

47 Bishop Allen Drive

CAMBRIDGE, MASSACHUSETTS

Article 19 Special Permit Project Review Application

#320
FILE

OCTOBER 11, 2016



PREPARED BY



APPLICANT

Watermark Central Venture LLC

c/o Twining Properties
One Broadway, 14th Floor
Cambridge, MA 02142

SUBMITTED TO

Cambridge Community Development Department

City Hall Annex
344 Broadway
Cambridge, MA 02139

IN ASSOCIATION WITH

CBT Architects

DLA Piper

Haley and Aldrich, Inc.

Steven Winter Associates, Inc.

John Moriarty & Associates

Landworks Studio, Inc.

Cosentini Associates

47 Bishop Allen Drive Project

Cambridge, Massachusetts

SUBMITTED TO **Cambridge Community Development Department**

City Hall Annex
344 Broadway
Cambridge, MA

PROPONENT **Watermark Central Venture LLC**

c/o Twining Properties
One Broadway, 14th Floor
Cambridge, MA 02142

PREPARED BY **VHB**

99 High Street, 10th Floor
Boston, MA 02110

In association with:

CBT Architects
DLA Piper
Haley and Aldrich, Inc.
Steven Winter Associates, Inc.
John Moriarty & Associates
Landworks Studio, Inc.
Cosentini Associates

October 11, 2016

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September 30, 2016

Via Hand Delivery

Cambridge Planning Board
City Hall Annex
Cambridge, MA 02139
Attention: Elizabeth Paden

Subject: Mass + Main Special Permit Application
47 Bishop Allen Drive Special Permit Application

Dear Chairman Cohen and Members of the Board:

On behalf of Watermark Central Venture LLC, the owner of the above referenced projects, I am submitting the following special permit applications:

- **Mass+Main** – Project Review Special Permit with requested Special Permit for Functional Green Roof Area, and
- **47 Bishop Allen Drive** – Project Review Special Permit with requested relief from parking and setback requirements.

These applications represent the culmination of almost four years of community outreach and engagement in Central Square following the acquisition of these properties from Dr. Fennell/Quest Diagnostics in 2012. Through adoption of Ordinance No. 1368 in May of 2015 and additional property acquisitions, we have been able to further refine the proposal that accompanied our zoning petition and are now proposing to replace the existing 3-level garage at 47 Bishop Allen Drive with an additional 23 units of housing. Replacement parking spaces for the Mass+Main project will be provided in a two-level below-grade garage under the building on Massachusetts Avenue.

While a key aspect of the zoning adopted for the Mass+Main project was to ensure that existing parking resources along Bishop Allen Drive (the existing garage at 47 Bishop Allen Drive and the surface lot at 65 Bishop Allen Drive) would remain available for the residential development on Massachusetts Avenue and Columbia Street, we heard from the community, the City and the Planning Board that the long-term preservation of the parking structure at 47 Bishop Allen Drive was less than desirable. At significant expense, we have been able to revise the projects to address these concerns.

With the relief requested by the Special Permit application for 47 Bishop Allen Drive, the creation of 23 additional units of housing on this site will be leveraged in order to permit the construction of the underground parking as part of the Mass+Main project.

Together, we believe these two projects have the potential to transform the former underutilized end of Central Square into a lively residential, mixed-income community with retail uses that serve Central Square and adjacent communities.

We have reviewed the projects described in these applications with City staff (CDD, DPW, and Traffic, Parking and Transportation) and believe that all comments and questions have been addressed at this time. Our team prides itself on community interaction, and we look forward to continuing to engage with our neighbors and the City as we move forward with the Special Permit review process.

We look forward to meeting with the Board and sincerely thank you for your time and consideration of these projects.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex Twining". The signature is fluid and cursive, with a large initial "A" and a long, sweeping underline.

Alex Twining
President, Twining Properties
On behalf of Watermark Central Venture LLC

Enclosures

OWNERSHIP CERTIFICATE

Project Address: 47 Bishop Allen Drive

Application Date: 9/30/16

This form is to be completed by the property owner, signed, and submitted with the Special Permit Application:

I hereby authorize the following Applicant: Watermark Central Venture LLC
at the following address: c/o Twining Properties, LLC, One Broadway 14th Floor, Cambridge MA 02142
to apply for a special permit for: a residential building project
on premises located at: 47 Bishop Allen Drive
for which the record title stands in the name of: Watermark Central Venture LLC
whose address is: [see above]

by a deed duly recorded in the:

Registry of Deeds of County: Middlesex Book: 67029 Page: 490

OR Registry District of the Land Court, Certificate No.: Book: Page:

Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

To be completed by Notary Public:

Commonwealth of Massachusetts, County of Suffolk

The above named Mark J. Barer personally appeared before me,

on the month, day and year October 6, 2016 and made oath that the above statement is true.

Notary: Carla M. Michals

My Commission expires: 6/1/2023



*See Supplemental Documentation for additional detail



DIMENSIONAL FORM

Project Address: 47 Bishop Allen Drive*

Application Date: 9/30/16

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Lot Area (sq ft)	11,893	None	11,893	
Lot Width (ft)	100	None	100	
Total Gross Floor Area (sq ft)	11,881	24,509	24,509	
Residential Base		18,853	18,853	
Non-Residential Base				
Inclusionary Housing Bonus		5,656	5,656	
Total Floor Area Ratio	1.0	2.1	2.1	
Residential Base		1.6	1.6	
Non-Residential Base				
Inclusionary Housing Bonus		0.5	0.5	
Total Dwelling Units	0	23	23	
Base Units		17	17	
Inclusionary Bonus Units		3	3	
Base Lot Area / Unit (sq ft)		700	700	
Total Lot Area / Unit (sq ft)		517	517	
Building Height(s) (ft)	28	45.	45	
Front Yard Setback (ft)	0	31 (street) /10 (min)*	6	
Side Yard Setback (ft)	0	25	5	
Side Yard Setback (ft)	0	25	10	
Rear Yard Setback (ft)	0	31	31	
Open Space (% of Lot Area)	0	17%	45%	
Private Open Space	0	17%	45%	
Permeable Open Space	0	N/A		
Other Open Space (Specify)	0	N/A		
Off-Street Parking Spaces	113	23	12	
Long-Term Bicycle Parking	4	23	23	
Short-Term Bicycle Parking	0	2	2	
Loading Bays	0	0	0	

Use space below and/or attached pages for additional notes:

***See Supplemental Documentation for additional detail**

Special Permit Application Form Supplemental Documentation

The following section provides supplemental information to support the Special Permit Application Form for the 47 Bishop Allen Drive residential project (the "Project"). It provides a list of requested special permits for the Project, a list of submitted materials for the application, as well as a Dimensional Form that better presents the required project information. This section also demonstrates how the Project conforms to Article 10.43: Criteria for Issuance of Special Permits and describes coordination of proposed plans with city departments (in place of signed Certification of Receipt of Plans forms by each department).

List of Requested Special Permits

- Section 4.26 – Special Permit for multi-family dwelling with 12 or more units in Residence C-1
- Section 20.304.4 – Special Permit for waiver of setback requirements
- Section 20.304.6 and Section 6.35 – Special Permit for reduction of parking requirement
- Section 6.22.2 – Special Permit for off-site accessory parking within 400 feet
- Section 10.40 – Special Permit
- Section 19.20 – Project Review Special Permit

List of Submitted Materials

- Application Form
- Owner Certificate
- Dimensional Form
- Project Narrative
- Urban Design Narrative

- Sustainable Design/LEED Narrative
- Sewer Service Infrastructure Narrative
- Water Service Infrastructure Narrative
- Transportation Impact Study (TIS) Summary (submitted separately to Cambridge Traffic, Parking and Transportation Department)
- Site Plans
- Elevations
- Sections
- Perspective Renderings
- Floor Plans

Dimensional Form Information

TABLE 1 DIMENSIONAL FORM INFORMATION

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Lot Area (sq ft)	11,893 sq ft	None	11,893 sq ft	
Lot Width (ft)	100 ft	None	100 ft	
Total Gross Floor Area (sq ft)	11,881 sq ft	24,509 sq ft ¹	24,509 sq ft	
Residential Base		18,853 sq ft ²	18,853 sq ft	
Non-Residential Base				
Inclusionary Housing Bonus		5,656 sq ft ³	5,656 sq ft	
Total Floor Area Ratio	1.0	2.1 ⁴	2.1	
Residential Base		1.6	1.6	
Non-Residential Base				
Inclusionary Housing Bonus		0.5	0.5	
Total Dwelling Units	0	23 ⁵	23	
Base Units		17	17	
Inclusionary Bonus Units		3	3	
Base Lot Area/Unit (sq ft)		700 sq ft	700 sq ft	
Total Lot Area/Unit (sq ft)		517 sq ft	517 sq ft	
Building Height(s) (ft)	28 ft	45 ft ⁶	45 ft	
Front Yard Setback (ft)	0	31 (street)/10 (min)	6ft	
Side Yard Setback (ft)	0	25 ft	5 ft	

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Site Yard Setback (ft)	0	25 ft	10 ft	
Rear Yard Setback (ft)	0	31 ft	31 ft	
Open Space (% of Lot Area)	0	17% ⁷	45%	
Private Open Space	0	17%	45%	
Permeable Open Space	0	N/A		
Other Open Space (specify)	0	N/A		
Off-Street Parking Spaces	113	23	12	
Long-Term Bicycle Parking (Residential)	4	23	23	
Short-Term Bicycle Parking (Residential)	0	2	2	
Loading Bays	0	0	0	

N/A Not Applicable

- 1 A portion of the Project Site is located in the Residence C-1 District and a portion of the Project Site is located in the Business A District. The allowable Gross Floor Area results from the application of the applicable requirement to each portion of the lot. See attached diagram reflecting split lot calculations.
- 2 See attached diagram reflecting split lot calculations.
- 3 See attached diagram reflecting split lot calculations.
- 4 A portion of the Project Site is located in the Residence C-1 District and a portion of the Project Site is located in the Business A District. The allowable FAR results from the application of the applicable requirement to each portion of the lot. See attached diagram reflecting split lot calculations.
- 5 See attached diagram reflecting split lot calculations.
- 6 Per Section 20.304.2, height limit is 55 feet except where the base zoning is more restrictive. Residence C-2B height restriction is 45 feet. Note that the building is also subject to bulk control plane setbacks pursuant to Section 20.304.2.
- 7 Res C-1 requirement is 30% and Res C-2B requirement is 15%. See attached diagram reflecting split lot calculations.

Pursuant to Section 3.32, the regulations for each zoning district apply to the portions of the lot within that district. Since the building is proposed to be located entirely within the Business A District, as affected by the Central Square Overlay District, the dimensional requirements of the Business A District/Central Square Overlay District are listed as applicable. Per Section 5.28.1, a dwelling in a Business A District is subject to the dimensional requirements of the Residence C-2B district.

Coordination with City Departments

The Applicant has met on several occasions with various Community Development Department (CDD) regarding the overall Project, including site improvements, the urban design and sustainability approaches, and the community outreach program, as well as the Special Permit Project Review application and process. Initial design review sessions have also taken place with CDD to evaluate proposed building massing and initial building design.

The Applicant along with its site civil engineering team attended meetings with the Cambridge Department of Public Works (CDPW) and Cambridge Water Department (CWD) to discuss the infrastructure anticipated to serve the Project, as well as stormwater measures pursuing on-site and neighborhood solutions. Additionally, the Applicant and project landscape architect met with CDPW to discuss proposed streetscape and landscape improvements.

The Applicant along with its transportation planners attended multiple meetings with the Department of Transportation, Parking, and Traffic (TP&T) to confirm the Transportation Impact Study (TIS) and, more specifically, bike parking, and building service and loading design. A copy of the Certified TIS and TP&T certification letter dated August 11, 2016 is provided in Attachment 1 of the application.

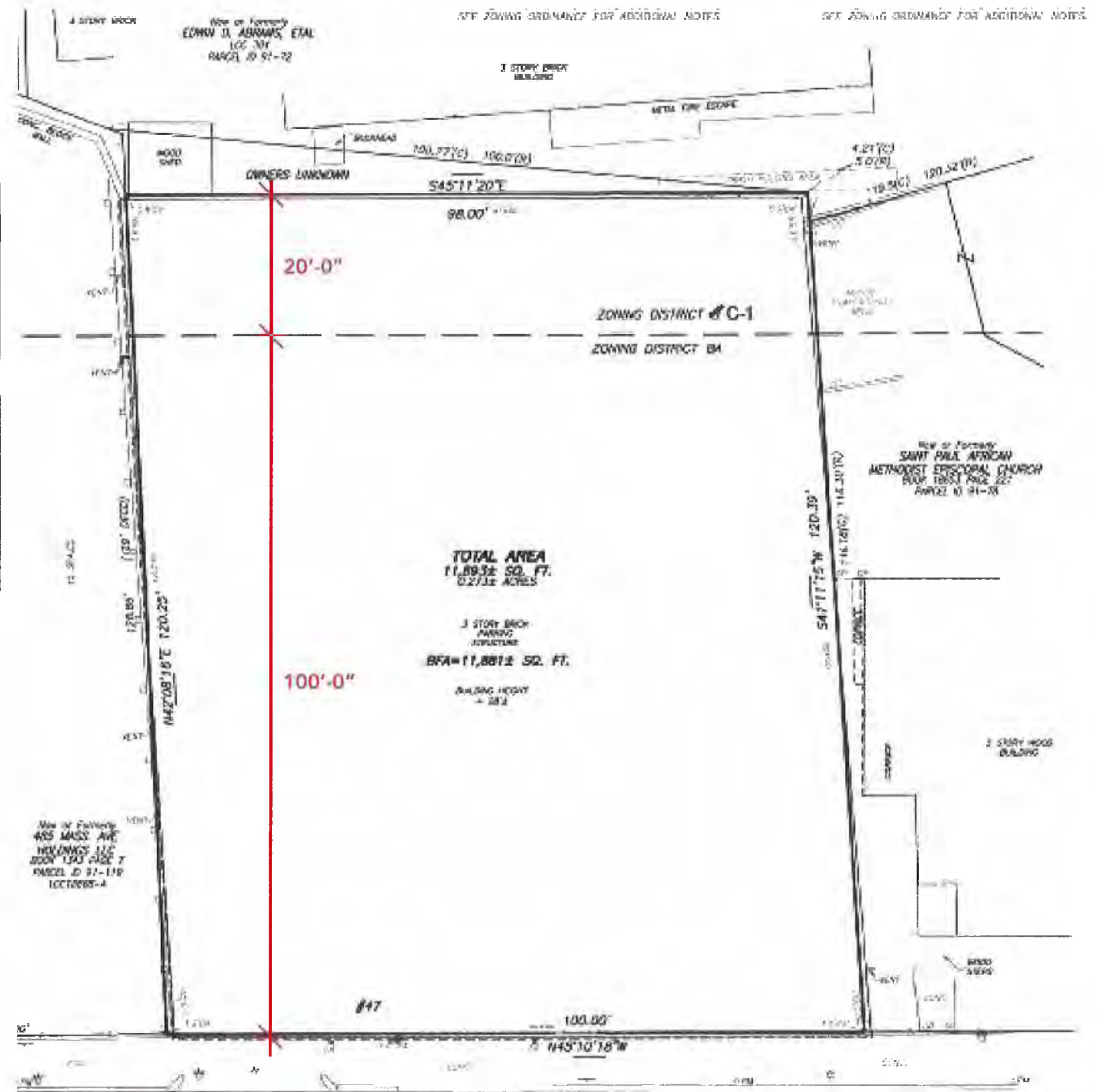
There are no trees on the Project Site as the existing parking garage fills the property. There is one street tree that, according to the Project's landscape architect, appears unhealthy and should be replaced. The project landscape architect has shared the existing conditions site survey to the City Arborist to document the existing street tree.

ZONING/FAR ANALYSIS

Zone	Lot Area	FAR	Base GFA	Bonus (30%)	Total
Res C-1	1,960	0.75	1,470	441	1,911
Bus A	9,933	1.75	17,383	5,215	22,598
	11,893		18,853	5,656	24,509

Zone	Lot Area	LA/DU	As of Right Units	Base Units (15%)	Total Units + (3) Bonus
Res C-1	1,960	1500	1.31	.20	
Bus A	9,933	600	16.56	2.48	
	11,893		17.86	3	23

Zone	Lot Area	Open Space	Total
Res C-1	1,960	30%	588
Bus A	9,933	15%	1,490
	11,893		2,078 (17%)



MASS + MAIN
2016.09.13

[t] Twining Properties **cbt**

BISHOP ALLEN DRIVE

(PUBLIC - 41' WID)
(FORMERLY ALBION STREET)
(FIELD BOOK 12 PAGE 7)
(FIELD BOOK 84 PAGE 94)
(FIELD BOOK 153 PAGE 9)

47 Bishop

11

ZONING DISTRICT BA
ZONING DISTRICT BA

1

Project Description

This is an application for the Project Review Special Permit for the 47 Bishop Allen Drive residential project in the Central Square area of Cambridge (the "Project"). Watermark Central Venture LLC (the "Applicant") is proposing to construct a 23-unit, approximately 24,500 square foot of Gross Floor Area (GFA) residential building located on Bishop Allen Drive across from the proposed Mass+Main mixed-use project at the junction of Massachusetts Avenue, Columbia Street, and Main Street (the "Project Site"). Refer to Figure 1.1 for a site location map and Figure 1.2 for site context.

The redevelopment of 47 Bishop Allen Drive into residential supports the urban design principles and larger vision for the Mass+Main project (being submitted by the Applicant under a separate filing for Planning Board review and approval). The Project replaces an undesirable parking garage with an appropriately-scaled residential building that is more in context with the surrounding neighborhood and provides much-needed additional housing in the transit-accessible location of Central Square. The Project will comply with the City's Inclusionary Housing requirements and, therefore, will provide additional affordable units beyond those offered at the Mass+Main project.

As demonstrated herein, the Project as submitted conforms to the Citywide Urban Design Objectives of Article 19.30, the Sustainable Design and Development requirements of Article 22.23, and satisfies all other requirements necessary for the issuance of the requested Project Review Special Permit.

One key aspect of the zoning adopted for the Mass+Main project was to ensure that existing parking resources along Bishop Allen Drive (the existing garage at 47 Bishop Allen Drive and the surface lot at 65 Bishop Allen Drive) would remain available for the residential development on Massachusetts Avenue and Columbia Street. However, in response to community concerns regarding the preservation of structured parking in such a key location in the neighborhood, and at great expense, the Applicant now proposes to replace the existing three-level garage at 47 Bishop Allen Drive with an additional 23 units of housing, with replacement parking spaces for the Mass+Main project to be provided in a two-level below-

grade garage under the building on Massachusetts Avenue. The 23 additional units partially offset the high cost of the underground parking as part of the Mass+Main project.

Although technically two separate projects, it is important to note that interrelationship between the Mass+Main project and 47 Bishop Allen Drive. In particular, the development of 47 Bishop Allen Drive for an additional 23 units of housing is dependent upon the granting of relief from parking and setback requirements as requested in this special permit application. In the event that this relief is not granted, the Applicant will need to utilize the existing parking structure at 47 Bishop Allen Drive to support the Mass+Main project and will therefore preserve the existing structure and use as permitted in the Mass+Main zoning.

1.1 Existing Site Conditions and Context

The approximately 0.27-acre redevelopment site fronts Bishop Allen Drive on the western edge, and is bounded by Columbia Street to the southeast (the "Project Site"). As shown in Figure 1.3, the Project Site is occupied by an 11,881-square foot, zero-lot line 3-story structured parking deck containing 113 parking spaces, including many tandem parking. The Project Site is set within the heart of the active and transit-accessible Central Square neighborhood with access to extensive retail and services, and in close proximity to the MIT Campus. Refer to Figure 1.4 for photographs of the existing site conditions.

1.2 Proposed Project Description

Figure 1.5 presents the proposed site plan. The Applicant proposes redevelopment of a vacant parking garage into a residential building consisting of 23 units. The proposed 4-story building is 45 feet in height and provides front, side, and rear yards to respect abutters and the character of the existing neighborhood. Table 1-1 below presents the proposed development program.

TABLE 1-1 PROPOSED DEVELOPMENT PROGRAM

Component	Size (Gross Floor Area)¹	Quantity
Site Area	NA	11,893 square feet
Building Height	-	45 feet
Residential	24,500 GFA	23 units
Total SF	24,500 GFA	

1 Excludes mechanical space (1,546 square feet).

Resident vehicular parking (12 spaces) will be provided off-site as designated spaces at the existing 51-space surface lot located at 65 Bishop Allen Drive (the remaining 39 spaces will support the Mass+Main project). As described in Chapter 5, *Transportation* of this application, the Project combined with the Mass+Main project based on a shared parking approach is

providing adequate parking at a ratio of 0.5. Additionally, under Section 20.307.7, the Applicant can designate carshare spaces one of which equates to providing five (5) required parking spaces. Therefore, 158 "parking spaces" are being provided for the 306 units in total for the Project in combination with the Mass+Main project. The required bike parking (23 long-term spaces and 2 short-term spaces) will be provided on-site (shown on Figure 1.11).

The Project will include a range of unit types and sizes, including studios, 1-bedroom units, 2-bedroom units and 3-bedroom units. Table 1-2 below reflects the Applicant's current estimated unit mix and will be subject to change based on market conditions and as the building design, internal layout and structural engineering are finalized.

TABLE 1-2 ESTIMATED UNIT MIX

Unit Type	Number	Percentage	Size Range (square feet)
Studio	5	22%	552-599
1-Bedroom	3	13%	690
2-Bedroom	8	35%	1,007-113
3-Bedroom	7	30%	1,128-1,330
Total	23	100%	

1.2.1 Proposed Design

Figures 1.7a and 1.7b present the building floorplans. The proposed design of the residential building aims to complement its surrounding context where it respects the existing street wall, maintains front, side, and rear yards, and provides private open space in the form of a rear patio area and private resident decks at ground level. The exterior building materials, bay windows, and fenestration are in keeping with the scale and character of the adjacent blocks. The Project will replace a major eyesore, bringing significant improvement to the abutters. Refer to Figures 1.8, and 1.9a and 1.9b for building sections and elevations for the Project, respectively. Figures 1.10a and 1.10b present view perspectives of the Project from Bishop Allen Drive and the City-owned parking lot, respectively.

1.2.2 Project Schedule

Assuming timely approval of the relief request in this application, the Applicant anticipates beginning construction by the end of 2017. Figure 1.6 presents the proposed notification panel location.

1.3 Project Benefits

This section presents a list of public benefits anticipated to be afforded by the Project.

Meet C2 Plan Goals

- Increase housing stock and promote residential diversity by:
 - Conversion of a vacant parking garage into residential building with approximately 23 new apartments creating a more complimentary use to the neighborhood and Mass+Main;
 - New apartment units to take pressure off older neighborhood housing stock;
 - Diverse apartment types, including a number of 2-bedroom and 3-bedroom units.
- A sustainable future for Central Square through:
 - Creation of a "green" community with a focused sustainable lifestyle program;
 - Incorporation of high performance building design measures based on the Leadership for Energy and Environmental Design (LEED™) for Homes version 4 (v4) green building rating system;
 - Transit Oriented Development (TOD) – higher density at a location with direct access to public transit, including:
 - Within 0.2 miles of the MBTA Red Line station entrance;
 - Location on major MBTA bus routes;
 - Increased focus on alternative forms of transportation, such as walking and biking to reduced automobile dependency;

Urban Design/Public Realm

- Preferred use of housing, not office or commercial uses.
- Increase housing opportunities and diverse unit types for multiple income ranges.

Transportation/Access & Circulation

- Provide limited vehicle parking (12 spaces), in accordance with an approximately 0.5 space/unit parking ratio to reduce single-occupancy vehicle trips.
- Provide sufficient long-term bicycle parking and short-term parking on-site (up to 26 spaces total, as shown on Figure 1.11), in compliance with the City's bicycle parking requirements.

Environment/Sustainability

- Although below the 25,000-square foot threshold for Sustainable Design zoning requirements in Article 22.20, the Applicant is committed to incorporating high performance building design measures to achieve a level of LEED certification using the LEED version 4 for Homes green building rating system.

- All mechanical equipment on the rooftop will be located to minimize its visual and audible impact.
- Incorporate dark-sky outdoor lighting requirements to limit light pollution from outdoor lighting associated with the Project.

Socioeconomic

- Provide affordable housing units in conformance with the City's Inclusionary Housing requirements.
- Create approximately \$73,600 in property tax revenue annually to the City.
- Creation of approximately 75 construction jobs and 1.5 permanent jobs.

1.4 Zoning Compliance

The provisions of the Ordinance set forth below apply to the relief requested in this Application.

1.4.1 Generally Applicable Criteria for Approval of a Special Permit (Section 10.43)

As discussed in further detail in Chapter 3, *Criteria for Issuance of Special Permits* of this application, the Project satisfies the generally applicable criteria for the approval of a Special Permit.

1.4.2 Required Findings for a Project Review Special Permit (Article 19.000; Section 19.20)

Section 19.25.1: Traffic Impact Findings

Based on Project size, no traffic study is required. However, the Project has been included in the cumulative study produced for the Applicant's project at Mass+Main, a separate Special Permit application. Additionally, the traffic study has been provided in order to support the Applicant's request for a reduction in the applicable parking requirement. As discussed in further detail in Chapter 5, *Transportation* of this application, the Project will have no substantial adverse impact on city traffic within the study area as analyzed in the Traffic Study.

Section 19.25.2: Urban Design Findings

As discussed in further detail in Chapter 2, *Citywide Urban Design Objectives* of this application, the Project will be consistent with the urban design objectives of the City set forth in Section 19.30, as well as the specific guidelines applicable to the Central Square Overlay District.

1.4.3 Special Permit for multi-family dwelling with 12 or more units in Residence C-1 (Section 4.26)

The Project Site is a split lot, with the rear portion of the lot being located in a Residence C-1 district and the front portion of the lot being located in a Business A district, within the Central Square Overlay District. The proposed multi-family building will be located entirely on the front portion of the lot, within the Business A district. However, due to the split nature of the lot, this application includes a request for a special permit pursuant to Section 4.26.1. The Applicant respectfully requests that Planning Board either (i) find that no special permit is required under Section 4.26.1 because the proposed buildings is not located within the Residence C-1 district or (ii) grant a special permit for the Project pursuant to Section 4.26.1.

1.4.4 Required Findings for a Special Permit for Reduction of Parking Requirement (Section 20.304.6 and Section 6.35)

Section 20.304.6: Waiver of Parking and Loading Requirements

This application is seeking relief from applicable parking requirements, which may be granted by the Planning Board as an exemption from parking and loading requirements pursuant to Section 20.304.6 or as a special permit pursuant to Section 6.35.

A waiver under Section 20.304.6 for a use contained in a new structure requires that the following criteria be satisfied:

1. The standards set forth in Section 6.35 of the Ordinance are met.
2. The standards set forth in Section 20.305 of the Ordinance are met.
3. The Planning Board must find that an exemption from parking and loading requirements will result in a building design that is more appropriate to its location and the fabric of its neighborhood and that it is in conformance with the objectives and criteria contained in the "Central Square Development Guidelines."

As discussed below, the standards set forth in Sections 6.35 and 20.305 of the Ordinance will be met. Additionally, the replacement of the existing parking garage, which extends to the lot line on all sides, with a residential building that is more responsive to the adjacent structures and uses, will result in a building design that is much more appropriate to the location and fabric of the neighborhood. As discussed in further detail in Chapter 2, *Citywide Urban Design Objectives* of this application, the Project will be consistent with the urban design objectives of the City set forth in Section 19.30, as well as the specific guidelines applicable to the Central Square Overlay District, including the "Central Square Development Guidelines."

20.305 Standards for Issuance of Special Permits

In addition to the general standards for the issuance of a Special Permit found in Section 10.40 of the Ordinance, Section 20.305 requires the Planning Board to make certain additional

findings consistent with the Central Square Overlay District. As outlined in Section 1.4.6 of this application, the Project satisfies the standards set forth in Section 20.305 of the Ordinance.

Section 6.35: Relief from Parking Requirements – Reduction of Required Parking

The Project is seeking a reduction in the required off-street parking for residential uses from one space per unit to 0.5 spaces per unit, which is consistent with the Mass+Main zoning parking requirements. The mode share assumptions for this Project, which have been accepted by the Traffic, Parking, and Transportation Department (TP&T) through the certification of the TIS on August 11, 2016, result in a 25 percent drive alone and a five percent carpool/rideshare split. Based on 23 units, the parking demand for the 25 percent drive alone commuters residing in the building would be only six spaces. Providing spaces for residents who don't drive to work but still own a vehicle is accommodated in the additional six parking spaces reflective of the increasing reduction in auto ownership by Cambridge residents. The low drive mode share along with the access to sustainable transportation options will result in a lower auto-ownership rate for the Project and thus a lower parking supply is needed. The Project is approximately ¼-mile, or a 5 minute walk, from the MBTA Central Square Red Line Station and multiple MBTA bus route stops serving the downtown Boston area through Central Square out to Waltham and Watertown. In addition, the Project will provide one covered and secure bicycle parking space for each unit and a "fix-it" stand to encourage residents to bike rather than drive. As described in Chapter 5, *Transportation* of this application, the Applicant has also committed to providing residents of the Project access to at least three carshare spaces and transit and Hubway membership subsidies, which will further encourage residents to become less dependent on personal car-ownership. Through the various Transportation Demand Management (TDM) measures and the proximity to the Red Line and many bus routes, the Project estimates a limited need for off-street parking and, thus, a 0.5 spaces per unit parking ratio is expected to be adequate.

1.4.5 Required Findings for a Special Permit for off-site accessory parking within 400 feet (Section 6.22.2)

The Project will meet the required findings for a Special Permit for off-site accessory parking pursuant to Section 6.22.2. Specifically, the Project will provide convenient and safe access from the parking lot at 65 Bishop Allen Drive to the residential buildings proposed at 47 Bishop Allen Drive. Residents of 47 Bishop Allen Drive will be able to walk along Bishop Allen Drive to access the parking. The portion of the 65 Bishop Allen Drive lot on which the off-site accessory parking will be provided is located within the same zoning district as the Project and therefore is not in a more restrictive zoning district than the lot on which the use being served is located. Finally, the off-site accessory parking will be located approximately one hundred eighty (180) feet from the Project, which is just a short walk for building residents and will meet the requirement of Section 6.22.2(b) that the parking be within four hundred (400) feet of the lot being served.

1.4.6 Required Findings for a Special Permit for waiver of setback requirements (Section 20.304.4)

The Project is in a unique location with a unique set of circumstances: despite being located in a business subdistrict within the Central Square Overlay District, an area in which the preservation and enhancement of residential uses (especially as a means of providing a buffer for adjacent residential neighborhoods) is valued, the Project is subject to the very restrictive dimensional requirements of the Residence C-2B zoning district, a zoning district that is otherwise nowhere near the Project Site. In other words, by virtue of proposing residential use for the Project Site instead of commercial use (or instead of utilizing the existing garage to support the Mass+Main project as provided for under the Ordinance), the Applicant is subject to much more restrictive dimensional controls pursuant to Section 5.28.1 (which applies the dimensional requirements of the Residence C-2B district to dwellings in a Business A district). However, because the existing 3-story garage extends virtually to the lot line, on all sides of the Project Site, the Project will actually increase the setbacks compared with existing conditions, which will move the Project further away from adjacent buildings/uses. The front and side yard setbacks are consistent with the existing neighborhood and the Project itself supports the City's goal to encourage the replacement of parking with residential along Bishop Allen Drive.

Presumably in recognition of the unique fabric of the Central Square neighborhood, in which buildings, including residential buildings, are much closer together, Section 20.304.4 permits the Planning Board to grant a waiver of applicable yard requirements.

This application is seeking a waiver of the front and side yard requirements of the base zoning district pursuant to Section 20.304.4 (the Central Square Overlay District). As discussed in further detail in Chapter 3, *Criteria for Issuance of Special Permits* of this application, the Project satisfies the generally applicable criteria for the approval of a Special Permit.

In addition to the general standards for the issuance of a Special Permit found in Section 10.40 of the Ordinance, Section 20.305 requires the Planning Board to make certain additional findings consistent with the Central Square Overlay District. The Project satisfies the requisite findings as follows:

1. The proposed development is consistent with many of the goals and objectives of the Central Square Action Plan. Redevelopment of the vacant parking structure into a residential use will enhance the urban context and provide a benefit to the community in the form of new housing opportunities. The proposed design of the residential building aims to complement its surrounding context where it respects the existing street wall and provides private open space in the form of a rear patio area and private resident decks for the ground level units. The exterior building materials, bay windows, and fenestration are in keeping with the scale and character of the adjacent blocks.

2. As discussed in further detail in Chapter 2, *Citywide Urban Design Objectives* of this application, the Project will be consistent with the urban design objectives of the City set forth in Section 19.30, as well as the specific guidelines applicable to the Central Square Overlay District. By replacing a parking garage that extends to the lot lines with a residential building with setbacks, a front yard with stoops and landscaping, the Project will complement its surrounding residential and community uses and will greatly improve the pedestrian experience along Bishop Allen Drive.
3. There is no parking proposed to be provided on-site and therefore adequate screening is not a concern. Indeed, the replacement of the existing parking garage with a residential building, in response to community requests, is expected to provide increased sensitivity to the surrounding buildings and uses.
4. No National Register or contributing buildings will be altered in connection with the Project.
5. No National Register or contributing buildings will be altered in connection with the Project.

The setback relief requested in this application is essential in order to facilitate the construction of the proposed 23 units of housing instead of the preservation of the existing parking garage on the Project Site. Without the requested relief, the existing parking garage will remain and will be utilized to support the Mass+Main project.

1.5 Agency & Community Outreach

The Applicant aimed to cultivate a strong and lasting relationship with both members of the community and the City; such effort has begun since early 2013. Following approval of the zoning for the Mass+Main project, the Applicant has participated in a 5-month period of technical and design reviews with the City. In addition to public meetings and communications, the Applicant has coordinated public outreach efforts with elected officials, local neighborhood associations, property owners, and other interested parties. Such efforts have included discussions around both the Project and the Mass+Main project. Indeed, the Project is responsive to many of the community concerns raised during this public outreach process, in which community members expressed a preference for re-use of the Project Site for housing rather than preservation of the existing garage.

1.5.1 Early Community Engagement Summary

In addition to demonstrating its commitment to conducting meaningful and productive dialogue with the community, the Applicant's community outreach efforts to date also meet the Planning Board's Early Community Engagement requirements and guidelines (Section 5 of the Planning Board's Rules, revised March 2016).

The CDD staff was consulted on and notified of all planned meetings and activities in advance of the community outreach effort required for this Special Permit Application. Starting in January 2016, more than 40 agency coordination and public outreach meetings were held and included discussions with the City Manager, CDD, City Councilors, area groups, neighbors and abutters. Major topics discussed at these meetings include City of Cambridge's planning and urban design goals, community engagement efforts, as well as a project overview and progress update.

Elected Officials – In April 2016, the development team met with Mayor Denise Simmons (April 14th), Vice Mayor Marc McGovern (April 6th), and City Manager Richard Rossi (April 6th) to discuss about the City's master planning overview.

City Councilors – On April 12, 2016, the development team met with City Councilors Dennis Carlone and Jan Devereux. They also met with Councilor Leland Cheung on April 14th, with Councilors Craig Kelly and Nadeem Mazen on April 26th, and with Councilors David Maher and Tim Toomey on April 28th.

City Departments – The Applicant met with staff in the City's Community Development Department (CDD).

The Applicant also coordinated a meeting with Department of Public Works and Central Square Business Association (CBSA) on May 2nd.

Neighborhood and Business Groups – On April 20, 2016, the Applicant met with members of the Central Square Advisory Committee.

A meeting with the Cambridge Residence Alliance (CRA) took place on April 28th

The Applicant met with the Central Square Business Association (CBSA) twice, on April 20th and May 19th. The Applicant also coordinated phone call as well as meeting in person with representatives of the Cambridgeport Neighborhood Association (CNA) on May 9th and 10th.

The Applicant met twice with leadership committee members of A Better Cambridge (ABC) on April 26th and June 28th.

Other neighborhood meetings and outreach efforts included:

- Executive Director of the Margaret Fuller Neighborhood House (MFH), on April 27th. The team also attended MFH's Open House on April 29th
- Adjacent property owners, on May 3rd
- Public meetings with abutting property owners, on May 5th and 10th

Community Meetings and Public Open House

On September 13, 2016, a community meeting hosted by Margaret Fuller Neighborhood House provided an overview of the Mass+Main project, including information on the Project. A public Open House was held on September 15, 2016, which focused on the Project's plan of creating new infill housing to replace the existing garage. In addition, the Applicant provided further updates to community members about the Mass+Main mixed-use project on Mass Ave and Columbia Street.

A notice about the Open House in September was issued to and promoted at the following membership organizations: Cambridgeport Neighborhood Association, Central Square Business Association, Cambridge Chamber of Commerce, A Better Cambridge, Cambridge Residents Alliance and others.

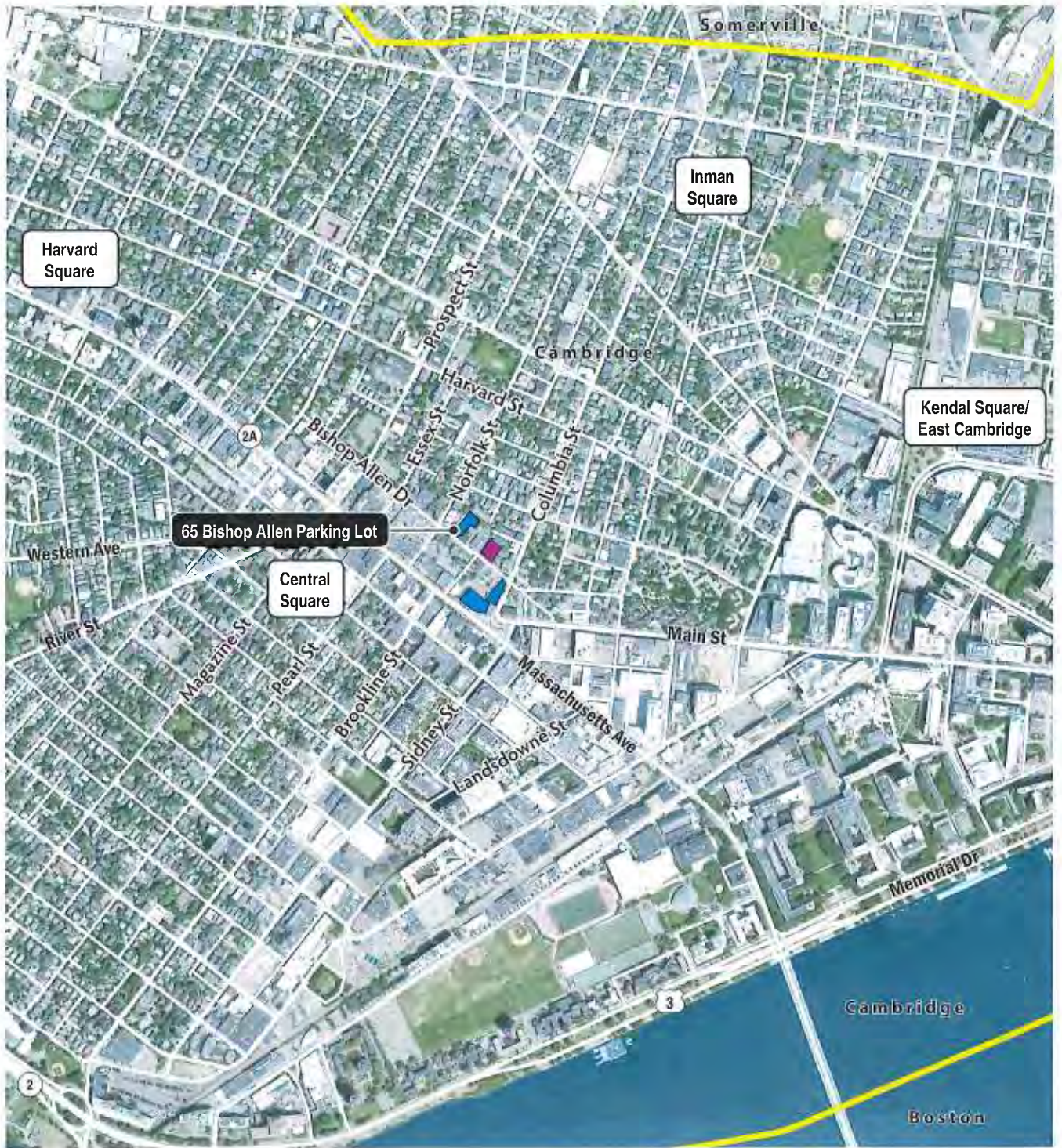
Public Resources

Additional information and resources regarding the Project are provided as follows:

- Project Update (Jan-June 2016): www.massandmain.com/resources/massmain-community-update/
- Twitter: twitter.com/massandmain
- Facebook: www.facebook.com/massandmain/
- FAQ's: www.massandmain.com/resources/faq-frequently-asked-questions-july-2016-update/
- Open House Presentations and Resources: <http://www.massandmain.com/resources/>
- Resources from September 13th Community Meeting hosted by Margaret Fuller House: <http://www.massandmain.com/resources/913-community-meeting-hosted-by-margaret-fuller-house/>
- Resources from September 15th Open House: <http://www.massandmain.com/resources/915-open-house-housing-at-47-bishop-allen-drive/>

Overview of Public Comments

The Applicant recorded questions and issues raised by community members. Attachment 3 provides a summary of the comments and responses from the September 2016 Open House as well as a summary of notes from numerous outreach meetings held on the Project as well as Mass+Main.



Source: City of Cambridge GIS

-  Project Site
-  Mass + Main Project
To be approved under a separate Special Permit Project Review submission

Figure 1.1
Site Location Map

**47 Bishop Allen Drive
Cambridge, Massachusetts**



Source: City of Cambridge GIS

- Project Site
- Mass + Main Project
To be approved under a separate Special Permit Project Review submission

Figure 1.2
Project Site Context

**47 Bishop Allen Drive
Cambridge, Massachusetts**

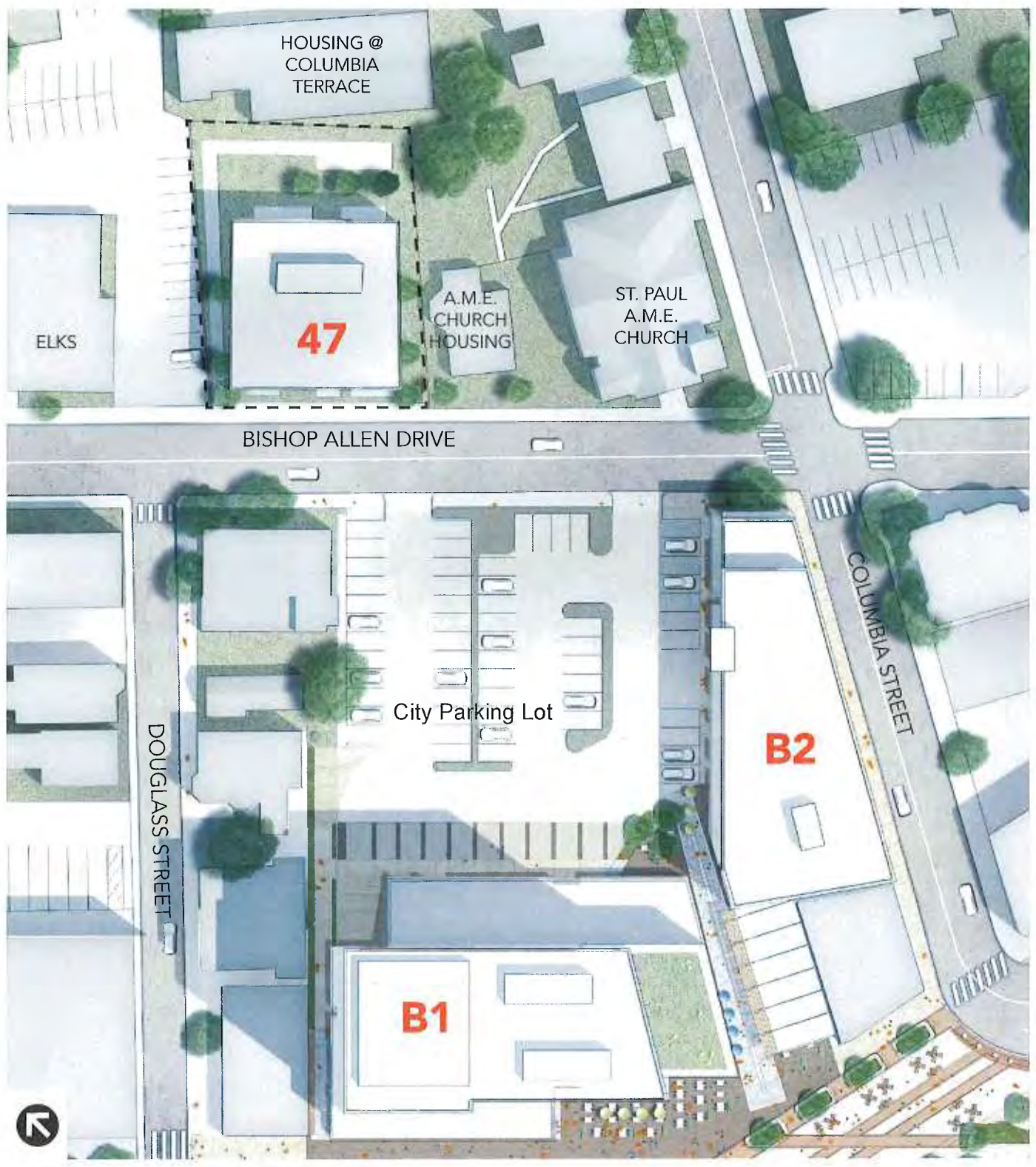


Prepared By: CBT Architects

Figure 1.4

Existing Conditions Site Photographs

**47 Bishop Allen Drive
Cambridge, Massachusetts**

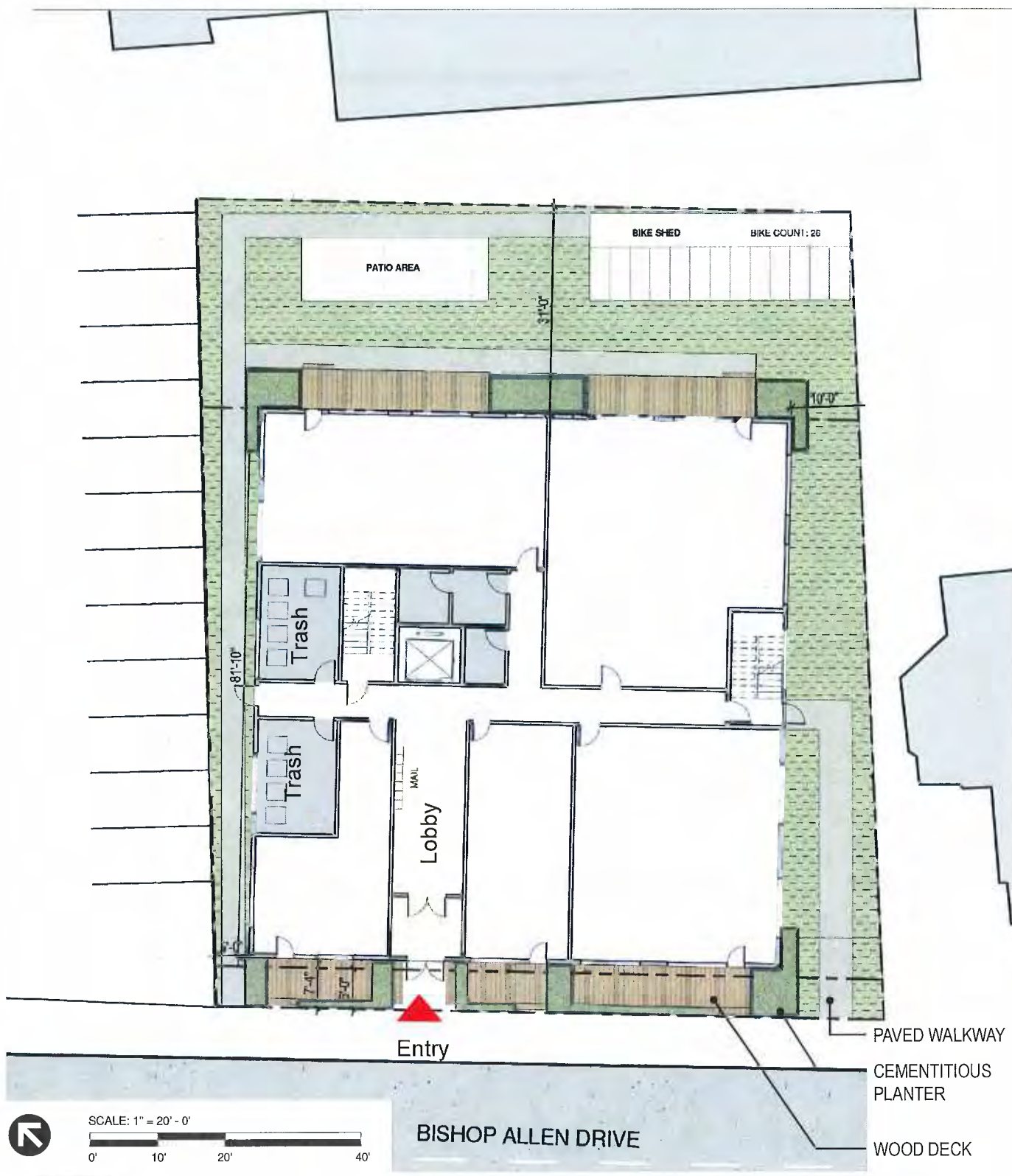


Prepared By: CBT Architects

Figure 1.5

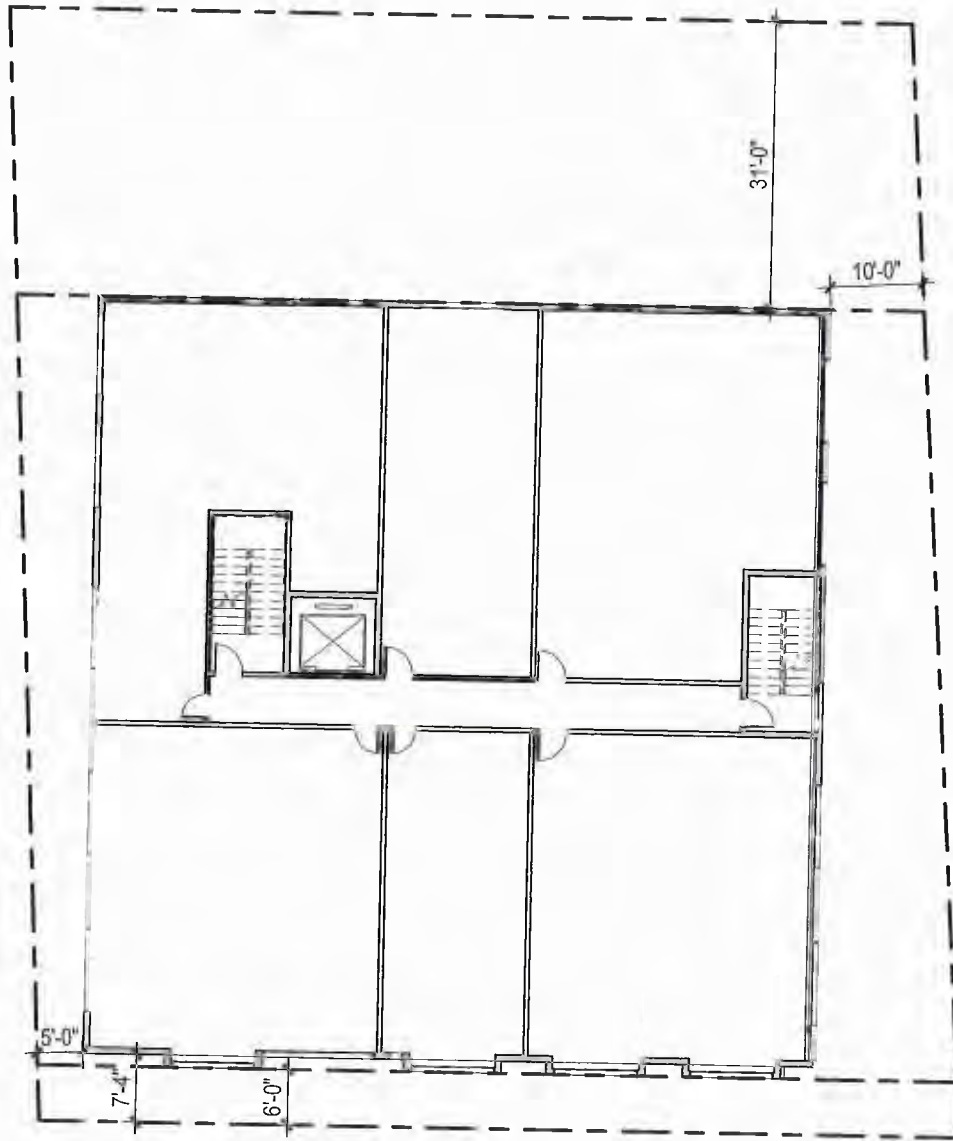
Proposed Development Plan

**47 Bishop Allen Drive
Cambridge, Massachusetts**



Prepared By: CBT Architects
 Figure 1.7a
 Ground Floor Plan

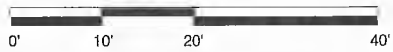
**47 Bishop Allen Drive
 Cambridge, Massachusetts**



Bishop Allen Drive



SCALE: 1" = 20' - 0"



Residential



Mechanical

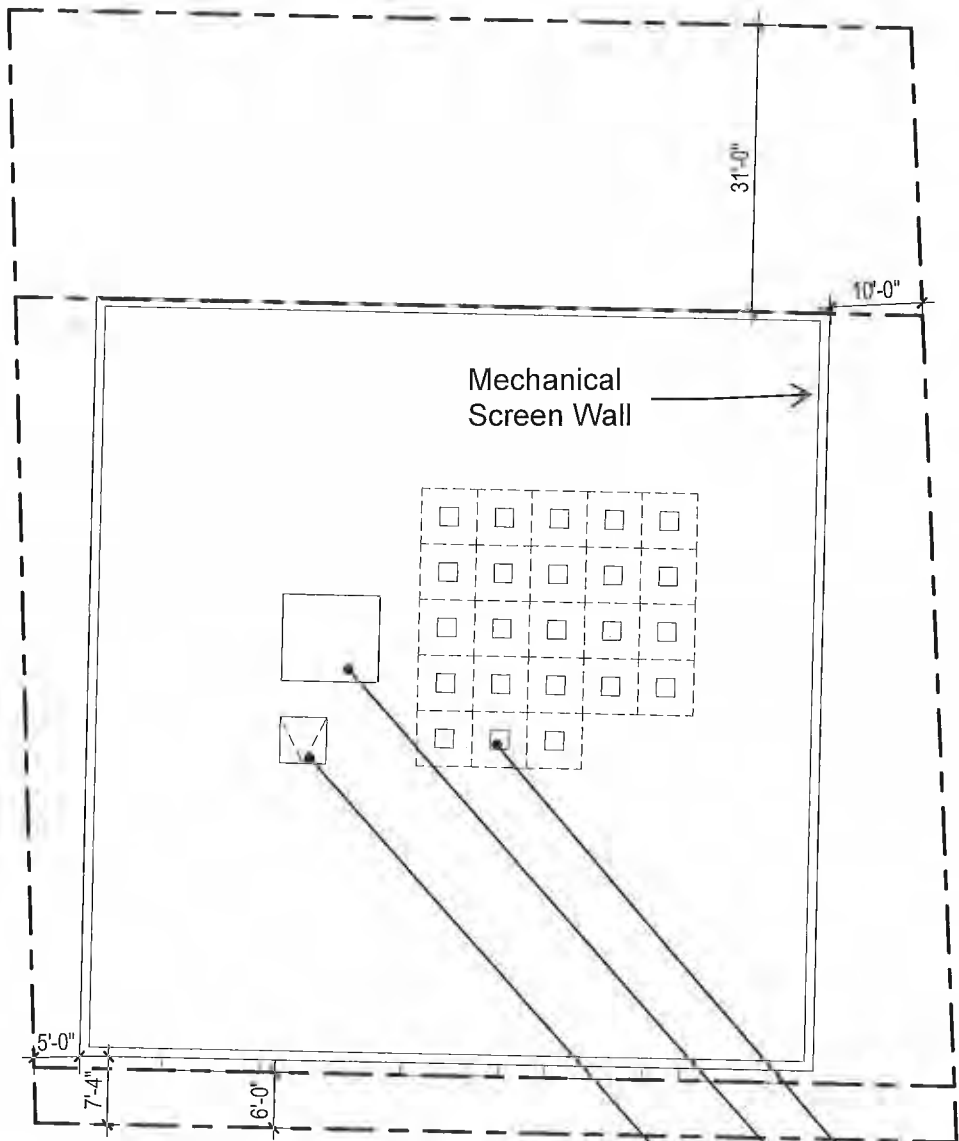
Lobby/Circulation

Prepared By: CBT Architects

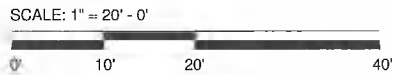
Figure 1.7b

Levels 2-4 Floor Plan

**47 Bishop Allen Drive
Cambridge, Massachusetts**



- 2'x2' CONDENSER
- ELEVATOR OVERRIDE
- ROOF HATCH



- Residential
- Mechanical
- Lobby/Circulation

Prepared By: CBT Architects
 Figure 1.7c
 Roof Plan

**47 Bishop Allen Drive
 Cambridge, Massachusetts**



Juliette
Balconies

Mech
Vents (typ)

Bay Windows

COMPOSITE CLAPBOARD
SIDING

HIGH PERFORMANCE
VINYL WINDOW

CABLE SUSPENDED
PRESSURE TREATED
WOOD CANOPY

COMPOSITE CLAPBOARD
SIDING

CEMENTITIOUS PLANTER

Entry

Bishop Allen Drive Elevation



Prepared By: CBT Architects

Figure 1.9a

South Building Elevation

**47 Bishop Allen Drive
Cambridge, Massachusetts**



Mech Vents (typ)

COMPOSITE CLAPBOARD SIDING

HIGH PERFORMANCE VINYL WINDOW

CEMENTITIOUS PLANTER



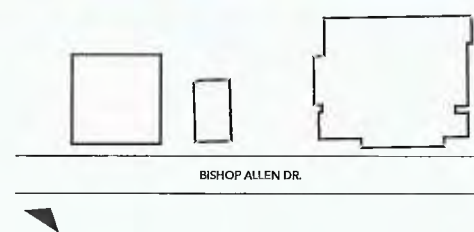
BISHOP ALLEN DR.

Prepared By: CBT Architects

Figure 1.9d

East Building Elevation

**47 Bishop Allen Drive
Cambridge, Massachusetts**

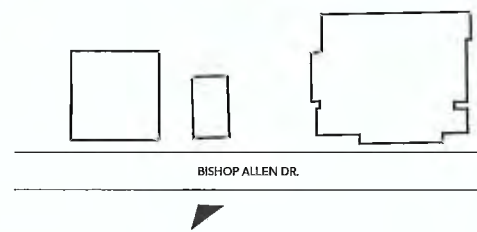


Prepared By: CBT Architects

Figure 1.10a

Bishop Allen Drive View

**47 Bishop Allen Drive
Cambridge, Massachusetts**

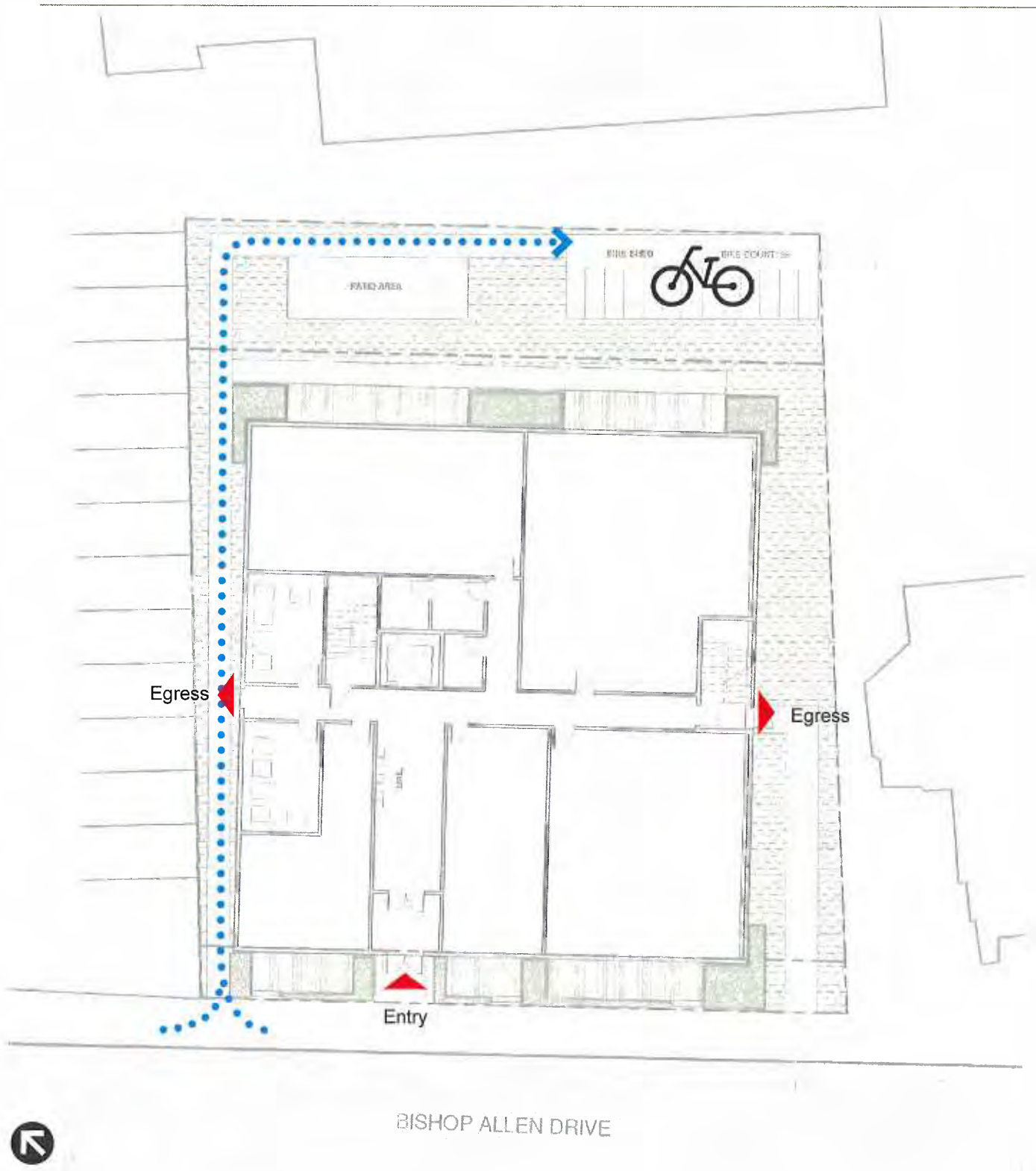


Prepared By: CBT Architects

Figure 1.10b

City Parking Lot View

**47 Bishop Allen Drive
Cambridge, Massachusetts**



Prepared By: CBT Architects

Figure 1.11

Pedestrian/Bike Access & Circulation Plan

**47 Bishop Allen Drive
Cambridge, Massachusetts**



Bike
Access

Pedestrian
Entry/Egress

2

Citywide Urban Design Objectives (Article 19.0)

The following section demonstrates that the Project conforms with Article 19.30: Citywide Urban Design Objectives. Section 2.2 provides supplemental information to demonstrate how the Project conforms to area-specific urban design guidelines.

2.1 Conformance with Article 19.30

2.1.1 19.31: Responsive to Existing or Anticipated Development

The Project is more responsive to the character of the surrounding residential neighborhood and less impactful on abutters than the existing parking structure.

2.1.2 19.32: Pedestrian and Bicycle-Friendly; Relationship to Surroundings

By replacing a vacant parking garage that extends to the lot lines with a residential building with set back with a front yard with stoops and landscaping, the Project will complement its surrounding residential uses and greatly improve the pedestrian experience along Bishop Allen Drive. Access to the residential building will be provided via a main entrance off Bishop Allen Drive and two secondary egresses off pathways along each side of the building, as well as through private residential entrances to ground floor units (Figure 1.11). The Project will provide long- and short-term covered and secure bicycle parking in the rear yard (Figure 1.11).

2.1.3 19.33: Environmental Impacts and Mitigation

The Project has been designed to minimize impacts to adjacent properties.

Building Mechanical Equipment

All mechanical equipment on the rooftop will be located to minimize its visual and audible impact.

Building Service and Loading

Residential trash will be removed curbside as no on-site service/loading will be provided given the site constraints.

Stormwater Management

The existing Project Site (Figure 1.3) is an existing zero-lot-line building and currently contains zero pervious area. The Project will not result in the introduction of any peak flows, pollutants, or sediments that would potentially impact the receiving water of the local municipal stormwater drainage system. The primary method for stormwater management for the Project Site will be infiltration, which will be incorporated as part of the stormwater management system to reduce site peak flows, replenish groundwater and provide quality treatment for building roof and site runoff. Infiltration will be provided to the exterior of the proposed residential building (Figure 6.2), as the proposed building footprint will be smaller than the existing zero-lot-line building. The proposed on-site detention/infiltration system design complies with the City's Low Impact Development Guidelines. For the current design, the infiltration systems will be sized respective to the building and site area tributary to the system. The sizing of the system will comply with the City's standard of recharging the total volume of runoff generated between the pre-development 2-year 24-hour storm discharge and the post-construction 25-year 24-hour storm discharge.

Changes in grade

The Project includes demolishing the existing parking structure. The first floor elevations for the proposed building will be coordinated to tie into existing grades in the public way, maintaining existing elevations to the maximum extent practicable. Proposed grades will slope away from the proposed building to public sidewalks that slope towards existing roadway drainage.

Building Scale and Wall Treatment

The scale of the proposed building at 45 feet, and its cladding materials, fenestration, and massing is in keeping with other residential buildings in the surrounding area. By setting the building back from the lot line on all side, the Project will better fit into its context compared to the existing parking structure that extends to the lot line. The new configuration provides more open space, light and air for the residents and abutters.

Outdoor Lighting Design

The building's architectural lighting will provide a clearly identified building entry for resident safety. This main fixture will not contribute to light pollution because it will be designed using dark sky-compliant/shielded light fixtures.

Tree Protection

Because there are no trees on the Project Site (private property), no tree survey is required. A letter stating the Project Site has no existing trees will be submitted to the City Arborist.

2.1.4 19.34: Adequate City Infrastructure Services

The Project will connect to existing city and utility company systems in the adjacent public streets abutting the Project Site. Based on initial investigations and consultations with the appropriate agencies and utility companies, all existing infrastructure systems are adequately sized to accept the incremental increase in demand associated with the redevelopment and operation of the Project. The following utilities have been evaluated for the Project in combination with the Mass+Main project: sanitary sewer; water; stormwater management; natural gas; electricity; and telecommunications, as presented in Chapter 6, *Infrastructure*. As design progresses, all required engineering analyses will be conducted where the final design will adhere to all applicable protocols and design standards ensuring that the proposed redevelopment of the building is properly supported by and properly utilizes city infrastructure. These systems include those owned or managed by the CDPW, CWD, and private utility companies.

2.1.5 19.35: Reinforce and Enhance Urban and Historical Context

Redevelopment of the vacant parking structure into a residential use will enhance the urban context and provide a benefit to the community in the form of new housing opportunities. The proposed design of the residential building aims to complement its surrounding context where it respects the existing street wall and provides private open space in the form of a rear patio area and private resident decks for the ground level units. The exterior building materials, bay windows, and fenestration are in keeping with the scale and character of the adjacent blocks.

Although the Project Site is not within the Central Square Historic District, its character is reinforced by the Project through its consistent/low height, front setback to the sidewalk, and overall consistency with the exterior materials of the surrounding area.

2.1.6 19.36: Expand Housing Inventory, per City's Inclusionary Zoning Requirements

The Project replaces an undesirable parking garage with an appropriately-scaled residential building that is more in context with the surrounding neighborhood and provides much-needed additional housing in the transit-accessible location of Central Square. The Project will comply with the City's Inclusionary Housing requirements by adding three more units to the affordable housing inventory.

2.1.7 19.37: Enhance and Expand Open Space

The site constraints of the Project Site do not provide for the opportunity to enhance or expand public open space. However, the Project will provide private open space in the form of a rear patio area and private resident decks for ground level units (Figure 1.5).

2.2 Supplemental Guidance Regarding Area-Specific Urban Design Guidelines

This section demonstrates how the Project is consistent with respect to certain area-specific urban design guidelines documents that may be considered in conducting a project review. Such area-specific urban design guidelines include those developed for Central Square: the Central Square Design Guidelines.

The design of the development has been carefully crafted to comply with the goals set forth by the Central Square Design Guidelines for density, height, residential use and pedestrian-friendly streets.

3

Criteria for Issuance of Special Permits (Article 10.43)

The following section demonstrates how the Project conforms with Article 10.43: Criteria for Issuance of Special Permits.

3.1 Conformance with Article 10.43

3.1.1 Compliance with Requirements of Ordinance

As demonstrated by the Table 1 Dimensional Form, with the relief requested Special Permits by this application, the Project will meet all applicable requirements of the Ordinance.

3.1.2 Project-Related Traffic and Access

As demonstrated by the TIS provided in Attachment 1, the Project is not expected to generate traffic or patterns of access or egress that would cause congestion, hazard, or substantial change in established neighborhood character.

The Project provides pedestrian access off of Bishop Allen Drive with vehicle parking at the surface lot at 65 Bishop Allen Drive. There is no vehicular driveway proposed as part of the Project. Resident parking will be provided off-site at the existing parking lot at 65 Bishop Allen Drive. The replacement of a parking garage that has historically served commercial uses with a residential development is expected to have a positive impact on the neighborhood.

3.1.3 Impact to Adjacent Uses

Adjacent parcels include predominately commercial, residential, community service, retail and restaurant. The Project Site is currently a vacant parking garage. The Project consists of redeveloping a vacant parking structure into residential housing, which supports the existing uses within Central Square and better contributes to a 24-hour community.

3.1.4 Health, Safety, and/or Welfare of Occupants and Public

The Project will be designed to a high level of life safety, accessibility and sustainability with particular emphasis on internal air quality, sustainable and locally sourced materials, and energy efficient systems. The Project has been designed in conformance with the current state building code, including the Stretch Energy Code. Additionally, the Project will be operated in compliance with all health and safety regulations of the City of Cambridge.

3.1.5 Project-Related Impacts to the District or Adjoining Districts

The proposed multifamily residential use is permitted in both the Business A and the Residence C-1 districts, per Section 4.30 of the Cambridge Zoning Ordinance, as well as in the Central Square Overlay District. This use is consistent with the uses of adjacent properties within the neighboring zoning districts, as well as the City's goals for future development of Bishop Allen Drive. Note that, although the use is permitted in both districts, the Applicant has intentionally designed the building such that its footprint is located entirely within the Business A (more intensive) district.

3.1.6 Consistency with Urban Design Objectives

As proposed, the design of the Project and its integration with existing buildings along Columbia Street and Bishop Allen Drive is consistent with the Urban Design Objectives addressed in Chapter 2, *Urban Design*.

4

Sustainable Design and Development

Although the Project falls below the 25,000-square foot threshold for Sustainable Design zoning requirements under Article 22.20, the Applicant is committed to incorporating high performance building design measures to achieve a level of LEED certification using the LEEDv4 for Homes green building rating system. The following chapter outlines the LEED certification goals for the Project and describes the strategies employed to meet the targeted LEED credits based on this stage of conceptual design. The preliminary LEED Scorecard is provided in Attachment 2 along with an affidavit by the project LEED Accredited Professional.

As demonstrated by the LEED Scorecard, the Project is targeting Certified level (40+ points), with a total of 47 points. The LEED v4 Homes program is available to all residential projects up to four stories in height. This program works well for residential construction as it aligns with the design and construction process of this unique market.

4.1 LEED Credit Evaluation

4.1.1 Integrative Process

The Project is currently targeting 2 points total under the LEED for Homes Integrative Process (IP) category and 1 point for exemplary performance.

IP Credit Integrative Process

Option 1. Integrative Project Team (1 point)

This credit will be earned with the experienced project team's capabilities and involvement throughout the design and construction process as well as at regularly held project team meetings.

Option 2. Design Charrette (1 point)

Building upon the Integrative Project Team Credit above, the project team will hold a Design

Charrette, which will include all key stakeholders, owner and design team, to review sustainability goals. This will occur no later than the design development phase.

Option 3. Trades Training (1 point)

In addition to the Design Charrette during the design phase, eight hours of training on the green aspects of the project will be conducted in the beginning of construction for the trades. The training will focus on how the trades can contribute to achieving each LEED for Homes prerequisite and attempted credit.

4.1.2 Location and Transportation

The Project is currently targeting 12 points total under the LEED for Homes v4 Location and Transportation (LT) category.

LT Prerequisite Floodplain Avoidance (Required)

The Project Site is located on a previously developed urban site in Cambridge, MA outside of the flood hazard area and therefore complies with this credit.

LT Credit Site Selection

Option 1. Sensitive Land Protection

Path 1 - Previously Developed (4 points)

The Project Site is located on a previously developed urban site in Cambridge, MA and therefore complies with this credit.

Option 2. Infill Development (2 points)

The project is sited in an urban location and is considered an infill site, complying with the requirements for this credit.

Option 4. Street Network (1 point)

The project is located within 1 square mile of 90 intersections.

LT Credit Compact Development (3 points + 1 point for exemplary performance)

The project exceeds 35 units per acre (50) and therefore is considered very high density for this credit.

LT Credit Access to Transit (1 point)

Located on an urban site in Cambridge, MA, the project site is in close proximity to many options of public transportation, qualifying for 1 point under this credit.

4.1.3 Sustainable Sites

The Project is currently targeting 3 points total under the LEED for Homes v4 Sustainable Sites (SS) category.

SS Prerequisite Construction Activity Pollution Prevention (Required)

The Construction Manager (CM) shall submit and implement an Erosion and Sedimentation

Control (ESC) Plan for construction activities related to the demolition of existing site elements and construction of the new building. The ESC Plan shall conform to the erosion and sedimentation control requirements of the 2012 EPA Construction General Permit (ESC) and specific municipal requirements for the City of Cambridge.

SS Prerequisite No Invasive Plants (Required)

The project team will identify plantings for the project that are identified by the local extension services as either native or non-invasive.

SS Credit Heat Island Reduction

Option 1. Shading (2 points)

The project will design for reduced heat island effects on the site through the use of shading with plants and trees, and using light colored, high albedo pavement to comply with this credit.

4.1.4 Water Efficiency

The Project is currently targeting 4 points total under the LEED for Homes v4 Water Efficiency (WE) category.

WE Prerequisite Water Metering

Case 2. Multifamily (Required)

The project will install a water meter for the entire building, meeting the requirement of this prerequisite.

Prescriptive Path

WE Credit Indoor Water Use

Case 2. Multifamily (2 points)

The design of the plumbing systems will include the use of low flow fixtures to reduce the water use of the building. In residential units, low flow WaterSense labeled shower heads with less than 1.75 gallons per minute flow rate will significantly reduce residential water use. Additionally, residential WaterSense labeled lavatory faucets which will operate at 1.5 gallons per minute or less will be installed further improving water efficiency.

WE Credit Outdoor Water Use (2 points)

The project will not include any turf and the vegetated areas both at the street level and on building roofs will be planted primarily (at least 50% of total landscaped area) with native and/or adapted vegetation.

4.1.5 Energy and Atmosphere

The Project is currently targeting 17 points total under the LEED for Homes v4 Energy and Atmosphere (EA) category. The LEED for Homes Rating System offers two pathways for compliance with the prerequisite and credits. The pathways are compliance through

demonstrated performance, or modeling, or compliance through prescriptive measures. This project will comply with EA prerequisites and credits by demonstrating performance.

EA Prerequisite Minimum Energy Performance (Required)

The project will follow ENERGY STAR for Homes version 3 requirements as required by LEED for Homes. This includes testing, inspections, and verification requirements during construction, or the residential version of commissioning. This prerequisite also requires all refrigerators, dishwashers and clothes washers to be ENERGY STAR qualified and all duct runs to be fully ducted.

EA Prerequisite Energy Metering

Case 2. Multifamily (Required)

The project will install a whole-building gas meter and an electric submeter in each residential unit, complying with the requirement of this credit.

EA Prerequisite Education of Homeowner, Tenant, or Building Manager (Required)

The key to a successful project is during operations, and the building manager is the center of operations. The project team will assemble an operations and training manual for the building manager, and will coordinate an orientation with appropriate system vendors. In collaboration with the project design team, the Applicant will also develop a tenant operations and training manual to be provided to each tenant during orientation.

EA Credit Annual Energy Use

Option 2. HERS Index with Home Size Adjuster (15 points)

To maximize the energy savings in the building the project includes high efficiency heating and cooling systems, water heaters and appliances, which in addition to efficiently sized apartment units contribute to a lower HERS index rating.

EA Credit Advanced Utility Tracking

Option 2. Third Party Utility Reporting

Path 2. Individual Unit Meters (1 point)

The building owner (Applicant) will share all applicable utility data with USGBC via a USGBC-approved third-party, complying with the requirement of this credit.

EA Credit HVAC Start-Up Credentialing (1 point)

A technician with the appropriate professional credentialing will be hired to conduct commissioning on all heating, cooling and ventilation systems in the building.

4.1.6 Materials and Resources

The Project is currently targeting 2 points total under the LEED for Homes v4 Materials and Resources (MR) category.

MR Prerequisite Certified Tropical Wood (Required)

The project specifications will outline a preference for non-tropical, reused or reclaimed, or

Forest Stewardship Council (FSC) or USGBC-approved equivalent products and will require submittals for all wood products to indicate the country of origin of the wood. If a tropical wood is specified, appropriate documentation and chain of custody will be required.

MR Prerequisite Durability Management (Required)

Project team will demonstrate all minimum durability planning strategies mandated by regulatory agencies and LEED will be designed and implemented effectively. Durability planning includes meeting all ENERGY STAR for Homes version 3 water management system builder checklist items, as well as evaluating any site conditions that must be considered during the design process, moisture and mold prevention design strategies, and combustion exhaust strategies.

MR Credit Durability Management Verification (1 point)

The owner will provide a third-party to assist the contractor in ensuring the delivery of a durable building and that all ENERGY STAR for Homes version 3 water management system builder checklist items are verified.

MR Credit Construction Waste Management (1 point)

The construction contract for the project will require achieving a minimum of 20% reduction of construction waste below baseline as calculated per LEED Homes v4 guidelines. Prior to the onset of construction, the CM will prepare a Construction Waste Management plan, and provide monthly logs to the Applicant and the sustainability consultant.

4.1.7 Indoor Environmental Quality

The Project is currently targeting 5 points total under the LEED for Homes v4 Indoor Environmental Quality (IEQ) category.

EQ Prerequisite Ventilation (Required)

Local Exhaust

Each apartment must be provided with adequate exhaust for local points of contaminants, such as bathrooms and kitchens, as required by ASRHAE 62.2-2010. The project will provide adequate exhaust with ENERGY STAR fans. All local exhaust systems will be ducted directly to the outside.

Whole Unit Mechanical Ventilation

Each apartment must be provided with sufficient outdoor air as required by ASHRAE 62.2-2010. The project will provide sufficient outdoor air as required to each apartment with a continuous ventilation system.

EQ Prerequisite Combustion Venting (Required)

The project will provide sufficient exhaust for combusting appliances such as kitchen ranges, and water heaters. In addition, carbon monoxide sensors will be provided to each unit. No fireplaces will be installed in this project, complying with the requirements of this credit.

EQ Prerequisite Garage Pollutant Protection (Required)

The project achieves this credit as no on-site garage is planned for the residents.

EQ Prerequisite Radon-Resistant Construction (Required)

Cambridge, MA is located in a high risk area for Radon according to the US EPA. The project team will incorporate Radon Venting measures to mitigate impact to residents.

EQ Prerequisite Air Filtering - Good Filters (Required)

MERV 8 filters will be provided on all recirculating space conditioning systems, and MERV 6 filters will be provided on all mechanically supplied outdoor air systems with 10 feet or more of ductwork.

EQ Prerequisite Environmental Tobacco Smoke (Required)

Smoking will be prohibited in all common areas of the building and outside the building except in designated smoking areas located at least 25 feet from all entries, outdoor air intakes and operable windows.

EQ Prerequisite Compartmentalization (Required)

Each residential unit must be compartmentalized to minimize leakage between units. Uncontrolled pathways for environmental tobacco smoke and other indoor air pollutants between units will be reduced by sealing penetrations in walls, ceilings, and floors and by sealing vertical chases adjacent to the units. Acceptable sealing of residential units will be demonstrated by a blower door test. The procedure described by RESNET will be used to demonstrate compliance with an allowable maximum leakage of 0.23 cfm50 per square foot (0.07 cmm50 per square meter) of enclosure (i.e., all surfaces enclosing the apartment, including exterior and party walls, floors, and ceiling).

EQ Credit Enhanced Local Exhaust (1 point)

Exhaust fans will be energy efficient will operate continuously for enhanced air quality and a balanced ventilation system.

EQ Credit Combustion Venting (2 points)

No fireplaces will be installed in this project, complying with the requirements of this credit.

*EQ Credit Enhanced Garage Pollutant Protection**Option 3. No Garage or Detached Garage (2 points)*

The project achieves this credit as no on-site garage is planned for the residents.

4.1.8 Innovation

The Project is currently targeting 2 points total under the LEED for Homes v4 Innovation (IN) category.

IN Prerequisite Preliminary Rating (Required)

Residential construction is often a quick and rushed process without thought of impact of the

development to the community, the residents, or the larger environment. LEED for Homes requires project teams to take the essential first step to sustainability planning with a Preliminary Rating during the design phase.

IN Credit Innovation (2 points)

Through green cleaning or access to local food, there are several Innovation credits which can be achieved. The project team will be evaluating the options to determine which one best fit the sustainability goals for the project.

4.1.9 Regional Priority

The Project is currently targeting 1 point total under the LEED for Homes v4 Regional Priority (RP) category.

RP Credit Regional Priority (1 point)

The project can target a number of Regional Priority credits. The project team will be evaluating the options to determine which one best fit the sustainability goals for the project.

5

Transportation

This section represents a cumulative discussion of the existing and proposed transportation conditions for the Project in combination with the Mass+Main project, which is being submitted for Special Permit Project Review under a separate application by the Applicant. Although technically two separate projects, the Applicant, in consultation with CDD and CDPW, has agreed to present a cumulative discussion of the impacts of both projects (referred to collectively herein as the "Project") in order to enable the Planning Board to consider them simultaneously. This approach is consistent with the Traffic Impact Study (TIS), which was conducted to assess potential cumulative impacts on transportation facilities associated with the Project (including the Mass+Main project). Therefore, the TIS assumed approximately 300 residential units within three buildings: Buildings B-1 and B-2, including approximately 17,000 square feet of ground floor retail on Block B as part of the Mass+Main project; and a third residential building at 47 Bishop Allen Drive. Cumulatively, approximately 146 physical parking spaces will be provided for residents in underground below-grade garage under Building B-1 and an off-site surface lot located at 65 Bishop Allen Drive.

The TIS, dated August 1, 2016, was certified by the City of Cambridge Traffic, Parking and Transportation (TP&T) Department on August 11, 2016. Attachment 2 provides a copy of the TIS and Certificate from TP&T.

5.1 Transportation Study Summary

5.1.1 Traffic Capacity Analysis Overview

A TIS was developed for the Project that is consistent with Section IV, "Guidelines for Presenting Information to the Planning Board" of the City of Cambridge "Transportation Impact Study Guidelines," Sixth Revision dated November 28, 2011. The TIS responds to the Scope dated May 4, 2016 defined by the City of Cambridge Traffic, Parking, and Transportation (TP&T) Department in response to a Request for Scoping dated April 4, 2016. A copy of the full TIS, including the City's scoping letter (which is included in the TIS technical appendix) is provided in Attachment 2.

The TIS has been prepared in conformance with the current City of Cambridge Guidelines for Transportation Impact Study required under the Article 19 Special Permit Project Review. The TIS document comprises three components, as follows:

- Introduction and Project Overview, describing the framework in which the transportation component of this project was evaluated;
- Transportation Impact Study, presenting the technical information and analysis results as required under the guidelines; and,
- Planning Board Special Permit Criteria, summarizing the evaluation of the proposed project as defined under the guidelines.

The TIS includes inventories of physical and operational conditions in the study area including roadways, intersections, crosswalks, sidewalks, on-street and off-street parking, transit facilities, and land uses. Transportation data that were collected and compiled are presented, including automatic traffic recorder counts, intersection turning movement counts, pedestrian and bicycle counts, vehicle crash data, and transit service data. Traffic volumes were evaluated for a 2016 Existing Condition, a 2016 Build Condition, and a 2021 Build scenario that include future background growth and other developments, as well as Project trips. The required TIS Summary Sheets and Planning Board Criteria Performance Summary are also included in Attachment 2.

The study area for the TIS comprises of eleven intersections, including intersections along Mass Ave, Bishop Allen Drive, Main Street, Columbia and Sidney Street. Figure 5.1 shows the traffic study area intersections. The traffic capacity Level-of-Service (LOS) analysis indicated that the Project will have a negligible impact on the transportation network at all study area intersections.

5.1.2 Existing Public Transportation

The Project Site is well served by multiple public transportation options in the area, as shown in Figure 5.2. The Project Site is located within a ¼-mile from the Central Square MBTA Red Line Station. The MBTA Red Line provides service to/from Alewife to the northeast and both Braintree and Ashmont to the south. The MBTA Red Line also provides connections to the Green Line at the Park Street Station and the Orange and Silver Lines at Downtown Crossing Station. A connection to the Fitchburg Commuter Rail Line is provided at the nearby Porter Square MBTA Red Line Station. The MBTA operates eight bus routes within the study area, including the following:

MBTA Route #1 – Harvard/Holyoke Gate – Dudley Station via Mass Ave

MBTA Route #1 connects Harvard Square and Central Square in Cambridge to Dudley Square via Mass Ave. The nearest bus stop to the Project site is located at the corner of Mass Ave and Sidney Street. Various stops along this route connect with other bus lines, the Red Line, Orange Line, and Green Line. The bus route runs on weekdays from 4:37 AM to 1:27 AM with 8

to 10 minute headways during peak hours. On Saturday, service runs from 4:40 AM to 1:40 AM, and Sunday services is from 6:00 AM to 1:32 AM.

MBTA Route #47 – Central Square, Cambridge – Broadway Station via B.U. Medical Center, Dudley Station & Longwood Medical Area

MBTA Route #47 connects Central Square in Cambridge to Broadway Station in South Boston via Fenway and the South End. The nearest bus stop to the Project Site is located at the corner of Brookline Street and Green Street. Various stops along this route connect with other bus lines, the Red Line, Orange Line, and Green Line. The bus route runs on weekdays from 5:15 AM to 1:24 AM with 10 to 22 minute headways during peak hours. On Saturday, service runs from 5:00 AM to 1:40 AM, and Sunday services is from 7:30 AM to 1:04 AM.

MBTA Route #64 – Oak Square – University Park, Cambridge or Kendall/MIT via North Beacon Street

MBTA Route #64 connects Oak Square in Brighton and University Park and Kendall/MIT Station in Cambridge via North Beacon Street. The nearest bus stop to the Project Site is located at the corner of Mass Ave and Sidney Street. Various stops along this route connect with other bus lines and the Red Line. The bus route runs on weekdays from 5:31 AM to 1:13 AM with 14 to 30 minute headways during peak hours. On Saturday, service runs from 5:20 AM to 1:15 AM, and Sunday services is from 8:18 AM to 6:59 PM.

MBTA Route #68 – Harvard/Holyoke Gate – Kendall/MIT via Broadway

MBTA Route #68 connects Harvard Square and Kendall Square in Cambridge via Mass Ave. The nearest bus stop to the Project Site is located at the corner of Broadway and Columbia Street. Various stops along this route connect with other bus lines and the Red Line. The bus route runs on weekdays from 6:35 AM to 6:54 PM with 40 minute headways during peak hours. There is no service on the weekends.

MBTA Route #70/70A – Cedarwood, North Waltham or Watertown Square – University Park via Central Square, Cambridge, Arsenal St. & Western Ave.

MBTA Route #70/70A connects Waltham and Watertown to Central Square in Cambridge via Western Avenue Arsenal Street, and Main Street. The nearest bus stop to the Project Site is located at the corner of Mass Ave and Sidney Street. Various stops along this route connect with other bus lines, the Red Line, and Fitchburg Commuter Rail. The bus route runs on weekdays from 4:50 AM to 1:04 AM with 10 to 15 minute headways during peak hours. On Saturday, service runs from 5:00 AM to 1:27 AM, and Sunday service is from 6:00 AM to 1:23 AM.

MBTA Route #83 – Rindge Ave. – Central Square, Cambridge via Porter Square Station

MBTA Route #83 connects Rindge Avenue near Alewife Station and Porter Square to Central Square via Mass Ave, Somerville Avenue, and Beacon Street. The nearest bus stop to the Project Site is located at Magazine Street and Green Street. Various stops along this route connect with other bus lines, the Red Line, and Fitchburg Commuter Rail. The bus route runs on weekdays from 5:10 AM to 1:20 AM with 20 to 30 minute headways during peak hours. On Saturday, service runs from 5:10 AM to 1:29 AM, and Sunday service is from 7:25 AM to 1:22 AM.

MBTA Route #91 – Sullivan Square Station – Central Square, Cambridge via Washington Street

MBTA Route #91 connects Sullivan Square Station in Charlestown and Central Square in Cambridge via Washington Street and Union Square in Somerville. The nearest bus stop to the Project Site is located at the corner of Magazine Street and Green Street. Various stops along this route connect with other bus lines, the Red Line, and Orange Line. The bus route runs on weekdays from 5:15 AM to 1:10 AM with 30-minute headways during peak hours. On Saturday, service runs from 5:00 AM to 1:05 AM, and Sunday service is from 6:30 AM to 12:54 AM.

MBTA Route CT1 – Central Square, Cambridge – B.U. Medical Center/Boston Medical Center via M.I.T.

MBTA Route CT1 connects Central Square in Cambridge to the Boston University Medical Center via Mass Ave and MIT Campus. The nearest bus stop to the Project Site is located at the corner of Mass Ave and Sidney Street. Various stops along this route connect with other bus lines, the Red Line, Orange Line, Green Line, and Silver Line. The bus route runs on weekdays from 6:00 AM to 7:41 PM with 20 to 23 minute headways during peak hours. There is no service on weekends and most holidays.

Private Transit Services

In addition, the Charles River Transportation Management Association (CRTMA) operates the EZRide shuttle service between North Station, Lechmere, Kendall Square, University Park, and Cambridgeport. The shuttle thereby provides connections to the Green Line at Lechmere Station and the northern commuter rail services, as well as the Green and Orange lines at North Station. The shuttle operates every 8 to 10 minutes from North Station to Cambridgeport via Kendall Square during morning (6:20 AM to 10:50 AM) and evening (3:00 PM to 8:00 PM) commutes, and the midday (10:44 AM to 3:00 PM) shuttle operates every 20 minutes between Kendall Square and Northwest Campus. The shuttle runs Monday through Friday with no weekend and holiday service. EZRide stops closest to the Project area is Mass Ave at Landsdowne Street. The shuttle has a varying payment structure separate from the

MBTA pass, as EZRide and the CRTMA are not affiliated with the MBTA. All EZRide Shuttle buses feature front-mounted bike racks for up to two standard bicycles. This service is open to the public with the fares as follows: \$2 cash fare for adults, \$1 for children/students age 12 to 17 years old, college students with ID, senior citizens (65+), and persons with disabilities, and EZRide is free for those with a member pass sticker, MIT ID, and children under 12 years old. Multi-ride ticket books may be purchased online or by mail order by the general public.

Existing Pedestrian and Bicycle Facilities

Pedestrian amenities surrounding the Project Site include sidewalks along Bishop Allen Drive, Columbia Street, and Mass Ave. Pedestrians are primarily provided concurrent walk times at signalized intersections. An unsignalized crosswalk is provided across Mass Ave at Lafayette Square.

The Project Site is adjacent to the bicycle lanes along Mass Ave and at Sidney Street. The Sidney Street southbound approach to the intersection with Mass Ave provides a bicycle lane for right turns only and a lane for through or left movements. Bicycle boxes are provided at the Main Street westbound approach to the intersection with Columbia Street and Sidney Street. Additionally, two bicycle racks exist in the parking structure at 47 Bishop Allen Drive.

Hubway, which provides more than 1,500 bikes at 159 stations throughout Cambridge, Boston, Brookline, and Somerville, provides three (3) stations within walking distance of the Project Site. The station closest to the Project Site is located on Mass Ave at Lafayette Square. Another station is available on Sidney Street at University Park. A third station is located at the intersection of Mass Ave and Essex Street.

5.2 Compliance with Bicycle Parking Requirements

The Project will provide bicycle parking in accordance with the City of Cambridge's Bicycle Parking Zoning Ordinance, as shown in Table 5-1 below.

TABLE 5-1 BICYCLE PARKING

Land Use	Long-Term Bicycle Parking			Short-Term Bicycle Parking		
	Code	Rate	Spaces	Code	Rate	Spaces
Residential (Mass+Main; 283 units)	R2	1.05 spaces per dwelling ¹	296	R2	0.10 spaces per dwelling	28
Residential (47 Bishop Allen Drive; 23 units)	R2	1.0 space per dwelling	23	R2	0.10 spaces per dwelling	2
Retail (17,000 GSF)	N4	0.10 spaces per 1,000 sf ²	2	N2	0.60 spaces per 1,000 sf	11
Total			321			41

Source: City of Cambridge Zoning Ordinance Article 6.0

1 per city guide – 1.00 spaces per unit for the first 20 units for a residential building

2 per city guide – up to 4 retail long-term spaces may be provided as short-term

To satisfy the short-term bicycle parking requirement, a total of 42 spaces will be provided throughout the development to support the retail and residential patrons accessing the Project Site (39 spaces for the Mass+Main project and 2 spaces for the 47 Bishop Allen Drive project), as shown on Figure 5.3. Building B-1 will provide 234 long-term bicycle parking spaces in one large bike room on the ground floor with a mezzanine level accessed from an elevator. Building B-2 will provide one 64-space, two-level bike room. The 47 Bishop Allen Drive residential building will provide 26 on-site long-term bicycle storage spaces exceeding the overall requirement of 321 long-term bicycle spaces for the projects combined.

5.3 Parking/Shared Parking Analysis

The parking requirements for the Mass+Main project, as described in Section 20.307 and provided in Attachment 2, state that the minimum required parking for the Project is 0.5 parking spaces per residential units with a maximum parking ratio of 0.75 spaces per residential unit. In addition the "...Project shall provide, at a minimum, one (1) parking space for every 100 residential units that shall be dedicated for use by a carsharing organization. Each Carsharing Space within a Residential Mixed Income Project shall allow the required number of residential parking spaces to be reduced by five (5) spaces..." In addition, the ordinance states that "No separate off-street parking shall be required for ground-floor retail uses..." The Ordinance requires a minimum of one (1) parking space per residential unit for 47 Bishop Allen Drive. As further described in Chapter 1, *Project Description* of this application, the Applicant is seeking relief from the parking requirements applicable to 47 Bishop Allen Drive in order to achieve a minimum parking ratio of approximately 0.5 parking spaces per residential units consistent with Mass+Main.

As shown in Figure 5.4, the Project will provide 95 residential parking spaces in the Building B-1 underground garage and 51 residential parking spaces in the 65 Bishop Allen Drive surface

parking lot for a total of 146 physical parking spaces. In compliance with zoning, this total parking supply is broken down as follows:

- Up to 95 spaces are proposed for the garage below Building B-1 to support the Mass+Main project, with 3 spaces being provided as carshare spaces. (Per Section 20.307.7.d, the Project is required to provide a minimum of two (2) carshare spaces and each of the carshare spaces will equate to 5 spaces.)
- Up to 39 spaces in the existing surface parking lot at 65 Bishop Allen lot will be allocated to the Mass+Main project.
- Up to 12 spaces in the existing surface parking lot at 65 Bishop Allen Drive will be allocated for the 47 Bishop Allen Drive project.

Based on the above breakdown, a total parking supply of 158 "parking spaces" are being provided for the 306 units, which equates to an overall parking ratio of 0.52.

The Applicant will work with the carsharing service to understand the demand for carsharing services within the area and provide at least three (3) carshare spaces with the initial opening of Building B-1, and increase to a total of five (5) carsharing spaces if demand exists.

Of the total 146 physical parking spaces provided, initially 143 will be leased to residential tenants and three will be used by carshare vehicles. In the future, up to five parking spaces may be used by carsharing vehicles and the remaining 141 spaces leased to residential tenants.

The Project estimated parking demand is expected to be slightly lower than the provided parking supply. This is due to the information collected from American Commuter Survey 5-year estimates, in which car ownership within the area of the Project Site is 49 percent and in particular, people who take public transportation as their main mode of transport, only 30 percent of these people own cars. It is expected, that due to the location of the site, the majority of residents will use public transportation as their main mode of transportation. The residents will also have the convenience of having carsharing options within the Project.

The proposed parking spaces will be managed through a key-card access gate system at the garage entrance and at the 65 Bishop Allen Drive surface lot. A transportation coordinator will be available to residents for parking and transportation information. To discourage car-ownership, residents will be required to pay market price for a Project parking space, this amount will be determined upon the opening and occupancy of the building. Visitors to the residential units will be able to park at the 65 Bishop Allen Drive lot with the use of a visitor pass, while retail patrons will use the various short-term parking options available along Mass Ave or within the City parking lot.



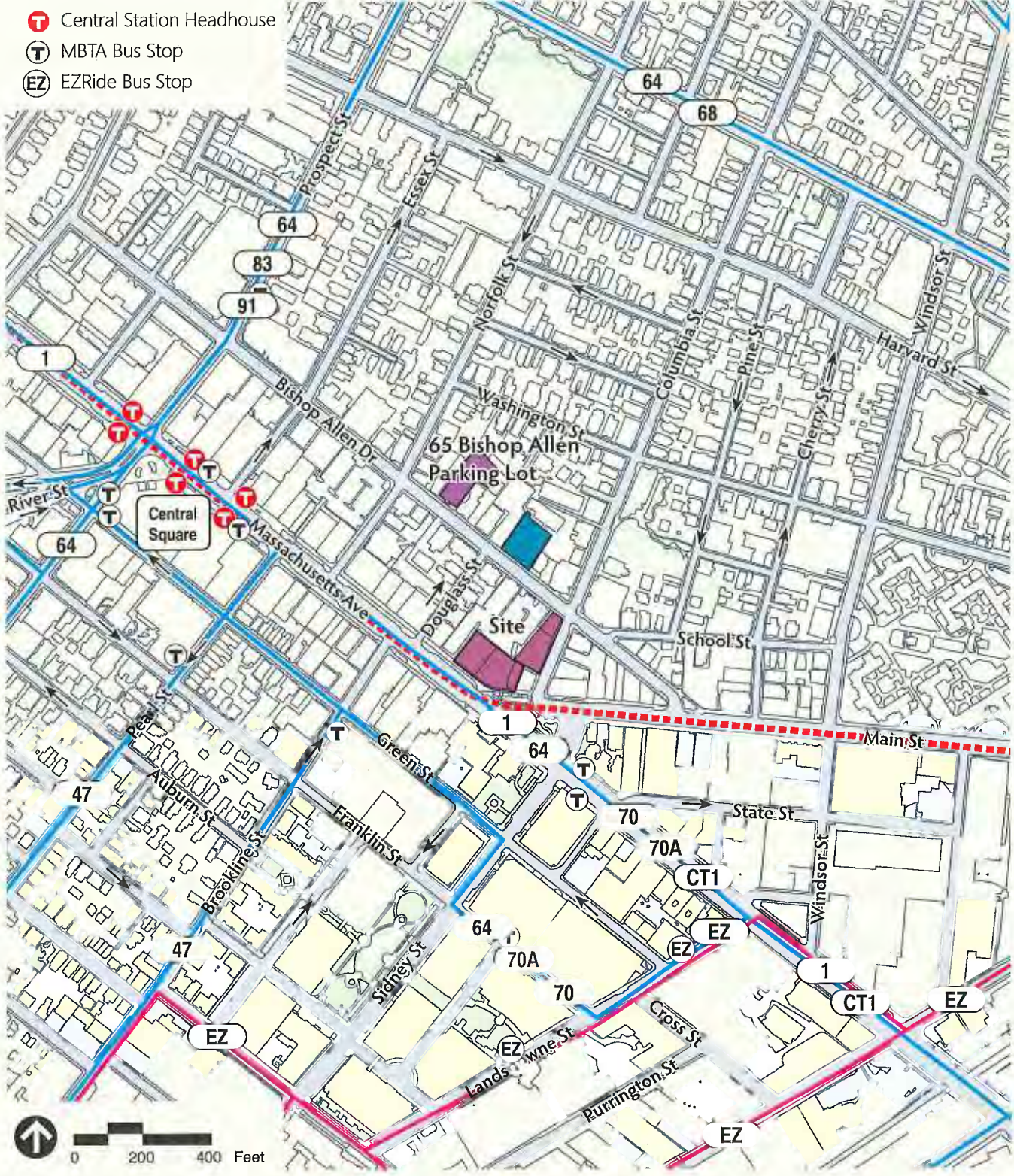
Source: City of Cambridge GIS

- Project Site
- 47 Bishop Allen Drive Project Site
To be approved under a separate Special Permit Project Review submission



Figure 5.1
 Site Plan and Study Area Intersections

Mass + Main Project
Cambridge, Massachusetts



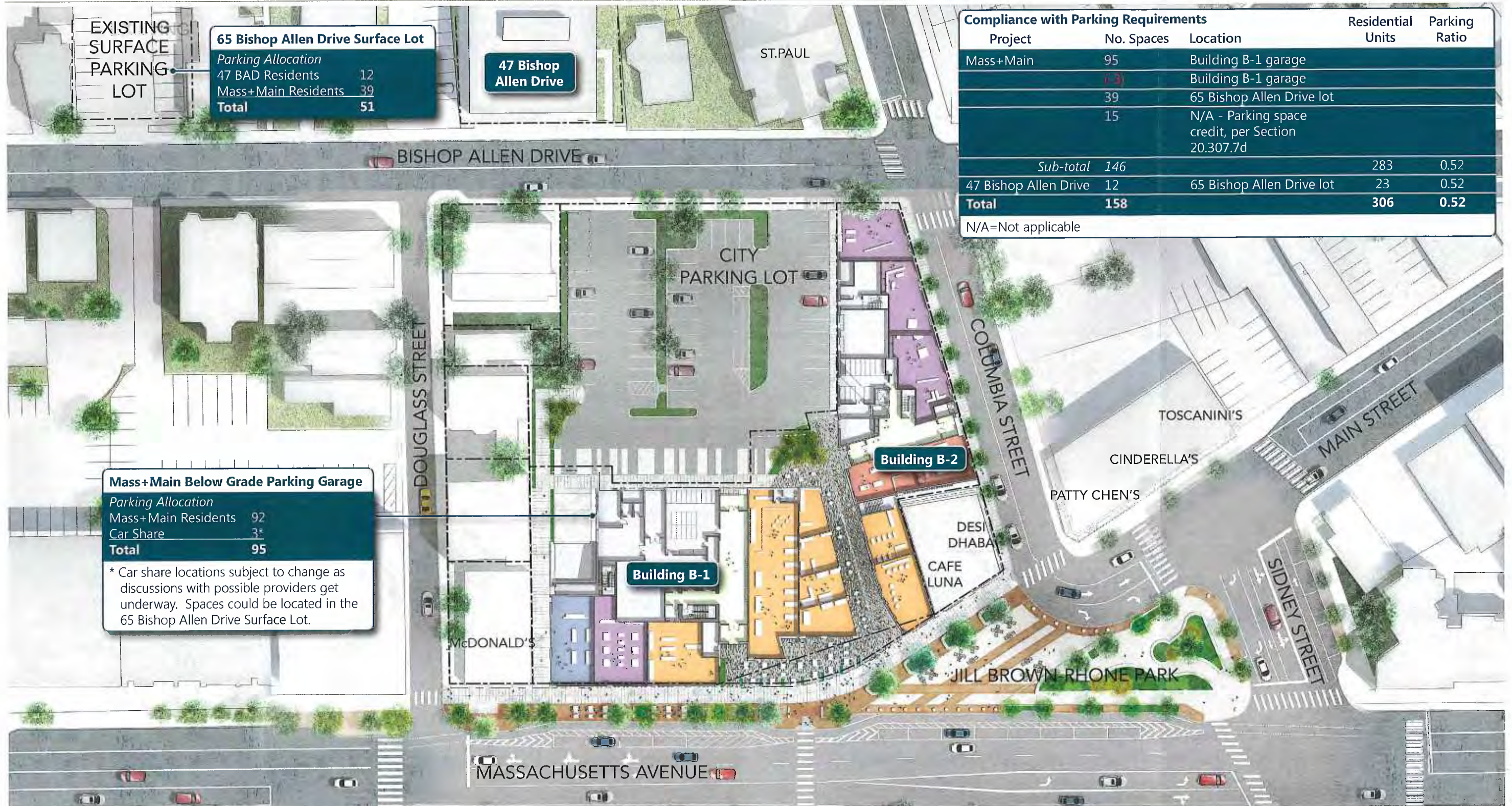
Source: City of Cambridge GIS

- Project Site
- 47 Bishop Allen Drive Project Site
To be approved under a separate Special Permit Project Review submission



Figure 5.2
Public Transportation

Mass + Main Project
Cambridge, Massachusetts



Source: Twining Properties



Figure 5.4
Proposed Shared Parking Plan

Mass + Main Project
Cambridge, Massachusetts