FORT POINT ASSOCIATES, INC.
33 Union Street, 3rd Floor . Boston, MA 02108

Project Notification Form

Wentworth Institute of Technology
Student Apartments at 525 Huntington Avenue
Boston, MA

July 13, 2012

submitted to:

Boston Redevelopment Authority

prepared by:

Fort Point Associates, Inc.

submitted by:

Wentworth Institute of Technology

in association with:

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Chapter 1

Project Summary

CHAPTER 1: PROJECT SUMMARY

1.1 PROJECT IDENTIFICATION

Project Name: Wentworth Institute of Technology
Student Apartments at 525 Huntington Avenue

Address/Location: 525 Huntington Avenue, Boston, MA 02115

Assessor's Parcel # 0401833000

1.2 PROJECT SUMMARY

This Project Notification Form (PNF) is being submitted by Wentworth Institute of Technology ("Wentworth") in accordance with Article 80B of the Boston Zoning Code. The purpose of the filing is to commence review of the proposed project under the Article 80B, Large Project Review and to attest to consistency with the Institutional Master Plan (IMP) as approved by the Boston Redevelopment Authority and the Boston Zoning Commission on January 20, 2011.

Wentworth Institute of Technology ("the Proponent") is proposing to construct the Wentworth Institute of Technology Student Apartments at 525 Huntington Avenue ("the Project"). The Project will be located at the northwest corner of the Wentworth campus. See Figure 1-1, Locus Map. This site is surrounded by Huntington Avenue, Vancouver Street and Louis Prang Street. Wentworth owns the site, which is presently a landscaped open space which was intended as an interim condition until a permanent use for the site could be identified. The site will be utilized to accommodate the Project and will include a public gathering area/plaza as a feature to accommodate entry and exit to the building by students and staff. See Figure 1-2, Project Site Plan.

The Project will expand the current campus life facilities and be designed to enhance the campus experience by motivating and attracting Wentworth Juniors and Seniors to reside in on-campus housing rather than in the surrounding neighborhoods. The proposed new facility will provide housing for Wentworth students by means of 305 beds in apartment style units on seven floors. The program for the 118,140 gross square foot (gsf), seven-story building includes a total of 72 units, which will be organized around an open common space with framed window views of the city scape. The majority of bedrooms (76%) will be occupied by a single student to

provide the residents with an increased degree of privacy and a quality of materials and amenities that many students seek when they opt for off campus housing.

Construction of the new residence hall is anticipated to start in February 2013. Occupancy will commence in the fall semester of 2014.

No off-street parking will be constructed to support this project. As described in the IMP, commuting vehicle trips will be reduced as a result of capturing more of the student population at an on-campus location.

1.3 PROJECT SITE

The Project will be constructed on a site comprised of approximately 0.38 acres (16,355 square feet) at the intersection of Huntington Avenue and Louis Prang Street. Vancouver Street borders the site to the north. The project site was formerly the site of a Shell –branded gasoline station which was decommissioned in February of 2007. The site was developed into a landscaped open space in October/November of 2008, and is currently owned by Wentworth Institute of Technology. See Figure 1-3, Aerial View of Existing Site.

1.4 PUBLIC AND COMMUNITY BENEFITS

The Project will:

- Allow for construction of a new student residence hall, the third major new construction project of the approved Institutional Master Plan.
- Provide high quality on-campus housing for 305 undergraduate students.
- Preserve the academic campus setting with an appropriately designed building, blending with the character of the surrounding Mission Hill neighborhood.
- Provide additional centrally-located housing to retain upper level undergraduate students and reduce traffic trips to the campus.
- Support the City's goals for a sustainable future through the development of an energy-efficient and environmentally-friendly building that will achieve a LEED rating targeted at the silver level.
- Uphold the Wentworth's commitment to implementing the Boston Residents Job Policy and establishing employment goals consistent with that program. Under that policy, a goal of 50% of the construction jobs will be intended for Boston residents, 25% for minorities, and 10% for women during the approximately two year construction period.

- Provide approximately 266 construction-related jobs and stimulate the local and regional economy with an estimated construction cost of $43 million
- Continue to implement an important goal of the IMP, which is to provide 95 – 100% of students seeking local housing with on-campus living facilities.

1.5 PUBLIC REVIEW PROCESS

Wentworth is committed to continuing its public outreach with the Wentworth Community Task Force (the "Task Force"), which includes representatives from various academic, institutional, community and civic organizations. In addition to the neighborhood input provided by the Task Force, the Boston Redevelopment Authority's Article 80 Large Project Review process offers an opportunity for further public review and comment.

1.6 CONSISTENCY WITH ZONING REGULATIONS AND ORDINANCES

According to the City of Boston Zoning Code, the underlying zoning of the Wentworth Institute of Technology Campus property is "Wentworth Institute IMP" in the Mission Hill Neighborhood District. This project is listed as a Proposed Institutional Project in the approved Wentworth IMP and is consistent with the IMP.

1.7 ANTICIPATED PERMITS AND APPROVALS

The following table is a list of anticipated approvals for this project.

Agency	Approval
Local	
Boston Redevelopment Authority	Article 80 Large Project Review Cooperation and other Article 80 Agreements; Certificate of Consistency with IMP
Boston Civic Design Commission	Schematic Design Review/Recommendation
Boston Fire Department	Flammable Storage Permit
Boston Public Improvements Commission	Specific Repair Plan
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan

Boston Water and Sewer Commission	Site Plan Approval: Backwater Valve Approval; Cross Connection Approval;
Inspectional Services Department	Excavation/Retention Permit; Building Permit; Certificate of Occupancy
State	
Massachusetts Department of Environmental Protection	Source Registration for Sewer Discharge Notification Prior to Construction or Demolition;
Massachusetts Historical Commission	Determination of No Adverse Effect
Massachusetts Board of Elevator Regulations	Elevator Permit for Installation; Elevator Inspection Certificate

1.8 PROJECT TEAM

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Figure 1-1
Locus Map
Source: USGS

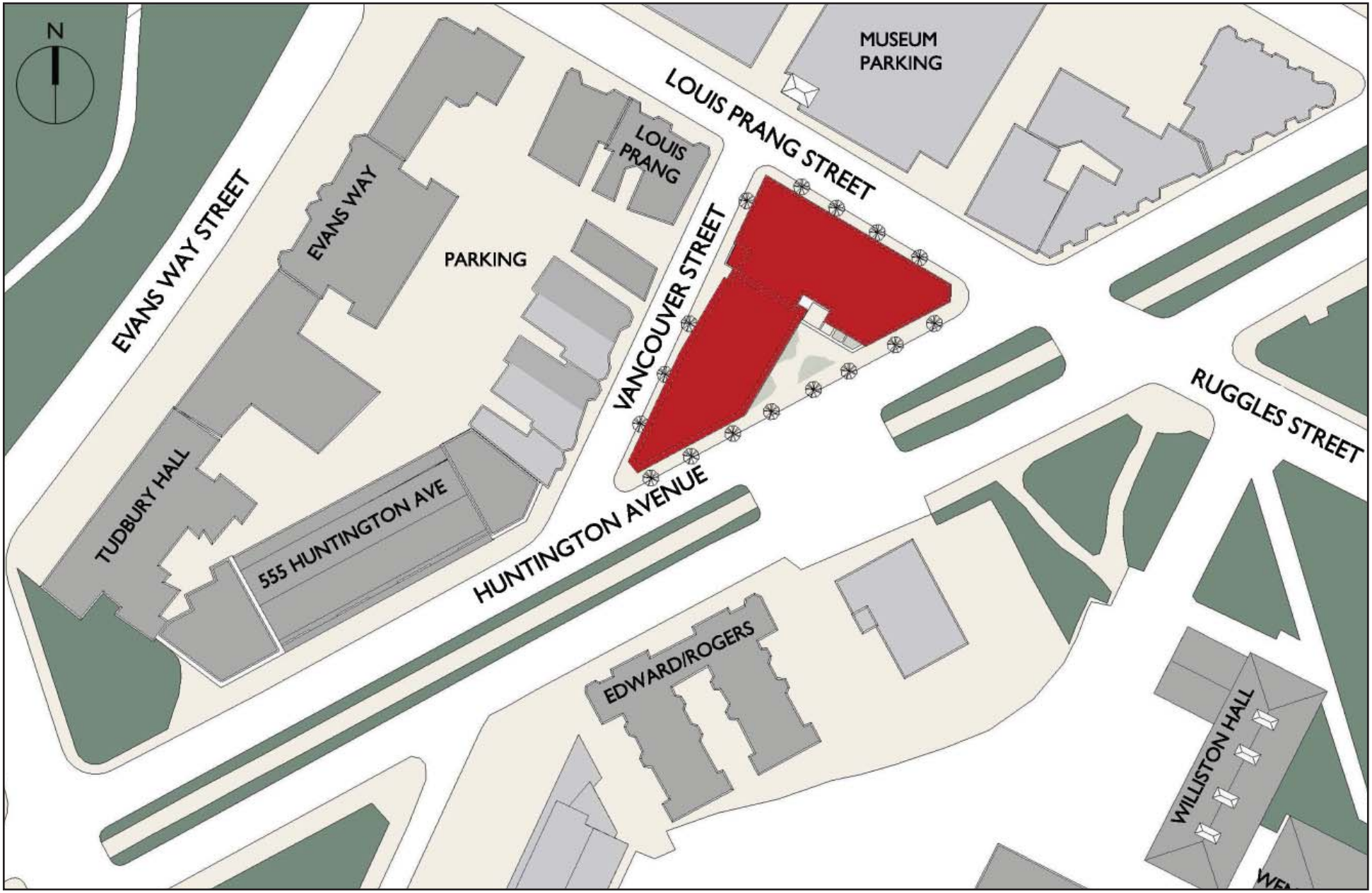

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Figure 1-2
Project Site Plan
Source: Beacon Architectural Associates, 2012

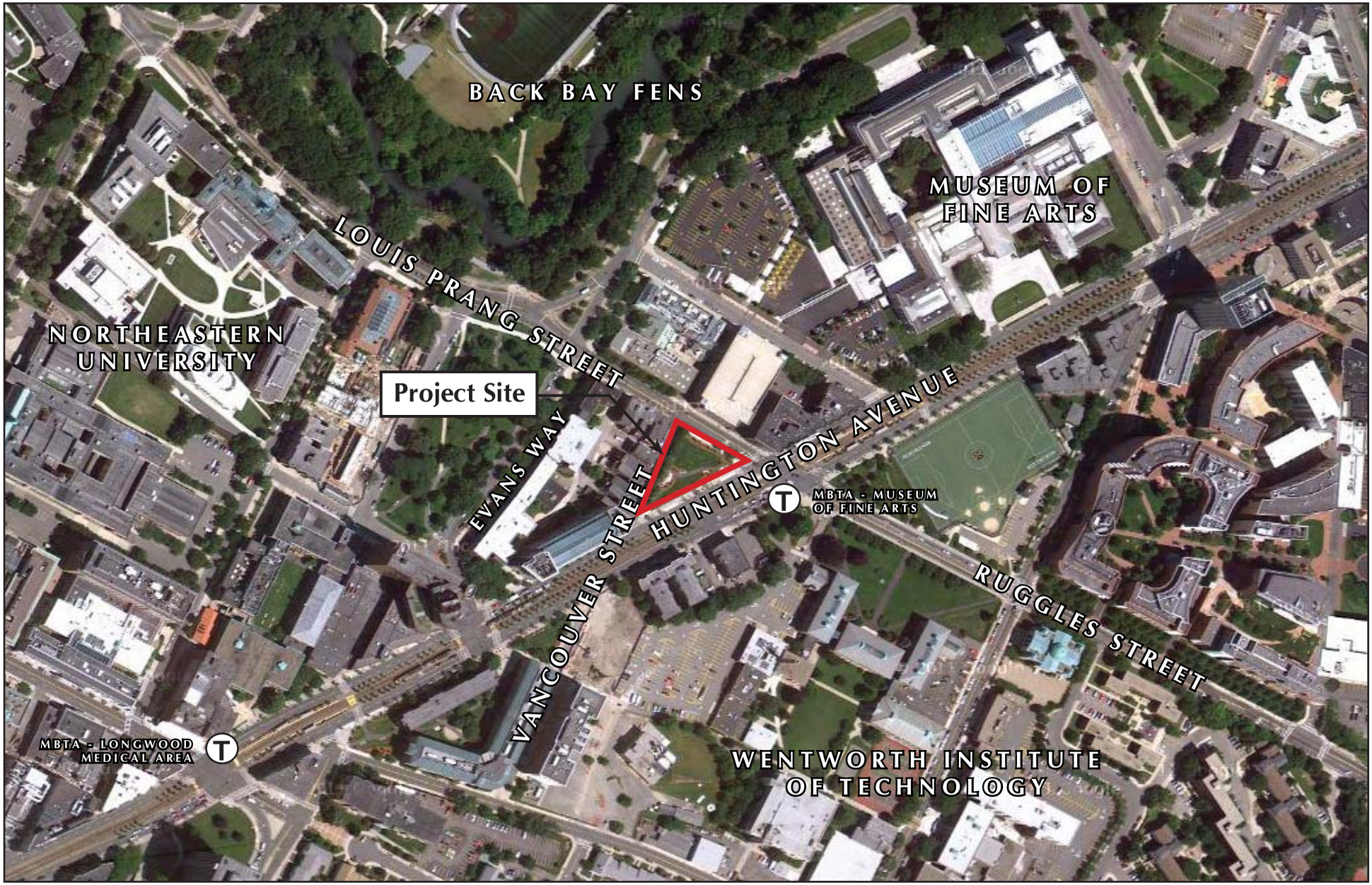

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Figure 1-3
Aerial View of Existing Site
Source: Google, 2011

Chapter 2

Project Description

CHAPTER 2: PROJECT DESCRIPTION

2.1 INTRODUCTION

Wentworth Institute of Technology has described an extensive expansion plan in their Institutional Master Plan (IMP). The proposed project is one of five described in the IMP. The remaining four projects are described in detail in the IMP, and include: the Flanagan Campus Center at Beatty Hall, 18,000 square foot academic addition to the Ira Allen Building at 540 Parker Street, 45,000 sf Center for Engineering and Technology and proposed new soccer field above 330 surface parking spaces.

Nineteen months into the ten year period of the Wentworth Institutional Master Plan, the Institute is nearing completion on the first two Proposed Institutional Projects: namely the Flannagan Campus Center and the Center for Science and Biomedical Engineering. Both projects will open this September. This investment of nearly $40 million will provide a significant expansion of student life space to draw students onto campus for their social and cultural activities at the Flannagan Campus Center. The Center for Science and Biomedical Engineering will provide state of the art teaching labs and classrooms to support Wentworth's cutting edge curriculum in engineering and technology.

The Wentworth Institute of Technology Student Apartments at 525 Huntington is the third Proposed Institutional Project to be constructed and will be located on a site bounded by Huntington Avenue, Vancouver Street and Louis Prang Street in the northwest corner of the campus. See Figure 2-1, Oblique View of Existing Site.

2.2 PROJECT SITE AND SURROUNDINGS

The 16,355 square foot (sf) site is located on the westbound side of Huntington Avenue, midway between the two MBTA Green line stops at Longwood Medical and the Museum of Fine Arts. The existing site, which is presently a landscaped open space, will be utilized in its entirety by the Project. See Figure 2-2, Existing Conditions Survey.

Access to the project site is from sidewalks adjacent to the abutting streets. There are no vehicular curb cuts into the Site. Presently the Site is flanked by three-story attached brick residences on Vancouver Street and two five-story brick structures on Louis Prang Street. The

site is fenced along the Huntington Avenue and Louis Prang Street frontage. Mature street trees line all three streets abutting the project site.

The project site is located in the northwest corner of the Wentworth Institute of Technology Campus, which is bisected by Huntington Avenue. The Wentworth Institute of Technology Campus is located primarily to the south of Huntington Avenue, housed in a number of structures surrounded by Ward Street and Annunciation Road, accessed by Ruggles Street and Parker Street as well as by various mode of public transit. See Figure 2-3, Existing Conditions Photographs.

2.3 PROPOSED PROJECT

The proposed project entails the development of a new student residence facility planned for Wentworth Institute of Technology. The Project will be located within the northwest area of the campus amongst an existing cluster of Wentworth residence halls which are located along both sides of Huntington Avenue. In addition, Wentworth maintains student residences across Vancouver Street from the project site.

2.3.1 GROUND FLOOR USES

The proposed building footprint for this new facility is 13,670 sf with transparent gathering spaces provided at the Ground Floor Level along Huntington Avenue and Louis Prang Street to re-activate the street along this area of the building. An additional 2,350 SF of the site is planned for a landscaped entry plaza on the Huntington Avenue side, consistent with existing campus green/open spaces found along this major transportation pathway. The ground floor will also include a mix of student apartments, offices, common areas, bike storage and trash as well as loading and service functions along Vancouver Street. See Figure 2-4, Ground Floor Plan.

The Project will expand the current campus life facilities and will be designed to enhance the campus experience by motivating and attracting Wentworth Juniors and Seniors to reside in on-campus housing rather than in the surrounding neighborhoods or suburbs of Boston.

2.3.2 RESIDENTIAL UNITS

The proposed new student apartments will provide housing for Wentworth students by means of 305 beds in apartment style units on 7 floors. There will be a total of 72 dwelling units that will consist of 51 four-bed apartments, 20 five-bed apartments and 1 resident director apartment. Each dwelling unit will be organized around an open

common space with framed window views of the cityscape. Unlike the majority of the Institute's current housing inventory, 76% of the bedrooms (231 beds) will be occupied by a single student rather than the typical double occupancy bedrooms that are common in existing campus residence facilities. This apartment style layout is intended to provide the residents with an increased degree of privacy and a quality of materials and amenities that many students seek when they opt for off campus housing.

Table 2-1: Project Program

Level	RD Apt. 1	4 Bedroom Unit	5 Bedroom Unit	Total Beds	Double Occupancy Rooms	Floor Area
Basement	-	-	-	-	-	13,670
01	1	3	2	22 beds	1 (2 beds)	13,670
02	-	8	3	47 beds	7 (14 beds)	13,810
03	-	8	3	47 beds	7 (14 beds)	13,810
04	-	8	3	47 beds	7 (14 beds)	13,810
05	-	8	3	47 beds	7 (14 beds)	13,810
06	-	8	3	47 beds	7 (14 beds)	13,810
07	-	8	3	47 beds	7 (14 beds)	13,810
Mechanical	-	-	-		-	7,940
Total	1	51	20	305 beds	43 (86 beds)	118,140

72 Units / 305 beds	24% Double Occupancy Beds
Total Site Area:	16,355 sf
Building Footprint:	13,670 sf
Open Space Area:	2,350 sf

[1] Resident Director Apartment

2.3.3 PARKING AND CIRCULATION

Vehicular access to the site will be from existing street circulation. No on-street or off-street parking will be constructed to accommodate the Project. As discussed in the IMP, the construction and occupancy of the student apartments will reduce the demand for on-campus parking by housing students who would otherwise be commuting from off-

site locations. Additional campus parking will be constructed under the proposed soccer fields to accommodate over-all changes to the student and faculty populations over the course of the implementation of the ten year IMP.

2.3.4 OPEN SPACE AND LANDSCAPING

The Project will include a landscaped urban plaza at the Huntington Avenue entrance. This plaza will provide open space and public gathering areas in keeping with the goals of the IMP and the neighborhood context. For a more detailed description of the landscape features, see Section 3.4 Streetscape and Landscape. Also, see Figure 2-5, Landscape Plan.

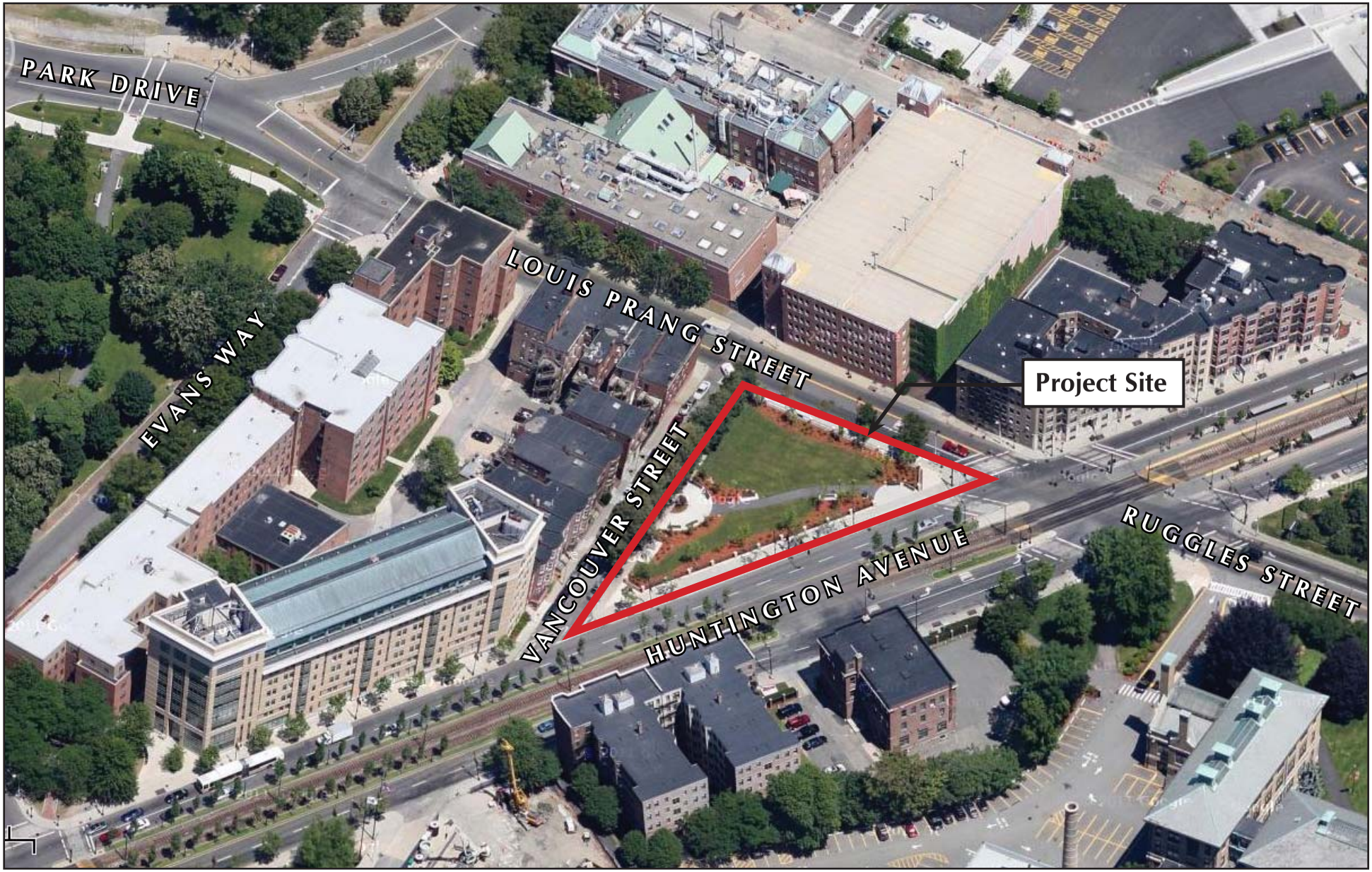

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Figure 2-1
Oblique View of Existing Site
Source: Google, 2011

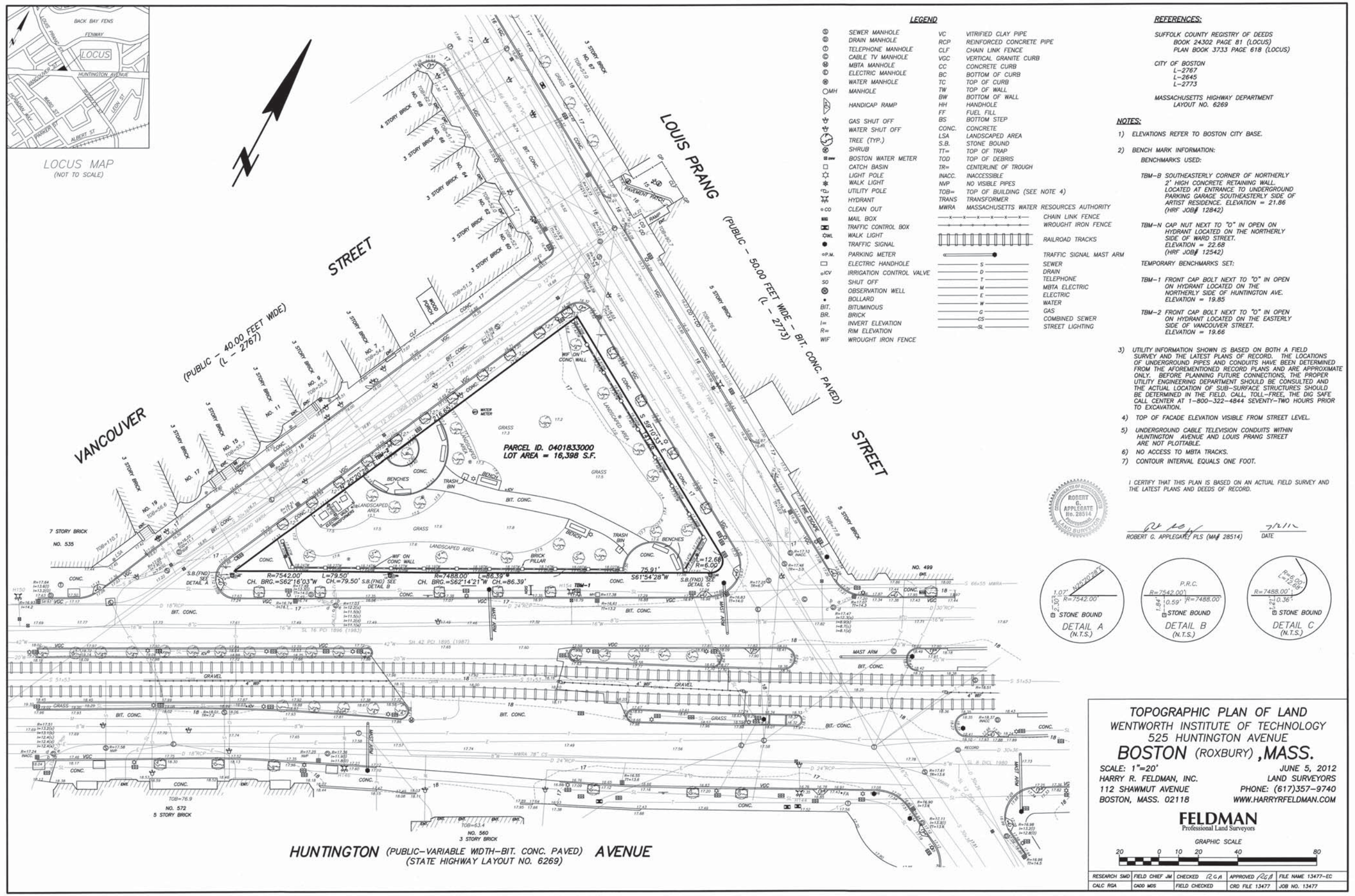

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Figure 2-2
Existing Conditions Survey
Source: Feldman Professional Land Surveyors, 2012

View Looking West

View Looking Northeast Along Vancouver Street

View of Project Site Along Louis Prang Street

Interior View of Project Site Looking East

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Figure 2-3
Existing Conditions Photographs
Source: Fort Point Associates, Inc., 2012

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Figure 2-4
Ground Floor Plan
Source: Beacon Architectural Associates, 2012

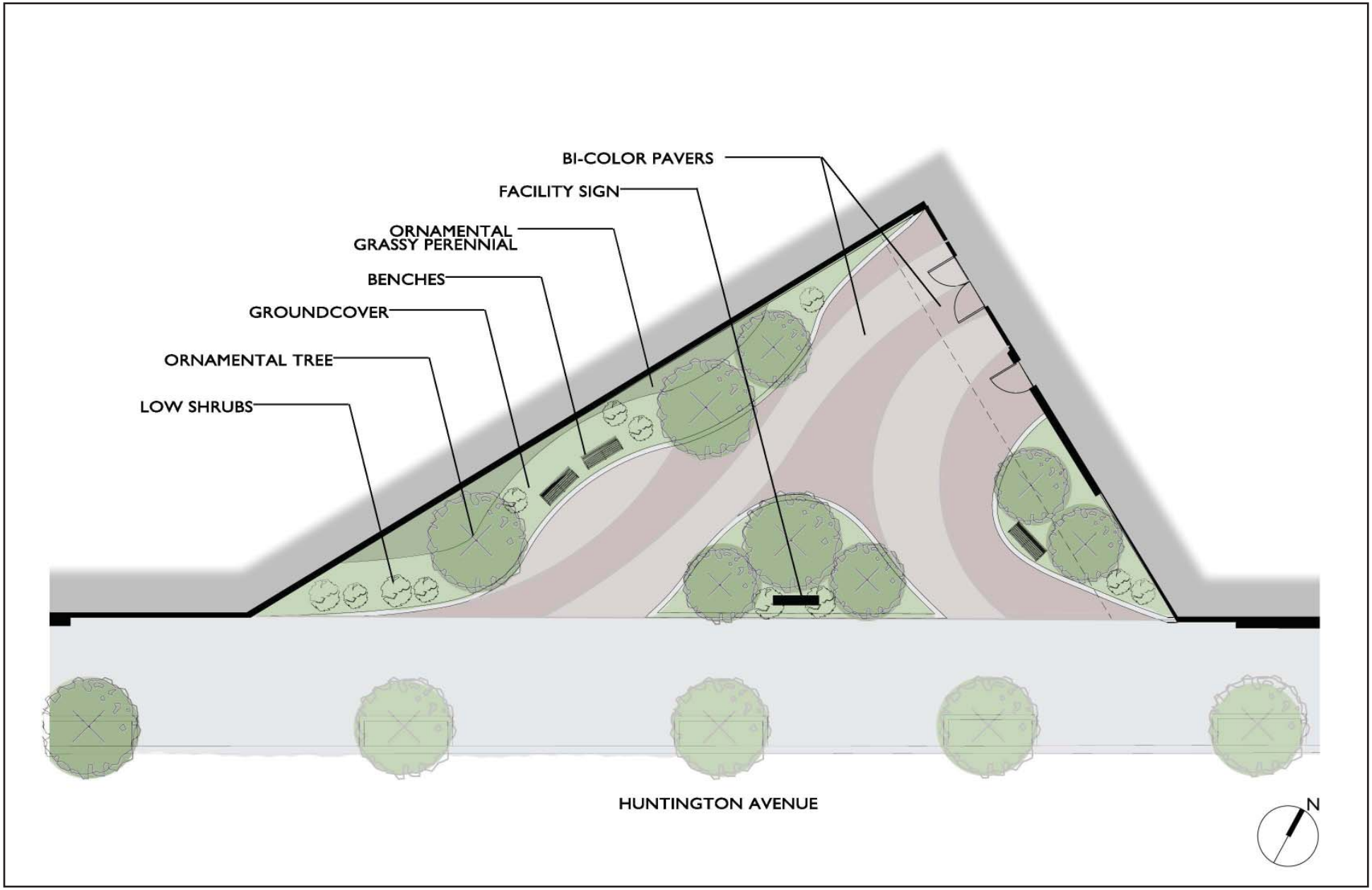

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Figure 2-5
Landscape Plan
Source: Beacon Architectural Associates, 2012

Chapter 3

Urban Design

CHAPTER 3: URBAN DESIGN

3.1 INTRODUCTION

The Wentworth Institute of Technology Student Apartments at 525 Huntington Avenue (the "Project") have been designed to respect and respond to the physical and operational context of the existing campus facilities, open spaces and surrounding urban fabric. The project site is an existing 16,355 sf lot bound by Huntington Avenue, Louis Prang Street and Vancouver Street. The Project will be located across from and in close proximity to existing student residences along Vancouver and Louis Prang Streets, Evans Way and at 555 Huntington Avenue. See Figure 3-1, Neighborhood Context Map. This siting and the building's 'L'- shaped massing will reinforce Wentworth's emerging campus organization amongst these existing housing facilities within this Northwest area of the campus, physically linked to the main campus by "The Pike", the main pedestrian campus path. Although there are no directly abutting buildings or existing structures on the project site, the Project, as a seven story residential building, will relate in scale and function to its neighbors. In addition, building materials will be a modern adaptation of established Wentworth materials, similar to the adjacent 555 Huntington Avenue Residence Hall.

The design integrates and welcomes the surrounding community by creating views into the building's interior gathering spaces at the Ground Floor Level and providing an open exterior public gathering space by use of a landscaped Entry Plaza. This building transparency and Entry Plaza along Huntington Avenue also strengthens Wentworth's campus identity and improves pedestrian access by activating this urban edge while displaying the educational, cultural and social activities of the Institute along this major city transportation pathway.

With the building's prominent location on Huntington Avenue the design intent is to fortify the existing streetscape theme as the Avenue of the Arts. Through the siting, scale, massing, materials, form and function the Project will express Wentworth's commitment to advanced technology while being respectful of its existing building surroundings.

3.2 MASSING

The massing for the student apartments is an expression of the building's function as it relates to its existing surroundings while defining Wentworth's campus organization and identity within the community. The overall building layout is an 'L'- shaped footprint on a triangular

site with two building wings along Louis Prang & Vancouver Streets and with the left over residual space forming a public gathering area/plaza at the building entrance on Huntington Avenue.

As a residential facility the Louis Prang & Vancouver street building masses relate to the existing residential functions along these neighborhood streets. The Louis Prang wing is a continuation of the existing Wentworth residential housing facilities along the south side of the street, strengthening this campus edge. This building mass is organized with residential units facing the street on floors 2-7 and residential support spaces along the street at the Ground Floor Level. These Ground Floor support spaces along Louis Prang Street include a large collaborative space at the corner of Huntington Avenue, resident life offices, resident director apartment, a lounge with vending and mail alcoves, and bike room that will allocate a secured bike storage location for adjacent Wentworth housing facilities in this area of the campus. See Figure 3-2, Ground Floor Plan.

The building wing located across from the Museum Parking Structure along Louis Prang Street adds a mechanical penthouse to the seven story residence levels below. The seven story Vancouver Street apartment wing relates in height and use to the existing Wentworth residential housing located across Vancouver Street and is approximately 25'-30' lower in height than the Tower section of the newly constructed 555 Huntington Avenue Residence Hall at the opposite corner of Vancouver Street and Huntington Avenue. See Figure 3-3, Typical Upper Level Floor Plan, and Figure 3-4, Roof Plan.

The legs of the 'L'- shaped building massing continue to define the Huntington Avenue street edge at both corners of Huntington Avenue/Louis Prang Street and Huntington Avenue/Vancouver Street. The triangular shaped Entry Plaza formed by these two legs defines the building's main entry at Huntington Avenue and provides a more welcoming pedestrian entry sequence to the building. This angled orientation of the massing as it relates to Huntington Avenue also offers privacy to the apartment units located along this side of the building by setting these building façades back from the street edge. The massing is illustrated in the perspective renderings in Figures 3-5 through 3-9.

The modern use of glass and masonry clad panels, with punched openings, project and recede along the building façade expressing the functions of the building interior spaces. These elements aim to provide a more residential feel to the building massing that relates in scale and function to its neighbors.

3.3 CHARACTER AND MATERIALS

The exterior building materials for the Project continue an existing palette of materials for the Wentworth campus. By the utilization of a modern adaption of these established materials Wentworth's mission of excellence in technology is expressed. This modern function is articulated by eroding the masonry facades to reveal significant areas of glass and/or metal panel as a second skin to the building.

The building fenestration willl be organized to reflect the interior planning of spatial relationships. Punched window openings in masonry panel sections of the building face define the individual bedrooms throughout the apartment units. Glass and metal curtain wall assemblies define the apartment unit common spaces providing an open and more generously sized feel to the units. A recessed glass and metal curtain wall along the Ground Floor Level on Huntington Avenue and Louis Prang Street provides the neighborhood unobstructed views into the building gathering spaces while displaying the Institutes educational, cultural and social activities within this transparent zone. The mechanical penthouse along the Louis Prang wing of the building is set back from the building façade and defined with a metal panel finish in keeping with the glass and metal curtain wall below. The application and configuration of these materials provide a clear system to give order to the overall building façade. See Elevations in Figures 3-10 through 3-12.

3.4 STREETSCAPE AND LANDSCAPE

On the project site, existing sidewalks, including handicap ramps, will be reconstructed as required due to construction activities. Where possible, existing trees will be protected to remain, transplanted or replaced with new specimens. The existing trees located along a proposed paved service entry curb cut on Vancouver Street will be removed. This area will be utilized for trash and recycling removals. Existing light poles on all street fronts and traffic mast arms along Huntington Avenue are to remain. In instances where the building does not meet the lot line new paving and/or planting zones will be provided between the building face and existing sidewalk. Empty tree grates or openings in the sidewalks will be planted with new street trees where feasible. All plant materials will be selected from indigenous species based on urban hardiness to minimize the irrigation requirements.

Huntington Avenue is a major vehicular, pedestrian and public transportation spine through the city with Massachusetts Bay Transportation Authority (MBTA) Green Line service running along the median strip. This thoroughfare will retain its urban character while benefitting from active visible residential gathering spaces located at the Ground Floor of the building and the development of a the landscaped entry plaza typical of other green spaces located on the Wentworth campus bordering both sides of this major urban spine. The Entry Plaza will include a mix of landscaped zones, hardscape materials and site furnishings that evoke a pedestrian

scale while providing a sense of arrival to the building and visual amenity to the apartment units that overlook it. This urban plaza will also provide a buffer between the resident units and the activities associated with Huntington Avenue. See Figure 3-13, Landscape Plan.

3.5 SUSTAINABILITY

3.5.1 ARTICLE 37

As a signatory to the American College and University Presidents' Climate Commitment (ACUPCC), Wentworth Institute of Technology employs sustainable design and construction techniques in their development of all new facilities. Wentworth's approach to sustainability aspires to simultaneously improve environmental, social, and economic performance. This mandate is reflected in the Wentworth Creed, dating back to the Institute's founding in 1904, including the following principle of "Economy";

We seek to use our resources wisely at all times. We accept our obligation to safeguard the earth, its resources, its life, and its energy for the benefit of future generations.

Wentworth has emerged as a leader in campus sustainability as exemplified by its initiatives which have been nationally recognized as best practices. For example its award-winning recycling program, in existence for over 20 years, has trained and employed 1,500 Boston Public School (BPS) students with special needs to collect and sort campus recyclables. Wentworth is also among only 80 institutions nationwide to have achieved recognition for their support of alternate modes of transportation in the U.S. Environmental Protection Agency (EPA) "Best Workplace for Commuters" Program. In 2007 Wentworth joined the top 15% of colleges and universities seeking to aggressively cut greenhouse gas ("GHG") emissions and publicly reported its progress through the American College and University Presidents' Climate Commitment ("ACUPCC"). Led by the Wentworth Sustainability Committee, appointed in 2008, the Institute continues to build on past successes and existing initiatives to further embrace a more sustainable campus.

To comply with Article 37, Wentworth intends to measure the results of its sustainable initiatives using the framework of the LEED (Leadership in Energy and Environmental Design) rating system. The LEED rating system tracks the sustainable features of the project by achieving points in the following categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor environmental Quality, and Innovation In Design.

The project team will demonstrate certifiable status under the LEED rating system through the submission of a LEED scorecard which will include an explanation of the project's approach to achieving each of the individual LEED points. The scorecard shall be updated regularly as the design develops and engineering assumptions are substantiated.

This project shall engage in an environmentally responsible construction process, which in turn will yield a building that reduces its environmental impact in an ongoing way. Consistent with the Wentworth Institute of Technology Institutional Master Plan 2010-2020, the project shall be designed as LEED certifiable at a minimum LEED Silver Rating status as defined by the U.S. Green Building Council, which will meet and exceed the requirements of Article 37 (Green Building) of the Boston Zoning Code. See Figure 3-14, LEED Scorecard.

3.5.2 SUSTAINABLE SITES

This category seeks to guide development to sites that minimize the impact of construction on the natural environment. Strategies include: siting new construction on previously developed sites, development on sites that are located to take advantage of existing infrastructure, site selection that is adjacent to mass transportation and basic services in the community, and site development that requires remediation of environmental contaminants.

The building site is located in a dense, urban environment that is beneficial in obtaining the aforementioned site related credits. The previously developed site is well served by existing utility infrastructure within sites densely developed urban context. The project's siting serves to discourage building user's reliance on automobile use through its connectivity to public transportation, an absence of new parking, planned bike storage within the building, and proximity to basic services available within walking distance. Finally the Institute has an established legal agreement with the previous gas station tenants for soil remediation due to found environmental contaminants.

3.5.3 WATER EFFICIENCY

Through the conservation of water this natural resource can be preserved while reducing the amounts of energy and chemicals required for sewage treatment. To satisfy this category the project will employ water management strategies that include high efficiency and low flow plumbing fixtures. Further, all plant materials within landscaped areas will be selected from indigenous species based on urban hardiness and drought tolerant plant species to minimize the requirements for irrigation. As utilized

on other campus sites gray water harvesting systems will be integrated with site irrigation and the flushing of urinals and water closets. These water conservation measures shall allow the project to significantly reduce typical water usages to below that of a comparable baseline building.

3.5.4 ENERGY AND ATMOSPHERE

The building is designed to incorporate strategic energy conservation measures in order to achieve a targeted energy savings of 20% from the baseline energy conservation code. To satisfy this requirement emphasis shall be placed on the design with a high performance envelope, including well insulated walls, and glazing properties while optimizing exterior shading to maximize daylight harvesting and reducing thermal loads. High efficiency heating and cooling systems will be utilized and power for lighting will be reduced by the use of daylight controls and occupancy sensors wherever applicable. These design goals will be studied through energy modeling to analyze and optimize energy conservation in all building systems. In addition commissioning will be performed to verify and ensure that the installed systems are operating at peak efficiency.

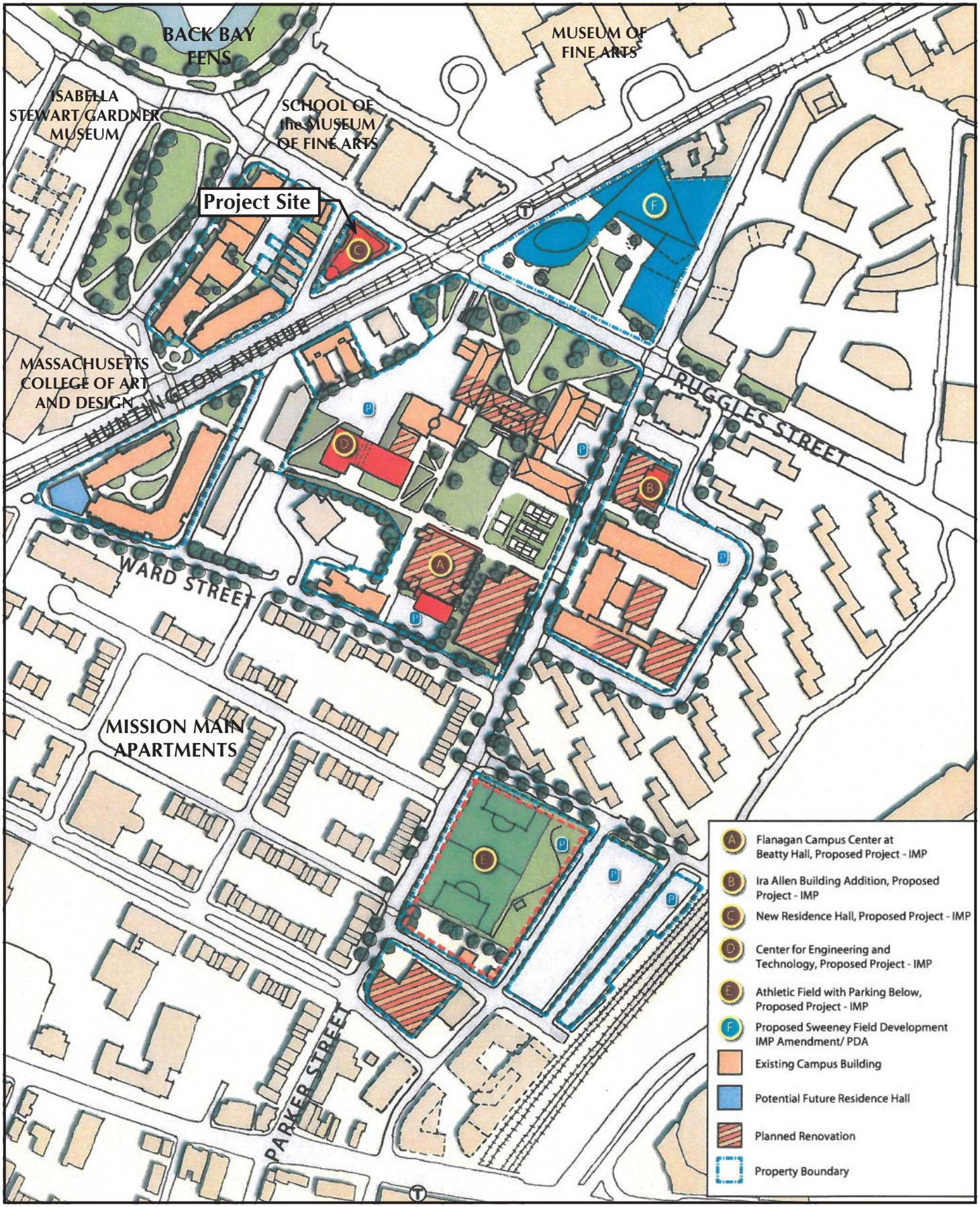

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Figure 3-1
Neighborhood Context Map
Source: Perkins + Will, 2012

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Figure 3-2
Ground Floor Plan
Source: Beacon Architectural Associates, 2012

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Figure 3-3
Typical Upper Level Floor Plan
Source: Beacon Architectural Associates, 2012

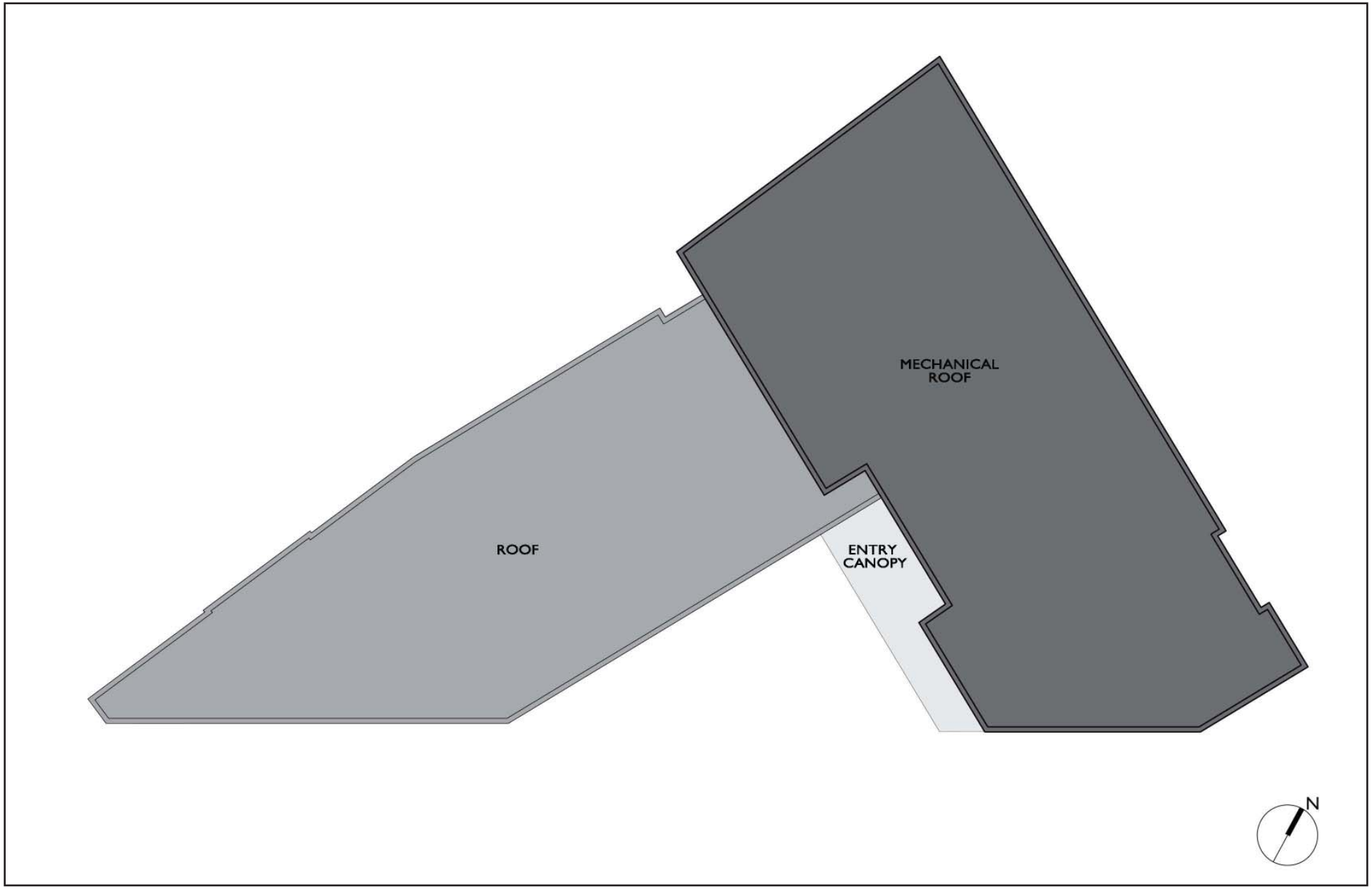

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Figure 3-4
Roof Plan
Source: Beacon Architectural Associates, 2012

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Figure 3-5
Oblique View Looking Northwest
Source: Beacon Architectural Associates, 2012

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Figure 3-6
Perspective Looking South
Source: Beacon Architectural Associates, 2012

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Figure 3-7
Perspective Looking Northeast
Source: Beacon Architectural Associates, 2012

Figure 3-8
Perspective Looking East Along Huntington Avenue
Source: Beacon Architectural Associates, 2012

Figure 3-9
Perspective Looking Northwest
Source: Beacon Architectural Associates, 2012

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Figure 3-10
Elevation - Huntington Avenue
Source: Beacon Architectural Associates, 2012

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Figure 3-11
Elevation - Vancouver Street
Source: Beacon Architectural Associates, 2012

Figure 3-12
Elevation - Louis Prang Street
Source: Beacon Architectural Associates, 2012

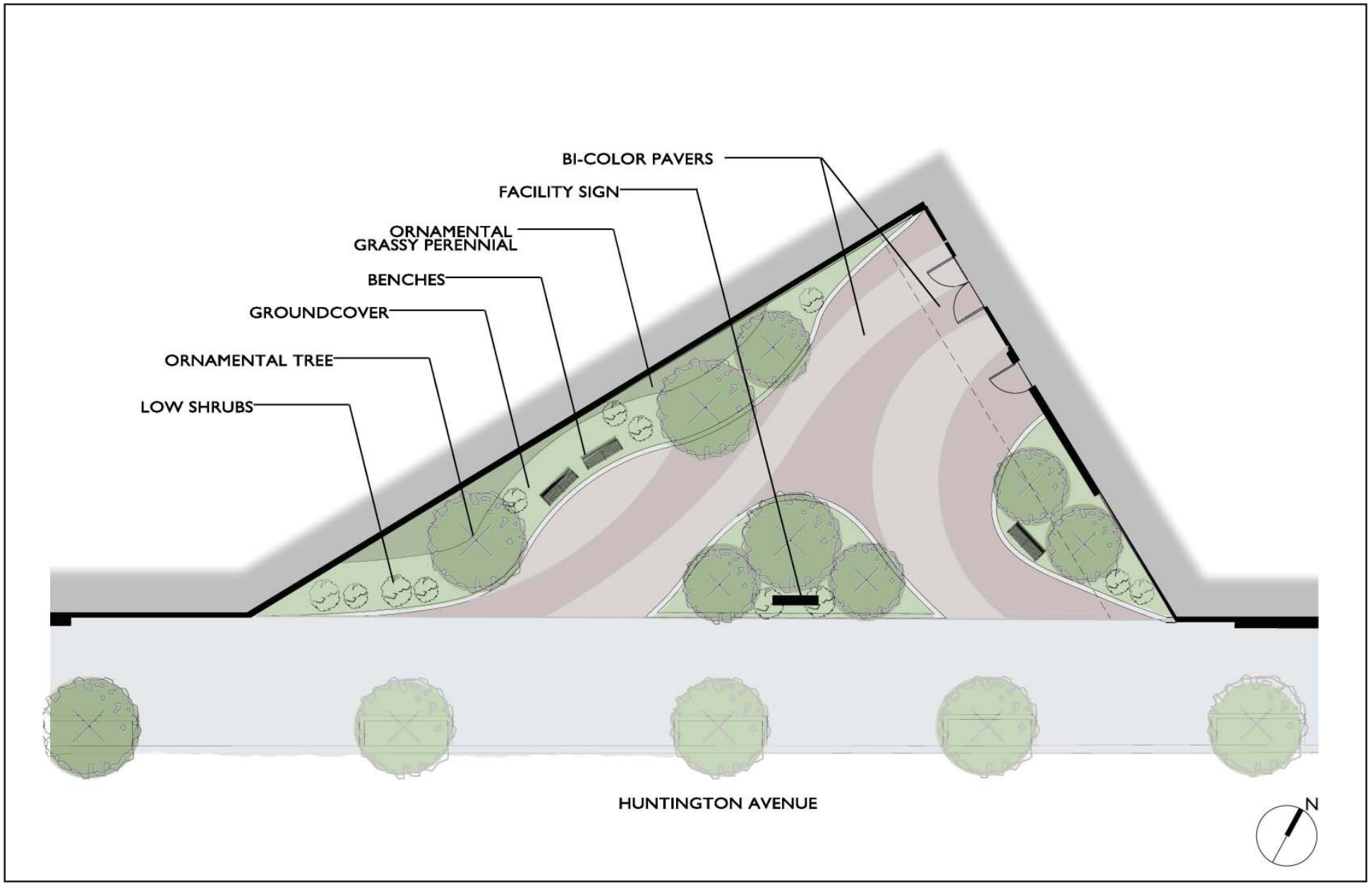

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Figure 3-13
Landscape Plan
Source: Beacon Architectural Associates, 2012

LEED 2009 for New Construction and Major Renovations

Project Checklist

Wentworth Student Residence, 525 Huntington Ave., Boston, MA 02115

Scorecard for PNF, July 2, 2012

Y	?	N			
21	**4**	**1**	**Sustainable Sites**	Possible Points:	**26**
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
5	**3**	**2**	**Water Efficiency**	Possible Points:	**10**
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
3	1		Credit 3	Water Use Reduction	2 to 4
11	**8**	**16**	**Energy and Atmosphere**	Possible Points:	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
6	4	9	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
3			Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2
4	**3**	**7**	**Materials and Resources**	Possible Points:	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
		3	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

Y	?	N			
			Materials and Resources, Continued		
1	1		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
9	**5**	**1**	**Indoor Environmental Quality**	Possible Points:	**15**
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
3	**3**		**Innovation and Design Process**	Possible Points:	**6**
	1		Credit 1.1	Innovation in Design: Exceed MRc2 to >95%	1
1			Credit 1.2	Innovation in Design: Exceed requirements of SSc4.1	1
1			Credit 1.3	Innovation in Design: Green Housekeeping	1
	1		Credit 1.4	Innovation in Design: Exceed MRc4 to >30%?	1
	1		Credit 1.5	Innovation in Design: Exceed MRc5 to >30%?	1
1			Credit 2	LEED Accredited Professional	1
1	**2**	**1**	**Regional Priority Credits**	Possible Points:	**4**
1			Credit 1.1	Regional Priority: SSc3	1
	1		Credit 1.2	Regional Priority: SSc7.1	1
	1		Credit 1.3	Regional Priority: SSc6.1; SSc7.2	1
		1	Credit 1.4	Regional Priority: EAc2 (1%); MRc1.1 (75%)	1
54	**28**	**28**	**Total**	Possible Points:	**110**

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

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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE

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Figure 3-14

LEED Scorecard

Source: AHA Consulting Engineers, 2012

Chapter 4

Transportation

CHAPTER 4: TRANSPORTATION

4.1 INTRODUCTION

The transportation analysis contained in the 2010 – 2020 Institutional Master Plan describes existing roadway and intersections, traffic volumes and traffic operations and levels of service. Details provided for the roadway network serving the campus included number of lanes, traffic volumes from 48-hour traffic recorder counts, and circulation. Traffic volumes, and traffic operations and level of service analyses were presented for eleven intersections. The Project as proposed is consistent with the analyses presented in the IMP, and therefore will not generate additional or unanticipated impacts.

The Wentworth Institute of Technology campus is served by a transportation system which provides good vehicular and transit access, and pedestrian and bicycle accommodations. In addition, Wentworth provides a comprehensive transportation demand management (TDM) program to encourage use of alternative modes of travel instead of driving alone.

4.2 EXISTING CONDITIONS

The Wentworth campus is located at the intersection of Huntington Avenue, a major east-west corridor through the city, and Ruggles Street, a major north-south corridor that connects I-93 with the Longwood Medical and Academic Area (LMA). As part of the IMP, traffic operations were analyzed at ten signalized and one unsignalized intersection adjacent to, and near, the Wentworth campus.

The current use of the site is pedestrian open space and a temporary, publicly accessible park. The uses of the existing site do not currently generate traffic trips or any transportation related impacts. See Figure 4-1, Transportation Context, for an illustration of these conditions.

4.2.1 ROADWAY SYSTEM

The most significant roadways serving the Wentworth campus include two regional arterial roadways, one collector roadway, and streets providing local circulation.

Huntington Avenue

Huntington Avenue is a four-lane median divided highway, which borders the Wentworth campus on the north. It is designated as Route 9, a major east-west corridor

between downtown Boston and communities to the west, through economically significant urban centers such as Framingham and Natick. The median contains the MBTA's E Branch of the Green Line. Each side of the roadway provides two travel lanes and no parking is allowed on either side.

Ruggles Street

Ruggles Street is part of a major north-south corridor that connects I-93 to the south with the Longwood Medical and Academic Area to the north. It separates the main part of the Wentworth campus on the west from Sweeney Athletic Field on the east. Adjacent to the Wentworth campus it provides three lanes, one in the southbound direction and two northbound. Ruggles Street ends at Huntington Avenue, north of which it is called Louis Prang Street. No parking is allowed on Ruggles Street.

Parker Street

Parker Street is a two-way, two-lane roadway between Huntington Avenue and Tremont Street. It separates the main campus on the north from the Annex buildings on the south. Metered parking is provided on both sides between Huntington Avenue and Ruggles Street. West of Ruggles Street unrestricted parking is generally allowed on both sides adjacent to the Wentworth campus.

Ward Street

Ward Street forms the western boundary of the Wentworth campus. It is a two-way, two-lane roadway connecting Huntington Avenue with Parker Street. No parking is allowed on either side of the roadway.

4.3 PROJECT IMPACTS

The Transportation and Parking Management/Mitigation Plan chapter of the Wentworth Institutional Master Plan (IMP) evaluated the impacts of the five projects proposed in the 2010 – 2020 horizon. The Wentworth Institute of Technology Student Apartments at 525 Huntington Avenue (the "Project") was included in this analysis. It was determined that the new student residence will add to the on-campus population, increasing the size of the resident community and reducing off- site commuter travel to the campus.

4.3.1 VEHICULAR TRAFFIC

The IMP concluded that a reduction in student vehicular trips resulting from an increase in on-campus housing and a decline in the number of commuting students is

expected to offset a projected increase in employee vehicles trips generated by projects studied in the IMP by 2020. Therefore there will be no additional vehicle trips to the area as a result of the IMP projects and Build condition traffic operations will be the same as the No-Build condition. The proposed project will have no impact on traffic in the area, and will in fact be expected to reduce commuter trips by encouraging upper classmen to live on-campus. The Project is a text-book example of the principles of "smart growth" providing state of the art on-campus housing with excellent pedestrian and public transit access.

4.3.2 PARKING

The on-campus parking supply includes nine parking areas with 1,133 spaces. Of that total, 813 spaces are reserved for use by Wentworth staff, students and visitors and 320 spaces are leased to Medical Academic and Scientific Community Organizations (MASCO) to serve the Longwood Medical Area (LMA). Peak utilization of parking provided for Wentworth users occurs at 11 AM, when approximately 82 percent of the spaces are occupied.

The parking supply available to Wentworth users is expected to increase by 133 net new spaces. The 403-space Parker Lot, which is currently used partially by Wentworth users (282 spaces) and partially used by MASCO (116 spaces), will be replaced by a 330-space facility under the proposed soccer field. The entire new facility will be available for Wentworth users. The 204-space Halleck Lot, which is leased to MASCO, will be made available to Wentworth users.

Because of these two changes, 320 spaces will no longer be available for lease to MASCO. The current parking available to Wentworth users will see a net reduction of 197 spaces because of the proposed future projects. To accommodate the planned IMP projects, the West Lot will eliminate 80 spaces, the Parker Lot will eliminate 73 spaces, the Annex Lot was reduced by30 spaces, and the Beatty Lot eliminated 14 spaces. The elimination of these 197 spaces, however, will be more than offset by the return to Wentworth use of 320 spaces in the Parker and Halleck lots currently leased to MASCO.

The change in future parking demand by Wentworth users is expected to be small. Based on an average vehicle mode share of 49 percent for faculty and staff, the 111 new employees expected on campus by 2020 would generate a maximum parking demand of 54 parking spaces. The reduction of 314 commuting students effectuated by the construction of The Project would result in a reduction in commuter student parking demand of about 32 spaces based on an average vehicle mode share of 10 percent. The net change in parking demand for commuting students and employees would be about 22 spaces. No significant change in resident student parking demand is expected

because freshmen and sophomores are not allowed to park overnight on campus and the amount of overnight parking is limited. Based on current peak utilization and the additional demand for 22 spaces, the future parking supply would be about 74 percent utilized at peak times.

The change in future parking demand by Wentworth users is expected to be small because the decline in commuter student parking will offset much of the increase in faculty and staff parking generated by projects described in the IMP. In addition, the number of spaces available to Wentworth users will increase. As a result, there will continue to be sufficient parking on the Wentworth campus.

4.3.3 PUBLIC TRANSPORTATION

As with future traffic, there will be no significant increase in the number of transit trips and no significant impacts on transit services from the Wentworth IMP projects, including the Student Apartments at 525 Huntington Avenue. The Project will provide housing within walking distance of classroom facilities, and will therefore reduce the number of transit trips otherwise induced by residents of off-campus housing commuting by automobile or other vehicles to their classes.

The Wentworth campus is readily accessible by public transportation, including rapid transit, bus service, and commuter rail. Two E Branch Green Line stations (Museum of Fine Arts and Longwood) are located on Huntington Avenue within a 5 to 10 minute walk of the entire campus. Two Orange Line stations at Ruggles and Roxbury Crossing are within a half mile of most buildings on campus. Ruggles Station also provides access to three commuter rail lines serving Massachusetts and Rhode Island communities, and about a dozen bus routes.

Five MBTA bus routes traverse Ruggles Street through the Wentworth campus. A bus stop and shelter are located on the northbound side of Ruggles Street just before the intersection with Huntington Avenue. A bus stop is located on the southbound side of Ruggles Street in front of Wentworth Hall.

4.3.4 PEDESTRIANS

Wentworth is a compact campus with all of its facilities located within a 5 to 7 minute walk of each other. For students, faculty, staff, and visitors the primary mode of transportation while on campus is walking. Wentworth Pike (the Pike), which runs through the campus in an east/west direction between Parker Street and Huntington Avenue, is Wentworth's primary pedestrian spine and a path heavily traveled each day by those making their way on to, and through, the campus. In most places on campus

the Pike is about 12 feet wide although a short section near the West Lot entrance is approximately 9 feet wide.

4.3.5 BICYCLES

Pedestrian and bicycle counts taken along the Pike show that it is used extensively.

Bicycle volumes between 9:00 a.m. and 4:00 p.m. ranged from 32 at the West Lot entrance to 49 at Huntington Avenue.

Wentworth provides 160 bicycle spaces at outdoor racks distributed throughout the campus.

In addition the Project will include a bicycle storage unit on the first floor to accommodate bicycles belonging to the resident population. Wentworth has also committed to participating in the Colleges of the Fenway bike-sharing program.

4.3.6 LOADING AND SERVICE

The Project will be accessed for loading and service functions via a new curb opening on Vancouver Street (a one-way street) through a secured overhead door in the building, located mid-way up the street. Service activities will include deliveries and trash pickup as well as recycling functions. The Project will be serviced by small to mid-sized trucks which will enter Vancouver Street via Louis Prang Street.

Depending on the size and nature of the vehicle, service vehicles will either back in to the facility or head-in directly. While some delivery vehicles may make short term stops at the building on Vancouver Street, at no time will permanent or long-term parking be allowed. Deliveries and service functions will not be permitted to occur on Huntington Avenue or Louis Prang Street.

4.3.7 MOVE-IN/MOVE-OUT

The one-day Move-in/move-out for third and fourth year students at the planned student residence will be conducted in the same fashion as for the upper level students at Louis Prang and Vancouver Apartments. Families will move-in from their cars on Vancouver Street. A color-coded parking pass is required and only one vehicle per student is allowed. After moving in is complete, vehicles must be relocated to the Parker Lot. Students will be allowed to load one vehicle on Vancouver Street. During move-in and move-out periods, access and egress to Vancouver Street will be controlled and monitored by Campus Police and Boston Police officers.

4.3.8 TRANSPORTATION DEMAND MANAGEMENT

Wentworth continues to employ a number of transportation demand management (TDM) strategies, which include the following:

- A $72 per month MBTA Charlie Card subsidy to employees
- Participation in the MBTA Corporate Pass Program, providing tax-free withholding from employees' pay for transit passes
- Participation in MBTA Student Semester Pass program
- Membership in the MASCO Transportation Management Association (TMA) "CommuteWorks" Program
- Financial support for MASCO shuttle service to campus
- Carpool/vanpool matching through MASCO TMA
- Fees for parking for staff, faculty and students
- 160 bicycle spaces at racks distributed throughout the campus
- Participation in the Bike Week Commuter Challenge via MASCO's CommuteWorks Program
- Providing transit schedules and route information via links to MBTA website
- Provisions for motorcycle parking
- Emergency Ride Home via MASCO's CommuteWorks Program
- Additional on-campus residential beds

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Figure 4-1
Transportation Context
Source: Wentworth Institute of Technology IMP, 2012

Chapter 5

Environmental

CHAPTER 5: ENVIRONMENTAL

5.1 INTRODUCTION

The Wentworth Institute of Technology Student Apartments at 525 Huntington Avenue ("the Project") will be built in full compliance with local, state, and federal environmental regulations. The Project will incorporate the latest in building design methods and technology to ensure minimal impact to the environment. In addition, this previously developed site is well-served by extensive utility, transportation, and transit infrastructure.

5.2 WIND

The Project will replace an existing landscaped open space. The seven story, L-shaped structure will cover approximately 84 percent of the project site. Publicly accessible areas, including sidewalks, will remain unchanged following construction. The Project is not expected to change wind levels in the vicinity due to the similarity in form and proximity to adjacent buildings on Louis Prang and Vancouver Streets. The Project's longest elevation, which is broken by a pedestrian level plaza, fronts on Huntington Avenue, a wide boulevard which does not function as a wind tunnel in the area.

As a result of the proposed condition, Pedestrian Level Winds (PLWs) along adjacent sidewalks are not anticipated to exceed the BRA guidelines of wind speeds of 31 miles per hour. The Proponent will conduct a qualitative analysis of potential impacts as part of future filings with the BRA.

5.3 SHADOW

The following is in reference to the shadow study images shown in Figures 5-1 through 5-4. All new shadows projected from the Project are indicated in light red with existing building shadows shown in light grey.

5.3.1 VERNAL EQUINOX – MARCH 21ST (FIGURE 5-1)

At 9AM, the new building's shadow is cast in a northwesterly direction onto the existing residential buildings across from the site on Vancouver Street. All of Vancouver Street and a portion of the south side sidewalk along Louis Prang Street are impacted by

shadow. The remainder of Louis Prang Street and all of Huntington Avenue, including the building's entry plaza, are completely in sunlight.

At 12PM, shadow is cast in a northerly direction extending to the middle of Vancouver Street and across Louis Prang Street to the face of the existing Museum Parking building. The western side of Vancouver Street and all of Huntington Avenue, including the building's entry plaza, are in natural light.

At 3PM, the building's shadow falls to the northeast leaving all of Vancouver Street and Huntington Avenue in sunlight. The shadow extends across Louis Prang Street and on to the neighboring buildings across this street, including a portion of the Museum Parking structure. The shadow projection also places the new facilities triangular shaped Huntington Avenue side entry plaza in shadow.

5.3.2 SUMMER SOLSTICE – JUNE 21ST (FIGURE 5-2)

At 9AM, the proposed building shadow is cast in a westerly direction onto the face of the existing residential buildings across from the site on Vancouver Street placing all of Vancouver Street in shadow. The remainder of Louis Prang Street and all of Huntington Avenue, including the building's entry plaza, are entirely in sunlight.

At 12PM, shadow is cast from the new development directly north extending to the middle of Louis Prang Street while producing a shadow on the project site sidewalk along Vancouver Street. There are no neighboring building's impacted by the building's shadow. All of Vancouver Street and Huntington Avenue, including the building's entry plaza, are bathed in sunlight.

At 3PM, shadow falls to the east extending across Louis Prang Street to the opposite street side sidewalk towards the Huntington Avenue corner. The shadow projection also places the new facilities Huntington Avenue sidewalk and entry plaza under shadow.

At 6PM, long shadows are cast to the southeast clear across Huntington Avenue and extending down Ruggles Street. Only landscaped and hardscape areas are altered by this shadowing as no buildings are affected.

5.3.3 AUTUMNAL EQUINOX – SEPTEMBER 21ST (FIGURE 5-3)

The shadow studies for this autumnal equinox are identical to those described under the vernal equinox except for the observance of daylight savings time where at 6PM the sun will be setting to cast less visible shadows in an easterly direction from the site onto Huntington Avenue towards Ruggles Street.

At 9AM, the new building's shadow is cast in a northwesterly direction onto the existing residential buildings across from the site on Vancouver Street. All of Vancouver Street and a portion of the south side sidewalk along Louis Prang Street are impacted by shadow. The remainder of Louis Prang Street and all of Huntington Avenue, including the building's entry plaza, are completely in sunlight.

At 12PM, shadow is cast in a northerly direction extending to the middle of Vancouver Street and across Louis Prang Street to the face of the existing Museum Parking building. The western side of Vancouver Street and all of Huntington Avenue, including the building's entry plaza, are in light.

At 3PM, the building's shadow falls to the northeast leaving all of Vancouver Street and Huntington Avenue in sunlight. The shadow extends across Louis Prang Street and on to the neighboring buildings across this street, including a portion of the Museum Parking structure. The shadow projection also places the new facilities triangular shaped Huntington Avenue side entry plaza in shadow.

5.3.4 WINTER SOLSTICE – DECEMBER 21ST (FIGURE 5-4)

At 9AM, long shadows extend in a northwesterly direction over the neighboring buildings across from the site on both Vancouver Street and Louis Prang Street. The remainder of Louis Prang Street and most of the Huntington Avenue side of the site, except for the westerly portion the building's entry plaza under shade from the existing fire station, are sunlit.

At 12PM, shadow is cast directly north across Vancouver Street and Louis Prang Street and onto the existing Museum Parking building. All of Huntington Avenue, including the building's entry plaza, is in sunlight.

At 3PM, extensive shadows ascends to the northeast across Louis Prang Street and onto the neighboring buildings across this street, while also placing a portion of the new facilities triangular shaped Huntington Avenue entry plaza in shadow. The building site along both Vancouver Street and Huntington Avenue remains in sunlight.

5.3.5 CONCLUSIONS

The urban block formed by Huntington Avenue, Louis Prang Street and Evans Way is situated within an area of substantial building infill. This "block" contains taller buildings which create existing shadow effects on most of the area. The proposed seven story building will exert slight impacts on portions of Vancouver Street, Louis Prang Street, and Huntington Avenue. These impacts will be scarcely perceptible to residents of adjacent buildings and pedestrians, due to both the substantial width of these streets

which allows for the diffusion of indirect sunlight and as the proposed structure's similar scale and height to existing structures. The creation of the active and well lighted entry plaza will also provide visual mitigation to the shadow impacts on Huntington Avenue.

5.4 DAYLIGHT AND SOLAR GLARE

The project site is currently undeveloped and contains a temporary landscaped open space. Following construction the Project, some daylight obstruction will occur along Vancouver Street, Louis Prang Street, and Huntington Avenue. A separation of approximately sixty feet between buildings at the street face will significantly reduce the perception of diminished daylight. The redevelopment of this site from its original use as a gasoline service station will complete the urban blocks and complement the surrounding streetscape with a more consistent face on Huntington Avenue and surrounding streets. The L-shaped building configuration, in combination with new public plaza, will serve to maintain daylight and public gathering space along Huntington Avenue.

Building glazing will be selected to reduce solar glare and increase the efficiency of the building envelope. It is anticipated that there will little or no perceptible impact from solar glare.

5.5 AIR QUALITY

The Project is not expected to adversely impact air quality in the Project area. Sources of activities that may potentially affect air quality are discussed below.

5.5.1 TRAFFIC SOURCES

There will be no long-term air quality impacts from pollutant emissions as the Project will not generate vehicular traffic. No reduction in levels of service of surrounding intersections is expected, as no parking on the site will be provided. In fact, a net decrease in vehicular traffic is expected.

5.5.2 BUILDING OPERATION SOURCES

The proposed building will include new building systems that may affect air quality. With respect to indoor air, the building HVAC systems will be built to code compliant systems that will provide a significantly greater rate of air exchange over existing conditions. A variety of air handling systems will be placed within the attic mechanical rooms that will service common areas, mechanical rooms, residential suites, and the health services facility.

Installation of a new emergency generator will involve some increase in emissions from a diesel powered engine. However, the generator will be operated only sporadically during emergencies and for routine operational testing, and will be in conformance with current standards for air emissions regulated by the state Department of Environmental Protection.

5.6 NOISE

The primary sources of external mechanical noise will include air ventilations systems that are part of the project mechanical systems. It is not anticipated that the rooftop equipment will exceed maximum sound levels. This equipment will be enclosed in a penthouse or screened which will provide maximum noise mitigation. During the final design of the project, appropriate low-noise mechanical equipment in the mechanical penthouse and noise control measures will be selected for all sensitive locations to ensure compliance with the City of Boston and DEP noise regulations.

The Residential portion of the building as well as Common areas are to be heated and air conditioned by means of 4-pipe fan coil units. The system will require a 240-ton air cooled chiller which will be located on the roof. Heating hot water will be supplied via two (2) 1,500 CFH gas-fired condensing boilers.

The roof level Penthouse will contain boilers, HW pumps, CHW pumps and hydronic accessories. We will utilize two (2) energy recovery units (exhaust from the toilets; supply for makeup to the common corridors). There will also be some additional equipment on the roof, such as a kitchen and electric room exhaust fans, and stairwell pressurization fans.

There will be a diesel fired 250 kW life safety emergency generator to serve the building. The unit will be located in a sound attenuated acoustical enclosure mounted on the roof.

5.7 GROUNDWATER

The project site is located within the Groundwater Conservation Overlay District (GCOD) as outlined in Article 32 of the City of Boston Zoning Code. Because of the site's location in a GCOD, the project plans to promote infiltration of rainwater into the ground and the proponent will certify that the project will not negatively impact groundwater levels on the site or on adjacent lots pursuant to the provisions of Article 32, Section 6.

The Proponent anticipates that the below-grade construction will be performed within a continuous temporary steel sheet pile cofferdam driven into the impervious clay deposit. Under this scenario the perimeter steel sheet piling will provide a positive groundwater cut-off during

the construction phase of the project which will minimize the impact of temporary construction dewatering performed within the limits of the project site on adjacent properties.

The proposed below-grade perimeter foundation walls and foundation are expected to be protected against groundwater intrusion by the utilization of a membrane type waterproofing. Note that continuous pumping of groundwater for the permanent building condition will not be performed, and therefore the project is not anticipated to have an adverse impact on the groundwater level within or adjacent to the site.

The project will coordinate with the Boston Groundwater Trust to protect groundwater levels in the area, and it may include the installation of groundwater observation wells in the vicinity of the site before site excavation to facilitate monitoring of the groundwater level before, during, and following construction.

5.8 GEOTECHNICAL

Existing ground surface is anticipated to be underlain by a 10- to 12-foot thickness of granular fill. The upper 3 to 4 feet of the fill is anticipated to consist of "clean" fill that was imported to the site as a result of the response actions which are discussed in Section 5.12.1, Site History and Compliance with the Massachusetts Contingency Plan.

The lower 6 to 9 feet of fill is anticipated to consist of urban fill. The fill is anticipated to be underlain by an organic deposit approximately 18 to 25 feet in thickness. Below the organic layer, a 5 to 8-foot thick natural outwash deposit consisting of dense sand and gravel is anticipated to be present. The surface of the outwash deposit is anticipated to range from depths of about 30 to 35 feet below ground surface. The outwash deposit is anticipated to be underlain by a deposit of firm to stiff marine clay that extends to a depth of about 120 feet below the existing ground surface. A compact to dense marine sand deposit is anticipated to directly underlie the marine clay and extend to a depth of about 200 feet below ground surface. The marine sand deposit is anticipated to be underlain by successive deposits of glacial till and bedrock. Groundwater is anticipated to be present at around Elevation +7.5 which corresponds to a depth of about 11 feet below the ground surface.

Construction of the basement level will likely require an excavation approximately 15 feet deep throughout the proposed building footprint. The lateral earth support system will likely consist of interlocking steel sheet piling driven into the impervious marine clay deposit around the perimeter of the excavation. The perimeter steel sheet piling will provide a positive groundwater cut-off during the construction phase of the project.

Foundation support for the below-grade level will likely consist of a caisson or pile-supported waterproofed mat designed to resist the hydrostatic uplift pressure resulting from the

groundwater level being about eleven feet below existing ground surface. The perimeter walls of the basement will be protected against groundwater intrusion by the utilization of a membrane type waterproofing. The portion of the proposed structure with no below-grade space will also be caisson or pile-supported.

5.9 CONSTRUCTION IMPACTS

A Construction Management Plan (''CMP''), in compliance with the City of Boston's Construction Management Program, will be submitted to the Boston Transportation Department. This plan will include detailed information about construction activities, specific construction mitigation measures and construction materials access and staging area plans to minimize impact on the surrounding neighborhood.

Construction methodologies that ensure public safety and protect nearby residents will be employed. Techniques such as barricades, walkways and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment and will include plans for construction worker commuting, routing plans for trucking and deliveries, and control of noise and dust. Although the design of the building is in process, Wentworth has begun to identify preliminary elements of how traffic, parking, and construction staging will be managed during construction. Provisions for construction worker parking will be addressed in the Construction Management Plan.

A fenced lay down and work area will be established to separate construction activity from day-to-day pedestrian and vehicular traffic on campus.

Construction Air Quality

Short-term air quality impact from fugitive dust may be expected during the removal of soil materials and during the early phases of the Project site preparation activities. The construction contract for the project will require the contractor to reduce potential emissions and minimize air quality impacts. Mitigation measures are expected to include the use of wetting agents where needed on a scheduled basis, covered trucks, minimizing exposed construction debris stored on-site, monitoring construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized, locating aggregate storage piles away from areas having the greatest pedestrian activity where and when possible, and periodic cleaning of streets and sidewalks to reduce dust accumulations.

Construction Noise Impacts

Intermittent increases in noise levels will occur in the short term during the construction of the new building. Work will comply with the requirements of the City of Boston noise ordinance.

Efforts will be made to minimize the noise impact of construction activities, including appropriate mufflers on all equipment such as air compressors and welding generators, maintenance of intake and exhaust mufflers, turning off idling equipment, replacing specific operations and techniques with less noisy ones, scheduling equipment operations to synchronize the noisiest operations with times of highest ambient noise levels, and scheduled blasting times, if necessary.

Sediment Control Measures

During demolition and construction, erosion and sediment control measures will be implemented to minimize the transport of Project site soils to off-site areas and BWSC storm drain systems. The existing catch basins will be protected with filter fabric or silt sacks to provide for sediment removal 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 will be installed at the base of stockpiled soils and at erosion-prone areas throughout the construction phase of the Project. The 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.
- Measures to control dust will be implemented during renovations. All debris will be properly contained on the Project site.
- Erosion controls will be maintained and replaced as necessary until the installation of pavement and the establishment of stabilized vegetation at the Project site.

Rodent Control

The contractor will file a rodent extermination certificate with the building permit application to the City. Rodent inspection, monitoring and treatment will be carried out before, during and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to commencing work will treat areas throughout the project site, including building interiors. During the construction process, regular service visits will be made to maintain effective rodent control levels.

5.10 WILDLIFE HABITAT

The Project Site is fully developed with urban landscape materials and, as such, the Project will not impact important wildlife habitats. According to the latest Natural Heritage & Endangered Species Program maps, no Priority or Estimated Habitats are located on or near the project site.

5.11 FLOOD HAZARD DISTRICT/WETLANDS

It is not anticipated that the Project area will be susceptible to conditions of flooding. The Federal Emergency Management Agency (''FEMA'') Flood Insurance Rate Map (''FIRM'') indicates the FEMA Flood Zone Designations for the Project Site (City of Boston, Community-Panel Numbers 25025C0078G). The FIRM for the Project site does not show the Project lying in any flood zone areas, nor does the Project site contain any wetlands.

5.12 SOLID AND HAZARDOUS WASTE

Based on the results of subsurface explorations completed at the site, soil and groundwater at the site are impacted by the historic release of petroleum and gasoline. Contamination is generally confined to soils, at depths of 3.5 to 15-feet below existing surface grades and in groundwater.

5.12.1 SITE HISTORY AND COMPLIANCE WITH THE MASSACHUSETTS CONTINGENCY PLAN

Historically the site operated as a petroleum-filling station and a convenience store from approximately 1930 through 2007. The site is the location of two Massachusetts Contingency Plan (MCP) disposal sites referenced as Release Tracking Numbers (RTN) 3-11149 and 3-15055 which have been linked under RTN 3-11149. It is understood that surficial releases of petroleum occurred as a result of filling activities and additional petroleum releases to soil and groundwater occurred as a result of leaking underground storage tanks (USTs). Contaminants in site soil and/or groundwater are understood to include petroleum-related constituents such as extractable petroleum hydrocarbons (EPHs), volatile petroleum hydrocarbons (VPHs), polycyclic aromatic hydrocarbons (PAHs), and total lead.

Various response actions were completed at the subject site from 1994 through 2008 to address the releases to site soil and groundwater. As part of response activities, it is understood that the upper 3.5 feet of soil was removed from the site and replaced with ''clean'' gravel fill underlain by a marker barrier. On January 22, 2009, an Activity and Use Limitation (AUL) was recorded for the facility under RTN 3-11149 at the Suffolk County Registry of Deeds. It is understood that the current AUL prohibits use of the

site for residential purposes. The response actions completed to date culminated in the submittal of a Class A-3 Response Action Outcome (RAO) Statement in December 2011.

Additional remediation would be completed during construction under a Release Abatement Measure (RAM) Plan in conjunction with the foundation excavation for the new building as described in Section 5.8 - Geotechnical Impacts. Upon completion of the RAM, a RAM Completion Report, a Risk Characterization and a Revised RAO Statement will be prepared and submitted to the Massachusetts Department of Environmental Protection (DEP) indicating that a Permanent Solution was achieved and that a Condition of No Significant Risk exists at the site. Further, the current AUL will be retracted and a revised AUL which permits residential use will be filed.

Prior to general excavation, pre-characterization of site soils for off-site disposal will be performed in accordance with current DEP Policy within the planned depth of excavation. In addition, procurement of a temporary groundwater dewatering discharge permit from the Environmental Protection Agency (EPA), DEP, and Boston Water and Sewer Commission will be required for temporary pumping and discharge of site groundwater from within the steel sheetpile cofferdam during construction

5.13 HISTORIC RESOURCES

5.13.1 HISTORIC RESOURCES ON THE PROJECT SITE

The project site is presently a landscaped park. Prior uses of the site included a Shell – branded gasoline station which was decommissioned at the end of February 2007. A drive-through car wash was removed from the project site in March of 2008. As a result of the presence of contaminants and subsequent actions to remediate portions of the site, the current use was initiated by Wentworth Institute of Technology to serve as an interim condition to provide a public amenity while planning for an appropriate future use could take place.

No cultural or historic resources were identified on the project site during its use as a gasoline station, or subsequently during demolition and remediation activities.

5.13.2 HISTORIC RESOURCES IN THE VICINITY OF THE PROJECT SITE

Tables 5-1 through 5-3 show properties and districts in the immediate vicinity of the Project (approximately one quarter mile). Four sites of interest have been identified in the National and State Registers of Historic Places, as shown in Tables 5-1 and 5-2. The Back Bay Fens is an individual Local Landmark (LL), and the Olmsted Park System of which it forms a part is a National Register District (NRDIS). The Isabella Stewart Gardener Museum, located at 280 The Fenway, is individually listed on the National Register (NRIND) and a Pending Local Landmark (LL). The Greek Orthodox Cathedral of New England is also individually listed on the National Register. The Museum of Fine Arts, located at 465 Huntington Avenue, is a pending Local Landmark. The sites of these resources are mapped in Figure 5-5, Historic Resources. Numerous other buildings have been identified in the Massachusetts Cultural Resource Information System, but have not received designations of any kind. Table 5-3 presents other properties identified in the Inventory of Historic and Archaeological Assets of the Commonwealth, within the same vicinity.

Due to its location and similar scale to existing building in the immediate area, as well as the lack of proximity to identified historic resources in the vicinity, the Project will have no visual or other impact on any of these properties.

Table 5-1, Districts Listed in the State and National Registers

Name	Other Designations
Olmsted Park System Back Bay Fens, Muddy River Boston, Brookline	Back Bay Fens, Local Landmark

Table 5-2, Individual Properties Listed in the State and National Registers

Name	Other Designations
Gardner, Isabella Stewart Museum 280 The Fenway	Pending Local Landmark
Greek Orthodox Cathedral of New England 520 Parker St.	

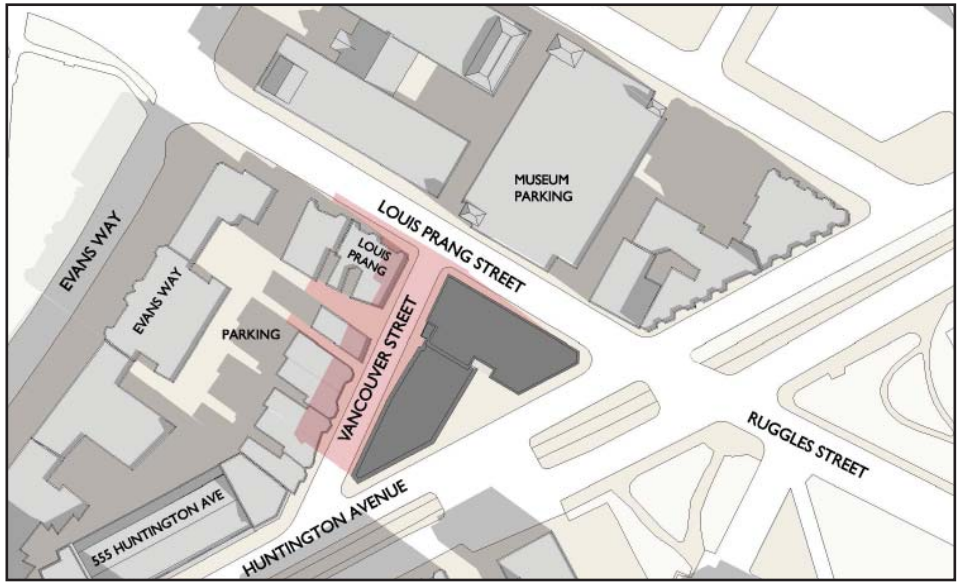
Table 5-3, Other Properties Identified in the Inventory of Historic and Archaeological Assets of the Commonwealth

Name	Other Designations
Boston Public Latin High School 78 Louis Pasteur Ave.	
Endicott, John Monument Forsyth Way	

Name	Other Designations
Museum Villa Apartments 465-460 Huntington Ave.	
Beaufort, the Apartments 464 Huntington Ave.	
Boston Museum of Fine Arts 465 Huntington Ave.	Pending Local Landmark
Stanley, Martha Apartment Building 641 Huntington Ave.	
Holmes, William Apartment Building 643-645 Huntington Ave.	
Carlton Apartment Building 160 Longwood Ave.	
Westcourt Apartment Building 164 Longwood Ave.	
Massachusetts College of Pharmacy 179 Longwood Ave.	
Angell Memorial Animal Hospital 180 Longwood Ave.	
Girls Latin School Palace Rd.	
Collins, Patrick A. Model School Palace Rd.	
Boston Normal School Palace Rd.	
Clemente, Roberto Field Park Drive	
School of the Museum of Fine Arts 230 The Fenway	
Simmons Female College 300 The Fenway	
Green, Joseph Three-Family House 7 Vancouver St.	
Gilligan, William Apartment Building 456 Parker St.	
Allen, Ira Public School 540 Parker St.	
Boston Trade School 550 Parker St.	

Massachusetts Cultural Resources Information System, July 2012

Boston Landmarks Commission lists of designated Boston Landmarks and petitions pending before the Commission, July 2012



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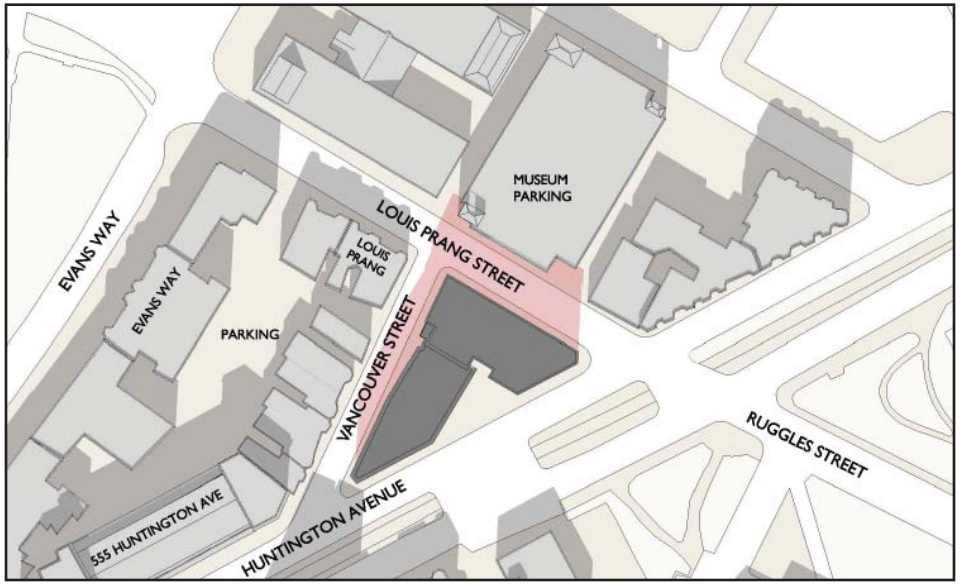

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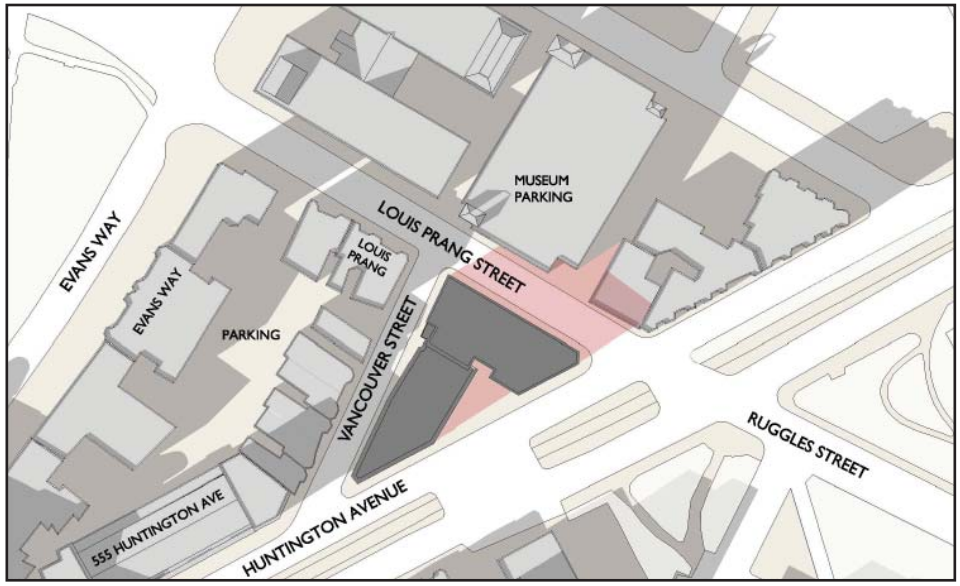

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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
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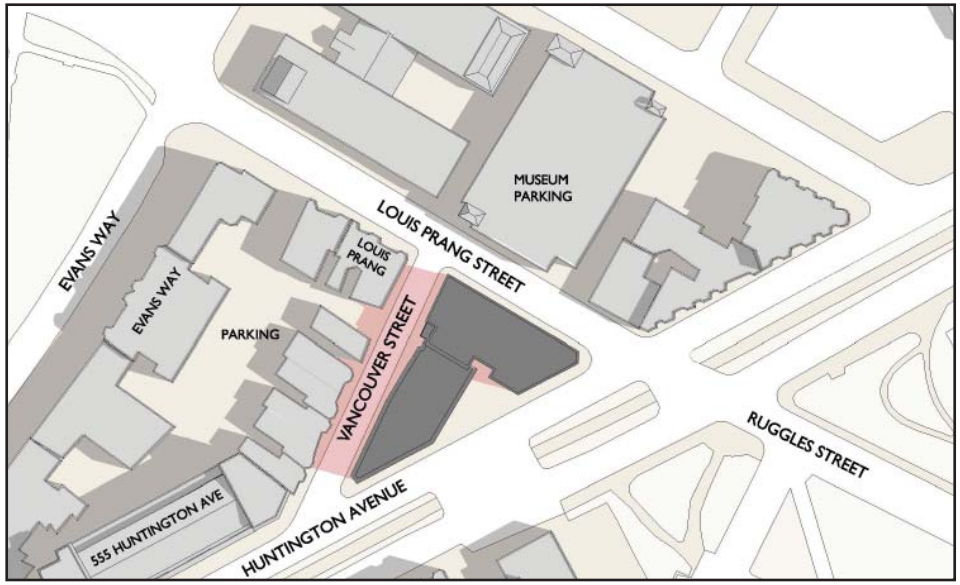
Figure 5-1
Shadow Studies, March 21
Source: Beacon Architectural Associates, 2012



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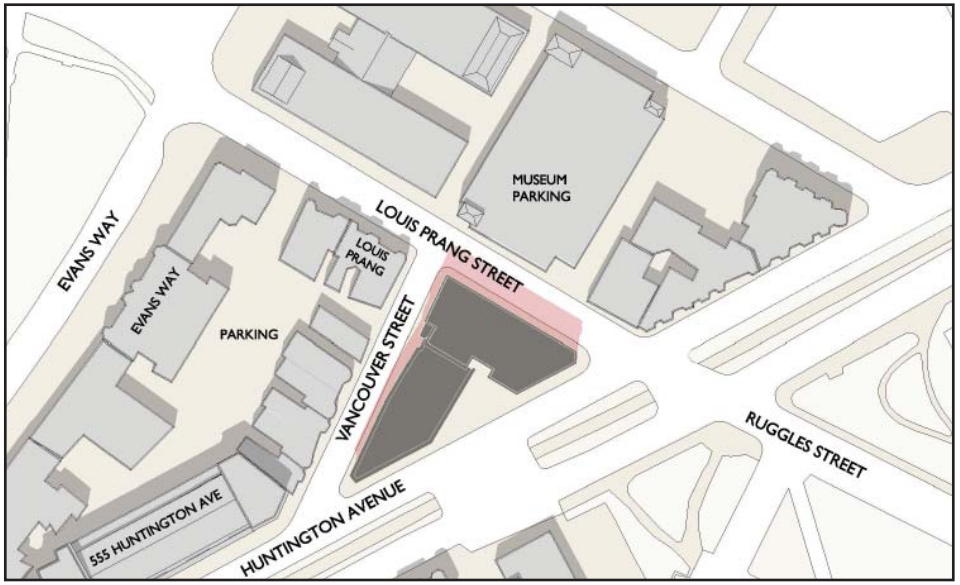

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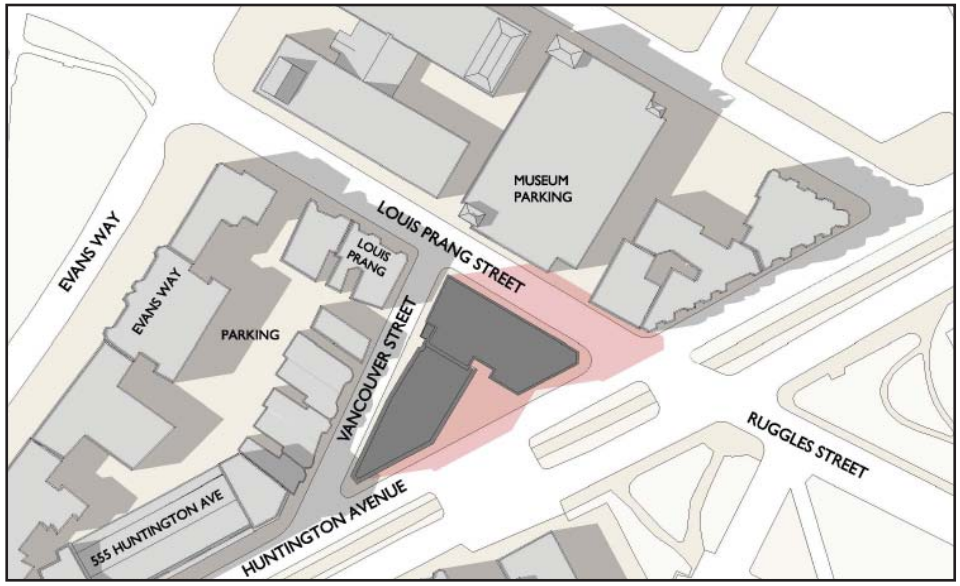

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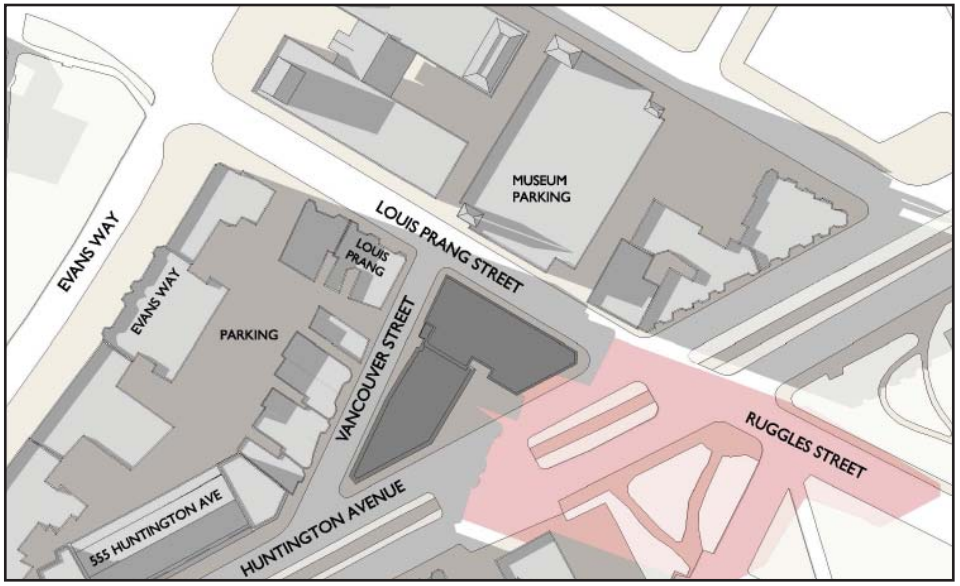

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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
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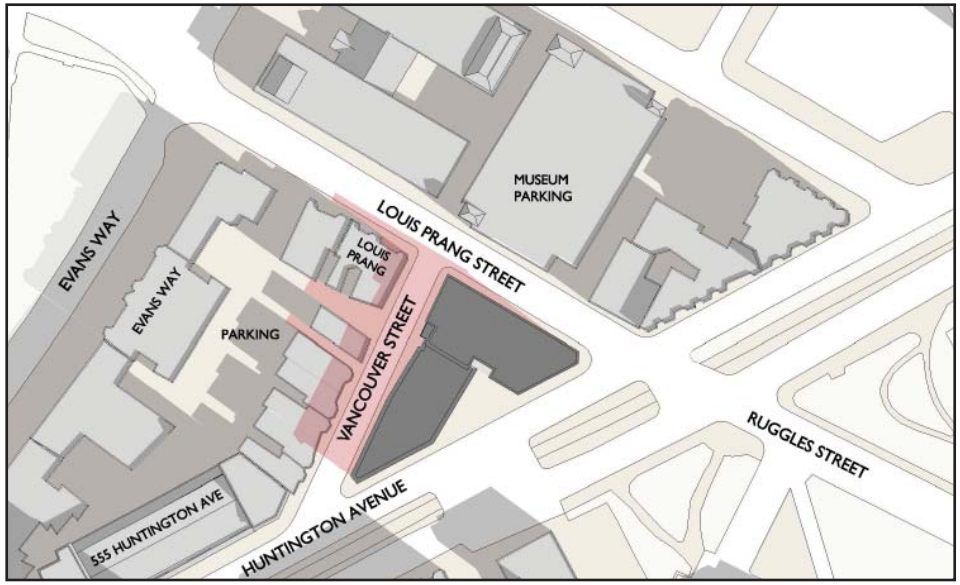
Figure 5-2
Shadow Studies, June 21
Source: Beacon Architectural Associates, 2012



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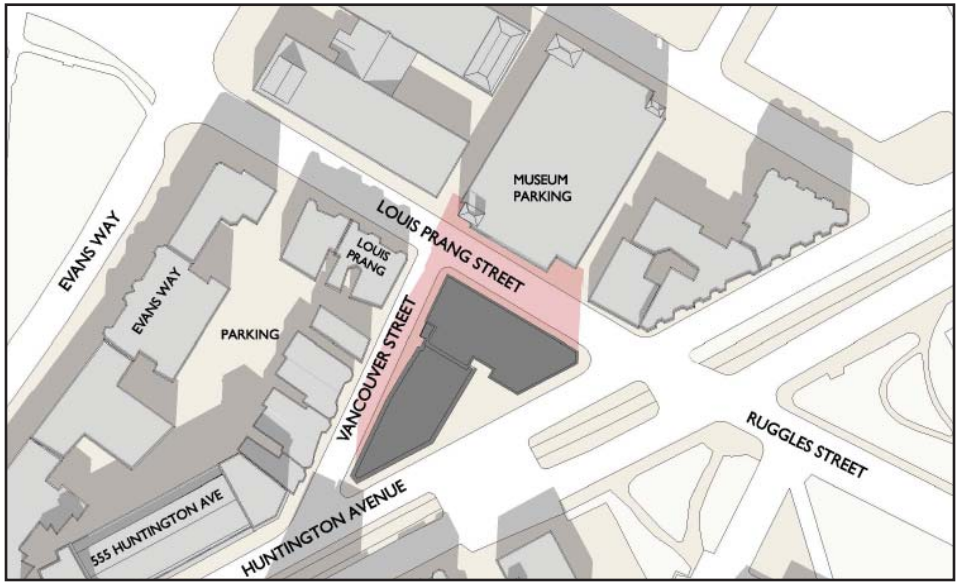

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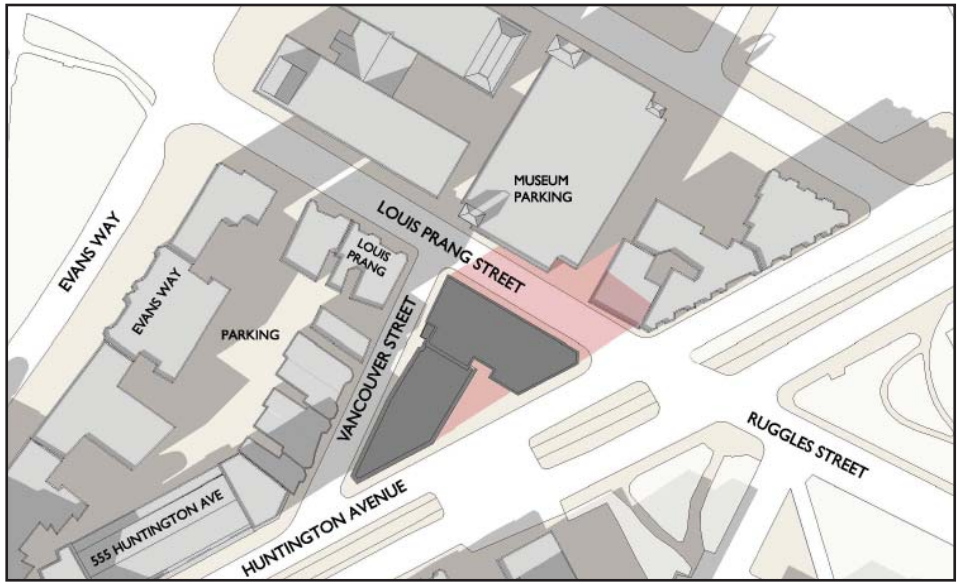

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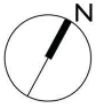

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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
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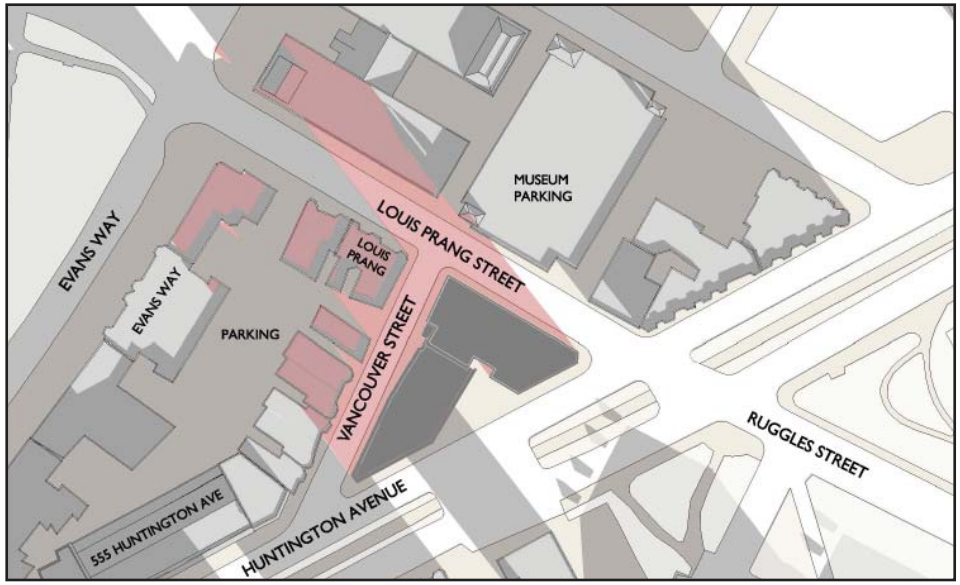
Figure 5-3
Shadow Studies, September 21
Source: Beacon Architectural Associates, 2012



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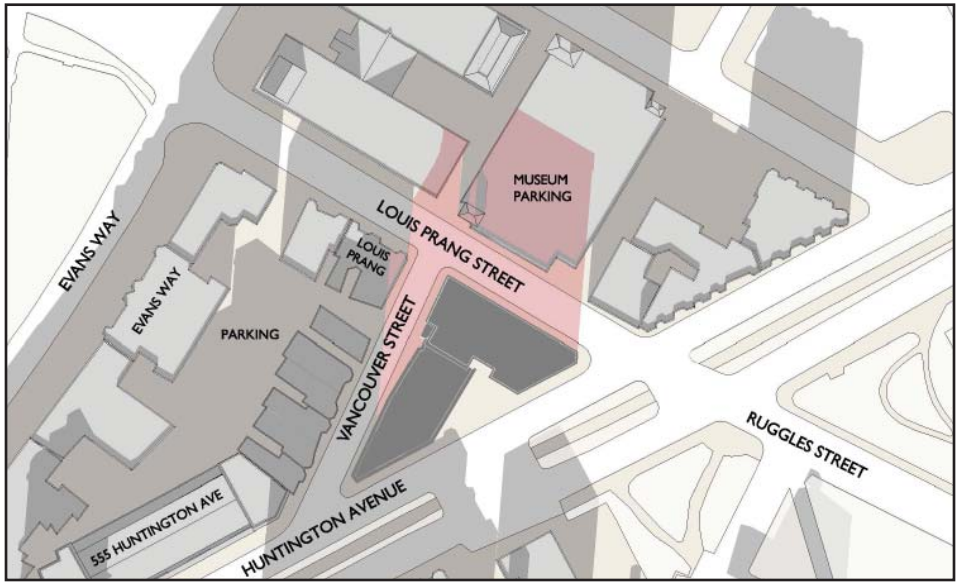

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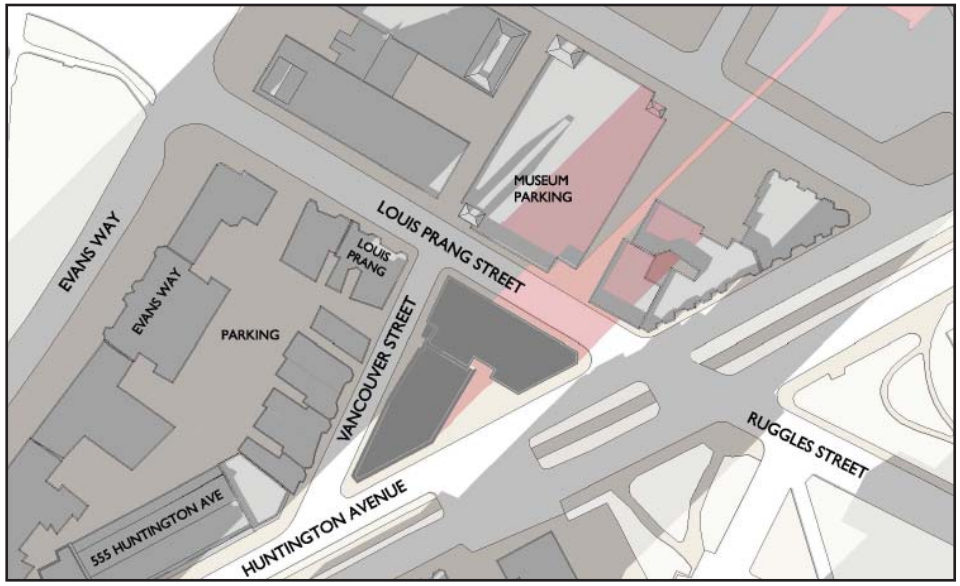

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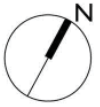

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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
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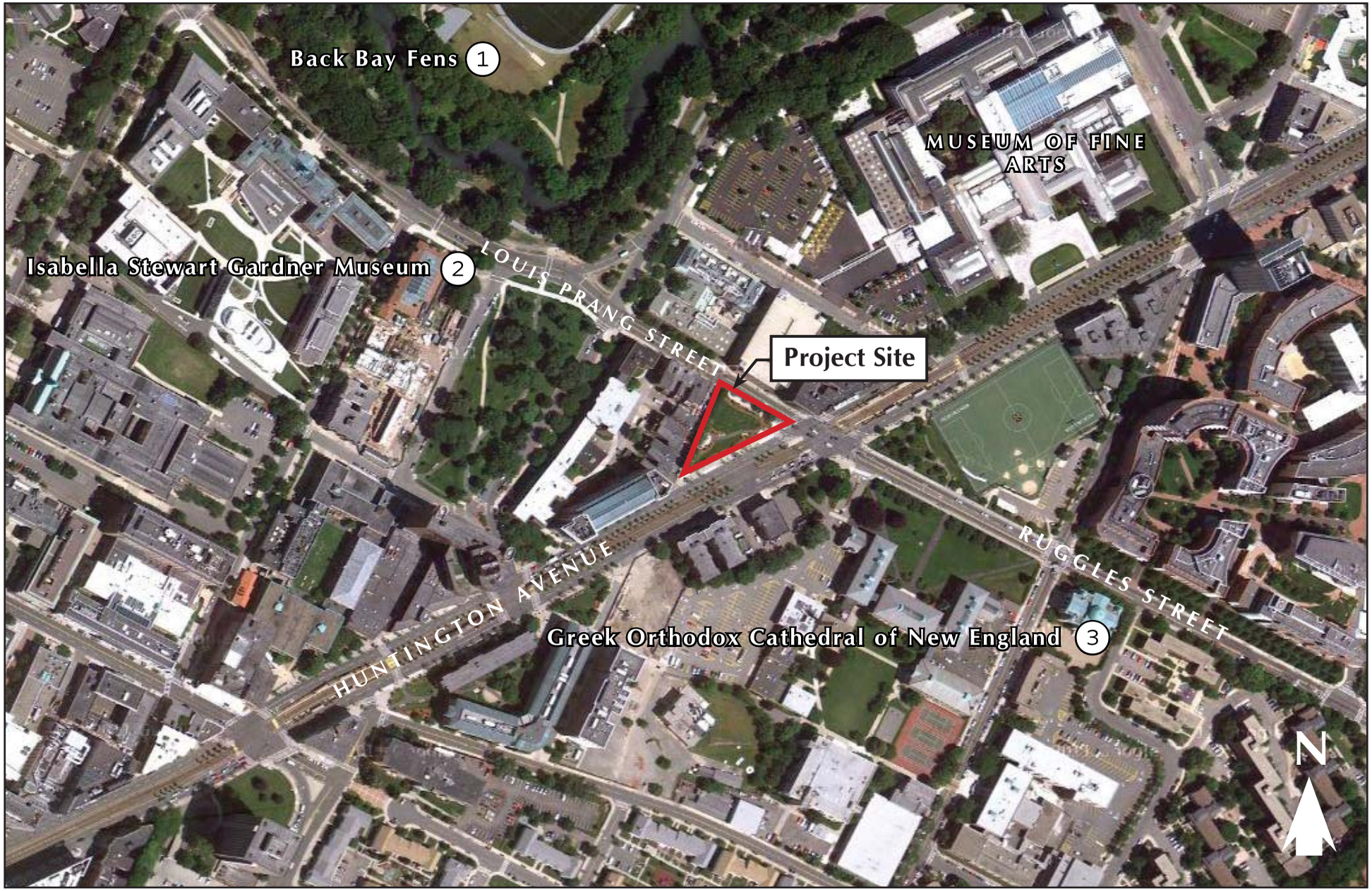
Figure 5-4
Shadow Studies, December 21
Source: Beacon Architectural Associates, 2012



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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
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Figure 5-5
Historic Resources
Source: Massachusetts Cultural Resource Information System, 2012

Chapter 6

Infrastructure

CHAPTER 6: INFRASTRUCTURE

6.1 INTRODUCTION

This chapter describes the existing utilities surrounding the project site, the proposed connections required to provide service to the new structures, and any impacts on the existing utility systems that may result from the construction of the Project.

6.2 SANITARY SEWER SYSTEM

Boston Water and Sewer Commission (BWSC) record drawings indicate a 66-inch Metropolitan Water Resources Administration (MWRA) combined sewer and a 30-inch by 36-inch sewer main exist in Louis Prang Street. The site survey shows a 66-inch by 55-inch MWRA sewer main and a 30-inch by 36-inch combined sewer in Louis Prang Street.

The BWSC drawings show a 78-inch MWRA sewer main in Huntington Avenue. The site survey indicates the 78-inch main is a combined sewer.

The BWSC drawings show a 78-inch by 84-inch MWRA sewer main in Vancouver Street and a 30-inch by 36-inch BWSC sewer main in Vancouver Street. The BWSC sewer and the MWRA sewer appear to connect to the 66-inch MWRA combined sewer in Louis Prang Street. The site survey shows a 78-inch by 90-inch MWRA sewer main and a 30-inch by 36-inch sewer main in Vancouver Street. The survey shows the 30-inch by 36-inch main connects to the 30-inch by 36-inch combined sewer in Louis Prang street. The survey shows the 78-inch by 90-inch MWRA sewer connects to the 66-inch by 55-inch MWRA sewer in Louis Prang Street. The MWRA sewer appears to flow southwest down Vancouver Street to the Ward Street Headworks Sewer Station south of Huntington Avenue. The BWSC sewer appears to connect to a 51-inch by 53-inch Massachusetts Bay Transportation Authority (MBTA) sewer in Huntington Avenue, and direct flows northeast along Huntington Avenue.

The existing sewer system adjacent to the site is illustrated in Figure 6-1, BWSC Sewer System Map. The project site does not have any existing sewer connections to the BWSC system and there are no sanitary sewage discharges from the existing site.

6.2.1 WASTEWATER GENERATION

The Project's sewage generation rates were estimated using the Massachusetts Division of Water Pollution Control Sewer System Extension and Connection Permit Program

section 314 CMR 7.00, and the proposed building program. 314 CMR 7.00 lists typical generation values for the sources listed in Table 6-1 for the Proposed Project. Typical generation values are generally conservative values for estimating the sewage flows from new construction. 314 CMR 7.00 sewage generation values are used to evaluate new sewage flows or the increase in flows to existing connections. Table 6-1 describes the increased sewage generation in gallons per day (gpd) for each phase of the Proposed Project.

Table 6-1, Existing and Proposed Project Sewage Generation

Existing Flows

Room Use	Size	310 CMR Value (gpd/unit)	Total Flow (gpd)
Undeveloped Site			
		Total Existing Flows	0

Proposed Flows

Room Use	Size	310 CMR Value (gpd/unit)	Total Flow (gpd)
Residential Units	305 bedrooms	110/ bed	33,440
		Total Proposed Flows	33,440

6.2.2 SEWAGE CAPACITY & IMPACTS

The Proposed Project's impacts to the existing BWSC sewer systems in the adjacent streets were analyzed. The new building is expected to connect to the 30-inch by 36-inch sewer main in Vancouver Street. The existing sewer main capacity calculations are presented in Table 6-2.

Table 6-2 , Sewer Hydraulic Capacity Analysis

Sewer System	Distance (feet)	Invert Elevation (Up)	Invert Elevation (Down)	Slope (%)	Diameter (inches)	Manning's Number	Flow Capacity (cfs)	Flow Capacity (MGD)
Vancouver Street (30″x36")	206	7	6.7	0.15%	30	0.013	15.65	10.12
Louis Prang Street (30"x36")	177	6.80	6.70	0.06%	30	0.013	9.75	6.30

Notes: 1. Information taken from site survey
2. Flow Calculations based on Manning Equation
3. Pipe diameter set to 30″ to be conservative.

The existing adjacent roadway sewer systems in Huntington Avenue, Louis Prang Street, and Vancouver Street were analyzed for impacts due to the potential building service connections as part of the Proposed Project.

Results shown in Table 6-2 indicate the minimum hydraulic capacity of the 30-inch by 36-inch sewer main within Louis Prang Street near the Proposed Project is 6.30 million gallons per day (MGD) or 9.75 cubic feet per second (cfs). Capacity problems are not expected within the 30-inch by 36-inch sewer main in in Louis Prang Street based on the average daily flow estimate for the Proposed Project of 33,340 gpd or 0.033 MGD, (including a factor of safety of 10, total estimate = 0.033 MGD x 10 = 0.33 MGD).

6.2.3 PROPOSED CONDITIONS

Sanitary sewage generated by the Proposed Project will be discharged to the adjacent BWSC sanitary sewer system. It is anticipated that the proposed building will discharge sanitary sewage to the 30-inch by 36-inch sanitary sewer main in Vancouver Street based on the available sewer mains. This will be reviewed and approved by the BWSC engineering staff as part of the design process and the BWSC Site Plan Approval process for the Proposed Project.

The Proponent will coordinate with the BWSC on the design and capacity of the proposed connections to the sewer system. In addition, the Proponent will submit a General Service Application and site plan for review as the project progresses. The Proposed Project will generate new wastewater flows exceeding 15,000 gallons per day but less than 50,000 gpd, which will require the completion of a Department of Environmental Protection Compliance Certification BRP WP 73, Sanitary and Industrial Connections Greater than 15,000 gpd but less than or equal to 50,000 gpd.

All improvements and connections to BWSC infrastructure will be reviewed as part of the BWSC's site plan review process for the Proposed Project. This process includes a comprehensive design review of the proposed service connections, an assessment of project demands and system capacity, and the establishment of service accounts.

6.3 WATER SUPPLY SYSTEM

Water for the project site will be provided by the BWSC. There are five different water systems within the city, and these provide service to portions of the city based on ground surface elevation. The five BWSC water systems are southern low (commonly known as low service), southern high (commonly known as high service), southern extra high, northern low, and northern high.

BWSC record drawings indicate a 12-inch ductile iron southern low service exists in Vancouver Street (installed in 1979) and an 8-inch ductile iron southern low service in Louis Prang Street (installed in1984). These mains connect to a 16-inch pit cast iron (PCI) main in Huntington Avenue (installed in 1896 relined in 1983). Huntington Avenue also contains a southern high 42-inch PCI main (installed in 1895 relined in 1987), a 20-inch southern high 20-inch ductile iron main (installed in 1980), and an 8-inch southern low ductile iron main (installed in 1980).

The existing water system is illustrated in Figure 6-2, BWSC Water System Map. The Proposed Project Site does not have any existing water connections to BWSC systems.

6.3.1 WATER CONSUMPTION

The Project's water demand estimate for domestic services is based on the proposed project's estimated sewage generation, described above. A conservative factor of 1.1 (10%) is applied to the estimated average daily wastewater generation calculated with 314 CMR 7.00 values to account for consumption, system losses and other usages to estimate an average daily water demand. The total estimated water demand due to the Proposed Project is approximately 36,905 gpd (based on a total sewage generation of 33,550 gpd) of domestic water. The water for the Proposed Project will be supplied by the BWSC system.

The project will propose reasonable effort to reduce water consumption. 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. Backflow preventers will be installed at both domestic and fire protection service connections. New meters will be installed with Meter Transmitter Units (MTU's) as part of the Boston Water and Sewer Commission's Automatic Meter Reading (AMR) system.

6.3.2 EXISTING WATER CAPACITY AND IMPACTS

BWSC record flow test data containing actual flow and pressure for a hydrant within the vicinity of the project site was not available. Hydrant flow testing will be performed as needed once the design progresses.

6.3.3 PROPOSED PROJECT

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

service connection will be reviewed as part of BWSC's Site Plan Review Process. This review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, backflow prevention design, and location of hydrants and siamese connections that conform to BWSC and Boston Fire Department requirements.

6.3.4 PROPOSED IMPACTS

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

6.4 STORMWATER SYSTEM

A 12-inch vetrified clay stormwater main in Vancouver Street. A 15-inch vetrified clay stormwater main exists in Louis Prang Street. Two 24-inch Reinforced Concrete Pipe (RCP) stormwater mains exist in Huntington Avenue. The BWSC drawings indicate the stormwater mains are owned by the MBTA. Stormwater from the site appears to be directed northeast along Huntington Avenue. The existing storm drainage system is illustrated in Figure 6-1, BWSC Sewer System Map.

The existing project site does not currently contain any stormwater infrastructure. Stormwater from the site generally appears to flow overland to Vancouver Street and Louis Prang Street.

6.4.1 PROPOSED PROJECT

Stormwater runoff generated from the roof of the Project building, landscaped and paved areas will be collected, treated, and conveyed through a closed drainage system to a groundwater recharge system that will overflow to the BWSC storm system in the adjacent streets in large storm events. This system will likely be located outside the building footprint. The groundwater recharge systems will have the capacity to collect, store and recharge 1-inch of stormwater at a minimum to comply with the requirements of the Groundwater Conservation Overlay District. An overflow from the site stormwater system will likely be directed to the 15-inch stormwater main in Louis Prange Street.

The Project is expected to increase the amount of impervious area at the site compared to the existing condition. Any required site closed drainage systems will be designed so there will be no increase in the peak rate of stormwater discharge from the Proposed Project in the developed condition compared to the existing condition.

All improvements and connections to BWSC infrastructure will be reviewed as part of the Commission's site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of project demands and system capacity, and compliance with required phosphorus mitigation for projects in the Charles River Watershed.

6.4.2 PHOSPHORUS MITIGATION

The project site is located within the Charles River Watershed and therefore the project is required to capture and treat at least 1/2-inch of stormwater runoff from impervious areas to provide phosphorus mitigation. Because the project is located within the Groundwater Conservation Overlay District (GCOD), the project is required to capture at lease 1-inch of stormwater runoff from impervious areas, and will exceed this requirement. Stormwater Best Management Practices (BMPs) that provide phosphorus treatment include groundwater recharge and mechanical devices (manufactured by Imbrium and Contech). Table 6-4 below, indicates the anticipated volume of runoff required for recharge the Proposed Project. The stormwater management system for the proposed building will include a groundwater recharge system. It is anticipated that the stormwater recharge systems will work to passively infiltrate site runoff into the ground with a gravity overflow to the stormwater systems in adjacent roadways.

Table 6-3, GCOD/Phosphorus Mitigation Volume Calculations (1-inch of runoff)

	Site Area (sf)	Total Storage required (cf)	Total Storage required (gallons)
Assumed Site Impervious Areas	15,500 +/-	129	966

6.5 WATER QUALITY IMPACT

The Project will not impair 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, hay bales and/or crushed stone, to provide for sediment removal 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.

All necessary dewatering will be conducted in accordance with applicable MWRA and BWSC discharge permits. Once construction is complete, the Proposed Project will each be in compliance with all local and state stormwater management policies. See below for additional information.

6.5.1 DEP STORMWATER MANAGEMENT POLICY STANDARDS

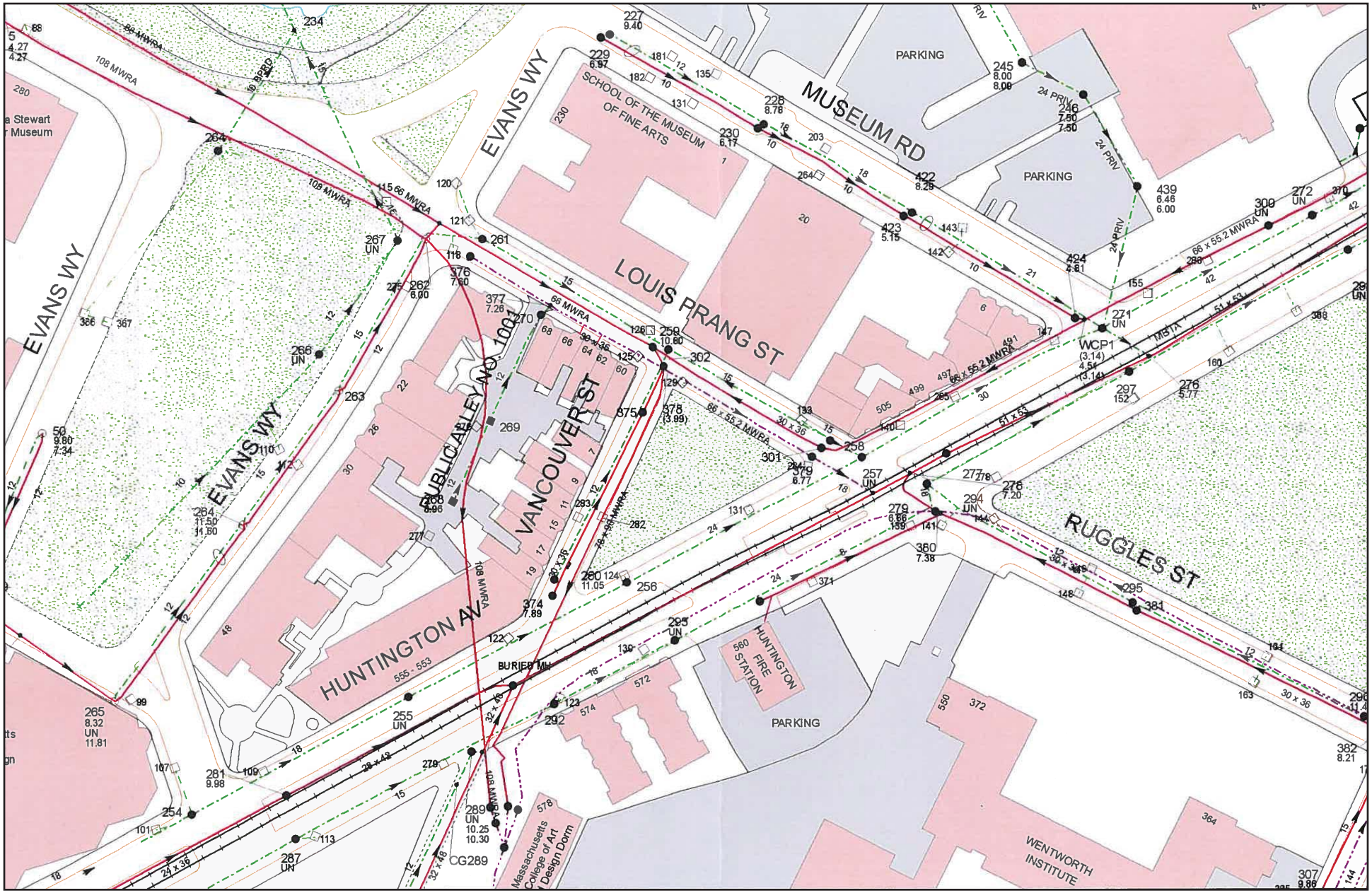
In March 1997, the Department of Environmental Protection DEP adopted a new Stormwater Management Policy to address non-point source pollution. In 1997, the Massachusetts DEP published the Massachusetts Stormwater Handbook as guidance on the Stormwater Policy, which was revised in February 2008. The Policy prescribes specific stormwater management standards for development projects, including urban pollutant removal criteria for projects that may impact environmental resource areas. Compliance is achieved through the implementation of Best Management Practices (BMPs) in the stormwater management design. The Policy is administered locally pursuant to MGL Ch. 131, s. 40.

The Project will be designed to comply with all requirements of the DEP Stormwater Policy.

6.6 UTILITY PROTECTION PROPOSED DURING CONSTRUCTION

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

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



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STUDENT APARTMENTS AT 525 HUNTINGTON AVENUE
Project Notification Form

Figure 6-1
BWSC Sewer System Map
Source: Nitsch Engineering, Inc., 2012

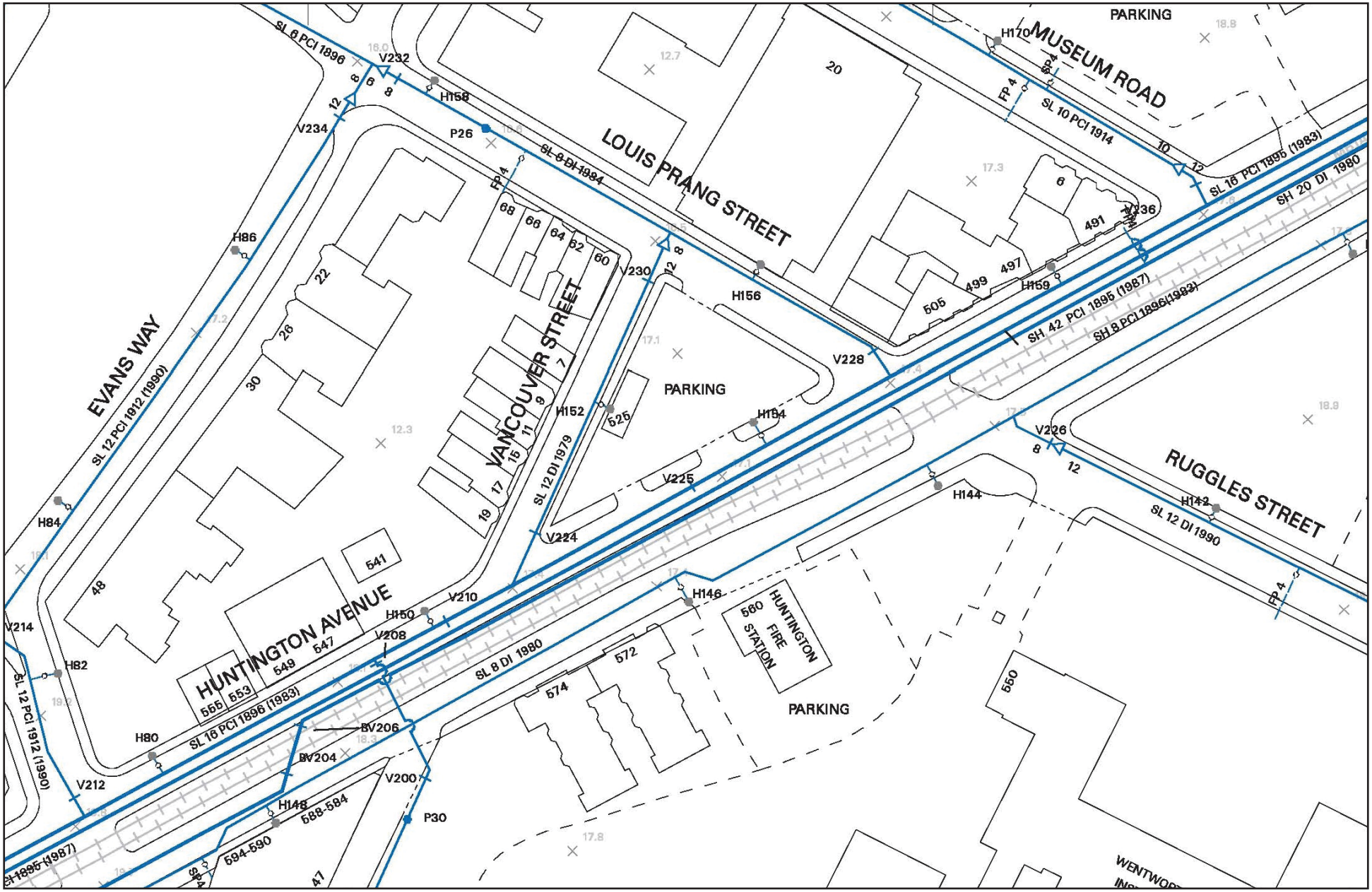

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Figure 6-2
BWSC Water System Map
Source: Nitsch Engineering, Inc., 2012