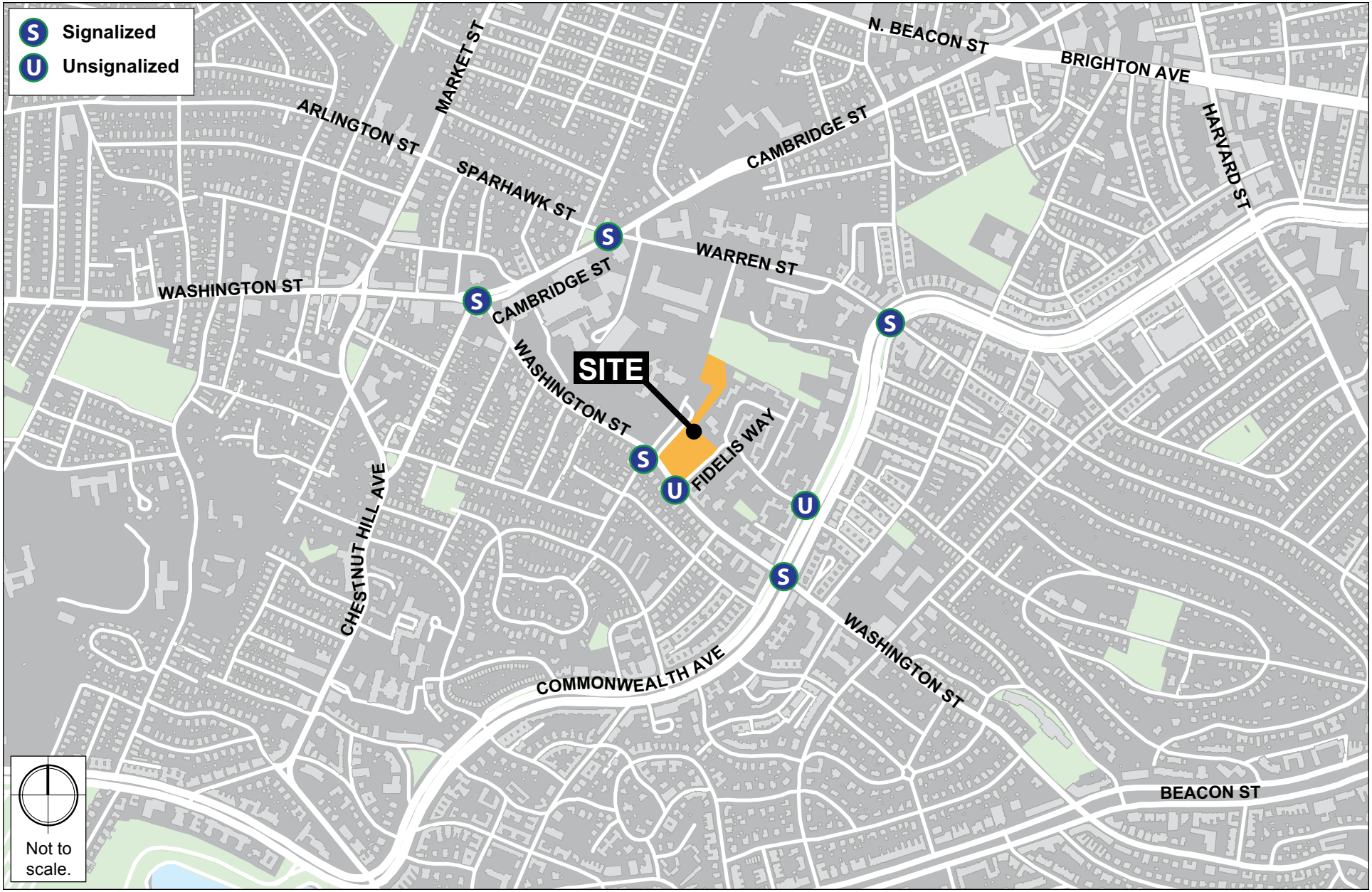
The final part of the transportation study identifies measures to mitigate Project-related impacts and to address any traffic, pedestrian, bicycle, transit, safety, or construction related issues that are necessary to accommodate the Project.

An evaluation of short-term traffic impacts associated with construction activities is also provided.

3.1.3 Study Area

The transportation study area is bounded by Washington Street to the southwest, Cambridge Street to the northwest, Warren Street to the northeast, and Commonwealth Avenue to the southeast. The study area consists of the following seven intersections in the vicinity of the Project site, also shown on Figure 3-1:

- Cambridge Street/Washington Street/Winship Street (signalized);
- Washington Street/Monastery Road (signalized);
- Commonwealth Avenue/Washington Street (signalized);
- Commonwealth Avenue/Warren Street/Kelton Street (signalized);
- Cambridge Street/Warren Street/Sparhawk Street (signalized);
- Washington Street/Fidelis Way (unsignalized); and
- Commonwealth Avenue/Fidelis Way (unsignalized).



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-1
Study Area Intersections

3.2 Existing Condition

This section includes a description of existing study area roadway geometry, intersection geometry, intersection traffic control, curb usage (parking), public transportation services, peak-hour traffic volumes for vehicles, bicycles, and pedestrians, and intersection traffic operations.

3.2.1 Existing Roadway Conditions

The study area includes the following roadways, which are categorized according to the Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning functional classifications:

Washington Street is a two-way two-lane roadway located adjacent to the southwest side of the Project site. It runs in a generally southeast-northwest direction between Route 9 in Brookline to the southeast and Cambridge Street to the northwest where it turns to the west and becomes the continuation of the Cambridge Street alignment and continues west and northwest through Brighton Center to Newton Corner. The segment of Washington Street adjacent to the Project site and continuing southeast is classified as an urban minor arterial roadway under BTD jurisdiction. Where it continues west and northwest on the Cambridge Street alignment, it is classified as an urban principal arterial, and it includes a dedicated bicycle lane in both directions. Sidewalks and parallel parking are provided along Washington Street within the study area.

Commonwealth Avenue is a two-way four-lane roadway located southeast of the Project site. It is classified as an urban principal arterial roadway under BTD jurisdiction and runs in a predominately east-west direction between I-95 (Route 128) in Weston to the west and Arlington Street in Boston's Back Bay neighborhood to the east. In the vicinity of the site, the roadway has a northeast-southwest orientation. The B Branch of the MBTA Green line travels within a wide median that separates the directions of travel along Commonwealth Avenue in the Project vicinity. Carriage roads are provided along both sides of Commonwealth Avenue, providing access to local destinations, parking, and minor streets. The carriage roads are separated from the main roadway by raised medians ranging in width from a few feet to a couple tens of feet, with occasional breaks for access. The carriage road along Commonwealth Avenue eastbound will be herein referred to as the "south carriage road" and the carriage road along Commonwealth Avenue westbound will be herein referred to as the "north carriage road." The north carriage road is bi-directional from the intersection with Warren Street and Kelton Street to the intersection with Washington Street; otherwise the carriage roads are one-way in the same direction as the adjacent lanes of the main line. Sidewalks are provided along the carriage roads, as is intermittent parking.

Cambridge Street is a two-way, two lane roadway located to the northwest of the Project site that runs in a predominately east-west direction, from Memorial Drive on the Cambridge side of the Charles River to the east, to Washington Street just northwest of the Project site. The Cambridge Street alignment continues in both directions as River Street to the east in Cambridge and the continuation of Washington Street to the west. Cambridge Street is classified as an urban principal arterial roadway under BTD jurisdiction. It has a dedicated bicycle lane in both directions in the vicinity of the Project site. On-street parking and sidewalks are provided on both sides of Cambridge Street.

Warren Street is a two-way, two lane roadway located to the northeast of the Project site that runs in a northwest-southeast direction between Cambridge Street to the northwest, where the alignment continues as Sparhawk Street, and Commonwealth Avenue to the southeast, where the alignment continues as Kelton Street. Warren Street and its continuation roadways are classified as urban collectors under BTD jurisdiction. On-street parking and sidewalks are provided on both sides of Warren Street.

Monastery Road is a two-way, two lane roadway located to the south of the Project site that runs in a predominately north-south direction between Washington Street to the north and Colborne Road to the south. Monastery Road is classified as a local road under BTD jurisdiction. On-street parking and sidewalks are provided on both sides of Monastery Road.

Fidelis Way is a two way, two lane roadway located adjacent to the southeast of the Project site and runs predominately east-west direction between Commonwealth Avenue to the east and Washington Street to the west. Fidelis Way is classified as a local road under the jurisdiction of the Boston Housing Authority (BHA). On-street parking is only available on one side of the street. Sidewalks are provided on both sides of Fidelis Way in most areas, but not at the Project site.

3.2.2 Existing Intersection Conditions

Existing conditions at the study area intersections are described below.

Cambridge Street/Washington Street/Winship Street is a signalized intersection with four approaches: the opposing approaches of eastbound Washington Street and westbound Cambridge Street, northbound Washington Street, and northeast-bound Winship Street.

The Washington Street eastbound approach consists of two lanes: one through lane and one shared right-turn/hard right-turn lane. The Cambridge Street westbound approach consists of three lanes: a left-turn only lane, a bear-left turn only lane, and a through lane. The Washington Street northbound approach consists of two lanes: a shared hard left-turn/left-turn lane and one right-turn only lane. The Winship Street northeast-bound approach consists of two lanes: one left-turn lane and one shared right-turn/hard right-turn lane. Parallel parking is provided for police vehicles along the westbound approach to the intersection.

Opposing directions of travel are separated by a short, raised median island right at the intersection on both legs of Washington Street and on the Cambridge Street leg. Sidewalks are provided on both sides of the roadway along all approaches. Crosswalks, wheelchair ramps, and pedestrian signal equipment are provided across all approaches. Additional pedestrian signal heads and push buttons are provided in the median on the east and west legs.

Washington Street/Monastery Road/St. Gabriel's Driveway is a signalized, four-leg intersection. The northbound and southbound approaches of Washington Street each have a single approach lane serving left-turn, through, and right-turn movements. Both approaches also have an MBTA bus stop located just before the intersection. Monastery Road forms the westbound approach. It is classified as a local road with a single shared left-turn/through/right-turn lane. Parking is permitted on both sides of the roadway. The east approach of the intersection is the existing driveway to St. Gabriel's Monastery, which is a two-lane, two-way roadway. Immediately to the south of the St. Gabriel's driveway, within the Project site, is a two-way private driveway that serves the existing St. John's Seminary Theological Institute and ABCD Allston-Brighton Head Start. The private driveway's westbound approach is not signalized, but it is located beyond the Washington Street northbound stop bar within the intersection.

Sidewalks are provided along both sides of all legs, with the exception of the St. Gabriel's driveway which provides a sidewalk only on the north side of the driveway. Crosswalks are provided across all legs (not including the private driveway). Pedestrian signal heads and push buttons are provided on all corners but for only the two crossings of Washington Street.

Commonwealth Avenue/Washington Street is a signalized intersection with six approaches: Commonwealth Avenue eastbound and westbound, the eastbound approach of the south carriage road, the westbound approach of the north carriage road, and Washington Street northbound and southbound. Additionally, the eastbound (inbound) and westbound (outbound) tracks of the MBTA Green Line B Branch trolley travel along the center median of Commonwealth Avenue across Washington Street. Washington Street Station, serving both directions, is located in the Commonwealth Avenue center median to the northeast of the intersection.

Due to the complexity of the intersection, there are many turning restrictions. The Commonwealth Avenue eastbound approach consists of one through lane and one shared through/right-turn lane. Left turns are restricted along this approach. The Commonwealth Avenue westbound approach consists of a left-turn lane and two through lanes. Right-turns are restricted along this approach. Parking is not permitted along the main Commonwealth Avenue approaches. The south carriage road eastbound approach consists of one through lane and one wide shared right-turn/parking lane. Left-turns are restricted along this approach. The north carriage road westbound approach consists of a parking lane and one shared through/right-turn lane. Left-turns are restricted along this approach. The Washington

Street northbound and southbound approaches each consist of a single shared left-turn/through/right-turn lane. An MBTA bus stop is located along each of these two approaches at the intersection. Parking is not allowed along the Washington Street approaches due to the location of the MBTA bus stops.

Sidewalks are provided along both sides of Washington Street and along the outer edge of the carriage roads. Crosswalks are marked across all approaches, with pedestrian signal heads and push buttons provided for all crossings except the crossings of the north carriage road. Wheelchair ramps or depressions in the raised medians are provided at every point a crosswalk meets a curb except on the southwest corner of the intersection of Commonwealth Avenue westbound and Washington Street where the median between the north carriage road and the main roadway runs a couple of feet into the striped crosswalk. Tactile warning strips are present at some but not all ramp and depressed median-crossing locations. Traffic signal equipment is provided for vehicular movements, pedestrians, and the westbound approach of the Green Line trolley.

Commonwealth Avenue/Warren Street/Kelton Street is a signalized intersection with seven approaches: Commonwealth Avenue eastbound and westbound, the eastbound approach of the south carriage road, the eastbound and westbound approaches of the north carriage road, Kelton Street northbound, and Warren Street southbound. Additionally, the MBTA Green Line B Branch trolley travels along Commonwealth Avenue through the intersection. The trolley tracks transition through the intersection from running in the median between the north carriage road and the westbound lanes of the main roadway northeast of the intersection to running in the center median southwest of the intersection, crossing over the main roadway's westbound lanes of travel within the intersection. Warren Street Station is located in the Commonwealth Avenue center median to the southwest of the intersection, serving both directions.

The Commonwealth Avenue eastbound and westbound approaches each consist of a shared left-turn/through lane and a shared through/right-turn lane. Parking is not permitted along the main Commonwealth Avenue approaches. The directions of travel along Commonwealth Avenue are separated by a raised median, with the trolley line running in the median to the west of the intersection as described above. The south carriage road is one-way in the eastbound direction at the intersection and consists of a single travel lane that accommodates through movements and right-turns. Left turns are prohibited on this approach. Parking lanes are provided on both sides of the approach. The north carriage road westbound approach to the intersection is one-way and consists of a single travel lane that accommodates through movements and right-turns. Left turns are prohibited on this approach. Diagonal parking is provided on the right side of this approach. The west leg of the north carriage road is two-way, and the eastbound approach consists of a single travel lane that accommodates left-turn-only movements. No parking is allowed on either side of the approach. Both carriage roads are separated from the main line of Commonwealth Avenue by raised medians, with the trolley line running in the westbound median east of

the intersection as described above. The Warren Street southbound and Kelton Street northbound approaches each consist of a shared left-turn/through/right-turn lane. There is an adjacent parking lane on both sides of the roadway on both legs of the intersection.

Sidewalks are provided along both sides of Warren and Kelton Streets and along the outer edge of the carriage roads. Crosswalks are provided across all legs of the intersection, and pedestrian signal heads and push buttons are provided for only the main line crossings of Commonwealth Avenue. Wheelchair ramps or depressions in the raised medians are provided at every point a crosswalk meets a curb. Tactile warning strips are present at only the northeast and northwest corners of the intersection.

Cambridge Street/Warren Street/Sparhawk Street is a four-leg, signalized intersection. The west leg of Cambridge Street has two eastbound approach lanes: a shared left-turn/through lane and a shared through/right-turn lane. There is a bus stop on this leg of the intersection adjacent to the departure lane. The westbound approach has a left-turn only lane, a shared through/right-turn lane, and a parking lane. The Warren Street northbound approach has a left-turn only lane and a through lane; it also has a channelized right-turn lane to eastbound Cambridge Street that is located about 80 feet in advance of the stop bar on the approach. The Sparhawk Street southbound approach has a shared left-turn/through/right-turn lane.

Sidewalks are provided on both sides of all legs of the intersection. Crosswalks are provided across all legs and the output end of the channelized right-turn, except for the east leg of Cambridge Street. Pedestrian signal heads and push buttons are provided for the three crossings of the main intersection.

Warren Street/Nevins Street is a three-leg unsignalized intersection located less than 150 feet south of Cambridge Street along Warren Street. The Warren Street northbound and southbound approaches consist of a shared left-turn/through/right-turn lane and a shared through/right-turn lane, respectively. The Warren Street approaches both operate as free movements. South of this intersection, opposing traffic on Warren Street is separated by a striped median. The eastbound approach of Nevins Street is stop-controlled and has two lanes, a left-turn only lane and a shared through/right-turn lane.

Sidewalks are provided along all legs of the intersection with the exception of Nevins Street which provides a sidewalk on the north side only of the roadway. Crosswalks are provided across the west leg of the intersection.

Washington Street/Fidelis Way is a three-leg unsignalized intersection. The Washington Street northbound and southbound approaches consist of a shared through/right-turn lane and a shared left-turn/through lane, respectively. The Fidelis Way westbound approach consists of a shared left/right lane under stop control. Sidewalks are provided along all legs of the intersection with the exception of Fidelis Way, which provides a sidewalk on the left side only of the roadway. Crosswalks are not provided along the intersection.

Commonwealth Avenue/Fidelis Way/Commonwealth Avenue Carriage Road is three-leg unsignalized intersection. The Fidelis Way southeastbound approach consists of a shared left-turn/right-turn lane under stop control at the carriage road. The directions of Commonwealth Avenue are separated by a raised median and trolley tracks, prohibiting travel between Fidelis Way and Commonwealth Avenue in the northeastbound direction. The Commonwealth Avenue carriage road is separated from the Commonwealth Avenue southwestbound main line by a raised median and accommodates two-way travel at the intersection. Access is provided to the Commonwealth Avenue southwestbound main line by a break in the median at the intersection. Both carriage road approaches consist of single travel lanes and are under stop control at the intersection. The Commonwealth Avenue main line consists of two travel lanes in each direction. Sidewalks are provided along both sides of Fidelis Way and the southwestbound travel lane along the carriage road.

3.2.3 Existing Parking

An inventory of the existing on-street parking in the vicinity of the Project site was collected. On-street curb usage surrounding the Project site generally consists of resident parking and two-hour parking. The on-street parking regulations within the study area are shown on Figure 3-2.

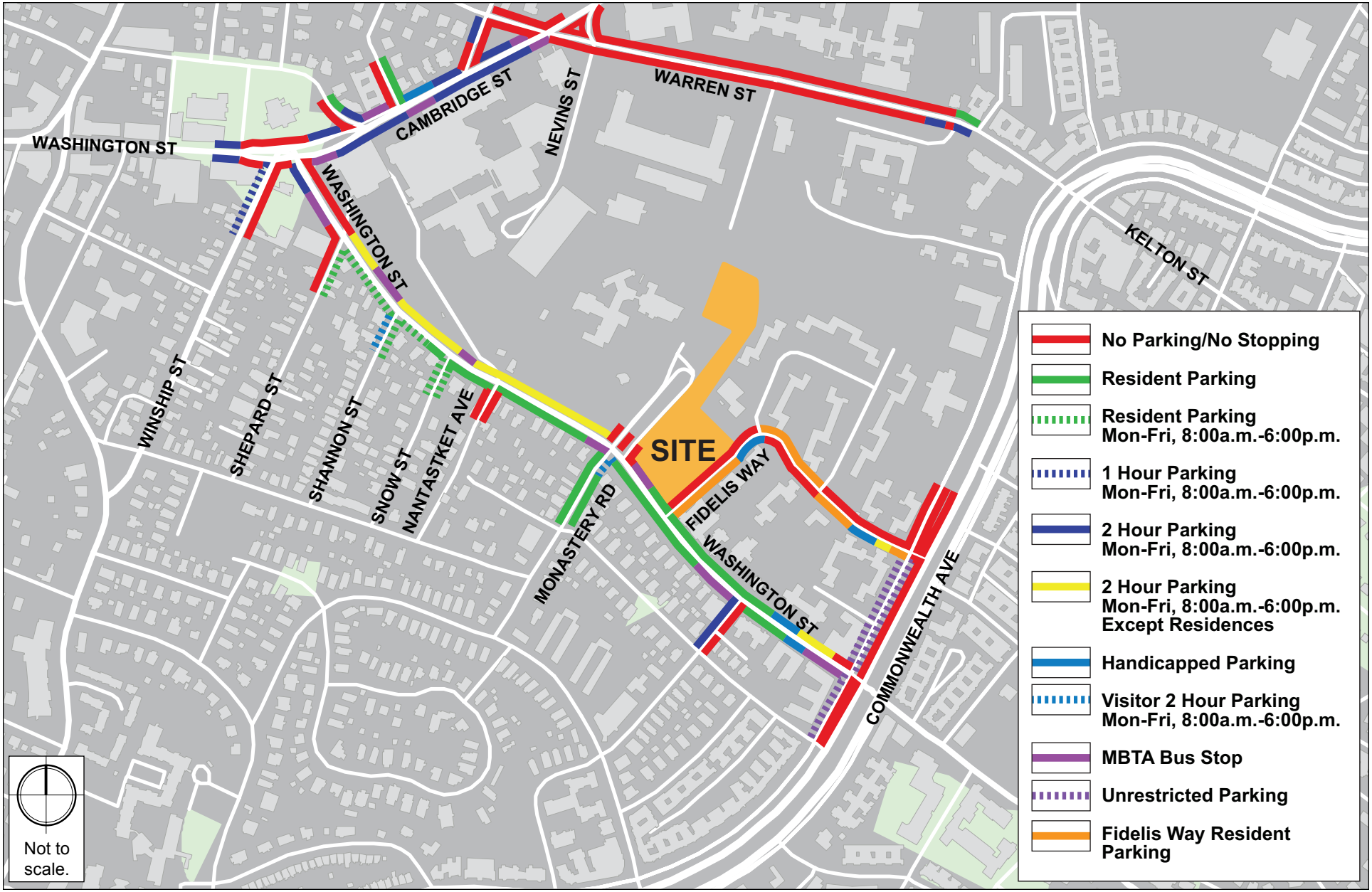
3.2.4 Car Sharing Services

Car sharing services enable easy access to short-term vehicular transportation. Vehicles are rented on an hourly or daily basis, and all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location. Pick-up/drop-off locations are typically in existing parking lots or other parking areas throughout neighborhoods as a convenience to users of the services. Nearby car sharing services provide an important transportation option and reduce the need for private vehicle ownership.

Two major car sharing services with vehicle locations near the Project site are Zipcar and Enterprise CarShare. The nearby car sharing locations are shown in Figure 3-3.

3.2.5 Existing Public Transportation Services

The Project site area is well-served by public transportation. The MBTA's Green Line trolley and several bus lines operate within the study area. The closest Green Line station, Washington Street Station, is approximately one-quarter mile from the Project site and serves the Green Line's B Branch between Boston College and Park Street. Stations serving the C and D Branches of the Green Line are within one mile of the Project site. The MBTA route 65 bus travels along Washington Street adjacent to the Project site. Bus stops are provided for buses traveling in both directions on Washington Street at Monastery Road,



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-2
On-Street Parking

139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-3
Car Sharing Locations

just off the southwest corner of the Project site. The MBTA operates four additional regular bus routes and two express bus routes in close proximity to the Project site. Figure 3-4 maps all of the public transportation services located in the vicinity of the Project site, and Table 3-1 provides a brief summary of all train lines and bus routes.

Table 3-1 Existing Public Transportation Service Summary

Transit Service	Description	Peak-Hour Headway (minutes)[1]
Subway/Trolley Lines		
Green Line – B Branch	Boston College - Park Street	6
Green Line – C Branch	Cleveland Circle - North Station	6
Green Line – D Branch	Riverside - Government Center	6
Bus Routes		
57	Watertown Yard - Kenmore Sta. via Newton Corner & Brighton Ctr.	4-9
64	Oak Sq. - University Park, Cambridge or Kendall/MIT via North Beacon St.	15-28
65	Brighton Center - Kenmore Sta. via Washington St., Brookline Village & Brookline Ave.	9-21
66	Harvard Square - Dudley Station via Allston & Brookline Village	8-10
86	Sullivan Sq. Sta. - Reservoir (Cleveland Circle) via Harvard	10-18
501 Express	Brighton Center - Downtown via Oak Sq., & Mass. Turnpike	4-13
503 Express	Brighton Center - Copley Sq. via Oak Sq. & Mass. Turnpike	14-29

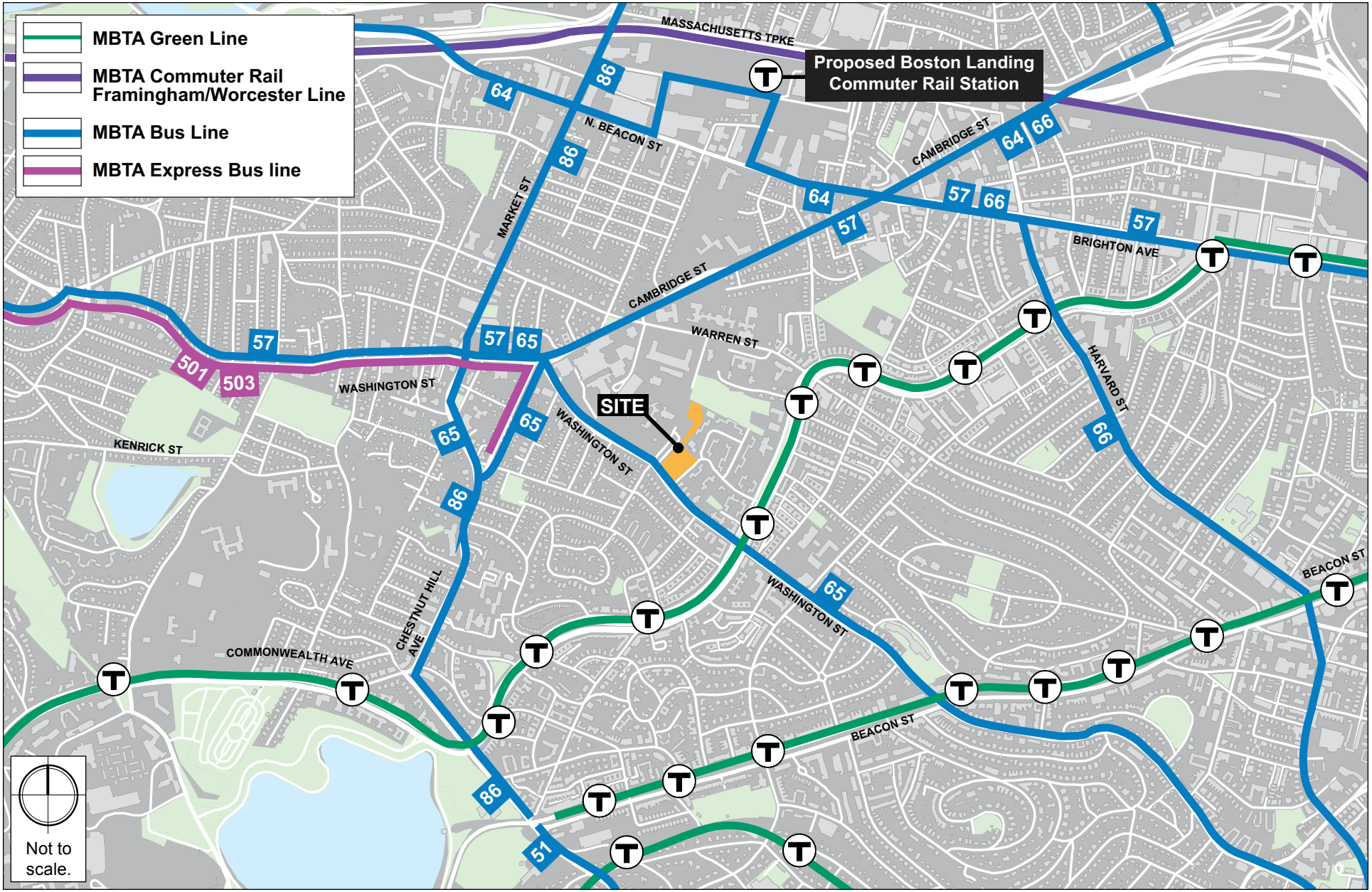
[1] Headway is the scheduled time between trains or buses. Headways are approximate. Source: www.mbta.com, September 2016.

The commuter rail's Framingham/Worcester Line runs parallel to I-90 (the Massachusetts Turnpike), north of the Project site. A new commuter rail station, Boston Landing, is under construction a little over a mile away from the Project site by car or foot, and it is expected to open in the spring of 2017.

3.2.6 Existing Traffic Data

Traffic volume data was collected at the study area intersections in April and September 2016 with the exception of the intersection at Washington Street/Commonwealth Avenue, which was counted in June 2014. Turning Movement Counts (TMCs) and vehicle classification counts were conducted during the weekday a.m. and weekday p.m. peak periods (7:00 – 9:00 a.m. and 4:00 – 6:00 p.m., respectively). The traffic classification counts included car, heavy vehicle, pedestrian, and bicycle movements.

The TMCs from 2014 were grown at a rate of one-half of a percent per year for two years and balanced with the traffic counts collected in 2016 at the other study area intersections. The detailed traffic counts for the study area intersections are provided in Appendix B.



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-4
Public Transportation

3.2.6.1 Seasonal Adjustment

To account for seasonal variation in traffic volumes throughout the year, data provided by MassDOT was reviewed. The most recent (2011) MassDOT Weekday Seasonal Factors were used to determine the need for seasonal adjustments to the April 2016 TMCs. The seasonal adjustment factor for roadways similar to the study area (Group 6) in the month of April is 0.92. The seasonal adjustment factor for the month of September is 0.93. This indicates that average month traffic volumes are approximately eight percent less than the traffic volumes that were collected in April and seven percent less than the traffic volumes that were collected in September. Similarly, the seasonal adjustment factor in the month of June is 0.90 for the traffic counts taken at the intersection of Washington Street/Commonwealth Avenue. Therefore, the traffic counts were not adjusted downward to reflect average month conditions and provide a conservatively high analysis consistent with the peak season traffic volumes.

The existing traffic volumes that were collected in June 2014 and April 2016 were used to develop the Existing (2016) Condition traffic volumes. The volumes were balanced where necessary across the roadway network within the study area.

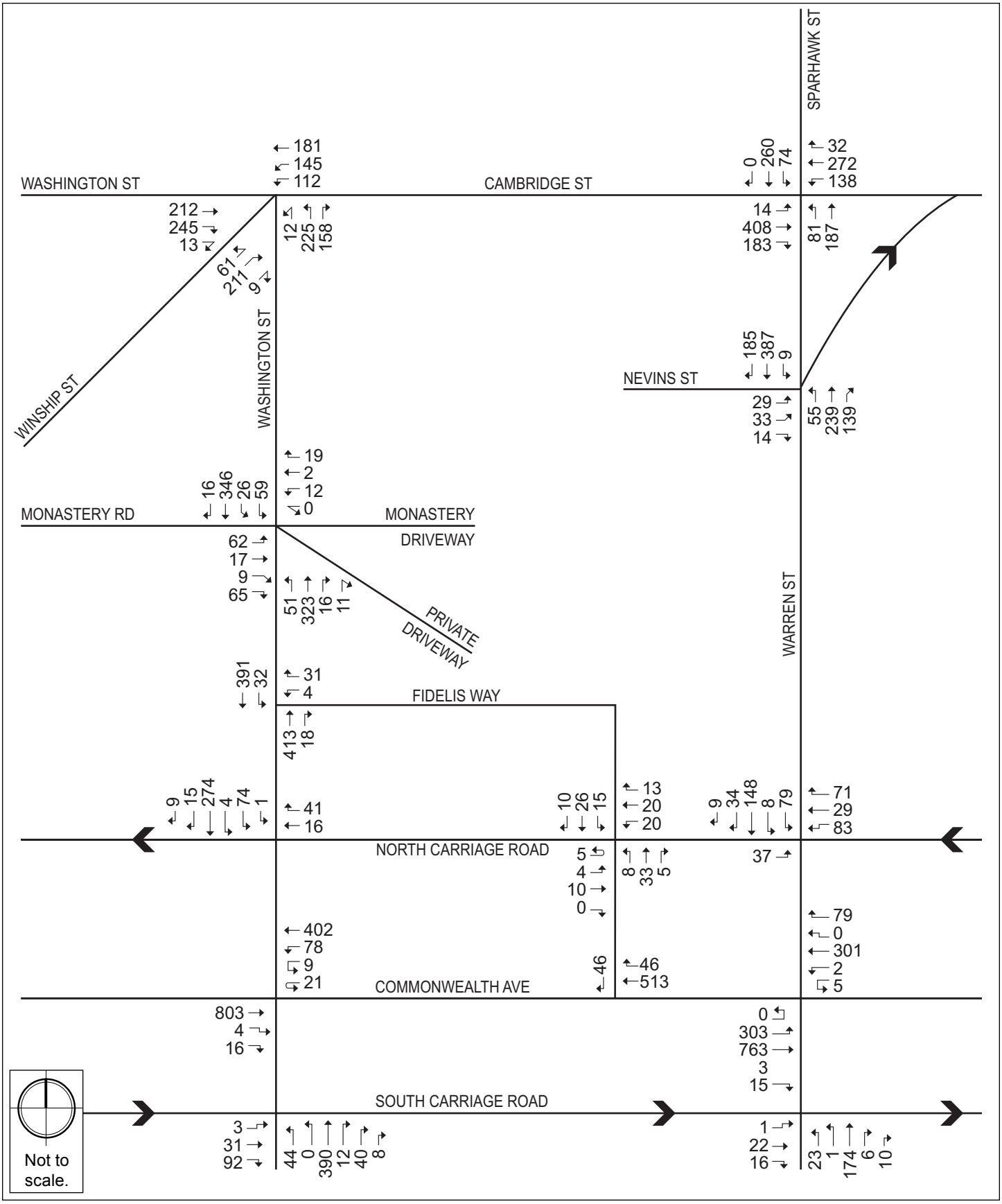
The resulting Existing (2016) weekday a.m. peak hour and weekday p.m. peak hour traffic volumes are shown in Figure 3-5 and Figure 3-6, respectively.

3.2.7 Existing Bicycle Volumes and Facilities

In recent years, bicycle use has increased dramatically throughout the City of Boston. The Project site is conveniently located in close proximity to several bicycle facilities. The City of Boston's 2013 "Bike Routes of Boston" map designates the Cambridge Street/Washington Street corridor north and west of the Project site as an intermediate route, suitable for riders with some on-road experience, and the roadway is marked with a bike lane. Advanced routes are suitable for experienced and traffic-confident cyclists. The portion of Washington Street adjacent to the southern edge of the Project site is designated an advanced bicycle route without any bicycle markings on the roadway, as are Commonwealth Avenue and the Sparhawk Street/Warren Street/Kelton Street corridor. Bicycle counts were conducted concurrent with the vehicular TMCs and are presented in Figure 3-7.

3.2.7.1 Bicycle Sharing Services

The Project site is also located in proximity to a bicycle sharing station provided by Hubway. Hubway is the Boston area's bicycle sharing service, which was launched in 2011 and currently consists of 1,600 shared bicycles at 160 stations throughout Boston, Brookline, Cambridge, and Somerville. The nearest Hubway station to the Project site is located at the intersection of Washington Street/Cambridge Street/Winship Street and is approximately a 0.3-mile walk to the northwest from the Project site. Figure 3-8 shows the nearby Hubway stations.

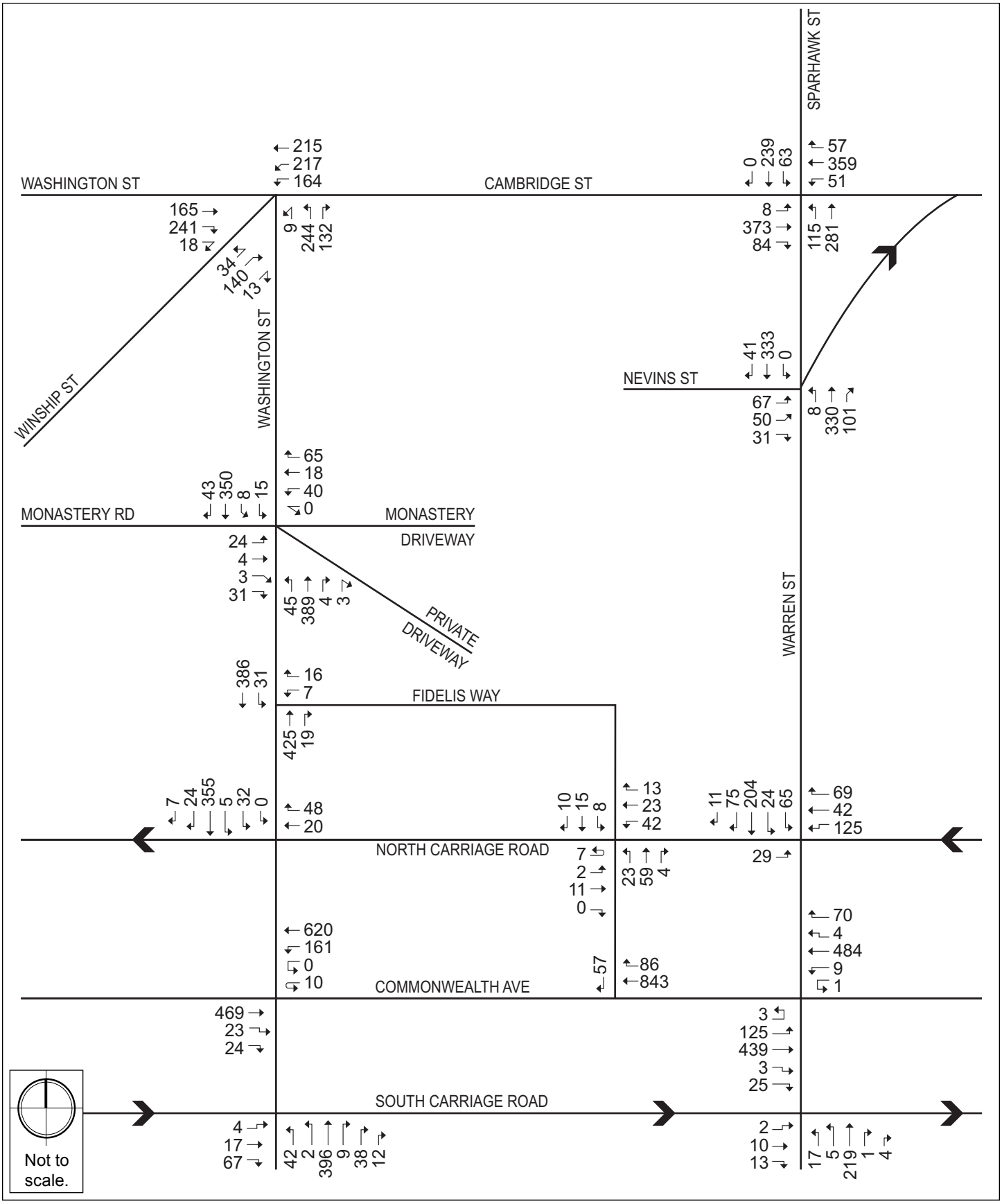


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-5

Existing (2016) Condition Traffic Volumes, Weekday a.m. Peak hour

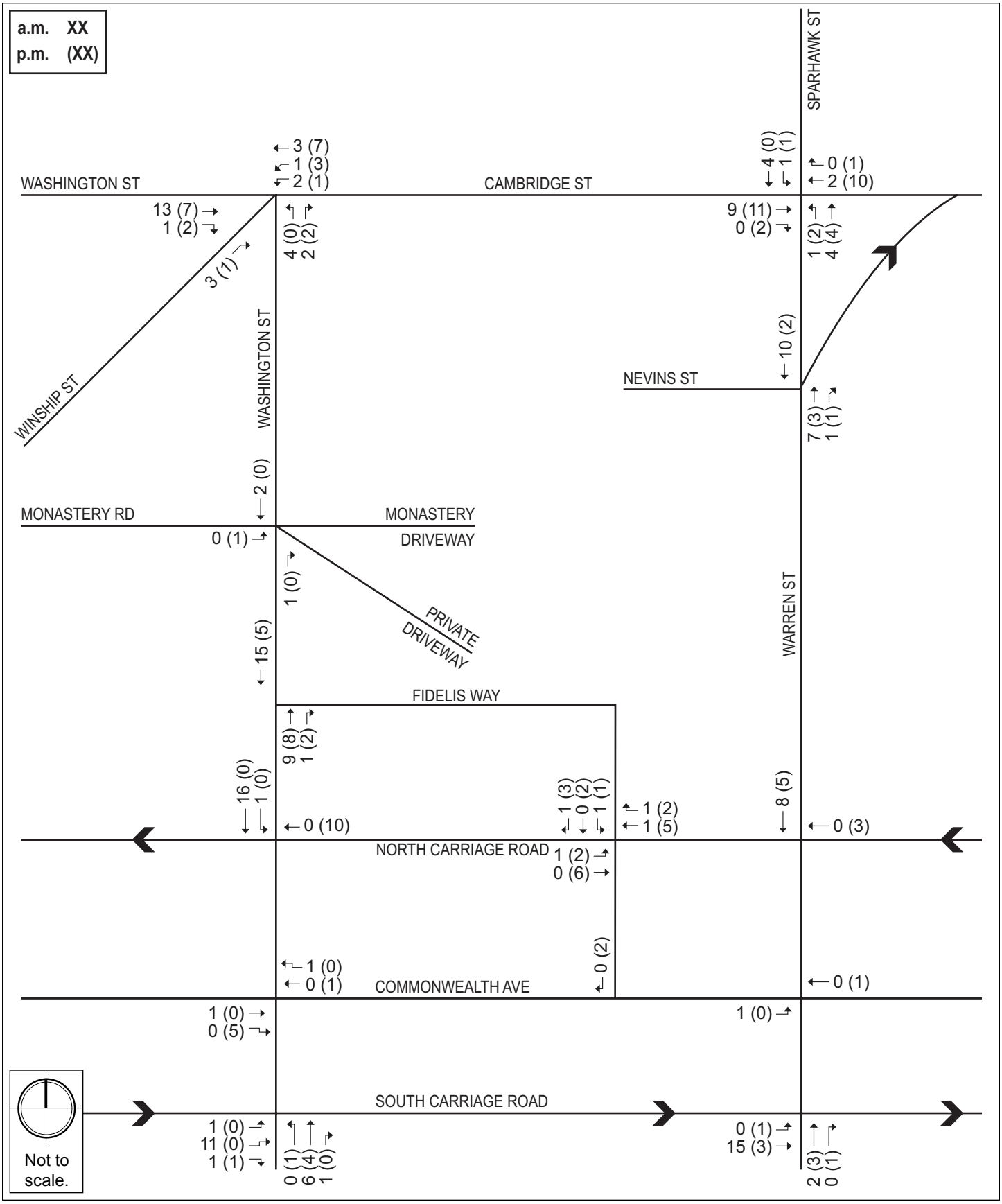


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-6

Existing (2016) Condition Traffic Volumes, Weekday p.m. Peak hour



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-7

Existing (2016) Condition Bicycle Volumes, a.m. and p.m. Peak Hours

139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-8
Bicycle Sharing Locations

3.2.8 Existing Pedestrian Volumes and Accommodations

In general, sidewalks are provided along all roadways in the study area and are generally in good condition. Crosswalks and pedestrian signal equipment are provided at all study area intersections.

To determine the amount of pedestrian activity within the study area, pedestrian counts were conducted concurrent with the TMCs at the study area intersections and are presented in Figure 3-9.

3.2.9 Existing (2016) Condition Traffic Operations Analysis

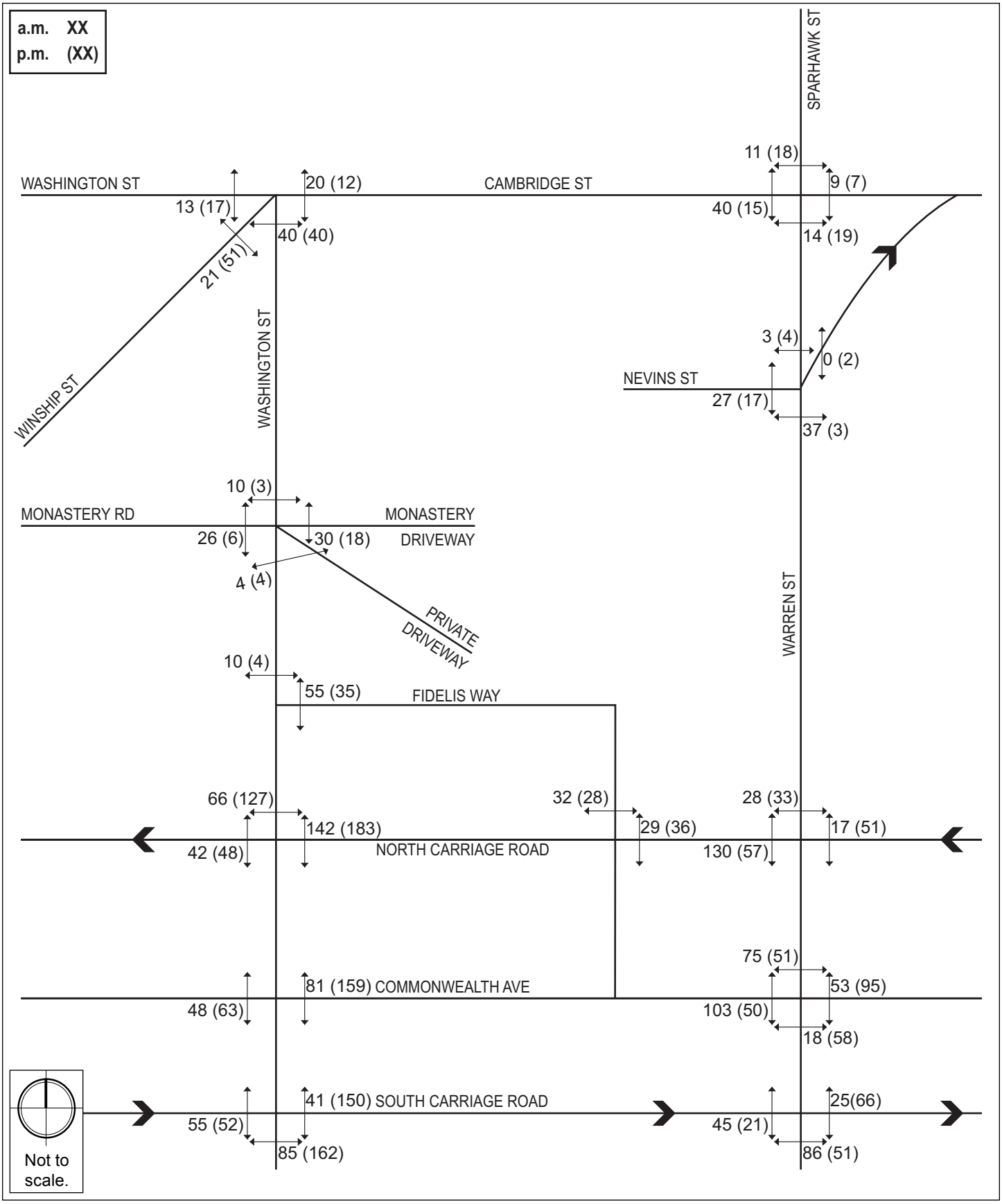
The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay experienced by vehicles at intersections and along intersection approaches. Trafficware's Synchro (version 9) software package was used to calculate average delay and associated LOS at the study area intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM). Field observations were performed by HSH to collect intersection geometry such as number of turning lanes, lane length, and lane width that were then incorporated into the operations analysis.

LOS designations are based on average delay per vehicle for all vehicles entering an intersection. Table 3-2 displays the intersection LOS criteria. LOS A indicates the most favorable condition, with minimum traffic delay, while LOS F represents the worst condition, with significant traffic delay. LOS D or better is typically considered desirable during the peak hours of traffic in urban and suburban settings. However, LOS E or F is often typical for a stop controlled minor street that intersects a major roadway and does not necessarily indicate that the operations at the intersection are poor or failing.

Table 3-2 Vehicle Level of Service Criteria

	Average Stopped Delay (sec/veh)	
Level of Service	Signalized Intersections	Unsignalized Intersections
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: *2000 Highway Capacity Manual*, Transportation Research Board.



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-9

Existing (2016) Condition Pedestrian Volumes, a.m. and p.m. Peak Hours

In addition to delay and LOS, the operational capacity and vehicular queues are calculated and used to further quantify traffic operations at intersections. The following describes these other calculated measures.

The volume-to-capacity ratio (v/c ratio) is a measure of congestion at an intersection approach. A v/c ratio below one indicates that the intersection approach has adequate capacity to process the arriving traffic volumes over the course of an hour. A v/c ratio of one or greater indicates that the traffic volume on the intersection approach exceeds capacity.

The 50th percentile queue length, measured in feet, represents the maximum queue length during a cycle of the traffic signal with typical (or median) entering traffic volumes.

The 95th percentile queue length, measured in feet, denotes the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line. This maximum queue occurs five percent, or less, of the time during the peak hour, and typically does not develop during off-peak hours. Since volumes fluctuate throughout the hour, the 95th percentile queue represents what can be considered a "worst case" condition. Queues at an intersection are generally below the 95th percentile length throughout most of the peak hour. It is also unlikely that 95th percentile queues for each approach to an intersection occur simultaneously.

Table 3-3 and Table 3-4 summarize the Existing (2016) Condition capacity analysis for the study area intersection during the a.m. and p.m. peak hours, respectively. The detailed analysis sheets are provided in Appendix B.

Table 3-3 Existing (2016) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**D**	**41.4**	**0.94**	**-**	**-**
Washington Street EB thru	C	34.2	0.52	131	201
Washington Street EB right/hard right	B	11.4	0.46	67	126
Cambridge Street WB left	D	49.1	0.70	85	#153
Cambridge Street WB bear left	F	83.1	0.94	114	#222
Cambridge Street WB thru	A	9.8	0.35	43	63
Washington Street NB hard left/left	E	66.5	0.87	167	#293
Washington Street NB right	A	9.4	0.47	0	50
Winship Street NEB hard left	D	40.0	0.37	35	78
Winship Street NEB bear right/hard right	E	76.5	0.91	145	#286
Washington St/Monastery Rd/Monastery Driveway	**B**	**15.8**	**0.70**	**-**	**-**
Monastery Road EB left/thru/right	B	18.0	0.42	52	83
Monastery Driveway WB left/thru/right	B	13.9	0.12	13	21
Washington Street NB left/thru/right	B	13.6	0.60	101	169
Washington Street SB left/ thru/right	B	17.1	0.70	122	212
Commonwealth Ave/Washington St	**D**	**49.7**	**>1.00**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	D	51.8	0.90	346	#467
South Carriage Road EB left/thru	C	30.0	0.07	21	47
South Carriage Road EB right	A	7.5	0.30	0	36
Commonwealth Avenue WB U-turn/left	E	61.4	0.59	85	149
Commonwealth Avenue WB thru | thru/right	C	32.7	0.43	136	184
North Carriage Road WB left/thru/right	C	33.4	0.27	51	66
Washington Street NB thru/right	E	77.3	>1.00	~449	#639
Washington Street SB left/thru/right	F	107.8	>1.00	~388	#544
Commonwealth Ave/Warren St/Kelton St	**C**	**31.8**	**0.93**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	C	30.7	0.89	305	#516
South Carriage Road EB left/thru/right	A	9.7	0.06	9	30
North Carriage Road EB left	E	61.5	0.42	40	61
Commonwealth Ave WB left/thru | thru/right	C	30.5	0.41	132	189
North Carriage Road WB thru/right	C	34.1	0.42	118	205
Kelton Street NB thru/right	E	61.5	0.78	179	260
Warren Street SB thru/right	F	83.8	0.93	222	#385

Table 3-3 Existing (2016) Condition, Capacity Analysis Summary, a.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Warren St/Sparhawk St	**E**	**66.7**	**>1.00**	**-**	**-**
Cambridge Street EB left/thru | thru/right	E	67.5	0.98	~279	m#359
Cambridge Street WB left	D	48.2	0.75	71	#161
Cambridge Street WB thru/right	C	32.7	0.60	183	286
Warren Street NB left	C	27.8	0.38	38	74
Warren Street NB thru/right	C	25.5	0.31	92	150
Sparhawk Street SB left/thru/right	F	138.7	>1.00	~267	#441
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.4	0.07	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.22	-	0
Fidelis Way NB left/thru/right	A	7.1	0.06	-	-
Fidelis Way SB left/thru/right	A	7.4	0.06	-	-
Fidelis Way SB right	B	10.6	0.07	-	6
Washington St/Fidelis Way	**-**	**-**	**-**	**-**	**-**
Fidelis Way WB left/right	B	12.2	0.07	-	6
Washington Street NB thru/right	-	0.0	0.28	-	0
Washington Street SB left/thru	A	1.0	0.03	-	2
Warren St/Nevins St	**-**	**-**	**-**	**-**	**-**
Nevins Street EB left	D	28.9	0.21	-	20
Nevins Street EB thru/right	D	28.5	0.31	-	31
Warren Street NB left/thru/right	A	1.9	0.07	-	5
Warren Street SB left/thru/right	A	0.2	0.01	-	1

Grey Shading indicates LOS E or F.
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

Table 3-4 Existing (2016) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**D**	**41.9**	**0.93**	**-**	**-**
Washington Street EB thru	C	33.2	0.40	91	158
Washington Street EB right/hard right	B	12.0	0.47	60	132
Cambridge Street WB left	E	58.4	0.76	117	m#194
Cambridge Street WB bear left	E	79.7	0.93	155	m#285
Cambridge Street WB thru	B	14.3	0.36	67	m127
Washington Street NB hard left/left	E	71.1	0.91	190	#301
Washington Street NB right	A	6.4	0.39	0	26
Winship Street NEB hard left	D	35.3	0.20	20	48
Winship Street NEB bear right/hard right	D	51.0	0.67	97	167
Washington St/Monastery Rd/Monastery Driveway	**B**	**13.5**	**0.60**	**-**	**-**
Monastery Road EB left/thru/right	B	15.4	0.24	27	34
Monastery Driveway WB left/thru/right	B	16.4	0.33	39	68
Washington Street NB left/thru/right	B	13.6	0.60	107	189
Washington Street SB left/ thru/right	B	12.1	0.54	93	166
Commonwealth Avenue/Washington Street	**C**	**25.0**	**0.92**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	D	35.4	0.60	177	234
South Carriage Road EB left/thru	C	27.4	0.08	19	27
South Carriage Road EB right	A	7.9	0.33	0	3
Commonwealth Avenue WB U-turn/left	E	79.5	0.83	139	#264
Commonwealth Avenue WB thru | thru/right	D	35.2	0.61	222	287
North Carriage Road WB left/thru/right	C	32.0	0.32	56	79
Washington Street NB thru/right	D	54.6	0.92	406	#610
Washington Street SB left/thru/right	D	37.1	0.72	288	418
Commonwealth Ave/Warren St/Kelton St	**D**	**38.1**	**0.91**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	B	19.1	0.60	156	206
South Carriage Road EB left/thru/right	A	8.7	0.06	7	14
North Carriage Road EB left	E	59.9	0.37	36	48
Commonwealth Ave WB left/thru | thru/right	D	35.9	0.61	213	294
North Carriage Road WB thru/right	D	41.2	0.65	207	256
Kelton Street NB thru/right	D	46.5	0.66	190	279
Warren Street SB thru/right	F	81.0	0.91	287	#472

Table 3-4 Existing (2016) Condition, Capacity Analysis Summary, p.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Warren St/Sparhawk St	**D**	**44.0**	**0.95**	**-**	**-**
Cambridge Street EB left/thru | thru/right	D	43.3	0.77	174	#270
Cambridge Street WB left	C	27.1	0.24	24	53
Cambridge Street WB thru/right	D	36.4	0.71	248	#408
Warren Street NB left	C	33.5	0.56	60	102
Warren Street NB thru/right	C	29.3	0.51	164	235
Sparhawk Street SB left/thru/right	E	78.1	0.95	201	#370
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.7	0.10	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.36	-	0
Fidelis Way NB left/thru/right	A	7.7	0.11	-	-
Fidelis Way SB left/thru/right	A	7.3	0.04	-	-
Fidelis Way SB right	B	13.0	0.12	-	10
Washington St/Fidelis Way	**-**	**-**	**-**	**-**	**-**
Fidelis Way WB left/right	B	13.8	0.06	-	5
Washington Street NB thru/right	-	0.0	0.28	-	0
Washington Street SB left/thru	A	1.0	0.03	-	2
Warren St/Nevins St	**-**	**-**	**-**	**-**	**-**
Nevins Street EB left	C	23.1	0.27	-	27
Nevins Street EB thru/right	C	19.3	0.26	-	26
Warren Street NB left/thru/right	A	0.2	0.01	-	1
Warren Street SB left/thru/right	-	0.0	0.00	-	0

Grey Shading indicates LOS E or F.
95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

As shown in Table 3-3 and Table 3-4, the majority of intersections and approach lane groups have acceptable operations under the Existing (2016) Condition with the following exceptions:

- The signalized intersection of **Cambridge Street/Washington Street/Winship Street** operates at LOS D during both peak hours. The Cambridge Street westbound bear-left (onto Winship Street) lane operates at LOS F during the a.m. peak hour and at LOS E during the p.m. peak hour. The Cambridge Street westbound left-turn lane operates at LOS E during the p.m. peak hour. The Washington Street northbound left-turn lane operates at LOS E during both peak periods. The Winship Street northeastbound right-turn lane also operates at LOS E during the a.m. peak hour.

- The signalized intersection of **Commonwealth Avenue/Washington Street** operates at LOS D during the a.m. peak hour and LOS C during the p.m. peak hour. However, the Commonwealth Avenue westbound U-turn/left lane operates at LOS E during both peak hours. The Washington Street northbound through/right lane operates at LOS E and the Washington Street southbound approach lane operates at LOS F during the a.m. peak hour.

- The signalized intersection of **Commonwealth Avenue/Warren Street/Kelton Street** operates at LOS C during the a.m. peak hour and LOS D during the p.m. peak hour. The eastbound approach of the north carriage road (left-turn lane) operates at LOS E during both peak hours. The v/c ratio and the traffic volumes on this approach are both low, which indicates that the long delay is due to a small number of vehicles having to wait through a long cycle before proceeding. The Kelton Street northbound approach operates at LOS E during the a.m. peak hour. Additionally, the Warren Street southbound approach operates at LOS F during both peak periods.

- The signalized intersection of **Cambridge Street/Warren Street/Sparhawk Street** operates at LOS E during the a.m. peak hour and close to capacity during the p.m. peak hour. The Cambridge Street eastbound approach lanes operate at LOS E during the a.m. peak hour. The Sparhawk Street southbound approach operates at LOS F during the a.m. peak hour and operates at LOS E during the p.m. peak hour.

3.3 No-Build (2023) Condition

The No-Build (2023) Condition reflects a future scenario that incorporates anticipated traffic volume changes associated with background traffic growth independent of any specific project, traffic associated with other planned specific developments, and planned infrastructure improvements that will affect travel patterns throughout the study area. These infrastructure improvements include roadway, public transportation, pedestrian facility, and bicycle facility improvements.

3.3.1 Background Traffic Growth

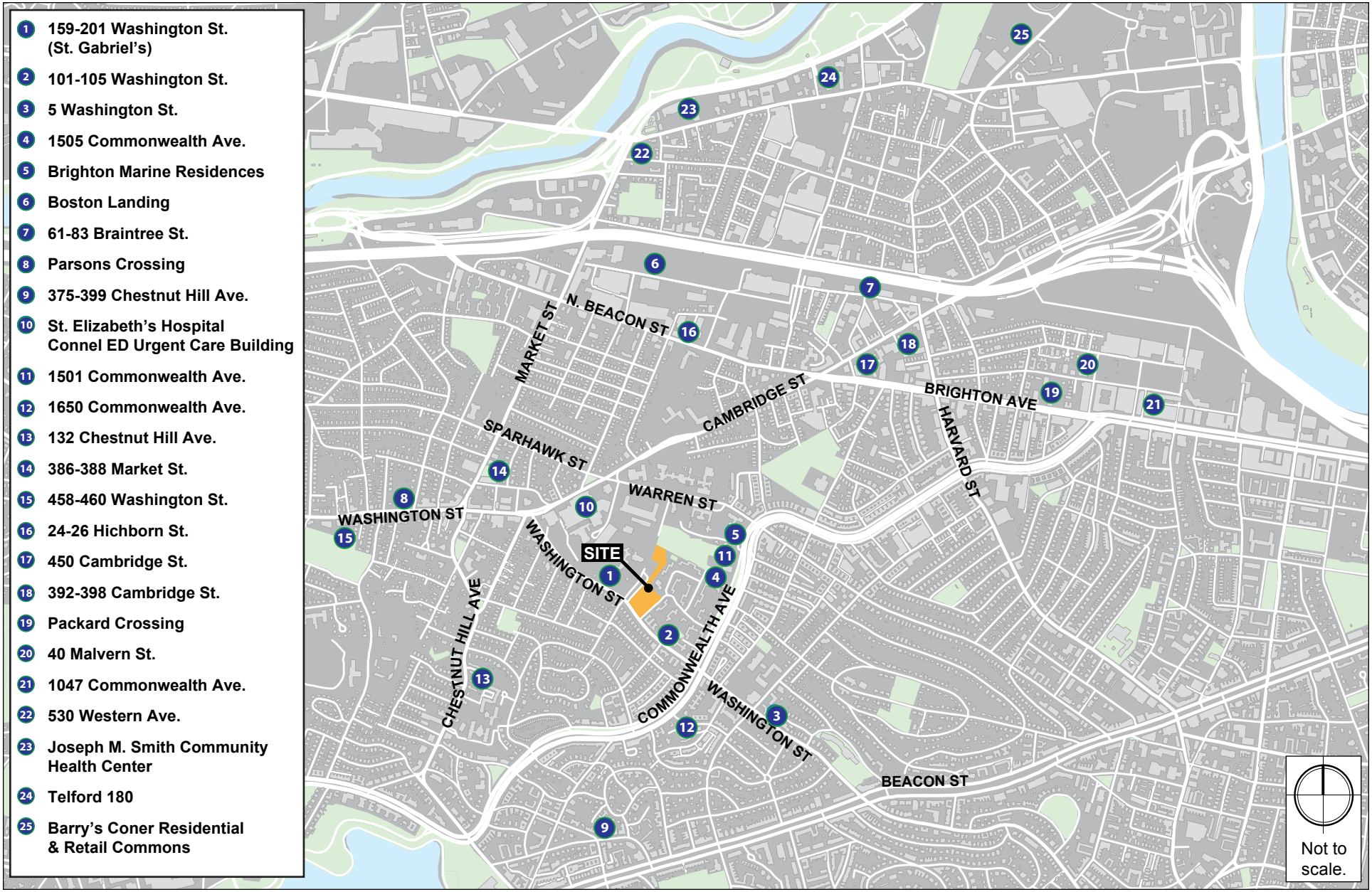
The methodology to account for general future background traffic growth is to evaluate how traffic volumes may be affected by changes in demographics, smaller scale development projects, or projects unforeseen at this time. Based on a review of recent and historic traffic data collected recently and to account for any additional unforeseen traffic growth, a traffic growth rate of one-half percent per year, compounded annually through the horizon year seven years in the future, was used.

3.3.2 Specific Development Traffic Growth

Traffic volumes associated with known, larger or adjacent development projects can affect traffic patterns throughout the study area within the future analysis time horizon. The following projects, which are depicted in Figure 3-10, are located in the vicinity of the study area and, where appropriate, traffic volumes associated with these projects were explicitly incorporated into the future conditions traffic volumes at the study area intersections. Traffic volumes for all other development projects are included in the general background traffic growth. Table 3-5 lists all projects that were individually accounted for in the future conditions traffic volumes by incorporating specific traffic volumes. Table 3-6 lists all projects that were accounted for in the general background growth rate.

Table 3-5 Background Projects - Traffic Volumes Added

Project/Location	Program	Status
159-201 Washington Street (St. Gabriel's)	680 residential units; 395 parking spaces	Under review
101-105 Washington Street	73 residential units; 9,285 sf Synagogue; 5,030 sf Mikvah; 70 parking spaces	Under review
5 Washington Street	118 residential units; 12,000 sf retail; 105 parking spaces	Under review
1505 Commonwealth Avenue	80 residential units; 80 parking spaces	BRA approved
Brighton Marine Residences (77 Warren Street)	101 residential units; 101 parking spaces	BRA approved
Boston Landing (38-180 and 77 Guest Street)	250,000 sf New Balance HQ; 350,000 sf sports complex; 140,000 sf hotel; 650,000 office; 65,000 retail/restaurant	Under construction
75 Braintree Street	80 residential units; 67 parking spaces	Under construction
Parsons Crossing (425 Washington Street)	60 residential units; 14,200 sf retail; 125 parking spaces	BRA approved
Cleveland Circle Cinema Redevelopment (375-399 Chestnut Hill Avenue)	162 room hotel; 92 residential units; 14,000 sf retail; 188 parking spaces	BRA approved



139-149 Washington Street / Brighton, MA

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-10
Area Development Projects

Table 3-6 Background Projects – General Background Growth

Project/Location	Program	Status
Connel ED Urgent Care Building St. Elizabeth's Hospital	24,000 sf addition	Construction complete
Charing Cross at 1501 Commonwealth Avenue	55 residential units; 55 parking spaces	Construction complete
1650 Commonwealth Avenue	40 residential units; 2,400 sf retail; 40 parking spaces	BRA approved
132 Chestnut Hill Avenue	61 residential units; 3,500 sf retail; 21 parking spaces	BRA approved
386-388 Market Street	17 residential units; 600 sf retail; 17 parking spaces	BRA approved
458-460 Washington Street	28 residential units; 48 parking spaces	BRA approved
99 Tremont Street	62 residential units; 91 parking spaces	Under construction
24-26 Hichborn Street	20 residential units; 1,774 sf retail; 26 parking spaces	BRA approved
The Residences at 125 Guest Street	295 residential units; 16,000 sf retail; 155 parking spaces	BRA approved
61 North Beacon Street	71 residential units; 81 parking spaces	BRA approved
31 North Beacon Street	20 residential units; 2,170 sf retail; 22 parking spaces	BRA approved
450 Cambridge Street	40 residential units; 40 parking spaces	Under construction
Penniman on the Park (20-26 Penniman Street)	36 residential units; 27 parking spaces	Under construction
392-398 Cambridge Street	32 residential units; 5,100 sf retail; 58 parking spaces	BRA approved
Packard Crossing (45-55 Brighton Avenue/ 79-83 Gardner Street)	114 residential units; 3,050 sf retail; 212 parking spaces	Under review
40 Malvern Street	48 residential units; 44 parking spaces	Under review

Table 3-6 Background Projects – General Background Growth (Continued)

Project/Location	Program	Status
1047 Commonwealth Avenue	180 residential units	Under construction
530 Western Avenue	132 residential units; 5,180 sf retail; 108 parking spaces	BRA approved
Joseph M. Smith Community Center	48,000 sf health care center; 112 parking spaces	Under construction
Telford 180	85 residential units; 84 parking spaces	BRA approved
Barry's Corner (141 North Harvard Street)	325 residential units; 40,000 sf retail; 221 parking spaces	Construction complete

3.3.3 Proposed Infrastructure Improvements

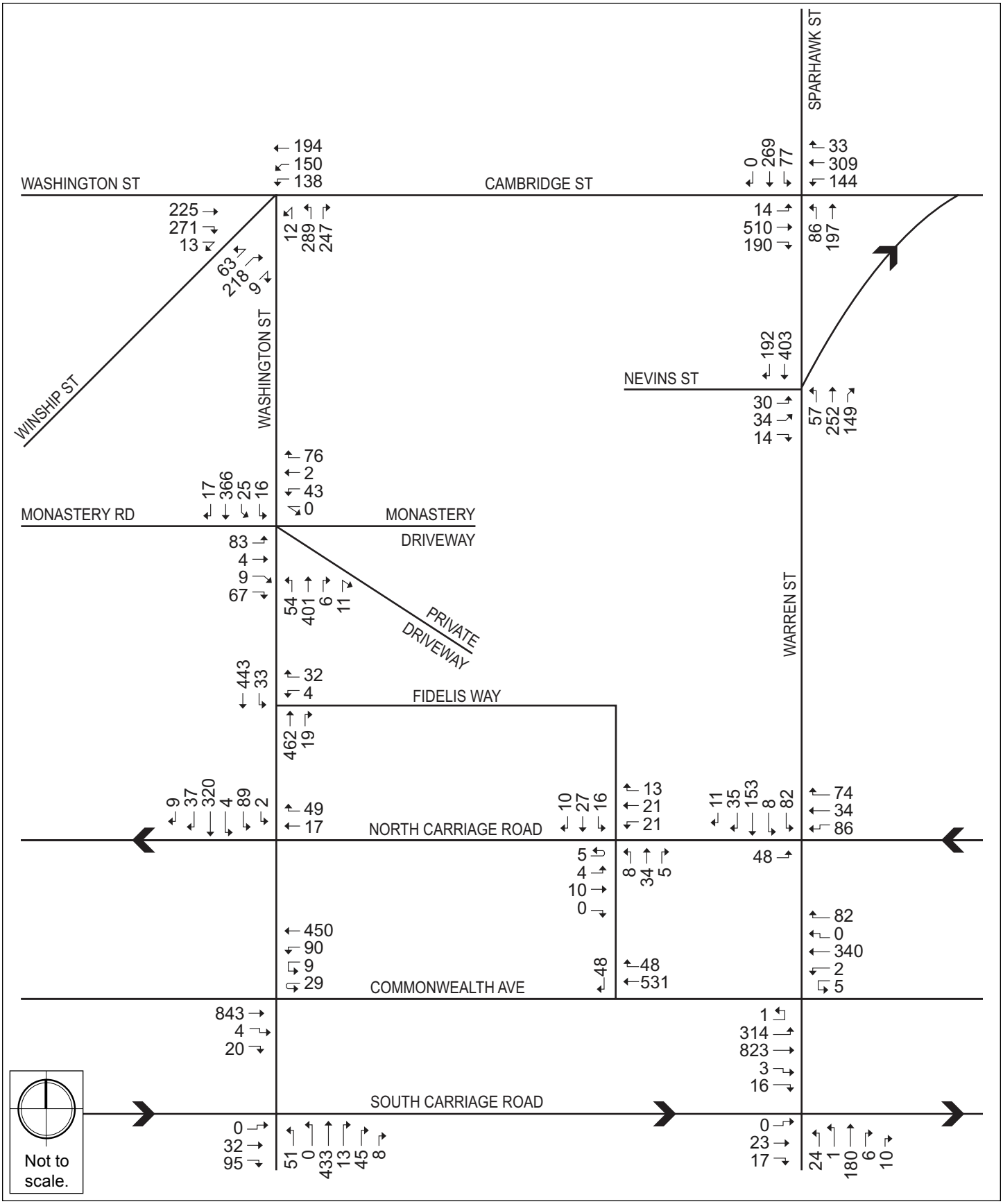
A review of planned improvements to roadway, transit, bicycle, and pedestrian facilities was conducted to determine if there are any nearby improvement projects in the vicinity of the study area. Based on this review, it was determined that there are not any planned infrastructure improvements in the immediate vicinity of the Project site.

3.3.4 No-Build Traffic Volumes

The one-half percent per year annual growth rate, compounded annually, was applied to the Existing (2016) Condition traffic volumes, then the traffic volumes associated with the background development projects listed above were added to develop the No-Build (2023) Condition traffic volumes. The No-Build (2023) weekday morning and evening peak hour traffic volumes are shown on Figure 3-11 and Figure 3-12, respectively.

3.3.5 No-Build (2023) Condition Traffic Operations Analysis

The No-Build (2023) Condition analysis uses the same methodology as the Existing (2016) Condition capacity analysis. Table 3-7 and Table 3-8 present the No-Build (2023) Condition operations analysis for the a.m. and p.m. peak hours, respectively. The shaded cells in the tables indicate a decrease in LOS between the Existing (2016) Condition and the No-Build (2023) Condition to an LOS below LOS D. The detailed analysis sheets are provided in Appendix B.

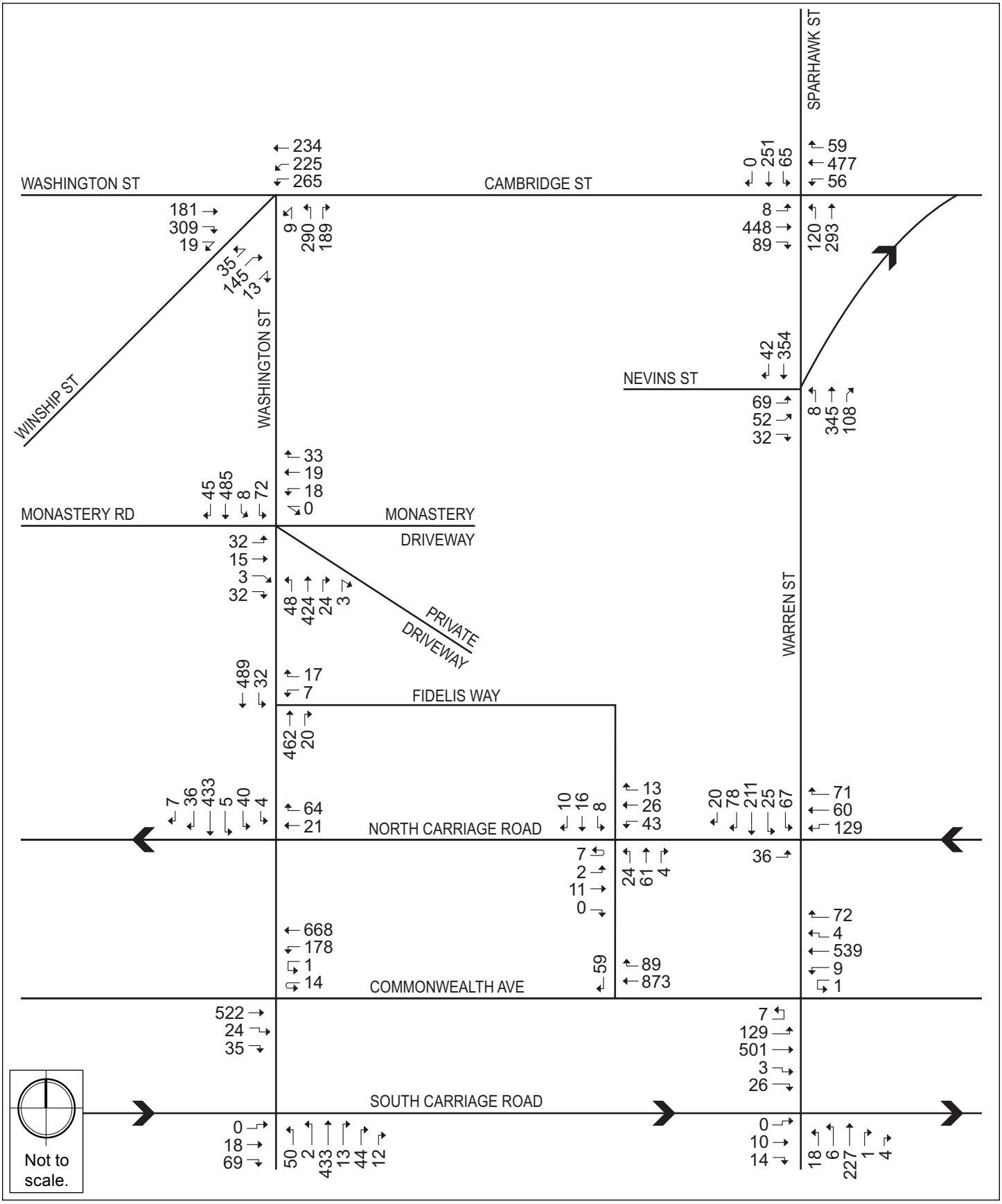


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-11

No-Build (2023) Condition Traffic Volumes, Weekday a.m. Peak Hour



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-12

No-Build (2023) Condition Traffic Volumes, Weekday p.m. Peak Hour

Table 3-7 No-Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**D**	**51.9**	**>1.00**	**-**	**-**
Washington Street EB thru	D	35.9	0.57	140	214
Washington Street EB right/hard right	B	12.8	0.51	81	147
Cambridge Street WB left	E	67.4	0.87	108	#203
Cambridge Street WB bear left	F	88.7	0.97	119	#228
Cambridge Street WB thru	A	9.9	0.39	45	64
Washington Street NB hard left/left	F	107.5	>1.00	~241	#401
Washington Street NB right	C	25.4	0.73	54	#151
Winship Street NEB hard left	D	40.6	0.38	37	79
Winship Street NEB bear right/hard right	E	79.5	0.93	152	#298
Washington St/Monastery Rd/Monastery Driveway	**C**	**21.4**	**0.73**	**-**	**-**
Monastery Road EB left/thru/right	C	24.7	0.53	57	130
Monastery Driveway WB left/thru/right	C	23.1	0.50	54	89
Washington Street NB left/thru/right	C	21.7	0.73	130	#392
Washington Street SB left/ thru/right	B	18.9	0.65	109	#336
Commonwealth Avenue/Washington Street	**F**	**110.9**	**>1.00**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	E	58.2	0.95	373	#508
South Carriage Road EB left/thru	C	29.9	0.07	20	45
South Carriage Road EB right	A	8.1	0.31	0	39
Commonwealth Avenue WB U-turn/left	E	68.7	0.70	102	#192
Commonwealth Avenue WB thru | thru/right	C	33.6	0.48	154	205
North Carriage Road WB left/thru/right	C	34.4	0.31	59	75
Washington Street NB thru/right	F	102.9	>1.00	~549	#722
Washington Street SB left/thru/right	F	236.9	>1.00	~567	#726
Commonwealth Ave/Warren St/Kelton St	**C**	**31.8**	**0.99**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	D	47.2	0.99	350	#705
South Carriage Road EB left/thru/right	B	10.1	0.06	9	30
North Carriage Road EB left	E	63.5	0.50	52	74
Commonwealth Ave WB left/thru | thru/right	C	33.2	0.49	153	218
North Carriage Road WB thru/right	D	36.3	0.46	130	223
Kelton Street NB thru/right	E	61.2	0.78	186	#275
Warren Street SB thru/right	F	87.0	0.95	233	#406

Table 3-7 No-Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Warren St/Sparhawk St	**F**	**102.2**	**>1.00**	**-**	**-**
Cambridge Street EB left/thru | thru/right	F	146.5	>1.00	~392	m#465
Cambridge Street WB left	D	52.1	0.78	75	#176
Cambridge Street WB thru/right	D	35.6	0.67	214	#357
Warren Street NB left	C	28.6	0.41	40	78
Warren Street NB thru/right	C	25.8	0.33	97	158
Sparhawk Street SB left/thru/right	F	154.1	>1.00	~283	#461
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.4	0.07	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.23	-	0
Fidelis Way NB left/thru/right	A	7.4	0.06	-	-
Fidelis Way SB left/thru/right	A	7.4	0.06	-	-
Fidelis Way SB right	B	10.7	0.08	-	6
Washington St/Fidelis Way	**-**	**-**	**-**	**-**	**-**
Fidelis Way WB left/right	B	12.9	0.08	-	6
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	1.0	0.03	-	3
Warren St/Nevins St	**-**	**-**	**-**	**-**	**-**
Nevins Street EB left	D	30.8	0.24	-	22
Nevins Street EB thru/right	D	31.0	0.34	-	35
Warren Street NB left/thru/right	A	2.0	0.07	-	6
Warren Street SB left/thru/right	-	0.0	0.00	-	0

Grey Shading indicates a decrease in LOS to LOS E or F from Existing (2016).
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

Table 3-8 No-Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**E**	**61.9**	**>1.00**	**-**	**-**
Washington Street EB thru	C	34.3	0.44	102	172
Washington Street EB right/hard right	B	16.0	0.59	98	200
Cambridge Street WB left	F	161.3	>1.00	~227	m#308
Cambridge Street WB bear left	E	79.5	0.96	161	m#231
Cambridge Street WB thru	B	12.7	0.39	61	m96
Washington Street NB hard left/left	F	103.8	>1.00	~253	#378
Washington Street NB right	B	14.5	0.56	23	76
Winship Street NEB hard left	D	35.4	0.21	20	49
Winship Street NEB bear right/hard right	D	52.4	0.70	101	173
Washington St/Monastery Rd/Monastery Driveway	**C**	**28.3**	**0.92**	**-**	**-**
Monastery Road EB left/thru/right	B	19.7	0.33	37	61
Monastery Driveway WB left/thru/right	B	18.0	0.19	21	60
Washington Street NB left/thru/right	C	21.6	0.73	130	#423
Washington Street SB left/ thru/right	D	37.1	0.92	186	#571
Commonwealth Avenue/Washington Street	**F**	**168.4**	**>1.00**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	D	35.4	0.59	204	266
South Carriage Road EB left/thru	C	28.6	0.07	17	25
South Carriage Road EB right	A	8.8	0.36	0	2
Commonwealth Avenue WB U-turn/left	F	96.7	0.93	159	#308
Commonwealth Avenue WB thru | thru/right	D	36.5	0.66	243	312
North Carriage Road WB left/thru/right	D	37.0	0.43	72	98
Washington Street NB thru/right	F	101	>1.00	~532	#732
Washington Street SB left/thru/right	F	348.9	>1.00	~644	#867
Commonwealth Ave/Warren St/Kelton St	**D**	**53.4**	**>1.00**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	C	22.0	0.69	184	241
South Carriage Road EB left/thru/right	A	8.9	0.06	6	13
North Carriage Road EB left	E	61.4	0.44	46	57
Commonwealth Ave WB left/thru | thru/right	D	39.7	0.70	244	334
North Carriage Road WB thru/right	D	51.8	0.78	243	297
Kelton Street NB thru/right	E	55.7	0.76	209	#323
Warren Street SB thru/right	F	120.7	>1.00	~353	#554

Table 3-8 No-Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Warren St/Sparhawk St	**E**	**71.8**	**>1.00**	**-**	**-**
Cambridge Street EB left/thru | thru/right	F	97.8	>1.00	~264	#367
Cambridge Street WB left	C	25.6	0.25	25	54
Cambridge Street WB thru/right	D	53.0	0.91	~387	#596
Warren Street NB left	C	34.1	0.57	63	106
Warren Street NB thru/right	C	29.8	0.53	172	245
Sparhawk Street SB left/thru/right	F	123.4	>1.00	~243	#415
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.8	0.11	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.37	-	0
Fidelis Way NB left/thru/right	A	7.8	0.11	-	-
Fidelis Way SB left/thru/right	A	7.3	0.04	-	-
Fidelis Way SB right	B	13.3	0.13	-	11
Washington St/Fidelis Way	**-**	**-**	**-**	**-**	**-**
Fidelis Way WB left/right	C	15.1	0.07	-	5
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	0.9	0.03	-	3
Warren St/Nevins St	**-**	**-**	**-**	**-**	**-**
Nevins Street EB left	D	25.6	0.31	-	31
Nevins Street EB thru/right	C	20.9	0.29	-	30
Warren Street NB left/thru/right	A	0.2	0.01	-	1
Warren Street SB left/thru/right	-	0.0	0.00	-	0

Grey Shading indicates a decrease in LOS to LOS E or F from Existing (2016).
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

As shown in Table 3-7 and Table 3-8, the following additional operational deficiencies are expected under the No-Build (2023) Condition compared to the Existing (2016) Condition:

- The signalized intersection of **Cambridge Street/Washington Street/Winship Street** continues to operate at LOS D during the weekday a.m. peak hour and degrades from LOS D to LOS E in the p.m. peak hour. The Cambridge Street westbound left-turn lane degrades from LOS D to LOS E in the weekday a.m. peak hour and from LOS E to LOS F in the weekday p.m. peak hour. The Washington Street northbound hard left/left-turn lane degrades from LOS E to LOS F during both peak hours.

- The signalized intersection of **Commonwealth Avenue/Washington Street** degrades from LOS D to LOS F during the a.m. peak hour and from LOS C to LOS F during the p.m. peak hour. The Commonwealth Avenue eastbound approach degrades from LOS D to LOS E during the a.m. peak hour. During the p.m. peak hour, the Commonwealth Avenue westbound U-turn/left lane degrades from LOS E to LOS F. The Washington Street northbound approach degrades from LOS E to LOS F during the a.m. peak hour and from LOS D to LOS F during the p.m. peak hour. Additionally, the Washington Street southbound approach degrades from LOS D to LOS F during the p.m. peak hour

- The signalized intersection of **Commonwealth Avenue/Warren Street/Kelton Street** continues to operate at the same LOS as the Existing (2016) Condition during both peak hours, with the exception of the Kelton Street northbound approach, which declines from LOS D to LOS E during the p.m. peak hour.

- The signalized intersection of **Cambridge Street/Warren Street/Sparhawk Street** degrades from LOS E to LOS F during the a.m. peak hour and from LOS D to LOS E during the p.m. peak hour. The Cambridge Street eastbound approach declines from LOS E to LOS F during the a.m. peak hour and from LOS D to LOS F during the p.m. peak hour. Also during the weekday p.m. peak hour, the Sparhawk Street southbound approach degrades from LOS E to LOS F.

3.4 Build (2023) Condition

As previously summarized, the Project site is located along the north side of Washington Street, just east of the existing St. Gabriel's property. The Project includes removal of the existing surface parking spaces and demolition of the existing buildings on site. Approximately 220 residential apartment units will be constructed in the portion of the site adjacent to Washington Street and 30 condominium units will be constructed toward the rear of the site. The Project will include approximately 250 parking spaces dispersed throughout the site to serve both the apartment and condominium uses.

3.4.1 Site Access and Vehicle Circulation

Existing access to the site is provided by a curb cut along Washington Street at the signalized intersection of Washington Street/Monastery Road.

As currently proposed, the Project site will be accessed by a relocated curb cut along the north side of Washington Street, approximately 150 to the east of the Washington Street/Monastery Road intersection. This curb cut will provide access to the parking and will also allow for loading and service vehicle operations to occur on-site. Access to the rear portion of the site will be provided through the garage.

In response to community and City agency comments, the Proponent is exploring two alternatives to relocating the curb cut on Washington Street. However, both of the following alternatives are not within the Proponent's current control but are subject to gaining rights of access over properties which are not public ways:

- **Fidelis Way:** In this alternative, access would be provided by two new curb cuts off of the west side of Fidelis Way. The curb cuts will provide access to the parking and will also allow for loading and service vehicle operations to occur within the site. Separate curb cuts will be provided for the apartment building in the lower portion of the site and the condominium building in the upper portion of the site. This site access option offers the best emergency vehicle access provided by the separate driveway that directly accesses the upper portion of the site.

- **Monastery Road:** In this alternative, access would be provided from the signalized intersection of Washington Street/Monastery Road and would be shared with the proposed project on the adjacent St. Gabriel's property. A curb cut would be provided from a newly reconstructed roadway that will serve both properties. The curb cut would provide access to all of the parking spaces and will allow for loading and service vehicle operations to occur on-site. Access to the rear portion of the site would be provided through the garage. Due to the slope of Monastery Road at the entry point, this alternative poses challenges that limit access to both buildings, especially for loading access.

3.4.2 Project Parking

The maximum parking goals developed by the BTD for the Allston/Brighton neighborhood are a maximum of 0.75 to 1.25 parking spaces per residential unit. The Project is will have approximately 250 parking spaces, which results in a parking ratio of 1.00 spaces per residential unit. The parking for the apartment building will be provided in a covered, ground floor garage and the parking for the condominium building will be provided at-grade. Visitor parking will be provided in the garage for guests and is included in the overall parking supply for the Project.

3.4.3 Loading and Service Accommodations

Residential units primarily generate delivery trips related to small packages and prepared food. It is anticipated that the majority of the package deliveries will occur between 7:00 a.m. and 1:00 p.m. and the food deliveries will take place after the p.m. peak hour. The low number of anticipated deliveries will have minimal impact on the vehicular operations in the study area but in any instance are accommodated within the building footprint.

As a large site, loading will be accommodated on the Project site away from any public roadways or sidewalks. Loading for move in/move out processes can be accommodated on site for all site access options.

3.4.4 Trip Generation Methodology

Determining the future trip generation of the Project is a complex, multi-step process that produces an estimate of vehicle trips, transit trips, and walk/bicycle trips associated with a proposed development and a specific land use program. A project's location and proximity to different travel modes determine how people will travel to and from a site.

To estimate the number of trips expected to be generated by the Project, data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*[1] were used. ITE provides data to estimate the total number of unadjusted vehicular trips associated with the Project. In an urban setting well-served by transit, adjustments are necessary to account for other travel mode shares such as walking, bicycling, and transit.

To estimate the unadjusted number of vehicular trips for the Project, the following ITE land use codes (LUC) were used:

Land Use Code 220 – Apartment. The apartment land use includes rental dwelling units located within the same building with at least three other dwelling units. Calculations of the number of trips use ITE's average rate per residential unit.

Land Use Code 230 – Residential Condominium/Townhouse. The residential condominium/townhouse land use includes ownership dwelling units that have at least one other owned unit within the same building structure. Calculations of the number of trips use ITE's average rate per residential unit.

3.4.5 Mode Share

BTD provides vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located in the eastern portion of designated Area 10 – Brighton. The daily residential mode shares were based on US Census Journey to Work data. The unadjusted vehicular trips were converted to person-trips by using vehicle occupancy rates published by the Federal Highway Administration (FHWA)[2]. The person-trips were then distributed to different modes according to the mode shares shown in Table 3-9.

---

1 Trip Generation Manual, 9th Edition; Institute of Transportation Engineers; Washington, D.C.; 2012.

2 Summary of Travel Trends: 2009 National Household Travel Survey; FHWA; Washington, D.C.; June 2011.

Table 3-9 Travel Mode Share

Land Use		Walk/Bicycle Share	Transit Share	Auto Share	Vehicle Occupancy Rate
Daily					
Residential	In	22%	19%	59%	1.13
	Out	22%	19%	59%	1.13
Weekday a.m. Peak Hour					
Residential	In	30%	18%	52%	1.13
	Out	19%	30%	51%	1.13
Weekday p.m. Peak Hour					
Residential	In	19%	30%	51%	1.13
	Out	30%	18%	52%	1.13

3.4.6 Existing Trip Generation

The existing site is generating trips associated with the existing land uses on the south end of the Project site plus the parking that is being used by St. Elizabeth's on the north end of the Project site. These spaces will be removed as part of the proposed Project. For the Build (2023) Condition, the trips associated with St. Elizabeth's parking have been rerouted and are maintained in the study area's roadway network and the trips associated with the ABCD Allston-Brighton Head Start program and the St. John's Seminary Theological Institute in the lower part of the Project site have been subtracted from the study area's roadway network.

3.4.7 Project Trip Generation

The mode share percentages shown in Table 3-9 were applied to the number of person-trips to develop walk/bicycle, transit, and vehicle trip generation estimates for the Project. The trip generation for the Project by mode is shown in Table 3-10. The detailed trip generation information is provided in Appendix B.

Table 3-10 Project Trip Generation

Land Use		Walk/Bicycle Trips	Transit Trips	Vehicle Trips
Daily				
Apartment[1]	In	182	157	432
	Out	182	157	432
Condominium[2]	In	21	19	51
	Out	21	19	51
	TOTAL	**406**	**352**	**966**
Weekday a.m. Peak Hour				
Residential	In	7	5	12
	Out	19	31	46
Condominium	In	1	0	1
	Out	2	4	5
	TOTAL	**29**	**40**	**64**
Weekday p.m. Peak Hour				
Residential	In	19	30	46
	Out	16	10	25
Condominium	In	2	3	5
	Out	2	1	3
	TOTAL	**39**	**44**	**79**

1. ITE Trip Generation Rate, 9th Edition, LUC 220 (Apartment), based on 220 units.
2. ITE Trip Generation Rate, 9th Edition, LUC 230 (Residential Condominium/Townhouse), based on 30 units.

The net peak-hour vehicle trip generation for the Project was determined by adjusting the Project-generated vehicle trips to account for the removal of existing trips associated with the existing land uses on the south end of the Project site and the rerouting of existing St. Elizabeth's parking trips. The existing trips were determined from the existing traffic counts. Table 3-11 shows a neutral or slight decrease in net vehicle trips generated due to the proposed development.

Table 3-11 Net Vehicle Trip Generation

	Direction	Project-Generated Trips[1]	Existing Trips Lower Lot[2]	New Vehicle Trips[3]	Existing Trips Upper Lot[4]
a.m. peak hour	In	13	48	**-35**	45
	Out	51	31	**20**	0
	Total	64	79	**-15**	45
p.m. peak hour	In	51	16	**35**	0
	Out	28	19	**9**	26
	Total	79	35	**44**	26

1. Based on ITE Trip Generation.
2. Based on existing counts – these trips were removed from the study area.
3. Net new vehicle trips on study area roadway network.
4. Based on existing counts – these trips were reassigned within the study area.

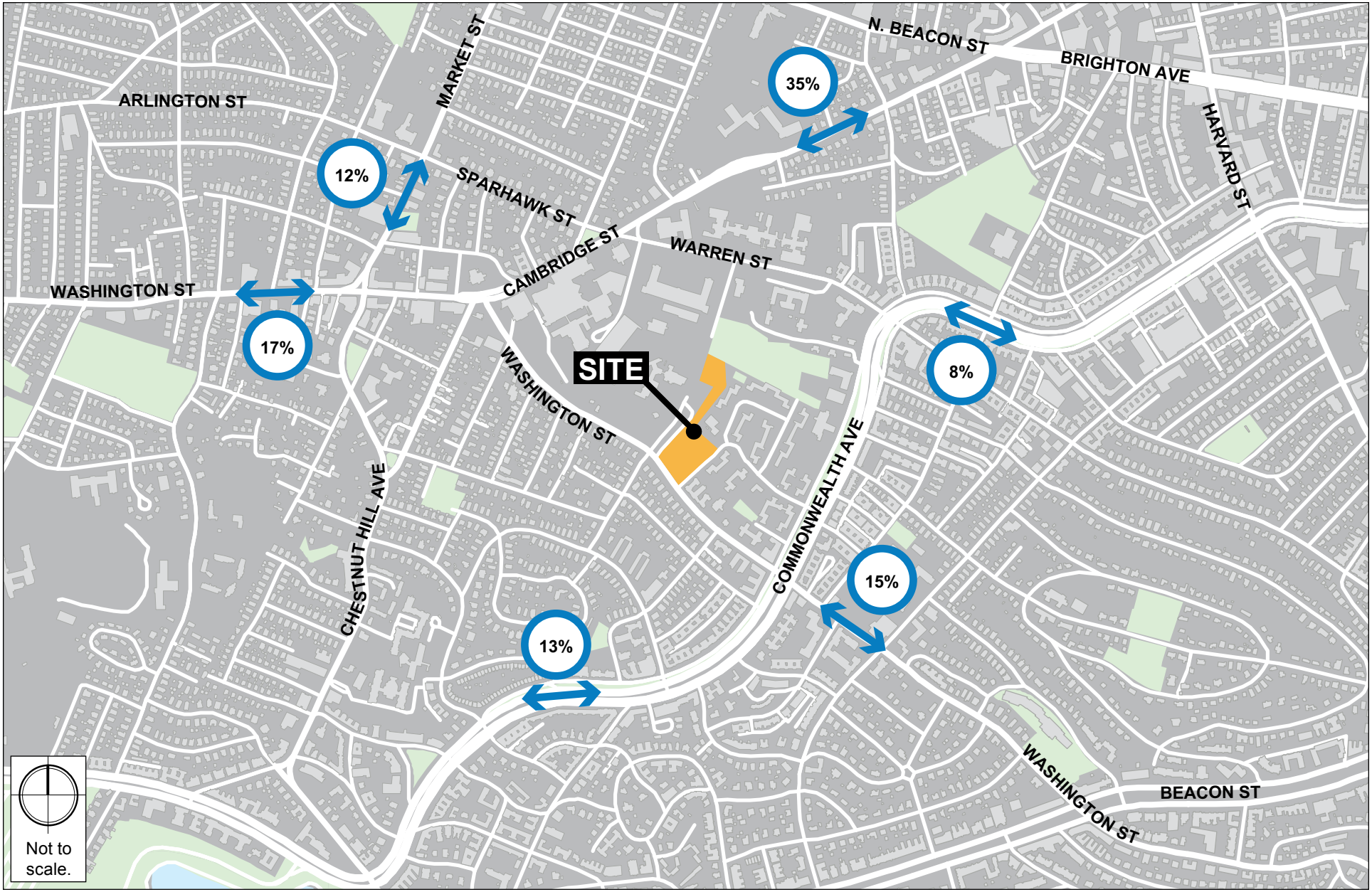
As shown in Table 3-11, the Project will result in a reduction in overall traffic during the a.m. peak hour by vehicles and an addition of 44 new trips during the p.m. peak hour when accounting for the elimination of the existing uses on the lower portion of the site. Trips currently accessing the existing St. Elizabeth's parking lot in the upper portion of the site will be displaced and re-routed within the study area. Approximately 45 trips will be re-routed during the a.m. peak hour and 26 trips will be re-routed during the p.m. peak hour.

3.4.8 Trip Distribution

The trip distribution identifies the various travel paths for vehicles associated with the Project. Trip distribution patterns for the Project were based on BTD's origin-destination data for Area 10 and trip distribution patterns presented in traffic studies for nearby projects. The trip distribution patterns for the Project are illustrated in Figure 3-13.

3.4.9 Build Traffic Volumes

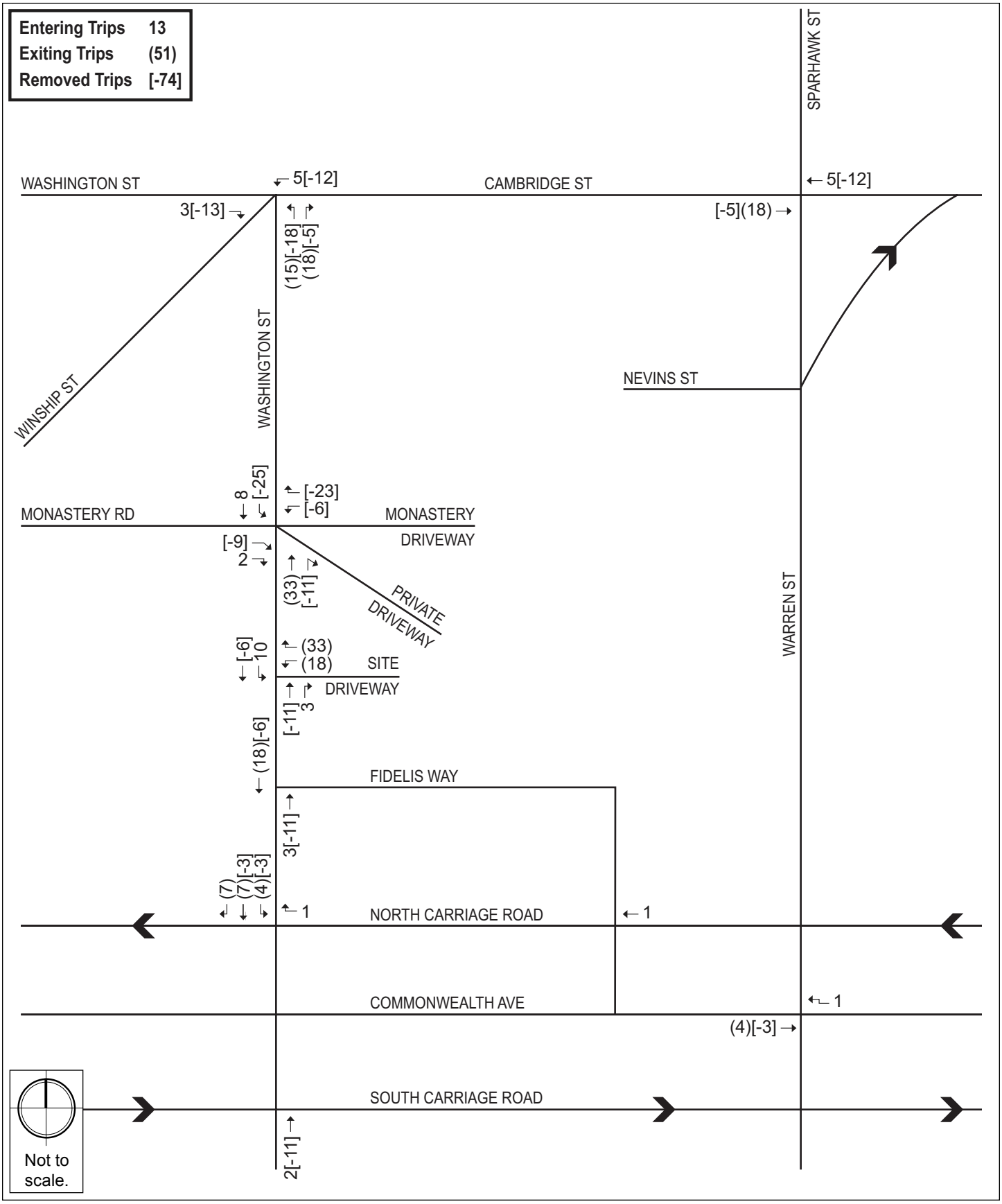
The net trip generation associated with the Project-generated vehicle trips, the rerouted St. Elizabeth's parking, and the removal of trips associated with the existing land uses on the south end of the Project site were distributed throughout the study area according to the trip distribution patterns. The resulting net trip assignments at study area intersections are shown for the weekday a.m. peak hour and the weekday p.m. peak hour in Figure 3-14 through Figure 3-19. The trip assignments were added to the No-Build (2023) Condition vehicular traffic volumes to produce the Build (2023) Condition vehicular traffic volumes. The Build (2023) Condition a.m. and p.m. peak hour traffic volumes are shown in Figure 3-20 through Figure 3 25.



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-13
Vehicle Trip Distribution

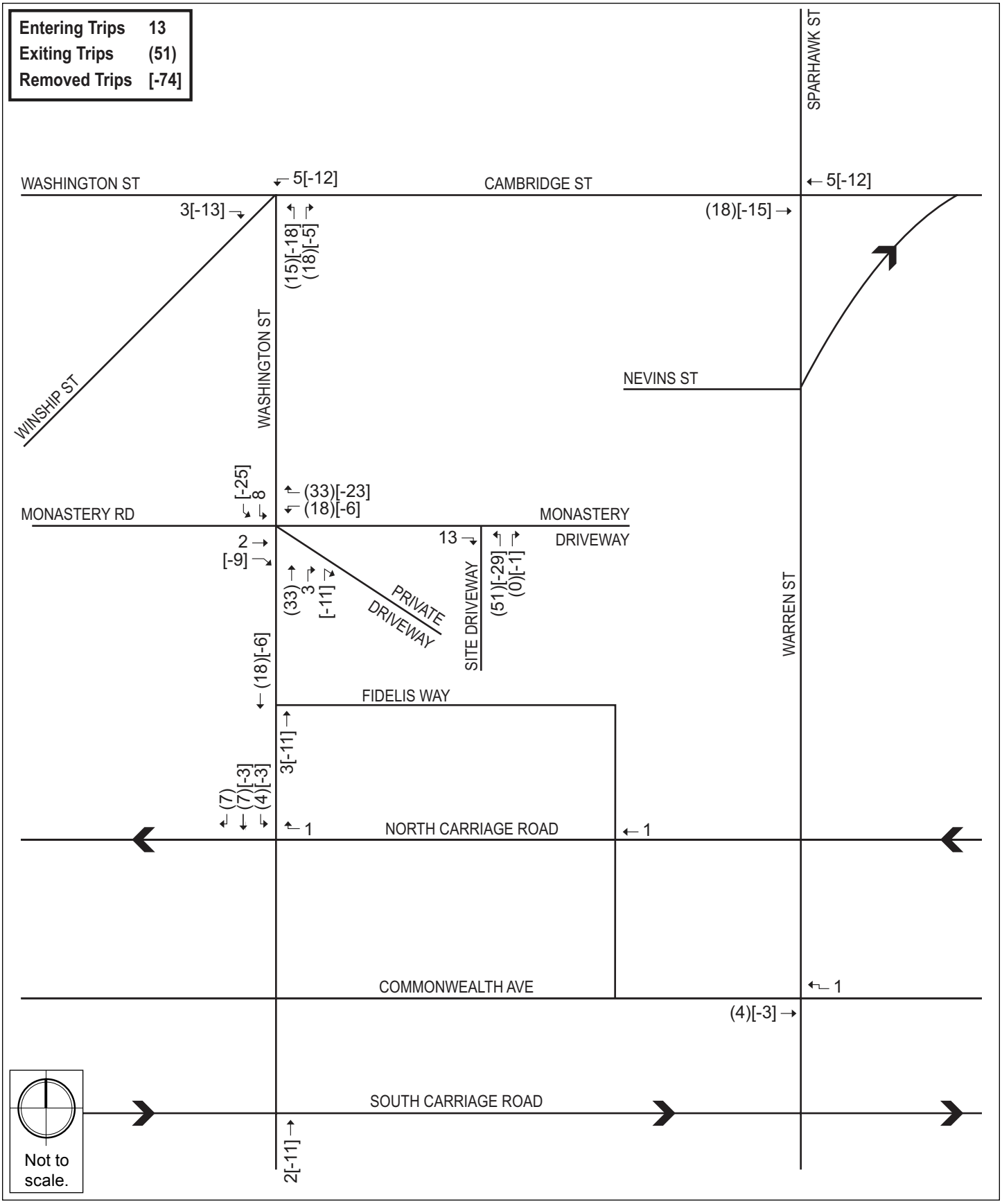


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-14

Project Generated Trips - Washington Street Access, a.m. Peak Hour

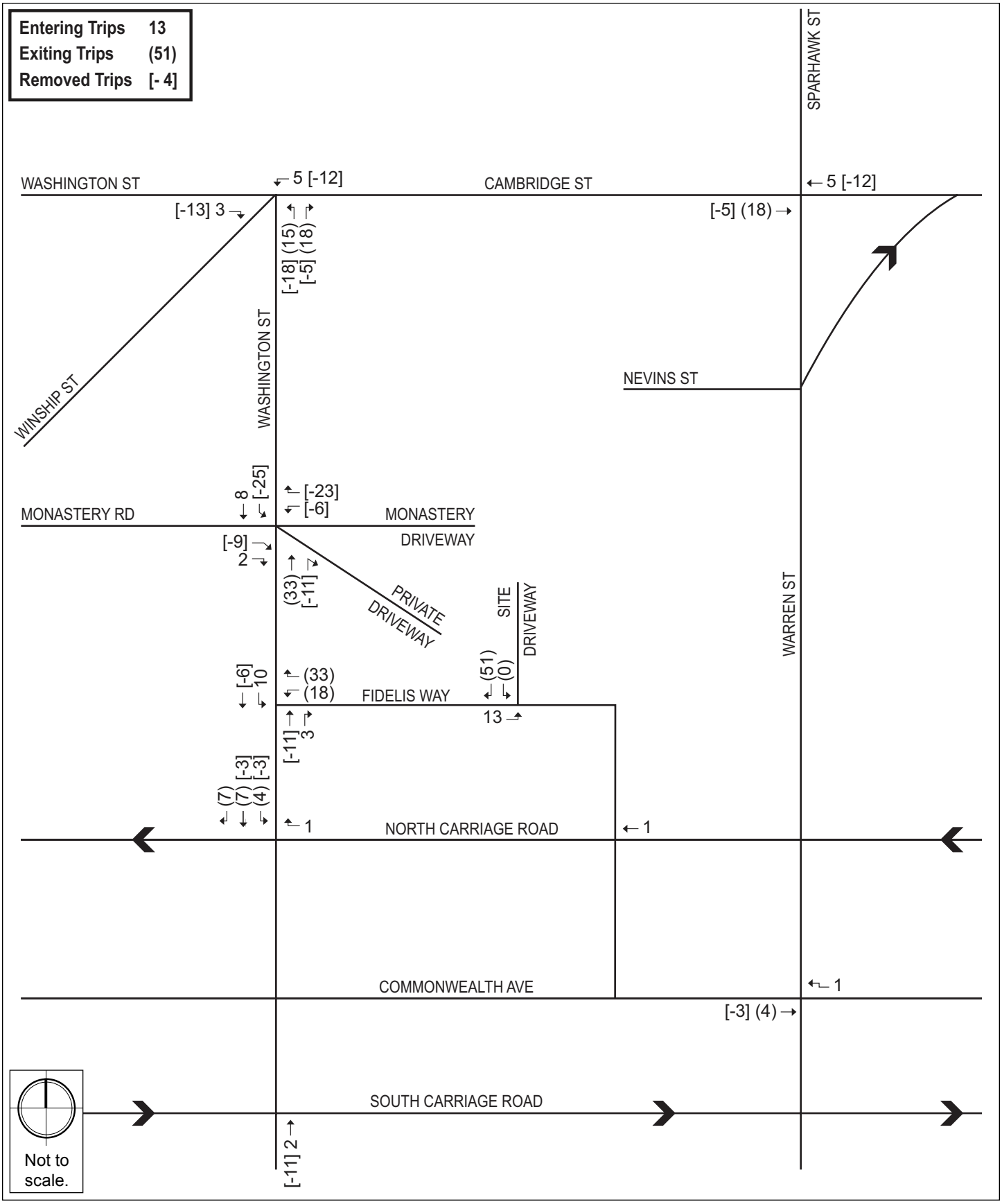


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-15

Project Generated Trips - Monastery Road Access, a.m. Peak Hour

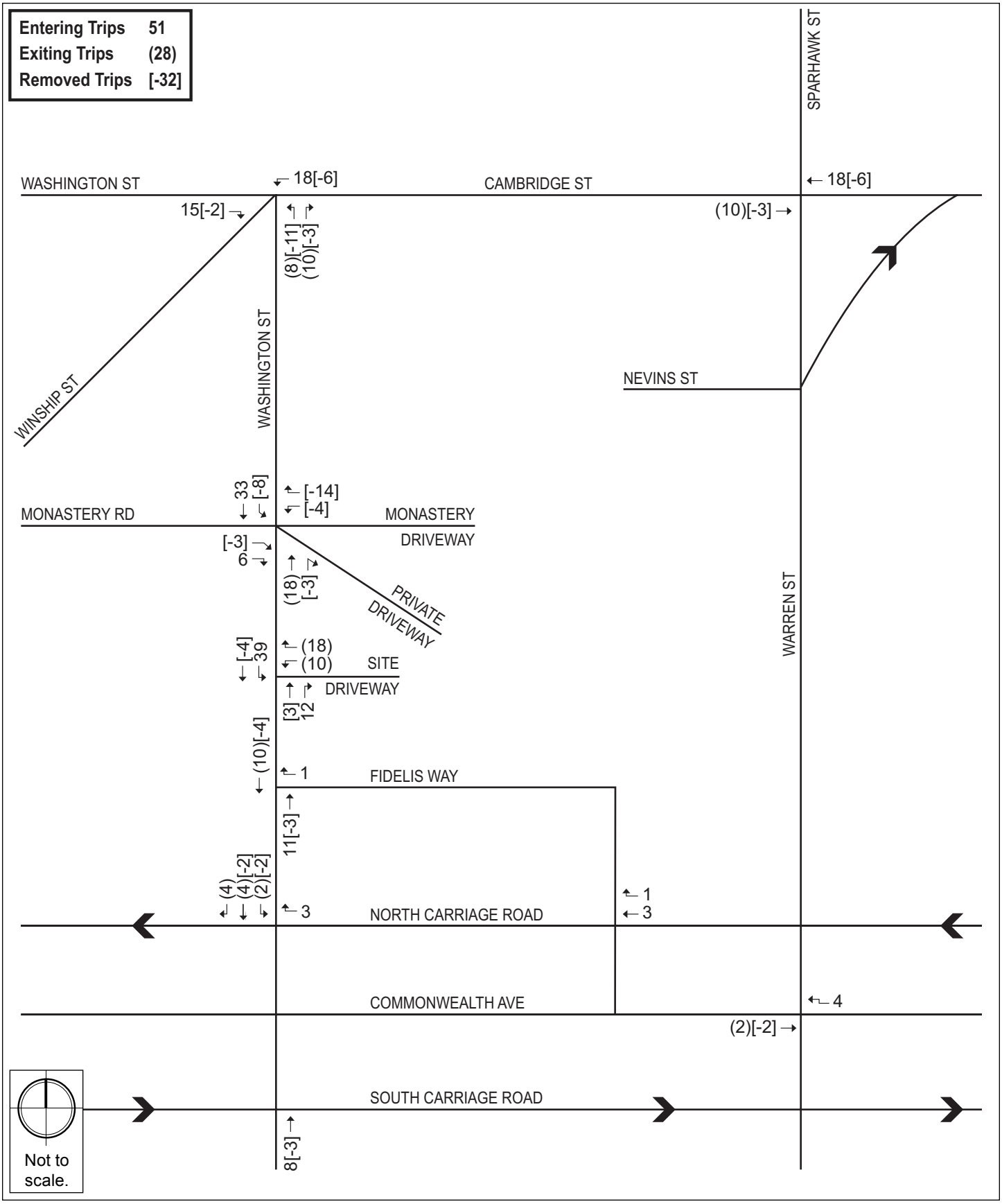


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-16

Project Generated Trips - Fidelis Way Access, a.m. Peak Hour

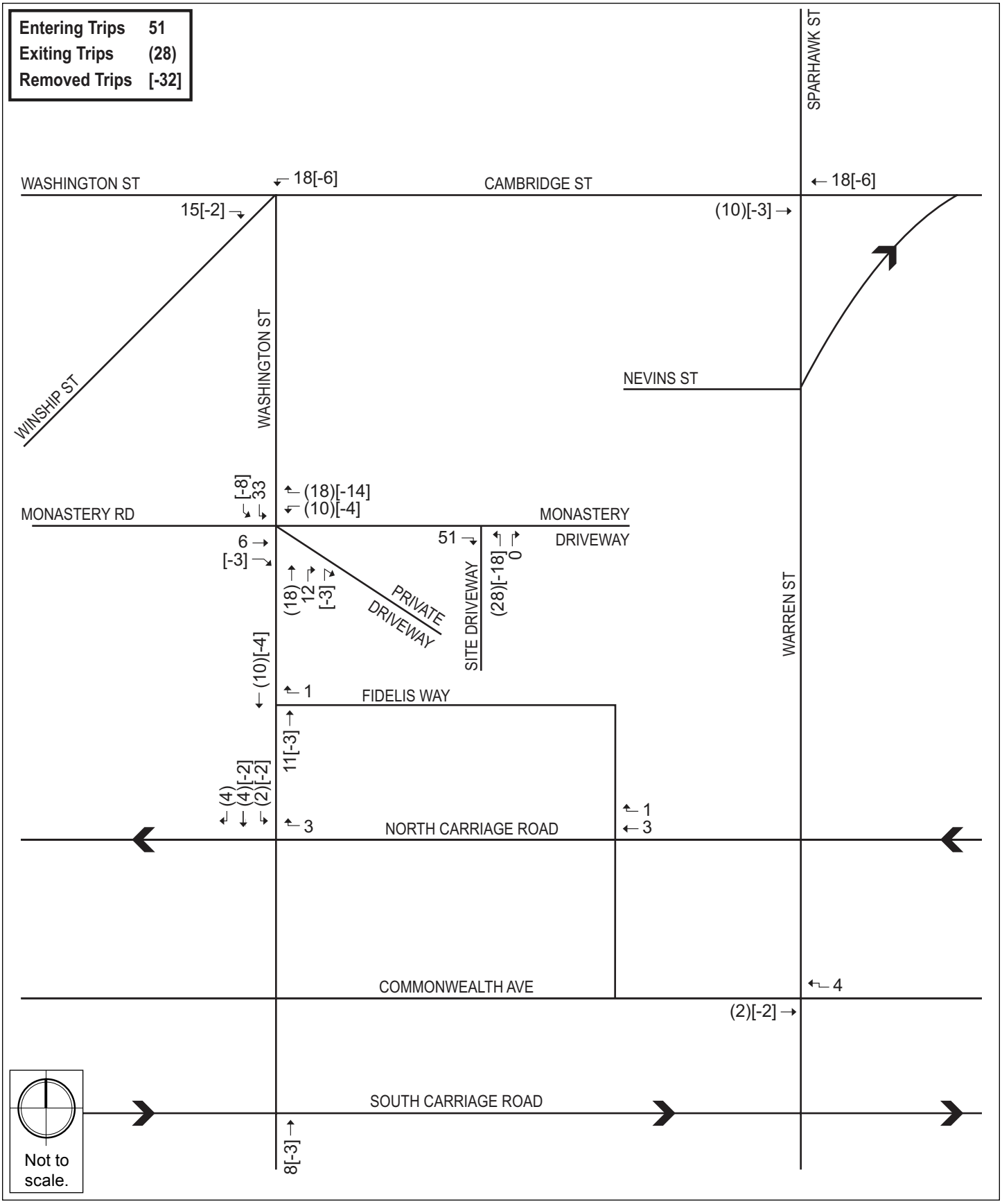


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-17

Project Generated Trips - Washington Street Access, p.m. Peak Hour

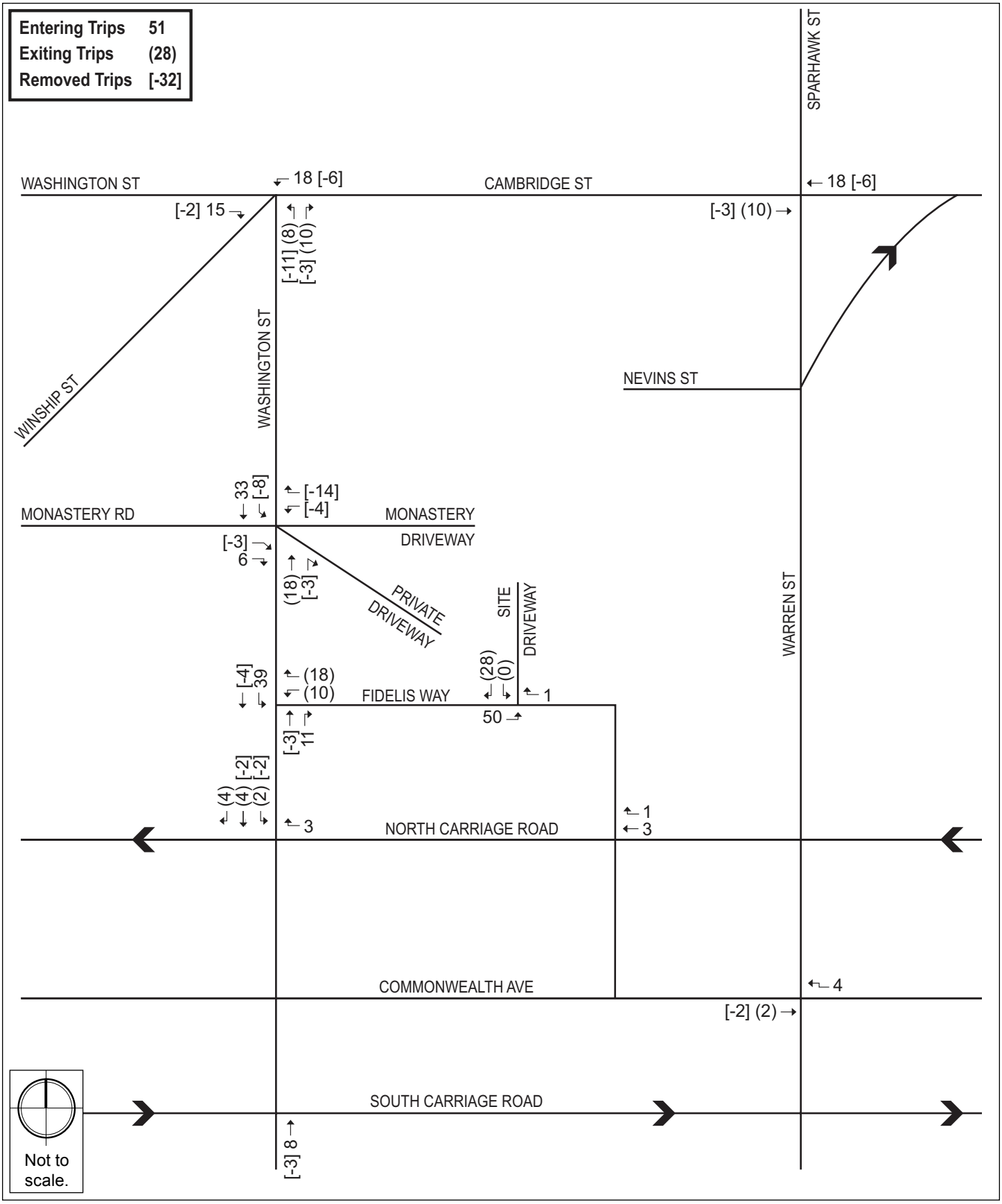


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-18

Project Generated Trips - Monastery Road Access, p.m. Peak Hour

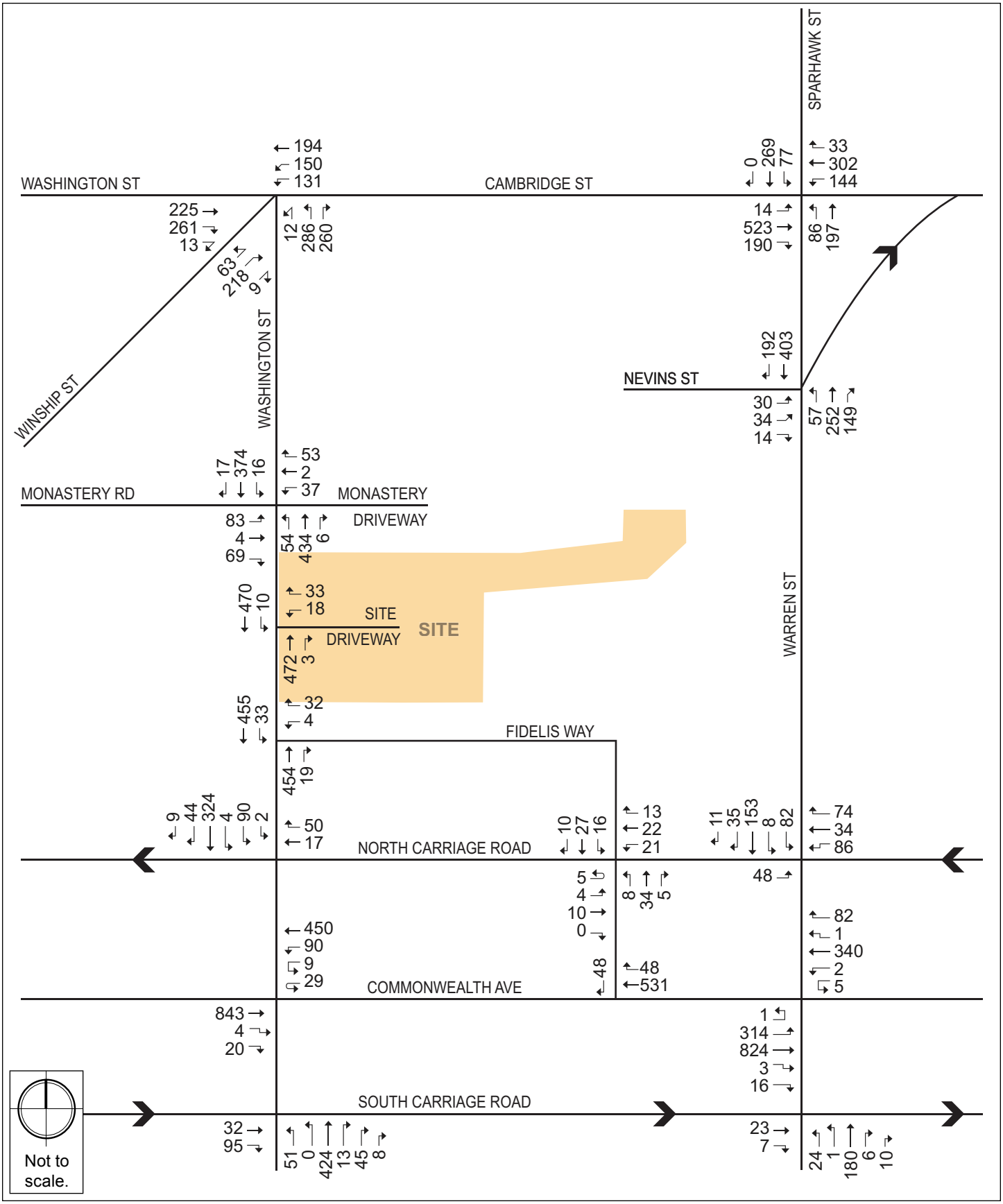


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-19

Project Generated Trips - Fidelis Way Access, p.m. Peak Hour

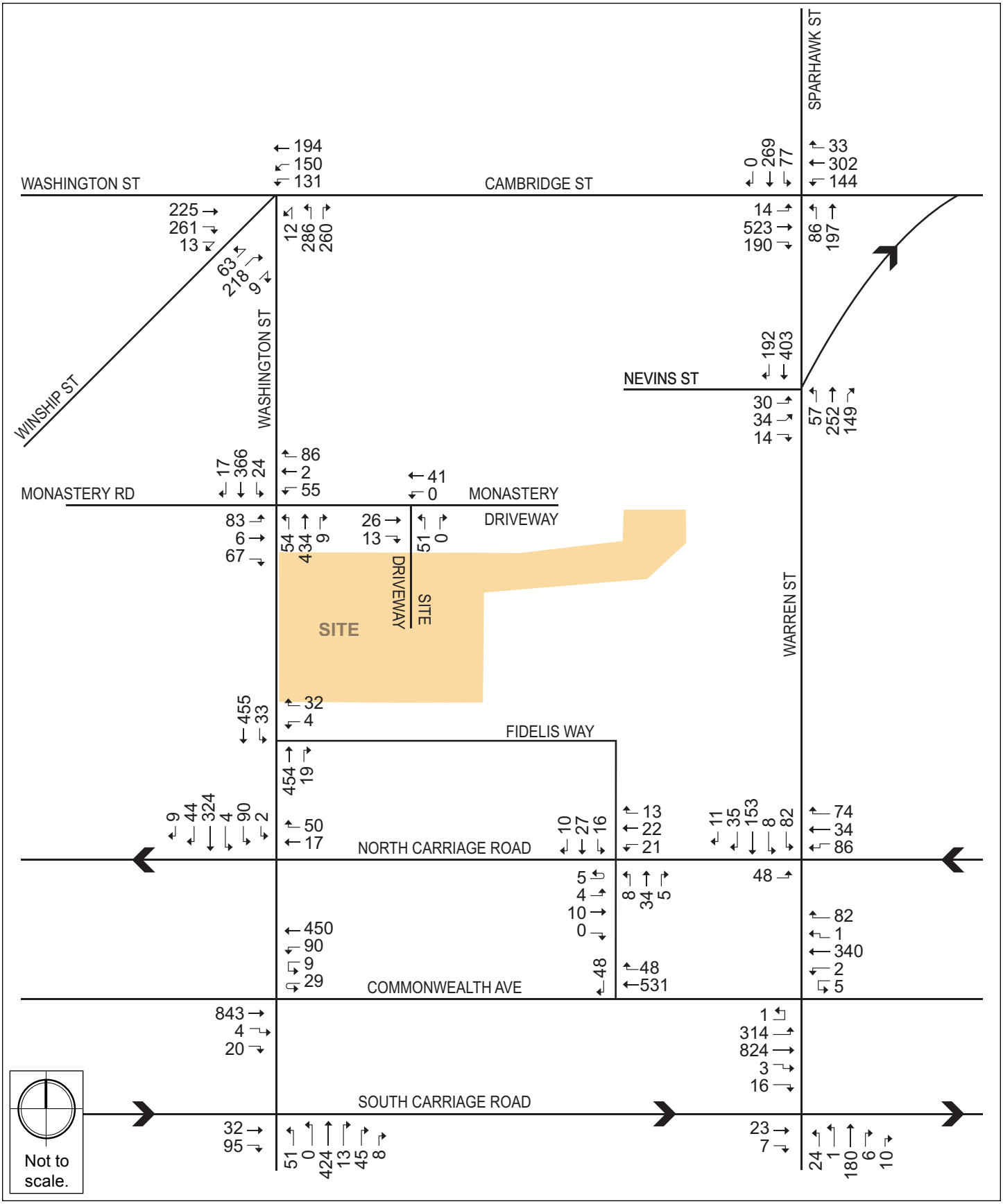


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-20

Build (2023) Condition Traffic Volumes - Washington Street Access
Weekday a.m. Peak Hour

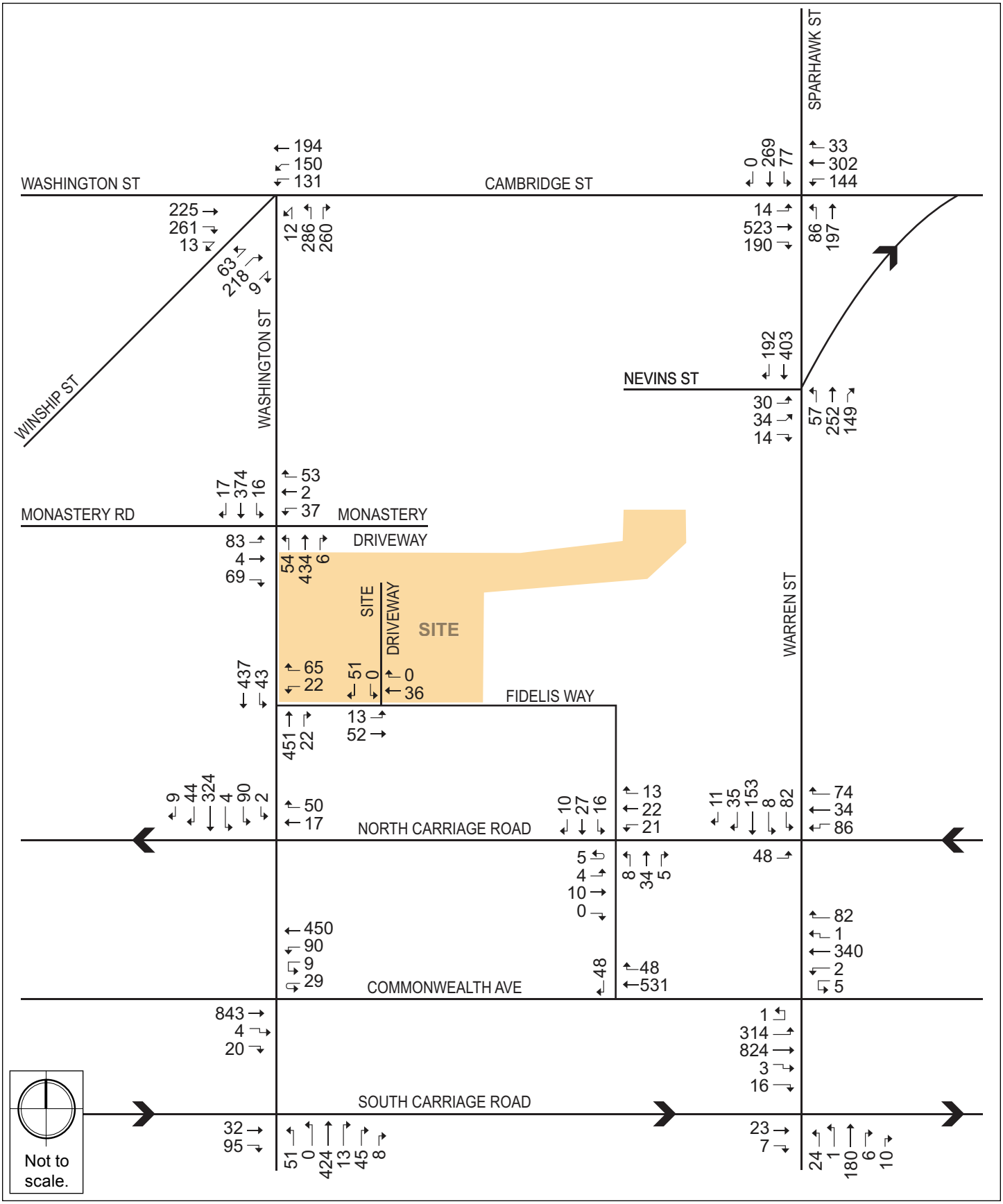


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-21

Build (2023) Condition Traffic Volumes - Monastery Road Access
Weekday a.m. Peak Hour

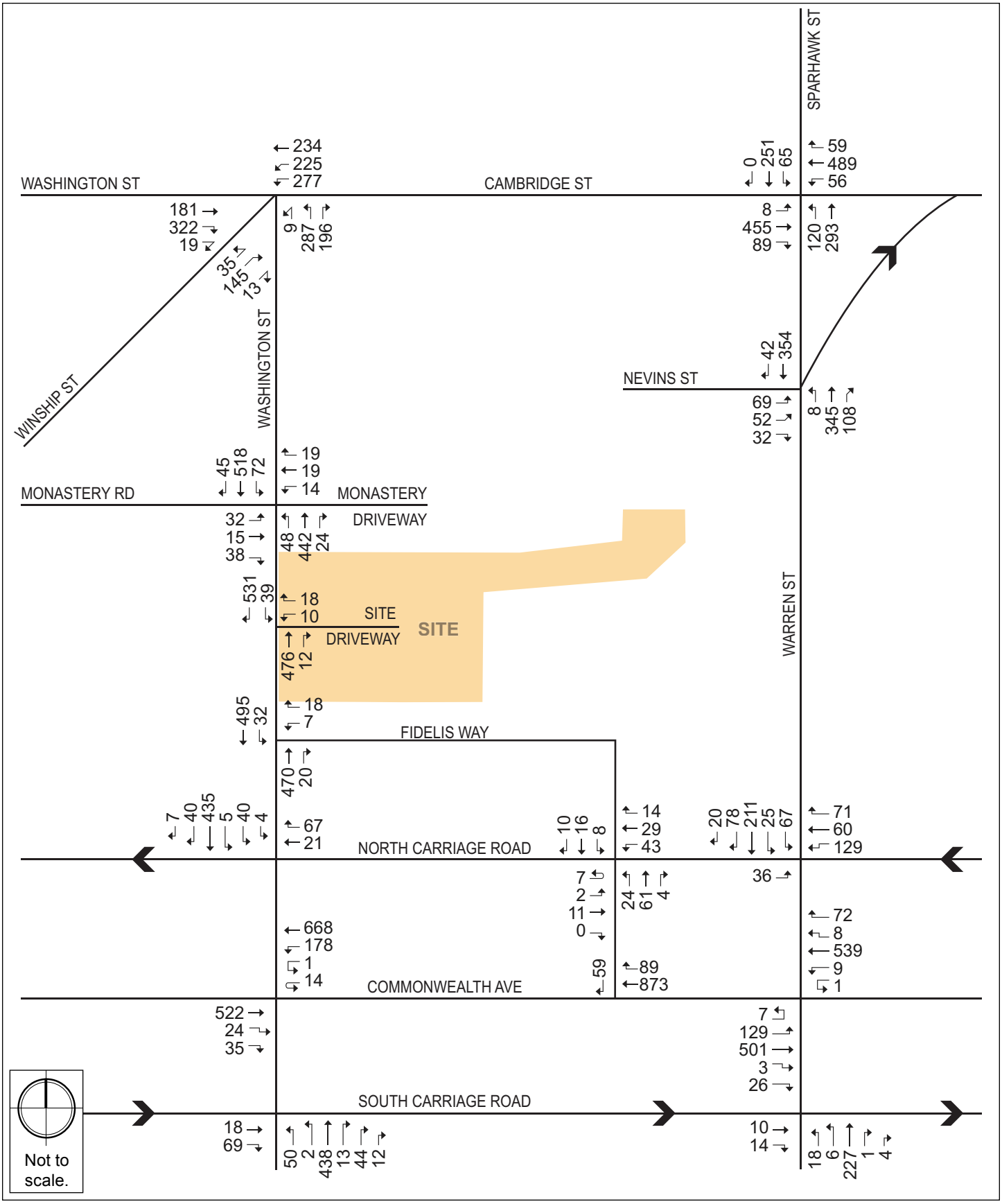


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-22

Build (2023) Condition Traffic Volumes - Fidelis Way Access Weekday a.m. Peak Hour

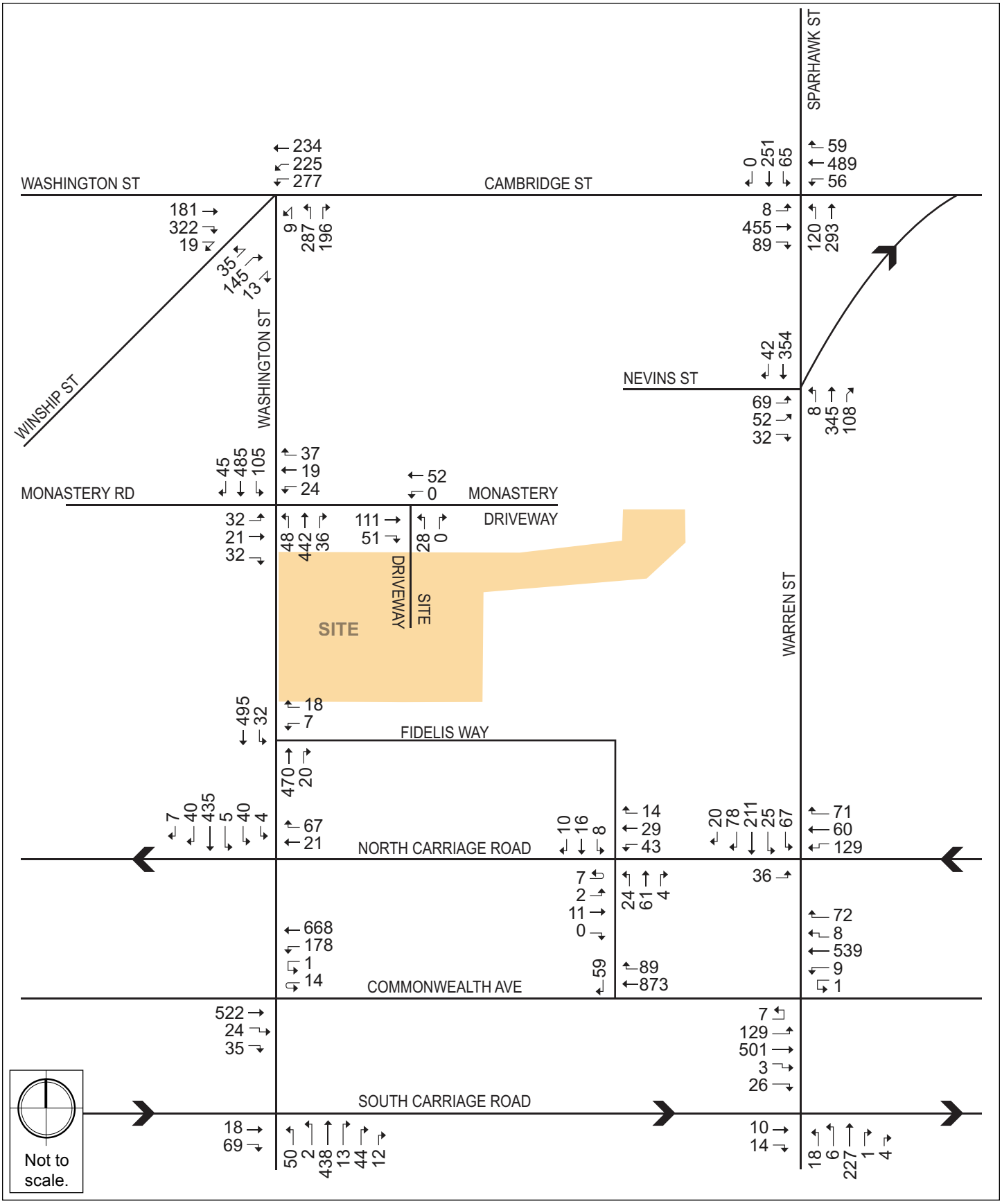


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-23

Build (2023) Condition Traffic Volumes - Washington Street Access
Weekday p.m. Peak Hour

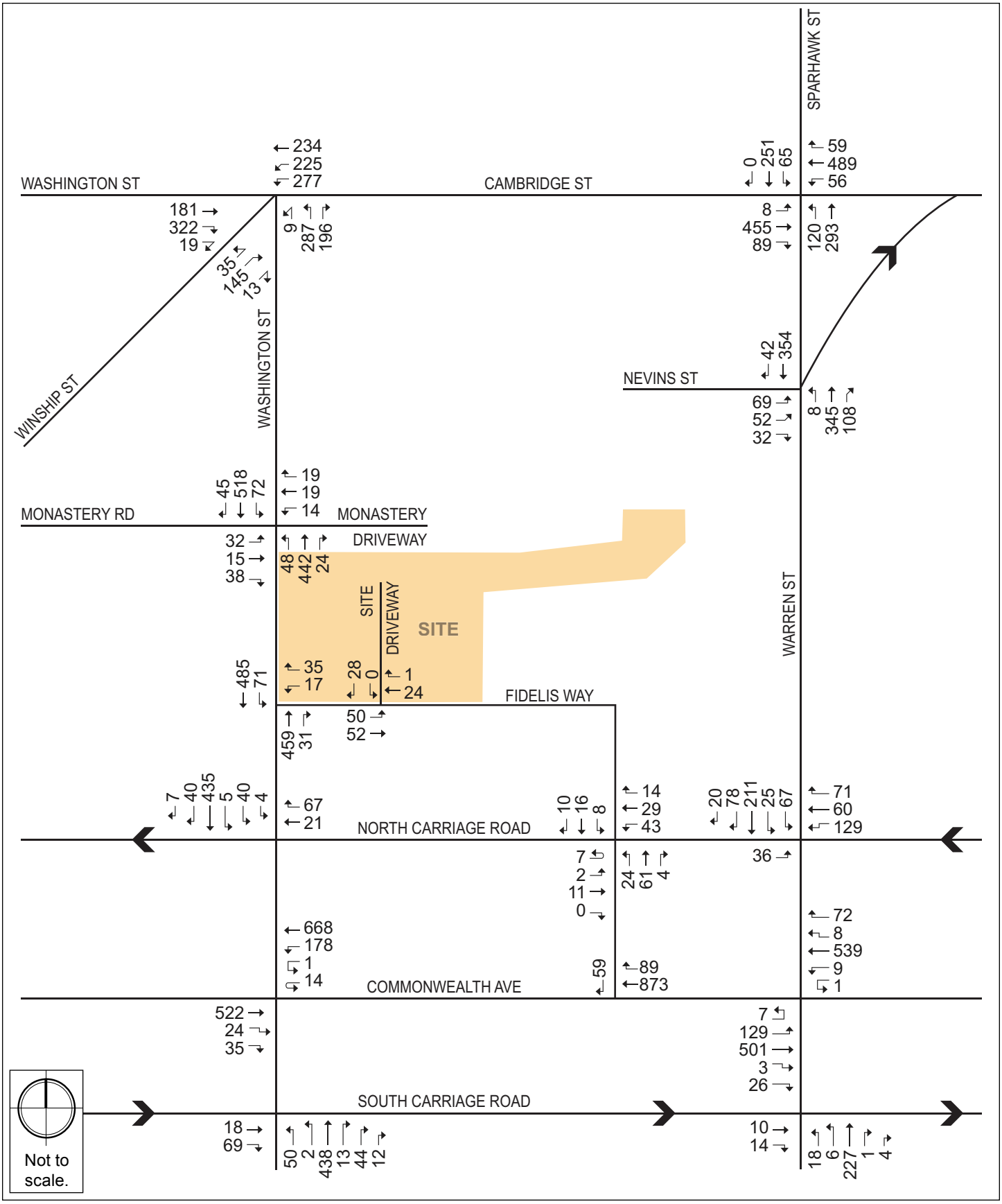


139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-24

Build (2023) Condition Traffic Volumes - Monastery Road Access
Weekday p.m. Peak Hour



139-149 Washington Street Boston, Massachusetts

HOWARD STEIN HUDSON
Engineers + Planners

Figure 3-25

Build (2023) Condition Traffic Volumes - Fidelis Way Access

Weekday p.m. Peak Hour

3.4.10 Bicycle Accommodations

BTD has established guidelines requiring projects subject to Transportation Access Plan Agreements to provide secure bicycle parking for residents and short-term bicycle racks for visitors. Based on BTD guidelines, the Project will supply a minimum of 250 secure bicycle parking/storage spaces within the Project site for the residents.

3.4.11 Build Condition Traffic Operations Analysis

The Build (2023) Condition analysis uses the same methodology as the Existing (2016) Condition and No-Build (2023) Condition analyses. Table 3-12 and Table 3-13 present the Build (2023) Condition capacity analysis for the a.m. and p.m. peak hours, respectively. The shaded cells in the tables indicate a worsening in LOS to LOS E or F between the No-Build (2023) Condition and the Build (2023) Condition. The detailed analysis sheets are provided in Appendix B.

Table 3-12 Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**D**	**51.6**	**>1.00**	**-**	**-**
Washington Street EB thru	D	35.9	0.57	140	214
Washington Street EB right/hard right	B	12.3	0.49	76	139
Cambridge Street WB left	E	62.5	0.83	102	#188
Cambridge Street WB bear left	F	90.4	0.97	119	#226
Cambridge Street WB thru	B	10.5	0.39	48	69
Washington Street NB hard left/left	F	104.9	>1.00	~238	#396
Washington Street NB right	C	28.6	0.76	65	#185
Winship Street NEB hard left	D	40.6	0.38	37	79
Winship Street NEB bear right/hard right	E	79.5	0.93	152	#298
Washington St/Monastery Rd/Monastery Driveway (proposed Project)	**C**	**20.7**	**0.76**	**-**	**-**
Monastery Road EB left/thru/right	C	23.1	0.49	54	123
Monastery Driveway WB left/thru/right	C	20.8	0.38	40	70
Washington Street NB left/thru/right	C	23.0	0.76	140	#418
Washington Street SB left/ thru/right	B	16.6	0.59	100	274
Washington St/Monastery Rd/Monastery Driveway (Monastery Road Alternative)	**C**	**22.2**	**0.76**	**-**	**-**
Monastery Road EB left/thru/right	C	25.2	0.53	55	126
Monastery Driveway WB left/thru/right	C	27.1	0.60	67	105
Washington Street NB left/thru/right	C	23.2	0.76	141	#422
Washington Street SB left/ thru/right	B	17.1	0.61	101	279

Table 3-12 Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Washington St/Monastery Rd/Monastery Driveway (Fidelis Way Access Alternative)	**C**	**20.7**	**0.76**	**-**	**-**
Monastery Road EB left/thru/right	C	23.1	0.49	54	123
Monastery Driveway WB left/thru/right	C	20.8	0.38	40	70
Washington Street NB left/thru/right	C	23.0	0.76	140	#418
Washington Street SB left/ thru/right	B	16.6	0.59	100	274
Commonwealth Avenue/Washington Street	**F**	**120.4**	**>1.00**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	E	58.2	0.95	373	#508
South Carriage Road EB left/thru	C	29.9	0.07	20	45
South Carriage Road EB right	A	8.1	0.31	0	39
Commonwealth Avenue WB U-turn/left	E	68.7	0.70	102	#192
Commonwealth Avenue WB thru | thru/right	C	33.6	0.48	154	205
North Carriage Road WB left/thru/right	C	34.6	0.32	60	76
Washington Street NB thru/right	F	97.1	>1.00	~532	#706
Washington Street SB left/thru/right	F	252.4	>1.00	~590	#749
Commonwealth Ave/Warren St/Kelton St	**C**	**31.9**	**0.99**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	D	47.4	0.99	350	#706
South Carriage Road EB left/thru/right	B	10.1	0.06	9	30
North Carriage Road EB left	E	63.5	0.50	52	74
Commonwealth Ave WB left/thru | thru/right	C	33.2	0.50	154	218
North Carriage Road WB thru/right	D	36.3	0.46	130	223
Kelton Street NB thru/right	E	61.2	0.78	186	#275
Warren Street SB thru/right	F	87.0	0.95	233	#406
Cambridge St/Warren St/Sparhawk St	**F**	**99.0**	**>1.00**	**-**	**-**
Cambridge Street EB left/thru | thru/right	F	137.2	>1.00	~393	m#467
Cambridge Street WB left	D	52.1	0.78	75	#167
Cambridge Street WB thru/right	C	33.9	0.63	197	306
Warren Street NB left	C	28.6	0.41	40	78
Warren Street NB thru/right	C	25.8	0.33	97	158
Sparhawk Street SB left/thru/right	F	154.1	>1.00	~283	#461
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.4	0.07	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.14	-	0
Fidelis Way NB left/thru/right	A	7.4	0.06	-	-
Fidelis Way SB left/thru/right	A	7.4	0.06	-	-
Fidelis Way SB right	B	10.7	0.08	-	6

Table 3-12 Build (2023) Condition, Capacity Analysis Summary, a.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Washington St/Fidelis Way (proposed Project)	-	-	-	-	-
Fidelis Way WB left/right	B	13.0	0.08	-	6
Washington Street NB thru/right	-	0.0	0.30	-	0
Washington Street SB left/thru	A	1.0	0.03	-	3
Washington St/Fidelis Way (Monastery Road Alternative)	-	-	-	-	-
Fidelis Way WB left/right	B	13.0	0.08	-	6
Washington Street NB thru/right	-	0.0	0.30	-	0
Washington Street SB left/thru	A	1.0	0.03	-	3
Washington St/Fidelis Way (Fidelis Way Alternative)	-	-	-	-	-
Fidelis Way WB left/right	C	16.1	0.23	-	22
Washington Street NB thru/right	-	0.0	0.30	-	0
Washington Street SB left/thru	A	1.3	0.04	-	4
Warren St/Nevins St	-	-	-	-	-
Nevins Street EB left	D	30.8	0.24	-	22
Nevins Street EB thru/right	D	31.0	0.34	-	35
Warren Street NB left/thru/right	A	2.0	0.07	-	6
Warren Street SB left/thru/right	-	0.0	0.00	-	0
Washington St/Site Driveway (proposed Project)	-	-	-	-	-
Site Driveway WB left/right	C	16.3	0.15	-	13
Washington Street NB thru/right	-	0.0	0.30	-	0
Washington Street SB left/thru	A	0.3	0.01	-	1

Grey Shading indicates a decrease in LOS to LOS E or F from No-Build (2023).
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

Table 3-13 Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Signalized Intersections					
Cambridge St/Washington St/Winship St	**E**	**64.7**	**>1.00**	**-**	**-**
Washington Street EB thru	C	34.3	0.44	102	172
Washington Street EB right/hard right	B	16.9	0.61	107	215
Cambridge Street WB left	F	182.8	>1.00	~244	m#323
Cambridge Street WB bear left	E	78.6	0.96	161	m#225
Cambridge Street WB thru	B	12.6	0.39	60	m92
Washington Street NB hard left/left	F	101.4	1.07	~249	#374
Washington Street NB right	B	15.6	0.58	27	83
Winship Street NEB hard left	D	35.4	0.21	20	49
Winship Street NEB bear right/hard right	D	52.4	0.70	101	173
Washington St/Monastery Rd/Monastery Driveway (proposed Project)	**C**	**30.0**	**0.94**	**-**	**-**
Monastery Road EB left/thru/right	B	19.8	0.34	39	62
Monastery Driveway WB left/thru/right	B	17.4	0.14	15	47
Washington Street NB left/thru/right	C	22.7	0.75	136	#443
Washington Street SB left/ thru/right	D	39.5	0.94	197	#594
Washington St/Monastery Rd/Monastery Driveway (Monastery Road Alternative)	**D**	**40.7**	**>1.00**	**-**	**-**
Monastery Road EB left/thru/right	B	19.8	0.34	39	62
Monastery Driveway WB left/thru/right	B	18.3	0.22	24	66
Washington Street NB left/thru/right	C	23.5	0.77	141	#457
Washington Street SB left/ thru/right	E	62.8	>1.00	216	#623
Washington St/Monastery Rd/Monastery Driveway (Fidelis Way Alternative)	**C**	**30.0**	**0.94**	**-**	**-**
Monastery Road EB left/thru/right	B	19.8	0.34	39	62
Monastery Driveway WB left/thru/right	B	17.4	0.14	15	47
Washington Street NB left/thru/right	C	22.7	0.75	136	#443
Washington Street SB left/ thru/right	D	39.5	0.94	197	#594
Commonwealth Avenue/Washington Street	**F**	**171.8**	**>1.00**	**-**	**-**
Commonwealth Ave EB left/thru | thru/right	D	35.4	0.59	204	266
South Carriage Road EB left/thru	C	28.6	0.07	17	25
South Carriage Road EB right	A	8.8	0.36	0	2
Commonwealth Avenue WB U-turn/left	F	96.7	0.93	159	#308
Commonwealth Avenue WB thru | thru/right	D	36.5	0.66	243	312
North Carriage Road WB left/thru/right	D	37.7	0.45	75	101
Washington Street NB thru/right	F	104.5	>1.00	~542	#741
Washington Street SB left/thru/right	F	356.6	>1.00	~654	#878

Table 3-13 Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Commonwealth Ave/Warren St/Kelton St	**D**	**53.2**	**>1.00**	**-**	**-**
Commonwealth Avenue EB left/thru | thru/right	C	22.0	0.69	184	241
South Carriage Road EB left/thru/right	A	8.9	0.06	6	13
North Carriage Road EB left	E	61.4	0.44	46	57
Commonwealth Ave WB left/thru | thru/right	D	39.9	0.70	246	337
North Carriage Road WB thru/right	D	51.8	0.78	243	297
Kelton Street NB thru/right	E	55.7	0.76	209	#323
Warren Street SB thru/right	F	120.7	>1.00	~353	#554
Cambridge St/Warren St/Sparhawk St	**E**	**74.2**	**>1.00**	**-**	**-**
Cambridge Street EB left/thru | thru/right	F	103.1	>1.00	~270	#374
Cambridge Street WB left	C	25.7	0.25	25	54
Cambridge Street WB thru/right	E	56.0	0.93	~403	#614
Warren Street NB left	C	34.1	0.57	63	106
Warren Street NB thru/right	C	29.8	0.53	172	245
Sparhawk Street SB left/thru/right	F	123.4	>1.00	~243	#415
Unsignalized Intersections					
Commonwealth Ave/Fidelis Way	**-**	**-**	**-**	**-**	**-**
North Carriage Road EB left/thru/right	A	7.4	0.02	-	-
North Carriage Road WB left/thru/right	A	7.8	0.11	-	-
Commonwealth Avenue WB thru | thru/right	-	0.0	0.00	-	0
Fidelis Way NB left/thru/right	A	7.8	0.11	-	-
Fidelis Way SB left/thru/right	A	7.3	0.04	-	-
Fidelis Way SB right	B	13.3	0.13	-	11
Washington St/Fidelis Way (proposed Project)	**-**	**-**	**-**	**-**	**-**
Fidelis Way WB left/right	C	15.8	0.08	-	6
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	0.9	0.03	-	3
Washington St/Fidelis Way (Monastery Road Alternative)	-	-	-	-	-
Fidelis Way WB left/right	C	15.8	0.08	-	6
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	0.9	0.03	-	3
Washington St/Fidelis Way (Fidelis Way Alternative)	-	-	-	-	-
Fidelis Way WB left/right	C	17.5	0.16	-	14
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	1.9	0.07	-	6

Table 3-13 Build (2023) Condition, Capacity Analysis Summary, p.m. Peak Hour (Continued)

Intersection/Approach	LOS	Delay (s)	V/C Ratio	50th Percentile Queue (ft)	95th Percentile Queue (ft)
Warren St/Nevins St	-	-	-	-	-
Nevins Street EB left	D	25.6	0.31	-	31
Nevins Street EB thru/right	C	20.9	0.29	-	30
Warren Street NB left/thru/right	A	0.2	0.01	-	1
Warren Street SB left/thru/right	-	0.0	0.00	-	0
Washington St/Site Driveway	-	-	-	-	-
Site Driveway WB left/right	C	18.2	0.10	-	8
Washington Street NB thru/right	-	0.0	0.31	-	0
Washington Street SB left/thru	A	1.1	0.04	-	3

Grey Shading indicates a decrease in LOS to LOS E or F from No-Build (2023).
~ 50th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity. Queue shown is maximum after two cycles.
m Volumes for 95th percentile queue is metered by upstream signal.

As shown in Table 3-12 and Table 3-13, the Project will have minimal impact on the study area intersections and only the following operational deficiencies are expected to occur under the Build (2023) Condition:

- The signalized intersection of **Cambridge Street/Warren Street/Sparhawk Street** continues to operate under the same LOS as the No-Build (2023) Condition, with the exception of the Cambridge Street westbound through/right lane, which declines from LOS D to LOS E during the p.m. peak hour.
- No additional operational deficiencies are expected under the Build (2023) Condition compared to the No-Build (2023) Condition.
- All points of site access will operate efficiently.

3.5 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project-traffic impacts. The TDM program may include an on-site transportation coordinator, secure bicycle parking areas, and distributions of transit maps and schedules to residents, guests, and employees.

On-site management will keep a supply of transit information (schedules, maps, and fare information) to be made available to the residents and patrons of the site. The Proponent will work with the City to develop a TDM program appropriate to the Project and consistent with its level of impact.

The TDM measures for the Project may include but are not limited to the following:

- The Proponent will designate a transportation coordinator to oversee transportation issues, including parking, service and loading, and deliveries;
- On-site management will work with residents as they move in to help facilitate transportation for new arrivals;
- The Proponent will provide orientation packets to new residents containing information on available transportation choices, including public transportation routes/schedules, nearby vehicle sharing and bicycle sharing locations, and walking opportunities;
- Provide an annual (or more frequent) newsletter or bulletin summarizing transit, ride-sharing, bicycling, alternative work schedules, and other travel options;
- Provide information on travel alternatives for employees, residents, and visitors via the Internet and in the building lobby;
- Join and participate in a local Transportation Management Association on behalf of residents;
- Provide bike and pedestrian access information on the Project website;
- Provide covered, secure bicycle storage for residents;
- Posting information in the lobby about public transportation;
- Provide transit access information on the Project website including information on bus and subway routes and schedules;
- Provide electric vehicle charging stations to accommodate 5 percent of the total parking and sufficient infrastructure capacity for future accommodation of at least 15% of the total parking spaces;
- Designate up to 5 percent of the parking spaces as preferred parking for low emission vehicles; and
- Explore the feasibility of providing spaces in the garage for a car sharing service.

3.6 Transportation Mitigation Measures

Although the traffic impacts associated with the new trips are minimal (a net negative number of trips in the weekday a.m. peak hour and less than one vehicle trip per minute generated during the weekday p.m. peak hour in the study area's network), the Proponent will continue to work with the City of Boston to ensure that the Project efficiently serves vehicle trips, improves the pedestrian environment, and encourages transit and bicycle use.

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

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

3.7 Evaluation of Short-term Construction Impacts

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

To minimize transportation impacts during the construction period, the following measures will be considered for the CMP:

- Limited construction worker parking on-site;
- Encouragement of worker carpooling;
- Consideration of a subsidy for MBTA passes for full-time employees; and
- Providing secure spaces on-site for workers' supplies and tools so they do not have to be brought to the site each day.

The CMP to be executed with the City prior to commencement of construction will document all committed measures.

Chapter 4.0

Assessment of Development Review Components

4.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

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

4.1 Environmental Protection

4.1.1 Shadow

The proposed Project will be surrounded by and adjacent to structures of similar height and massing. The Project team will take steps to ensure that the buildings proposed minimize new shading on open spaces, sitting areas or pathways. The Proponent will conduct a shadow study for the Project and report the results in the Draft PIR.

4.1.2 Daylight

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

4.1.3 Solar Glare

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

4.1.4 Air Quality

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

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

4.1.5 Flood Hazard Zones/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 25025C0057G indicates the FEMA Flood Zone Designations for the site area. The map shows that the Project is located in a Zone X "Areas determined to be outside the 0.2% annual chance floodplain."

The site does not contain wetlands.

4.1.6 Geotechnical/Groundwater

4.1.6.1 Existing Conditions

The approximately 3.3-acre site is currently occupied by two interconnected, two-story buildings and paved parking lots. The buildings, which were constructed in the 1950s, have partial basements and appear to be supported by spread footings. The site is adjacent to residential buildings to the east and south; the Basketball courts and a playground to the north; and St. Gabriel's Monastery to the west. The site is located near a topographical high point in Brighton, Massachusetts with surface elevations ranging from approximately elevation 169 feet along Washington Street to elevation 187 feet in the northern parking lot. From the northern parking lot, which is relatively flat, the site slopes steeply downward approximately 30 feet toward the adjacent properties to the north, east and west.

4.1.6.2 Subsurface Condition

Based on available data, the subsurface conditions at the site generally consist of asphalt pavement or landscaping at the surface overlying variable-density granular fill underlain by natural glacial till or sand and gravel. The existing fill was encountered below the surface treatment and ranges in thickness from approximately 10 feet in the southern portion of the site to 30 feet in the northern parking lot. The fill typically varies from loose to very dense and generally consists of a fine to coarse sand with varying amounts of gravel and clayey silt. Dense glacial till or sand and gravel were encountered below the fill. Perched groundwater was encountered during drilling in March 2016 at approximately 10 feet below the northern parking lot within the fill layer. Groundwater was not encountered during drilling in the southern portion of the site.

4.1.6.3 Foundation Considerations

The proposed buildings are anticipated to be supported on shallow spread footings with a slab-on-grade floor system. The footings for the southern building are anticipated to bear on natural soils or compacted structural fill over the natural soils. For the northern building, the existing fill in its current condition is unsuitable to support the proposed building. As such, it is anticipated that the spread footings and slab will be supported on ground improvement elements that extend through the fill down to the underlying glacial till.

4.1.7 Solid and Hazardous Wastes

4.1.7.1 Existing Hazardous Waste Conditions

Based on a Phase I Environmental Site Assessment (ESA), there was no evidence of Recognized Environmental Conditions (RECs) in connection with the Site. As defined by ASTM E1527-13 a REC is the presence or likely presence of hazardous substances or petroleum products in, on, or at a Site: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The Site is not listed as a 21E disposal site based on a review of the online database. Based a Hazardous Building Materials (HBM) survey, asbestos-containing materials (ACM) were identified within the existing buildings. Abatement will be completed prior to demolition in accordance with local, state and federal regulations.

4.1.7.2 Operational Solid and Hazardous Wastes

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

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

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

4.1.8 Noise

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

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

4.1.9 Construction Impacts

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

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

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

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

4.1.9.1 Construction Air Quality

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

- Using wetting agents on areas of exposed soil on a scheduled basis;
- Using covered trucks;
- Minimizing spoils on the construction site;
- Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- Minimizing storage of debris on the site; and
- Periodic street and sidewalk cleaning with water to minimize dust accumulations.

4.1.9.2 Construction Noise

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

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

4.1.9.3 Construction Waste Management

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

4.1.10 Rodent Control

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

4.1.11 Wildlife Habitat

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

4.2 Sustainable Design and Green Buildings

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

A LEED checklist is included on the next page, and details the credits the Project anticipates achieving. The checklist will be updated regularly as the design develops and engineering assumptions are substantiated. Presently, 50 points have been targeted. Additional credits, identified as "Maybe" on the checklist, will be evaluated as the design progresses.

4.3 Climate Change Adaptability

4.3.1 Introduction

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

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

4.3.2 Extreme Heat Events

The Intergovernmental Panel on Climate Change (IPCC) has predicted that in Massachusetts the number of days with temperatures greater than 90°F will increase from the current five-to-twenty days annually, to thirty-to-sixty days annually.[1] The Project design will include measures to adapt to these conditions, including planting street trees, constructing a high performance building envelope and including operable windows where possible.

[1] IPCC (Intergovernmental Panel on Climate Change), 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Avery, M. Tignor, and H. L. Miller (eds.)]. Cambridge University Press, Cambridge, UK, and New York, 996 pp.

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

Project Checklist

Project Name:
Date:

Y	?	N			
1			Credit	Integrative Process	1

7	9	16	Location and Transportation		16
		16	Credit	LEED for Neighborhood Development Location	16
	1		Credit	Sensitive Land Protection	1
	2		Credit	High Priority Site	2
	5		Credit	Surrounding Density and Diverse Uses	5
5			Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

8	2	0	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
2			Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
3			Credit	Rainwater Management	3
1	1		Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

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

6	7	0	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	5		Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
2			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	7	1	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
	2		Credit	Enhanced Indoor Air Quality Strategies	2
3	0		Credit	Low-Emitting Materials	3
1	0		Credit	Construction Indoor Air Quality Management Plan	1
	2		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
	2		Credit	Interior Lighting	2
2		1	Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

4	0	2	Innovation		6
3		2	Credit	Innovation	5

6			Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
	1		Credit	Water Metering	1

8	**15**	**13**	**Energy and Atmosphere**		**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
	6		Credit	Enhanced Commissioning	6
8		13	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
	3		Credit	Renewable Energy Production	3
	1		Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2
1			Credit	LEED Accredited Professional	1

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

50	**43**	**34**	**TOTALS**	Possible Points: **110**

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

4.3.3 Rain Events

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

4.3.4 Drought Conditions

Although more intense rain storms are predicted, extended periods of drought are also predicted due to climate change. Under the high emissions scenario, the occurrence of droughts lasting one to three months could go up by as much as 75% over existing conditions by the end of the century. To minimize the Project's susceptibility to drought conditions, the landscape design is anticipated to incorporate native and adaptive plant materials and high efficiency irrigation systems will be installed. Aeration fixtures and appliances will be chosen for water conservation qualities, conserving potable water supplies.

4.4 Urban Design

The immediate neighborhood to the south and east of the site is a mixture of single family homes, duplexes, and three to six-story multi-family residential buildings. The Project is designed to mimic the residential feel of the neighborhood by recreating the streetscape with tree lined streets (see Figure 4.4-1a). Residences with stoop entrances will occupy the street level fronting Washington Street (see Figure 4.4-1b). The setback from the Washington Street curb will be increased from the existing 25 feet to 45 feet, allowing for a traditional sidewalk with trees, as well as a second row of trees, and plantings, creating a front yard experience to match that of the neighbors across the street.

The height along Washington Street will be five stories in order to relate to both the smaller multifamily homes across the street and the taller buildings towards Commonwealth Avenue, thus re-establishing a contextual residential experience. Parking and loading will be de-emphasized by bringing these functions inside the building and creating a porte-cochere front door drop off feel. Loading, trash and move-in operations will be contained within the building.

4.5 Historic and Archaeological Resources

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

139-149 Washington Street Boston, Massachusetts

cbt

Figure 4.4-1a
View from Fidelis Way

139-149 Washington Street Boston, Massachusetts

cbt

Figure 4.4-1b
View from Washington Street

4.5.1 Historic Resources within the Project Site

The Project site contains two existing mid-20th century, institutional, brick masonry buildings with addresses of 139 and 149 Washington Street. The two buildings are formerly associated with the St. Gabriel's Church and Monastery property located on the opposite side of Washington Street and include a former parish school and a former convent, which would later serve as a rectory.

4.5.1.1 St. Gabriel's Parish School, 149 Washington Street

The former St. Gabriel Parish School, built in 1949, was designed by architect John Edmund Kelley. The two-story building features a buff brick exterior with a concrete foundation, concrete coping at the roofline, and a flat roof. Bands of six windows define the bays on the facade and rear elevations. The facade is composed of an entry block with two entries framing a band of six windows which steps out to a projecting block to the northeast consisting of three bands of six windows. The original windows and doors have been replaced with late 20th century metal and glass systems. A narrow single-story connector links the former school with the adjacent convent/rectory.

4.5.1.2 St. Gabriel's Convent/Rectory, 139 Washington Street

Originally constructed in 1966-1967 as the convent for the parish school, the two story structure at 149 Washington Street has housed St. Gabriel's Rectory since 1970. The building features a variegated buff brick exterior with a concrete foundation and a flat roof with metal flashing. The entry is recessed at the center of the symmetrical, five-bay facade. Groups of two and three windows frame brick panels used for decorative effect in cast stone surrounds. An attached one-bay, flat-roofed garage with similar variegated buff brick is located on the southwest corner and projects beyond the front façade.

In the 2004, the two buildings were surveyed by the Boston Preservation Alliance as part of an effort to document the real estate holdings of the Roman Catholic Archdiocese of Boston (RCAB). As part of the RCAB property survey, the St. Gabriel's School and Convent/Rectory were added to the Inventory. Neither of the buildings was recommended for individual listing or is currently listed in the State or National Registers of Historic Places.

4.5.1.3 Washington-Warren Institutions Area

A portion of the Project site is located within the Washington-Warren Institutions Area, an area included in the Inventory. Specifically, portions of the access driveways and parking areas are included in the historic area; the existing two buildings on the Project site are not included (see Figure 4.5-1).

The Washington-Warren Institutions Area is believed to be among the largest, most densely developed collections of late 19th and early 20th century institutional buildings in the city. The area includes the 1890s William Howard Taft School, the St. Gabriel's Monastery and

Data Source: Office of Geographic Information (MassGIS), Commcnwealth of Massachusetts, Information Technology Division

139-149 Washington Street Boston, Massachusetts

Epsilon ASSOCIATES INC.

Figure 4.5-1

Historic Resources Map

Church complex, the 1930s Brighton High School complex, the former 1940s Kennedy Memorial Hospital and the 1940s Brighton Marine Hospital complex but not the subject buildings. While the Washington-Warren Institutions Area is included the Inventory, the area is not listed in the State or National Registers of Historic Places.

4.5.2 Historic Resources in the Vicinity of the Project Site

4.5.2.1 St. Gabriel's Monastery and Church complex

Built in 1909 and based on the designs of Boston architect T. Edward Sheehan, St. Gabriel's Monastery is located on the opposite side of Washington Street from the Project site. The Monastery features characteristics of the Mission style, including its red clay tile roof, arcaded entry porch, overhanging eaves, curvilinear gable parapets, corner towers and flush stucco wall surfaces.

The Monastery building was designated an individual City of Boston landmark in 1988. In addition, the roof of the Monastery is the subject of a preservation restriction held by the MHC. As a result of the landmark designation and preservation restriction, the Monastery building is individually listed in the State Register of Historic Places.

Completed in 1929, the Church of St. Gabriel was designed in a Neo-Renaissance style by the Boston architecture firm of Maginnis and Walsh, who specialized in the design of Roman Catholic churches, convents and schools. The two-story church, Basilican in plan, features exterior elevations of buff- colored brick and limestone below a red clay tile roof.

In addition to the Monastery and Church, the St. Gabriel's complex includes the 1927/1950s Retreat House which features a buff brick exterior and red tile roof similar to those of the Monastery and Church; the 1966 Our Lady of Fatima Shrine, a small, one-story, hexagonal building that commemorates the apparition of the Virgin Mary to a group of Portuguese peasant children in the early 20th century; and a ca. 1960 stucco covered garage with a tile shed roof. Also located on the St. Gabriel's property is the Passionist Cemetery. Rectangular in plan, the Cemetery features symmetrical rows of identical granite gravestones, each incised with the name of a Passionist Brother who died while in residence at St. Gabriel's.

4.5.3 Archaeological Resources on the Project Site

There are no known recorded archaeological sites located on the Project site or within the immediate vicinity. Previous ground disturbance activities associated with the construction of the existing buildings, driveways, walkways, parking areas and other site improvements have likely impacted the potential for the site to yield significant archaeological resources.

4.6 Infrastructure Systems

4.6.1 Wastewater

4.6.1.1 Existing Sewer System

An existing Boston Water and Sewer Commission (BWSC) sanitary sewer main is located in Washington Street and an existing Boston Housing Authority (BHA) sewer main is located in Fidelis Way. The existing 10-inch sanitary sewer main in Fidelis Way flows southwest in Fidelis Way and discharges to the sewer main in Washington Street. The existing BWSC sewer main flows northwest in Washington Street; the sewer main increases from a 12-inch sewer main to a 15-inch sewer main where the Fidelis Way sewer main connects into the Washington Street sewer main. The 15-inch sewer main ultimately flows to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal. See Figure 4.6-1 for the Existing BWSC Sanitary Sewer System Map.

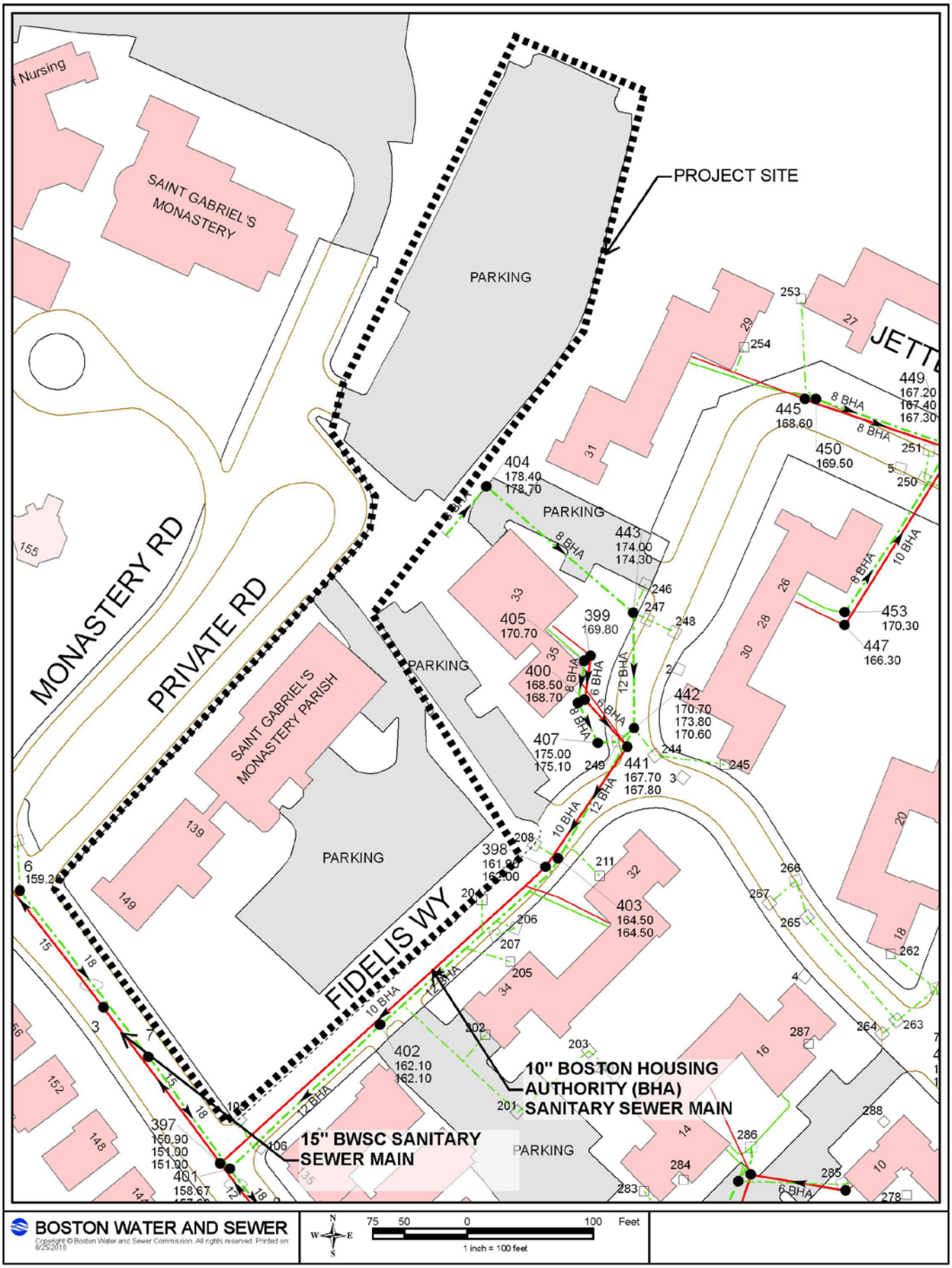
4.6.1.2 Project-generated Sanitary Sewer Flow

The Project's sewage generation rates were estimated using the Department of Environmental Protection State Environmental Code (Title V) Section 310 CMR 15.00 and the proposed building program. 310 CMR 15.00 lists typical sewage generation values for the building use, as shown in Table 4.6-1. Typical generation values are conservative values for estimating the sewage flows from new construction and are used to evaluate new sewage flows or an increase in flows to existing connections. The existing site consists of an abandoned rectory at 139 Washington Street and an active theological institute with a preschool located at 149 Washington Street. The Project includes the demolition of the existing buildings and the construction of two new buildings. Table 4.6-1 describes the increased sewage generation in gallons per day (gpd) due to the Project.

The total sanitary sewage flow as a result of the Project is estimated to be 44,660 gpd, a total increase of an estimated 43,680 gpd.

Table 4.6-1 Proposed Wastewater Generation

	Room Use	Size	310 CMR Value (gpd/unit)	Total Flow (gpd)
Existing	Pre-School	90 People	10/Person	900
	Theological Institute	8 Staff	10/Person	80
			Total	980
Proposed	Building 1-Residential	348 Bedrooms	110/Bedroom	38,280
	Building 2-Residential	58 Bedrooms	110/Bedroom	6,380
			Total	44,660
			Total Increase	43,680



139-149 Washington Street Boston, Massachusetts

Nitsch Engineering

Figure 4.6-1
Existing Sewer System

4.6.1.3 Sanitary Sewer Connection

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the existing BWSC sewer system. The Project is expected to generate an increase in wastewater flows of approximately 43,680 gallons per day. Approval for the increase in sanitary flow will come from BWSC.

The sewer services for the Project is expected to connect to the existing sanitary sewer main located in Washington Street. Proposed improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's Site Plan Review process for the Project. This process will include a comprehensive design review of the proposed service connections, an assessment of Project demands and system capacity, and the establishment of service accounts.

As the design progresses, the Project will look at alternative sewer service connection approaches, including Fidelis Way and/or a potential utility extension in the private road shared with the adjacent property.

4.6.1.4 Sewage Capacity

The Project's impact on the existing sanitary sewer mains in Fidelis Way and Washington Street were analyzed. The existing sewer system capacity calculations are presented in Table 4.6-2.

Table 4.6-2 Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Length (ft)	Inv. (up)	Inv. (down)	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Fidelis Way								
MH 441 to MH 398	116	167.70	162	4.9%	10	0.012	5.26	3.40
MH 398 to MH 397	161.9	151.00	57.56	57.7%	10	0.012	18.03	11.65
						Minimum Flow Analyzed:	5.26	3.40

Table 4.6-2 Sewer Hydraulic Capacity Analysis (Continued)

Manhole (BWSC Number)	Length (ft)	Inv. (up)	Inv. (down)	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Washington Street								
MH 397 to MH 3	151	150.90	149.90	0.7%	15	0.012	2.87	1.85
MH 3 to MH @ Monastery RD	201.5	149.90	148.70	0.6%	15	0.012	2.72	1.76
						Minimum Flow Analyzed:	2.72	1.76

Notes: 1. Flow Calculations based on Manning Equation
2. Manhole numbers were taken from BWSC Sewer System Map.
3. Elevations refer to Boston City Base (BCB)
4. Invert information was taken from BWSC Sewer System Map and the Existing Conditions Plan prepared by Feldman Land Surveyors.

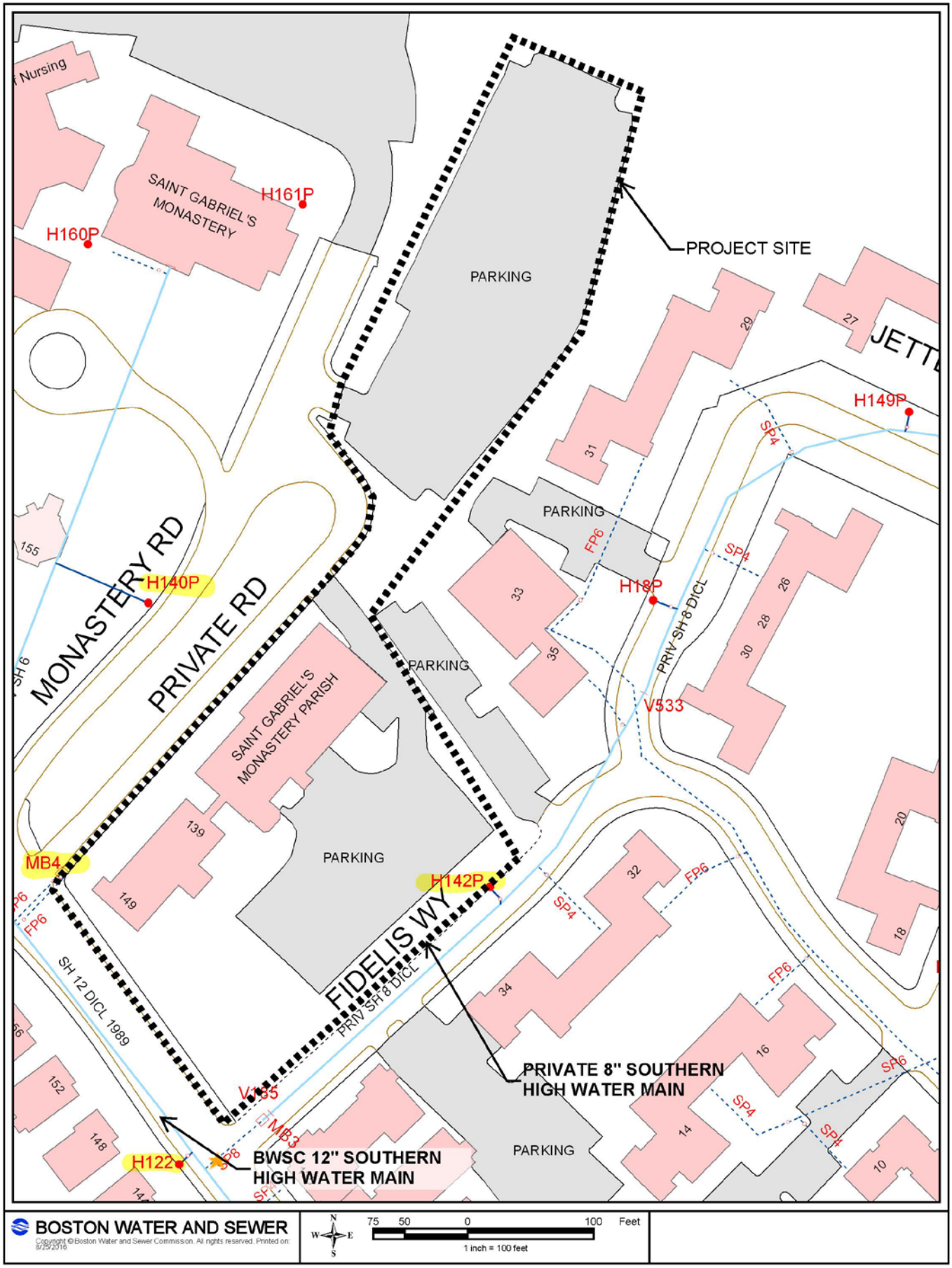
Table 4.6-2 indicates the hydraulic capacity of the 10-inch sanitary sewer in Fidelis Way and the 15-inch sanitary sewer in Washington Street. The sanitary sewer in Fidelis Way discharges to the sanitary sewer in Washington Street; Washington Street has the limiting hydraulic capacity of the two street systems. The minimum hydraulic capacity is 1.76 million gallons per day (MGD) or 2.72 cubic feet per second (CFS) for the 15-inch main in Washington Street.

Based on an average daily flow estimate for the Project of 44,660 GPD or .044 MGD, an increase of 43,680 GPD or 0.044 MGD from the existing buildings; and with a factor of safety of 10 (total estimate = 0.044 MGD x 10 = 0.44 MGD), no capacity problems are expected within the BWSC sewer systems in Fidelis Way or Washington Street.

4.6.2 Water System

4.6.2.1 Existing Water Service

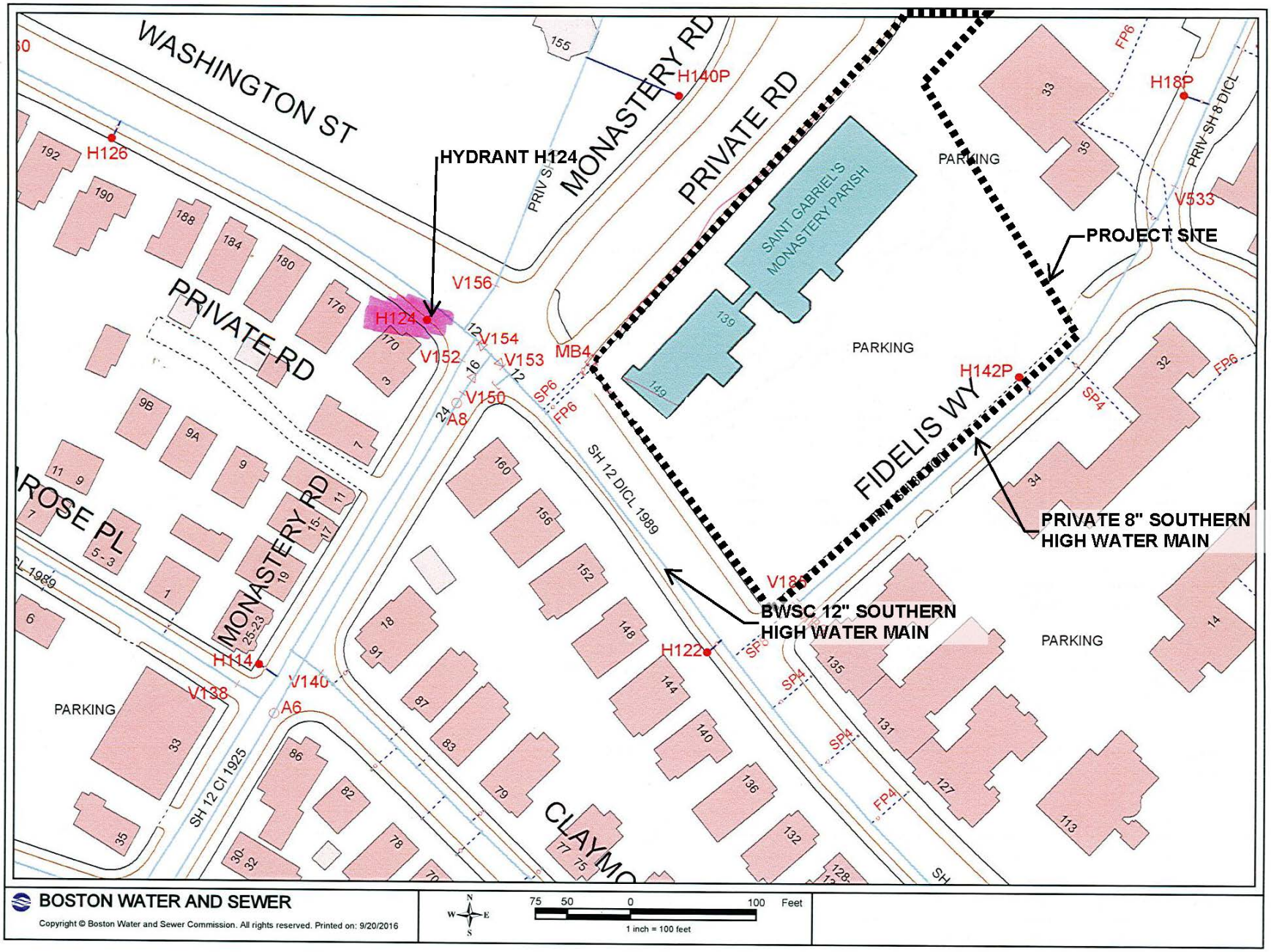
Water for the Project site will be provided by the BWSC. There are five water systems within the City which provide service to portions of the City based on ground surface elevation. The five systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high. Existing BWSC water mains are located in Fidelis Way and Washington Street. See Figure 4.6-2 and Figure 4.6-3 for the BWSC Water System Map.



139-149 Washington Street Boston, Massachusetts

Nitsch Engineering

Figure 4.6-2
Existing Water System



139-149 Washington Street Boston, Massachusetts

Nitsch Engineering

Figure 4.6-3
Existing Water Hydrants

BWSC owns and operates a 12-inch southern high water main in Washington Street. There is a private 8-inch southern high water main in Fidelis Way which connects to the 12-inch water main in Washington Street. The existing buildings are serviced by the water main in Washington Street. The existing water system information was obtained from the BWSC System Map (See Figure 4.6-2).

BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Project site was requested from BWSC by the Proponent. Hydrant flow data was available for only one hydrant within the vicinity of the site. The existing hydrant flow data is available in Table 4.6-3. As the Project design progresses, the Proponent will request hydrant flow tests be conducted.

Table 4.6-3 Existing Hydrant Flow Data

Date of Test	Flow Hydrant Number	Static Hydrant	Pressure Zone	Ele. (ft.)	Static (psi)	Residual (psi)	Flow (gpm)
11/17/11	H124	----	SH	167	44	42	1486

4.6.2.2 Anticipated Water Consumption

The Project's water demand estimate for domestic service is based on the Project's estimated sewage generation, described in the previous section. A conservative factor of 1.1 (110%) is applied to the estimated average daily wastewater flows to account for consumption, system losses, and other usages to estimate an average daily water demand for the Project. The water demand for the Project is estimated to be 49,126 gpd, an increase of approximately 48,048 gpd. The water for the Project is expected to be supplied by the BWSC system in Washington Street. As the design progresses, the Project will explore alternative water service connection approaches, including Fidelis Way and/or a potential utility extension in the private road shared with the adjacent property.

4.6.2.3 Proposed Water Service

Domestic water and fire protection service connections will be required for the Project. New services will connect to the existing BWSC water mains in Washington Street and/or the private water main in Fidelis Way or the shared road. The existing water mains surrounding the Project site will be protected and maintained during construction.

The domestic and fire protection water service connections required for the Project will meet the applicable BWSC, City, State, and Federal codes and standards, including cross-connection backflow prevention. Compliance with the standards for the water system

service connection will be reviewed as part of BWSC's Site Plan Review process. This review will include sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

4.6.2.4 Water Supply Conservation and Mitigation Measures

Measures to reduce water consumption will be incorporated into the Project's design. Aeration fixtures and appliances will be chosen for water conservation qualities. In public areas, sensor operated faucets and toilets will be installed where possible.

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

Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units ("MTU's") as part of the BWSC's Automatic Meter Reading ("AMR") system.

4.6.3 Storm Drainage System

4.6.3.1 Existing Storm Drain System

An existing BWSC storm drain main is located in Washington Street and an existing BHA storm drain main is located in Fidelis Way. The existing 18-inch BWSC storm drain in Washington Street flows southeast. The existing 12-inch drain main in Fidelis Way flows southwest in Fidelis Way and discharges to the 18-inch water main in Washington Street. The Project is located within the Charles River Watershed. See Figure 4.6-4 for the Existing BWSC Storm Drain System Map.

The Project's impact on the existing storm drain mains in Fidelis Way and Washington Street were analyzed. The existing storm drain system capacity calculations are presented in Table 4.6-4.

Table 4.6-4 Storm Drain Hydraulic Capacity Analysis

Manhole (BWSC Number)	Length (ft)	Inv. (up)	Inv. (down)	Slope (%)	Dia. (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Fidelis Way								
MH 404 to MH 443	153	178.4	174.3	2.7%	12	0.013	5.83	3.77
MH 443 to MH 442	90	174	170.7	3.7%	12	0.013	6.82	4.41
MH 442 to MH 403	122.5	170.6	164.5	5.0%	12	0.013	7.95	5.14
MH 403 to MH 402	191	164.5	162.1	1.3%	12	0.013	3.99	2.58
MH402 to MH401	168	162.1	158.67	2.0%	12	0.013	5.09	2.58
						Minimum Flow Analyzed:	3.99	2.58
Washington Street								
MH6 to MH7	161	159.28	158.90	0.2%	18	0.013	2.90	1.87
MH7 to MH401	100	158.90	158.67	0.2%	18	0.013	2.86	1.85
						Minimum Flow Analyzed:	2.86	1.85

Notes
1. Flow Calculations based on Manning Equation
2. Manhole numbers were taken from BWSC Sewer System Map.
3. Elevations refer to Boston City Base (BCB)
4. Invert information was taken from BWSC Sewer System Map and the Existing Conditions Plan prepared by Feldman Land Surveyors.

Table 4.6-3 indicates the hydraulic capacity of the 12-inch storm drain in Fidelis Way and the 18-inch storm drain Washington Street; Washington Street has the limiting hydraulic capacity of the two storm drain systems. The minimum hydraulic capacity is 1.85 MGD or 2.86 CFS for the 18-inch system in Washington Street.

The proposed Project is expected to meet or slightly increase impervious cover on the site while incorporating an upgraded stormwater management system. The upgraded stormwater closed drainage collection and treatment system will recharge stormwater to the maximum extent practicable prior to overflowing to the BWSC system. Stormwater peak rates of runoff from the site will be reduced or meet existing rates of runoff.

4.6.3.2 Proposed Storm Drainage System

Stormwater improvements will be reviewed as part of the BWSC Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of Project demands and system capacity, and establishment of service accounts. The proposed stormwater management system will collect site runoff and recharge 1-inch over the Project's impervious area to the maximum extent practicable, per the BWSC stormwater management standards.

Site runoff will be collected by a closed drainage system and treated before overflowing to the BWSC storm drainage system. Stormwater runoff will be collected by a series of catch basins in the proposed parking lots which will then flow to a proposed treatment and/or recharge system. Roof runoff will flow to a proposed recharge system.

The stormwater management system will decrease or maintain the peak flow rate and volume of stormwater runoff from the site. New stormwater runoff will not be directed towards abutters.

4.6.3.3 Groundwater Conservation Overlay District

The Project is not located within the City of Boston Groundwater Conservation Overland District (GCOD) so the design is not required to comply with Article 32 of the Boston Zoning Code.

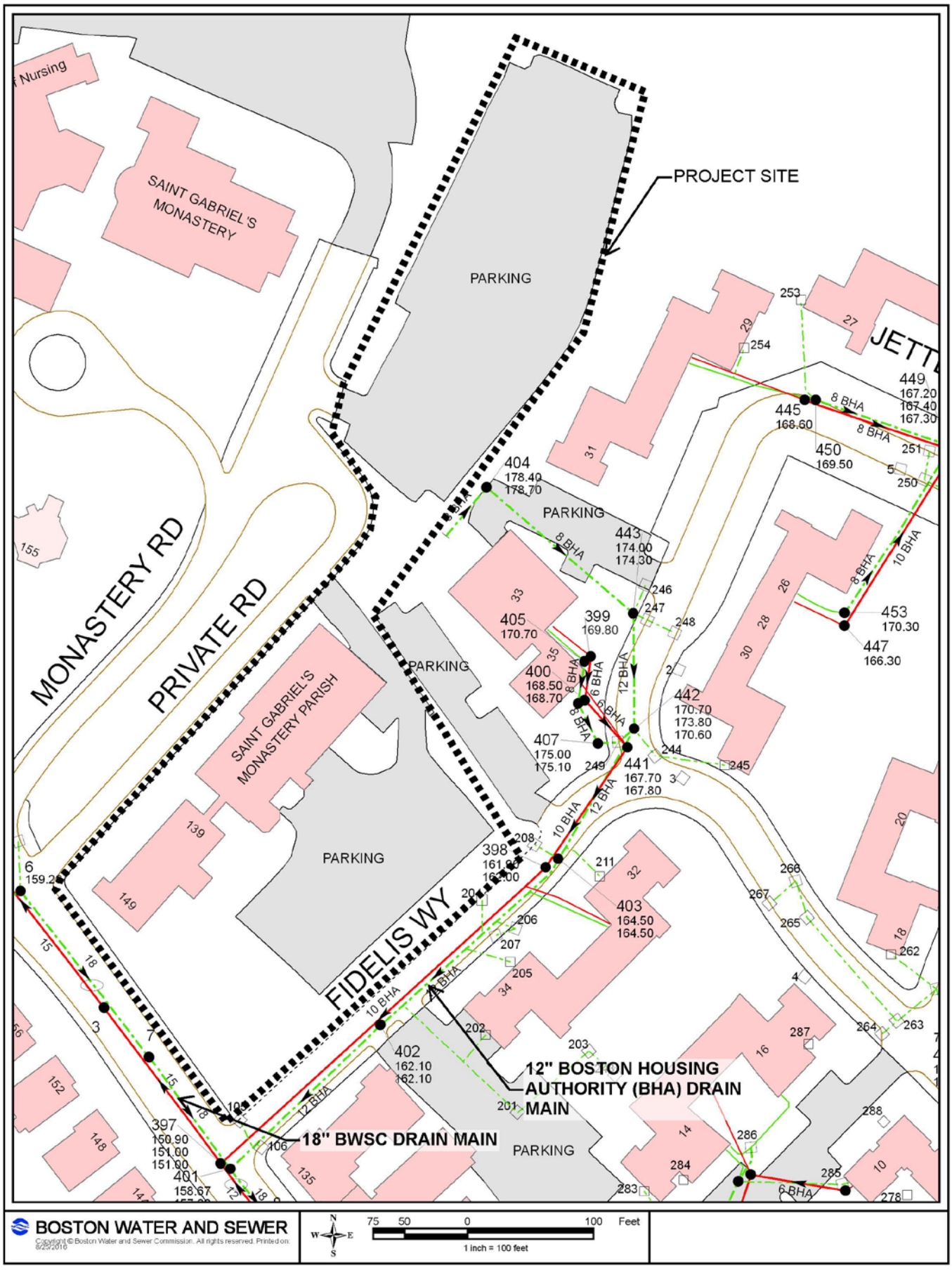
4.6.3.4 Water Quality Impact

The Project will not adversely affect the water quality of nearby water bodies. Erosion and sediment control measures will be implemented during construction to minimize the transport of site soils to off-site areas and BWSC storm drain systems. During construction, existing catch basins will be protected with filter fabric, straw bales and/or crushed stone, to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until the areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

If required, site dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies, as described below.

4.6.3.5 State Stormwater Standards

In March 1997, MassDEP adopted a new Stormwater Management Policy to address non-point source pollution. In 1997, MassDEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects,



139-149 Washington Street Boston, Massachusetts

Nitsch Engineering

Figure 4.6-4
Existing Drainage System

including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

A brief explanation of each Policy Standard and the system compliance is provided below:

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

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

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

Compliance: The proposed design will comply with this Standard to the maximum extent practicable. The post-development peak discharge rates will not exceed the pre-development peak discharge rates through methods involving infiltration and stormwater recharge on site.

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

Compliance: The Project is a re-development project; the Project will comply with this standard to the maximum extent practicable.

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

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

c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

Compliance: The proposed design will comply with this standard to the maximum extent practicable. The Project will not have an impact on stormwater runoff quality. The Project storm drain service will not discharge to a combined sewer.

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

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

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

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

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

Compliance: The proposed design is a redevelopment; the Project will comply with the standards to the maximum extent practicable.

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

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

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

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

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

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

4.6.4 Electric Service

Eversource Energy owns the electrical system in the vicinity of the Project site. It is expected that adequate service is available in the existing electrical systems in the surrounding streets to serve the Project. The Proponent will work with Eversource to confirm adequate system capacity as the design is finalized.

4.6.5 Natural Gas

National Grid owns and maintains the gas distribution system in the vicinity of the Project site. The Proponent will work with National Grid to confirm the system has adequate capacity as the design advances.

4.6.6 Telecommunications System

Telecommunication systems are located in the vicinity of the Project site. The Proponent will work with each provider to determine the appropriate services and connection locations to support the proposed development.

4.6.7 Utility Protection During Construction

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

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

Chapter 5.0

Coordination with other Governmental Agencies

5.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

5.1 Architectural Access Board Requirements

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

5.2 Massachusetts Environmental Policy Act (MEPA)

The Proponent does not expect that the Project will require review by the Massachusetts Environmental Policy Act (MEPA) Office of the Massachusetts Executive Office of Energy and Environmental Affairs. Current plans do not call for the Project to receive any state permits, state funding or involve any state land transfers.

5.3 Massachusetts Historical Commission State Register Review

The Proponent does not anticipate that the Project will require any state or federal licenses, permits or approvals, and does not anticipate utilizing any state or federal funds. Therefore, review by the Massachusetts Historical Commission (MHC) is not anticipated at this time. In the event that state or federal licenses, permits, approvals or funding is involved, the Proponent will file an MHC Project Notification Form to initiate review of the Project.

5.4 Boston Landmarks Commission Review

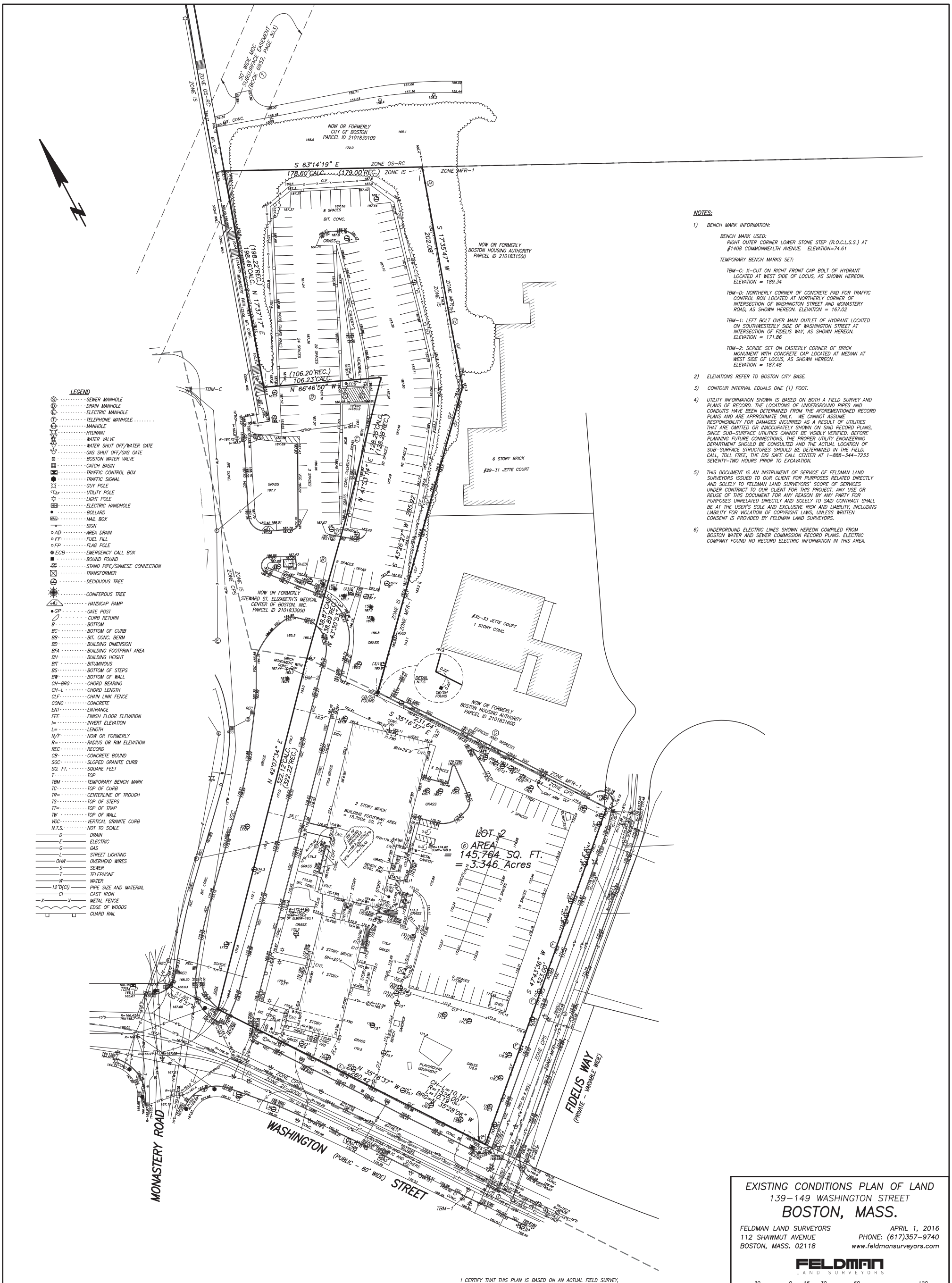
The proposed demolition of the two existing buildings on the Project site is subject to the Boston Landmarks Commission's (BLC) review in accordance with Article 85 of the Boston Zoning Code (Demolition Delay). At the appropriate time, the Proponent will file the required Article 85 application with the BLC. The Proponent will work closely with the BLC staff to fulfill the Article 85 review requirements.

5.5 Other Permits and Approvals

Section 1.7 provides a list of agencies from which it is anticipated that permits and approvals for the Project will be sought.

Appendix A

Site Survey



LEGEND

- SEWER MANHOLE
- DRAIN MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- HYDRANT
- WATER VALVE
- WATER SHUT OFF/WATER GATE
- GAS SHUT OFF/GAS GATE
- BOSTON WATER VALVE
- CATCH BASIN
- TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL
- GUY POLE
- UTILITY POLE
- LIGHT POLE
- ELECTRIC HANDHOLE
- BOLLARD
- MAIL BOX
- SIGN
- AD AREA DRAIN
- FF FUEL FILL
- FP FLAG POLE
- ECB EMERGENCY CALL BOX
- BOUND FOUND
- STAND PIPE/SIAMESE CONNECTION
- TRANSFORMER
- DECIDUOUS TREE
- CONIFEROUS TREE
- HANDICAP RAMP
- GP GATE POST
- CURB RETURN
- B BOTTOM
- BC BOTTOM OF CURB
- BB BIT. CONC. BERM
- BD BUILDING DIMENSION
- BFA BUILDING FOOTPRINT AREA
- BH BUILDING HEIGHT
- BIT BITUMINOUS
- BS BOTTOM OF STEPS
- BW BOTTOM OF WALL
- CH-BRG CHORD BEARING
- CH-L CHORD LENGTH
- CLF CHAIN LINK FENCE
- CONC CONCRETE
- ENT ENTRANCE
- FFE FINISH FLOOR ELEVATION
- I= INVERT ELEVATION
- L= LENGTH
- N/F NOW OR FORMERLY
- R= RADIUS OR RIM ELEVATION
- REC RECORD
- CB CONCRETE BOUND
- SGC SLOPED GRANITE CURB
- SQ. FT. SQUARE FEET
- T TOP
- TBM TEMPORARY BENCH MARK
- TC TOP OF CURB
- TR= CENTERLINE OF TROUGH
- TS TOP OF STEPS
- TT= TOP OF TRAP
- TW TOP OF WALL
- VGC VERTICAL GRANITE CURB
- N.T.S. NOT TO SCALE
- D DRAIN
- E ELECTRIC
- G GAS
- L STREET LIGHTING
- OHW OVERHEAD WIRES
- S SEWER
- T TELEPHONE
- W WATER
- 12"D(CI) PIPE SIZE AND MATERIAL
- CI CAST IRON
- X X METAL FENCE
- EDGE OF WOODS
- GUARD RAIL

NOTES:

1) BENCH MARK INFORMATION:

BENCH MARK USED:
RIGHT OUTER CORNER LOWER STONE STEP (R.O.C.L.S.S.) AT #1408 COMMONWEALTH AVENUE. ELEVATION=74.61

TEMPORARY BENCH MARKS SET:

TBM-C: X-CUT ON RIGHT FRONT CAP BOLT OF HYDRANT LOCATED AT WEST SIDE OF LOCUS, AS SHOWN HEREON. ELEVATION = 189.34

TBM-D: NORTHERLY CORNER OF CONCRETE PAD FOR TRAFFIC CONTROL BOX LOCATED AT NORTHERLY CORNER OF INTERSECTION OF WASHINGTON STREET AND MONASTERY ROAD, AS SHOWN HEREON. ELEVATION = 167.02

TBM-1: LEFT BOLT OVER MAIN OUTLET OF HYDRANT LOCATED ON SOUTHWESTERLY SIDE OF WASHINGTON STREET AT INTERSECTION OF FIDELIS WAY, AS SHOWN HEREON. ELEVATION = 171.86

TBM-2: SCRIBE SET ON EASTERLY CORNER OF BRICK MONUMENT WITH CONCRETE CAP LOCATED AT MEDIAN AT WEST SIDE OF LOCUS, AS SHOWN HEREON. ELEVATION = 187.48

2) ELEVATIONS REFER TO BOSTON CITY BASE.

3) CONTOUR INTERVAL EQUALS ONE (1) FOOT.

4) UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFOREMENTIONED RECORD PLANS AND ARE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS, SINCE SUB-SURFACE UTILITIES CANNOT BE VISIBLY VERIFIED. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUB-SURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL, TOLL FREE, THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION.

5) THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF FELDMAN LAND SURVEYORS ISSUED TO OUR CLIENT FOR PURPOSES RELATED DIRECTLY AND SOLELY TO FELDMAN LAND SURVEYORS' SCOPE OF SERVICES UNDER CONTRACT TO OUR CLIENT FOR THIS PROJECT. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN CONSENT IS PROVIDED BY FELDMAN LAND SURVEYORS.

6) UNDERGROUND ELECTRIC LINES SHOWN HEREON COMPILED FROM BOSTON WATER AND SEWER COMMISSION RECORD PLANS. ELECTRIC COMPANY FOUND NO RECORD ELECTRIC INFORMATION IN THIS AREA.

I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY, PHOTOGRAMMETRIC MAPPING AND THE LATEST PLANS AND DEEDS OF RECORD.

ROBERT G. APPLEGATE, PLS (MA# 28514) DATE

EXISTING CONDITIONS PLAN OF LAND
139-149 WASHINGTON STREET
BOSTON, MASS.

FELDMAN LAND SURVEYORS
112 SHAWMUT AVENUE
BOSTON, MASS. 02118
PHONE: (617)357-9740
www.feldmansurveyors.com

APRIL 1, 2016

FELDMAN LAND SURVEYORS

30 0 15 30 60 120

SCALE: 1"=30'

RESEARCH	FIELD CHIEF	PROJ MGR	APPROVED	SHEET NO. 1 OF 1
CALC	CADD	FIELD CHECKED	CRD FILE	JOB NO. 15040

FILENAME: S:\PROJECTS\15000s\15040\DWG\15040.dwg

Appendix B

Transportation

Transportation Appendix is Available Upon Request

Appendix C

Climate Change Preparedness Checklist

Climate Change Preparedness and Resiliency Checklist for New Construction

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

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

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

Climate Change Analysis and Information Sources:

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

Checklist

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

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

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

A.1 - Project Information

Project Name:	**139-149 Washington Street**
Project Address Primary:	**139-149 Washington Street**
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	**David O. Gillespie** **Vice President- Development** **AvalonBay Communities, Inc.** **Phone: 617-654-9507** **david_gillespie@avalonbay.com**

A.2 - Team Description

Owner / Developer:	**AvalonBay Communities, Inc.**
Architect:	**CBT Architects**
Engineer (building systems):	
Sustainability / LEED:	**CBT Architects**
Permitting:	**Epsilon Associates**
Construction Management:	**AvalonBay Communities, Inc.**
Climate Change Expert:	

A.3 - Project Permitting and Phase

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

☑ PNF / Expanded PNF Submission	☐ Draft / Final Project Impact Report Submission	☐ BRA Board Approved	☐ Notice of Project Change
☐ Planned Development Area	☐ BRA Final Design Approved	☐ Under Construction	☐ Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:	Residential
List the First Floor Uses:	*Residential, loading and parking, lobby*

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

☑ Wood Frame	☐ Masonry	☐ Steel Frame	☑ Concrete

Describe the building?

Site Area:	*3.3 acres*	Building Area:	*363,000 SF*
Building Height:	*69 Ft.*	Number of Stories:	*5-6 Flrs.*

First Floor Elevation (reference Boston City Base):	*168-189 Elev.*	Are there below grade spaces/levels, if yes how many:	*Yes, one level*

A.5 - Green Building

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

Select by Primary Use:	☑ New Construction	☐ Core & Shell	☐ Healthcare	☐ Schools
	☐ Retail	☐ Homes Midrise	☐ Homes	☐ Other
Select LEED Outcome:	☐ Certified	☑ Silver	☐ Gold	☐ Platinum

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

Registered:	*Yes / No*	Certified:	*Yes / No*
	TBD		*TBD*

A.6 - Building Energy-

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

Electric:	*TBD (kW)*	Heating:	*TBD (MMBtu/hr)*
What is the planned building Energy Use Intensity:	*TBD (kWh/SF)*	Cooling:	*TBD (Tons/hr)*

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

Electric:	*TBD (kW)*	Heating:	*TBD (MMBtu/hr)*
		Cooling:	*TBD (Tons/hr)*

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

Electrical Generation:	*TBD (kW)*		Fuel Source:	
System Type and Number of Units:	☐ Combustion Engine	☐ Gas Turbine	☐ Combine Heat and Power	*(Units)*

B - Extreme Weather and Heat Events

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

B.1 - Analysis

What is the full expected life of the project?

Select most appropriate:	☐ 10 Years	☐ 25 Years	☑ 50 Years	☐ 75 Years

What is the full expected operational life of key building systems (e.g. heating, cooling, ventilation)?

Select most appropriate:	☐ 10 Years	☑ 25 Years	☐ 50 Years	☐ 75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	☐ 10 Years	☐ 25 Years	☑ 50 Years	☐ 75 Years

Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

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

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

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

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

30-90 Days	*0.2 Events / yr.*

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

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

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

130 Peak Wind	*10 Hours*	*0.25 Events / yr.*

B.2 - Mitigation Strategies

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

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

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

Select all appropriate:	☑ High performance building envelop	☑ High performance lighting & controls	☐ Building day lighting	☑ EnergyStar equip. / appliances
	☑ High performance HVAC equipment	☐ Energy recovery ventilation	☐ No active cooling	☐ No active heating
Describe any added measures:				

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

Roof:	*R = 25*	Walls / Curtain Wall Assembly:	*R = 13/17*
Foundation:	*R = 15*	Basement / Slab:	*R =10*
Windows:	*R = / U =0.4*	Doors:	*R = / U =0.7*

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

☐ On-site clean energy / CHP system(s)	☐ Building-wide power dimming	☐ Thermal energy storage systems	☐ Ground source heat pump
☐ On-site Solar PV	☐ On-site Solar Thermal	☐ Wind power	☑ None

Describe any added measures:	

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

Select all appropriate:	☐ Connected to local distributed electrical	☐ Building will be Smart Grid ready	☐ Connected to distributed steam, hot, chilled water	☐ Distributed thermal energy ready

Will the building remain operable without utility power for an extended period?

		If yes, for how long:	*Days*
If Yes, is building "Islandable?			
If Yes, describe strategies:			

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

Select all appropriate:	☐ Solar oriented – longer south walls	☐ Prevailing winds oriented	☑ External shading devices	☐ Tuned glazing,
	☐ Building cool zones	☑ Operable windows	☑ Natural ventilation	☐ Building shading
	☐ Potable water for drinking / food preparation	☐ Potable water for sinks / sanitary systems	☐ Waste water storage capacity	☑ High Performance Building Envelop
Describe any added measures:				

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

Select all appropriate:	☐ High reflective paving materials	☑ Shade trees & shrubs	☐ High reflective roof materials	☐ Vegetated roofs
Describe other strategies:				

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

Select all appropriate:	☐ On-site retention systems & ponds	☑ Infiltration galleries & areas	☐ Vegetated water capture systems	☐ Vegetated roofs
Describe other strategies:				

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

Select all appropriate:	☐ Hardened building structure & elements	☑ Buried utilities & hardened infrastructure	☐ Hazard removal & protective landscapes	☐ Soft & permeable surfaces (water infiltration)
Describe other strategies:				

C - Sea-Level Rise and Storms

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

C.1 - Location Description and Classification:

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

	No

Describe site conditions?

Site Elevation – Low/High Points:	*168-189 Boston City Base Elev.(Ft.)*
Building Proximity to Water:	*4,400 Ft.*

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

Coastal Zone:	*No*	Velocity Zone:	*No*
Flood Zone:	*No*	Area Prone to Flooding:	*No*

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

2013 FEMA Prelim. FIRMs:	*No*	Future floodplain delineation updates:	*No*

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

	4,350 Ft.

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

C - Sea-Level Rise and Storms

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

C.2 - Analysis

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

Sea Level Rise:	*3 Ft.*	Frequency of storms:	*0.25 per year*

C.3 - Building Flood Proofing

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

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

Flood Proof Elevation:	*Boston City Base Elev.(Ft.)*	First Floor Elevation:	*Boston City Base Elev. (Ft.)*

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

	Yes / No	If Yes, to what elevation	*Boston City Base Elev. (Ft.)*
If Yes, describe:			

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

☐ Systems located above 1st Floor.	☐ Water tight utility conduits	☐ Waste water back flow prevention	☐ Storm water back flow prevention

Were the differing effects of fresh water and salt water flooding considered:

Yes / No

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

Yes / No	If yes, to what height above 100 Year Floodplain:	*Boston City Base Elev. (Ft.)*

Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

Yes / No	
If Yes, describe:	

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

Yes / No	If Yes, for how long:	*days*

Describe any additional strategies to addressing sea level rise and or sever storm impacts:

C.4 - Building Resilience and Adaptability

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

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

Select appropriate:	*Yes / No*	☐ Hardened / Resilient Ground Floor Construction	☐ Temporary shutters and or barricades	☐ Resilient site design, materials and construction

Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:	*Yes / No*	☐ Surrounding site elevation can be raised	☐ Building ground floor can be raised	☐ Construction been engineered
Describe additional strategies:				

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

Select appropriate:	*Yes / No*	☐ Solar PV	☐ Solar Thermal	☐ Clean Energy / CHP System(s)
		☐ Potable water storage	☐ Wastewater storage	☐ Back up energy systems & fuel
Describe any specific or additional strategies:				

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

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

Appendix D

Accessibility Checklist

Accessibility Checklist

(to be added to the BRA Development Review Guidelines)

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

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

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

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

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

Accessibility Analysis Information Sources:

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

Article 80 | ACCESSIBILTY CHECKLIST

Project Information

Project Name:	139-149 Washington Street
Project Address Primary:	139-149 Washington Street
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	David O. Gillespie Vice President- Development AvalonBay Communities, Inc. Phone: 617-654-9507 david_gillespie@avalonbay.com

Team Description

Owner / Developer:	AvalonBay Communities, Inc.
Architect:	CBT
Engineer (building systems):	
Sustainability / LEED:	CBT
Permitting:	Epsilon Associates
Construction Management:	AvalonBay Communities, Inc.

Project Permitting and Phase

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

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

Article 80 | ACCESSIBILTY CHECKLIST

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)			

What is the Construction Type – select most appropriate type?

☑Wood Frame	Masonry	Steel Frame	☑Concrete

Describe the building?

Site Area:	*3.3 acres*	Building Area:	*363,000 SF*
Building Height:	*69 Ft.*	Number of Stories:	*5-6 Flrs.*
First Floor Elevation:	*168-169 Elev.*	Are there below grade spaces:	*Yes*

Assessment of Existing Infrastructure for Accessibility:

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

Provide a description of the development neighborhood and identifying characteristics.	The proposed project site is located in Brighton. The site is located in the north side of Washington Street and flanked by Monastery Road on the west and Fidelis Way on the east.
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.	The #65 - Brighton Center - Kenmore Sta. via Washington St. accessible bus has a stop at the proposed site on Washington Street and Monastery Road.
List the surrounding institutions: hospitals, public housing and	St. Elizabeth's Medical Center Boston Public Library – Brighton Branch

elderly and disabled housing developments, educational facilities, etc.	Boston Police District D-14 Brighton/Allston Commonwealth Development/ Fidelis Way (Boston Housing Authority)
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 Project Site is proximate to the following: Boston Police District D-14, St. Elizabeth's Medical Center, Brighton High School, Kindred Hospital, Commonwealth Development, Boston Public Library – Brighton Branch, and Brighton Division – Boston Municipal Court

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.	Concrete sidewalks, some asphalt. Mostly 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, to be replaced.
Is the development site within a historic district? **If yes,** please identify.	A portion of the Project site is located within the Washington-Warren Institutions Area, an area included in the Inventory. Specifically, portions of the access driveways and parking areas are included in the historic area; neither of the two existing buildings on the Project site was recommended for individual listing or is currently in the State or National Registers of Historic Places.

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 –new sidewalks within the public way will comply with the Boston Complete Streets Guidelines.
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	The Neighborhood Residential Street Type will be applied to new sidewalks within the public way.
What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	The total width of any new sidewalk within the public way is 8-ft. at minimum; The Pedestrian Zone is 5-ft. and the Furnishing Zone is 3-ft.
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?	New sidewalks within the public way will be concrete. New sidewalks within the private property will either be concrete or asphalt.
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?	The pedestrian right-of-way is located in the public way.
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?	

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?	250
What is the total number of accessible spaces provided at the development site?	7 / As Required
Will any on street accessible parking spaces be required? **If yes,** has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?	No
Where is accessible visitor parking located?	Within the building
Has a drop-off area been identified? **If yes,** will it be accessible?	A drop-off area has not yet been identified.
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.	The design has not reached this level of detail, however, the Project will comply with all applicable regulations.

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.	The design has not reached this level of detail, however, the Project will comply with all applicable regulations.

Article 80 | ACCESSIBILTY CHECKLIST

Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	The design has not reached this level of detail, however, the Project will comply with all applicable regulations.
Are the accessible entrance and the standard entrance integrated?	Yes
If no above, what is the reason?	
Will there be a roof deck or outdoor courtyard space? If yes, include diagram of the accessible route.	Yes. The design has not reached this level of detail, however, the Project will comply with all applicable regulations.
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?	250
How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?	30 for sale 220 for rent 13% of the units will be affordable in accordance with the Mayor's Inclusionary Development Policy
How many accessible units are being proposed?	All units will meet FHA, MAAB requirements. 5% of the total units will be accessible, distributed by unit type.
Please provide plan and diagram of the accessible units.	The design has not reached this level of detail, however, the Project will comply with all applicable regulations.
How many accessible units will also be affordable? If none, please describe reason.	This will be determined in consultation with City agencies as the Project progresses.
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility	No

impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	No, but the Project will be presented as part of the Article 80 process.
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	No, but the Project will be presented as part of the Article 80 process.

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