Boston University

Myles Standish Hall and Annex Renovation Project

Project Notification Form

December 11, 2015

Submitted by **Trustees of Boston University**

Submitted to **Boston Redevelopment Authority**

Prepared by **Fort Point Associates, Inc.**

In association with **Miller Dyer Spears, Inc.**
Nitsch Engineering
Haley & Aldrich, Inc.
Copley Wolff Design Group

BOSTON
UNIVERSITY

PROJECT NOTIFICATION FORM

LIST OF FIGURES

LIST OF TABLES

APPENDICES

Chapter 1

Project Summary

CHAPTER 1: PROJECT SUMMARY

1.1 PROJECT IDENTIFICATION

Project Name: Myles Standish Hall and Annex Renovation Project

Address/Location: 610 Beacon Street, Boston, MA 02215

1.2 INTRODUCTION

Originally constructed in 1926 as a residence hotel and converted into a dormitory in 1949, Myles Standish Hall is an existing nine-story, 660-bed residence for Boston University students located at 610 Beacon Street.[1] The abutting three-story structure at 632 Beacon Street, known as the Myles Standish Annex (the "Annex"), was constructed in 1920 and renovated into a 93-bed residence hall upon its acquisition by Boston University (the "University") in 1980. Together, the two structures function as a single dormitory serving over 750 students, primarily undergraduates.

In close proximity to many academic and student life facilities in the East and Central portions of the campus, Myles Standish Hall and the Annex provide an excellent on-campus housing option for undergraduate students. However, the building's existing unit layout and lack of modern amenities do not meet the current needs or quality standards of the University's housing program. In an effort to fulfill the University's commitment to provide attractive on-campus housing options for its students, Trustees of Boston University (the "Proponent") proposes to fully renovate the interior of the structures and to restore the existing exterior of the Myles Standish Hall and Annex structures. Similar to the rehabilitations the University has completed for many of the historic brownstones on Bay State Road, the Project's exterior has been designed to be fully consistent with the original character of the existing structures and surrounding neighborhood context.

The proposed project was reviewed and approved as a Proposed Institutional Project ("PIP") by the Boston University Community Task Force (the "Task Force") and the Boston Redevelopment Authority ("BRA") as part of the Boston University Charles River Campus 2013 – 2023 Institutional Master Plan (the "2013 – 2023 IMP") as adopted on February 15, 2013.

[1] According to City of Boston Records, Myles Standish Hall is addressed at 30 Bay State Road, City of Boston Assessor's Parcel Number 0503706000. The two parcels on the Site will be joined as part of the Project and will be formally addressed as 610 Beacon Street.

1.3 PROJECT SITE

The project site encompasses two University-owned parcels of land totaling 27,050 square feet located at 610 and 632 Beacon Street (the "Site").[2] The University will seek to merge the two University-owned parcels into a single lot of land, as the two structures currently function as a single building with an interior connection on the second floor. The triangular-shaped Site is located at the eastern edge of the University's East Campus and is bound by Beacon Street to the south, Raleigh Street to the west, and Bay State Road to the north. Just east of the Site lies the intersection of Charlesgate West and Beacon Street, which accepts a southbound exit from Storrow Drive.

The Site is located within 400 feet of the Massachusetts Bay Transportation Authority ("MBTA") Kenmore Square Station, which provides Green Line Trolley and MBTA bus service along a variety of routes. The Site is within short walking distance of a wide range of on-campus academic and student service facilities including the Yawkey Center for Student Services, the Questrom School of Business, the Metcalf Center for Science and Engineering, and the College of Communication. See Figure 1-1, Locus Map and Figure 1-2, Aerial View.

1.4 PROJECT SUMMARY

The renovation and restoration of Myles Standish Hall and the Annex (the "Project") will include a complete interior renovation and upgrade as well as restoration and rehabilitation activities to the exterior of both structures. Once completed, the Project will allude to many original features of what was once one of Boston's premier hotels, while also offering modern amenities and living accommodations not presently available to students living in the buildings. See Figure 1-3, Project Site Plan.

The interior renovation of the structures will reconfigure the layout of rooms to provide more privacy for residents while maximizing the square-footage of quality living space available within the Project. In total, Myles Standish Hall and the Annex currently accommodate 753 students in 203,000 square feet. Retaining the maximum number of student beds possible has been a top priority for the University as the design of the Project has progressed. Of the existing 753 beds currently provided within Myles Standish Hall and the Annex, only 23 will be lost through the Project, largely as a result of upgrades to life safety features. Students displaced by the Project will be permanently accommodated in other on-campus housing options provided by the University.

While the interior of the buildings will undergo dramatic change, the exterior of the buildings will be preserved, restored, and enhanced to reflect their original 1920's style and charm. The Site is located within the Bay State Road/Back Bay West Architectural Conservation District (the "Architectural District") and the Proponent will seek approval

[2] The 2013 – 2023 IMP notes the square footage of the two parcels to be 26,100 square feet. Upon further investigation and surveying, the accurate square footage of the parcels has been determined to be 27,050, as described.

from the Architectural District Commission for all exterior elements of the Project (See Chapter 3, Urban Design, for more details). The Site is also located within Boston's Groundwater Conservation Overlay District and is subject to the requirements set forth in Article 32 of the Boston Zoning Code (See Chapter 7, Infrastructure, for more details).

Construction of the Project is expected to commence in the spring of 2016 and to be completed within 30 months. Minimization of impacts to the surrounding community and University operations is an important part of the Project. A three-phase construction plan will allow approximately half of the students housed in Myles Standish Hall and the Annex to remain in place throughout the construction period. The University has developed a plan for temporary housing for the approximately 350 students displaced during the construction period. The temporary student housing plan is described in Section 6.12 and is the subject of a separate Institutional Master Plan Notification Form filed concurrently with this document.

1.5 PUBLIC REALM IMPROVEMENTS

Consistent with the goals of the University's 2013 – 2023 IMP, the Project will include public realm improvements to enhance the urban character of the campus and to increase the availability of quality green space. Improvements to the streetscape along around the perimeter of the Site will be consistent with the sidewalk conditions seen elsewhere throughout the Charles River Campus, including the distinctive red brick strip along the curb edge. New sidewalks, street trees, benches, lighting, bicycle racks, and porous pavement will be installed as part of the Project. Leveraging the unique location of the Project as a significant access point for the University, the University also proposes to create a 5,500 square foot public open space plaza at the eastern point of the Site, acting as a gateway to the campus (the "Plaza").

The Plaza will replace the existing oversized expanse of pavement within the intersection of Beacon Street and Bay State Road with an attractive public amenity consisting of a mix of hardscape and softscape features in addition to pedestrian amenities. The Project's proposed improvements to the pedestrian environment will strike a balance between the commercial activities in Kenmore Square with the quiet, residential character of Bay State Road to the north. The proposed Plaza was included in the 2013 – 2023 IMP as a Public Realm and Open Space improvement project. All modifications within the public right-of-way will be maintained by the University.

1.6 CONSISTENCY WITH INSTITUTIONAL MASTER PLAN

The Project was listed as a PIP in the 2013 – 2023 IMP, which went into effect on February 15, 2013. The Project, as described in this Project Notification Form ("PNF"), is consistent with the description provided in the 2013 – 2023 IMP in terms of its location, size, and program. The proposed Plaza was also included in the 2013 – 2023 IMP as a proposed

Public Realm and Open Space improvement. Consistent with the 2013 – 2023 IMP, the proposed Plaza presents a safer and more appropriate urban design alternative to the existing underutilized large expanse of pavement.

1.7 PUBLIC REVIEW PROCESS

Concurrent with the submission of this Project Notification Form ("PNF") to the Boston Redevelopment Authority (BRA), the Proponent will meet with BRA staff to present the Project to the Boston University Community Task Force. The Proponent looks forward to working with the BRA, the community, and the City of Boston (the "City") on this Project.

1.7.1 ARTICLE 80 REVIEW PROCESS

This document is submitted to the BRA pursuant to Article 80B, Large Project Review, of the Boston Zoning Code. A scoping session and a community meeting are expected to occur during the public comment period and prior to the issuance of a Scoping Determination.

Following submission of this PNF to the BRA, the Proponent will meet with City agencies and present the Project at a combined community and Task Force meeting. The Proponent respectfully requests that the BRA issue a Scoping Determination waiving further review for the Project.

1.7.2 BOSTON CIVIC DESIGN COMMISSION

At the discretion of the BRA, the Proponent will meet with the Boston Civic Design Commission ("BCDC") to review and discuss the design of the Project. The Proponent will seek a recommendation from the BCDC in advance of BRA Board approval.

1.7.3 BACK BAY WEST/BAY STATE ROAD ARCHITECTURAL CONSERVATION DISTRICT

The Project is subject to the review and approval of the Back Bay West/Bay State Road Architectural Conservation District Commission. The Proponent will file a request for a Certificate of Appropriateness with the Architectural District Commission for their review and approval at a public meeting.

1.7.4 BOSTON PUBLIC IMPROVEMENT COMMISSION

The Project's will require the review and approval of the Boston Public Improvement Commission ("PIC") for proposed public realm improvements, the proposed groundwater recharge system, and architectural elements such as canopies and projections. At the appropriate time in the design process, the

Proponent will submit plans to the PIC to receive approval through a public hearing process for the off-site improvements that the University is proposing with the public right-of-way.

1.7.5 BOSTON UNIVERSITY TASK FORCE

The Task Force is comprised of 15 representatives from areas surrounding the Charles River Campus (the "Campus") and one Boston University student body representative. For nearly 30 years, the Task Force has reviewed all of the University's master plans and development projects. Members of the Task Force include the following individuals:

Pamela Beale, Chair
Sonia Aleman
Paul Berkeley
Paul Creighton
Dan Cuddy
Jim Hynes
Yvette Lancaster
Archie Mazmanian
Terri North
Richard Ong
Shlomo Pinkas
Victor Themo
Elizabeth Walsh
Bob Webber
Alan Weinberger
Boston University Student Body Representative

The Proponent introduced the Project to the Task Force at a meeting held on June 17, 2015 and held a pre-filing meeting with the Task force on December 9, 2015 The Proponent will schedule additional Task Force meetings during the course of the Article 80B review process. All meetings of the Task Force are open to the public.

1.8 PUBLIC AND COMMUNITY BENEFITS

Since its founding, the University has been committed to and an integral part of the growth and development of the City of Boston. The University continues to make a significant effort to coordinate its goals and objectives with those of the City, and is committed to maintaining and improving its campus and to serving Boston residents through a broad array of community benefits and services and through the accessibility of its world-class educational programs.

Through direct and indirect spending by the University, its employees, students, and their visitors, the University has significant, positive economic impact on the Commonwealth of Massachusetts. The University employs nearly 7,000 people on its Charles River Campus alone, many of whom are City of Boston residents. In FY2012, Boston University spent approximately $255 million in salaries and benefits to Boston residents. Additionally, the University's 28,000 undergraduate and graduate students and their visitors spend an estimated $275 million in the City of Boston on an annual basis.

Motivated by a sense of responsibility as one of Boston's largest employers and landowners and a deep commitment to the local community, Boston University has contributed $61 million in voluntary PILOT (payments-in-lieu-of-taxes) contributions over the last decade, including more than $6 million last year alone, leading its peers in these voluntary cash payments that go directly into the City's coffers.

The University has worked in close cooperation with the city and state on various public realm improvement projects, and has contributed more than $13 million for the design and construction of several capital improvement projects along the Commonwealth Avenue corridor. These capital improvement projects – Kenmore Square, the Commonwealth Avenue Improvement Project Phase 1, and the Commonwealth Avenue Improvement Project Phase 2 - have dramatically improved the flow of traffic, pedestrian safety, and universal accessibility along Commonwealth Avenue, one of the region's major thoroughfares.

The University actively seeks ways to reduce demands on the City through its own operations and services. The Boston University Police Department brings additional security to the entire campus area, 24 hours per day, seven days per week, responding to calls both inside and outside campus boundaries. The University also oversees the daily maintenance of the local MBTA stations and City sidewalks and streets around the campus, provides snow removal during winter months, plants and repairs street trees, and conducts pest control.

In addition to these substantial direct financial contributions, Boston University also provides an extensive and ever-growing array of community benefits and services. Over the past decade, the University's signature community benefit, the Boston Scholars Program, the longest running and largest scholarship program of its kind in the nation, has awarded $115 million in scholarship funding to graduates of Boston Public Schools. More than 300 BPS graduates currently attend Boston University through the Boston Scholars Program, and an estimated 3,000 Boston Public Schools students have received scholarship funding through this signature program since it was established in the 1970s.

The Project will provide substantial additional benefits to the City and its residents including the following:

- Restoration of two structures constructed in the 1920's including reparation of the failing façades and restoration of the ground floor of Myles Standish Hall with original features to engage the public realm;

- Interior renovation of an existing, on-campus dormitory with accommodations for 730 students to make the residence hall more attractive to incoming and returning students in order to reduce demand on the City of Boston housing stock;

- Improvement and rejuvenation of the Kenmore Square area through the historic preservation and renovation of existing historic structures;

- Creation of a public, landscaped area for passive recreation and aesthetic enhancement adjacent to the Project;

- Upgrades to the mechanical systems of an existing historic building to improve energy efficiency on the campus; and

- Creation of approximately 478 direct construction jobs.

1.9 SUMMARY OF ANTICIPATED PERMITS AND APPROVALS

The following table is a list of anticipated approvals for the Project.

Table 1-1: Anticipated Project Approvals

Agency	Permit Approval
Local	
Boston Redevelopment Authority (BRA)	• Article 80 B Large Project Review • Cooperation Agreement • Schematic Design Approval • Design Development Approval • Construction Document Approval • Certificate of Compliance with Article 80 • Certificate of Consistency with IMP • Certificate of Completion
Boston Civic Design Commission	• Recommendation to the BRA Board
Back Bay West/Bay State Road Architectural Conservation District	• Certificate of Appropriateness
Boston Transportation Department	• Construction Management Plan
Boston Water and Sewer Commission	• Site Plan Approval • Groundwater Recharge Plan Approval
Inspectional Services Department	• Building Permit • Certificate of Occupancy

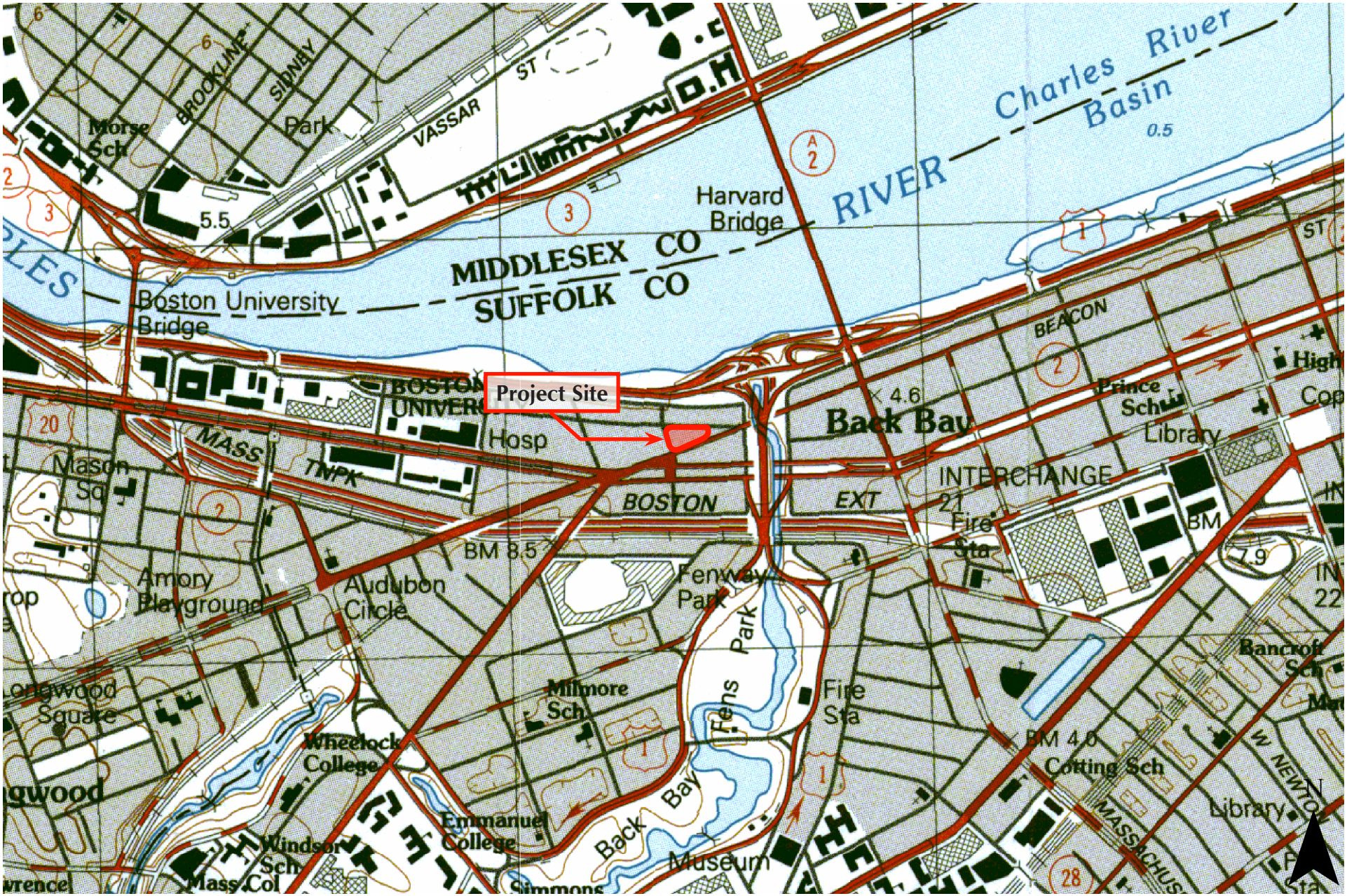
Agency	Permit Approval
Boston Public Improvement Commission	• Specific Repair Plan • License, Maintenance, and Indemnification Agreement
State	
Department of Environmental Protection	• Notice of Construction • Air Quality Registration
Massachusetts Historical Commission	• Determination of No Adverse Effect/MOA

1.10 PROJECT TEAM

Table 1-2: Project Team

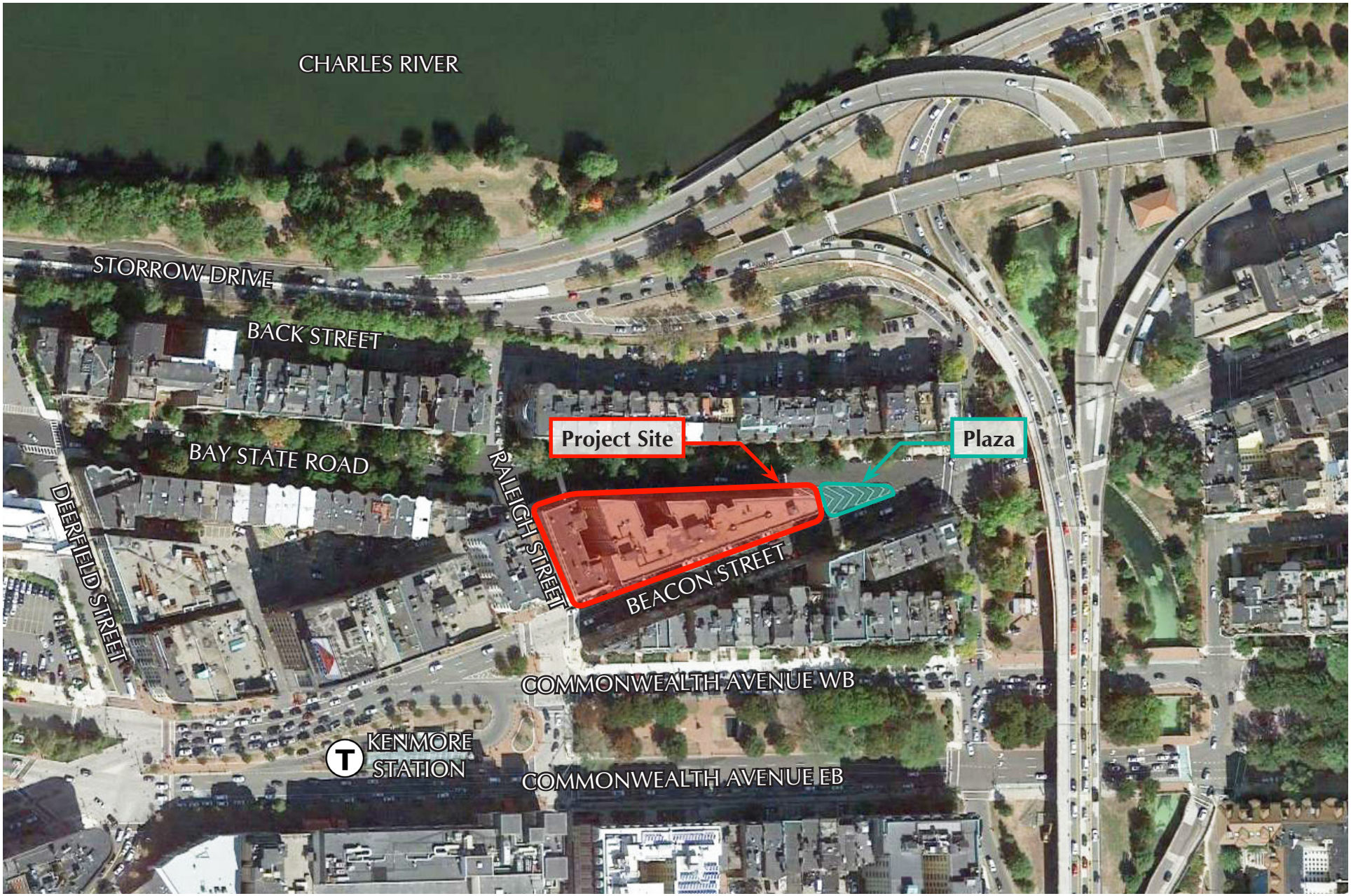
Proponent	Boston University One Silber Way Boston, MA 02215 Gary W. Nicksa, Senior Vice President for Operations (617) 353-6500 nicksa@bu.edu Paul Rinaldi, Assistant Vice President Facilities Management and Planning (617) 353-6520 prinaldi@bu.edu
Planning and Permitting	Fort Point Associates, Inc. 33 Union Street, 3rd Floor Boston, MA 02108 Jamie Fay, President (617) 357-7044 x204 jfay-@fpa-inc.com Lydia Hausle, Assistant Planner (617) 357-7044 x207 lhausle@fpa-inc.com
Architecture/Landscape/MEP	Miller Dyer Spears 99 Chauncy Street, 8th Floor Boston, MA 02111

	James Loftus, Associate Principal jloftus@mds-bos.com (617) 338-5350
Geotechnical Engineering	Haley & Aldrich, Inc. 465 Medford Street., Suite 2200 Boston, MA 02129 Bryan Sweeney, Senior Vice President (617) 886-7400 bps@haleyaldrich.com
Civil Engineering	Nitsch Engineering, Inc. 2 Center Plaza #430 Boston, MA 02108 Gary Pease, LEED AP BD+C Vice President (617) 338-0063 gpease@nitscheng.com



Boston, Massachusetts

Figure 1-1
Locus Map
Source: USGS, 1995



Boston, Massachusetts

Figure 1-2
Site Aerial
Source: Google, 2015; Fort Point Associates, Inc., 2015

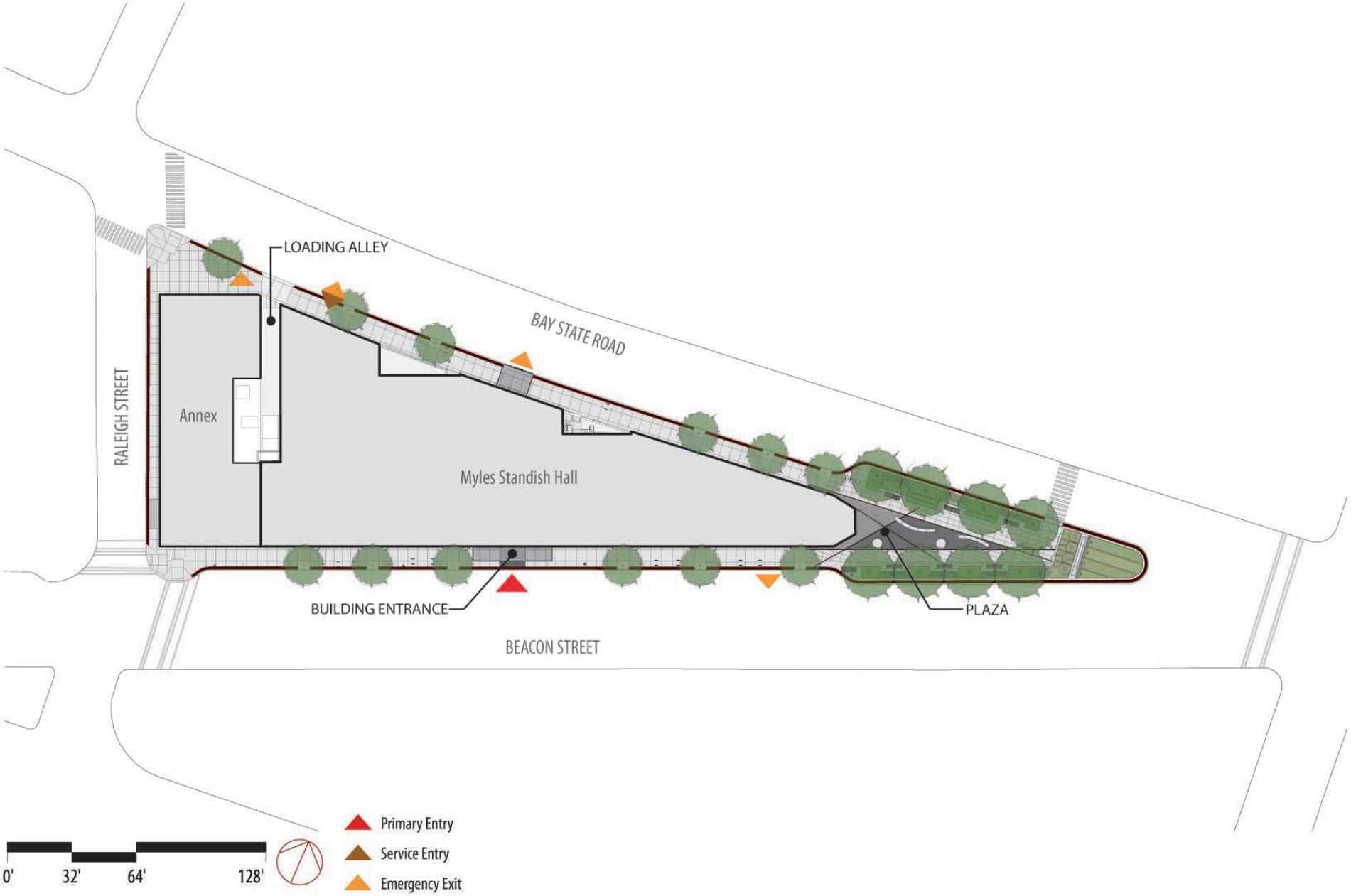


Figure 1-3
Project Site Plan
Source: Miller Dyer Spears, Inc., 2015

Chapter 2

Project Description

CHAPTER 2: PROJECT DESCRIPTION

2.1 PROJECT SITE AND SURROUNDINGS

Nestled within the Kenmore Square neighborhood of Boston, the Project Site encompasses two University-owned parcels of land totaling 27,050 square feet located at 610 and 632 Beacon Street.[1] The existing Myles Standish Hall and Annex buildings total 203,000 square feet in gross floor area. No other buildings directly abut the Project Site. The triangular-shaped Site is located at the eastern edge of the University's East Campus and is bound by Beacon Street to the south, Raleigh Street to the west, and Bay State Road to the north. The Site is located in close proximity to a variety of on-campus academic and student service facilities including the Yawkey Center for Student Services, the Questrom School of Business, the Metcalf Center for Science and Engineering, and the College of Communication. In addition, the Site is within a short walking distance to a variety of commercial shops and restaurants along Commonwealth Avenue in the heart of Kenmore Square.

Uses within the vicinity of the Site include student residences along Bay State Road, academic and student service facilities, a quiet residential community along Bay State Road, and commercial and retail activity along Beacon Street and Commonwealth Avenue to the west in the heart of Kenmore Square. To the east of the Site, Charlesgate and the Bowker Overpass form a boundary between the Kenmore Square and the Back Bay.

The Site is well-served by existing public transportation, including the Massachusetts Bay Transportation Authority ("MBTA") Kenmore Square Station, which provides Green Line Trolley and MBTA bus service to a variety of destinations around and beyond Boston. The Site is also serviced by the University's free shuttle, known as the Boston University Shuttle (the "BUS"), which provides transportation to both the Charles River and Medical campuses. See Figure 2-1, Oblique View of Project Site.

2.2 EXISTING CONDITIONS

The Project Site is occupied by the existing nine-story Myles Standish Hall structure and the existing three-story Annex. Both structures were constructed in the 1920's and will be preserved and enhanced through the Project. With the exception of general maintenance improvements, the interiors of Myles Standish Hall and the Annex remain in their original hotel-oriented condition. In some cases, this condition requires that students living in suite-style units must travel through a roommate's bedroom in order to access the only suite bathroom. Other interior shortcomings include outdated life safety features, all of which

[1] According to City of Boston Records, Myles Standish Hall is addressed at 30 Bay State Road, City of Boston Assessor's Parcel Number 0503706000.

will be upgraded to be fully consistent with current requirements. Both structures are in need of extensive interior and varying levels of exterior renovation and rehabilitation in order to fulfill the University's student housing needs and to ensure the safety and longevity of the buildings. Scaffolding and "make-safe" protections have been in place along the perimeter of Myles Standish Hall since the summer of 2014 due to the deteriorating condition of the exterior masonry.

During the summer of 2014, the University began a thorough investigation of the buildings in order to accurately map the existing building components and to assess the extent of the required exterior rehabilitation. The results of the investigative activities indicated that condition of the structures' exteriors vary from building to building as well as from façade to façade. In general, the Myles Standish Hall façade is in need of major rehabilitation on all sides but is in significantly worse condition on the Bay State Road façade than the Beacon Street façade. Overall, approximately 80% of the exterior wall will be replaced, including the bricks and the cast stone on the lower two floors. The Annex has experienced significantly less deterioration and will require a less extensive scope of exterior replacement and rehabilitation.

Directly east of the two structures lies the intersection of Bay State Road and Beacon Street, with Charlesgate West and a southbound exit of Storrow Drive located just a few hundred feet further east. The intersection is excessively large, encouraging high automobile speeds and creating an uncomfortable pedestrian experience along the street. A large portion of the intersection is currently striped with paint as a means to artificially narrow the excessive width of the intersection. As part of the Project, the University proposes to convert this portion of the intersection into an open space plaza that acts as a formal gateway to the campus and an attractive public amenity for the community (the "Plaza"). See Figure 2-2, Existing Conditions Plan and Figures 2-3 through 2-5, Existing Conditions Photographs.

2.3 PROPOSED PROJECT

The proposed Project is comprised of three main components. First and most significantly, a thorough interior renovation will reconfigure the layout of the buildings to provide a more logical layout of student suites, provide full accessibility and upgraded life safety features throughout the residence hall, and provide modern amenities to students that are not currently available. Second, the exterior of the structures will be rehabilitated and restored in a historically sensitive manner. Finally, the Project will enliven the pedestrian realm through streetscape improvements along the perimeter of the Site and through the incorporation of the Plaza at the eastern point of the Site. This Project is a critical component of the University's goal to retain and grow the number of students housed on-campus in order to reduce student demand for housing in the surrounding neighborhoods.

The interior renovation of the structures will reconfigure the layout of rooms to provide more privacy for residents while maximizing the square-footage of quality living space. As

part of this process, mechanical systems will be upgraded to provide energy efficient systems throughout the Project. In addition, internal connections between Myles Standish Hall and the Annex will be made possible on all floors, whereas the existing connection between buildings requires an awkward and indirect route in order to gain access internally from one building to the other. All internal and external access points and passageways throughout the Project will be made compliant with the Americans with Disabilities Act ("ADA").

Upon completion, the renovated structures will provide 730 beds for student residency in suite-style configurations with semi-private bathrooms. Single bedrooms in suite configurations will be provided for 334 students, while 378 students will be accommodated in standard double-occupancy rooms. Room for eighteen student resident assistants will be provided through the Project in addition to three staff-in-residence units for student life staff. Each residential floor will be equipped with a small lounge to foster community among the residents, while larger study, gathering, and recreational areas will be provided on the ground floor. Ground floor student study areas and common rooms have been strategically placed along the perimeter of the building to activate and engage the streetscape where solid masonry with occasional windows now exists.

While the interior of the buildings will undergo extensive renovation, the exterior of the buildings will be preserved, restored, and enhanced to reflect their original 1920's style and charm. The Project will restore a series of large ground-level windows, original features of Myles Standish Hall that allude to the commercial storefronts that once existed along Beacon Street. The main entrance of Myles Standish Hall was moved from its original location on Bay State Road to Beacon Street years ago at the request of the neighborhood, which will be maintained. The primary entrance on Beacon Street will provide a single point of entry for both Myles Standish Hall and the Annex, which is a critical component of the University's stringent security system and procedure. A new, pronounced canopy will mark the main entrance along Beacon Street in place of the existing canopy. The deteriorating cast stone, balustrades, parapet, wrought iron fences, and double-hung and arched windows will be either repaired or replaced in-kind in order to renew and highlight the buildings' original character. All proposed exterior work at the Site is subject to the review and approval of the Architectural District Commission.

The Project will provide new, energy efficient HVAC equipment. A large portion of the basement of Myles Standish Hall will be used for heating and electrical equipment, in addition to large storage tanks for the Project's groundwater recharge system. Rooftop mechanical units will provide cooling capacity throughout the year. Rooftop equipment has been located toward the middle of the roof in an effort to minimize impacts to views from around the Site.

The Project includes an array of public realm improvements. The proposed streetscape improvements include installation of new sidewalks and associated amenities that are

consistent with the conditions seen elsewhere around the Charles River Campus, including the distinctive red brick strip along the curb edge. New street trees, lighting, benches, bicycle racks, and porous pavement will be installed along the perimeter of the Site, including a realigned curb at the southeast corner of Raleigh Street and Bay State Road. Boston University has invested significant resources into creating a unified urban character to the main thoroughfare of Boston University's east and central campuses, and will endeavor to extend that character to the Site through the Project.

In addition to streetscape improvements, the Project includes the creation of a unique, 5,500 square foot Plaza to establish an entrance to the University at the east end of the campus while simultaneously providing an attractive landscaped public area. The new Plaza will replace the existing striped section of the Beacon Street/Bay State Road intersection with a far more contextually appropriate use of the land. A large student study area at the eastern point of Myles Standish Hall will facilitate engagement between the public open space of the Plaza while maintaining the security and privacy needed to ensure the safety of students residing within the building. The proposed Plaza will not only make use of an underutilized area of land, but will improve safety and comfort for all users traveling along Beacon Street and Bay State Road in the vicinity of the Site. All improvements to the public right-of-way will be maintained by the University.

As described in Table 2-1, the Project is consistent with the 2013 – 2023 IMP. All proposed rehabilitation activities will take place within the existing footprint and height dimensions of the existing buildings, excluding the addition of rooftop mechanical equipment. The total gross floor area (GFA) of the buildings, as calculated under Boston's zoning code is approximately 203,000 square feet, and the Project's proposed Floor Area Ratio is 7.5.

Table 2-1: Project Program

Project Component	Existing Condition	2013 – 2023 IMP Program	Proposed Program
Total Project Site	27,050 square feet (0.62 acres)	26,100 square feet (0.6 acres)[2]	27,050 square feet (0.62 acres)
Gross Floor Area (Per Zoning)	203,000 square feet	230,000 square feet	203,000 square feet
Floor Area Ratio (Per Zoning)	7.5	8.8	7.5
Stories (Height)	Nine Stories	Nine Stories (existing condition)	Nine Stories (existing condition)
Uses	IMP/Residential	IMP/Residential	IMP/Residential
Plaza	N/A	None Specified	5,500 square feet
Bicycle Parking Indoor Spaces Outdoor Spaces **Total:**	72 Indoor Spaces 0 Outdoor Spaces **72 Total Spaces**	None Specified	73 Indoor Spaces 48 Outdoor Spaces **121 Total Spaces**

2.3.1 PROJECT PROGRAM

The Project program is largely similar to what presently exists within Myles Standish Hall and the Annex. The program provides for 110,000 net sf of residential space, 13,000 net square feet for student amenity and support space and 2,000 net square feet for building support space.

The Myles Standish Hall basement will be used primarily as mechanical space with a small area dedicated to staff use and building storage. The Annex basement will maintain its current use as student lounge and study area with the addition of three music practice rooms.

The ground floor of the Project will provide primary access to both Myles Standish Hall and the Annex. This level will provide student amenities (laundry, mail room, and shared kitchen), common spaces (student lounges, game room, event space, and study rooms), and residential life offices. All major residence halls at Boston University have one primary access point where University identification must be presented to security staff. As part of the Project, the shared main entrance to Myles Standish Hall and the Annex will be reasserted with greater distinction in its current location on Beacon Street. Maintaining a secure entrance to this undergraduate student residence is of the upmost importance to the safety and well-being of the University and its student population. To meet building code requirements, secondary points of access and egress will be located at four locations along the

[2] The 2013 – 2023 IMP notes the square footage of the two parcels to be 26,100 square feet. Upon further investigation and surveying, the accurate square footage of the parcels has been determined to be 27,050, as described.

ground floor on Bay State Road and Beacon Street. All access points to the Project will be made ADA compliant throughout the Project. In addition, fully accessible interior connections from Myles Standish Hall to the Annex will be facilitated on all floors through the new interior configuration. A completed Accessibility Checklist is provided in Appendix A. See Figure 2-6, Ground Floor Plan.

Floors two through nine of Myles Standish Hall will provide 149 suite-style residential units with semi-private bathrooms, 16 student resident assistant units with private bathrooms, and three staff-in-residence apartments. Each floor will have a small common lounge area directly across from the main elevator lobby to promote an interactive community. See Figure 2-7, Typical Upper Floor Plan.

The Annex will feature eight suite-style residential units with semi-private bathrooms and two student resident assistant units with private bathrooms. The basement level will include three music rooms and three group study rooms. The elevator that serves each floor of the Annex will have dual access points connecting to Myles at every level to better unite the buildings.

On-site bicycle parking will be provided at the ground level. The Project will provide 73 indoor bicycle parking spaces and 48 outdoor bicycle parking spaces. This will result in a net increase of 49 bicycle parking spaces at the Site.

2.3.2 PARKING AND CIRCULATION

Vehicular

Vehicular access to the Site will remain unchanged from the existing condition. Vehicular access to the Site is provided on Beacon Street and Bay State Road. There is no dedicated parking associated with the Project, nor is any proposed as part of the Project. Metered parking is provided on-street in the vicinity of the Site as managed by the Boston Transportation Department. See Figure 2-10, Circulation and Access Plan. See Chapter 5, Transportation, for a full description of existing and proposed transportation conditions.

Loading and Service

Delivery and service activities will remain unchanged from the existing condition. The main entrance on Beacon Street will be used for deliveries and recycling pick-up. Custodial deliveries will occur through the main entrance or at a secondary entry on Bay State Road. The service alley on Bay State Road between Myles Standish Hall and the Annex will be used primarily for trash removal.

Bicycle, Pedestrian, and Transit Accessibility

The University is committed to improving accommodations for non-motorized transportation, including bicycling, walking, and public transit options. The Project provides the requisite amenities to encourage non-motorized travel and does not provide dedicated vehicular parking for the Project. Bicycle lanes and sidewalks provided on Beacon Street and Commonwealth Avenue in the vicinity of the Site provide a designated space for students, staff, and visitors to of the Project to travel to and from the Site. A Hubway bicycle sharing station is located two blocks west at the intersection of Commonwealth Avenue and Deerfield Street and provides additional transportation options to the Project.

The streetscape improvements, including the new public open space area, will improve the aesthetic quality of the Site and surroundings to create a safer and more pleasant experience for those arriving or departing the Site on foot. The Project's proximity to the MBTA Green Line and bus lines will minimize single occupancy vehicle trips to the Site. In addition, the BUS, a free shuttle bus service provided by the University, makes frequent stops in the vicinity of the Site.

Accessibility

All of the Project's main entrances will be located at ground level and will be universally accessible. The Project's interior renovation will facilitate universally accessible connections throughout the Project on every floor.

2.3.3 OPEN SPACE AND LANDSCAPING

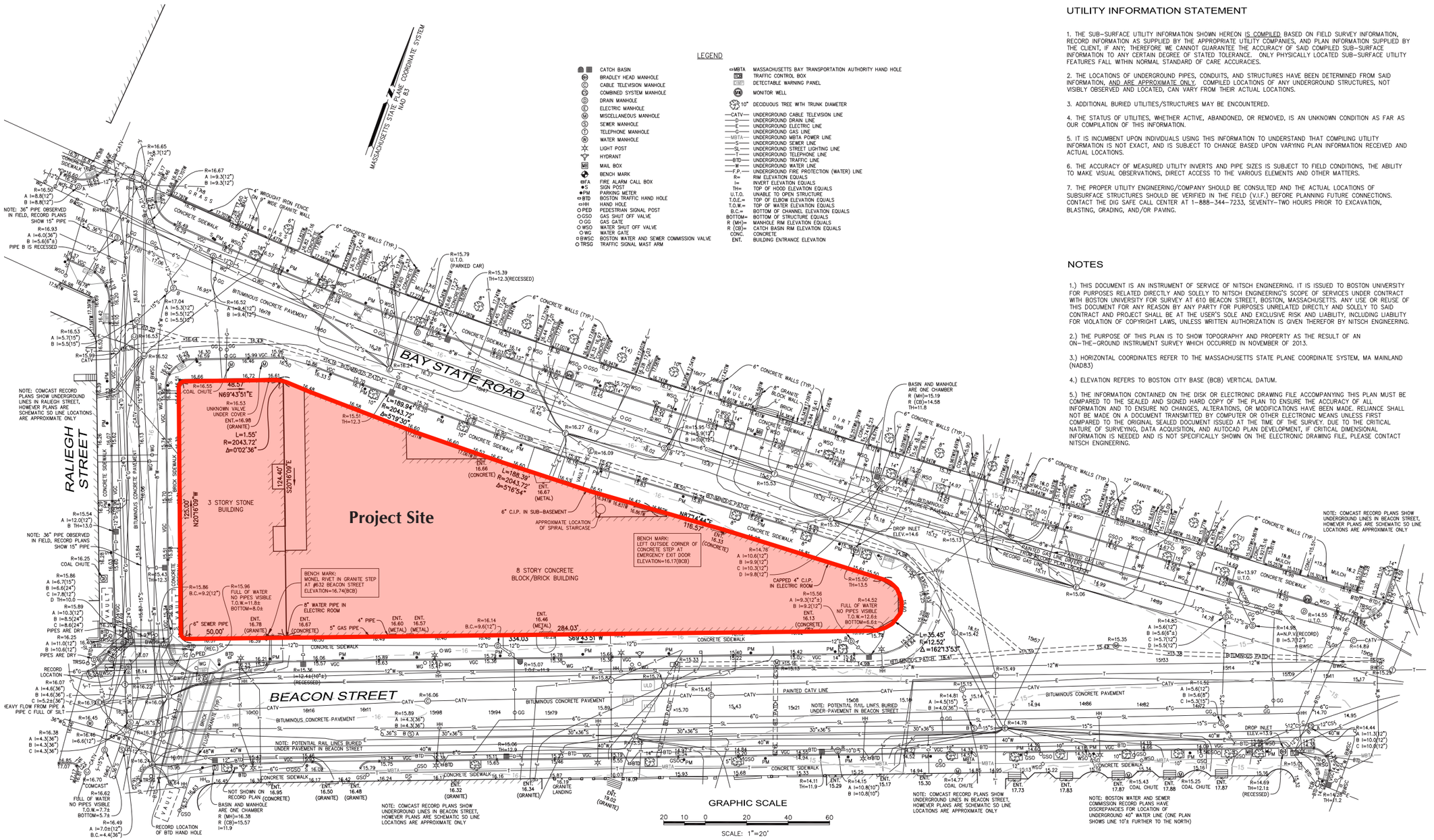
In accordance with the provisions in the 2013 – 2023 IMP, the Project is designed to reinforce the University's linear Campus and to create a variety of open spaces that enrich the streetscape by supporting different scales and levels of interaction. The Project will create a new 5,500 square foot Plaza for passive recreation in the portion of the Site currently occupied by the oversized intersection formed by Beacon Street and Bay State Road. The new Plaza will welcome students and the general public to the Boston University Campus as they enter from the east. The small landscaped area will provide a space to enjoy the neighborhood while improving safety for pedestrians and bicyclists by encouraging slower vehicle speeds through a reduced intersection. A mix of hardscape, vegetation, seating amenities, and lighting are proposed for the Plaza and are described in further detail in Chapter 3, Urban Design. This modest open space area was identified in the University's 2013 – 2023 IMP.

In addition to the Plaza, the Project will realign the southeast corner of the intersection of Basy State Road and Raleigh Street. The reconfigured sidewalk will

provide additional circulation space for pedestrians and room for additional landscaping along Bay State Road. See Figure 2-9, Landscape Plan.

Boston, Massachusetts

Figure 2-1
Oblique View of Existing Site
Source: Google, 2015; Fort Point Associates, Inc., 2015



UTILITY INFORMATION STATEMENT

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREON IS COMPILED BASED ON FIELD SURVEY INFORMATION, RECORD INFORMATION AS SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES, AND PLAN INFORMATION SUPPLIED BY THE CLIENT, IF ANY; THEREFORE WE CANNOT GUARANTEE THE ACCURACY OF SAID COMPILED SUB-SURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE. ONLY PHYSICALLY LOCATED SUB-SURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.

2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.

3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR COMPILATION OF THIS INFORMATION.

5. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILING UTILITY INFORMATION IS NOT EXACT, AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.

6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.

7. THE PROPER UTILITY ENGINEERING/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD (V.I.F.) BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.

NOTES

1.) THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO BOSTON UNIVERSITY FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH BOSTON UNIVERSITY FOR SURVEY AT 610 BEACON STREET, BOSTON, MASSACHUSETTS. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.

2.) THE PURPOSE OF THIS PLAN IS TO SHOW TOPOGRAPHY AND PROPERTY AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED IN NOVEMBER OF 2013.

3.) HORIZONTAL COORDINATES REFER TO THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MA MAINLAND (NAD83)

4.) ELEVATION REFERS TO BOSTON CITY BASE (BCB) VERTICAL DATUM.

5.) THE INFORMATION CONTAINED ON THE DISK OR ELECTRONIC DRAWING FILE ACCOMPANYING THIS PLAN MUST BE COMPARED TO THE SEALED AND SIGNED HARD COPY OF THE PLAN TO ENSURE THE ACCURACY OF ALL INFORMATION AND TO ENSURE NO CHANGES, ALTERATIONS, OR MODIFICATIONS HAVE BEEN MADE. RELIANCE SHALL NOT BE MADE ON A DOCUMENT TRANSMITTED BY COMPUTER OR OTHER ELECTRONIC MEANS UNLESS FIRST COMPARED TO THE ORIGINAL SEALED DOCUMENT ISSUED AT THE TIME OF THE SURVEY. DUE TO THE CRITICAL NATURE OF SURVEYING, DATA ACQUISITION, AND AUTOCAD PLAN DEVELOPMENT, IF CRITICAL DIMENSIONAL INFORMATION IS NEEDED AND IS NOT SPECIFICALLY SHOWN ON THE ELECTRONIC DRAWING FILE, PLEASE CONTACT NITSCH ENGINEERING.

Nitsch Engineering
www.nitscheng.com
2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472
► Civil Engineering
► Land Surveying
► Transportation Engineering
► Sustainable Site Consulting
► Planning
► GIS

PROJECT #	9992
FILE:	9992_TOPO1.dwg
SCALE:	1"=20'
DATE:	JANUARY 7, 2014
PROJECT MANAGER:	PRL
FIELD BOOK:	578
DRAFTED BY:	TAL
CHECKED BY:	

REV.	COMMENTS	DATE
1	BOSTON CITY BASE VERTICAL DATUM	1/31/2014

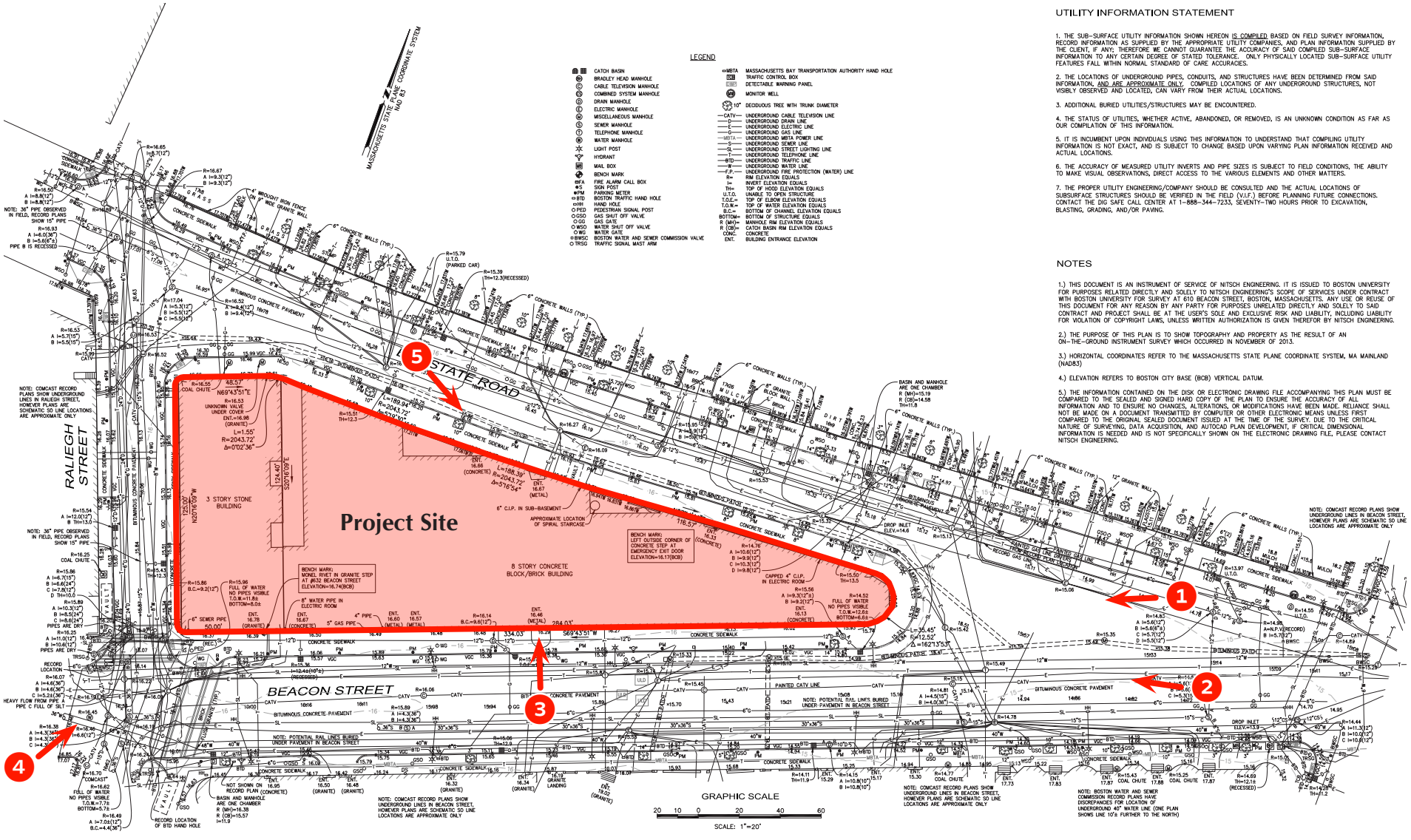
REVISIONS

TOPOGRAPHIC PLAN OF LAND
BEACON STREET AND BAY STATE ROAD
BOSTON, MASSACHUSETTS

PREPARED FOR:
BOSTON UNIVERSITY
120 ASHFORD STREET, BOSTON, MASSACHUSETTS 02215

SHEET: EX-1
OF 1 REV. 1

Figure 2-2
Existing Conditions Survey
Source: Nitsch Engineering, 2015



LEGEND

CATCH BASIN	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY HAND HOLE
BRADLEY HEAD MANHOLE	TRAFFIC CONTROL BOX
CABLE TELEVISION MANHOLE	DETECTABLE WARNING PANEL
COMBINED SYSTEM MANHOLE	MONITOR WELL
DRAIN MANHOLE	DECIDUOUS TREE WITH TRUNK DIAMETER
ELECTRIC MANHOLE	UNDERGROUND CABLE TELEVISION LINE
MISCELLANEOUS MANHOLE	UNDERGROUND DRAIN LINE
SEWER MANHOLE	UNDERGROUND ELECTRIC LINE
TELEPHONE MANHOLE	UNDERGROUND GAS LINE
WATER MANHOLE	UNDERGROUND MBTA POWER LINE
LIGHT POST	UNDERGROUND SEWER LINE
HYDRANT	UNDERGROUND STREET LIGHTING LINE
MAIL BOX	UNDERGROUND TELEPHONE LINE
BENCH MARK	UNDERGROUND TRAFFIC LINE
FIRE ALARM CALL BOX	UNDERGROUND WATER LINE
SIGN POST	UNDERGROUND FIRE PROTECTION (WATER) LINE
PARKING METER	RIM ELEVATION EQUALS
BOSTON TRAFFIC HAND HOLE	INVERT ELEVATION EQUALS
HAND HOLE	TOP OF HOOD ELEVATION EQUALS
PEDESTRIAN SIGNAL POST	UNABLE TO OPEN STRUCTURE
GAS SHUT OFF VALVE	TOP OF ELBOW ELEVATION EQUALS
GAS GATE	TOP OF WATER ELEVATION EQUALS
WATER SHUT OFF VALVE	BOTTOM OF CHANNEL ELEVATION EQUALS
WATER GATE	BOTTOM OF STRUCTURE EQUALS
BOSTON WATER AND SEWER COMMISSION VALVE	MANHOLE RIM ELEVATION EQUALS
TRAFFIC SIGNAL MAST ARM	CATCH BASIN RIM ELEVATION EQUALS
	CONCRETE
	BUILDING ENTRANCE ELEVATION

UTILITY INFORMATION STATEMENT

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREON IS COMPILED BASED ON FIELD SURVEY INFORMATION, RECORD INFORMATION AS SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES, AND PLAN INFORMATION SUPPLIED BY THE CLIENT, IF ANY; THEREFORE WE CANNOT GUARANTEE THE ACCURACY OF SAID COMPILED SUB-SURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE. ONLY PHYSICALLY LOCATED SUB-SURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.

2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.

3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR COMPILATION OF THIS INFORMATION.

5. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILING UTILITY INFORMATION IS NOT EXACT, AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.

6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.

7. THE PROPER UTILITY ENGINEERING/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD (V.I.F.) BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.

NOTES

1.) THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO BOSTON UNIVERSITY FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH BOSTON UNIVERSITY FOR SURVEY AT 610 BEACON STREET, BOSTON, MASSACHUSETTS. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.

2.) THE PURPOSE OF THIS PLAN IS TO SHOW TOPOGRAPHY AND PROPERTY AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED IN NOVEMBER OF 2013.

3.) HORIZONTAL COORDINATES REFER TO THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MA MAINLAND (NAD83)

4.) ELEVATION REFERS TO BOSTON CITY BASE (BCB) VERTICAL DATUM.

5.) THE INFORMATION CONTAINED ON THE DISK OR ELECTRONIC DRAWING FILE ACCOMPANYING THIS PLAN MUST BE COMPARED TO THE SEALED AND SIGNED HARD COPY OF THE PLAN TO ENSURE THE ACCURACY OF ALL INFORMATION AND TO ENSURE NO CHANGES, ALTERATIONS, OR MODIFICATIONS HAVE BEEN MADE. RELIANCE SHALL NOT BE MADE ON A DOCUMENT TRANSMITTED BY COMPUTER OR OTHER ELECTRONIC MEANS UNLESS FIRST COMPARED TO THE ORIGINAL SEALED DOCUMENT ISSUED AT THE TIME OF THE SURVEY. DUE TO THE CRITICAL NATURE OF SURVEYING, DATA ACQUISITION, AND AUTOCAD PLAN DEVELOPMENT, IF CRITICAL DIMENSIONAL INFORMATION IS NEEDED AND IS NOT SPECIFICALLY SHOWN ON THE ELECTRONIC DRAWING FILE, PLEASE CONTACT NITSCH ENGINEERING.

Nitsch Engineering

www.nitschengr.com
2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472

- Civil Engineering
- Land Surveying
- Transportation Engineering
- Sustainable Site Consulting
- Planning
- GIS

PROJECT #	9992
FILE:	9992_TOP01.dwg
SCALE:	1"=20'
DATE:	JANUARY 7, 2014
PROJECT MANAGER:	PRL
FIELD BOOK:	578
DRAFTED BY:	TAL
CHECKED BY:	

REV.	COMMENTS	DATE
1	BOSTON CITY BASE VERTICAL DATUM	1/31/2014

REVISIONS

TOPOGRAPHIC PLAN OF LAND
BEACON STREET AND BAY STATE ROAD
BOSTON, MASSACHUSETTS

PREPARED FOR:
BOSTON UNIVERSITY
120 ASHFORD STREET, BOSTON, MASSACHUSETTS 02215

SHEET: EX-1
OF 1 REV. 1

Figure 2-3
Photograph Locations Key
Source: Nitsch Engineering; Fort Point Associates, Inc., 2015

Photograph 1: View of existing Myles Standish Hall looking west from Bay State Road

Photograph 2: View of Existing Myles Standish Hall looking west from Beacon Street

Figure 2-4
Existing Conditions Photographs
Source: Fort Point Associates, Inc., 2015

Photograph 3: Existing main entrance to Myles Standish Hall along Beacon Street

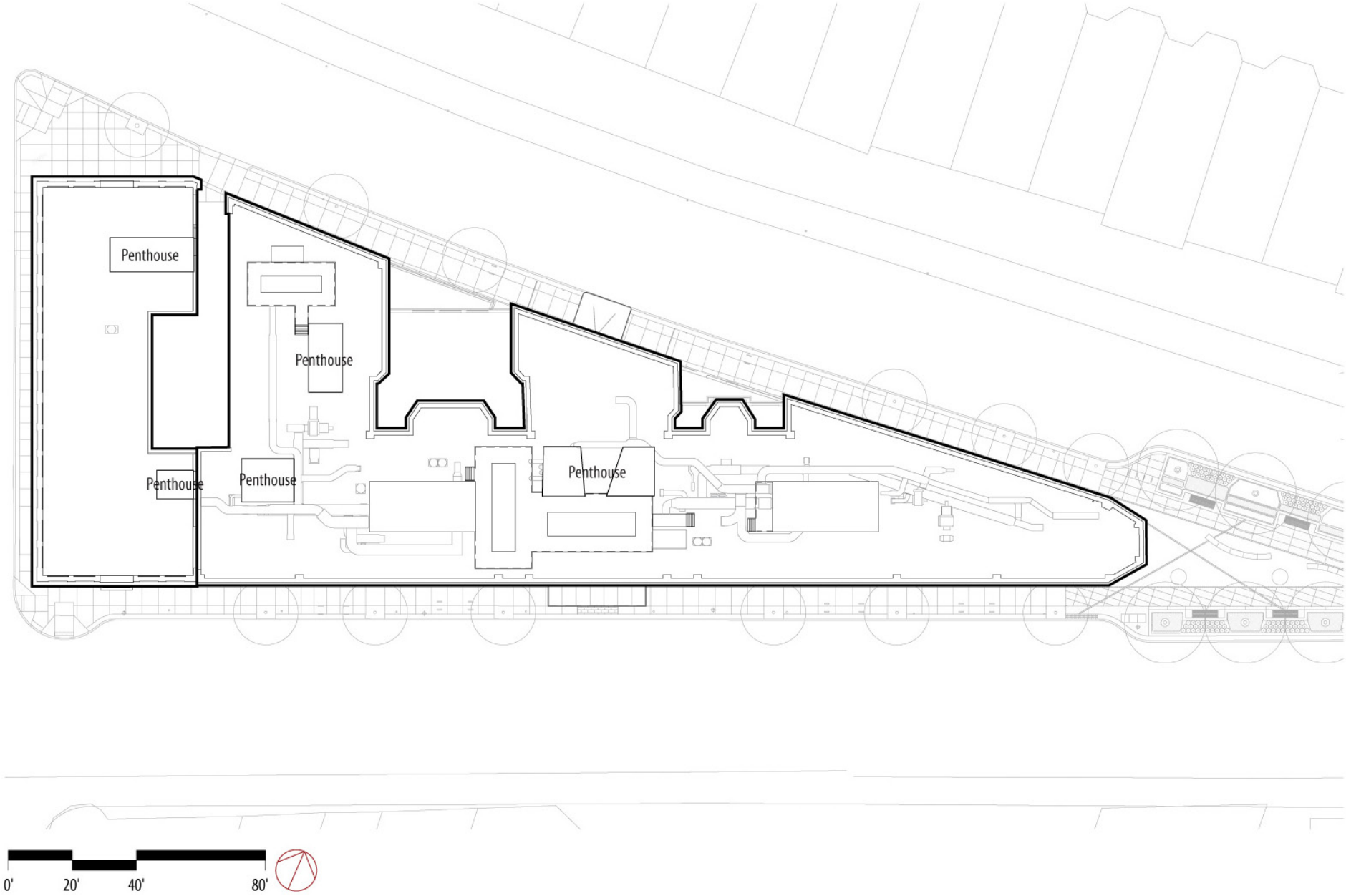
Photograph 5: Existing Myles Standish Hall as seen looking east from Bay State Road

Photograph 4: Existing Myles Standish Hall and Annex as seen looking east from Beacon Street

Figure 2-5
Existing Conditions Photographs
Source: Fort Point Associates, Inc., 2015

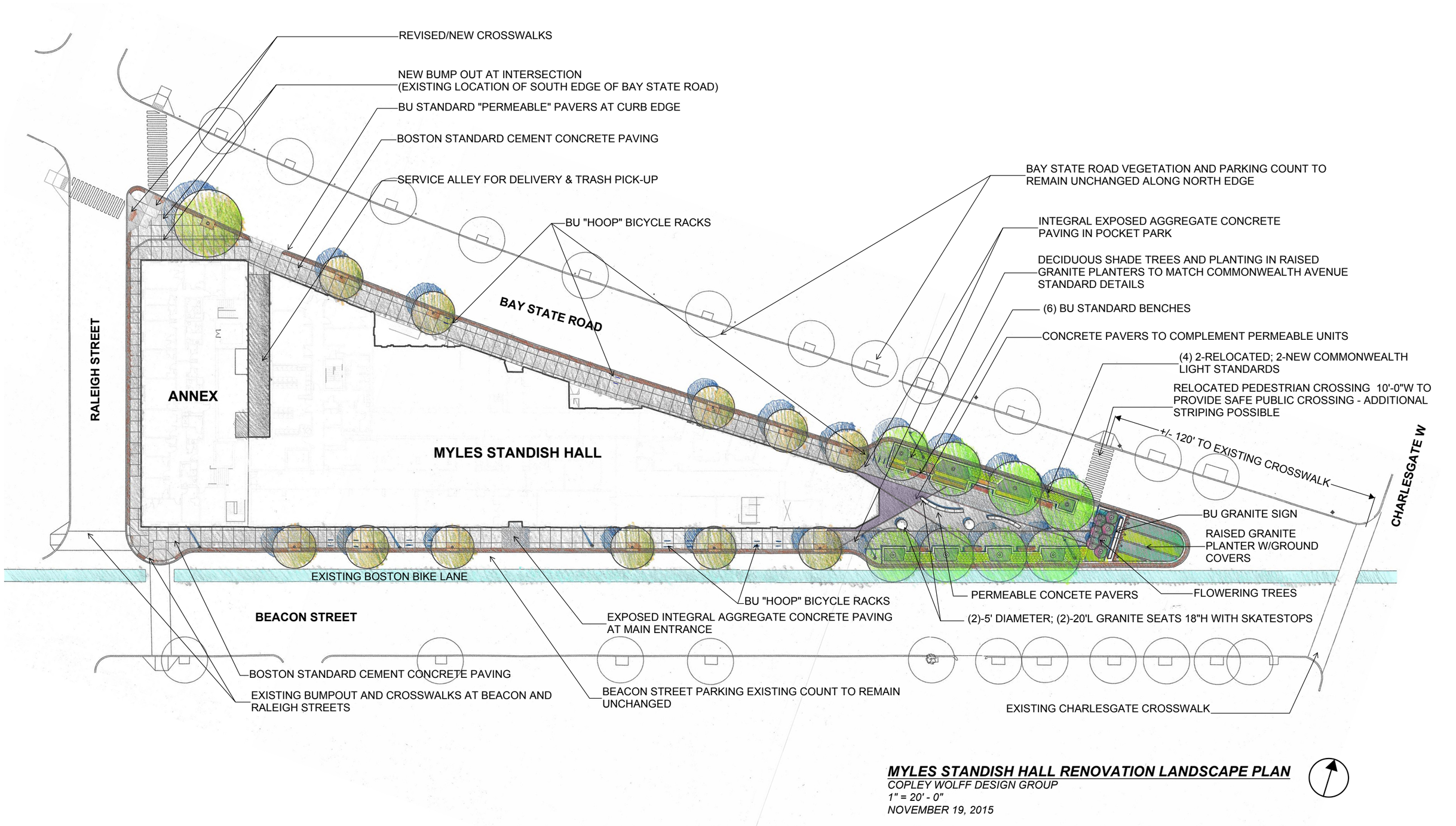
Figure 2-6
Ground Floor Plan
Source: Miller Dyer Spears, Inc., 2015

Figure 2-7
Typical Upper Floor Plan
Source: Miller Dyer Spears, Inc., 2015



Boston, Massachusetts

Figure 2-8
Roof Plan
Source: Miller Dyer Spears, Inc., 2015



MYLES STANDISH HALL RENOVATION LANDSCAPE PLAN
COPLEY WOLFF DESIGN GROUP
1" = 20' - 0"
NOVEMBER 19, 2015

Figure 2-9
Landscape Plan
Source: Copley Wolff Design Group, 2015

Chapter 3

Urban Design

CHAPTER 3: URBAN DESIGN

3.1 INTRODUCTION

The Project will address the University's desire to modernize its on-campus housing and to make one of the University's largest dormitories an attractive housing option for undergraduates. The exterior rehabilitation of the structures will extend the functional life of the buildings while preserving, restoring, and enhancing the structures to reflect their original 1920's style and charm. Located in the Bay State Road/Back Bay West Architectural Conservation District, the significant design elements of the existing structures will be maintained while some original features of the structures that were lost over time will be restored. The Project's location in the east campus and its flatiron form provide a unique opportunity to highlight this important gateway into the Boston University campus with an open space area and an activated street edge.

Directly east of the Myles Standish Hall and Annex structures lies the intersection of Bay State Road and Beacon Street, with Charlesgate West and a southbound exit of Storrow Drive located just a few hundred feet further east. The intersection is excessively large, encouraging high automobile speeds and creating an uncomfortable pedestrian experience along the street. A large portion of the intersection is currently striped with paint as a means to artificially narrow the excessive width of intersection. As part of the Project, the University proposes to create a Plaza at the east end of the Site. The Plaza will provide a public green space as well as a safer, pedestrian-oriented intersection. Overall, the design of the Project is consistent with the objectives proposed in the 2013 – 2023 IMP. See Figure 3-1, Project Site Plan and Figure 3-2, Neighborhood Context.

3.2 MASSING

The massing of the Project will be unchanged from its current configuration. Myles Standish Hall will remain a nine-story building (plus basement) and the Annex will remain a three-story (plus basement) building. New stair and elevator penthouses and raised platforms for mechanical equipment will be accommodated on the rooftop as needed. A small, 420 square foot portion of the first floor of the Annex within the existing alley will be removed to provide space for new electrical equipment. This minor change in massing will be undetectable from Bay State Road or Beacon Street.

New mechanical equipment will be housed on the roof of Myles Standish Hall. The placement of the equipment has been studied to minimize the visibility of the mechanical equipment from the street in the vicinity of the Site.

3.3 CHARACTER AND MATERIALS

The primary urban design objective of the project conforms to the Bay State Road/Back Bay West Architectural Conservation District goal of protecting the unique architectural and historical character of the structures. The Myles Standish Hall structure was constructed in the 1920's as a prominent hotel with service and specialty shops on the first floor along Beacon Street. The Project design will take cues from the original design by restoring the expression of store fronts along Beacon Street which were infilled years ago. On the ground floor, student study and common spaces have been programmed along the building edge in order to activate the streetscape. As part of the restoration, the limestone with a similarly scaled coursing pattern and a granite base on the first two levels will replace the existing, deteriorating cast stone and brick matching the existing will be used on the upper levels.

The Project's primary entry will remain in its current location along Beacon Street in order to preserve the residential character of Bay State Road. Though the original entrance to the hotel was located on Bay Sate Road, the entrance was relocated to Beacon Street at the request of the University's neighbors within the residential community. The central location along the façade, as well as the emphasis and symmetry around the door, recall common architectural themes of the early 20th century style in the area. The arch topped doorway, the larger windows flanking the door, the modification of granite coloring, and the pronounced glass and steel entry canopy draw attention and give identity to the entrance against the long regular expanse of the Beacon Street façade.

The Project will include the replacement of all windows, which will have black frames at the lower two limestone levels and white frames above the second level where the façade material changes to brick. This color scheme has been chosen to match historic photographs of the Myles Standish Hotel. Four existing doors on Bay State Road and Beacon Street will be replaced with contextually appropriate windows in order to uphold the University's tight security for the undergraduate dormitory. These new windows will be of a similar shape, size, color, and style of the existing doors. The Annex will otherwise maintain its original character. See Figure 3-3 through Figure 3-10 for Project perspectives and elevations.

3.4 OPEN SPACE AND LANDSCAPING

The Site design for the Project includes streetscape improvements along the perimeter of the Site and the addition of a 5,500 square-foot Plaza to the east of the Site. The proposed streetscape treatments along Beacon Street, Raleigh Street, and Bay State road mimics the features seen elsewhere around the east and central portions of the Charles River Campus. Street trees, lighting, benches, bicycle racks, porous pavement, and the distinctive red brick strip along the curb edge will visually connect the Project Site to the rest of the campus.

The 5,500 square foot Plaza was included as a public real and open space improvement project in the 2013 – 2023 IMP and will be installed in connection with the Project. The Plaza is sited within nearly the same square-footage of the existing bituminous concrete paved confluence of Beacon Street and Bay State Road. The Plaza will include a variety of plantings and provide a safe passage through the intersection approaching and leaving the Kenmore Square area. The Plaza will also provide University students and the public a place for passive recreation through the addition of benches, contextual lighting, trash and recycling facilities, bicycle racks, and signage.

In addition to the Plaza, the southeast corner of Raleigh Street/Bay State Road will be realigned to create a more consistent street edge and provide additional sidewalk space for pedestrian circulation. All modifications to the public right-of-way will be maintained by the University. See Figure 2-10, Landscape Plan.

3.5 PEDESTRIAN ENVIRONMENT/VEHICULAR CIRCULATION

Security and privacy for student residents plays a major role in the internal and external circulation throughout the Site. The vehicular and pedestrian path to the Site will remain unchanged, however updates made by the Project will greatly improve the pedestrian experience for students and visitors.

While a single point of primary entry on Beacon Street will continue to be used, the first floor program has been strategically planned to provide an open and inviting ambiance with active uses at the building perimeter to create a visual connection between the interior and pedestrian activity outside. The most engaging and collaborative program spaces, including student lounges, a game room, and study spaces, will be open to the main interior corridor running parallel to Beacon Street.

As the majority of uses along Bay State Road in the vicinity of the Site are residential, the Project seeks to coexist with the quiet of the neighborhood by siting the primary entrance along Beacon Street. The new Plaza and connecting crosswalk to the north side of Bay State Road will maintain the existing vehicular circulation on Beacon Street and Bay State Road while simultaneously improving safety for pedestrians and bicyclists in the intersection.

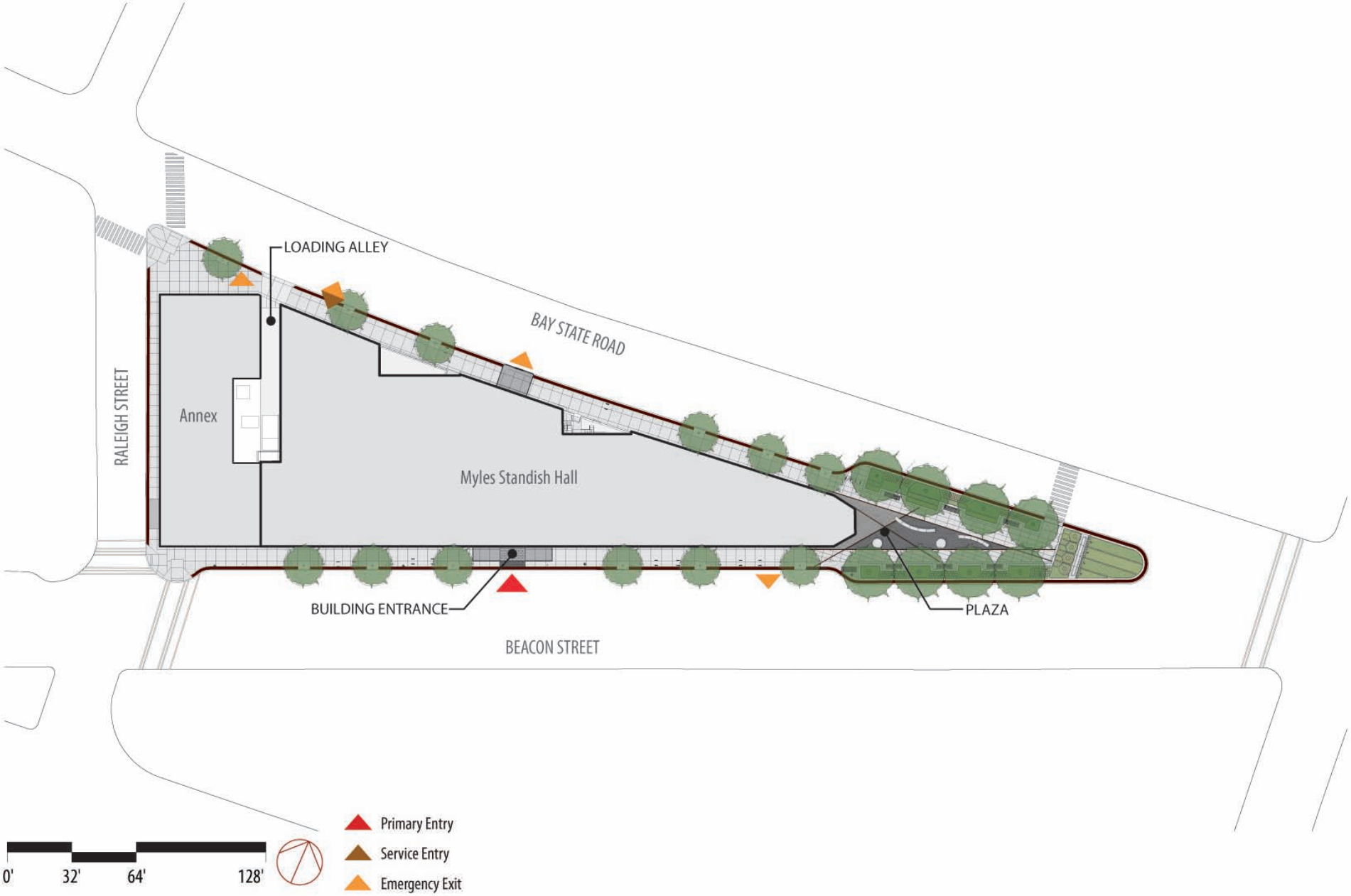
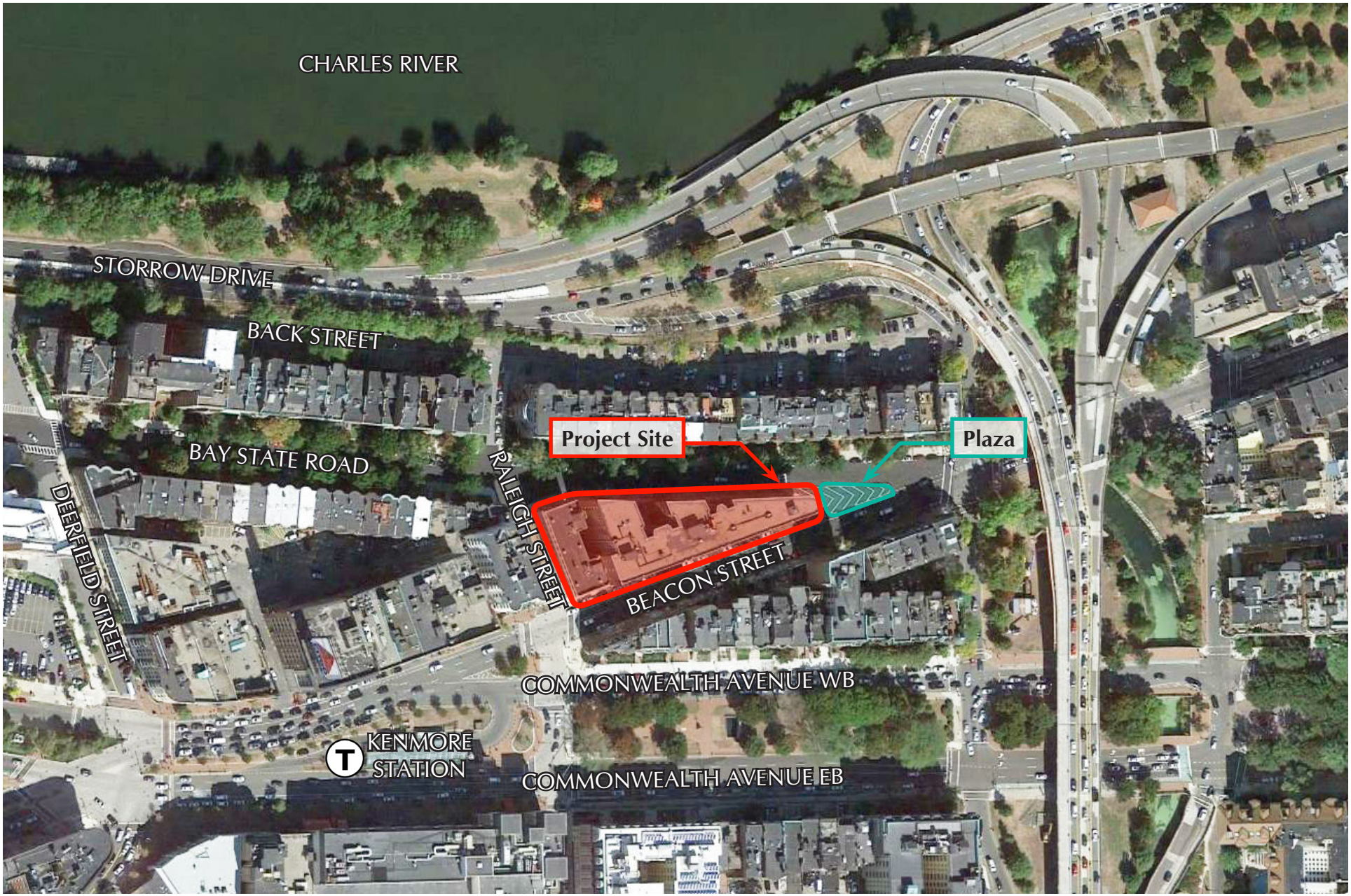


Figure 3-1
Project Site Plan
Source: Miller Dyer Spears, Inc., 2015



Boston, Massachusetts

Figure 3-2
Neighborhood Context
Source: Fort Point Associates, Inc., 2015

Figure 3-3
Perspective Looking East on Beacon Street
Source: Miller Dyer Spears, Inc., 2015

Boston, Massachusetts

Figure 3-4

Perspective Looking East from Beacon Street/Raleigh Street Intersection

Source: Miller Dyer Spears, Inc., 2015

Boston, Massachusetts

Figure 3-5
Perspective Looking West at the Plaza
Source: Miller Dyer Spears, Inc., 2015

Figure 3-6
Perspective Looking East on Bay State Road
Source: Miller Dyer Spears, Inc., 2015

Figure 3-7
Perspective from the Plaza Looking West
Source: Miller Dyer Spears, Inc., 2015

Figure 3-8
Beacon Street (South) Elevation
Source: Miller Dyer Spears, Inc., 2015

Boston, Massachusetts

Figure 3-9
Bay State Road (North) Elevation
Source: Miller Dyer Spears, Inc., 2015

Chapter 4

SUSTAINABILITY

CHAPTER 4: SUSTAINABILITY

4.1 SUSTAINABLE DESIGN

The Project will incorporate sustainable design strategies and will target a minimum of Leadership in Energy and Environmental Design ("LEED") Silver certification. The LEED rating system will be used as a framework to measure the various sustainable features of the Project. This system is divided into the following categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Air Quality, Innovation in Design, and Regional Priority Credits. The Project team has used a LEED Checklist to illustrate that the Project is currently tracking 62 LEED credits under the LEED BD&C-NC 2009 rating system. See Figure 4-1, LEED Checklist.

The Project will comply with Article 37 of the Boston Zoning Code, Boston's Green Building Regulations. The purpose of Article 37 is to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to prepare for climate change; to promote a more sustainable city; and to enhance the quality of life in Boston. The narrative below demonstrates that the Project is in compliance with Article 37. A completed Climate Change Preparedness and Resiliency Questionnaire can be found in Appendix B. As the Project is in the early design process, some of these strategies are expected to evolve with the design of the building.

4.2 ARTICLE 37/LEED COMPLIANCE

4.2.1 SUSTAINABLE SITES

The Project is located in Kenmore Square, a dense, urban area with existing access to multiple public transportation options and local amenities. Many of the LEED Sustainable Sites credits are attainable without any extra design features. Nearby shops, restaurants, and event venues are within walking distance of the Project. Access to many modes of public transportation, bicycle racks, and nearby car-sharing options contribute to the building users' ability to maintain a car-free or reduced-car lifestyle.

SS Prerequisite 1: Construction Activity Pollution Prevention

The Project Site will be evaluated and an Erosion and Sedimentation Control plan will be developed for all construction activities associated with the Project. Implementation and compliance will be monitored and documented via inspection reports containing photos and/or narratives.

SS Credit 1: Site Selection

The Project involves the interior renovation and exterior rehabilitation of two connected buildings constructed in the 1920's and used by the University as a resident hall for more than 750 undergraduate students. The building footprint will not be larger than the existing footprint upon completion. As part of the Project, a new open space Plaza will be developed directly east of the Site on land that is currently part of the public right-of-way within the intersection of Beacon Street and Bay State Road. Converting a portion of the underutilized roadway to a public open space area will help to define traffic flow and increase safety for bikers and pedestrians.

SS Credit 2: Development Density and Community Connectivity

The Project fulfills the requirements of LEED SSc2 via the Community Connectivity path. The Project is located on a previously-developed site, is within one-half mile of a residential area with an average density greater than 10 units per acre net, is within one-half mile of greater than 10 basic services, and has pedestrian access to these services. The nearby basic services include: restaurants, schools, convenience groceries, post office, beauty salon, park, pharmacy, supermarket, fitness center, fire station, concert venues, medical office, bank, and a movie theatre.

SS Credit 3: Brownfield Redevelopment

Asbestos has been found in the existing structures and documented by a certified testing agency. The asbestos will be remediated and disposed of properly as part of the Project scope.

SS Credit 4.1: Alternative Transportation – Public Transportation Access

The Project is within one-quarter mile of the MBTA's Kenmore Station, which accommodates Green Line trolley and bus service to a variety of destinations in and outside of Boston. The Project is also within one-half mile of the MBTA Commuter Rail Yawkey Station, which provides service from Boston's South Station to Worcester's Union Station.

SS Credit 4.4: Alternative Transportation – Parking Capacity

The Project does not include any parking. There are three existing Zipcar parking spots along Bay State Road adjacent to the Project.

SS Credit 5.2: Site Development – Maximize Open Space

The Project will seek to achieve this credit by providing vegetated open space equal or greater to 20% of the area of the Project boundary.[1] In order to achieve this credit, the Project will need to provide vegetated open space of at least 8,606 square feet. As the Project will also seek to achieve Sustainable Sites credit 2, Development Density and Community Connectivity, the eligible vegetated open space may consist of up to 75% pedestrian-oriented hardscape and 25% vegetated landscape. The Site includes 2,177 square feet of vegetates landscape and 14,651 square feet of total pedestrian-oriented hardscape, of which 6,531 square feet are eligible for this credit. When totaled, the Project provides 8,708 square feet of open space, which exceeds the 8,606 square feet of required open space to achieve this credit.

SS Credit 6.1: Stormwater Design – Quantity Control

The Project is located within the Groundwater Conservation Overlay District (GCOD) and will comply with the requirements of Article 32 of the Boston Zoning Code. Article 32 requires that proposed projects promote infiltration of rainwater by capturing no less than one inch across the portion of the surface area of the lot to be occupied by the Proposed Project (or, in the case of a Substantial Rehabilitation, the lot area occupied by the structure to be Substantially Rehabilitated).

The Project's stormwater management system has been designed to infiltrate and treat one-inch over the total impervious area of the Project Site. Because the buildings cover over 90% of the Project Site, options for meeting the groundwater recharge requirement on-site are very limited. Numerous alternatives were studied to determine the most practical and effective means of capturing stormwater on the Site and returning it to the ground. After a thorough review of alternatives, the University proposes to install a cistern in the basement of Myles Standish Hall that will pump to injection wells installed beneath the Plaza at the east end of the Site. The Project team has met with relevant City agencies, including representatives from the Boston Water and Sewer Commission ("BWSC"), Boston Department of Public Works ("DPW"), and Boston Transportation Department ("BTD") to review the concept for groundwater recharge.

Porous pavement will be installed in multiple locations as part of the Project to further mitigate groundwater concerns and improve water quality. Along the perimeter of the Site, porous pavers abutting the curb line will be installed everywhere that they do not interfere with ADA compliance. These porous pavers

[1] In accordance with LEED standards, the Project boundary includes the proposed Plaza at the east end of the Project Site. The total area of the Project boundary is 43,028 square feet.

will be complemented by additional pervious material within the open space plaza at the east end of the Site.

The Project team anticipates that the stormwater management system, as designed, will reduce the runoff volume from the Project Site by 25% in the two-year 24-hour storm event, thereby achieving this credit. Further analysis will be completed to determine if the required reduction for the credit is met.

SS Credit 7.1: Heat Island Effect – Non-roof

Greater than half of the exterior hardscape in the Project will consist of materials with a high solar reflectance index. Additionally, some hardscape will also be covered in shade from trees.

SS Credit 7.2: Heat Island Effect – Roof

The Project's roof areas will be covered with a combination of white and tan Thermoplastic Polyolefin ("TPO"). The White TPO has a solar reflectance index ("SRI) in the range of 93 to 113 and will cover the high roof of Myles Standish Hall accounting for 63% of the total roof area of the Project. The Annex and the small low roofs on Myles Standish Hall, which make up the remaining 27% of roof area, will have an SRI in the range of 79-88. The overall reflectance of the roof will exceed the LEED SSc7.2 requirement of SRI 78 minimum for 75% of the Project roof area.

4.2.2 WATER EFFICIENCY

This Project will use low-flow fixtures to reduce the overall water use of the building, thus reducing the loads on the municipal water supply and wastewater systems. In addition, the University has existing strategies and incentives in place throughout the campus to encourage building occupants to further reduce their individual water consumption.

WE Prerequisite 1: Water Use Reduction – 20%

Water use reduction is an important goal for the Project. The Project will specify plumbing fixtures in the building to achieve a minimum 20 percent reduction in water use over an established baseline through low-flow water-closets, low-flow showers and low-flow sinks. These measures will increase the water efficiency for the Project and reduce the burden on municipal water supply and wastewater systems.

WE Credit 1: Water Efficient Landscaping

Drip irrigation and native plantings will reduce the landscape water demand by 50%. During the appropriate seasons, rainwater will be captured and used for landscape irrigation.

WE Credit 3: Water Use Reduction

Water efficient fixtures in the dorm rooms shall be as follows:

Water Closets: Dual flush 1.6/1.1 GPF, manually operated
Lavatories: 0.5 GPM faucet, manually operated
Showers: 1.6 GPM shower head, manually operated
Kitchen sink: 1.8 GPM faucet, manually operated

Water efficient fixtures in the common areas and staff areas shall be as follows:

Water Closets: Dual flush 1.6/1.1 GPF, sensor operated
Lavatories: 0.5 GPM faucet, sensor operated (12 second cycle)
Showers: 1.6 GPM shower head, manually operated
Kitchen sink: 1.8 GPM faucet, manually operated

This combination of fixtures is estimated to yield a water use reduction of greater than 40%.

4.2.3 ENERGY AND ATMOSPHERE

The Project will use energy efficient equipment and fixtures throughout the building and Project Site. In addition, the University has existing strategies and incentives in place throughout the campus to encourage building occupants to reduce their individual energy consumption. The combination of increased efficiency and reduce usage will result in an overall reduction in energy.

EA Prerequisite 1: Fundamental Commissioning of Building Energy Systems

A qualified commissioning agent will review the Project to ensure that the Project's energy related systems are installed, calibrated, and perform properly at peak efficiency.

EA Prerequisite 2: Minimum Energy Performance

The Project proposes to exceed the minimum energy performance standards (10% improvement in building performance over a baseline building performance rating). Installation of added insulation to the exterior walls and energy efficient double-

glazed windows, among integrated energy efficient mechanical systems, will contribute to the Project's overall energy performance.

EA Prerequisite 3: Fundamental Refrigerant Management

Chillers are specified with R-134a refrigerant, which is an HFC.

EA Credit 1: Optimize Energy Performance

A whole building energy simulation has been completed for this Project. The baseline model has been created in accordance with ASHRAE 90.1-2007, Appendix G, as required for an existing building renovation. The preliminary results show that the energy costs of the proposed building will be approximately 26% less than the baseline building. This will achieve compliance with the prerequisite and provide 10 points under EAc1.

Specific technologies and systems are anticipated to achieve the overall building efficiency are as follows:

- *Boilers and domestic hot water heaters*: The Project has specified high efficiency condensing units;
- *Chillers:* High efficiency magnetic bearing units with excellent part load efficiency are specified for the Project;
- *Valance Units:* Hydronic based system for heating and cooling will require no fan motors or filters at the terminal units to reduce operating and maintenance costs and take advantage of energy recovery at the air handlers;
- *Dedicated Outside Air Systems ("DOAS") with Energy Recovery:* 100% outside processing air handlers utilized to heat, cool, and dehumidify the Project fresh air before it is supplied to the space. DOAS also ensures accurate outside air volumes are delivered. Systems capture waste heat and cooling from building exhaust systems by incorporating energy recovery wheels;
- *Demand Control Ventilation:* The first floor Variable Air Volume ("VAV") handlers will adjust outside air intake flow rates by measuring indoor carbon dioxide levels in high occupant density spaces; modulate dryer exhaust and laundry room make-up air rate based on dryer demand;
- *Variable Speed Drives:* Variable Speed Drives will be provided for all major equipment associated with the Project;
- *Premium Efficiency Motors:* Premium efficiency motors are specified for large HVAC pumps and fans;

- *ECM Motors:* Electrically commutated motors ("ECMs") specified for smaller HVAC pumps and fans;
- *LED Lighting:* The Project specifies LED lighting to reduce energy consumption;
- *Low Flow Plumbing Fixtures:* The Project will utilize low flow plumbing fixtures to reduce hot water consumption; and

EA Credit 3: Enhanced Commissioning

The Project will seek to reduce energy use, lower operating costs, increase user productivity, and verify that the systems perform in accordance with the Project requirements by engaging a Commissioning Agent. The Commissioning Agent will review the Design Development drawings and specifications and provide reviews of systems after performance verification is completed.

EA Credit 5: Measurement and Verification

The Project may achieve this credit by sharing building energy and water use data with the U.S. Green Building Council.

EA Credit 6: Green Power

The University is exploring options for achieving this credit. Further exploration will be required to determine whether green power is a viable option at the Site.

4.2.4 MATERIALS AND RESOURCES

Materials selected for the final product of the Project, as well as the materials used and discarded during construction, can have a significant impact throughout their entire life cycles. By selecting sustainably produced materials and materials with recycled content, the Project team will reduce the overall negative impact of resource use for this Project. During the construction phase, efforts will be made to reduce the waste produced for material production, material transportation, and waste disposal.

MR Prerequisite 1: Storage and Collection of Recyclables

Boston University maintains a robust campus-wide sustainability program, part of which includes a progressive recycling effort. The University has taken great strides to improve its collection and reuse of recyclable material and has decreased the University's total waste by 10% since 2006 and increased its waste diversion rate from three percent to 33%.

The Project will include one trash and recycling room on each residential floor. Residents are responsible for emptying their in-room trash and recycling bins in these shared trash and recycling rooms. There are two trash and recycling storage rooms on the first floor. Recycle bins in the common areas and staff offices on the first floor and basement will be emptied by the custodial staff. Boston University accepts paper, corrugated cardboard, glass, plastics, and metals for recycling.

MR Credit 1.1: Building Reuse – Maintain Existing Walls, Floors, and Roofs

In an effort to extend the life cycle of existing building stock, conserve resources, retain cultural resources, and reduce waste related to building material use, at least 55% of the existing building structure and exterior envelope will be maintained and reused.

MR Credit 2: Construction Waste Management

The Project will strive for a documented 75% diversion rate of construction, demolition, and land clearing waste from disposal in landfills. All subcontractors considered for the Project will have a current Construction Waste Management Plan that has been developed to fit the needs of this Project. The plans will include knowledge of local options for diversion and a program for properly executing the Waste Management Plan and documenting the diversion rate of construction waste.

MR Credit 4: Recycled Content

The Project seeks to include 20% or greater total recycled content in the materials used.

MR Credit 5: Regional Materials

The Project seeks to source 10% or more of the building materials from within a 500-mile radius of the Site.

MR Credit 6: Rapidly Renewable Materials

The University will seek to use rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used in the Project, based on cost.

MR Credit 7: Certified Wood

The University will seek to use Forest Stewardship Council Certified wood-based materials for at least 50% of the wood-based materials used in the Project.

4.2.5 INDOOR ENVIRONMENTAL QUALITY

Given that the Project is a residence hall where students sleep, study, and socialize, Indoor Environmental Quality is particularly important to the Project. The Project seeks to improve the Indoor Environmental Quality by providing sufficient ventilation air and reducing the indoor air contaminants that are used in building materials or introduced by building users.

IEQ Prerequisite 1: Minimum Indoor Air Quality Performance

The Project is both mechanically and naturally ventilated. Mechanically ventilated spaces include the basement, lobby, first floor common areas, offices, and corridors on all levels. A dedicated, 100% outside air system provides ventilation in accordance with the flow rates prescribed by ASHRAE 62.1-2007. All student suites are naturally ventilated through operable windows. The window sizes and locations conform to the requirements of ASHRAE 62.1-2007 in that they are within 25 feet of all occupied spaces and the operable area is equal to at least 4% of the floor area. There are no interior habitable spaces without operable openings to the outdoors.

IEQ Prerequisite 2: Environmental Tobacco Smoke (ETS) Control

The University has an existing policy that prohibits smoking in all campus facilities and enclosed workplace areas. This existing policy will apply to the Project. In addition, smoking will be prohibited within 25' of the building's exterior openings and air intakes.

IEQ Credit 1: Outdoor Air Delivery Monitoring

Each air handling system includes an air flow measuring station to monitor the outdoor air delivered via mechanical ventilation.

IEQ Credit 2: Increased Ventilation

The University is exploring the Project's capacity to achieve this credit given the Project's mechanically and naturally ventilated systems.

IEQ Credit 3.1: Construction IAQ Management Plan – During Construction

The Proponent will develop an Indoor Air Quality ("IAQ) Management Plan during the design phase that will be implemented during construction to minimize the impacts of construction activities on air quality.

IEQ Credit 3.2: Construction IAQ Management Plan – Before Occupancy

An IAQ Management Plan will be developed prior to the start of work on the Project. It will be implemented during demolition, construction, and the equipment start-up phases to minimize the impacts of construction activities on air quality. All subcontractors considered for the Project will have a current IAQ Management Plan and Best Practices checklist which will be tailored to the Project needs. Implementation and compliance of IEQc3.1 and IEQc3.2 will be monitored with a report containing photographs and a narrative for submission at the conclusion of the Project.

IEQ Credit 4.1: Low-Emitting Materials – Adhesives and Sealants

The Project will use low-emitting adhesives and sealants to maintain air quality and ensure a healthy environment for construction workers and building occupants.

IEQ Credit 4.2: Low-Emitting Materials – Paints and Coatings

The Project will use low-emitting paints and coatings to maintain air quality and ensure a healthy environment for construction workers and building occupants.

IEQ Credit 4.3: Low-Emitting Materials – Flooring Systems

Flooring products will be selected to reduce the quantity of indoor air contaminants and to ensure there are no odors or irritants that are harmful to the well-being of installers or occupants.

IEQ Credit 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products

Products selected for use in the Project will contain reduced amounts of indoor air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of installers and building occupants.

IEQ Credit 5: Indoor Chemical and Pollutant Source Control

Efforts will be made in the Project to reduce the building occupants' exposure to hazardous particulates and chemical pollutants. A combination of permanent entry grates and seasonal walk-off mats will be employed at the building entry. The laundry room, janitorial closets, and trash/recycling rooms will have dedicated exhaust to reduce contamination of the air in surrounding corridors and rooms. Prior to occupancy, air filters will be replaced in the HVAC systems, and appropriate containers will be provided for the disposal of hazardous liquids used by the custodial team during cleaning.

IEQ Credit 6.1: Controllability of Systems – Lighting

Each individual dorm room or office will have its own lighting controls. Not only do individual controls allow greater user comfort, they also can reduce the overall energy consumption of the building because rooms will not need to be lit if they are unoccupied. Occupancy sensors will be installed in all occupied spaces.

IEQ Credit 6.2: Controllability of Systems – Thermal Comfort

All student suites and staff offices will have individual thermostats to be controlled by the occupant. Not only do individual controls allow greater user comfort, they also can reduce the overall energy consumption of the building because unoccupied rooms will not need to be conditioned to the same level of precision as occupied rooms.

IEQ Credit 7.1: Thermal Comfort – Design

Each unit will benefit from occupant control of thermal systems. The individual HVAC equipment in each unit will have controls for occupants to optimize their comfort. The Project is mechanically conditioned and both mechanically and naturally ventilated. Care was taken to select air distribution devices which will limit drafts and thermal stratification. All dorm units contain operable windows and individual temperature control.

System capacities have been determined using the following conditions:

Summer Outside Temperature: 87°F/71°F Dry Bulb/Wet Bulb
Winter Outside Temperature: 7°F Dry Bulb
Summer Indoor Temperature: 75°F
Winter Indoor Temperature: 72°F

IEQ Credit 8.1: Daylight and Views – Daylight

The University will explore options for achieving this credit once final specifications for windows have been determined. The majority of regularly-occupied spaces in the Project have exterior windows that connect building occupants with the outdoors and reduce the need for electrical lighting during daytime hours.

IEQ Credit 8.2: Daylight and Views – Views

The majority of regularly-occupied spaces in the Project have exterior windows and/or interior glazing that provide daylight and direct access to exterior views.

4.2.6 INNOVATION AND DESIGN PROCESS

In addition to the credits listed above, the Project will incorporate other sustainable design features that will reduce its overall environmental impact. Some of these sustainable design features can be categorized into Innovation and Design credits.

ID Credit 1.1: Innovation and Design: Exemplary Performance SSc4.1

The Project is within close proximity to the MBTA Kenmore Square station and five bus route stops. Kenmore Square provides subway and bus service to a variety of destinations in and around Boston.

ID Credit 1.2: Innovation and Design: Exemplary Performance IEQc8.2

The Project will achieve an additional credit for Exemplary Performance for Indoor Environmental Quality credit 8.2, Daylight and Views – Views. The Project will provide high quality, diverse views from the occupied spaces within the building. Since the building is taller than many surrounding buildings, occupants of upper floors will be awarded unobstructed views from three sides of the building, including views towards the lively Kenmore Square and nearby Charles River. Closer to street level, views will capture active streetscapes, tree-lined streets, and the Plaza built as part of this Project.

ID Credit 1.3: Innovation and Design: Existing Building Operations and Maintenance, Sustainable Purchasing

The Project will seek to maintain a reduces mercury level by selecting light fixtures that use reduced or zero-mercury light bulbs.

ID Credit 1.4: Innovation and Design: Green Housekeeping

The University currently uses environmentally sensitive cleaning products to maintain facilities. This standard for cleaning supplies will be maintained in the Project.

ID Credit 1.5: Innovation and Design: Pilot Credit 60 Integrated Design Team

The design team has implemented an integrative process to support high performance, cost-effective outcomes for the Project by analyzing key systems and interrelationships early in the design process.

ID Credit 2: LEED Accredited Professional

The design team includes LEED Accredited Professionals.

4.2.7 REGIONAL PRIORITY CREDITS

The Project seeks to achieve four credits that are particularly important to the area in which the Project is located, specifically Boston's Kenmore Square neighborhood.

RP Credit 1.1: Regional Priority, SSc3: Brownfield Redevelopment

The Project will achieve additional credit for working within and remediating a Brownfield site. Asbestos has been found in the Project and documented by a certified testing agency. The asbestos will be remediated and disposed of properly as part of the Project scope.

RP Credit 1.2: Regional Priority, SSc7.1: Heat Island Effect – Non-roof

The Project will achieve additional credit for its commitment to reduce heat island effect. Greater than half of the exterior hardscape in the Project will consist of materials with a high solar reflectance index. Additionally, some hardscape will also be covered in shade from trees.

RP Credit 1.3: Regional Priority, SSc7.2: Heat Island Effect - Roof

The Project will achieve additional credit for its commitment to reduce heat island effect. The Project's roof areas will be covered with a combination of white and tan Thermoplastic Polyolefin ("TPO"). The White TPO has a solar reflectance index ("SRI) in the range of 93 to 113 and will cover the high roof of Myles Standish Hall accounting for 63% of the total roof area of the Project. The Annex and the small low roofs on Myles Standish Hall, which make up the remaining 27% of roof area, will have an SRI in the range of 79-88. The overall reflectance of the roof will exceed the LEED SSc7.2 requirement of SRI 78 minimum for 75% of the Project roof area.

RP Credit 1.4: Regional Priority, MRc1.1: Building Reuse Walls/Floors/Roof

The Project will achieve additional credit for reuse of existing building components. In an effort to extend the life cycle of existing building stock, conserve resources, retain cultural resources, and reduce waste related to building material use, at least 55% of the existing building structure and exterior envelope will be maintained and reused. The Project is currently projecting to reuse 78% of the existing building structure and exterior envelope.

LEED 2009 for New Construction and Major Renovation

Project Checklist

BU Myles Standish Hall Renovations

Sustainable Sites — Possible Points: 26

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

Water Efficiency — Possible Points: 10

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

Energy and Atmosphere — Possible Points: 35

Y					
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
10	3	6	Credit 1	Optimize Energy Performance	1 to 19
	7		Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
	1	1	Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

Y					
Y			Prereq 1	Storage and Collection of Recyclables	
1		2	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
	1		Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
	2		Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	N	?			
2			Credit 4	Recycled Content	1 to 2
1		1	Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
		1	Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y					
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
		1	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
		1	Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

1			Credit 1.1	Innovation in Design: Exemplary Performance SSc4.1	1
1			Credit 1.2	Innovation in Design: Exemplary Performance IEQc8.2	1
1			Credit 1.3	Innovation in Design: EBOM 2009 MRc4: Sustainable Purchasing - Reduc	1
1			Credit 1.4	Innovation in Design: Green Housekeeping	1
1			Credit 1.5	Innovation in Design: Pilot Credit 60 Integrated Design Team	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

1			Credit 1.1	Regional Priority: SSc3: - Brownfield Redevelopment	1
1			Credit 1.2	Regional Priority: SSc7.1 - Heat Island Effect - Nonroof	1
1			Credit 1.3	Regional Priority: SSc7.2 - Heat Island Effect - Roof	1
1			Credit 1.4	Regional Priority: MRc1.1 - Building Reuse Walls/Floors/Roof	1

Total — Possible Points: 110

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

Figure 4-1
LEED Checklist
Source: Miller Dyer Spears, Inc., 2015

Chapter 5

TRANSPORTATION

CHAPTER 5: TRANSPORTATION

5.1 INTRODUCTION

The Project will have virtually no impact on the existing transportation network. The Project program is nearly identical to the existing condition and it is therefore expected that the transportation impacts to the local vehicular, transit, pedestrian, and bicycle networks in the vicinity of the Site will be negligible. The Project is also consistent with the transportation goals and strategy outlined in the University's comprehensive 2013 – 2023 Transportation Master Plan (the "TMP").

5.1.1 PROJECT DESCRIPTION

The Project will rehabilitate and restore the existing 203,000 square foot Myles Standish Hall and Annex structures to provide quality student housing to 730 Boston University undergraduates. Through the interior renovation of the structures, a total of 23 student beds will be lost. Off-site improvements in the form of a Plaza at the existing oversized intersection of Beacon Street and Bay State Road will provide a 5,500 square foot open space area for passive recreation and public enjoyment.

5.1.2 METHODOLOGY

The analysis provided herein relies heavily on the comprehensive analysis that was completed for the TMP, which provides extensive data relative to existing and projected future conditions throughout the campus, including at and around the Project Site. The TMP indicated that no appreciable impact to the transportation network is expected as a result of the Project. The TMP also indicated that a positive impact in the form of traffic calming and improved organization of traffic movements at the intersection of Bay State Road and Beacon Street is expected as a result of the proposed Plaza.

5.2 EXISTING CONDITIONS

The Project Site is well served by a variety of transportation modes including MBTA Green Line and bus service, MBTA commuter rail service, existing bicycle lanes and sidewalks, Hubway Bike Share stations, Zipcar car sharing stations, and the BUS, a free University-operated shuttle bus service. Due to the proximity of the Charles River Campus' to a wide variety of transportation options and the University's robust transportation demand management program, single-occupancy vehicle trips to the campus have dropped and are expected to continue to do so in the future. The University's existing modal split as published in the TMP is as follows:

Table 5-1: Existing Campus Modal Split

Transportation Mode	Percent of Commuters
Single Occupancy Vehicles	44.2%
Public Transportation (MBTA)	31.4%
Walk	13.5%
Bicycle	6.0%
Car/Van Pools	2.3%
Other	2.6%
Total	**100%**

Given that the vast majority of trips to and from the Project Site are made by students living and studying on campus, and that no off-street parking is provided at the site, it is anticipated that of the vast majority of trips to and from the Site will be either pedestrian, bicycle, or transit trips.

5.2.1 PEDESTRIAN

There are excellent pedestrian facilities in the vicinity of the Project Site. Along the Beacon Street and Bay State Road sides of Project Site, there are 12-foot wide sidewalks in good condition. Due to the deteriorating conditions of the façade of Myles Standish Hall, "make safe" sidewalk protections were installed in 2014, constricting the available pedestrian circulation area. The seven-foot sidewalk along the Raleigh Street frontage is in good condition.

Crosswalks in the vicinity of the Site provide clear, accessible pedestrian routes across Beacon Street, Raleigh Street, and Bay State Road. There are wheelchair ramps provided at all three corners of the Project Site for universal accessibility across Beacon Street, Bay State Road, and Raleigh Street. See Figure 5-1, Existing Pedestrian Conditions.

Though there is considerable pedestrian traffic in the vicinity of the Site, the existing sidewalks adequately accommodate the pedestrian demand.

5.2.2 BICYCLE

Bicycle accommodations in the vicinity of the Site are well established. There are painted bicycle lanes along Beacon Street and although no bicycle lanes are designated along Bay State Road, the residential nature of the street provides a comfortable environment for riding a bicycle. A Hubway bikeshare station is located nearby in Kenmore Square.

An existing bicycle storage room in Myles Standish Hall accommodates 72 bicycles. Outdoor bicycle parking is available at multiple locations throughout Kenmore

Square, though there are no outdoor bicycle racks presently at the Site. See Figure 5-2, Existing Bicycle Facilities.

5.2.3 PUBLIC TRANSPORTATION

There are several public transportation services available at the nearby MBTA Kenmore Square Station and at the Yawkey Commuter Rail Station. These services include:

- Green Line Trolley Service (B, C, and D branches);
- Bus Service (Routes 8, 57, 60, 65, and 19); and
- Commuter Rail Service (Framingham/Worcester Line).

MBTA Green Line

The MBTA Green Line provides trolley service between Downtown Boston and Cambridge to multiple destinations west of Boston including Boston College, Riverside, and Coolidge Corner. The B Branch is a vital component of the University's transit system, providing frequent trolley service directly through the main corridor of the Charles River Campus along Commonwealth Avenue. The B Branch operates on seven-minute headways in the morning and afternoon peak periods and on eight to nine-minute headways during off-peak periods. The closest inbound/outbound station on the Green Line to the Project Site is the Kenmore Square Station, which is approximately 350 feet from the Project Site.

MBTA Bus Service

The primary MBTA bus route serving the Campus is the Route 57 Bus, which provides service between Watertown Square and Kenmore Square. The buses operate on six-minute headways in the morning and afternoon peak periods and on 11-minute headways during off-peak periods. The closest inbound/outbound bus stop for the Route 57 bus is located at the Kenmore Square Station, approximately 350 feet from the Site.

MBTA Commuter Rail

The Framingham/Worcester Line of the MBTA Commuter Rail service stops at the Yawkey Station, which is located approximately 0.5 miles from the Project Site. In March 2014 the MBTA completed improvements at the station that added a second platform and converted the station from a part-time use to a full-time use.

Boston University Shuttle (BUS)

In addition to services provided by the MBTA, the University operates a shuttle service (the "BUS") that connects the Charles River Campus to the Boston University Medical Campus to facilitate travel and collaboration for students and faculty in

both campuses. The BUS has several stops along the Charles River Campus, including one located directly at the main entrance to the Project on Beacon Street.

The BUS is free for users and operates seven days per week between 7:00 AM and 4:0012:00 AM depending on the season and day of the week. During peak periods (7:00 – 10:00 AM and 4:00 – 8:00 PM) on Monday through Friday, the BUS operates on 10-minute headways. During off-peak times it operates with 20- minute headways.

Starting in the fall of 2011, the University made live BUS tracking available on BU Maps (http://www.bu.edu/thebus/live-view/) so that users have real-time information for bus locations traveling along the route. The real-time tracking is available on personal computers and on iPhones via an application developed by BU Mobile.

The most recent passenger data for the BUS indicates that the BUS provides service to over 5,800 passengers per day, which translates to approximately 1.6 million passenger trips per year when including services provided during the summer semesters. See Figure 5-3, Public Transportation in the Vicinity of the Site.

5.2.4 PARKING

Off Street Parking

There is no parking presently provided at the Site. University-owned parking facilities in the vicinity of the Site include the following:

- 116-space surface lot at 549 Commonwealth Avenue (Kenmore Lot)
- 117-space garage at 575 Commonwealth Avenue;
- 269-space garage at the Rafik B. Hariri Building (595 Commonwealth Avenue);
- 126-space surface lot at 665 Commonwealth Avenue; and
- 464-space parking garage at Warren Towers (700 Commonwealth Avenue);

On-Street Parking

In the vicinity of the Site, there is a mix of on-street metered parking and City of Boston Resident Permit parking along both sides of Bay State Road and Beacon Street. Along Raleigh Street at the western edge of the site, there are additional metered parking spots. All metered parking spots in the vicinity of the Site are two-hour meters regulated Monday through Saturday from 8:00 a.m. to 6:00 p.m.

Following is a summary of on-street metered parking in the immediate vicinity of the Project Site:

- Beacon Street, south side, between Charlesgate West and Commonwealth Ave: 15 spaces
- Beacon Street, north side, between Bay State Road and Raleigh Street 15 spaces
- Raleigh Street, west side, between Beacon Street and Bay State Road: 5 spaces
- Bay State Road, south side, between Beacon Street and Raleigh Street: 14 spaces
- Bay State Road, north side, between Charlesgate West and Raleigh Street: 15 spaces

5.2.5 VEHICULAR TRAFFIC

The existing traffic conditions in the vicinity of the Site are not expected to have changed significantly in the time since the traffic analysis for the Master Plan was completed. Therefore, for the purposes of this study, the existing traffic conditions reported herein are excerpted from the results presented in the TMP.

The Site is located at an important entrance point for vehicles traveling from downtown Boston or from Storrow Drive to the University, the commercial center in Kenmore Square, and Fenway Park. Both Bay State Road and Beacon Street operate as one-way, westbound corridors at the Site. Just west of the Project Site, Kenmore Square is a busy intersection presently operating at Level of Service ("LOS") D during the morning peak hour and at LOS E during the afternoon peak hour.

5.2.6 LOADING AND SERVICE

Delivery and service activities are primarily accommodated through the existing main entrance on Beacon Street. Custodial deliveries will occur through the main entrance or at an existing secondary entry on Bay State Road. The service alley on Bay State Road between Myles Standish Hall and the Annex will be used primarily for trash removal.

5.2.7 STUDENT MOVE-IN/MOVE-OUT

The Boston University Office of Parking and Transportation Services works with the City of Boston Transportation Department to facilitate the annual move-in and move-out of students at the Charles River Campus. The University has developed

and implemented operating procedures to minimize the disruption to the community and traffic conditions while student move-in and move-out is ongoing.

During student move-in/move-out, portions of nearby streets, including Bay State Road, may be closed or used on a limited basis. The Boston University Police provides police details when street closures are required.

5.3 PROJECT IMPACTS

The Project will have negligible impacts to the existing transportation network conditions. The Project will not intensify or introduce new uses at the Site. With a loss of 23 student beds, it is expected that the daily trips to the Site daily will be marginally reduced from the existing condition. As a result, total average daily trips to the Site and Campus are expected to remain virtually constant with the existing condition. The realignment of the curb at the southeast corner of Bay State Road and Raleigh Street will provide additional sidewalk circulation space and an improved public realm along Bay State Road. The introduction of enhanced pedestrian and bicycle amenities and public realm improvements at the Plaza are expected to have positive impacts on the safety and transportation options available to all roadway users. All modifications to the public right-of-way will be maintained by the University.

5.3.1 PEDESTRIAN AND BICYCLE

Impacts on pedestrian and bicycle facilities and circulation are expected to be minimal. The Project provides the requisite amenities to encourage non-motorized travel and does not provide dedicated vehicular parking for the Project. Bicycle lanes and sidewalks provided on Beacon Street and Commonwealth Avenue in the vicinity of the Site provide adequate space for the current demand of pedestrians and bicyclists traveling in the vicinity of the Site. A Hubway bicycle sharing station is located at the intersection of Commonwealth Avenue and Deerfield Street and provides additional transportation options to the Project. On the ground floor of the Project, 73 secure indoor bicycle spaces will be provided for residents of the Project. An additional 48 outdoor bicycle parking spaces will be provided through the streetscape improvements associated with the Project. In total, 49 additional bicycle parking spaces will be provided as a result of the Project. Based on current occupancy trends for existing bicycle facilities throughout the campus, it has been determined that the proposed 121 bicycle parking spaces will be adequate to meet the anticipated demand.

As with all of its recent projects, if the University finds that this level of bicycle capacity is not sufficient once the facility is open and operating, additional bicycle storage may be provided. Due to the substantial amount of bicycle parking in the vicinity of the Site and throughout the campus, it is anticipated that some users of

the Project will utilize nearby bicycle parking facilities, in addition to those provided on the Site.

The streetscape improvements, including the Plaza at the east end of the Site and expanded sidewalk at the southeast corner of Raleigh Street/Bay State Road, will improve the aesthetic quality of the Site and surroundings and create a safer and more pleasant experience for those arriving or departing the Site on foot. Streetscape improvements along the perimeter of the Site will be consistent with the treatments seen elsewhere around the East and Central portions of the Charles River Campus, including the distinctive red brick strip along the curb edge. Street trees, benches, bicycle racks, and new lighting around the perimeter of the Site will improve the conditions for pedestrians and cyclists.

All of the Project's main entrances will be located at ground level and will be universally accessible. The Project's interior renovation will facilitate universally accessible connections throughout the Project on every floor. See Figure 5-1, Pedestrian Facilities and Figure 5-2, Bicycle Facilities.

5.3.2 PUBLIC TRANSPORTATION

Project related impacts to the existing nearby MBTA Green Line, MBTA Bus, and MBTA Commuter Rail are expected to be negligible. The Project's proximity to the MBTA Green Line, MBTA bus lines, and MBTA Commuter Rail will continue to minimize single occupancy vehicle trips to the Site. In addition, the BUS, a free shuttle bus service provided by the University, makes frequent stops in the vicinity of the Site, including a stop at the Project main entrance on Beacon Street. See Figure 5-3, Public Transportation.

5.3.3 PARKING

Off Street Parking

There is no off-street parking associated with the Project presently, nor is any proposed as part of the Project. Metered parking is provided on-street in the vicinity of the Site as managed by the Boston Transportation Department. See Figure 5-4, Vehicle Parking in the Vicinity of the Site.

On Street Parking

The Project will not impact existing on-street metered parking spaces on Beacon Street, Bay State Road and Raleigh Street. After construction of the project, the same number of metered spaces as there is today will be provided.

5.3.4 VEHICULAR TRAFFIC

Vehicular access to the Site will remain unchanged from the existing condition. The Project is not expected to have a noticeable impact on the existing vehicular traffic conditions in the vicinity of the Site. It is expected that intersections in the vicinity of the Site will continue to operate at their current LOS.

The off-site improvements associated with the Plaza will reduce the size of the intersection of Bay State Road and Beacon Street. The addition of the Plaza is expected to have some traffic calming effects on the existing vehicular traffic patterns, help to better organize the traffic flow at the Beacon Street/Bay State Road intersection, and will create a safer and more comfortable environment for more vulnerable road users, including bicyclists and pedestrians.

5.3.5 LOADING AND SERVICE

Delivery and service activities will remain unchanged from the existing condition. The main entrance on Beacon Street will be used for deliveries and recycling pick-up. Custodial deliveries will occur through the main entrance or at a secondary entry on Bay State Road. The service alley on Bay State Road between Myles Standish Hall and the Annex will be used primarily for trash removal.

5.3.6 STUDENT MOVE-IN/MOVE-OUT

With a slight reduction in total student beds, it is expected that student move-in/move-out will continue to operate as is. The Boston University Office of Parking and Transportation Services will continue to coordinate with the City of Boston Transportation Department to ensure that this bi-annual event is properly managed and minimized.

5.4 TRANSPORTATION DEMAND MANAGEMENT/SUSTAINABILITY

The University, through its Parking & Transportation Services Office, has implemented a number of measures to reduce the number of vehicles on campus and increase use of sustainable modes for commuters at the Campus. The University's TDM program includes the following elements: alternative transportation modes, parking management, and enhanced strategies, which are described below.

5.4.1 NON-VEHICULAR TRANSPORTATION MODES

The University offers a wide breadth of transportation options for students, staff, and visitors. Alternative transportation modes available to the University community are described below.

Ride Matching Program

The University provides a ride-matching service for car and van pools. University faculty and staff can conveniently participate in the ride-matching services by completing an on-line Ride-Matching form on the Parking Services website: http://www.bu.edu/parking/alt/rideshare.

MBTA Pass Program

University employees can purchase MBTA monthly passes through payroll deduction on a pre-tax basis.

Student MBTA Semester Pass and Corporate Pass Programs

University students can purchase Semester MBTA Passes through the Parking & Transportation Services Office via the University website. The semester pass is good for four months and affords students an 11 percent discount from regular monthly MBTA pass costs.

Boston University Shuttle (BUS)

The University provides a free shuttle bus service for faculty, staff, and students that connects the Campus with the University Medical Campus. This service allows students from either campus to travel between the campuses for academic or other purposes without having to use private vehicles.

Bicycle Facilities

Over the past 10 years, the University has installed a significant number of bicycle storage racks and bicycle rooms throughout the Campus making bicycle travel to the Campus (and within the Campus) convenient for users. All institutional projects will provide an appropriate amount of bicycle storage as part of the Project's development program.

Bicycle Safety

In an effort to promote bicycle safety and responsibility on-campus, students are encouraged to register their bicycles with the University's Parking & Transportation Services Office. Students can register their bicycles with the Parking & Transportation Services Office on-line at: http://www.bu.edu/bikesafety/bike-registration. The Boston University Police Department (BUPD) co-sponsors bicycle sales/raffles with the George Sherman Union where the BUPD bicycle officers or Community Policing officers discuss bicycle safety. BUPD staff are made available for bicycle safety clinics upon request by any University staff, faculty, or student group. In addition, bicycle safety and security are discussed at Residence Assistant

and Residence Hall Association meetings throughout the year. There is also a student bicycle club, BU Bikes, that focuses on improving the cycling experience for the greater University community. Information regarding current initiatives can be found at http://www.bu.edu/sustainability/what-you-can-do/join-a-club/bu-bikes/.

Car Share

Zipcar (http://www.zipcar.com/) offers short-term use of private vehicles for members who reserve cars. Typically, the vehicles are parked in designated spots in off-street lots that must be accessible 24-hours a day. Currently, there are seven Zipcars within the Campus area and an additional 15 Zipcar vehicles located in Boston or Brookline within a short walking distance of the Campus. Zipcar also offers specific programs designed for universities and students. Information pertaining to these programs can be found at: http://www.zipcar.com/universities/.

Walking

Approximately 76 percent of undergraduates live on Campus, often traveling on foot to classes and activities held on the Campus. The University forecasts that the number of undergraduates living on Campus will stabilize at around 75 percent in the future.

5.4.2 PARKING MANAGEMENT

The University employs several parking management measures, described below, to discourage vehicle trips to the University.

Parking Fees

Fees are charged for all University Parking Permits for faculty, staff, and students; there is no free parking at the Campus. Annual parking permit fees for University employees range from $1,510.50 (Green permits) to $2,146.50 (Brown Permits). Student parking fees range from $943.00 (day time commuter) to $1,350.50 (overnight). The University has increased parking permit fees by 67 percent for Green Permits and by 73 percent for Brown Permits since 2003. Student parking permit fees have increased by approximately 42 percent (daytime commuter) and approximately 49 percent for overnight permits since the TMP was approved in August 2012.

Limit Student Parking

As described in the TMP, the University actively restricts the number of parking permits issued to undergraduate students.

Limiting Construction of New Parking Spaces

Over the course of the last two Master Plans, the University limited the number of new spaces provided at institutional projects or constructed new buildings with no parking.

5.4.3 ENHANCED STRATEGIES

The University is considering a number of additional measures to be implemented during the TMP period to achieve its goal of reducing the number of commuters who arrive in single occupancy vehicles and to manage future parking demands as parking supplies on campus shrink. The strategies under consideration include:

- Maintaining appropriate parking fees to discourage employees and students from traveling to the Campus in single occupancy vehicles;
- Providing a parking permit discount for employees who are in a current car/van pool or who form a new car pool;
- Creating designated spaces for car or van-pools at highly desirable parking locations within the Campus. It is anticipated that this "preferential" parking initiative will have the most influence on driver behavior if implemented in the central Campus area;
- Providing limited preferential parking for drivers of hybrid or electric vehicles;
- Developing a tiered system for daily parking permits where drivers desiring to park in lots or garages located in the central Campus area are charged higher fees than their colleagues who park in west Campus;
- Instituting a policy where employees who live within a certain radius of the University will no longer be eligible to purchase a parking permit Campus (for example 1 mile or less); and
- Starting a "Try the T" program, where employees who currently drive alone to campus and have a Green parking permit are given a MBTA pass for free to test taking public transportation to work for 30 days.

5.5 RELATIONSHIP TO TRANSPORTATION MASTER PLAN

The Project is consistent with all three Transportation Goals identified within the TMP.

Transportation Goal #1: *Improve safety and efficiency for all modes*

The Project will help the University to realize the objectives of Goal #1 by:

- Providing a Plaza to calm traffic in the Vicinity of the Site by narrowing the existing oversized intersection of Beacon Street and Bay State Road;
- Providing a new crosswalk across Bay State Road in the vicinity of the Site; and
- Realigning the southeast intersection of Bay State Road and Raleigh Street to provide an improved sidewalk for pedestrian circulation and safety.

Transportation Goal #2*: Increase use of sustainable modes*

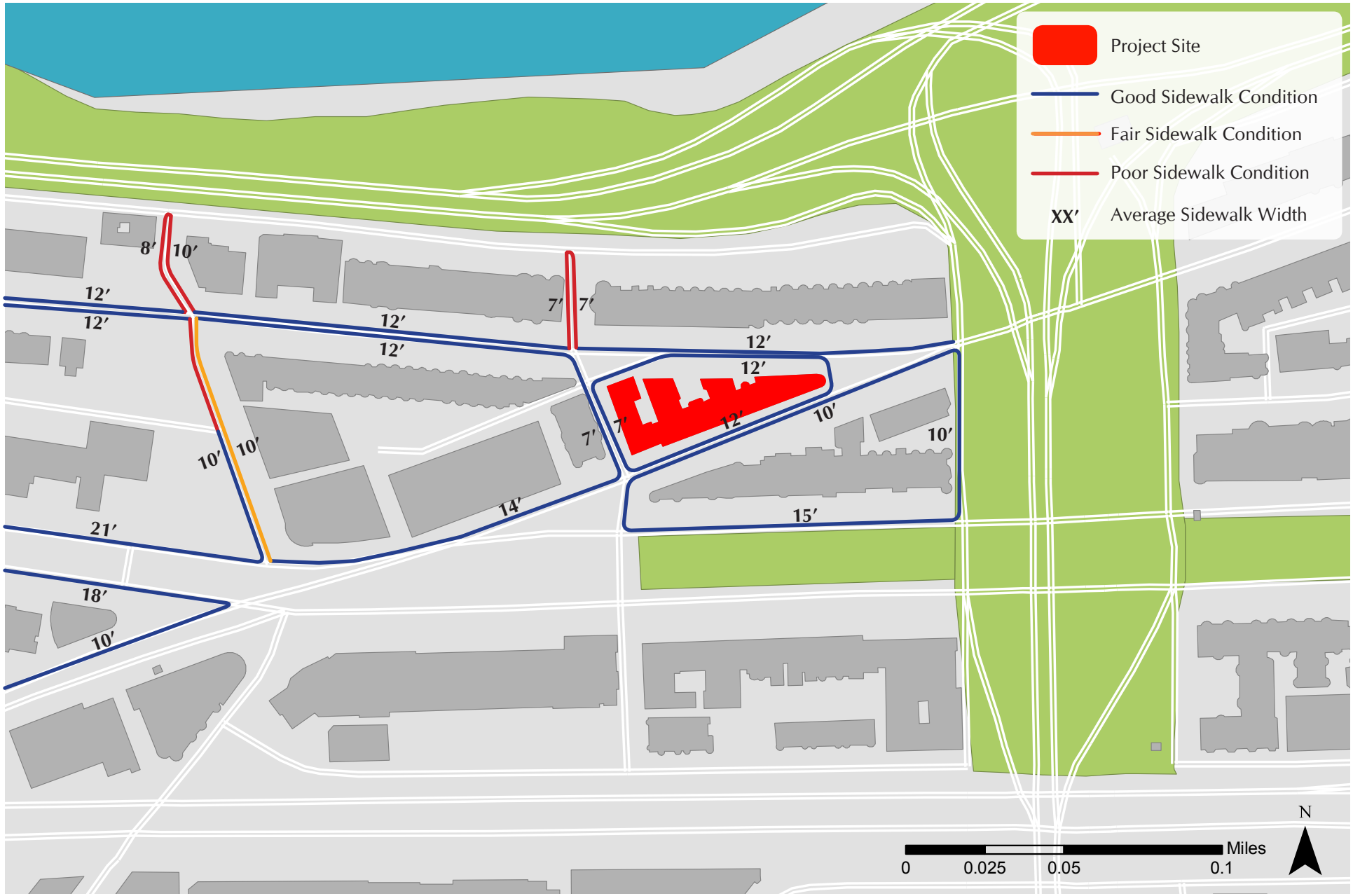
The Project will help the University to realize the objectives of Goal #2 by:

- Promoting bicycle travels by providing secure bicycle storage for 121 bicycles at the Site, including 73 indoor spaces;
- Promoting pedestrian travel through streetscape improvements including new sidewalks, new lighting, benches, signage, pedestrian crosswalks, and the Plaza; and
- Maintaining the restricted parking available to the Project.

Transportation Goal #3: *Minimize impacts on adjacent neighborhoods*

The Project will help the University to realize the objectives of Goal #3 by:

- Providing improved transportation infrastructure for pedestrians for use by the larger Community; and
- Calming traffic through Bay State Road and Beacon Street with the construction of the Plaza

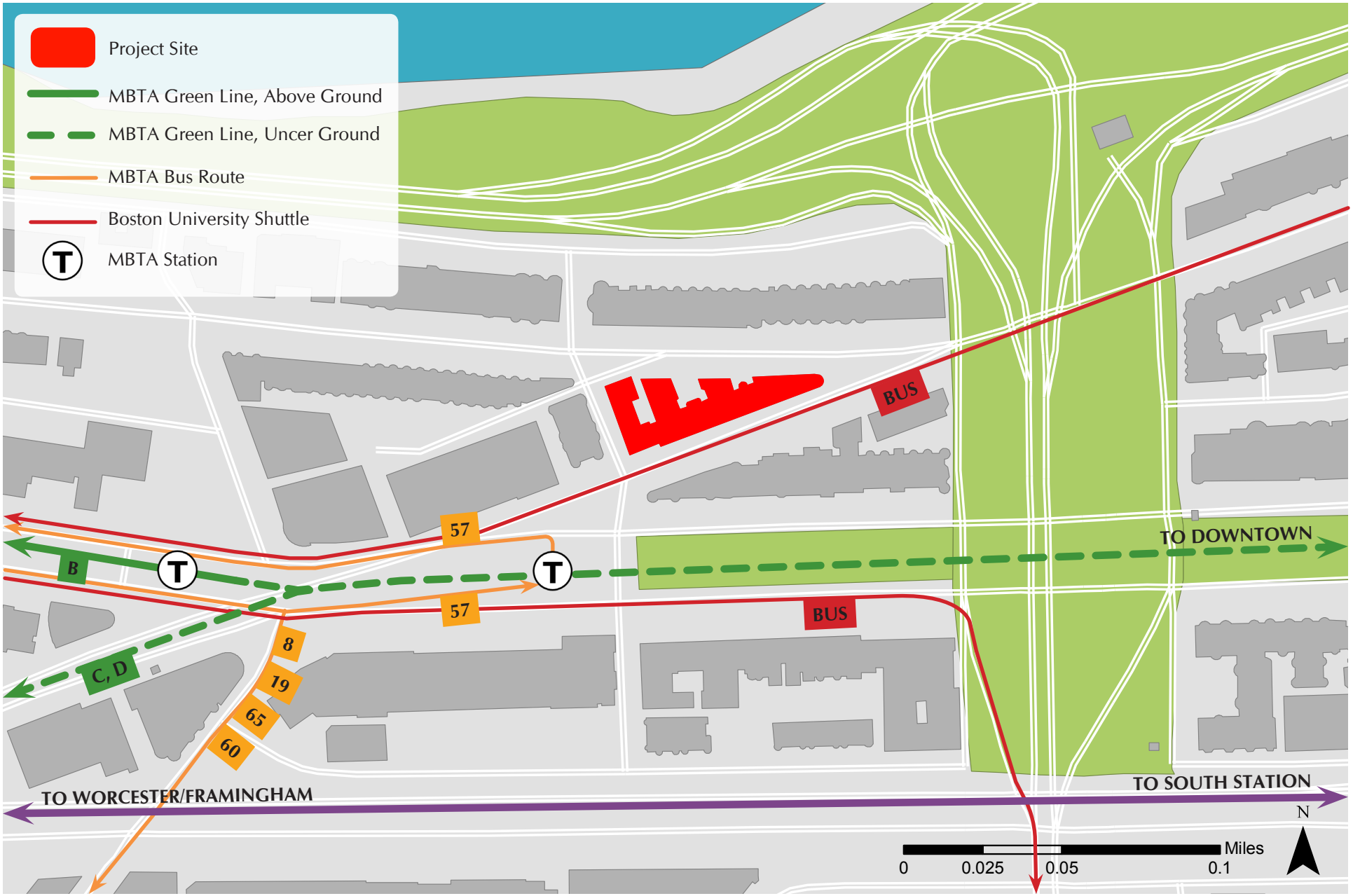


Boston, Massachusetts

Figure 5-1
Pedestrian Facilities
Source: Fort Point Associates, Inc., 2015

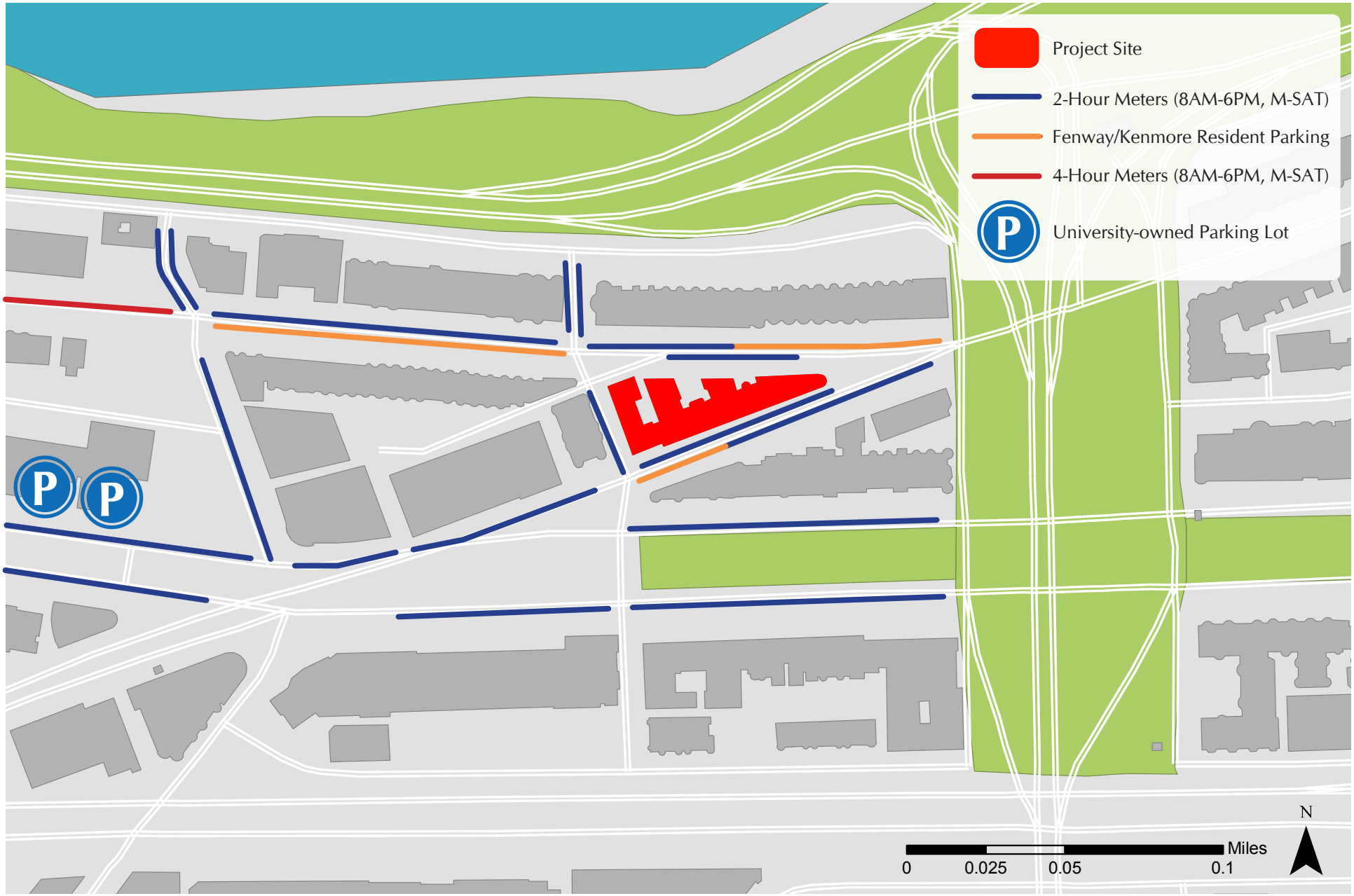
Boston, Massachusetts

Figure 5-2
Bicycle Facilities
Source: Fort Point Associates, Inc., 2015



Boston, Massachusetts

Figure 5-3
Public Transportation
Source: Fort Point Associates, Inc., 2015



Boston, Massachusetts

Figure 5-4
Vehicle Parking in the Vicinity of the Site
Source: Fort Point Associates, Inc., 2015

Chapter 6

Environmental

CHAPTER 6: ENVIRONMENTAL

6.1 INTRODUCTION

The Project will be built in full compliance with local, state, and federal environmental regulations and will substantially improve the environmental conditions of the Site. The Project will not create undue wind, shadow, noise, solar glare, or air quality impacts in the surrounding areas. A construction management plan ("CMP") will be prepared prior to commencement of construction to avoid and mitigate construction impacts.

6.2 WIND

The proposed Project consists primarily of an interior renovation and exterior rehabilitation of the two existing structures at 610 and 632 Beacon Street. The height and massing of Myles Standish Hall and the Annex will remain consistent with the existing building envelope and will result in no alterations to the current impact on wind levels.

6.3 SHADOW

The proposed Project will renovate the existing structures on the Site. The height and massing of Myles and the Annex will remain consistent with the existing building envelope with the exception of new stair and elevator rooftop penthouses and mechanical equipment on raised platforms which sit, at most, 12 feet higher than the existing roofline. A study was conducted in order to recognize any potential shadow impacts resulting from the rooftop changes.

A shadow analysis was conducted for the Project to evaluate the potential shadow impacts in the vicinity of the Site as a result of the new rooftop equipment. Table 6-1, Shadow Study Dates and Times, identifies the dates and times for which the shadow conditions have been simulated. This section describes the shadow areas and their potential impacts on nearby properties. The results of the shadow analysis are graphically illustrated in Figures 6-1 through 6-4, Shadow Studies.

Table 6-1: Shadow Study Dates and Times

Date	Time
Vernal Equinox – March 21st	9:00 AM, 12:00 PM, 3:00 PM
Summer Solstice – June 21st	9:00 AM, 12:00 PM, 3:00 PM
Autumnal Equinox – September 21st, EDT	9:00 AM, 12:00 PM, 3:00 PM
Winter Solstice – December 21st, EDT	9:00 AM, 12:00 PM, 3:00 PM

Vernal Equinox – March 21st

At 9:00 AM, no new shadow will be cast.

At noon, no new shadow will be cast.

At 3:00 PM, no new shadow will be cast.

Summer Solstice – June 21st

At 9:00 AM, no new shadow will be cast.

At noon, no new shadow will be cast.

At 3:00 PM, no new shadow will be cast.

Autumnal Equinox – September 21st, EDT

At 9:00 AM, no new shadow will be cast.

At noon, no new shadow will be cast.

At 3:00 PM, no new shadow will be cast.

Winter Solstice – December 21st, EDT

At 9:00 AM, no new shadow will be cast.

At noon, a small amount of new shadow will be cast in a northerly direction onto the existing residential buildings along Bay State Road.

At 3:00 PM, no new shadow will be cast.

Conclusions

The shadow study for the Project was completed using computer modeling and color rendering to illustrate the new shadow created by the Project. The results of the analysis revealed that the Project will have extremely limited effects on the shadows cast around the Site. The only time during which new shadow will be cast is at noon at the Winter Solstice, and the amount of new shadow is extremely minor. The new shadows will occur as a result of the proposed rooftop mechanicals.

6.4 DAYLIGHT

As the Project will not alter the massing of the current condition, the Project will not obstruct more daylight than the current condition.

6.5 SOLAR GLARE

The Project's exterior materials consist of limestone, brick, and low-E glass. The Project will not include reflective materials that will result in solar glare on the surrounding streets or sidewalks.

6.6 AIR QUALITY

The Project is not expected to adversely impact air quality in the vicinity of the Project Site. As no change to parking or traffic is anticipated as part of the Project, there will be no air quality impacts as a result of parking or traffic sources. Impacts to air quality as a result of building operations may improve as all major mechanical equipment will be updated and modernized with more efficient equipment.

6.7 NOISE

The Proponent does not anticipate an increase in noise impacts associated with the uses at the Site. The Boston Air Pollution Control Commission regulates noise in the City of Boston based on zoning and land use classification. The regulations define fixed noise limits for daytime and nighttime use of equipment serving the building (for institutional areas, a maximum level of 60 decibels ("dBA") for daytime use and 50 dBA for nighttime use is enforced). These levels are sound limits for equipment assessed at the boundaries of the Project. The limits apply to equipment that operates on a significant basis to serve the building, such as air conditioning equipment and fans. In addition to the overall sound level requirements, the regulations specify octave band frequency limits for daytime and nighttime periods.

The majority of the Project's mechanicals will be located on the roof. The rooftop equipment is not expected to produce significant sound levels at the building property line, though noise control measures will be provided if required.

6.8 FLOOD HAZARDS AND AREAS OF CRITICAL ENVIRONMENTAL CONCERN

In the past decade, climate change adaptation has gained national attention as a critical environmental factor that must be addressed in new development projects. In Boston, sea level rise has become a serious concern as recent weather patterns and projection modeling are demonstrating that the impact of storms on the City are likely to continue to intensify.

As part of its administration of the National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) publishes flood hazard maps, called Flood Insurance Rate Maps (FIRM). The purpose of a FIRM is to show the areas in a community that are subject to flooding and the risk associated with these flood hazards. The most

recent FIRM maps for this area were published in 2009 (Community Panel 25025C0076G). According to FEMA, the Site is not contained in a flood zone.

No Areas of Critical Environmental Concern (ACEC) of State Certified Vernal Pools exist on the Site. Likewise, the Site is not included on the list of Estimated Habitats for Rare Wildlife.

6.9 GROUND WATER

The Project's stormwater management system has been designed to infiltrate and treat one-inch over the total impervious area of the Project Site. Because the buildings cover over 90% of the Project Site, options for meeting the groundwater recharge requirement on-site are very limited. Numerous alternatives were studied to determine the most practical and effective means of capturing stormwater on the Site and returning it to the ground. After a thorough review of alternatives, the University proposes to install a cistern in the basement of Myles Standish Hall that will pump to injection wells installed beneath the Plaza at the east end of the Site. Preliminary concept details for the recharge system have been shared with relevant City agencies including BWSC, DPW, and BTD and their recommendations incorporated into the proposed Project.

Data obtained from Groundwater Trust monitoring wells in the surrounding area indicate that groundwater levels range from El. 5.8 to El. 8.5 BCB (approximately 7 to 10 ft below grade). The proposed improvements do not include significant excavations below the groundwater level. Examples of planned construction below the groundwater level are pits inside the existing basement and possibly manholes. The Project is located within the Groundwater Conservation Overlay District (GCOD) and is subject to the requirements of Article 32 of the Boston Zoning Code. The new pit walls in the basement will be waterproofed. The proposed Project will not cause the groundwater to rise, pond, or be lowered in the surrounding area.

To comply with Article 32, groundwater recharge wells will be installed within the Plaza to the east of the Site. To most effectively implement the recharge system, stormwater runoff generated from the roofs of the Proposed Project will be collected and conveyed to holding tanks in the basement. The tanks will be sized to store 1-inch over total impervious area within the Project Site, which includes the building and the paved alley. The Project will not increase the amount of impervious area within the Project Site compared to the existing condition, and therefore will not increase the rate of stormwater runoff from the Site. The groundwater recharge system will also work to reduce the rate and volume of runoff from the Site and help the Project comply with the Boston Water and Sewer Commission ("BWSC") requirement for removal of phosphorus from stormwater flows to the Charles River.

The Plaza will include landscaped areas, porous pavement, and the extension of the public sidewalk. The existing condition at the location of the Plaza 100% impermeable, consisting

of paved roadway and concrete sidewalk. Therefore, the use of porous pavement and vegetation features within the Plaza will promote infiltration and improve effluent water quality compared to the existing conditions. All modifications to the public right-of-way will be maintained indefinitely by the University.

6.10 GEOTECHNICAL

Based on available information in the area and two borings conducted in summer 2015, the general soil conditions are listed below, from the ground surface down.

Table 6-2: Existing Soil Conditions

Soil Unit	Approximate Thickness (feet)
Fill	14 - 15
Organics	5 - 7
Sand	15 - 20
Clay	150+

The top of bedrock is located approximately 200 ft below the ground surface.

Foundation Support

The Project does not require new building foundations. Historic drawings indicate that the existing structures are primarily supported on belled concrete caissons bearing in the sand unit.

Below-Grade Excavation

Below grade excavation is limited in depth in connection with pits (e.g., areaways, elevator), utility installations and landscaping. No new basement space is planned to be constructed as part of the Project.

If temporary dewatering is required during construction, a National Pollutant Discharge Elimination System permit for temporary construction dewatering will be obtained for discharge of dewatering effluent if the Contractor cannot manage recharge in the area surrounding the building.

6.11 SOLID AND HAZARDOUS MATERIALS

In the future, it is planned to obtain site specific information regarding environmental conditions of excavated soils to evaluate for the presence of oil and hazardous materials. Small limited area pit excavations in the existing basement, utility, and landscaping improvements will generate soil requiring off-site transport. Chemical testing of the material will be required by receiving facilities to identify chemical constituents and any

contaminants present. Chemical testing of the material will be conducted in accordance with facility requirements.

Any material leaving the Site will be required to be legally transported in accordance with local, state, and federal requirements. In addition, any regulated soil conditions related to oil and hazardous materials will be managed in accordance with appropriate Massachusetts Department of Environmental Protection ("MassDEP") regulatory requirements.

Asbestos has been found in the existing structures and documented by a certified testing agency. The asbestos will be remediated and disposed of properly as part of the Project scope.

6.12 CONSTRUCTION IMPACTS

The following section describes impacts likely to result from the Project's construction and steps that will be taken to avoid or minimize environmental and transportation-related impacts. The Proponent has employed a construction manager who is responsible for developing a construction phasing and staging plan and for coordinating construction activities with all appropriate regulatory agencies.

6.12.1 CONSTRUCTION ACTIVITY SCHEDULE

The construction period for the proposed Project will take place in three phases and is expected to last approximately 30 months beginning in the spring of 2016. The Project will have an accelerated activity schedule with some shift work in the off-hours in order to mitigate construction impacts. The City of Boston Noise and Work Ordinance allows construction from 7:00 AM to 6:00 PM, Monday through Friday, along with any approved exceptions. In order for the Project to comply with this ordinance and construct outside of the normal 7:00 am to 6:00 pm weekday hours, the Proponent will seek a permit from the Commissioner of the Inspectional Service Department.

Project phasing will allow for construction activities on one part of the Site to coincide with student habitation on another part of the Site. During each phase, the portion of the Site being worked on will be isolated and buffered in order to ensure that students residing in other portions of the structures will experience minimal disruption. The Project phasing will allow for significantly less student displacement throughout the construction term than if the entire Site were under construction simultaneously. Those students who will be displaced will be housed in a University-managed facility within the vicinity of the campus. To minimize the impact on the students who reside on campus, the project will be implemented in three phases. The first two phases focus on Myles Standish Hall, allowing for 82 students to remain in the Annex. In the first year, the westerly portion of the Myles

Standish Hall will be renovated, separated from the easterly portion by a buffer zone that will be available for 323 student residents. In the second year, the westerly portion of Myles Standish Hall will be renovated, separated by a buffer zone, at which point 280 students will move into the newly renovated rooms. The third phase, which will occur over the Project's second summer, will focus on renovations to the Annex. See Figure 6-5, Construction Phasing Plan.

6.12.2 CONSTRUCTION TEMPORARY STUDENT HOUSING

The University's decision to execute a three-phase construction plan for the Project was developed to minimize the impact to the surrounding neighborhood and existing housing stock. University will make arrangements to house students that are temporarily displaced by the construction associated with the Project. The University intends to temporarily lease an existing vacant building within the vicinity of the University's West campus to accommodate students displaced during construction. The execution of a lease for the temporary student housing will require an amendment to the 2013 – 2023 IMP, which is being pursued in concert with this Article 80 process.

6.12.3 PERIMETER PROTECTION/PUBLIC SAFETY

The CMP will describe any necessary sidewalk closures, pedestrian re-routings, and barrier placements and/or fencing deemed necessary to ensure safety around the Site perimeter. Barricades and secure fencing will be used to isolate construction areas from pedestrian traffic. In addition, sidewalk areas and walkways near construction activities will be well marked and lit to ensure pedestrian safety. The Proponent will continue to coordinate with all pertinent regulatory agencies and the Boston University Community Task Force to ensure they are informed of any changes in construction activities.

6.12.4 CONSTRUCTION TRAFFIC IMPACTS

Potential truck routes have been proposed to minimize traffic impacts. Specific truck deliveries and routes will be confirmed with BTD through the CMP.

6.12.5 CONSTRUCTION WORKER PARKING

Measures will be employed during construction to minimize the impact of construction workers on the transportation network. Mitigation measures include:

- No personal vehicles will be allowed to park at the Project Site;

- Jobsite personnel will be encouraged to utilize public transportation. Due to the proximity of the Green Line and Yawkey Station, a substantial level of public transportation use is anticipated by workers;
- Lock-up facilities for work tools will be provided to make public transportation more convenient and desirable for workers; and
- Terms and conditions related to workforce parking and public transportation use will be written into each subcontract.

These measures will be incorporated into the CMP for the Project, which will be reviewed by the Boston Transportation Department prior to commencement of construction activities.

Should some of the workers choose to drive to the Site, there is available parking at off-street, commercial parking lots owned by the University; the two closest commercial lots are located at the corner of Commonwealth Avenue and Granby Street, and the corner of Commonwealth Avenue and Deerfield Street. The lots are pay-on-entry facilities and are not currently fully utilized during the week. Because the construction workforce will arrive prior to a.m. peak traffic period and depart prior to the p.m. peak period, these trips are not expected to have an appreciable impact on the transportation system.

6.12.6 CONSTRUCTION AIR QUALITY

Construction activities may generate fugitive dust, which will result in a localized increase of airborne particle levels. Fugitive dust emission from construction activities will depend on such factors as the properties of the emitting surface (e.g. moisture content), meteorological variables, and construction practices employed.

To reduce emission of fugitive dust and minimize impacts on the local environment the construction contractor will adhere to a number of strictly enforceable mitigation measures. These measures may include:

- Using wetting agents to control and suppress dust from construction debris;
- Ensuring that all trucks traveling to and from the site will be fully covered;
- Removing construction debris regularly;
- Monitoring construction practices closely to ensure any emissions of dust are negligible; and
- Cleaning streets and sidewalks to minimize dust and dirt accumulation.

6.12.7 CONSTRUCTION NOISE IMPACTS

Intermittent increases in noise levels will occur in the short-term during construction. Construction work will comply with the requirements of the City of Boston noise ordinance. To reduce the noise impacts of construction, especially if an accelerated schedule is activated, a number of noise mitigation measures will be included in the CMP. Some of the measures that may be taken to ensure a low level of noise emissions include:

- Initiating a proactive program for compliance with the City of Boston's noise limitations;
- Scheduling construction activities so as to avoid the simultaneous operation of the noisiest construction activities and reduce;
- Turning off all idling equipment; and
- Locating noisy equipment away from abutters; and shielding the noise generator by distance or enclosure.

6.12.8 SEDIMENT CONTROL

During construction, erosion and sediment control measures will be implemented to minimize the transport of Site soils to off-site areas and the BWSC storm drain system. The existing catch basins will be protected with filter fabric or silt sacks to remove sediment from runoff. These controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Other sediment controls, which will be implemented as needed during construction, will include the following:

- Stacked hay bales and/or silt fence barriers to be installed at the base of the stockpiled soils and at erosion-prone areas throughout the construction phase of the Project;
- Erosion controls will be maintained and replaced as necessary to ensure their effectiveness;
- Where necessary, temporary sedimentation basins will be constructed to prevent the transport of sediment off-site; and
- Measures to control dust will be implemented during excavation – all debris will be property contained on the Site.

6.12.9 PEST AND RODENT CONTROL

The City of Boston enforces the requirements established under Massachusetts State Sanitary Code, 105 CMR 410.550. This policy establishes that the elimination of rodents is required for issuance of any building permits. During construction, rodent control service visits will be made by a certified rodent control firm to monitor the situation.

6.13 HISTORIC RESOURCES

An area of potential effect ("APE") of one-quarter mile has been analyzed for the purposes of identifying historic resources and assessing potential project-related impacts. A review of the Massachusetts Historical Commission ("MHC") Inventory revealed 127 extant inventoried historic properties and portions of five MHC inventoried districts within the APE (including two National Register Districts).

The Project includes the interior renovation and exterior restoration of existing buildings, which will improve the current institutional use as an undergraduate dormitory. The Project has been carefully designed to address the needs of the University while also restoring and rehabilitating elements of the structures in a similar fashion to their original state. No adverse impacts to the historic structures in the surrounding area will result from the proposed Project.

6.13.1 HISTORIC RESOURCES ON THE PROJECT SITE

The Site contains the Myles Standish Hotel Building and connected three-story structure known as the Annex, both of which were constructed in the 1920s. The Project will have a positive impact on the buildings as it will include a restoration and rehabilitation of the existing original exteriors.

This Site is not within a National Register Historic District, but does fall within the Bay State Road/Back Bay West Architectural Conservation District (the "Architectural District"), a locally designated area. This district represents an area of land laid out and developed largely in the last decade of the 19th century. The Architectural District reflects the architectural revival styles prevalent at that time; Classical Revival, Renaissance Revival, Georgian Revival, Federal Revival, and Tudor Revival. Restoring the exterior of the Myles Standish Hotel will have a positive impact on the historic fabric in this area.

6.13.2 HISTORIC RESOURCES IN THE VICINITY OF THE PROJECT SITE

Within the Massachusetts Cultural Resources Inventory System ("MACRIS"), five historic districts and 144 individually inventoried historic resources within approximately one-quarter mile of the APE are described in Table 6-2 and shown on

Figure 6-6, Historic Resources. Of the 144 individually inventories resources, 127 fall within one of the five districts described below. Seventeen of the resources have been inventoried but are outside of any of the designated districts.

Table 6-3: Historic Resources

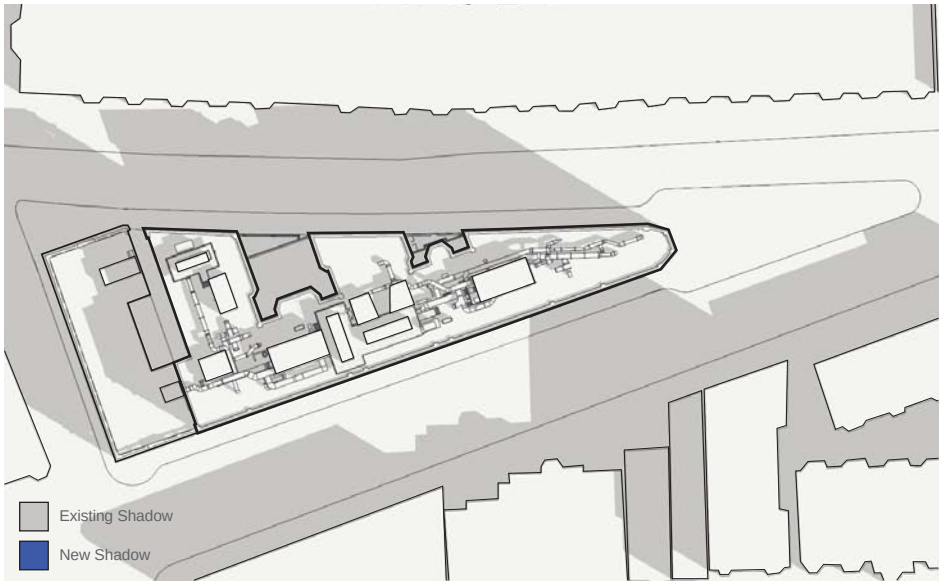
Name/ Location	Description of Resource	Impact of Project on Resource
Districts		
Back Bay West Architectural District	Local Historic District - Predominantly residential district dating to the late 19th century- Classical Revival, Renaissance Revival, Georgian Revival, Federal Revival, and Tudor Revival	Positive Impact
Charles River Esplanade	Local Landmark, National Register District- 20 mile linear park along the Charles River	No Impact
Back Bay Historic District	Local Historic District- Predominantly residential and commercial district dating to the mid to late 19th century	No Impact
Commonwealth Avenue Mall	National Register and Local Historic Landmark- 32 acre French boulevard style mall designed in 1856	No Impact
Olmstead Park System- Emerald Necklace	National Register and Local Historic District -Linear park system extending from the Back Bay to Franklin Park designed by Frederick Law Olmstead between 1878-1895	No Impact

Inventoried Properties- Bay State Road/Back Bay West Architectural Conservation District	
M. I. T. Student House	No Impact
Sheraton Hotel - Shelton Hotel	No Impact
Standish, Myles Hotel*	Exterior Restoration
Hotel Kenmore	No Impact
Joslin, Dr. Eliot P. House - Joslin Clinic	No Impact
Dodge House	No Impact
Hubbard, Dr. Joshua Clapp House	No Impact
Councilman, Dr. House and Office	No Impact
Beebe, Lucius House	No Impact
77 Bay State Rd	No Impact
Willcomb, George House	No Impact
121-125 Bay State Rd	No Impact
Little, Arthur House	No Impact
97 Bay State Rd	No Impact
99 Bay State Rd	No Impact

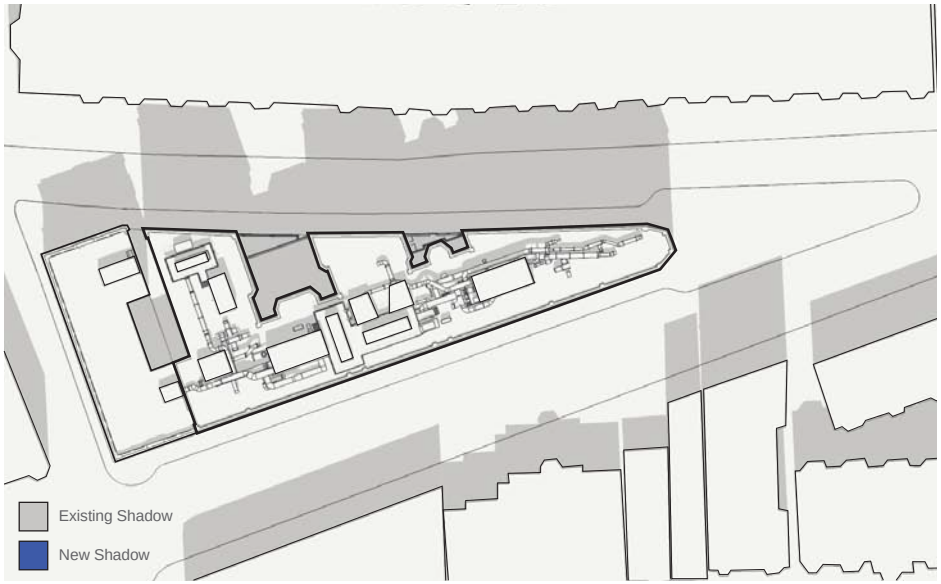
Baker, S. R. House (583-591 Beacon)	No Impact
Thompson, J. H. House (461-471 Commonwealth)	No Impact
475 Commonwealth Ave	No Impact
Allen, W. B. House	No Impact
Thorndike, Charles House (481-483 Commonwealth)	No Impact
Harvey, George House	No Impact
Coolidge, A. House	No Impact
Coolidge, T. J. House	No Impact
Frothingham, T. House	No Impact
Carpenter, Alice House	No Impact
Rollins, Charles House	No Impact
464 Commonwealth Ave	No Impact
Bennett, J. House	No Impact
Packard, Horace House	No Impact
Shapleigh, S. House (472-474 Commonwealth)	No Impact
King, S. C. House	No Impact
Wallace, E. S. House	No Impact
Stanwood, E. C. House	No Impact
Wright, L. A. House	No Impact
Merrill, L. D. House	No Impact
Mount Vernon Church	No Impact
Baker, Seth House	No Impact
Hotel Cambridge	No Impact
Bradford, G. House	No Impact
Bowditch, V. Y. House	No Impact
Nelson, Thomas House	No Impact
Maryland, The	No Impact
Ayer, Mary House	No Impact
524 Beacon St	No Impact
Wadsworth, O. House	No Impact
Williams, Harold House	No Impact
Trazier, Charles H. House	No Impact
Kittridge, Mary House	No Impact
536 Beacon St	No Impact
Baker, Seth House	No Impact
497 Beacon St	No Impact
499 Beacon St	No Impact
Parker, F. V. House	No Impact
Burgess, Ed. House	No Impact
Lewis, D. House	No Impact
Dalton, H. R. House	No Impact
Allen, S. S. House	No Impact
Chadwick and Stillings House	No Impact
Chadwick and Stillings - Sherburne, Charles House	No Impact
Joslin, Allen L. Row House	No Impact

Dennison, Lydia Row House	No Impact
Savage, Catherine Row House	No Impact
Chadwick and Stillings House	No Impact
Molloy, Edward B. - Holmes, Edgar House	No Impact
Hotel Charlesgate	No Impact
409 Marlborough St	No Impact
411 Marlborough St	No Impact
421 Marlborough St	No Impact
423 Marlborough St	No Impact
Wheatland, George House	No Impact
Chadwick and Stillings House	No Impact
Parker, F. J. House	No Impact
Wheatland, George House	No Impact
Barnes, G. M. House	No Impact
Barnes, G. M. House - Hotel Charlesgate	No Impact
Vinal, W. D. House	No Impact
Wheatland, George House	No Impact
Morse, A. H. House	No Impact
Wheatland, George House	No Impact
371 Commonwealth Ave	No Impact
373 Commonwealth Ave	No Impact
Jernegan, H. M. House	No Impact
Knowlton, A. House	No Impact
Knowlton, A. House	No Impact
Dexter, Wirt House	No Impact
Ayer, Frederick Mansion	No Impact
Moorland Apartments	No Impact
Brown, A. T. House	No Impact
Carr, Samuel House	No Impact
duBois, Loren House	No Impact
Amory, William House	No Impact
Minot, William House	No Impact
Bradley, R. S. House	No Impact
Amory, F. D. House	No Impact
Olney, Richard House	No Impact
Minot, William Jr. House	No Impact
Harvard Club	No Impact
Park Entrance Land Company	No Impact
Colonial, The	No Impact
384 Commonwealth Ave	No Impact
386 Commonwealth Ave	No Impact
388 Commonwealth Ave	No Impact
Puritan, The	No Impact
Hotel Somerset	No Impact
7 Massachusetts Ave	No Impact

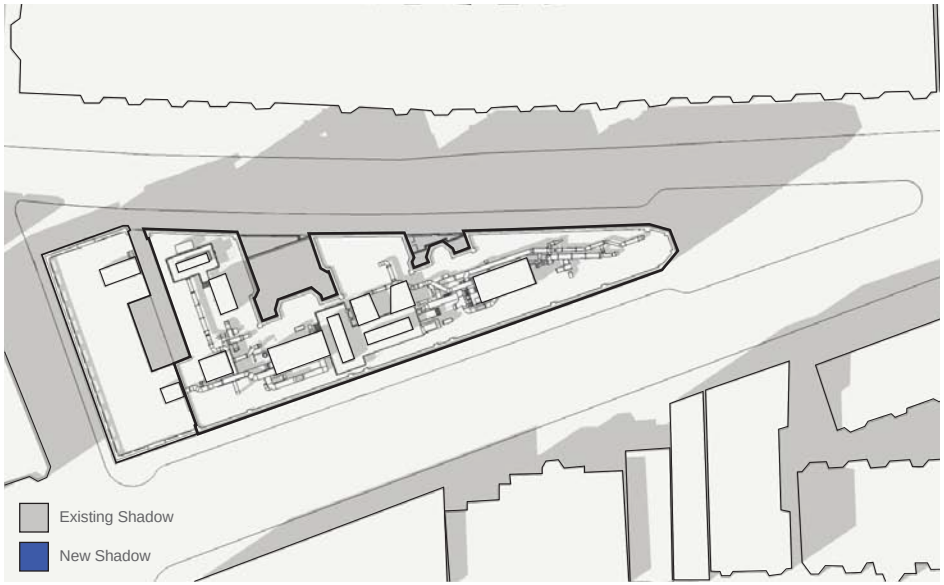
Adams, Brooks House	No Impact
Ericsson, Leif Statue	No Impact
Inventoried Properties- Olmstead Park	
Ipswich Street Bridge over Muddy River	No Impact
Boylston Street Bridge	No Impact
O'Reily, John Boyle Memorial	No Impact
Other Historic Properties	
Peerless Motor Car Company Building	No Impact
CITGO Sign	No Impact
Overland Store Company	No Impact
New England School of Photography	No Impact
Westgate Apartments	No Impact
General Tire and Rubber Co. Building	No Impact
Edison Electric Illuminating Transformer Station	No Impact
Shell Eastern Petroleum Products Office Building	No Impact
Hotel Buckminster	No Impact
Commonwealth Improvement Company Building	No Impact
The Charlesview	No Impact
Standard Rim and Wheel Company Building	No Impact
R. H. Booth Sales Company Building	No Impact
O'Brien, William Warehouse Building	No Impact
Fenway Park (National Register Property, State Register Property)	No Impact
Fenmore Apartments	No Impact
Fenway Studios Building (National Register Property)	No Impact



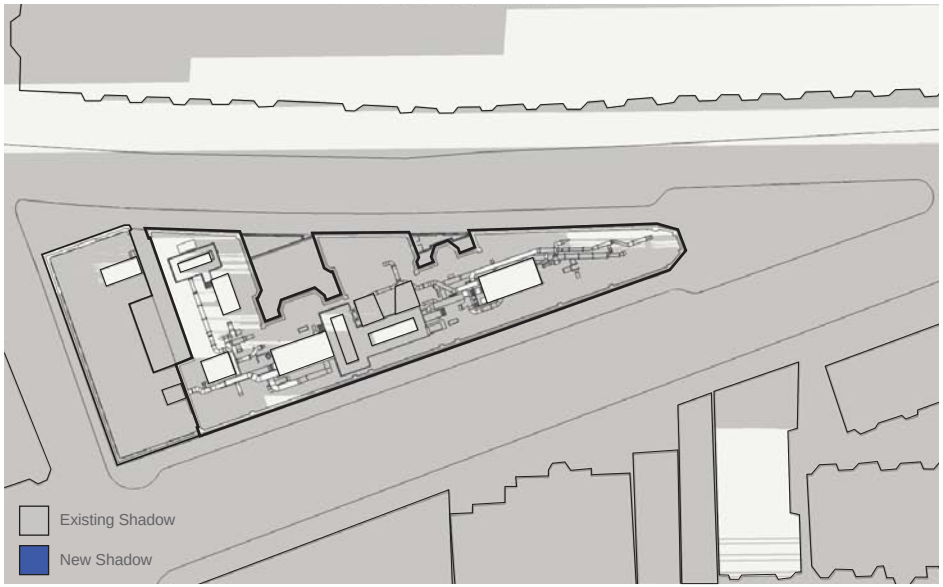
9:00 a.m.



12:00 p.m.

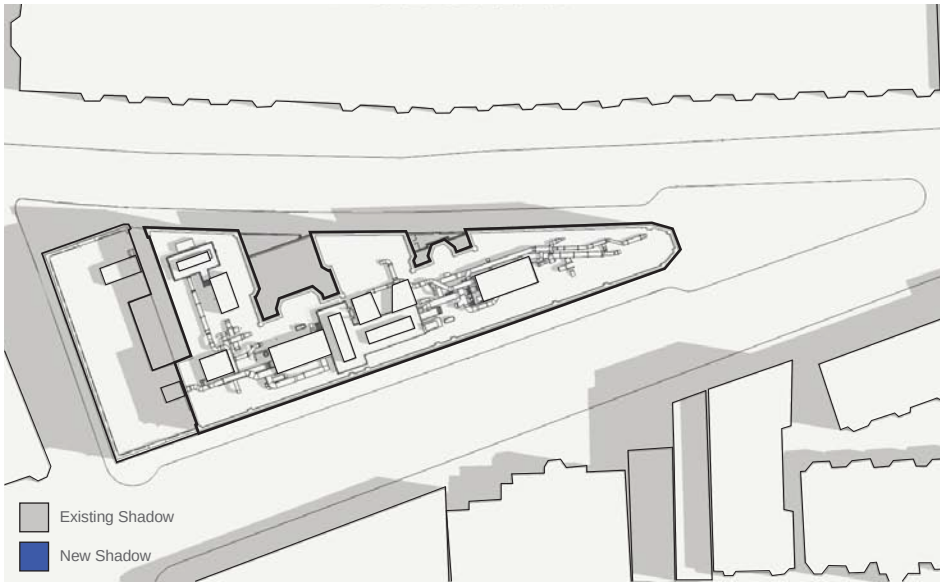


3:00 p.m.

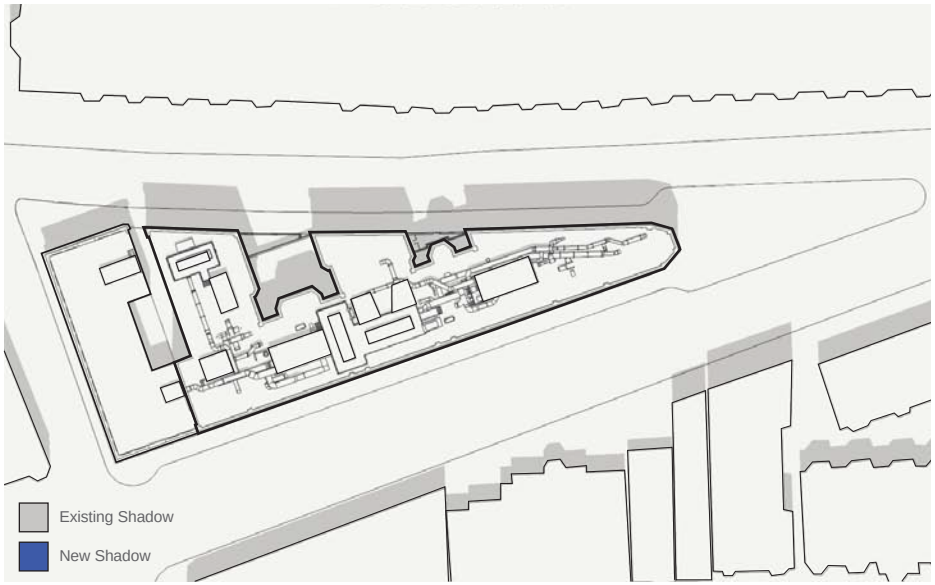


6:00 p.m.

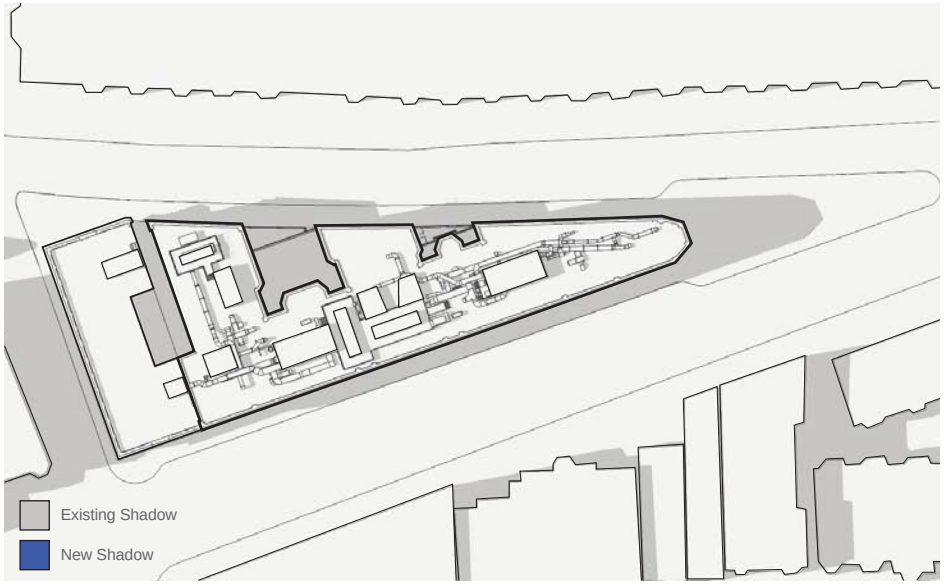
Figure 6-1
Shadow Study - Vernal Equinox
Source: Miller Dyer Spears, Inc., 2015



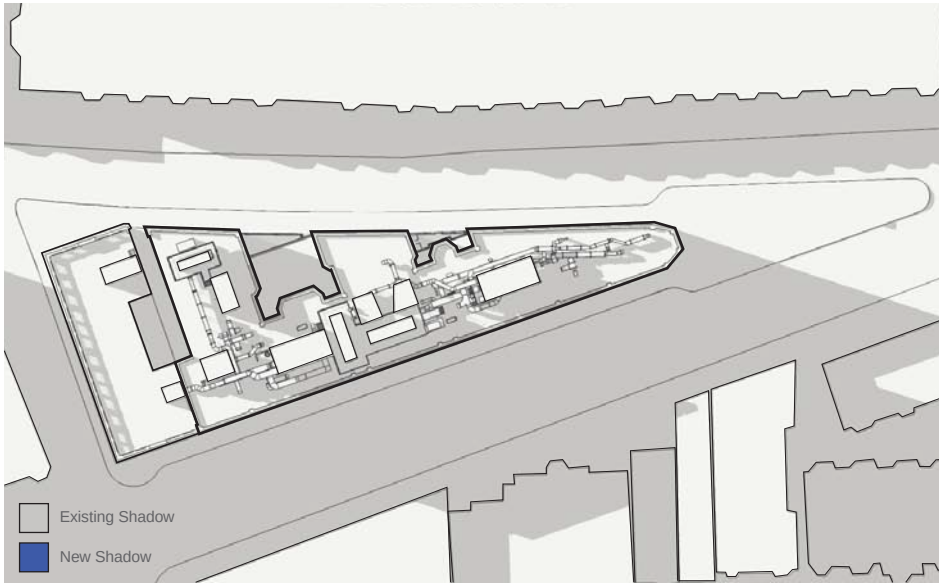
9:00 a.m.



12:00 p.m.

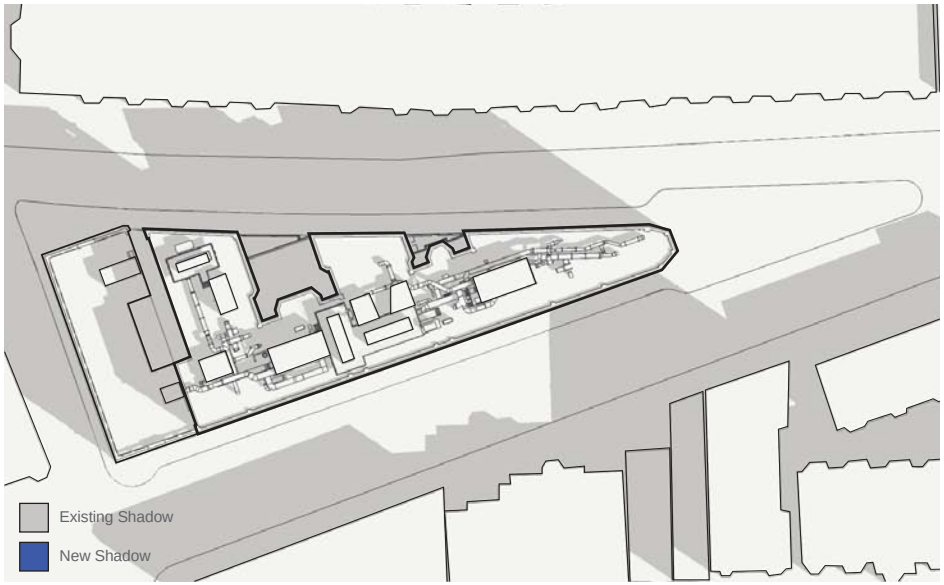


3:00 p.m.

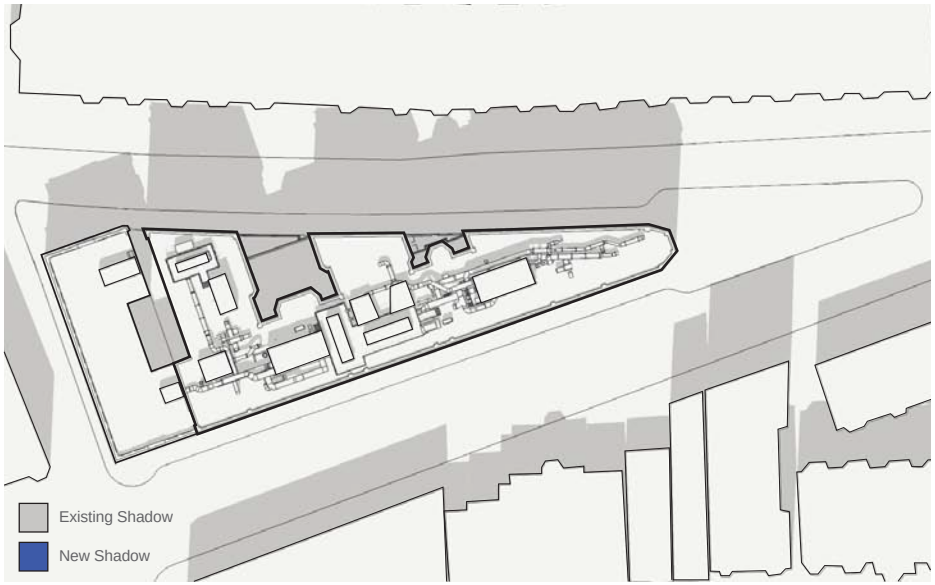


6:00 p.m.

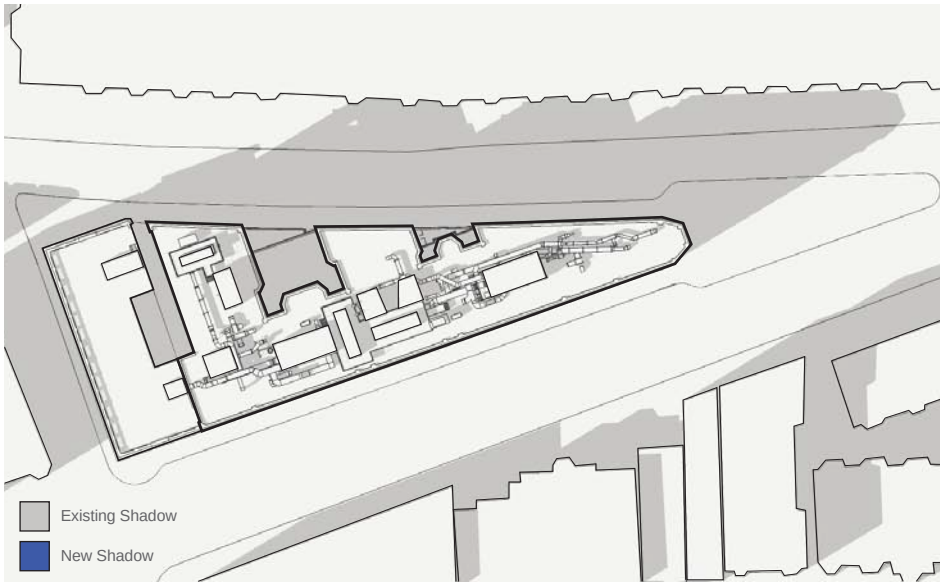
Figure 6-2
Shadow Study - Summer Solstice
Source: Miller Dyer Spears, Inc., 2015



9:00 a.m.

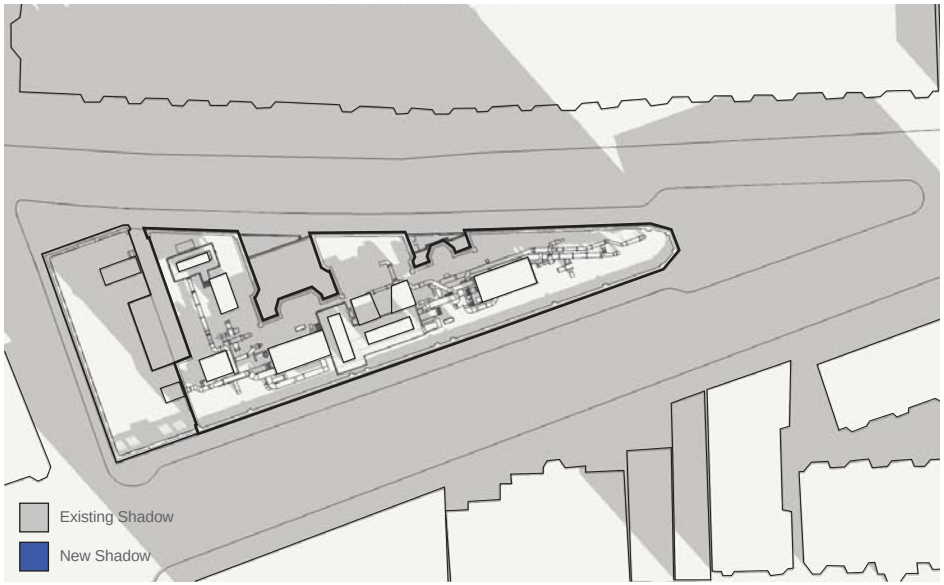


12:00 p.m.

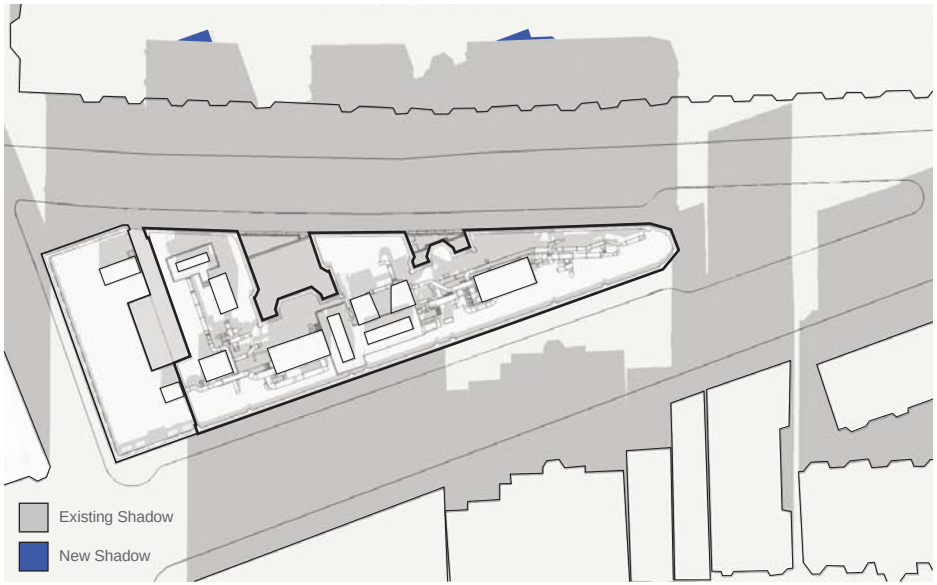


3:00 p.m.

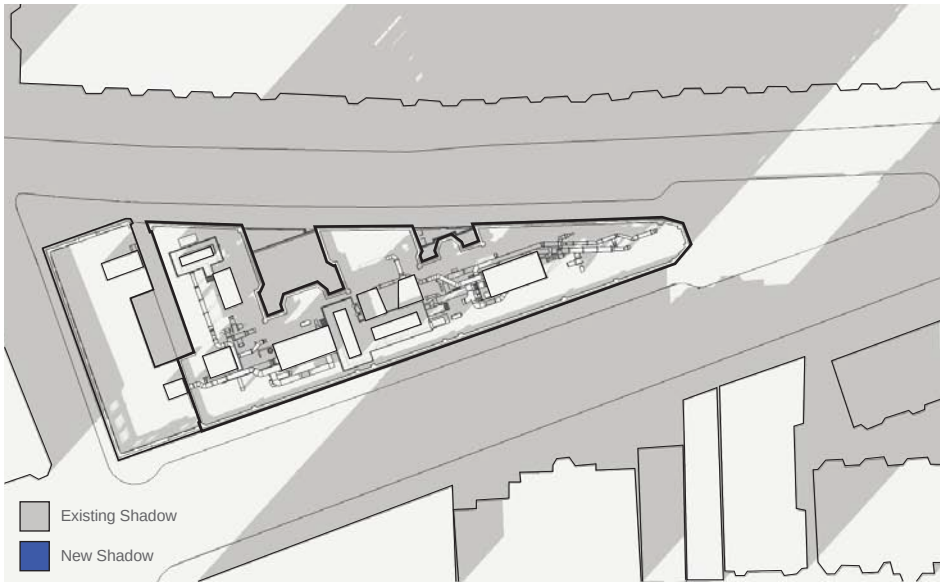
Figure 6-3
Shadow Study - Autumnal Equinox
Source: Miller Dyer Spears, Inc., 2015



9:00 a.m.



12:00 p.m.



3:00 p.m.

Figure 6-4
Shadow Study - Winter Solstice
Source: Miller Dyer Spears, Inc., 2015

Figure 6-5
Construction Phasing Plan
Source: Miller Dyer Spears, Inc., 2015

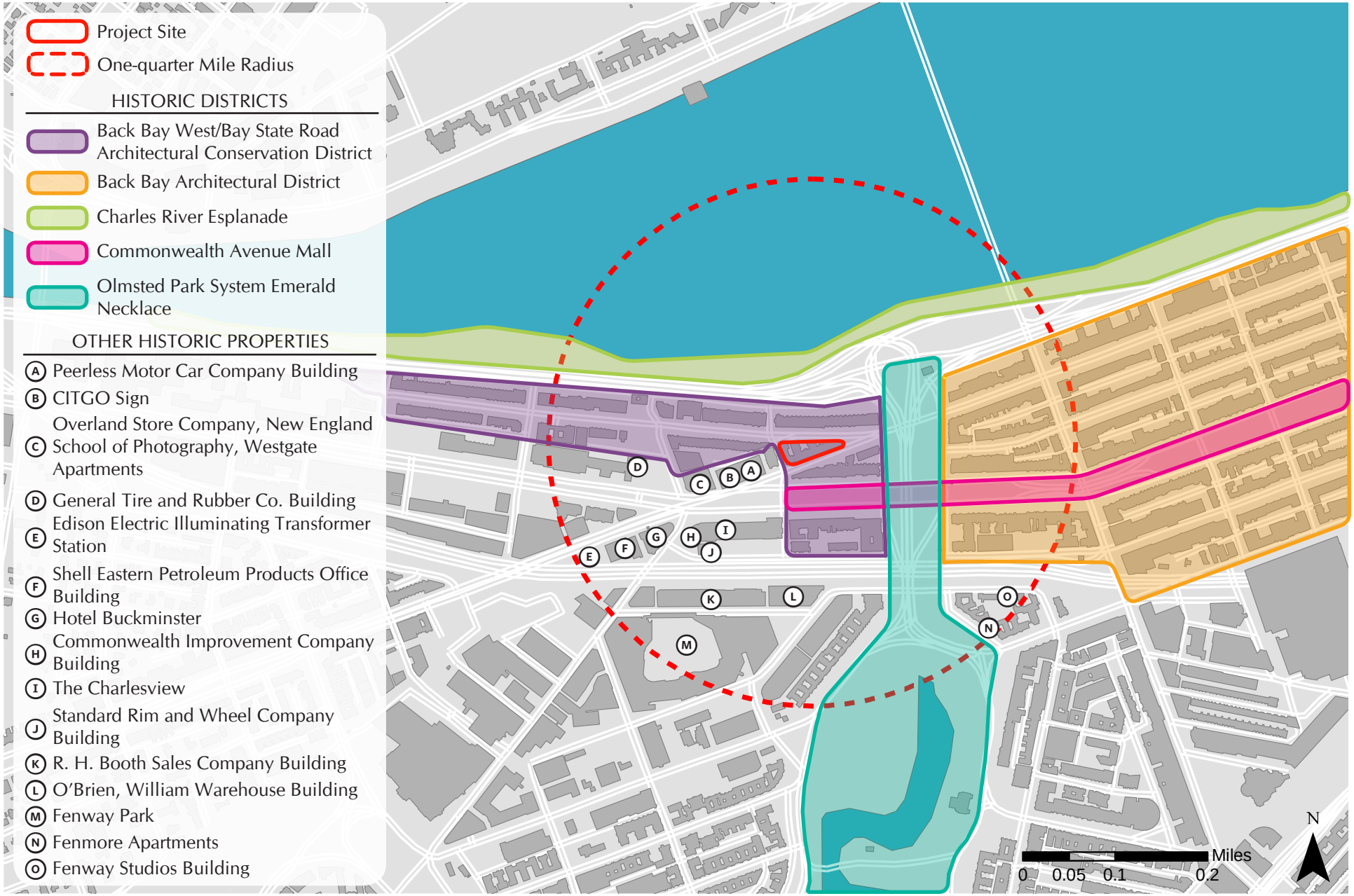


Figure 6-6
Historic Resources
Source: Fort Point Associates, Inc., 2014

Chapter 7

INFRASTRUCTURE

CHAPTER 7: INFRASTRUCTURE

7.1 INTRODUCTION

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

- District heating and cooling
- Sewer
- Domestic water
- Fire protection
- Drainage
- Electricity
- Telecommunications

The Project is located on two University-owned parcels of land comprised of approximately 27,050 square feet and is bounded by Beacon Street to the south, Raleigh Street to the east, and Bay State Road to the north. The existing footprint of the Myles Standish Hall and the Annex structures will not be expanded as a result of the Project. The existing use of the Site as a student residence hall will be unaltered as a result of the Project. Directly east of the Project Site, the Proponent intends to construct a 5,500 square foot open space within the confluence of Bay State Road and Beacon Street.

7.2 HEATING AND COOLING SYSTEMS

7.2.1 CENTRAL HEATING PLANT

The Project's central heating plant will be located in the boiler room in the basement of Myles Standish Hall. The central boiler plant shall serve both Myles Standish Hall and the Annex. Three 3,000-MBH gas-fired, high efficiency condensing hot water boilers are provided. Distribution pumps are located in the basement.

7.2.2 CENTRAL COOLING PLANT

The central cooling plant consists of two high efficiency air-cooled chillers utilizing variable speed magnetic bearing centrifugal compressors (TurboCor). The units shall each deliver 175-tons of cooling. Efficiency shall meet or exceed 1.05 KW/ton full load and 0.61 KW/ton IPLV. Distribution pumps are located in the basement.

7.3 WASTE WATER

The Project will not have significant impacts to the existing wastewater infrastructure existing at the Site. Wastewater generation is expected to be slightly less than the existing condition due to the loss of 23 student beds. As the University regularly updates fixtures within its facilities, including those at the Site, the installation of new low-flow fixtures as part of the Project is not expected to have a significant impact to the existing wastewater system.

7.3.1 EXISTING SEWER SYSTEM

Existing sewage is generated by domestic fixtures, central laundry, and floor drains. The basement level fixtures and drains are pumped to the municipal sanitary sewer while the fixtures' drains on the levels above the basement are drained by gravity. Existing Boston Water and Sewer Commission ("BWSC") sewer mains are located in Beacon Street, Raleigh Street, and Bay State Road. There is a 30-inch by 36-inch BWSC sewer main in Beacon Street which flows west. There is a 15-inch BWSC sewer main in Raleigh Street which flows south. There is a 12-inch sewer main in Bay State Road with a manhole approximately halfway between the Project extents in Bay State Road. The sewer main west of the manhole in Bay State Road flows west and discharges to the 15-inch sewer main in Raleigh Street, and the sewer main east of the manhole flows east and connects to the 15-inch sewer main in Beacon Street. The sewer main in Beacon Street, Raleigh Street, and Bay State Road eventually discharge to a 24-inch by 36-inch sewer main flowing west in Beacon Street. The sewer main eventually connects to the 66-inch Massachusetts Water Resource Authority ("MWRA") Charles River Valley Sewer in Saint Mary's Street. The Charles River Valley Sewer ultimately flows to the MWRA Deer Island Waste Water Treatment plant for treatment and disposal (See Figure 7-1, BWSC Sewer and Stormwater System Map).

7.3.2 WASTEWATER GENERATION

The Project's sewage generation rates were estimated using the MassDEP State Environmental Code 310 CMR 15.00 and the proposed building program. The regulations at 310 CMR 15.00 lists typical sewage generation values for the proposed building use, as shown in Table 7-1. Typical generation values are conservative values for estimating the sewage flows from new construction. The regulations at 310 CMR 15.00 specify that sewage generation values are used to evaluate new sewage flows or an increase in flows to existing connections. The existing site consists of a dormitory building, which will be renovated. Table 7-1 describes the change in sewage generation in gallons per day (gpd) due to the Project.

Table 7-1: Proposed Wastewater Generation

	Room Use	Size	310 CMR Value (gpd/unit)	Total Flow (gpd)
Existing	Dormitory Building	753 People	65 Per Person	48,945
	Total			**48,945**
Proposed	Dormitory Building	730 People	65 Per Person	47,450
	Total			**47,450**
	Net New Flow			**(1,495)**

The total sanitary flow for the Project is estimated to be 47,450 gpd, which correlates to a net reduction of 1,495 gpd from the existing dormitory building.

7.3.1 SEWER CAPACITY AND IMPACTS

The Project's impact on the existing BWSC systems in Beacon Street, Raleigh Street, and Bay State Road was analyzed. The existing sewer system hydraulic capacity calculations are presented in Table 7-2.

Table 7-2: Sewer Hydraulic Capacity Analysis

Manhole (BWSC Number)	Dist. (feet)	Invert El. (up)	Invert El. (down)	Slope (%)	Dia-meter (inches)	Manning's Number	Flow Cap. (cfs)	Flow Cap. (MGD)
Beacon Street								
DMH 73 to DMH 78	54	5.7	5.59	0.1%	12	0.013	1.28	0.83
DMH 78 to DMH 79	120	7.6	7.1	0.4%	15	0.013	4.13	2.67
DMH 79 to DMH 270	270	6.6	5.9	0.3%	30x36	0.013	22.72	14.68
DMH 270 to DMH 269	135	5.9	5.58	0.2%	30x36	0.013	22.04	14.24
Minimum Flow Analyzed:							1.28	0.83
Bay State Road								
DMH 72 to DMH 73	280	7.21	5.66	0.6%	12	0.013	1.15	0.74
DMH 72 to DMH 65	250	7.21	6.11	0.4%	12	0.013	1.02	0.66
Minimum Flow Analyzed:							1.02	0.66
Raleigh Street								
DMH 65 to REA042A-1	210	6.1	5.44	0.3%	15	0.013	3.65	2.36
Minimum Flow Analyzed:							3.65	2.36

Notes:
1. Manhole numbers and inverts were taken from BWSC Sewer system Map no. 22H, 22I, 23H and 23I
2. Flow Calculations based on Manning Equation
3. Elevations refer to Boston City Base (BCB).

Results shown in Table 7-2 indicate the hydraulic capacity of the sanitary sewer in Beacon Street, 12-inch sanitary sewer system in Bay State Road, and the 15-inch sewer in Raleigh Street. The minimum hydraulic capacity is 0.83 million gallons per day (MGD) or 1.28 cubic feet per second (cfs) for the 12-inch sewer line in Beacon Street, 0.66 MGD or 1.02 cfs for the 12-inch system in Bay State Road, and 2.36 MGD or 3.65 cfs for the 15- system in Raleigh Street.

Based on an the decrease in average daily flow estimate for the Proposed Project of 1,495 GPD or 0.001 MGD; and with a factor of safety of 10 (total estimate = 0.001 MGD x 10 = 0.01MGD), no capacity problems are expected for the systems in Beacon Street, Raleigh Street, or Bay State Road.

7.3.2 PROPOSED SEWER SYSTEM

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. The Project is expected to decrease wastewater flows by approximately 1,495 gallons per day (GPD). The existing sewer service for the Project will be demolished and the new sewer services for the Project will connect to the existing BWSC sanitary sewer mains located in Beacon Street and/or Bay State Road.

The Project is a renovation and will reduce overall sanitary sewer flows to the BWSC sewer system. Improvements and connections to the BWSC infrastructure will be reviewed as part of the BWSC's site plan review process for the Project at the appropriate time in the design process. 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.

7.4 DOMESTIC WATER SYSTEM

The Project will not have significant impacts to the existing domestic water system infrastructure existing at the Site. Water consumption is expected to be slightly less than the existing condition due to the loss of 23 student beds. As the University regularly updates fixtures within its facilities, including those at the Site, the installation of new low-flow fixtures as part of the Project is not expected to have a significant impact to the existing domestic water system.

7.4.1 EXISTING WATER SYSTEM

Water for the Project Site is 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 Beacon Street, Raleigh Street, and Bay State Road. There is a twelve-inch southern low main

in the northern side of Beacon Street and a 40-inch southern low main in the southern side of Raleigh Street. There is an eight-inch southern low main in Bay State Road (See Figure 7-2, BWSC Water System Map).

Each water service has a shutoff valve and a water meter for utility billing. An additional abandoned water service will be removed as part of the Project. The buildings are fed from the flow and pressure available from the municipal water system. BWSC record flow test data containing actual flow and pressure for hydrants within the vicinity of the Site was requested by the Proponent. Hydrant flow data was available for one hydrant near the Site. The existing hydrant flow data is available in Table 7-3. As the design progresses, the Proponent will request hydrant flow tests be conducted by BWSC adjacent to the Site, as hydrant flow data should be less than a year old to be used as a design tool.

Table 7-3: Existing Hydrant Flow Data

Date Of Test	Flow Hydrant Number	Static Hydrant	Pressure Zone	El. (ft.)	Static (psi)	Residual (psi)	Flow (gpm)
05/24/13	H4 - 532 Beacon St	H4	SL	17.4	70	66	2004
04/12/13	H34 - 74 Bay State Rd	H34	SL	16.6	72	66	2004

Note: Data provided by BWSC, on October 22, 2015.

7.4.2 ANTICIPATED WATER CONSUMPTION

The Project's water demand estimate for domestic services is based on the Project's estimated sewage generation, described in the section above. 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 office portions of the Project. The water demand for the Proposed Project is estimated to be 52,195 gpd. In total, the Project's estimated domestic water demand is estimated to decrease by 1,645 gpd. The water for the Project will be supplied by the BWSC systems Beacon Street, Bay State Road, and/or Raleigh Street.

7.4.3 PROPOSED WATER SERVICE

The domestic and fire protection water services for the Project will connect to the existing BWSC water mains in Beacon Street, Bay State Road, and/or Raleigh Street. A new cement lined ductile iron water service will enter the basement level of Myles Standish Hall with a domestic water meter for utility billing. This water service and meter will serve the Annex and Myles as the two will be combined into

a single building on a single lot. A triplex domestic water booster pump (50/50/50) will boost the water service pressure for the upper floors (floors 5 through 9).

7.4.4 WATER SUPPLY CONSERVATION AND MITIGATION MEASURES

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

New water services will be installed in accordance with the latest local, state, and federal codes and standards. The Project will comply with the Commonwealth's Stretch Energy Code and as such, will reduce energy use from the baseline energy conservation by approximately 30%. Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units ("MTUs") as part of the BWSC's Automatic Meter Reading ("AMR") system.

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. See Chapter 4, Sustainability, for additional information.

7.5 FIRE PROTECTION

7.5.1 EXISTING FIRE PROTECTION SYSTEM

There are three fire protection water services, two serving Myles Standish Hall and one serving the Annex. These fire protection services are isolated from the municipal water system via double check valve assemblies. The system in the Annex is fed from City pressure with a pumper connection for the fire department to pump into the building. The system in Myles Standish Hall has a horizontal, split case, electric driven fire pump that supplies the standpipe and sprinkler system. As part of the Project, the existing systems will be removed in their entirety.

7.5.2 PROPOSED FIRE PROTECTION SYSTEM

Two new (redundant) fire protection water services will enter the building in Myles Standish Hall where a new horizontal, split case, electric driven fire pump will supply water to the standpipe and sprinkler system. The fire pump and the water service will serve both the Annex and Myles Standish Hall as they will be combined into a single building on a single lot. There will be pumper connections located

along the exterior of the building at grade; one along Beacon Street and the other located along Raleigh Street near Bay State Road.

7.6 STORM DRAINAGE

7.6.1 EXISTING STORM DRAINAGE SYSTEM

There are existing BWSC and private storm drain mains in Beacon Street, Bay State Road, and/or Raleigh Street. There is a 10-inch BWSC storm drain main which increases to a 12-inch drain main in the northern side of Beacon street which flows west. There is a 12-inch drain main in the southern side of Beacon Street which flows east. There is a 12-inch BWSC storm drain in Bay State Road which flows west. There is a 24-inch drain main in Raleigh Street with flows north. The storm drain mains in Beacon Street and Bay State Road discharge into the 24-inch drain main flowing north in Raleigh Street, which ultimately discharges to the Charles River.

The existing Site is 100% impervious. The Site consists of the existing building and a paved alley located at 610 and 632 Beacon Street. There are existing roof drains which connect to the BWSC storm drain mains. Roof drains are piped vertically through the building and offset at the ceiling of the basement level prior to exiting to the municipal storm sewer by gravity. There are several foundation drainage pumps that pump water from the ground below the basement slab of Myles Standish Hall.

7.6.2 PROPOSED STORM DRAINAGE SYSTEM

The Proposed Project is located within the City of Boston's Groundwater Conservation Overlay District ("GCOD"). Projects located within the GCOD are required to comply with Article 32 of the Boston Zoning Code. Article 32 Section 32-4 states:

> *Any Applicant seeking a building permit for a Proposed Project within a Groundwater Conservation Overlay District shall be subject to the requirements of this article where such Applicant seeks (a) the erection or extension of any structure, where such new structure or extension will occupy more than fifty (50) square feet of lot area; (b) the erection or extension of any structure designed or used for human occupancy or access, mechanical equipment, or laundry or storage facilities, including garage space, if such construction involves the excavation below grade to a depth equal to or below seven (7) feet above Boston City Base (other than where such excavation is necessary for, and to the extent limited to, compliance with the requirements of this article); (c) to Substantially Rehabilitate any structure; or (d) any paving or other surfacing of lot area.*

To comply with Article 32, the proposed stormwater management systems for both of the proposed building will include groundwater recharge systems. Stormwater runoff generated from the roofs of the Proposed Project will be collected and conveyed to holding tanks in the basement. The tanks will be sized to store 1-inch over total impervious area within the Project Site, which includes the building and the paved alley. Due to the existing space constraints at the Site, Stormwater will be pumped to groundwater recharge wells in the proposed Plaza located within the public right-of-way. Stormwater overflow from the tanks in the larger storms and from the recharge wells will overflow to the BWSC storm system drains. See Figure 7-3 for details of the stormwater management system. The Proposed Project will not alter the amount of impervious area within the Project Site compared to the existing condition, and therefore will not increase the rate of stormwater runoff from the Site. The groundwater recharge system will also work to reduce the rate and volume of runoff from the Site and help the Project comply with the BWSC requirement for removal of phosphorus flows to the Charles River.

The Project will also include off-site improvements in the public right-of-way, including the 5,500 square foot Plaza directly east of the Site. The Plaza will include landscaped areas, porous pavement, and the extension of the public sidewalk. The existing condition at the location of the Plaza 100% impermeable, consisting of paved roadway and concrete sidewalk. Therefore, the use of porous pavement and vegetation features within the Plaza will promote infiltration and improve effluent water quality compared to the existing conditions. All modifications to the public right-of-way will be maintained indefinitely by the University.

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

7.6.3 MITIGATION MEASURES

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.

All necessary dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Project will be in compliance with local and state stormwater management policies..

7.7 ELECTRICAL SERVICES

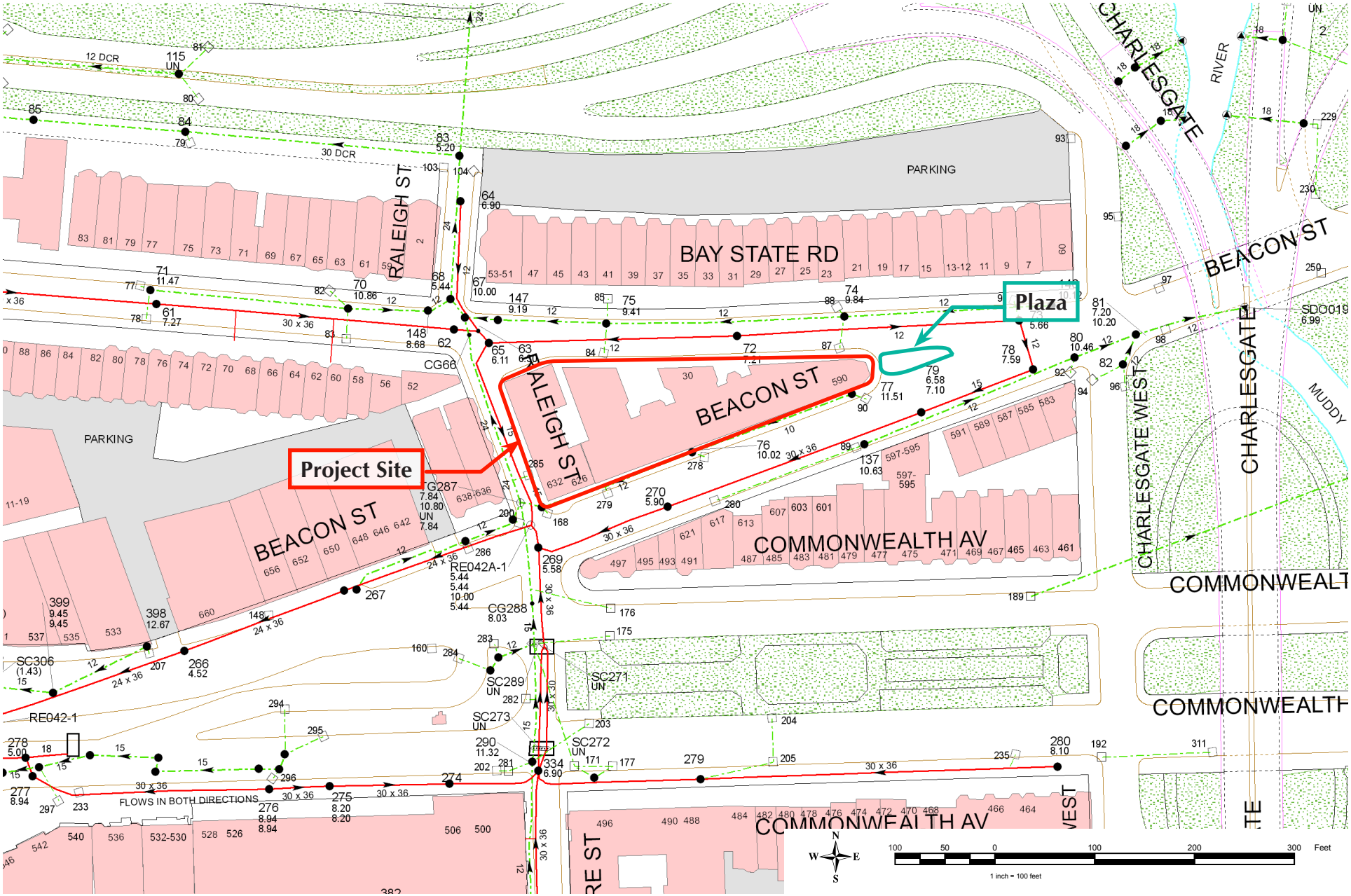
The new electrical service to the buildings shall be provided via a utility exterior pad-mounted primary switch and transformer. The primary switch and transformer are located in a private alley off of Bay State Road. The utility transformer serves the fire pump service disconnect and the main service building switchboard.

7.8 TELECOMMUNICATIONS SYSTEM

The telecommunications system in the building feeds into the Annex via Beacon Street. The outside plant fiber lines feed into an existing main distribution frame ("MDF") room located in the basement of the Annex structure. The existing MDF in the Annex serves as the distribution point. From the Annex MDF, a new 100-pair copper line, a new 96-pair fiber line, and a new RG-11 coaxial line will be routed to a new MDF in the basement of Myles Standish Hall.

7.9 UTILITY PROTECTION DURING CONSTRUCTION

During construction, the City's infrastructure will be protected using sheeting and shoring, temporary relocations, and construction staging as required. Shawmut will be required to coordinate all protection measures, temporary supports, and temporary shutdowns of all utilities with the appropriate utility owners and/or agencies. Shawmut will also be required to provide adequate notification to the utility owner/operator prior to any work commencing on their utility. In the event a utility cannot be maintained in service during a switch-over to a temporary or permanent system, the contractor will be required to coordinate the shutdown with the utility owners/operators and Project abutters to minimize impacts and inconveniences accordingly.

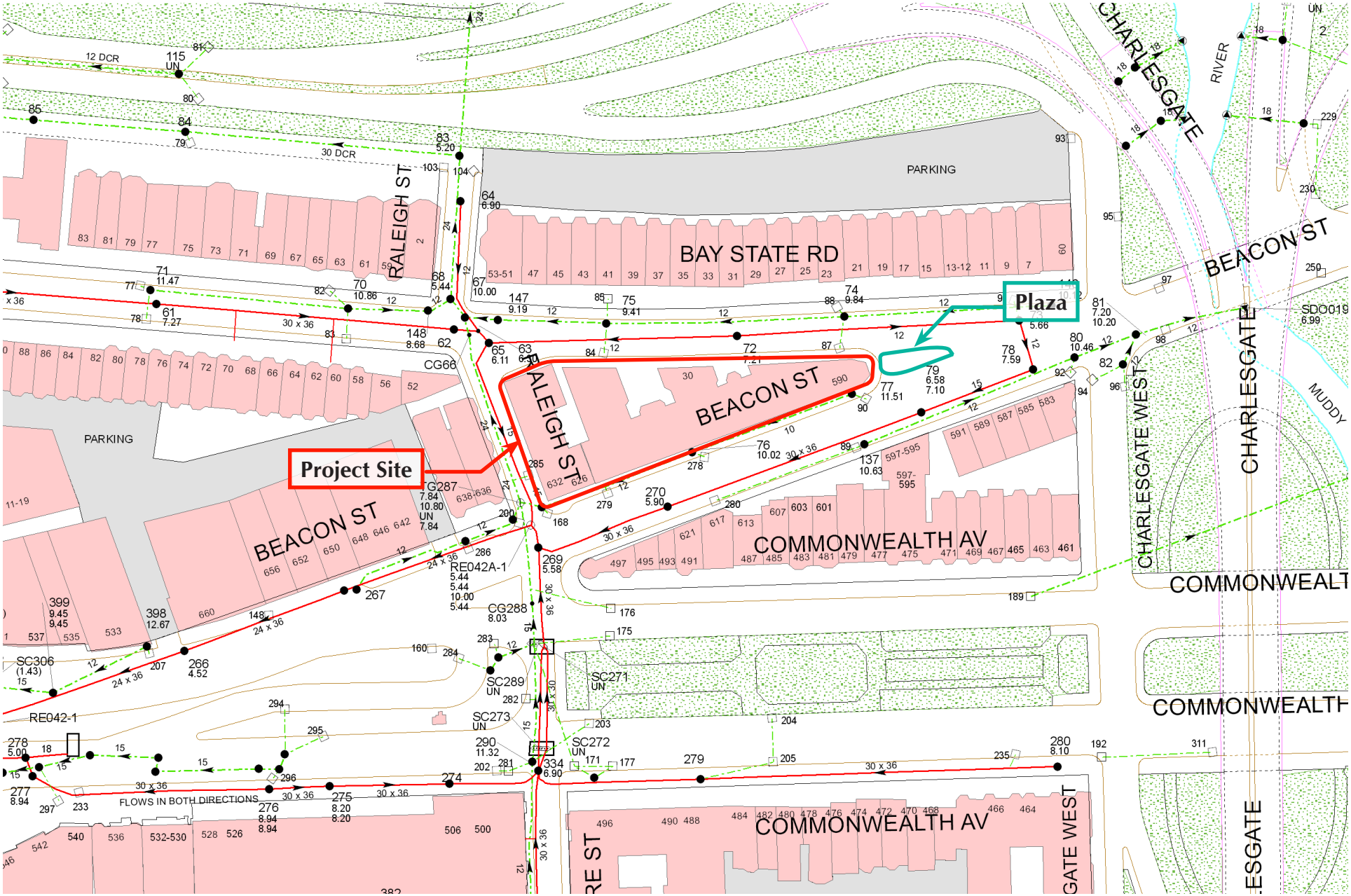


Boston, Massachusetts

Figure 7-1

BWSC Sewer and Stormwater SystemMap

Source: Nitsch Engineering, 2015



Boston, Massachusetts

Figure 7-2
BWSC Water System Map
Source: Nitsch Engineering, 2015

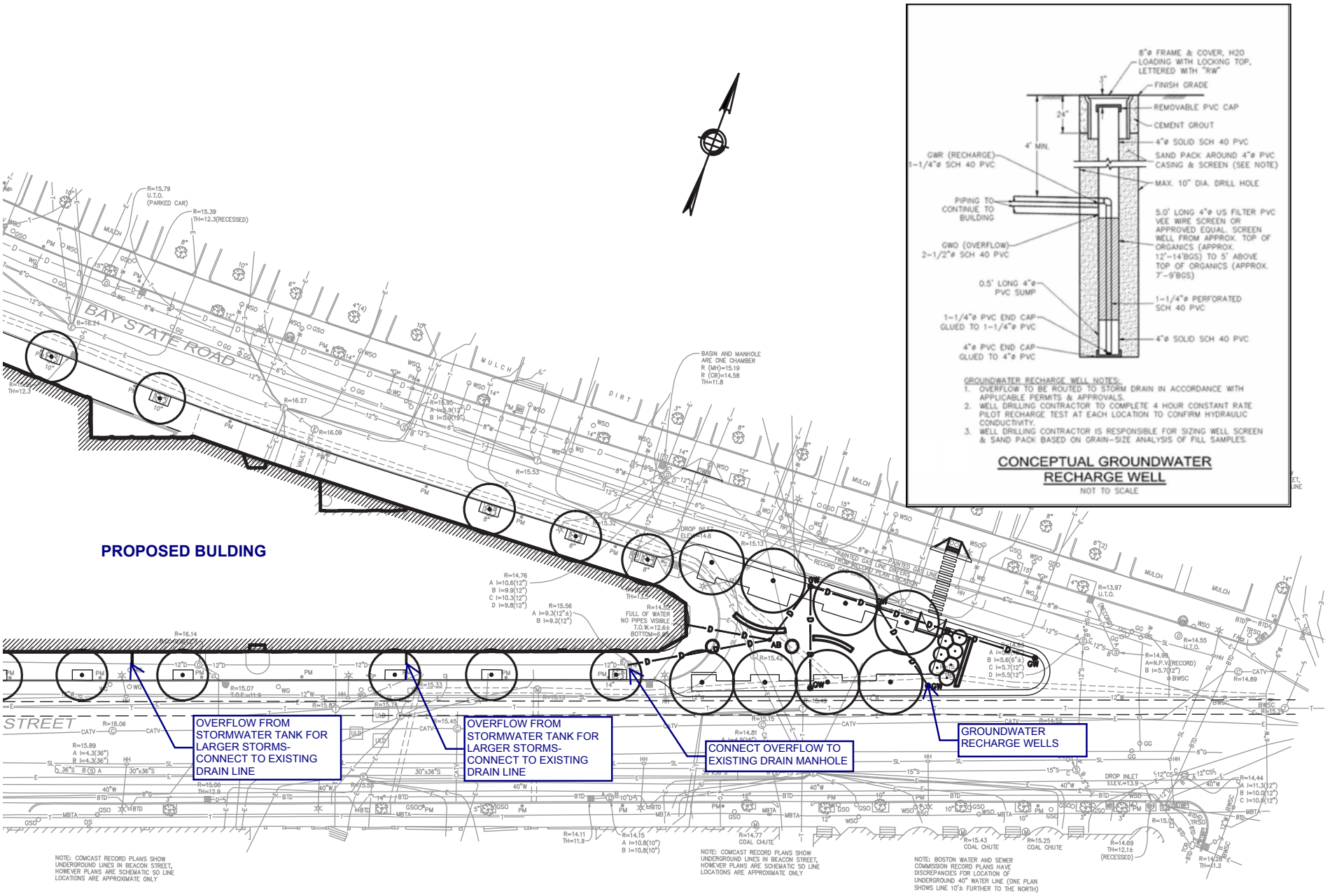


Figure 7-3
Stormwater Management System Details
Source: Nitsch Engineering, 2015

Appendix A

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:	Myles Standish Hall
Project Address Primary:	610 Beacon Street,
Project Address Additional:	Boston MA, 02215
Project Contact (name / Title / Company / email / phone):	Gary W. Nicksa, Senior Vice President for Operations, Boston University, nicksa@bu.edu, (617) 353-6500

Team Description

Owner / Developer:	Trustees of Boston University
Architect:	Miller Dyer Spears, Inc.
Engineer (building systems):	Robert W. Sullivan Engineering
Sustainability / LEED:	Miller Dyer Spears, Inc.
Permitting:	Fort Point Associates, Inc.
Construction Management:	Shawmut Design & Construction

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)	*Residential, Student Life*		

What is the Construction Type – select most appropriate type?

Wood Frame	Masonry	Steel Frame	**Concrete**

Describe the building?

Site Area:	***27,050 SF***	Building Area:	***203,000 SF***
Building Height:	***90 Ft.***	Number of Stories:	***9 Flrs.***
First Floor Elevation:	***17'-5" Elev.***	Are there below grade spaces:	***Yes***

Assessment of Existing Infrastructure for Accessibility:

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

Provide a description of the development neighborhood and identifying characteristics.	The project site encompasses two University-owned parcels of land totaling 27,050 square feet located at 610 Beacon Street. The triangular-shaped Site is located at the eastern edge of the University's East Campus and is bound by Beacon Street to the south, Raleigh Street to the west, and Bay State Road to the north. Just east of the Site lies the intersection of Charlesgate West and Beacon Street, which accepts a southbound exit from Storrow Drive. The site is located at one of the easternmost points of the Charles River Campus.
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter	The Site is located within 400 feet of the MBTA Kenmore Square Station, which provides Green Line Trolley and MBTA bus service along a variety of routes. The Site is within short walking distance of a wide range of on-campus academic and student service facilities including the Yawkey Center for Student Services, the

rail, subway, bus, etc.	Questrom School of Business, the Metcalf Center for Science and Engineering, and the College of Communication. See Figure 1-1, Locus Map and Figure 1-2, Aerial View.
List the surrounding institutions: hospitals, public housing and elderly and disabled housing developments, educational facilities, etc.	The site is in close proximity to a variety of amenities including academic and medical institutions. The site is located on Boston University's Charles River Campus. The site is also in close proximity to the New England School of Photography. The site is in close proximity to the Harvard Vanguard Medical Associates office and to a variety of private doctor, dental, and optometry offices.
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.	Access to and through the site will be ADA compliant. Surrounding public use facilities include Fenway Park and the Charles River Esplanade.

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?	Sidewalks and crosswalks surrounding the site are fully compliant.
If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.	The sidewalk at the site is City of Boston standard concrete and includes ramps at all crosswalks.
Are the sidewalks and pedestrian ramps existing-to-remain? **If yes,** have the sidewalks and pedestrian ramps been verified as compliant? **If yes,** please provide surveyors report.	No, the sidewalks and pedestrian ramps are being replaced.
Is the development site within a historic district? **If yes,** please identify.	Yes. The project is within the Bay State Road/Back Bay West Architectural Conservation District.

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	The proposed treatment of the sidewalks will be compliant with Boston's Complete Street Guidelines. Minimum dimensional and material requirements for clear accessible paths will be met. The project will rebuild existing sidewalks and crossings with thermoplastic striping for the crosswalks and will install new ramps at all corners.
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	Neighborhood Connector/Neighborhood Residential
What is the total width of the proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	Total Width: 12' Frontage: -- Pedestrian: 7 Furnishing: 5
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?	Frontage: brick strip to match existing context. Pedestrian zone: concrete sidewalk to match existing context. Furnishing zone: TBD. All materials will be within the public right-of-way.
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?	N/A
Will sidewalk cafes or other furnishings be programmed for the	No

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

Proposed Accessible Parking:

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

What is the total number of parking spaces provided at the development site parking lot or garage?	No parking will be provided on the site.
What is the total number of accessible spaces provided at the development site?	No parking will be provided on the site.
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, street accessible handicap parking spaces are not required. The proponent will meet with the Commission for Person with Disabilities and the City of Boston Transportation Department as part of the Public Improvement Commission review and approval process.
Where is accessible visitor parking located?	Accessible parking for faculty and staff will located at the Warren Towers Garage at 700 Commonwealth Avenue (464 spaces) and at 595 Commonwealth Avenue (270 spaces) and the surface parking lot at 766 Commonwealth Avenue (87 Spaces). Accessible visitor parking is located at the University owned pay-on-entry parking facility located at the corner of Commonwealth Avenue and Deerfield Street.
Has a drop-off area been identified? If yes, will it be accessible?	The project will not have a designated drop-off area.
Include a diagram of the accessible routes to and from the accessible	Please see the attached Pedestrian Facilities plan. All sidewalks, ramps, and reciprocal ramps abutting the Project are ADA compliant and will be replaced as

parking lot/garage and drop-off areas to the development entry locations. Please include route distances.	part of the Project. Sidewalks along Commonwealth Avenue, Beacon Street, Bay State Road, and Raleigh Street provide accessible routes for traveling to and from the Project.

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.	Please see attached.
Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	The main entry and exit of the building, located on Beacon Street, will have a flush transition for the street into the lobby. An automatic operated door will be provided on one leaf of the entry and vestibule doors.
Are the accessible entrance and the standard entrance integrated?	Yes
If no above, what is the reason?	N/A
Will there be a roof deck or outdoor courtyard space? If yes, include diagram of the accessible route.	No
Has an accessible routes way-finding and signage package been developed? If yes, please describe.	At this time, an accessible routes way-finding and signage package has not been developed. If necessary, it will be developed as part of the signage and wayfinding package for the project.

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.

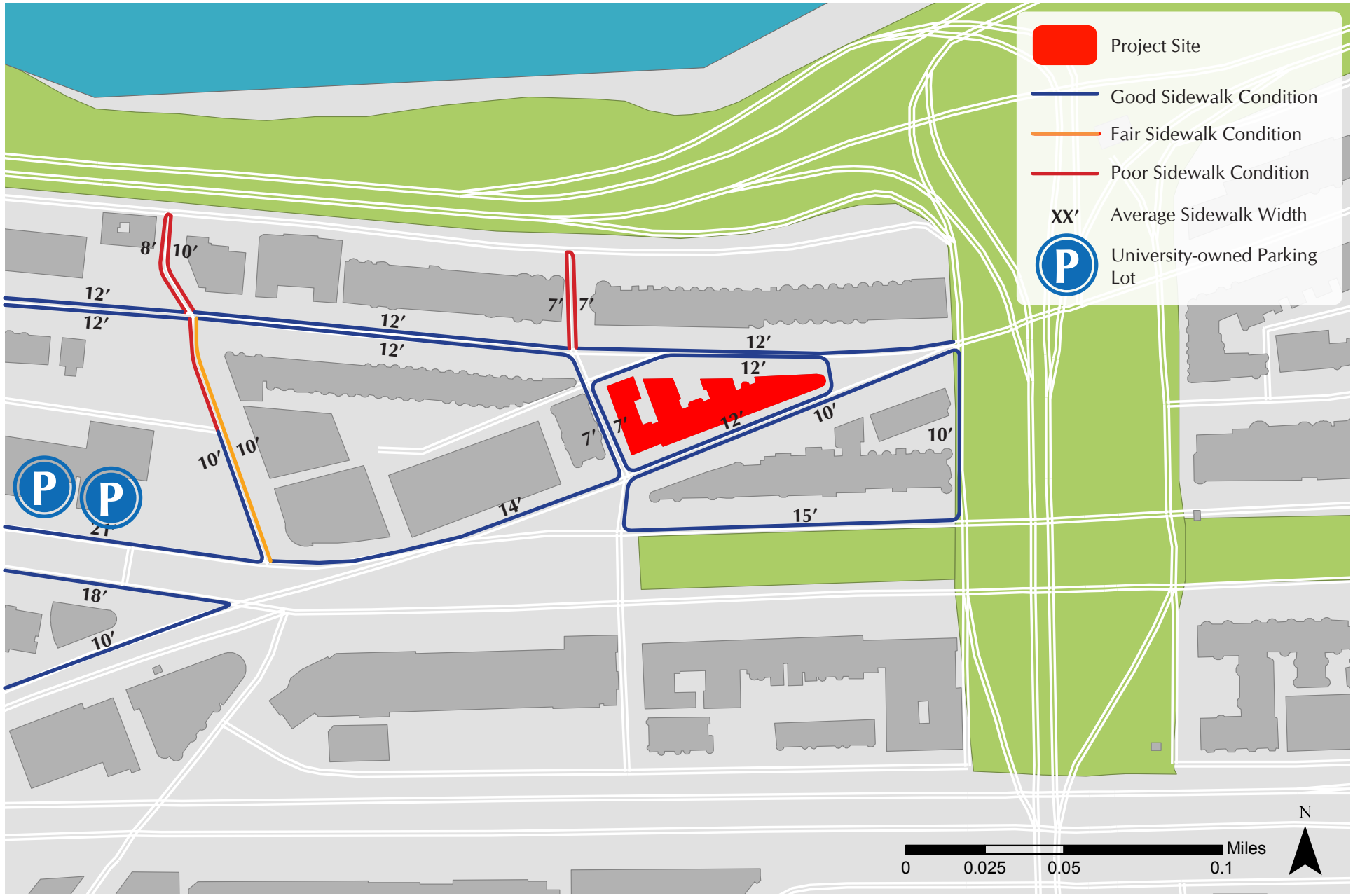
What is the total number of proposed units for the development?	730 student beds within 175 units 3 staff apartments
How many units are for sale; how many are for rent? What is the	N/A

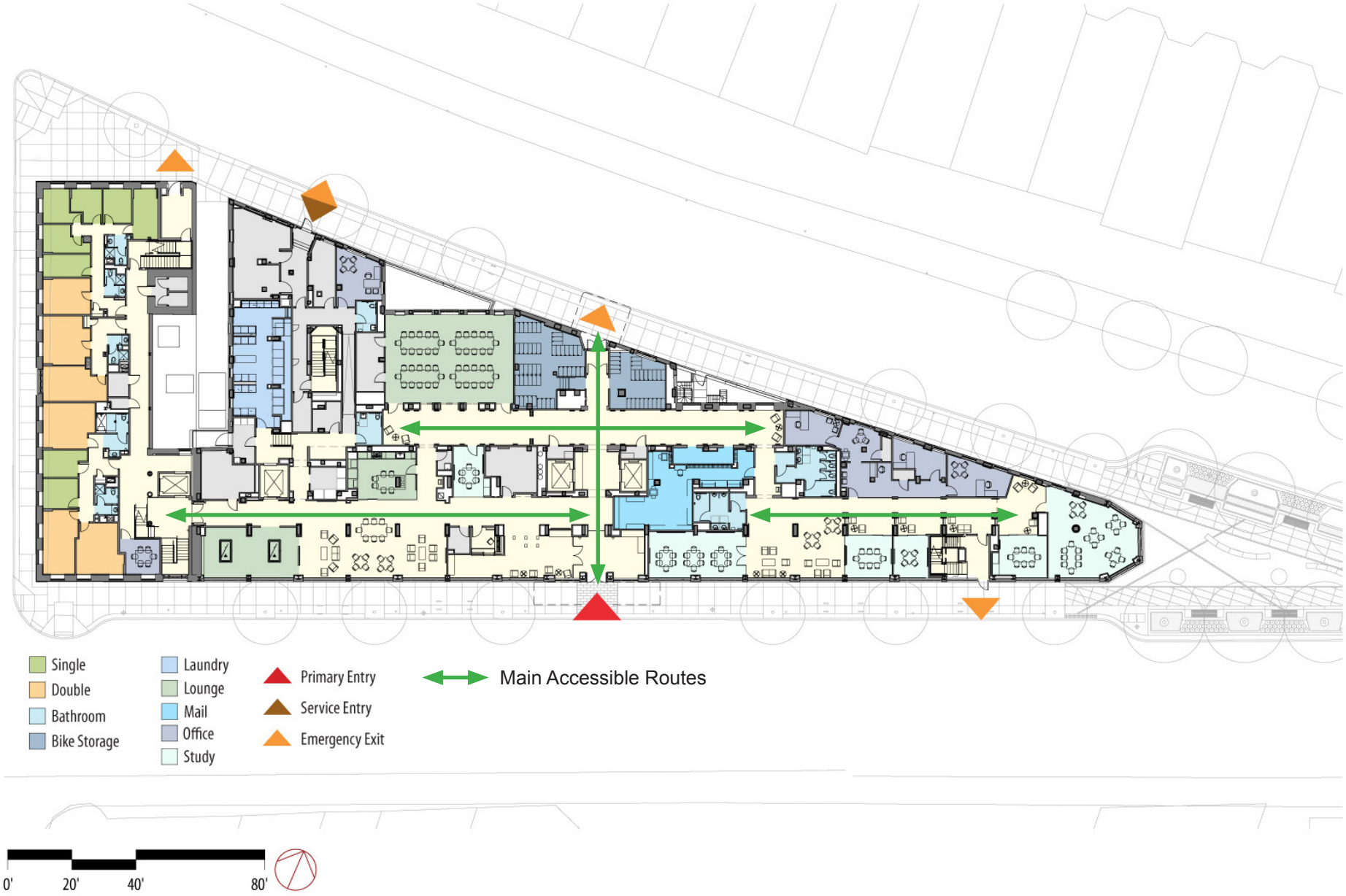
market value vs. affordable breakdown?	
How many accessible units are being proposed?	38 beds within 27 units will be accessible units.
Please provide plan and diagram of the accessible units.	Please see attached.
How many accessible units will also be affordable? If none, please describe reason.	N/A
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	No
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	The proponent has not consulted with the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board, but will share plans with the commission through the permitting process for the project.
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	N/A

Thank you for completing the Accessibility Checklist!

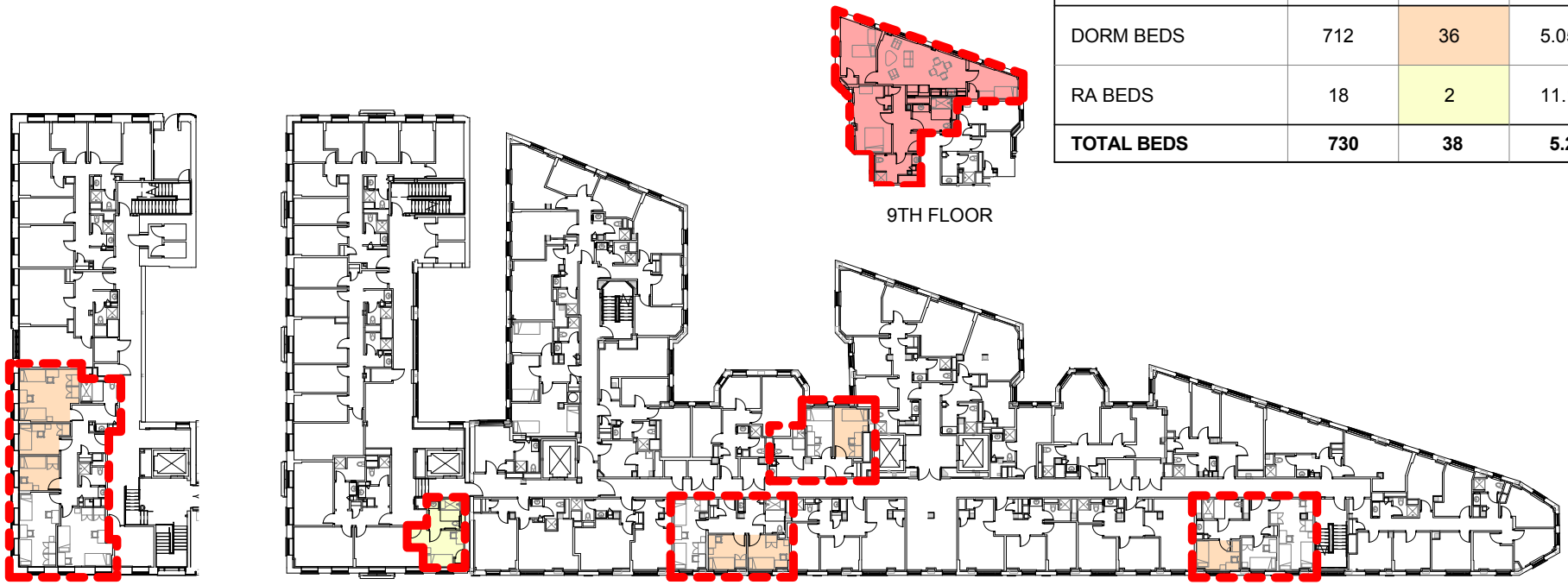
For questions or comments about this checklist or accessibility practices, please contact:

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


Project Site
Good Sidewalk Condition
Fair Sidewalk Condition
Poor Sidewalk Condition
XX′ Average Sidewalk Width
University-owned Parking Lot
8′
10′
12′
12′
12′
12′
7′
7′
12′
12′
12′
7′
7′
10′
10′
10′
10′
14′
15′
21′
18′
10′
N
Miles
0
0.025
0.05
0.1


Single
Double
Bathroom
Bike Storage
Laundry
Lounge
Mail
Office
Study
Primary Entry
Service Entry
Emergency Exit
Main Accessible Routes
0'
20'
40'
80'

	BUILDING TOTALS	ACCESSIBLE TOTALS	%
STUDENT UNITS	157	25	15.9%
RA UNITS	18	2	11.1%
TOTAL STUDENT UNITS	**175**	**27**	**15.4%**
STAFF APARTMENTS	3	1	33.3%
DORM BEDS	712	36	5.05%
RA BEDS	18	2	11.1%
TOTAL BEDS	**730**	**38**	**5.2%**



1ST FLOOR

9TH FLOOR

TYPICAL FLOOR

Appendix B

Climate Change Preparedness and Resiliency Questionnaire

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:	**Myles Standish Hall**
Project Address Primary:	**610 Beacon Street**
Project Address Additional:	**Boston MA, 02215**
Project Contact (name / Title / Company / email / phone):	**Gary W. Nicksa, Senior Vice President for Operations, Boston University, nicksa@bu.edu, (617) 353-6500**

A.2 - Team Description

Owner / Developer:	**Trustees of Boston University**
Architect:	**Miller Dyer Spears, Inc.**
Engineer (building systems):	**Robert W. Sullivan Engineering**
Sustainability / LEED:	**Miller Dyer Spears, Inc.**
Permitting:	**Fort Point Associates, Inc.**
Construction Management:	**Shawmut Design & Construction**
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:	**Residence Hall**
List the First Floor Uses:	**Student Life**

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

Wood Frame	Masonry	Steel Frame	**Concrete**

Describe the building?

Site Area:	***27,050 SF***	Building Area:	***203,000 SF***
Building Height:	***90 Ft.***	Number of Stories:	***9 Flrs.***
First Floor Elevation (reference Boston City Base):	***17'-5" Elev.***	Are there below grade spaces/levels, if yes how many:	***Yes/ 1***

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***	Certified:	***Yes***

A.6 - Building Energy

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

Electric:	***844 (kW)***	Heating:	***9000 (kBtu/hr)***
What is the planned building Energy Use Intensity:	***50-60 (kBtu/SF)***	Cooling:	***350 (Tons)***

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

Electric:	***400 (kW)***	Heating:	***3000 (kBtu/hr)***
		Cooling:	***30 (Tons)***

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

Electrical Generation:	***450 (kW)***		Fuel Source:	***Diesel***
System Type and Number of Units:	**Combustion Engine**	Gas Turbine	Combine Heat and Power	***1*** *(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?

0/91	*Deg.*

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	*0.5 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?

105 mph Peak Wind	*3 second gust*	*1/50 years*

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:	*20-25%*
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:	**Dorm room radiant heating & cooling (valance) units**			

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

Roof:	**R = 36**	Walls / Curtain Wall Assembly:	**R = 13/R=1.72**
Foundation:	**R = 0**	Basement / Slab:	**R =0**
Windows:	**R = 2.22/ U=0.45**	Doors:	**R =1.538/U=0.65**

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?

	*Yes / **No***	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:	*Boston City Base* ***16.1/17.2***

Building Proximity to Water:	*250 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?

250 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:	*Ft.*	Frequency of storms:	*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:	**An emergency generator will provide back-up power for life safety systems for a period of 8 hours**			

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

LEED 2009 for New Construction and Major Renovation

Project Checklist

BU Myles Standish Hall Renovations

Sustainable Sites — Possible Points: 26

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

Water Efficiency — Possible Points: 10

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

Energy and Atmosphere — Possible Points: 35

Y	N	?			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
10	3	6	Credit 1	Optimize Energy Performance	1 to 19
	7		Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
	1	1	Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

Materials and Resources — Possible Points: 14

Y	N	?			
Y			Prereq 1	Storage and Collection of Recyclables	
1		2	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
	1		Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
	2		Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	N	?			
2			Credit 4	Recycled Content	1 to 2
1		1	Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
		1	Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 15

Y	N	?			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
		1	Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
		1	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
		1	Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1

Innovation and Design Process — Possible Points: 6

Y	N	?			
1			Credit 1.1	Innovation in Design: Exemplary Performance SSc4.1	1
1			Credit 1.2	Innovation in Design: Exemplary Performance IEQc8.2	1
1			Credit 1.3	Innovation in Design: EBOM 2009 MRc4: Sustainable Purchasing - Reduc	1
1			Credit 1.4	Innovation in Design: Green Housekeeping	1
1			Credit 1.5	Innovation in Design: Pilot Credit 60 Integrated Design Team	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

Y	N	?			
1			Credit 1.1	Regional Priority: SSc3: - Brownfield Redevelopment	1
1			Credit 1.2	Regional Priority: SSc7.1 - Heat Island Effect - Nonroof	1
1			Credit 1.3	Regional Priority: SSc7.2 - Heat Island Effect - Roof	1
1			Credit 1.4	Regional Priority: MRc1.1 - Building Reuse Walls/Floors/Roof	1

Y	N	?			
62	28	19	Total		Possible Points: 110

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