

CITY OF CAMBRIDGE, MASSACHUSETTS

# PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE, MA 02139

## SPECIAL PERMIT APPLICATION • COVER SHEET

In accordance with the requirements of the City of Cambridge Zoning Ordinance, the undersigned hereby petitions the Planning Board for one or more Special Permits for the premises indicated below.

Location of Premises: 240 Sidney Street, 40 Allston Street & 618 Grove Avenue

Zoning District: Special District 8A

Applicant Name: Dinosaur Capital Partners LLC on behalf of Sidney Grove LLC

Applicant Address: c/o Scott Oran, Dinosaur Capital Partners LLC, 101 Huntington Avenue, 9<sup>th</sup> Floor, Boston, MA 02199

Contact Information:                      617 422 6584                      soran@dinosaurcap.com                      N/A

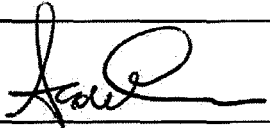
   Telephone #    Email Address    Fax #

List all requested special permit(s) (with reference to zoning section numbers) below. *Note that the Applicant is responsible for seeking all necessary special permits for the project. A special permit cannot be granted if it is not specifically requested in the Application.*

Section 4.26 – Multifamily Special Permit  
Section 19.20 – Project Review  
Section 6.35.1 – Reduction of Required Parking

List all submitted materials (include document titles and volume numbers where applicable) below.

Dimensional Form, Ownership Certificate, Fee Schedule, Project Narrative, Site Map, Existing Conditions and Neighborhood Context Photos, Proposed Site Concept and Site Plan, Perspective Renderings, Survey, Landscape Plan, Floor Plans, Elevations, Shadow Studies, Traffic Study, Tree Study, LEED Narrative and Checklist

Signature of Applicant:  Scott Oran, Manager, Dinosaur Capital Partners LLC

For the Planning Board, this application has been received by the Community Development Department (CDD) on the date specified below:

Date

Signature of CDD Staff

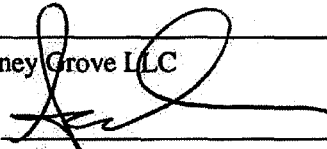
**OWNERSHIP CERTIFICATE**

**Project Address:** 240 Sidney Street

**Application Date:**

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

I hereby authorize the following Applicant: Dinosaur Capital Partners LLC  
at the following address: 101 Huntington Avenue, 9<sup>th</sup> Floor,  
Boston, MA 02199  
to apply for a special permit for: A building composed of 107 residential units to be  
known as 240 Sidney Street  
on premises located at: 240 Sidney Street, 40 Allston Street &  
618 Grove Avenue  
for which the record title stands in the name of: Sidney Grove LLC  
whose address is: c/o Morris & Morse Company, Inc.,  
66 Long Wharf, Boston, MA 02110  
by a deed duly recorded in South  
the Registry of Deeds of: Middlesex Book: 58503 Page: 423

Signature of Land Owner Sidney Grove LLC  
By:   
Name: Scott Oran  
Title: Authorized Signatory

**To be completed by Notary Public:**


Commonwealth of Massachusetts, County of Suffolk

Scott Oran,  
Authorized Signatory  
The above named of Sidney Grove LLC, personally appeared before me,

on the month, day and year March 13, 2013 and made oath that the above statement is true.

Notary: Maureen P. Gallagher

My Commission expires: \_\_\_\_\_

 **MAUREN P. GALLAGHER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
June 13, 2018

**FEE SCHEDULE**

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**Project Address:** 240 Sidney Street

**Application Date:** 15 March 2013

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The Applicant must provide the full fee (by check or money order) with the Special Permit Application. Depending on the nature of the proposed project and the types of Special Permit being sought, the required fee is the larger of the following amounts:

- If the proposed project includes the creation of new or substantially rehabilitated floor area, or a change of use subject to Section 19.20, the fee is ten cents (\$0.10) per square foot of total proposed Gross Floor Area.
- If a Flood Plain Special Permit is being sought as part of the Application, the fee is one thousand dollars (\$1,000.00), unless the amount determined above is greater.
- In any case, the minimum fee is one hundred fifty dollars (\$150.00).

**Fee Calculation**

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New or Substantially Rehabilitated Gross Floor Area (SF): 101,551 × \$0.10 = \$10,155

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Flood Plain Special Permit Enter \$1,000.00 if applicable:

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Other Special Permit Enter \$150.00 if no other fee is applicable:

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**TOTAL SPECIAL PERMIT FEE** Enter Larger of the Above Amounts: **\$10,155**

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**DIMENSIONAL FORM**

**Project Address:** 240 Sidney Street

**Application Date:** 15 March 2013

	Existing	Allowed or Required (max/min)	Proposed	Permitted
Lot Area (sq ft)	54,130	5,000	54,130	
Lot Width (ft)	300	50	300	
<b>Total Gross Floor Area (sq ft)</b>	<b>36,408</b>	<b>105,554</b>	<b>101,551</b>	
Residential Base	0	81,195	78,116	
Non-Residential Base	36,408	n/a	n/a	
Inclusionary Housing Bonus	0	24,359	23,435	
<b>Total Floor Area Ratio</b>	<b>0.67</b>	<b>1.95</b>	<b>1.88</b>	
Residential Base	n/a	1.50	1.45	
Non-Residential Base	0.67	n/a	n/a	
Inclusionary Housing Bonus	n/a	.45	.43	
<b>Total Dwelling Units</b>	<b>0</b>	<b>107</b>	<b>107</b>	
Base Units	0	83	83	
Inclusionary Bonus Units	0	24	24	
Base Lot Area / Unit (sq ft)	0	650	652	
Total Lot Area / Unit (sq ft)	0	506	506	
<b>Building Height(s) (ft)</b>	<b>26'</b>	<b>45'/60'<sup>1</sup></b>	<b>35'/45'</b>	
Front Yard Setback (ft)	0	10'	10'	
Side Yard Setback –(ft)	n/a	n/a	n/a	
Side Yard Setback –(ft)	n/a	n/a	n/a	
Rear Yard Setback (ft)	n/a	n/a	n/a	
<b>Open Space (% of Lot Area)</b>	<b>&lt;3%</b>	<b>15%</b>	<b>30%</b>	
Private Open Space	0%	n/a	5%	
Permeable Open Space	<3%	n/a	25%	
Other Open Space (Specify)	n/a	n/a	n/a	
<b>Off-Street Parking Spaces</b>	<b>67</b>	<b>1 per d.u. / 107</b>	<b>.9 per d.u. /96</b>	
Bicycle Parking Spaces	0	0.5 per d.u. / 54	1+ per d.u. / 112	
Loading Bays	0	0	0	

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

<sup>1</sup> First value in this cell and in adjacent cell to right refers to height within 100 feet of centerline of Sidney Street, second value to height on balance of the Site.

**Project Narrative in Support of Special Permit Application**

**240 Sidney Street, 40 Allston Street & 618 Grove Avenue**

**Submitted to** City of Cambridge Planning Board

**Date** March 15, 2013

**Applicant** Dinosaur Capital Partners LLC

**On behalf of** Sidney Grove LLC

**I. Project Overview**

Dinosaur Capital Partners LLC (the “Applicant”) as developer on behalf of Sidney Grove LLC, a Massachusetts limited liability company (“Sidney Grove”), proposes to construct a new multi-family residential building on a 54,130 square foot site (the “Site”) located at 240 Sidney Street, 40 Allston Street and 618 Grove Avenue. We refer to the Site as 240 Sidney Street in this Application. According to the Cambridge Zoning Map (the “Zoning Map”), the Site is located in the Special District 8A zoning district (“SD-8A”). The Site is currently improved by two one- and two- story office and research buildings leased to Vertex Pharmaceuticals and a 66-car surface parking lot, all of which will be demolished.

The Applicant proposes to construct a first-class, three- and four-story, multi-family residential building (the “Residential Building”) at the Site, containing 107 units of rental housing as well as various community amenities such as a yoga and fitness room, a community living and dining room, and a media room. The Residential Building will provide a variety of units: approximately 52% of the units (56) will be one-bedroom units, 40% of the units (43) will be two-bedroom units, and 7% of the units (8) will be studio units. Twelve (12) of the 107 units will be affordable units. Ninety-six (96) underground automobile parking spaces and 112 covered bicycle parking spaces will be constructed (the “Parking”). Access to the underground parking will be from a driveway on Allston Street near the corner of Grove Avenue, a private way. The Residential Building and the Parking are referred to collectively in this Application as the “Project.”

**II. Compliance with Zoning**

Multi-family dwellings are allowed as-of-right in the SD-8A zoning district at the Site. The Project's compliance with the Ordinance's dimensional requirements for SD-8A zoning district is summarized in the Dimensional Form submitted with this Application. The Applicant is requesting the following special permits from the Cambridge Planning Board (the "Special Permits") under the Cambridge Zoning Ordinance (the "Ordinance"):

- Project Review Special Permit under Section 19.20 of the Ordinance for construction of more than 50,000 square feet of Gross Floor Area
- Multi-family Special Permit under Sections 4.26 and 4.31 of the Ordinance for development of more than 12 units of multi-family housing in Residence C-1A districts (per 17.82.1, all requirements and regulations applicable to the Residence C-1A District shall apply equally to the Special District 8A).
- Special Permit under Section 6.35.1 of the Ordinance for reduction of required parking

**III. Compliance with  
Criteria Specific to  
Special Permit  
Being Sought  
(Section 19.20)**

The provisions of the Ordinance set forth below apply to the requested Special Permit. Application of each provision to the Project follows the provision in sans serif typeface.

**19.20 Project Review Special Permit**

In granting a Project Review Special Permit under Section 19.20 of the Ordinance, the Planning Board is required to make the following findings:

**1) The Project will have no substantial adverse impact on city traffic within the study area as analyzed in the required traffic study.**

As described in the Project's Traffic Impact Study ("TIS") submitted to the City of Cambridge Traffic, Parking and Transportation Department on January 14, 2013, the Project is expected to have negligible impact on traffic and will not cause congestion, hazard, or substantial change to the established neighborhood character.

**2) The Project is consistent with the urban design objectives of the city as set forth in Section 19.30 of the Ordinance.**

As described below, the Project conforms to the Citywide Urban Design Objectives set forth in Section 19.30 of the Ordinance.

**19.30 Citywide Urban Design Objectives**

**1) Pursuant to Section 19.31 of the Ordinance, new projects should be responsive to the existing or anticipated pattern of development. Indicators include:**

**(a) Heights and setbacks provide suitable transition to abutting or nearby residential zoning districts that are generally developed to low scale residential uses.**

The Site is located within Special District 8A. In Special District 8A, height is generally limited to 60'. However, within 100' of the centerline of Sidney Street (the border of a Residence C-1 zoning district), height is limited to 45'. The proposed building is "C"-shaped with three-story, 35' high sections



closest to Sidney Street and stepping up to a four-story, 45' high section closest to and parallel to Grove Avenue. The three-story sections of the proposed building closest to Sidney Street are intended to complement the three-story residential character of the Cambridgeport residential neighborhood predominantly found west of Sidney Street while the four-story section steps up toward the heights of existing office / research buildings across Allston Street, north of the Site, and matches the height of the newly constructed Putnam Green housing development across Putnam Street, just south of the Site.

The Site is bounded by four streets and, under the Ordinance, has only front yards requiring 10' setbacks. Allston Street, Sidney Street, and Putnam Avenue are public streets. Grove Street is a private way. The building sits 10' from the sidewalk on Sidney Street, 10' from the sidewalks along Putnam Avenue and Allston Street, and 20' from Grove Street. Ground level units will have patios off living room spaces to enliven the streetscape.

**(b) New buildings are designed and oriented on the lot so as to be consistent with the established streetscape on those streets on which the project lot abuts. Streetscape is meant to refer to the pattern of building setbacks and heights in relationship to public streets.**

The building is designed and oriented to be consistent with the setbacks and heights of surrounding buildings and their relationship to the streets. The organization of the Residential Building around the courtyard visually echoes and extends Fulmore Park across Sidney Street which is surrounded by housing of similar scale. The Residential Building meets the street and creates a street wall at all four street edges and all four corners of the Site. Triple-deckers nearby sit close to the sidewalks, with small front gardens and stoops.

**(c) In mixed-use projects, uses are to be located carefully to respect the context, e.g. retail should front onto a street, new housing should relate to any adjacent existing residential use, etc.**

The Residential Building is not a mixed-use project. As noted above, the

new building will be consistent with and relate to the adjacent existing residential scale and uses.

**(d) Where relevant, historical context is respected, e.g. special consideration should be given to buildings on the site or neighboring buildings that are preferably preserved.**

There are no neighboring historic buildings or buildings that are preferably preserved on or adjacent to the Site. However, based on their age, the Site's existing structures fall under the Cambridge Demolition Delay Ordinance, with which the applicant will comply in a separate process with the Cambridge Historical Commission.

**2) Pursuant to Section 19.32 of the Ordinance, development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings. Indicators include:**

**(a) Ground floors, particularly where they face public streets, public parks, and publicly accessible pathways, consist of spaces that are actively inhabited by people, such as retail stores, consumer service businesses and restaurants where they are allowed, or general office, educational or residential uses and building lobbies. Windows and doors that normally serve such inhabited spaces are encouraged to be a prominent aspect of the relevant building facades. Where a mix of activities are accommodated in a building, the more active uses are encouraged facing public streets, parks and pathways.**

The ground floor of the Residential Building will include active residential uses. The main entrance to the Residential Building will be through a landscaped courtyard. The courtyard is designed to allow pedestrians arriving from public transit at Central Square or Boston University and cyclists to follow desire lines from Sidney Street to a clearly marked front entrance. Visitor bicycle parking is provided by the front door. Large windows in the ground floor offer views into public areas including a yoga and fitness room, a communal living and dining room and a management office. Activating the public street faces, private raised patio areas will be provided for individual residential units with railings and trellises.

**In commercial districts, such active space consists of retail and consumer service stores and building lobbies that are oriented toward the street and encourage pedestrian activity on the sidewalk. However, in all cases such ground floor spaces should be occupied by uses (a)**

permitted in the zoning district within which the building is located, (b) consistent with the general character of the environment within which the structure is located, and (c) compatible with the principal use for which the building is designed.

Special District 8A is conceived primarily to encourage residential use and as such is not a commercial district.

(b) Covered parking on the lower floors of a building and on-grade open parking, particularly where located in front of a building, is discouraged where a building faces a public street or public park, and publicly accessible pathways.

The Residential Building is designed with an enclosed, underground parking facility for 96 vehicles. There is no on-grade parking on the Site.

(c) Ground floors should be generally 25-50% transparent. The greatest amounts of glass would be expected for retail uses with lesser amounts for office, institutional or residential use.

The first floor has large glass windows at public common areas as well as large glass windows and doors at living rooms. While the ground floor transparency requirement clearly applies more strongly to retail uses than residential uses, it should be noted that the first floor is approximately 25% transparent.

(d) Entries to buildings are located so as to ensure safe pedestrian movement across streets, encourage walking as a preferred mode of travel within the city and to encourage the use of public transit for employment and other trips. Relating building entries as directly as possible to crosswalks and to pathways that lead to bus stops and transit stations is encouraged; siting buildings on a lot and developing site plans that reinforce expected pedestrian pathways over the lot and through the district is also encouraged.

The main entrance to the Residential Building is located in an entry courtyard about 100 feet from Sidney Street. The courtyard is designed for passive recreation and to allow pedestrians and cyclists to follow desire lines through the courtyard to the front door. A secondary

entrance is off Grove Street.

**(e) Pedestrians and bicyclists are able to access the site safely and conveniently; bicyclists should have, secure storage facilities conveniently located on-site and out of the weather. If bicycle parking is provided in a garage, special attention must be paid to providing safe access to the facilities from the outside.**

Visitors bicycle parking is located in the landscaped courtyard near the front door. Covered bicycle parking is provided for 112 bicycles: 37 in the garage, entered from Allston Street, and for 75 along Grove Avenue.

**(f) Alternate means of serving this policy objective 19.32 through special building design, siting, or site design can be anticipated where the building form or use is distinctive such as freestanding parking structures, large institutional buildings such as churches and auditoriums, freestanding service buildings, power plants, athletic facilities, manufacturing plants, etc.**

The Project complies with the policy objective 19.32.

**3) Pursuant to Section 19.33 of the Ordinance, the building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include:**

**(a) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:**

**(i) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered is the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.**

**(ii) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design,**

massing, scale and character of the building.

(iii) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(iv) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

(v) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

The Project is designed to minimize negative impacts on its surroundings and enhance the overall appearance of the existing streetscape and skyline. First and foremost, the Project significantly improves the appearance of the Site by replacing the existing one- and two story office / laboratory buildings and surface parking with a thoughtfully designed and landscaped first-class residential building. Mechanical equipment will be located in the basement parking garage and on the roof positioned out of sight lines from adjoining streets to the maximum extent possible. All unit HVAC is provided by mechanical equipment located within the units with the exception of the low-profile rooftop air-conditioning units which are screened and located in the center of the roofs of the Residential Building, out of view from the street and nearby open spaces.

(b) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

The trash and recycling storage and handling for the Residential Building is contained within the Residential Building to avoid noise, odor, and visual impacts on the neighbors and Residential Building residents. Centralized trash and recycling rooms are provided on each floor of the Residential Building, with chutes connecting to a main trash and recycling room at the parking level. In compliance with the Ordinance, no refuse storage areas are located in the front yard or anywhere on-grade outside of the

Residential Building.

**(c) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.**

The Residential Building is 100% residential and does not require, or provide, a loading facility. A loading/unloading area is provided along Grove Avenue, a private way, at the rear of the Residential Building for staging of resident move in and move out. This provides a secure area that will not block traffic circulation, with direct access to a building entry and elevator core.

**(d) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.**

The Project implements Stormwater Best Management Practices and other measures to minimize runoff and improve water quality in accordance with the Massachusetts Stormwater Handbook for both water quality and quantity.

**(e) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.**

The Project incorporates Low Impact Development (LID) design features into the overall stormwater management design of the Residential Building, including natural, landscape stormwater treatment options such as bio-retention areas and landscape islands working together as part of a stormwater management system to reduce the rate and volume of stormwater runoff. Landscaping will primarily be drought tolerant, perennial native plantings.

**(f) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar**

**Energy System as defined in Section 22.60 of the Ordinance.**

The Residential Building is 35 to 45 feet tall which is comparable or lower than surrounding structures. Shadow modeling has illustrated that shadows from the Project will not impact the uses of the abutting properties. Please refer to the shadow studies in the Appendix.

**(g) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.**

The Project minimizes changes in grade across the property which slopes about 5 feet across the 300 foot long Site. There are no retaining walls. The underground parking is entered at the highest corner of the Site to minimize the required ramping. The courtyard slopes up from the sidewalk towards the entry, allowing ready pedestrian access.

**(h) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.**

Wall treatments and window locations are designed to minimize impact on and be in scale with existing neighboring residences.

**(i) Outdoor lighting is designed to provide minimum lighting necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.**

Architectural lighting will be designed to provide the minimum lighting necessary to ensure adequate safety, night vision, and comfort as well as to minimize light pollution. The Residential Building entrance fronting on Sidney Street will provide a soft “glow” to the entry courtyard, accenting the safety and pedestrian friendly lighting around the Residential Building. The lighting for the Residential Building will comply with the City’s lighting ordinance.

**(j) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to**

**development on the site.**

The Project is a redevelopment of an existing parcel which is currently almost entirely covered with buildings and parking lot. There is currently only one existing tree on the Site. It has DBH less than 8". Therefore, it is not a Significant Tree. Twenty-four (24) new trees and extensive landscaping will be planted on site in connection with the Project. The existing tree will be removed.

**4) Pursuant to Section 19.34 of the Ordinance, projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system. Indicators include:**

**(a) The building and site design are designed to make use of water-conserving plumbing and minimize the amount of stormwater run-off through the use of best management practices for stormwater management.**

As described above, the Project's stormwater management system has been designed to incorporate best management practices. Water-conserving plumbing fixtures will be installed in each residence, and potable water will be submetered so that residents are aware of their own usage.

Current plans for the project will result in a *decrease* in impervious area at the project site from the existing conditions. Although the peak rates of runoff will therefore be less than the existing condition, stormwater detention may be required to meet the City's requirements of peak rate mitigation (the proposed 25-year peak rate of runoff will be at or below the existing 2-year peak rate of runoff). As the design of the project progresses, the need for detention will be further assessed. If required, detention would most likely consist of a subsurface system.

The site stormwater system will include Best Management Practices (BMPs) for water quality treatment and phosphorus removal to meet the requirements of the City of Cambridge. Most likely the BMPs will be low impact development measures such as rain gardens. If it is not feasible to build rain gardens, structural BMPs will be used. Since the project will include less vehicular impervious area than the existing condition, there will be an overall improvement in water quality prior to treatment by the BMPs. The outlet of the site drainage



system will connect to City of Cambridge's drainage system either in Allston Street or Putnam Avenue. Discussions with the Department of Public Works will continue as the project progresses to determine where the storm drainage system will connect to the City's system.

**(b) The capacity and condition of drinking water and wastewater infrastructure systems are shown to be adequate, or the steps necessary to bring them up to an acceptable level are identified.**

#### Water Service Infrastructure

The proposed building will have 150 bedrooms and an estimated maximum domestic daily water use of 18,150 gallons per day. The building will also have an estimated fire protection requirement of 1,000 gallons per minute. Preliminary discussions with the Cambridge Water Department have begun and will continue as the project progresses. The project will most likely connect to a 12" water main in Sidney Street. There are also existing water mains in Allston Street and Putnam Avenue. As the design progresses, hydrant flow tests will be conducted to confirm pressures in the existing system. Coordination with the Water Department will be continued relative to the design. If the existing system cannot provide the required flow and pressure, some water main work could be required and could consist of cleaning and lining the existing main in Sidney Street or replacement of the main in Sidney Street.

#### Sanitary Sewer Service Infrastructure

The proposed building will have 150 bedrooms. Based on sewage generation estimates as calculated in accordance with 314 CMR 7.00, the State's Sewer System Extension and Connection Permit Program, an estimated maximum daily sewer flow of 16,500 gallons per day is anticipated. These calculations assume a maximum daily sewer flow for residential buildings to be 110 gallons per day per bedroom.

Based on discussions with the Department of Public Works, it has been

determined that the combined sewers in Sidney Street, Putnam Avenue, and Grove Avenue and sanitary sewers Allston Street all eventually drain to an MWRA sewer in Waverly Street. Therefore, it was agreed that the sanitary sewer service for the proposed buildings could connect to any of these existing mains, provided that they have adequate capacity. During discussions with the Department of Public Works, it was noted that no capacity issues in the sewer systems in the vicinity of the site are known. Coordination with the Department of Public Works will continue as the project progresses to determine where the sanitary sewer service will connect to the City's Sanitary Sewer system. The Department of Public Works noted that if connections to the combined sewer in Grove or Sidney Streets were contemplated, those sewers would potentially need to be separated.

**(c) Buildings are designed to use natural resources and energy resources efficiently in construction, maintenance, and long-term operation of the building, including supporting mechanical systems that reduce the need for mechanical equipment generally and its location on the roof of a building specifically. The buildings are sited on the lot to allow construction on adjacent lots to do the same. Compliance with Leadership in Energy and Environmental Design (LEED) certification standards and other evolving environmental efficiency standards is encouraged.**

The Residential Building will meet the requirements under the Energy Star Home program and the US Green Building Council's LEED-Homes standard. An overview of the Project's LEED compliance is contained in the LEED Narrative and LEED Checklist submitted with this Application.

**5) Pursuant to Section 19.35 of the Ordinance, new construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically. Indicators include:**

**(a) New educational institutional construction that is focused within the existing campuses.**

Not applicable to this Project.

**(b) Where institutional construction occurs in commercial areas, retail, consumer service enterprises, and other uses that are accessible to the general public are provided at the ground (or lower) floors of buildings. Where such uses are not suitable for programmatic reasons,**

**institutional uses that encourage active pedestrian traffic to and from the site.**

Not applicable to this Project.

**(c) In large, multiple-building non-institutional developments, a mix of uses, including publicly accessible retail activity, is provided where such uses are permitted and where the mix of uses extends the period of time the area remains active throughout the day.**

Not applicable to this Project.

**(d) Historic structures and environments are preserved.**

Not applicable to this Project.

**(e) Preservation or provision of facilities for start-up companies and appropriately scaled manufacturing activities that provide a wide diversity of employment paths for Cambridge residents as a component of the development; however, activities heavily dependent on trucking for supply and distribution are not encouraged.**

The Project will be a complementary use to the existing, and future, commercial use in the area, introducing additional residential living, convenient for employees of the nearby office and research buildings.

**6) Pursuant to Section 19.36 of the Ordinance, expansion of the inventory of housing in the city is encouraged. Indicators include:**

**(a) Housing is a component of any large, multiple building commercial development. Where such development abuts residential zoning districts substantially developed to low-scale residential uses, placement of housing within the development such that it acts as a transition/buffer between uses within and without the development.**

**(b) Where housing is constructed, providing affordable units exceeding that mandated by the Ordinance. Targeting larger family-sized middle income units is encouraged.**

The proposed Residential Building is 100% residential, and will add 107

additional residential dwelling units to the housing inventory of the City. A range of unit types are provided, of which approximately 38% will be two-bedroom units. The Residential Building will include 12 affordable units in compliance with Section 11.201 of the Ordinance.

**7) Pursuant to Section 19.37 of the Ordinance, enhancement and expansion of open space amenities in the city should be incorporated into new development in the city. Indicators include:**

**(a) On large-parcel commercial developments, publicly beneficial open space is provided.**

**(b) Open space facilities are designed to enhance or expand existing facilities or to expand networks of pedestrian and bicycle movement within the vicinity of the development.**

**(c) A wider range of open space activities than presently found in the abutting area is provided.**

The Project enhances and expands open space amenities in the City. 30% of the lot is open space. The outdoor courtyard will provide new passive outdoor recreation areas for residents and visually connect and extend with Fulmore Park on Sidney Street. The 10 foot landscaped front yards will enhance Sidney Street, Allston Street, and Putnam Street. The 20 foot wide front yard at Grove Avenue will provide a buffer between this new residential use and the nearby office / research uses. In addition, private open space is provided at first floor patios as well as a communal roof-top deck.

**Noise Mitigation Review [Required by Section 19.24(7)]**

The project will not introduce significant outdoor mechanical equipment noise into the surrounding community. The primary source of sound exterior to the new building will be one small condensing unit for each apartment, located on the roof. These will be grouped and located away from streetview, with sound-screens. One 100% OA gas/DX rooftop unit will be located adjacent to the penthouse. The rooftop unit will be surrounded with noise barriers, which will mitigate noise radiated laterally. In addition, a small safety back-up generator is expected to be located on the roof.

**Compliance with Cambridge Green Building Requirements [Required by Section 22.20, compliance demonstrated through project review process]**

The Project will achieve compliance with Cambridge Stretch Code by being “LEED Certifiable” under the LEED-H (MID-RISE) building rating system. Please refer to the LEED Checklist in the Appendix.

Major sustainable design elements of the overall project include:

- Redevelopment of a currently under-utilized site. The Project is in an urban area, close to regional and local public transportation. The new residential building will be located within .8 miles to public transportation on the MBTA’s Red Line station at Central Square, and .7 miles from the Green Line station at Boston University. Numerous bus lines are nearby, encouraging minimal vehicle use.

- The Project will embody urban principles encouraging public transportation and pedestrian activity. The use of cars at this site is expected to be minimal in comparison to the public transportation and pedestrian trips.

Other transportation related characteristics include:

- .9 parking space per housing unit.
- The development team has begun discussions with Zipcar to potentially include shared-car facilities within the building.
- 112 covered bicycle parking spaces will be included for residents. Visitor bicycle parking will be adjacent to the primary building entrance.

- ◆ **Mechanical Systems:**

- No CFCs or HCFCs will be used in cooling equipment.
- The Project will seek to save energy across systems with energy efficient equipment and appropriate insulation.

- High efficiency lighting with occupancy sensors will be incorporated where suitable.
- ◆ Residential Units:
  - Energy Star appliances, lighting and low-flow fixtures will be integrated into residential units.
  - Operable and high-quality insulated glass will allow residents to control air movement within the units.

**IV. Compliance with  
Criteria Specific to  
Special Permit  
Being Sought  
(Sections 4.26  
and 4.31)**

As the proposed Residential Building will contain more than 12 dwelling units, a special permit granted by the Planning Board is required by Sections 4.26 and 4.31. Pursuant to Section 10.47.4, the following site plan criteria are applicable to Special Permits issued under Section 4.31:

**1) Key features of the natural landscape should be preserved to the maximum extent feasible. Tree removal should be minimized and other natural features of the site, such as slopes, should be maintained.**

The site is currently fully developed with two aged one- and two-story office / research buildings and an asphalt parking lot for 66 vehicles. There is only one tree and open space equals less than 3% of the site. Hence, there are few features of the natural landscape present. In contrast, the proposed redevelopment will include 24 new trees and create open space equal to 40% of the site.

**2) New buildings should be related sensitively to the existing built environment. The location, orientation and massing of structures in the development should avoid overwhelming the existing buildings in the vicinity of the development. Visual and functional disruptions should be avoided.**

The proposed building is designed sensitively to the existing built environment. Its three and four story C-shaped massing is designed to be in relation to and mediate between smaller scale three- and four-story historic and new residential development predominantly west of Sidney Street and south of Putnam Street and larger scale multi-story office/

laboratory buildings north of Allston Street and east of Grove Avenue.

- 3) The location, arrangement, and landscaping of open space should provide some visual benefits to abutters and passersby as well as functional benefits to occupants of the development.**

The proposed development will create a substantial new open space that responds to, mirrors and visually extends the newly-renovated Fulmore Park across Sidney Street. This landscaped courtyard will provide visual benefits to abutters and passersby as well as functional benefits to occupants. The courtyard provides extensive landscaping, benches, paved area and a lawn panel for passive recreation.

- 4) Parking areas, internal roadways and access/egress points should be safe and convenient.**

All vehicle parking is located under the proposed building in a well-lit garage with secure access via a single ramp on Allston Street.

- 5) Parking area landscaping should minimize the intrusion of on site parking so that it does not substantially detract from the use and enjoyment of either the proposed development or neighboring properties.**

All parking has been designed and located in a garage below the building so it will not be an intrusion on site or substantially detract from the use and enjoyment of the proposed development or neighboring properties.

- 6) Service facilities such as trash collection apparatus and utility boxes should be located so they are convenient for residents, yet unobtrusive.**

All service areas are designed to be convenient yet unobtrusive. Trash is collected inside the building and removed on the Grove Street side of the building so as to keep the courtyard undisturbed. Utility connection points are designed to be located within the building.

**[Intentionally Blank]**

**V. Compliance with  
General Special  
Permit Criteria  
(Section 10.43)**

Pursuant to Section 10.43 of the Ordinance, Special Permits will normally be granted where specific provisions of the Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

**1) It appears that requirements of this Ordinance cannot or will not be met.**

With the requested Special Permits, the Project will meet all requirements of the Ordinance.

**2) Traffic generated or patterns of access or egress would cause congestion, hazard or substantial change in established neighborhood character.**

The Applicant has completed a detailed analysis of the traffic impacts associated with the Project as evidenced in the Transportation Impact Study (“TIS”) prepared by Howard/Stein-Hudson Associates, Inc. and submitted to the City of Cambridge Traffic, Parking and Transportation



(“TP&T”) Department. The TIS includes an analysis of the existing and future vehicular traffic, bicycle and pedestrian volumes, defines site access requirements, and identifies specific improvements on the Site. The TIS concludes that the Project will have negligible impact on area street operations.

**3) The continued operation of or the development of adjacent uses as permitted in the Ordinance would be adversely affected by the nature of the proposed use.**

The Project will not adversely affect continued operation or future development of adjacent uses. The Site is surrounded on the west, north and south by existing and newly developed residential uses. To the east, across Grove Avenue, is a single story office and laboratory building. Special District 8A, which the Site is part of, was created in 2002 to encourage the development of housing.

**4) Nuisance or hazard would be created to the detriment of the health, safety and/or welfare of the occupant of the proposed use or the citizens of the City.**

The Project will not create any nuisance or hazard to the detriment of the health, safety and/or welfare of the occupants of the Project or the citizens of the City. To the contrary, the Project will replace aged office and research buildings with extensive surface parking and very little open space with a new residential building that will enhance the vibrancy of its Cambridgeport neighborhood. The Project is consistent with the City’s broader health, safety and welfare goals as set forth in Section 19.30 (Citywide Urban Design Objectives) of the Ordinance to foster development which is responsive to the existing or anticipated pattern of development, is designed for pedestrian and bicycle access, mitigates adverse environmental impacts upon its neighbors, expands the inventory of housing in the City and provides open space amenities.

**5) For other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of this Ordinance.**

The Project will not impair the integrity of any of the districts in which it is

located or any adjoining district, nor will the Project derogate from the intent and purpose of the Ordinance. The construction of the Project will enhance and further the purposes of the district in which it is located and all adjoining districts. When completed, the Project will replace existing office and laboratory buildings and associated extensive surface parking with a thoughtfully designed and landscaped first class, residential building that is in compliance with the requirements of the Special District 8A.

**6) The new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.**

As described in detail above, the Project is consistent with the Urban Design Objectives set forth in Section 19.30. Specifically:

**Section 19.31**

- **Height** – The building height is designed to bridge between future development in the adjacent SD-8 zone (allowed height of 65-100') and the C-1 residential use zone, with the building designed at only three stories and 35' height on the wings closest to Sidney Street, within 100' from the C-1 District (where 45' height is allowed), and a four story bar (proposed 45', allowed no more than 60' height) along Grove Street. Along Allston Street and Putnam Avenue, the building height steps from three stories to four stories.
- **Front Setbacks** – The site is bounded by four streets. Allston Street, Sidney Street and Putnam Avenue are public streets. Grove Street is a private way. The required front setback is ten feet from the back of the sidewalk. The building sits 10' from the sidewalk on Sidney Street, 10' from the sidewalk along Putnam Avenue and Allston Street, and 21' from Grove Street. Ground level units will have decks off living room spaces to enliven the streetscape. Triple-deckers nearby sit close to the sidewalks, with small front gardens and stoops.
- **Side & Rear Setbacks** – The building has no side yards or rear yard.
- **Orientation** – The primary entrance is located facing Sidney Street through the landscaped courtyard, with additional pedestrian access to the

residential lobby accessed off Grove Street. Additionally, broad windows along the ground floor offer views into public areas, including a management office and common amenity spaces at this level. A roof deck is proposed over the center of the building, adjacent to the elevator core.

**Section 19.32**

- Use – The proposal includes a landscaped courtyard in the center of the site, opening onto Sidney Street. Management office space and residents' amenity spaces will be adjacent to the lobby. A roof deck for residents will be located above the fourth floor. Activating the public street faces, private raised patio areas will be provided for individual residential units with railing and trellises.
- Parking – The proposal includes covered parking at a half-level below grade, with one vehicle access point into the parking level from Allston Street.
- Transparency – The main lobby and amenity spaces will have large windows opening to the entrance porch and Courtyard.
- Entry – The main entrance is oriented toward Grove Street and the Courtyard, with both ramp and stairs for pedestrian access to the lobby via Grove Street. The Courtyard access will be via a sloped path leading to the entry.
- Bicycle Parking – Bicycle parking is proposed in the vehicle parking area and will meet guidelines of the City of Cambridge Bicycle Parking Guide. Additional covered bike parking racks will be located behind the building on Grove Street.

**Section 19.33**

- Mechanical Equipment – Mechanical equipment will be located in the basement and will be screened as necessary on the third and fourth floor roofs, away from the streets where possible.
- Trash – A trash room with compactor and recycle storage will be located off Grove Street.

- Loading – No loading dock is required.
- Stormwater – Best management practices will be utilized to minimize runoff.
- Green Area Open Space -- Landscaping will be mostly drought tolerant, perennial native plantings.
- Building Siting – The building is proposed to maintain the street edge setbacks, similar to the surrounding residential streets, while creating a large open landscaped courtyard, visually expanding the adjacent Fulmore Park.
- Grade – Sloping earth and plantings will minimize any grade changes across the site.
- Impact on adjacent neighbors – Wall treatments and window locations are designed to minimize impact on existing neighboring residences.
- Outdoor lighting – Lighting will be designed for safety on the site, and to minimize light pollution.
- Tree Protection Plan – One tree is currently on the site which will be removed during construction. The proposed project includes new landscaping and 24 new trees.

**Section 19.34**

- The proposed project will follow best management practices for water conservation and will minimize stormwater runoff.
- As an urban infill site, drinking water and wastewater infrastructure systems will meet the capacity of the proposed buildings.
- The proposed project buildings will meet LEED and Stretch Code criteria. Please refer to the LEED Narrative and Checklist in the Appendix.

**VI. Criteria for Approval of Special Permit for Reduction of Required Parking (Section 6.35)**

Any minimum required amount of parking may be reduced only upon issuance of a special permit from the Board of Zoning Appeals.<sup>1</sup> A special permit shall be granted only if the Board determines and cites evidence in its decision that the lesser amount of parking will not cause excessive congestion, endanger public safety, substantially reduce parking availability for other uses or otherwise adversely impact the neighborhood, or that such lesser amount of parking will provide positive environmental or other benefits to the users of the lot and the neighborhood, including specifically, among other benefits, assisting in the provision of affordable housing units.

The proposed parking arrangement will not cause excessive congestion, endanger public safety, substantially reduce parking availability for other uses or otherwise adversely impact the neighborhood. In fact, the proposed arrangement will provide positive benefits to the users of the lot and the neighborhood. Specifically, the proposed parking allows the Site to provide adequate parking for the Residential Building, while maximizing the Site's green space and restricting all parking to an underground parking facility. Moreover, the Project will create 107 new units of rental housing replacing the existing office and laboratory use which is more traffic intensive. Finally, the Project will introduce additional residential living, convenient for employees of the surrounding office and laboratory buildings, thereby facilitating walking, biking and transit use and reducing the growth of auto trips and minimizing negative impacts on the surrounding neighborhood. Car ownership will be reduced by charging residents a separate monthly fee for parking (currently \$175 to \$225 per month in comparable residential buildings) and the potential provision of ZipCar car sharing which will allow residents and the public to avoid the costs and burdens of car ownership.

**In making such a determination the Board shall also consider whether or not less off**

---

<sup>1</sup> Per Section 10.45 of the Ordinance, any "application requiring a special permit from the Planning Board that contains elements requiring a special permit from the Board of Zoning Appeal may be allowed by the Planning Board within the scope of the Planning Board special permit and shall not require a separate application to the Board of Zoning Appeal."

**street parking is reasonable in light of the following:**

- 1) The availability of surplus off street parking in the vicinity of the use being served and/or the proximity of an MBTA transit station.**

The Site is located one block from several bus lines and three-quarters of a mile from the Central Square Red Line station as well as the Boston University Green Line West Station.

- 2) The availability of public or commercial parking facilities in the vicinity of the use being served provided the requirements of Section 6.23 are satisfied.**

Commercial parking facilities are located within close vicinity to the Project; however, based on the Parking Analysis, use of these facilities through a formal agreement is not necessary, as the proposed parking will adequately serve the proposed residential uses.

- 3) Shared use of off street parking spaces serving other uses having peak user demands at different times, provided that no more than seventy-five (75) percent of the lesser minimum parking requirements for each use shall be satisfied with such shared spaces and that the requirements of Subsection 6.23 are satisfied.**

Not applicable.

- 4) Age or other occupancy restrictions which are likely to result in a lower level of auto usage.**

The Residential Building is an Inclusionary Project under the Ordinance. It is likely that, given the Site's proximity to public transportation and local employment opportunities, as well as the segregation of the cost of having a parking space, the building will be very attractive to residents who do not have automobiles, including prospective residents of the 12 Affordable Units.

- 5) Impact of the parking requirement on the physical environment of the affected lot or the**

adjacent lots including reduction in green space, destruction of significant existing trees and other vegetation, destruction of existing dwelling units, significant negative impact on the historic resources on the lot, impairment of the urban design objectives of the city as set forth in Section 19.30 of the Zoning Ordinance, or loss of pedestrian amenities along public ways.

The proposed underground parking and the reduction in the required amount of parking will allow the courtyard to be green space without parking or driveway.

**6) The provision of required parking for developments containing affordable housing units, and especially for developments employing the increased FAR and Dwelling unit density provisions of Section 11.200, will increase the cost of the development, will require variance relief from other zoning requirements applicable to the development because of limitations of space on the lot, or will significantly diminish the environmental quality for all residents of the development.**

The provision of required parking would require a variance to allow parking in the front yard setback on Grove Avenue or diminish the size and environmental quality of the green space in the courtyard for all residents of the development.

**7) For a project seeking a reduction in required off-street parking for residential uses, a Parking Analysis shall be required as part of the Special Permit Application as set forth in Section 6.35.3.**

A Parking Analysis was submitted with the TIS and is attached in the Appendix.

**VII. Summary of  
Community  
Outreach**

A community meeting to inform neighbors, answer questions and solicit neighborhood feedback was organized and advertised by the Cambridgeport Neighborhood Association and held on June 25, 2012. Approximately 40 Cambridgeport residents attended a presentation on the proposed project. Comments from attendees were generally supportive of the size and scale of the project. Questions were asked and answered about the proposed materials (colored Hardi siding and panels with a buff/yellow-gold brick base). Some questions were asked about availability of the project's 12 affordable units. Subsequent to the community meeting, only one inquiry from a neighbor has been received.

**VIII. Conclusion**

As described above, the Project is appropriate to the Site and surroundings. It provides needed additional housing, including affordable housing, to the City's housing stock. The Project has a minimal transportation impact on the area roadways and enhances adjacent properties. Finally, the Project will replace existing undistinguished and aged one – and two-story office and research buildings and a surface parking lot with a thoughtfully designed and landscaped, first-class multi-family residential building. In summary, the Project furthers the objectives of the Zoning Ordinance and relevant planning efforts in the area in several significant ways. Accordingly, for the reasons set forth above, the Applicant respectfully requests that the Board find that the Project satisfies all applicable requirements of the Ordinance in connection with the granting of the requested Special Permits.



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9.00 a.m.

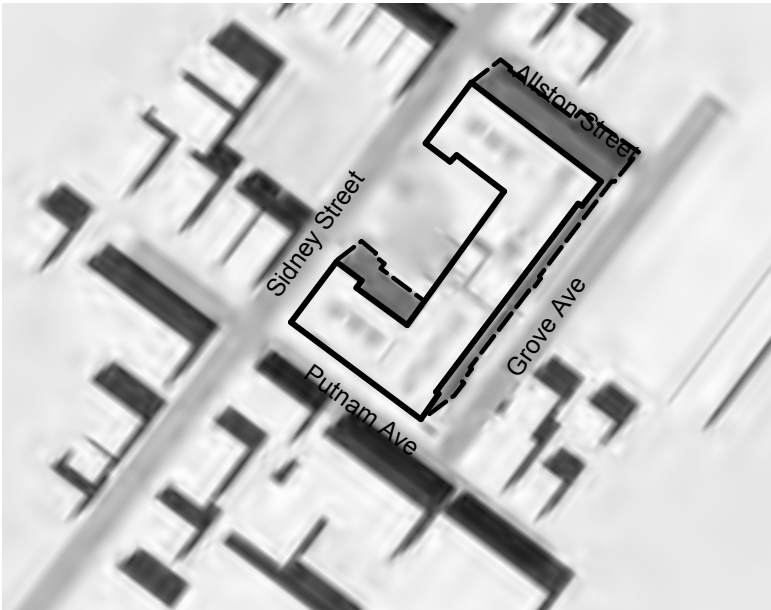


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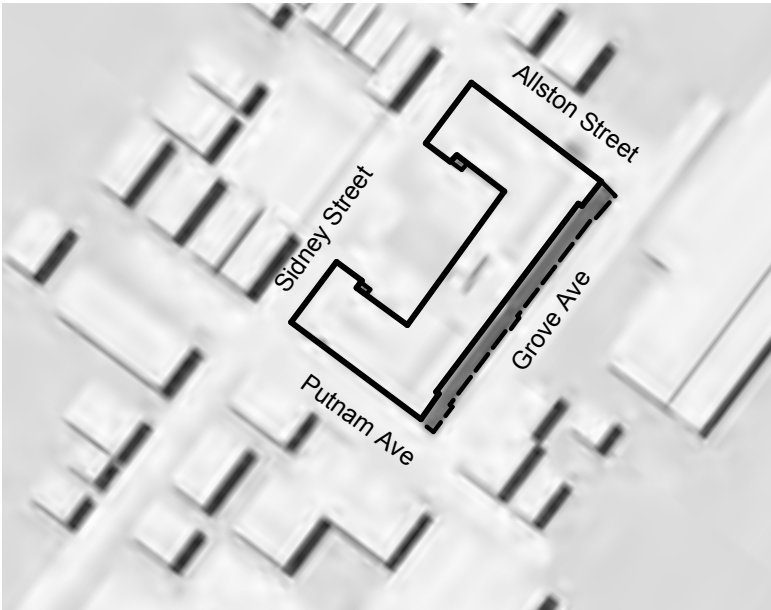


3.00 p.m.





9.00 a.m.



12.00 p.m.



3.00 p.m.



6.00 p.m.



**240 Sidney Street**

**Shadow Analysis (June 21st)**





9.00 a.m.



12.00 p.m.



3.00 p.m.



6.00 p.m.



**240 Sidney Street**

**Shadow Analysis (September 21st)**





9.00 a.m.



12.00 p.m.

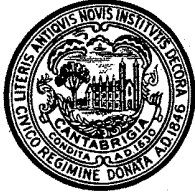


3.00 p.m.



**240 Sidney Street**

**Shadow Analysis (December 21st)**



**CITY OF CAMBRIDGE**  
**Traffic, Parking and Transportation**  
344 Broadway  
Cambridge, Massachusetts 02139

[www.cambridgema.gov/traffic](http://www.cambridgema.gov/traffic)

Susan E. Clippinger, Director  
Brad Gerratt, Deputy Director

Phone: (617) 349-4700  
Fax: (617) 349-4747

January 17, 2013

Keri Pyke  
Howard Stein Hudson, Inc.  
38 Chauncy Street, 9<sup>th</sup> Floor  
Boston, MA 02111

RE: 240 Sidney Street

Dear Keri,

We have reviewed your Traffic Impact Study (TIS) dated January 14, 2013 for 240 Sidney Street project. The study includes revisions to the original TIS which were made in response to our December 3, 2012 and January 10, 2013 comment letters. Based on staff review your TIS is certified as complete and reliable.

Please call Adam Shulman at 617-349-4745 if you have any questions.

Sincerely,

Susan E. Clippinger, Director

cc: Adam Shulman, TPT

# Traffic Impact Study



## 240 Sidney Street

*Prepared for*  
City of Cambridge, Massachusetts

*Prepared by*  
Howard/Stein-Hudson Associates, Inc.

January 14, 2013



**Howard/Stein-Hudson Associates, Inc.**

CREATIVE SOLUTIONS • EFFECTIVE PARTNERING ®

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# Executive Summary

Dinosaur Capitol Partners, development manager for Sidney Grove, LLC, is proposing to redevelop an existing research and development/office building at 240 Sidney Street in Cambridge, MA into a 107 unit apartment building with 96 underground automobile parking spaces and 107 bicycle parking spaces. This study outlines the existing conditions, including lane use, bicycle and pedestrian accommodations, and intersection operations. The study also analyzes the impact the Project will have on the three study intersections: Sidney Street/Putnam Ave, Putnam Ave/Brookline Street, and Sidney Street/Allston Street. The Project is expected to have a minimal impact on these intersections; adding only 21 vehicle trips to the network in the AM peak hour and 29 vehicle trips in the PM peak hour, not accounting for the termination of the existing land use. The Project provides 0.9 automobile parking spaces per residential unit, which is comparable to recent approved developments in the City of Cambridge that have nearby access to public transportation.

# Introduction

Dinosaur Capital Partners, development manager for Sidney Grove, LLC (the Proponent) is proposing to redevelop an existing research and development/office building located at 240 Sidney Street in Cambridge, Massachusetts, into a residential development (the Project). The location of the Project site is illustrated in **Figure 1**. The Project site is bound by Grove Avenue to the east, Sidney Street to the west, Allston Street to the north, and Putnam Avenue to the south. It consists of an existing 1.2-acre site that currently houses a 36,408 square foot (sf) research and development/office building with six access driveways. The Project would construct a new 101,551 sf residential development consisting of 107 residential units, including 12 affordable units. There are 96 proposed underground automobile parking spaces, which will be accessed from Allston Street near the corner of Grove Avenue. There is one pedestrian entrance on each side of the building, with four pedestrian entrances total. Trash pick-up will be on the east side of the building, which will be accessed on Grove Avenue. The Project will also provide 107 bicycle parking spaces, which will be located underground and along Grove Avenue.

Figure 1. Site Plan



## Existing Project Area

The study area consists of three intersections: Sidney Street/Putnam Avenue, Sidney Street/Allston Street, and Brookline Street/Putnam Avenue. The following sections describe the existing intersection conditions, existing public transportation operations in the area, existing pedestrian and bicycle accommodations, and the crash history within the Project area.

### Existing Intersection Conditions

HSH evaluated the traffic impacts at the following third intersection locations (see **Figure 2**):

**Sidney Street/Putnam Avenue** is an unsignalized, stop controlled, 4-legged intersection with three approaches. The Putnam Avenue eastbound approach consists of a single 10-foot through/right-turn lane with a 7-foot wide parking lane along the south side of the roadway. A residential driveway intersects the Putnam Avenue eastbound approach 19 feet from its intersection with Sidney Street. The Putnam Avenue westbound approach consists of a single 10-foot wide through/left-turn lane. The Sidney Street southbound approach, which is one-way, consists of a single 12-foot travel lane with a 5-foot bicycle lane on the west side of the roadway and an 8-foot parking lane on the east side of the roadway. The departure lane on Sidney Street is 13 feet wide with an 8-foot parking lane on the east side of the roadway. All on-street parking is by resident permit only. Sidewalks are provided along all approaches and are 6-7 feet wide. The entire intersection is raised to sidewalk level. There are no marked crosswalks, but tactile warning strips are provided at the sidewalk corners.

**Sidney Street/Allston Street** is an unsignalized, stop controlled, 4-legged intersection with three approaches. The Allston Street eastbound approach, which is one-way, consists of a single 11-foot travel lane with 7.5-foot parking lanes on each side. The Allston Street westbound approach, which is two-way, consists of a 12-foot travel lane with 7-foot parking lanes on both sides of the roadway. If cars are parked on both sides of the roadway, there is not enough space for two cars to pass one another. The Sidney Street southbound approach consists of a single 13.5-foot travel lane with a 4.5-foot bicycle lane along the west side of the roadway and a 7-foot parking lane on the east side of the roadway. The departure lane on the southern leg of Sidney Street is 14 feet wide with a 4.5-foot bicycle lane along the west side of the roadway and a 7-foot parking lane along the east side of the roadway. All on-street parking is by resident permit only, except for on the south side of the eastern leg of Allston Street, where unrestricted parking is provided. Sidewalks are provided along all approaches, and range in width between 6 and 7 feet. Crosswalks are provided across all legs of the intersection.

**Brookline Street/Putnam Avenue** is an unsignalized, 4-legged intersection with three approaches. The Putnam Avenue eastbound approach is stop-controlled and consists of a single 10-foot travel lane adjacent to a 7-foot parking lane. The Putnam Avenue westbound approach is stop-controlled and consists of a single 9.5-foot travel lane. The Brookline Street northbound approach is stop-controlled and consists of a single 11-foot travel lane adjacent to a 7.5-foot parking lane on the west side of the roadway and a 5-foot bicycle lane on the east side of the roadway. Brookline Street is one-way northbound. All on-street parking is by resident permit only. Sidewalks are provided along all approaches, and range between 7 and 15 feet in width.

Figure 2. Study Area Intersections



## Traffic Conditions

Since the proposed Project is residential, the most critical combination of site-generated traffic would occur during the weekday commuter peak periods. As such, the traffic study focuses on these peak periods as the “worst case” scenarios for analysis purposes. HSH collected manual turning movement counts (vehicles, pedestrians, and bicycles) at the study area intersections during the weekday morning (7:30 – 9:30 AM) and evening (4:30 PM – 7:30 PM) commuter peak periods on Thursday, September 13, 2012. According to the count data, the peak period at the study area intersections varies depending on location, but generally occurs from 8:00AM to 9:00 AM and 4:30 PM – 5:30 PM.

The Existing Conditions (2012) weekday AM and PM peak hour vehicle turning movement volumes for the study area intersections illustrated in **Figure 3**. Complete traffic count data can be found in **Appendix A**.

Automatic Traffic Recorder (ATR) counts were performed at four locations within the study area for a 48-hour period, beginning at 12:00 AM. Counts were performed at the following locations:

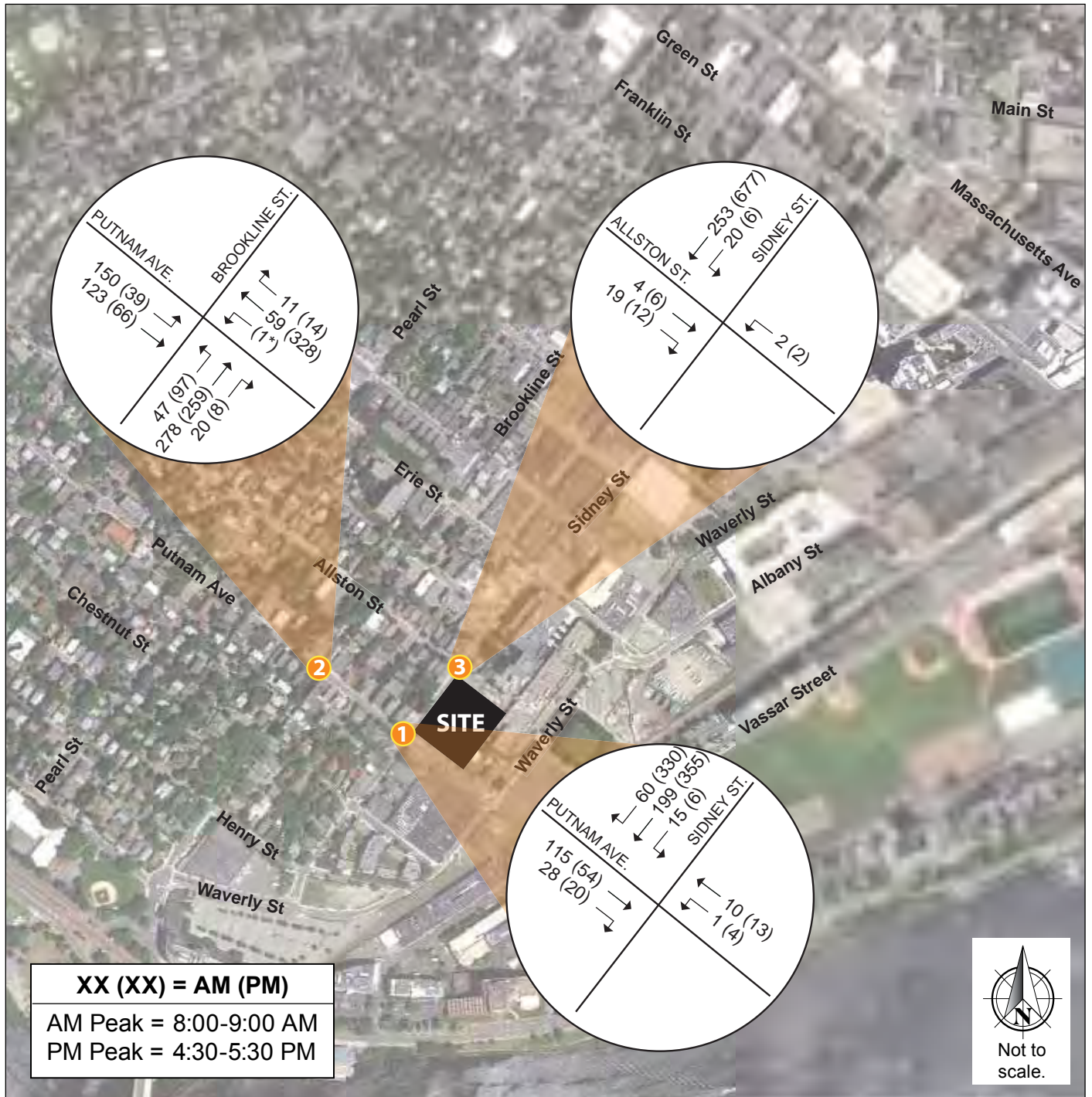
- Putnam Avenue west of Waverly Street;
- Allston Street between Pearl Street and Brookline Street;
- Sidney Street south of Putnam Avenue; and
- Brookline Street south of Putnam Avenue.

Counts were performed on Wednesday, September 12, through Thursday, September 13, 2012, except for Putnam Avenue west of Waverly Street, which was counted Tuesday, September 25, through Tuesday, September 26, 2012. Hourly ATR volumes are listed in **Table 1**.

At Putnam Avenue west of Waverly Street, volumes are generally greater in the eastbound direction than in the westbound direction. Traffic volumes peak between 8:00 AM and 9:00 AM and between 5:00 PM and 6:00 PM. At Allston Street between Pearl Street and Brookline Street, traffic volumes peak between 8:00 AM and 9:00 AM, and between 3:00 PM and 5:00 PM. Traffic volumes are relatively low on Allston Street; only 569 vehicles travel on Allston Street between Pearl Street and Brookline Street over the course of a day, an average of one car every 2 to 3 minutes. At Sidney Street south of Putnam Avenue, traffic volumes peak between 8:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. At Brookline Street south of Putnam Avenue, traffic volumes peak between 8:00 AM and 9:00 AM, and between 6:00 PM and 7:00 PM.



Figure 3. Existing Conditions (2012) Peak Hour Traffic Volumes





**Table 1.** ATR Counts by Hour

Time	Putnam Avenue west of Waverly Street		Allston Street between Pearl Street and Brookline Street	Sidney Street south of Putnam Avenue	Brookline Street south of Putnam Avenue
	EB	WB	EB	SB	NB
12:00 AM -1:00 AM	5	2	0	32	76
1:00 AM -2:00 AM	6	1	1	22	30
2:00 AM -3:00 AM	0	0	0	6	17
3:00 AM -4:00 AM	1	1	0	7	8
4:00 AM -5:00 AM	2	0	0	8	9
5:00 AM -6:00 AM	13	6	6	41	32
6:00 AM -7:00 AM	38	13	24	100	118
7:00 AM -8:00 AM	79	22	42	182	216
8:00 AM -9:00 AM	112	43	61	233	372
9:00 AM -10:00 AM	79	39	38	149	273
10:00 AM -11:00 AM	42	23	40	175	220
11:00 AM -12:00 PM	47	28	29	143	211
12:00 PM -1:00 PM	58	28	31	172	240
1:00 PM -2:00 PM	61	38	34	173	206
2:00 PM -3:00 PM	43	26	39	211	285
3:00 PM -4:00 PM	46	15	41	280	302
4:00 PM -5:00 PM	56	24	41	373	330
5:00 PM -6:00 PM	95	43	34	377	502
6:00 PM -7:00 PM	59	36	29	289	554
7:00 PM -8:00 PM	36	22	25	171	356
8:00 PM -9:00 PM	29	10	21	128	238
9:00 PM -10:00 PM	24	14	13	107	212
10:00 PM -11:00 PM	12	5	13	84	213
11:00 PM -12:00 AM	10	2	7	45	131
<b>Total</b>	<b>953</b>	<b>441</b>	<b>569</b>	<b>3,508</b>	<b>5,151</b>

## Public Transportation

The Project site is located within ½ mile (10-minute walk) from public transportation services as summarized in Table 2 and Figure 4.

**Table 2.** Public Transportation within ½ Mile of Project Site

Route	Description	Peak-hour Headway (minutes) <sup>1</sup>	Weekday Average Daily Boarding <sup>2</sup>	Saturday Average Daily Boarding <sup>2</sup>	Bus Capacity <sup>3</sup>
<i>Local Rapid Transit</i>					
<b>Green Line</b>	Lechmere Station – Boston College Station	6	28,486	-	199-269
<i>Local Bus Routes</i>					
<b>CT2</b>	Sullivan Station – Ruggles Station	20	2,110	-	72-77
<b>EZRIDE</b>	North Station – Cambridgeport	10	-	-	72-77
<b>47</b>	Central Square, Cambridge – Broadway Station	8	4,341	309	72-77
<b>64</b>	Oak Square - University Park, Cambridge or Kendall/MIT	20	1,268	126	72-77
<b>70</b>	Cedarwood, No. Waltham or Watertown Sq. - University Park	8	4,654	1,349	72-77
<b>70A</b>	Cedarwood, No. Waltham or Watertown Sq. - University Park	26	2,032	-	72-77

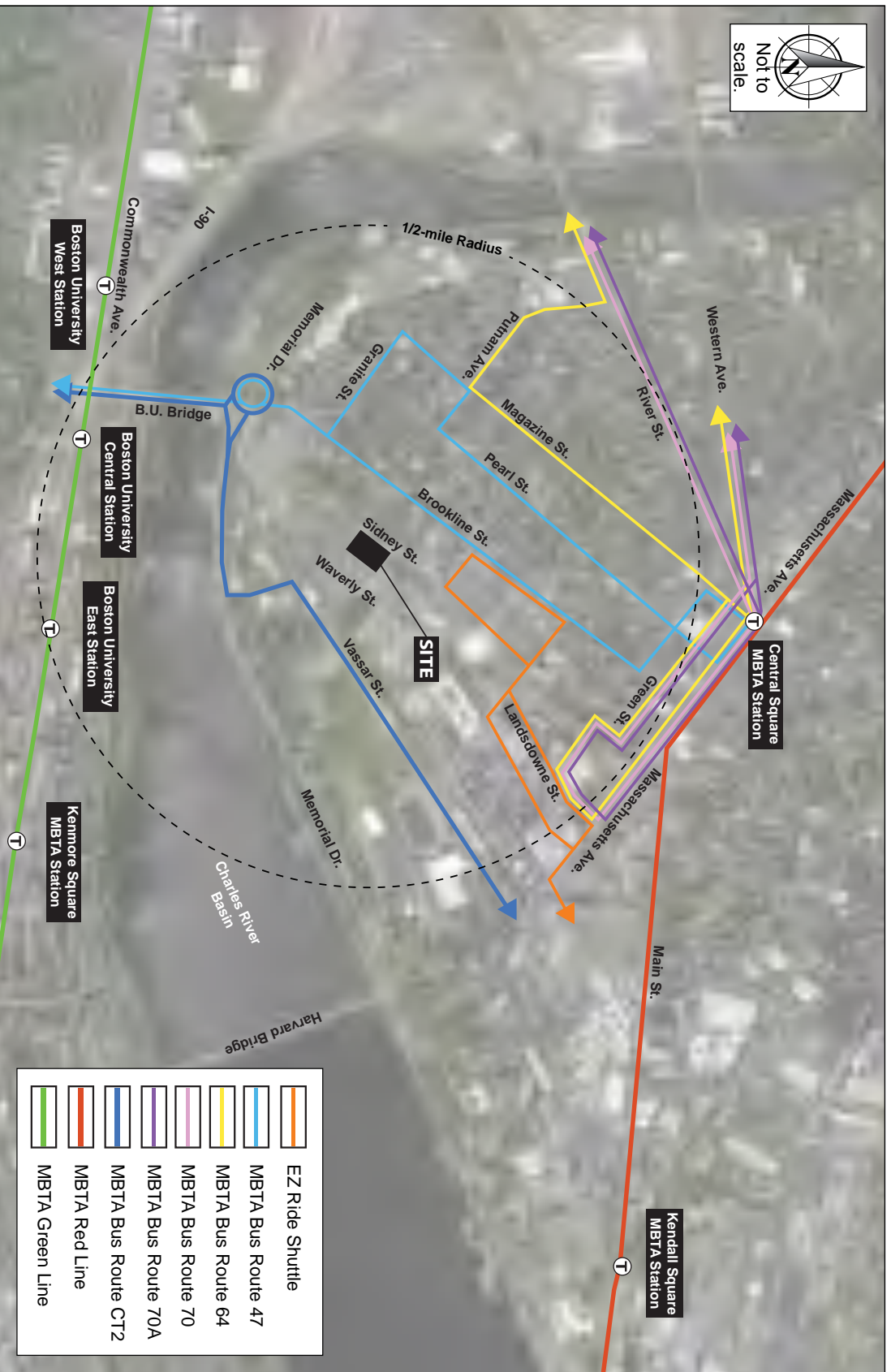
1. Source: MBTA.com, August 2012. Headway varies.

2. Source: MBTA 2010 Ridership and Service Statistics

3. Capacity shown is the crush capacity and refers to seated capacity plus two square feet of space per standing customer.

MBTA weekday average daily boarding and capacity shown above in Table 2 was obtained from 2010 MBTA Ridership and Service Statistics. The Boston University Central stations on the MBTA Green Line B Branch are within a ½-mile radius of the Project Site. In addition to the public transportation located within ½ mile, the Project location is approximately a 15-minute walk from the MBTA Central Square Red Line station (0.7 miles), a 25-minute walk to the Kendall Square Red Line station, and a 15-minute walk from the Boston University West stop on the MBTA Green Line B branch. Central Square Station provides service to the MBTA Red Line as well as local bus routes CT1, 1, 47, 64, 70, 70A, 83, and 91. Kendall Square station provides service to the MBTA Red Line as well as local bus routes CT2, EZ, 64, 68, and 85.

Figure 4. Public Transportation in the Study Area



## Pedestrian and Bicycle Accommodations

According to pedestrian and bicycle count data collected by HSH on Thursday, September 13, 2012, from 7:30 – 9:30 AM and from 4:30 – 7:30 PM, pedestrian and bicycle activity within the study area is moderate. Pedestrian and bicycle count data are summarized in **Figure 5** and **Figure 6**, respectively. Detailed count data is provided in **Appendix A**.

All the study area intersections provide sidewalks, typically at least 6 feet wide. The intersection of Sidney Street/Putnam Avenue is raised to sidewalk level and paved with brick. At this intersection, tactile warning strips are provided but crosswalks are not. At Putnam Avenue/Brookline Street and Sidney Street/Allston Street, crosswalks and wheelchair ramps are provided on all approaches.

A bicycle lane is provided along Sidney Street, which is one-way southbound, and on Brookline Street, which is one-way northbound. Bicycle facilities are not provided on Putnam Street.

Figure 5. Existing Conditions (2012) Peak Hour Pedestrian Volumes

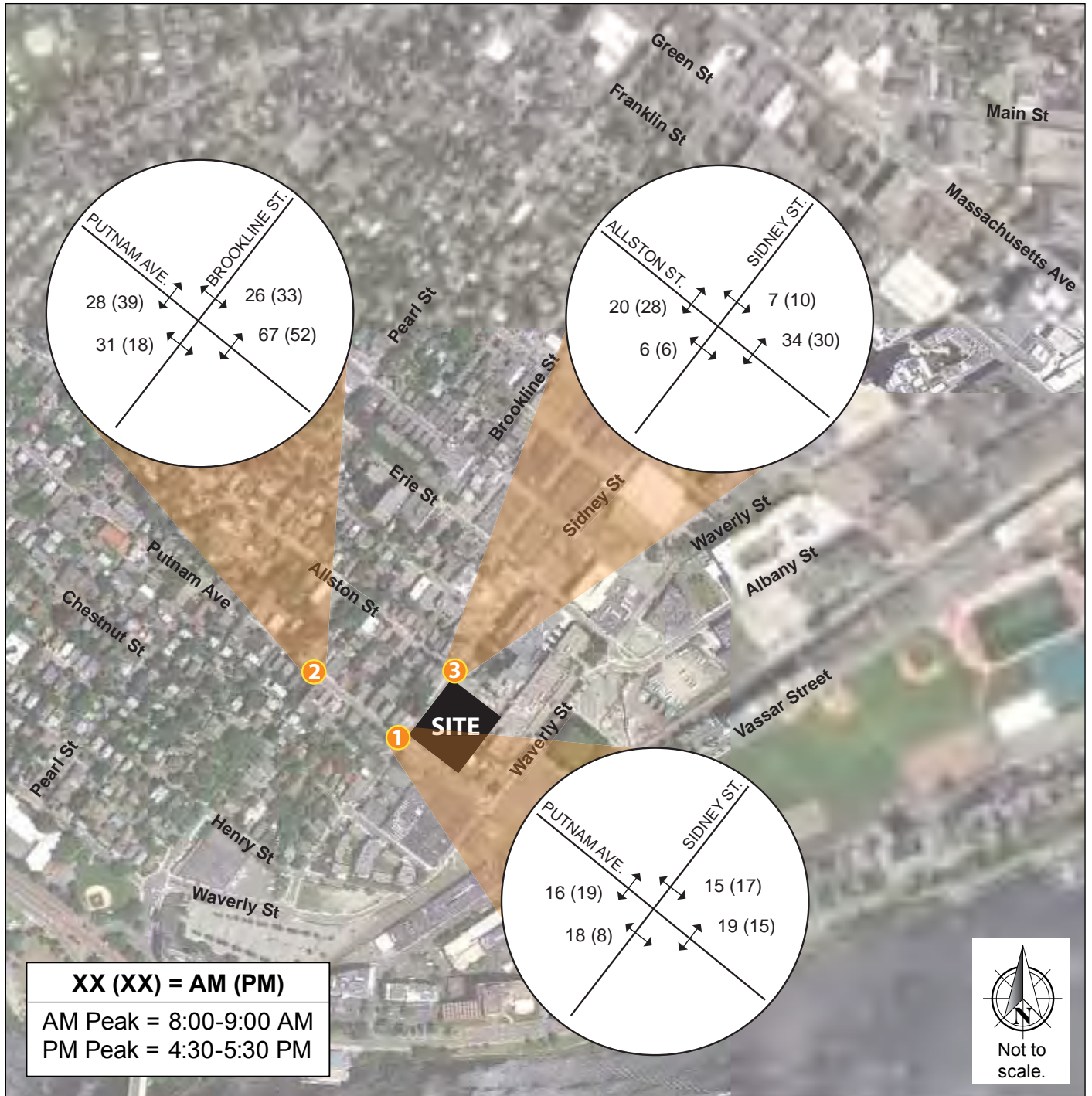
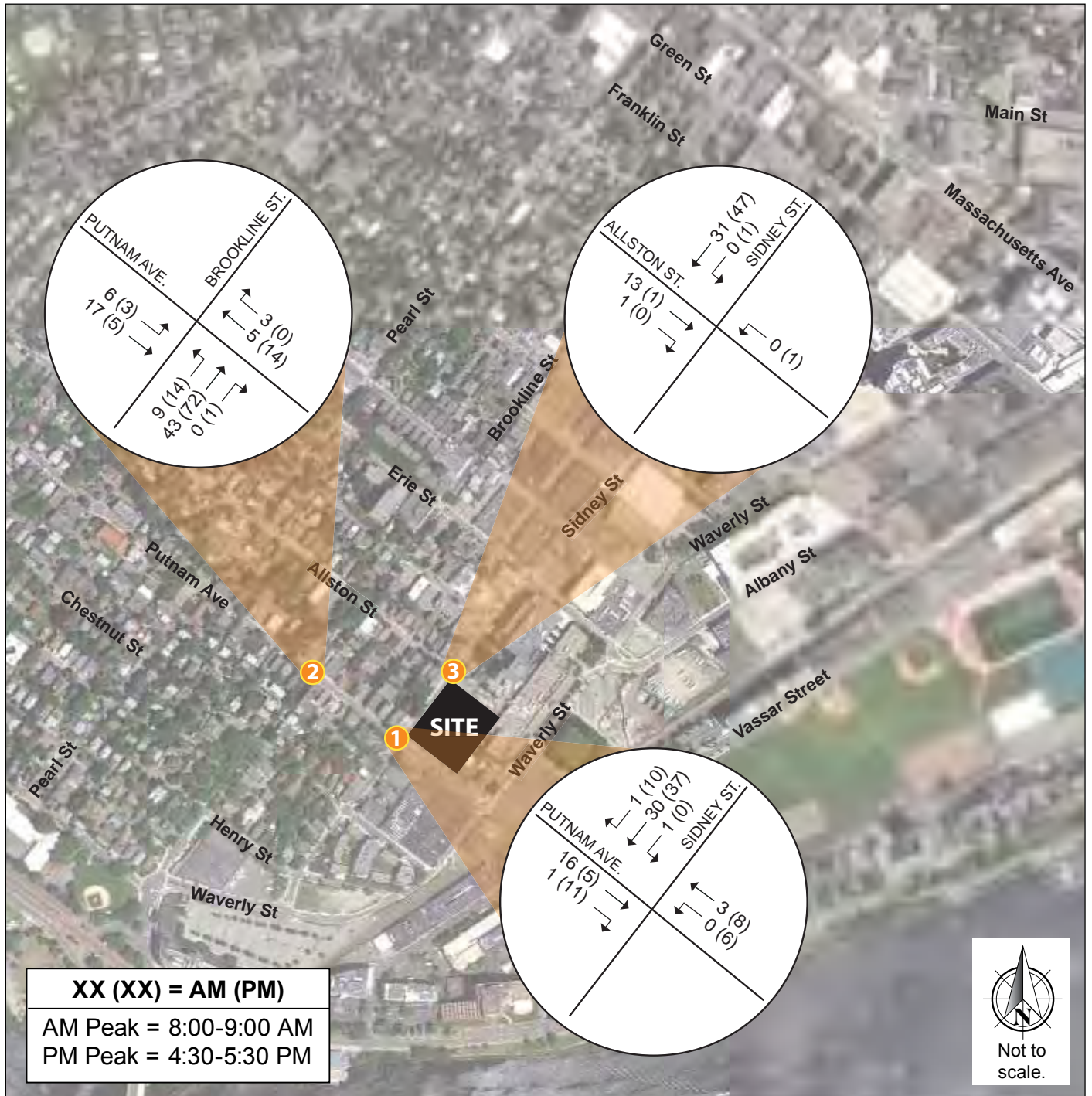




Figure 6. Existing Conditions (2012) Peak Hour Bicycle Volumes



## Crash History

HSH compiled motor vehicle crash data from the MassDOT Crash Records System for the most recent three-year period for which they are available (2008–2010). Crash rates were then calculated for each study area intersection based on the number of crashes per million vehicles entering and compared to the MassDOT district average. **Table 3** summarizes the data for the three study area intersections plus one crash that occurred at an existing site driveway. Detailed crash data and crash rate worksheets are included in **Appendix B**.

As shown in the table, eight crashes occurred at the study area intersections over the three-year period, with no reported fatalities. Four of these crashes occurred at the Sidney Street/Putnam Avenue intersection. Three crashes were reported at the Putnam Avenue/Brookline Street intersection, and one crash was reported on Sidney Street at an existing Project site driveway.

The crash rates at all of the studied intersections are below the district average for unsignalized intersections (0.57 crashes per million vehicles entering the intersection). No crashes were reported to have involved a pedestrian or a bicyclist.

The intersection of Sidney Street/Putnam Avenue was signalized prior to September 2005, when the signal was removed and the intersection was converted into a raised intersection with an all-way stop.

The intersection of Brookline Street/Putnam Avenue was previously signal-controlled. In June 2009, the signal was put in all-way flash mode as part of construction of the Brookline Street traffic-calming project. The signal was removed in March 2011, and the intersection changed to an all-way stop. The Brookline Street traffic-calming project was completed in the fall of 2010.

**Table 3.** MassDOT Crash Summary, 2008-2010

Scenario	Intersection/Number of Crashes			
	Sidney St./ Putnam Ave. (Unsignalized)	Sidney St./ Allston St. (Unsignalized)	Brookline St./ Putnam Ave. (Unsignalized)	Existing Site Driveways (Unsignalized)
<b>Year</b>				
2008	1	-	0	0
2009	2	-	2	0
2010	1	-	1	1
<b>Type</b>				
Single vehicle	1	-	0	0
Angle	2	-	1	0
Rear-end	1	-	2	0
Head-on	0	-	0	0
Sideswipe	0	-	0	1
Unknown/other	0	-	0	0
<b>Total</b>	<b>4</b>	<b>-</b>	<b>3</b>	<b>1</b>
<b>Severity</b>				
Property damage only	2	-	2	0
Personal injury	0	-	1	0
Fatality	0	-	0	0
Hit-and-run	1	-	0	1
Unknown	1	-	0	0
<b>Total</b>	<b>4</b>	<b>-</b>	<b>3</b>	<b>1</b>
<b>Light Conditions</b>				
Day	1	-	2	0
Dusk/Dawn	1	-	0	0
Dark (road lit)	2	-	1	1
Unknown	0	-	0	0



**Table 3.** MassDOT Crash Summary, 2008-2010

Scenario	Intersection/Number of Crashes			
	Sidney St./ Putnam Ave. (Unsignalized)	Sidney St./ Allston St. (Unsignalized)	Brookline St./ Putnam Ave. (Unsignalized)	Existing Site Driveways (Unsignalized)
Dark (road unlit)	0	-	0	0
<b>Total</b>	4	-	3	1
<b>Road Conditions</b>				
Dry	2	-	3	0
Wet	1	-	0	1
Snow	1	-	0	0
Ice	0	-	0	0
Unknown/other	0	-	0	0
<b>Total</b>	4	-	3	1
<b>Hour of Day</b>				
6:00–9:00 AM	1	-	1	0
9:00 AM–3:00 PM	0	-	0	0
3:00–6:00 PM	1	-	0	1
6:00 PM–6:00 AM	2	-	2	0
<b>Total</b>	4	-	3	1
<b>Day of Week</b>				
Monday	1	-	0	0
Tuesday	0	-	3	0
Wednesday	0	-	0	1
Thursday	0	-	0	0
Friday	2	-	0	0
Saturday	0	-	0	0
Sunday	1	-	0	0
<b>Total</b>	4	-	3	1

**Table 3.** MassDOT Crash Summary, 2008-2010

Scenario	Intersection/Number of Crashes			
	Sidney St./ Putnam Ave. (Unsignalized)	Sidney St./ Allston St. (Unsignalized)	Brookline St./ Putnam Ave. (Unsignalized)	Existing Site Driveways (Unsignalized)
Crash Rate	0.42	0.00	0.30	N/A
District Average <sup>1</sup>	0.57	0.57	0.57	0.57

*Source: MassDOT, Average Crash Rates based on crash information queried on July 7, 2011.*

# Evaluation of Long-Term Impacts

For transportation impact analysis, it is standard practice to evaluate two future conditions: a Build Condition and a Future Build Condition. The Build condition analyzes the impact of Project-generated traffic on the study area roadways and intersections. The Future Build condition projects the study-area volumes five years from the Existing Conditions year. For this evaluation, the future year is 2017.

## Build Conditions

### Trip Generation

The proposed Project will include the construction of 107 residential units at 240 Sidney Street. Since the Project is residential, HSH calculated the project-generated trips during the weekday AM and PM peak hours, which are considered the ‘worst case’ time periods for residential uses in accordance with industry standard practice.

**Table 4** shows the vehicle occupancy data for residential projects provided by the City of Cambridge. The mode split data is used to determine the percentage of users that use the available methods of transportation to the Project site.

**Table 4.** Mode Split (Residential)

Mode	Base Percentage	Adjusted Percentage
Drove Alone	33.0%	33.3%
Carpool	3.7%	3.8%
Transit	23.9%	24.0%
Bicycle	15.4%	15.5%
Walk	16.6%	16.8%
Other	0.8%	0.0%
Work at Home	6.6%	6.6%

Source: 2010 US Census, US Census Bureau for Tract 3532

**Table 5** shows the vehicle occupancy data for residential projects provided by the City of Cambridge. For the vehicle occupancy data, **Table 5**, drive-alone and rideshare trips are weighted, based on the number of persons in each vehicle, to facilitate calculation of the average vehicle occupancy (AVO).

**Table 5.** Vehicle Occupancy Rate (Residential)

Mode	Number of People
Drove Alone	731
2 Person Carpool	72
3 Person Carpool	0
4 Person Carpool	0
5 or 6 Person Carpool	0
7 or more Person Carpool	10
<b>Average Vehicle Occupancy</b>	1.06

The total mode split assumed for vehicle trips is 37.1% (Drove Alone, 33.3%, and Carpool, 3.8%), with an average vehicle occupancy of 1.06. The transit mode share is 24%, with 15.5% for bicycle trips, and 16.8% for walk trips.

The proposed trip generation calculations are adjusted to the mode split ratios provided in **Table 4** and the average vehicle occupancy provided in **Table 5**. Detailed trip generation calculations are provided in **Appendix C**.

In order to analyze the trip generation of the proposed Project, a similar residential site called Cambridgeport Commons at 20 Chestnut Street in Cambridge was analyzed. A Cambridgeport Commons consists of 100 residential units, six of which are townhouses with individual garages. The remaining 94 units have 120 parking spaces in an underground garage at 20 Chestnut Street. **Table 6** compares traffic counts at this garage with an trip generation estimate based on ITE Land Use Code 220 (Apartment), adjusted for using the mode split shown on **Table 4** and the local vehicle occupancy rate shown on **Table 5**.

**Table 6.** Trip Generation Comparison for Cambridgeport Commons

Period	Direction	Traffic Counts performed 9/13/2012	Trip Rate per Unit	ITE Trip Generation Estimate (LUC 220, 94 units)	ITE Trip Generation Rate (LUC 220, 94 units)
Daily	In	N/A	N/A	128	1.36
	Out	N/A	N/A	128	1.36
	Total	N/A	N/A	256	2.72
AM Peak Hour	In	4	0.04	4	0.04
	Out	14	0.15	15	0.16
	Total	18	0.19	19	0.20
PM Peak Hour	In	9	0.10	17	0.18
	Out	9	0.10	8	0.09
	Total	18	0.20	25	0.27

As shown in **Table 6**, the ITE Trip Generation estimate was similar to the actual turning movement counts into and out of the garage at 20 Chestnut Street in the AM peak hour. However, in the PM peak hour, the ITE Trip Generation estimate projected 17 cars entering the site compared to the 9 that were actually counted, while only one fewer vehicle was estimated to leave the site in the PM peak hour than were actually counted. In order to provide a conservative estimate of project-generated traffic, the ITE Trip Generation estimation was used to approximate the project-generated trips for the Project site. This information is shown on **Table 7**. Detailed trip generation information is shown in **Appendix C**.

**Table 7.** Project Generated Vehicle Trips

Period	Direction	Vehicle Trips-Residential (107 units)
Daily	In	143
	Out	143
	Total	286
AM Peak Hour	In	4
	Out	17
	Total	21
PM Peak Hour	In	19
	Out	10
	Total	29

As shown in **Table 7**, over the course of a day, the Project is expected to generate 143 incoming and 143 outgoing trips.

Because the Project's impact on the local roadway network is expected to be minimal, trips made to and from the existing site were not removed from the roadway network. This results in a conservative estimate of the impact of the Project on the study area roadways.

The additional trips are expected to access and egress the site using the routes shown on the vehicle trip distribution on **Figure 7**. The vehicle trip distribution was developed using 2000 U.S. Census journey to work data. The project-generated vehicle trips are shown on **Figure 8**. These trips were added to the 2012 Existing Conditions vehicle volumes in order to develop a 2012 Build scenario. The vehicle traffic volumes for the 2012 Build scenario are shown on **Figure 9**.

## Future Build Conditions

### Background Traffic Growth

Two procedures are generally used in combination to determine background traffic growth. The first part of the procedure is to apply a general growth rate to account for other smaller planned/approved development projects and changes in demographics, auto usage, and auto ownership. After discussions with the City of Cambridge it was decided that for this study, a conservative background growth rate of approximately one-half percent per year was selected and applied to all Build Conditions traffic volumes to generate a 2017 Future Build scenario.

The second procedure is to estimate traffic generated by planned new major developments and anticipated roadway changes. According to discussions with the City of Cambridge Planning office, there are three other current development projects planned or ongoing in the vicinity of the project; however, they are not expected to impact the Project's study area.

- Novartis, a project consisting of 530,000 sf of R&D/laboratory space and 8,000 sf of retail space, submitted a Traffic Impact Study that was certified in October 2011. None of the site-generated traffic was projected to enter the Project study-area intersections.
- 610-650 Main Street, a project that replaced 160,000 sf of R&D space with 8,400 sf of retail space and 416,000 sf of R&D/retail space, submitted a Traffic Impact Study in November 2008. None of the site-generated traffic was projected to enter the Project study-area intersections.

625 Putnam Avenue, which contains 40 affordable housing units and 28 parking spaces, was fully occupied at the time that counts were conducted for the Project study area. Any new trips generated by 625 Putnam Avenue are reflected in the Project traffic counts.

### Future Traffic Operations

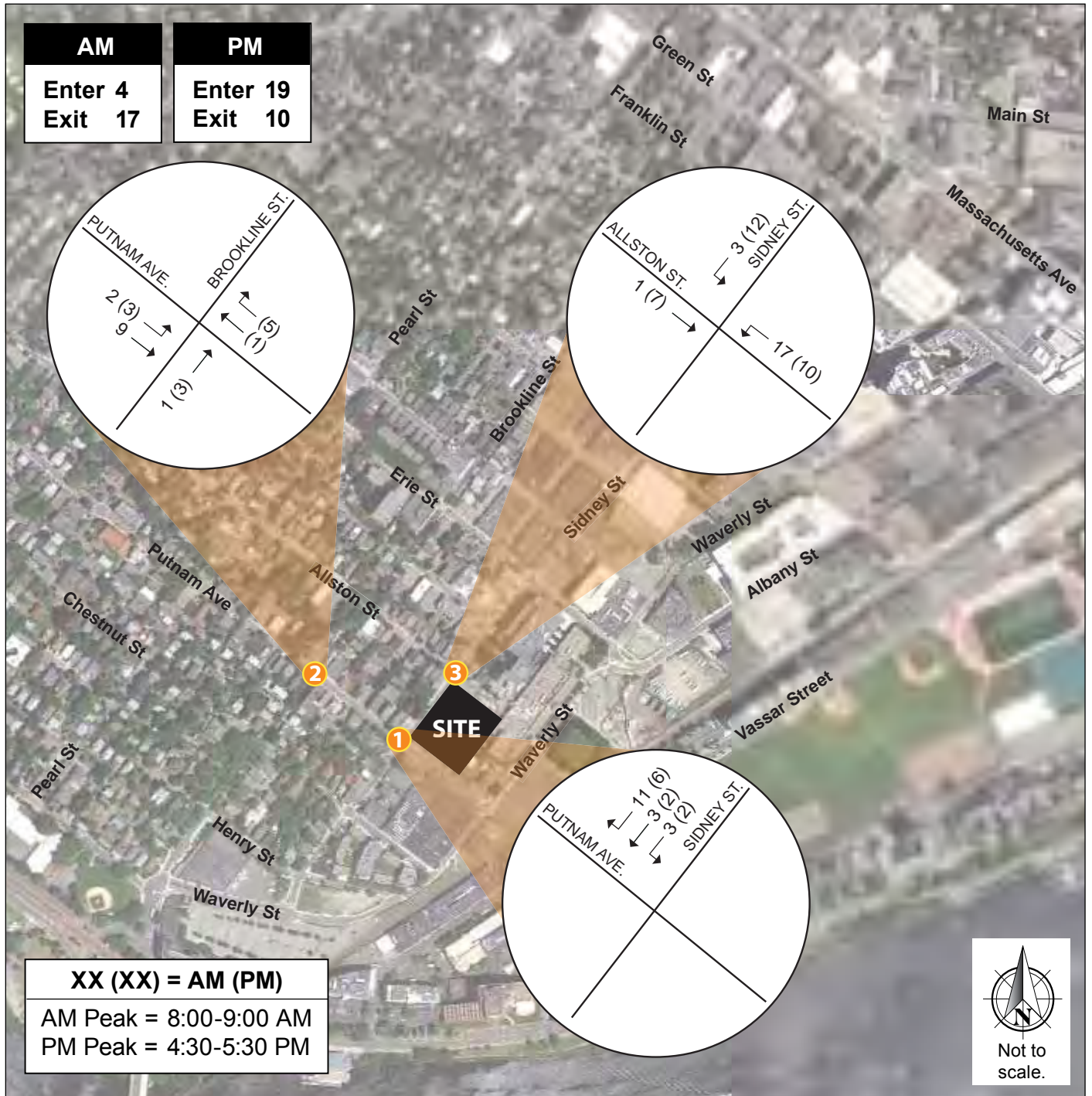
The 2017 Future Build Conditions traffic operations analysis uses the same methodology described in the Existing Conditions analysis. Future Build traffic volumes, taking into account the general background growth rate, are shown in **Figure 10** for the AM and PM peak hours.

Figure 7. Vehicle Trip Distribution





Figure 8. Project-generated Peak Hour Trips





**Figure 9. Build Conditions (2012) Peak Hour Traffic Volumes**

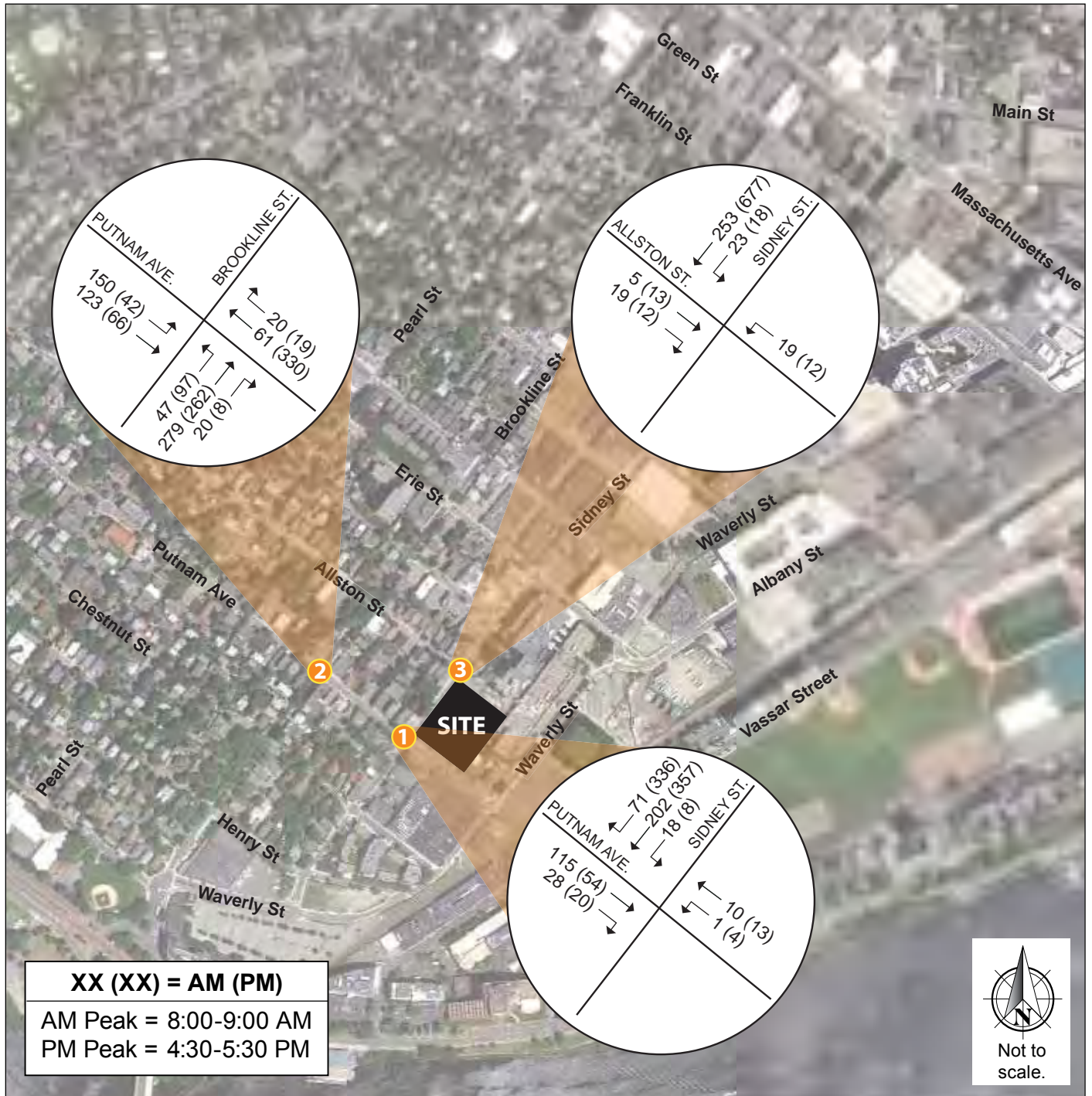
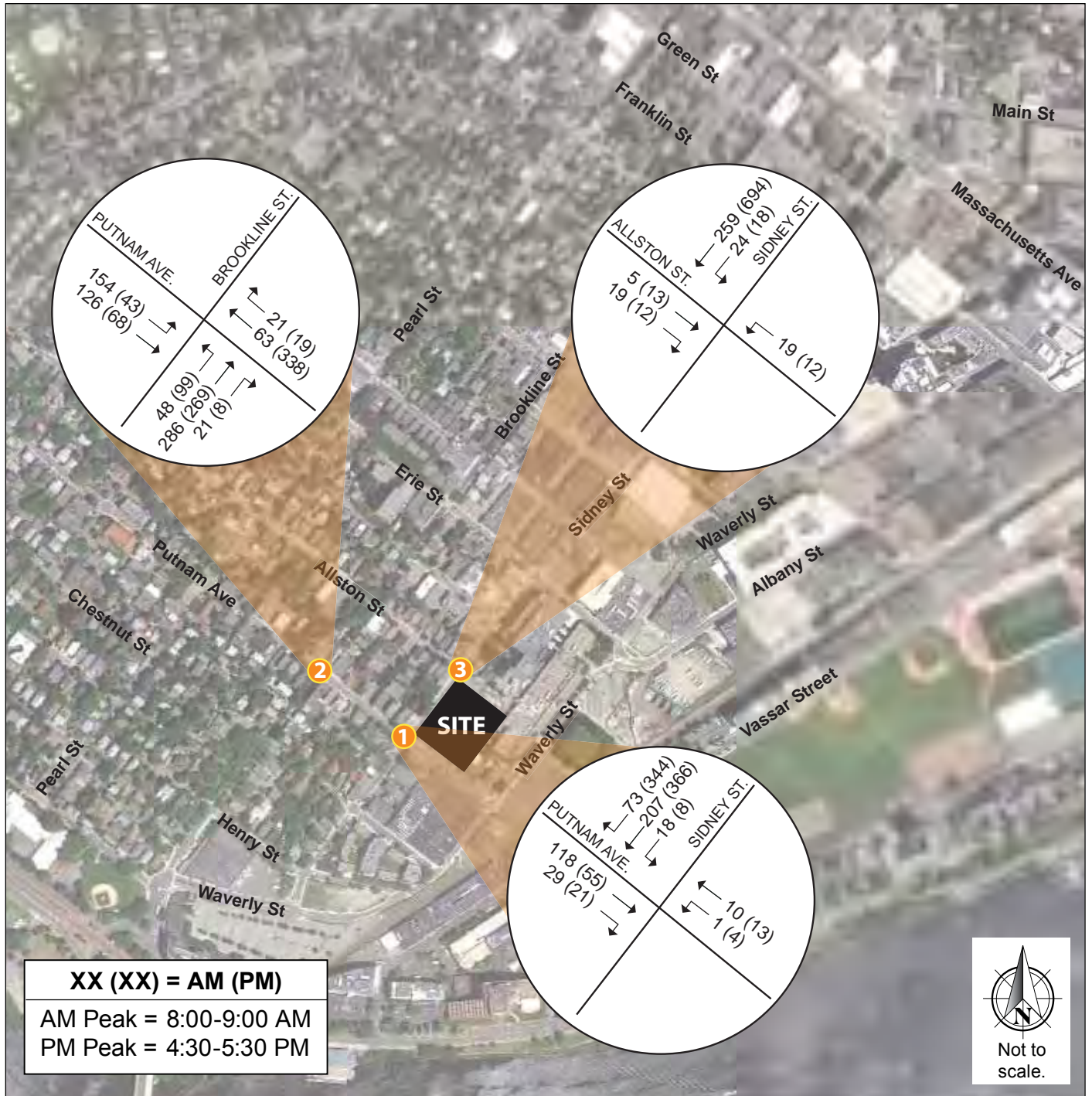


Figure 10. Future Build Conditions (2017) Peak Hour Traffic Volumes



## Vehicle Capacity Analysis

Traffic operations are determined through capacity analysis, which yields intersection Level of Service (LOS) and delay. HSH used Trafficware’s Synchro 6 software to analyze LOS and delay at study area intersections, which is based on the methodology of the Transportation Research Board’s 2000 *Highway Capacity Manual* (HCM). HCM methods analyze the capacity of an intersection by determining the LOS, delay (in seconds), volume-to-capacity ratio (v/c), and 95th percentile queue length (in feet), based on the intersection geometry and available traffic data for each intersection. HSH conducted field observations of existing traffic conditions to verify model accuracy and to calibrate the model as necessary.

Derived from the HCM, **Table 8** shows LOS criteria for unsignalized intersections. LOS A defines the most favorable conditions, with minimum traffic delay, while LOS F represents a congested condition.

**Table 8.** Level of Service Criteria – Unsignalized Intersections

Level of Service	Average Stopped Delay (seconds/vehicle)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

The **v/c ratio** is a measure of congestion at an intersection approach. A v/c ratio of 1.00 or greater indicates that the intersection approach or lane group exceeds capacity.

The **95th percentile queue length** represents the farthest extent of the vehicle queue (to the last stopped vehicle) upstream from the stop line during 95% of all signal cycles. The 95th percentile queue will not be seen during each cycle. The queue would be this long only 5% of the time. These queues would typically not be seen during off-peak hours.

**Table 9** and **Table 10** compare the capacity analysis results for Existing, No-Build, and Build Conditions during the AM and PM peak hours, respectively. Synchro output reports are provided in **Appendix D**.



**Table 9.** Capacity Analysis Summary, AM Peak Hour

Intersection/ Approach	Existing (2012)				Build (2012)				Future Build (2017)			
	LOS	Delay (sec.)	v/c	95% queue (ft.)	LOS	Delay (sec.)	v/c	95% queue (ft.)	LOS	Delay (sec.)	v/c	95% queue (ft.)
<b>Unsignalized Intersections</b>												
<b>Sidney Street/ Putnam Avenue</b>	—	—	—	—	—	—	—	—	—	—	—	—
Putnam EB thru/right	A	8.6	0.19	—	A	8.7	0.20	—	A	8.7	0.20	—
Putnam WB left/thru	A	7.9	0.02	—	A	8.0	0.02	—	A	8.0	0.02	—
Sidney SB left/thru/right	A	9.5	0.35	—	A	9.6	0.37	—	A	9.8	0.38	—
<b>Putnam Avenue/ Brookline Street</b>	—	—	—	—	—	—	—	—	—	—	—	—
Putnam EB left/thru	B	11.9	0.42	—	B	12.0	0.43	—	B	12.3	0.44	—
Putnam WB thru/right	A	8.9	0.11	—	A	9.0	0.13	—	A	9.1	0.13	—
Brookline NB left/thru/right	B	12.9	0.51	—	B	13.1	0.52	—	B	13.6	0.54	—
<b>Sidney Street/ Allston Street</b>	—	—	—	—	—	—	—	—	—	—	—	—
Allston EB left/thru/right	B	10.1	0.03	3	B	10.2	0.04	3	B	10.3	0.04	3
Allston WB left	B	11.2	0.00	0	B	11.5	0.00	3	B	11.5	0.04	3
Sidney SB left/thru	A	0.6	0.01	1	A	0.7	0.02	1	A	0.7	0.02	1

Cell shading indicates that LOS has decreased from the prior condition.

**Table 10.** Capacity Analysis Summary, PM Peak Hour

Intersection/ Approach	Existing (2012)				Build (2012)				Future Build (2017)			
	LOS	Delay (sec)	v/c	95% queue (ft.)	LOS	Delay (sec)	v/c	95% queue (ft.)	LOS	Delay (sec)	v/c	95% queue (ft.)
<b>Unsignalized Intersections</b>												
<b>Sidney Street/ Putnam Avenue</b>	—	—	—	—	—	—	—	—	—	—	—	—
Putnam EB thru/right	A	9.2	0.12	—	A	9.2	0.12	—	A	9.3	0.13	—
Putnam WB left/thru	A	8.9	0.03	—	A	8.9	0.03	—	A	9.0	0.03	—
Sidney SB left/thru/right	C	22.1	0.82	—	C	22.8	0.83	—	D	25.1	0.85	—
<b>Putnam Avenue/ Brookline Street</b>	—	—	—	—	—	—	—	—	—	—	—	—
Putnam EB left/thru	B	10.0	0.18	—	B	10.1	0.19	—	B	10.2	0.20	—
Putnam WB thru/right	B	14.3	0.54	—	B	14.6	0.55	—	C	15.2	0.57	—
Brookline NB left/thru/right	C	15.4	0.06	—	C	15.7	0.59	—	C	16.4	0.61	—
<b>Sidney Street/ Allston Street</b>	—	—	—	—	—	—	—	—	—	—	—	—
Allston EB left/thru/right	B	14.8	0.05	4	C	15.7	0.07	6	C	16.0	0.08	6
Allston WB left	C	16.9	0.01	1	C	18.3	0.05	4	C	18.7	0.05	4
Sidney SB left/thru	A	0.1	0.00	0	A	0.3	0.01	1	A	0.3	0.01	1

Cell shading indicates that LOS has decreased from the prior condition.

As shown in **Table 9** and **Table 10**, the Project impacts study area traffic operations minimally. The following approach experienced a decreased LOS from the Existing Conditions to the No-Build conditions:

**Sidney Street/Allston Street**—In the PM peak hour, the Allston Street eastbound approach would worsen from LOS B in the Existing Conditions to LOS C in the Build condition.

Two approaches experienced a decreased LOS as a result of the addition of background traffic.

**Sidney Street/Putnam Avenue**—In the PM peak hour, the Sidney Street southbound approach would worsen from LOS C in the Build condition to LOS D in the Future Build condition.

**Putnam Avenue/Brookline Street**— In the PM peak hour, the Putnam Avenue westbound approach would drop from LOS B in the Build condition to LOS C in the Future Build condition.

### Public Transportation Analysis

Based on trip generation calculations, the Project will generate 15 transit trips (3 boarding and 12 alighting) during the morning peak hour and 20 transit trips (13 boarding and 7 alighting) during the evening peak hour, as shown in **Table 11**. These trips will be dispersed on the various inbound and outbound transit lines and bus routes in the area. Due to the minimal number of trips that will be generated during the peak hours and the variety of transit in the area, this Project is not expected to negatively impact local transit.

**Table 11.** Transit Trip Generation

Period	Direction	Transit Trips
Daily	In	98
	Out	98
	Total	196
AM Peak Hour	In	3
	Out	12
	Total	15
PM Peak Hour	In	13
	Out	7
	Total	20

### Pedestrian Operations Analysis

Pedestrian level of service is determined through analysis of crosswalk geometry, signal timing, and pedestrian volumes. The methodology for conducting the LOS analysis is based on the Transportation Research Board’s 2000 HCM. According to the HCM, the method for unsignalized intersections does not apply to zebra-striped crosswalks, because pedestrians (by Massachusetts state law) have the right-of-way.

Pedestrian LOS at an unsignalized intersection is computed for approaches where pedestrians do not have the right-of-way or any stop control device, and is based on the critical gap, the vehicular flow rate, and the mean vehicle headway. The critical gap is the minimum amount of time (in seconds) required for one vehicle to enter the intersection. The vehicular flow rate is the number of vehicles per hour (“vph”) that move through a particular location. The mean vehicle headway (in seconds) is the average amount of time between vehicles passing a particular point. Input includes pedestrian volumes, vehicular volumes, walking speed, crosswalk width, and street width.

**Table 12**, excerpted from the HCM, provides LOS criteria for delay experienced by pedestrians at signalized and unsignalized intersections. At unsignalized intersections, the LOS is based on average delay per pedestrian, obtained from the vehicular volumes and potential gaps. LOS A defines the most favorable condition, with minimum delay to cross. LOS F represents the worst condition, with significant delay. Similar to vehicular traffic, LOS D is generally considered acceptable for the urban environments of the study area.

**Table 12. Level of Service Criteria for Pedestrian Delay at Unsignalized Intersections**

Level of Service	Average Pedestrian Delay (seconds/person)
A	<5
B	≥5 - 10
C	≥10 - 20
D	≥20-30
E	≥30-45
F	>45

The study team conducted pedestrian LOS analysis to evaluate existing pedestrian delay at study area intersections. **Table 13** summarizes Existing, Build, and Future Build Conditions AM and PM peak-hour pedestrian LOS. The Build conditions include both new Project pedestrian trips and Project transit trips, because transit riders will walk from the service stop to the Project site. The analysis worksheets are provided in **Appendix E**.

**Table 13.** Pedestrian Level of Service Summary

Intersection	Existing (2012)		Build (2012)		Future Build (2017)	
	AM	PM	AM	PM	AM	PM
<b>Unsignalized Intersections</b>						
<b>Sidney Street/Putnam Avenue</b>						
Putnam East Crosswalk	A	A	A	A	A	A
Putnam West Crosswalk	A	C	A	C	A	C
Sidney North Crosswalk	B	D	B	D	B	D
Sidney South Crosswalk	B	C	B	C	B	C
<b>Putnam Avenue/ Brookline Street</b>						
Putnam East Crosswalk	A	C	A	C	B	C
Putnam West Crosswalk	C	C	C	C	C	D
Brookline North Crosswalk	C	B	C	B	C	B
Brookline South Crosswalk	B	B	B	B	B	B
<b>Sidney Street/Allston Street</b>						
Allston East Crosswalk	A	A	A	A	A	A
Allston West Crosswalk	A	A	A	A	A	A
Sidney North Crosswalk	A	C	A	C	A	C
Sidney South Crosswalk	A	C	A	C	A	C

Cell shading indicates that LOS has decreased from the prior condition.

As shown above in **Table 13**, all crosswalks at study area intersections operate at acceptable levels of service during peak hours. During the Build 2012 Conditions, all crosswalks will continue to operate at the same LOS as during the Existing Conditions. During the Future Build 2017 Conditions, all crosswalks continue to operate the same LOS as during Existing and Build 2012 Conditions with the following exceptions:

- **Putnam Avenue/Brookline Street** – During the AM peak hour, the Putnam Avenue east crosswalk worsens from LOS A to LOS B. During the PM peak hour, the Putnam Avenue west crosswalk worsens from LOS C to LOS D. While these changes do not meet the criteria presented in the Special Permit summary sheet, these levels of service are still considered acceptable.



## Parking

The Project’s parking demand was assessed using several data sources, including the 2010 US Census, ITE Parking Generation book, the City of Cambridge zoning code, and other residential developments in the City.

The Project is located in Census Tract 3532 and 2010 data indicate that automobile ownership for rental units is 0.90 vehicles per household.

In the ITE Parking Generation book, under Land Use Code 221 for Urban Residential Units, the peak parking demand is shown as 0.96 spaces/unit.

While the City of Cambridge Zoning Ordinance (Article 6.000, Section 6.36) indicates that, at a minimum, 1.0 parking spaces per dwelling unit should be provided, the code also states that ratios can be subject to available transit services and travel demand management strategies.

These comparative ratios and those from other recent Cambridge residential projects are shown in **Table 14**.

**Table 14. Parking Ratios**

Source	Parking Ratio (spaces/dwelling unit)
<b>Proposed Project</b>	
<b>240 Sidney Street Plan</b> <i>107 units with 96 spaces</i>	0.90
<b>Comparative Data Sources</b>	
<b>Census Data</b>	0.90
<b>ITE Parking Book</b>	0.96
<b>Cambridge Zoning Code</b>	1.00
<b>Comparative Projects</b>	
<b>Maple Leaf Building, 23 East Street</b> <i>Near Lechmere Station, Cambridge</i>	0.80
<b>159 First Street</b> <i>0.3 miles from Lechmere Station, Cambridge</i>	0.75
<b>70 Fawcett Street</b> <i>0.9 miles from Alewife Station, Cambridge</i>	0.90

The proposed parking ratio for the Project is 0.9 spaces/unit. This ratio, while consistent with the Census data, is lower than the ITE Parking Handbook and the recommended zoning rate of 1.0 spaces/unit. The Project ratio, though, is comparable to recent residential projects.

Car sharing, predominantly provided by Zipcar, supplies easy access to vehicular transportation for those who do not own cars. Vehicles are rented on an hourly or daily and per-mile basis and with all vehicle costs (gas, maintenance, insurance, and parking) are included in the rental fee. Vehicles are checked out for a specific time period and returned to their designated location. A total of nine Zipcars are available at five locations

within ½ mile of the Project site, including Putnam Court/Putnam Avenue, Erie Street/Pearl Street, Sidney Street/Pacific Street, Westgate MIT, and 600 Memorial Drive.

The proposed Project is located 0.5 miles from the Boston University Central MBTA Green Line station, 0.7 miles from the Central Square MBTA Red Line station and 0.7 miles from the Boston University West MBTA Green Line station. MBTA Route 47 has bus stops located about 0.1 miles from the Project site, and the Route 64 has stops about 0.3 miles from the Project. Both of these routes connect to the Central Square MBTA Red Line station, so residents of 240 Sidney Street can commute via bus, rather than walk to Central Square. The Route 47 bus also connects to the Fenway MBTA Green Line D branch station, the Ruggles MBTA Orange Line station, the Dudley Square MBTA Silver Line station, and the Broadway MBTA Red Line station. The Route 64 connects to University Park in Cambridge and Oak Square in Brighton.

Given all the above factors, the proposed parking ratio of 0.90 spaces/unit is considered acceptable for this Project.

A detailed parking layout is provided in **Appendix F**.

## Summary

The Project is expected to have a negligible impact on area traffic operations. HSH notes the following:

- The proposed 107-unit residential building will generate 21 vehicle trips (4 vehicle trips in and 17 vehicle trips out) during the weekday AM peak hour and 29 vehicle trips (19 vehicle trips in and 10 vehicle trips out) during the weekday PM peak hour. This corresponds to only one new vehicle trip every 2 to 3 minutes during the weekday peak periods – a negligible increase on area roadways.
- Only one approach dropped in level of service between the No-Build condition and the Build condition. All approaches operating at LOS D or better in the No-Build condition will continue to do so under the Build condition.



**Stantec Planning and Landscape Architecture P.C.**  
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**Stantec**

November 20, 2012

Department of Public Works  
City of Cambridge  
147 Hampshire St.  
Cambridge, MA 02139

**Attention: David Lefcourt, City Arborist**

Dear Mr. Lefcourt:

**Reference: 240 Sidney Street Tree Study**

This memorandum is in regards to the City of Cambridge Tree Ordinance requirement to provide a Tree Study for any project applying for Special Permit. The goal of our analysis was to understand the development impact on the existing trees affected by the proposed residential building at 240 Sidney Street.

Our study has revealed that no Significant Trees (those having at least an 8-inch Diameter at Breast Height) are present on site. Only one (1) other existing tree, not to be considered a Significant Tree (under 8-inch DBH), will need to be removed from the site for the reason that it's critical root zone will be disturbed during construction.

While no Significant Trees are being removed, we are pleased to report that twenty four (24) Replacement Trees, totaling 72-inches of DBH, have been proposed for this project.

Please contact our office if you have any questions or concerns regarding the analysis and findings of our Tree Study or if you require any additional information.

Sincerely,

**STANTEC PLANNING AND LANDSCAPE ARCHITECTURE P.C.**

Steven Tierney, RLA  
Project Manager  
Tel: (617) 226-9233  
Fax: (617) 523-4333  
[steven.tierney@stantec.com](mailto:steven.tierney@stantec.com)

# 240 Sidney Street

## LEED Narrative and Checklist

### LEED Description

The Project will achieve compliance with Cambridge Stretch Code by being “LEED Certifiable” under the LEED-H (MID-RISE) building rating system.

Major sustainable design elements of the overall project include:

- Redevelopment of a currently under-utilized site. The Project is in an urban area, close to regional and local public transportation. The new residential building will be located within .8 miles to public transportation on the MBTA’s Red Line station in Central Square and .7 miles from the Green Line station at Boston University. Numerous bus lines are nearby, encouraging minimal vehicle use.
- The Project will embody urban principles encouraging public transportation, cycling, and pedestrian activity. The use of cars at this site is expected to be minimal in comparison to the public transportation and pedestrian trips. Other transportation related characteristics include:
  - Less than one parking space per housing unit.
  - The development team has begun discussions with Zipcar to potentially include shared-car facilities within the building.
  - Covered bicycle parking will be included for residents. Visitor bicycle parking will be adjacent to the primary building entrance.
- ◆ Mechanical Systems:
  - No CFCs or HCFCs will be used in cooling equipment.
  - The Project will seek to save energy across systems with energy efficient equipment and appropriate insulation.
  - High efficiency lighting with occupancy sensors will be incorporated where suitable.
- ◆ Residential Units:
  - Energy Star appliances, lighting and low-flow fixtures will be integrated into residential units.
  - Operable and high-quality insulated glass will allow residents to control air movement within the units.

# LEED for Homes Mid-rise Pilot Simplified Project Checklist

*for Homes*

Builder Name:
Project Team Leader (if different):
Home Address (Street/City/State): <span style="float: right;">, Cambridge, MA</span>

**Project Description:**

Building type: **Mid-rise multi-family**      # of stories: **4**  
 # of units: **107**      Avg. Home Size Adjustment: **-9.5**

**Adjusted Certification Thresholds**

Certified: **35.5**      Gold: **65.5**  
 Silver: **50.5**      Platinum: **80.5**



date last updated last		Max Pts	Project Points		Final
			Prel	Cert	/Pts
<b>Innovation and Design Process (ID)</b> (No Minimum Points Required)					
	1.1	Prereq			
	1.2 Energy Expertise for MID-RISE	Prereq			
	1.3 Professional Credentialed with Respect to LEED for Homes				
	1.4 Design Charrette		1	0	
	1.5 Building Orientation for Solar Design		0	0	
	1.6 Trades Training for MID-RISE		1	0	1
<b>Durability Process</b>	2.1 Durability				
	2.2 Durability Management	Prereq			
	2.3 Third-Party Durability Management Verification	3	0	3	0
<b>Design</b>	3.1 Innovation #1				
	3.2 Innovation #2	1	0	0	
	3.3 Innovation #3	1	0	0	
<b>Sub-Total for ID Category:</b>		<b>11</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Location Linkages (LL)</b>					
	1		0	0	
	2		0	0	
	3.1				
	3.2 Infill	LL 3.1	2	0	
	3.3 Brownfield Redevelopment for MID-RISE	1	1	0	1
	4		1	0	
<b>Transit</b>	5.1				
	5.2 Extensive Community Resources for MID-RISE	LL 5.1, 5.3	2	2	
	5.3 Outstanding Community Resources for MID-RISE	LL 5.1, 5.2	3	0	0
	6				
<b>Sub-Total for LL Category:</b>		<b>10</b>	<b>9</b>	<b>0</b>	<b>9</b>
<b>OR</b>					
	1.1		1	1	0
	1.2 Minimize Disturbed Area of Site for MID-RISE				1
	2.1	Prerequisite			
	2.2 Basic Landscape Design	SS 2.5	1	0	
	2.3 Limit Conventional Turf for MID-RISE	SS 2.5	2	1	
	2.4 Drought Tolerant Plants for MID-RISE	SS 2.5	1	0	
	2.5 Reduce Overall Irrigation Demand by at Least 20% for MID-RISE		0	0	0
	3.1				
	3.2 Reduce Roof Heat Island Effects for MID-RISE		1	1	0
<b>Management</b>	4.1				
	4.2 Permanent Erosion Controls		1	0	
	4.3 Stormwater Quality Control for MID-RISE		2	0	0
	5				
	6.1				
	6.2 High Density for MID-RISE	SS 6.1 6.3	3	0	0
	6.3 for MID-RISE	SS 6.1 6.2	4	4	
	7.1				
	7.2 Storage for MID-RISE Vehicles for		1	0	
<b>Sub-Total for SS Category:</b>		<b>22</b>	<b>12</b>	<b>1</b>	<b>12</b>

## LEED for Homes Mid-rise Pilot Simplified Project Checklist (continued)

				Max	Project Points				
		of 3 WE Points		OR	Max	Prelim			
					Y/Pts	No	Y/Pts		
<b>Water</b>	<input checked="" type="checkbox"/>	1	D-RISE		0	1	0		
	<input checked="" type="checkbox"/>	2.2	High Efficiency Reduce Overall Demand by at Least 45% for MID-RISE	2	0	0.5	0		
		3.1			2				
		3.2	Very High Efficiency Fixtures and Fittings	6	0	0			
		3.3							
<i>Sub-Total for WE</i>				<b>15</b>	<b>4</b>	<b>5</b>	<b>4</b>		
<b>and</b>		of 0 EA Points		OR	Max	Y/Pts	Maybe	No	Y/Pts
		1.1	for MI	Prereq	Y				
		1.2	Testing and Verification for MID-RISE	Prereq	Y				
		1.3	Optimize Energy Performance for MID-RISE	34	5	0			5
	<input checked="" type="checkbox"/>	7.1		2	0	?			0
		7.2	Pipe Insulation	1	1	0			1
<b>Residential Refrigerant</b>		11.1	Charge Test HVAC	Prereq	Y				
				1	1	0			1
<i>Sub-Total for EA</i>				<b>38</b>	<b>7</b>	<b>2</b>	<b>7</b>		
<b>Materials and</b>		of 2 MR Points		OR	Max	Y/Pts	No	Y/Pts	
<b>Framing</b>		1.1		Prereq					
		1.2	Detailed Framing Documents	MR 1.5	1	1			
		1.3	Detailed Cut List and Lumber Order	MR 1.5	1	1	0		
		1.4	Framing Efficiencies	MR 1.5	3	0	0		
		1.5	Off-site Fabrication	4	4	0			4
	<input checked="" type="checkbox"/>	2.1							
<b>Products</b>	<input checked="" type="checkbox"/>	2.2	Environmentally Preferable Products	8	2.5	1			2.5
		3.1	Planning	Prereq					
				3					
<i>Sub-Total for MR Category:</i>				<b>16</b>	<b>9.5</b>	<b>1</b>	<b>9.5</b>		
<b>Indoor Environmental</b>		of 6 EQ Points		OR	Max	Y/Pts	No	Y/Pts	
<b>Planning</b>		2		Prereq	Y				
		3			0	0		0	
<b>Air</b>	<input checked="" type="checkbox"/>	4.1	Air Ventilation	Prereq					
		4.2	Enhanced Outdoor Air Ventilation for MID-RISE	2					
		4.3	Third-Party Performance Testing for MID-RISE	1	0	1		0	
<b>Exhaust</b>	<input checked="" type="checkbox"/>	5.1		Prereq					
		5.2	Enhanced Local Exhaust	1				1	
		5.3	Third-Party Performance Testing	1	1	0		1	
<b>of Space Heating and Cooling</b>	<input checked="" type="checkbox"/>	6.1	Load	Prereq					
		6.2	Return Air Flow / Room by Room Controls	1				1	
		6.3	Third-Party Performance Test / Multiple Zones	2	0	2		0	
<b>Filtering</b>		7.1		Prereq					
		7.2	Better Filters	EQ 7.3	1			0	
		7.3	Best Filters	2	0	0		0	
<b>Contaminant</b>	<input checked="" type="checkbox"/>	8.1	Contaminant						
		8.2	Indoor Contaminant Control for MID-RISE	2				0	
	<input checked="" type="checkbox"/>	8.3	Preoccupancy Flush	1	0	1		0	
<b>Radon</b>	<input checked="" type="checkbox"/>	9.1							
		9.2	Radon-Resistant Construction in Moderate-Risk Areas	1	0	0		0	
		10.1							
		10.2	Minimize Pollutants from Garage for MID-RISE	EQ 10.3	2	2	0		
		10.3	Detached or No for MID-RISE			0		3	
11				E		0.5	0	0.5	
<b>of Units</b>		12.1	of Units	Prereq					
		12.2	Enhanced	1					
<i>Sub-Total for EQ Category:</i>				<b>21</b>	<b>6.5</b>	<b>4</b>	<b>7.5</b>		
<b>Awareness and</b>		of 0 AE Points		Max	Y/Pts	Maybe	No	Y/Pts	
<b>of the Homeowner or Tenant</b>	<input checked="" type="checkbox"/>	1.1	Training	Prereq					
	<input checked="" type="checkbox"/>	1.2	Enhanced Training	1	1	0		1	
		1.3	Public Awareness	1	0	1		0	
<b>of Building Manager</b>	<input checked="" type="checkbox"/>	2	Education of Building Manager	1	0	1		0	
<i>Sub-Total for AE Category:</i>				<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>		

# 240 Sidney Street

## Description of Targeted Credits

### INNOVATION AND DESIGN PROCESS (ID)

3 points expected

#### ID Prereq 1.1 **Preliminary Rating**

The LEED certification threshold set for this project is Silver.

#### ID Prereq 1.2 **Energy Expertise in MID-RISE**

The design team will include expertise in energy for Mid-Rise construction.

#### ID 1.3 **Professional Credentialed with Respect to LEED for Homes**

A LEED Accredited Professional will be part of the project team (1 pt)

#### ID 1.4 **Design Charrette**

A design charrette will be held with the design and development teams to review LEED goals and responsibilities (1 pt)

#### ID 1.5 **Building Orientation for Solar Design**

This Credit will not be met.

#### ID 1.6 **Trades Training for MID-RISE**

The design team will discuss with the construction team trades training for mid-rise construction. (1 pt).

#### ID Prereqs 2.1 and 2.2 **Durability Planning and Durability Management**

Durability strategies will be developed, recorded in the checklist and implemented. The builder shall have a quality management process in place.

#### ID 2.3 **Third-Party Durability Management Verification**

The development team will explore the possibility of third party durability management verification (3 pts).

### LOCATION & LINKAGES (LL)

9 points expected

#### LL 2 **Site Selection**



The project is proposed for a site that meets the requirements of this section. The site is not in a 100 year flood plain. The site is not a habitat for threatened or endangered species. The site is not within 100 feet of water including wetlands. The land was not public parkland prior to acquisition. The soils are not prime, unique or of state significance (2 pts).

**LL 3.2 Infill**

One hundred percent of the site perimeter immediately borders previously developed land (2 pts).

**LL 3.3 Brownfield Redevelopment for MID-RISE**

The site is defined as a Brownfield by the DEP (1 pt).

**LL 4 Existing Infrastructure**

Existing water service and sewer lines immediately surround the site (1 pt).

**LL 5.1 Basic Community Resources for MID-RISE**

The site is within ¼ mile of seven basic community services: A supermarket, a convenience store, several restaurants, a day care, a police station and an office building (1 pt).

**LL 6 Access to Open Space**

The site is across the street from Fulmore Park, and also a block away from Fort Washington Park. (1 pt).

**SUSTAINABLE SITES (SS)**

**12 points expected**

**SS Site Stewardship PreReq 1**

Erosion control measures in compliance with this prerequisite will be implemented.

**SS 1.2. Minimize Disturbed Area of Site for MID-RISE**

The project will achieve a density greater than 40 units per acre. (1 pt.)

**SS 2.2 Basic Landscaping Design**

The project will strive to use drought-tolerant turf located away from densely shaded areas, on less than 25% slope, with compacted construction soil at 6 inches in depth. (1 pt.)

**SS 2.3 Limit Conventional Turf for MID-RISE**

The design team will strive to limit the percentage of designed landscape that is turf to no more than 40% of the total soft-scape. (1 pt.)

**SS 3.2 Reduce Roof Heat Island Effects for MID-RISE**

It is anticipated that 100% of the roofing will be comprised of high albedo materials. (1 pt.)

**SS 5 Pest Control Alternatives**

The project will strive to meet four of the non-toxic pest controls described in this section, including maintaining exterior wood 12" above soil. (1/2 point each, maximum 2 pts.)

**SS 6.3 Very High Density for MID-RISE**

The project meets the requirement for Very High Density for Mid-Rise. Projected density is 86 units per acre. (4 pts.)

**SS 7.1 Public Transit**

The project is close to many MBTA bus lines. These transit services provide more than 30 rides per weekday. (2 pts.)

**SS 7.2 Bicycle Storage**

One project goal is to provide for 107 bicycle storage spaces which will be in excess of the 15% of the building occupants (150 bedrooms) (1 pt.) The proponent will provide one bike parking space for each residential unit, two times that required by the City of Cambridge - Bicycle Parking Guide.

**SS 7.3 Parking Capacity / Low Emitting and Fuel-Efficient Vehicles** Parking density has been sized not to exceed the minimum zoning requirements of 1 space per unit. An electric car charging station may be provided (1 pt.)

**WATER EFFICIENCY (WE)**

**4 points expected**

**WE 1 Water Reuse for MID-RISE**

The project will investigate Rainwater, Graywater and Recycled water systems for viability. (1 pt.)

**WE 2.1 High-Efficiency Irrigation System for MID-RISE**

The design team will work to create a high efficiency irrigation system for the proposed landscaping (2 pts.)

or

**WE 2.2 Reduce Overall Irrigation Demand by at Least 45% for MID-RISE**

The design team will study the opportunity of reducing overall irrigation demand by at least 45% for mid-rise (maximum 2 pts.)

**WE 3.1 High-Efficiency Fixtures and Fittings**

It is the intent of this project to install high efficiency fixtures and fittings including lavatory faucets with average flows less than or equal to 2.00 gpm, showers with flows less than or equal to 2.00 gpm per stall, and water closets with flow rates less than or equal to 1.30 gpf. (1 point each, maximum 3 pts.)

**WE 3.3 Water Efficient Appliances for MIDRISE**

The project will include water-efficient clothes washers and ENERGY STAR labeled dishwashers that use 6.0 or less gallons per cycle. (1 pt.)

**ENERGY AND ATMOSPHERE (EA)**

**7 points expected**

**EA Prereq 1.1 Minimum Energy Performance for MID-RISE**

The project's intent is to minimize energy performance for Mid-Rise per the requirements of this section.

**EA Prereq 1.2 Testing and Verification for MID-RISE**

The proponent will verify implementation of testing and verification of for Mid-Rise.

**EA 1.3 Optimize Energy Performance**

The project will strive to optimize energy performance for mid-rise construction and realize energy cost savings compared with ASHRAE 90.1 2007 (5 pts.)

**EA 7.1 Efficient Hot Water Distribution** The team will strive to design and implement an Efficient Hot Water Distribution System (2 pts.)

**EA 11.1 Appropriate HVAC Refrigerants** It is the intent of this project to use non-HCFC refrigerants. (1 pt.)

**MATERIALS AND RESOURCES (MR)**

**9.5 points expected**

**MR Prereq 1 Framing Order Waste Factor Limit**

It is the intent of this project to limit the overall estimated waste factor to 10% or less.

**MR 1.2 Detailed Framing Documents**

Detailed framing documents will be created for use on the job site. (1 pt.)

**MR 1.3: Detailed Cut List and Lumber Order**

The construction team will create a detailed cut list and lumber order. (1 pt.)

**MR 1.5: Off-Site Fabrication**

It is anticipated that panelized construction, requiring off-site fabrication will be utilized for this project. (4 pts.)

**MR Prereq 2.1: FSC Certified Tropical Wood**

It is the intent of this project to install no tropical wood, to install FSC certified wood products and to provide suppliers with a notice of preference for FSC products and to request the country of manufacture for each product.

**MR 2.2: Environmentally Preferable Products**

Use of environmentally preferred products including cementitious siding, bamboo flooring and cellulose building insulation are a priority. Use of low emission products including paints, adhesives and sealants are also a priority (2.5-3.5 pts.).

**MR Prereq 3.1: Construction Waste Management Planning**

The construction team shall institute a Construction Waste Management Plan, including investigation of local options for waste diversion and documentation of diversion rate for construction waste.

**MR 3.2 Construction Waste Reduction**

The construction team shall strive to reduce construction waste to a level below the industry norm. (3 pts.)

**INDOOR ENVIRONMENTAL QUALITY (IEQ)**

**7.5 points expected**

**IEQ Prereq 2**

The team will implement Basic Combustion Venting Measures for Mid-Rise Construction.

**IEQ 4.3 Third-Party Performance Testing for MID-RISE**

The development team will explore the possibility of third party performance testing for the flow rate of ventilation to each unit (1 pt.)

**IEQ Prereq 5.1 Basic Local Exhaust**

It is the intent of this project to meet all the requirements for Basic Local Exhaust.

**IEQ 5.2 Enhanced Local Exhaust**

It is the intent of this project to achieve enhanced local exhaust through the installation of a continuously operating exhaust fan at each bathroom (1 pt.)

**IEQ 5.3 Third Party Performance Testing**

The development team will explore third party performance testing of each exhaust air flow rate (1 pt.)

**IEQ Prereq 6.1 Room-by-Room Load Calculations**

Room by room design load calculations will be performed. System will be installed per calculations.

**IEQ 6.2 Return Air Flow**

Ducted HVAC systems are anticipated. It is the intent of this project to install return air openings of 1 sq. in. per cfm of supply (1 pt.)

**IEQ 6.3 Third Party Performance Test**

The development team will explore third party performance testing of supply air flow rate in each room. (2 pts.)

**IEQ Prereq 7.1 Good Filters**

It is the intent of this project to install air filters with a minimum efficiency rating of equal or greater than MERV 8.

**IEQ 8.1 Indoor Contaminant Control During Construction**

The team will seal all permanent ducts and vents to minimize contaminants during construction. (1 pt.)

**IEQ 8.3 Preoccupancy Flush**

The team will explore the possibility of conducting a pre-occupancy flush when all phases of construction are completed, prior to occupancy. (1 pt.)

**IEQ Prereq 9.1 Radon-Resistant Construction in High-Risk Areas**

The buildings will be constructed with radon-resistant construction techniques.

**IEQ 10.2 Minimize Pollutants from Garage for MID-RISE**

It is the intent of this project to tightly seal shared surfaces between garage and conditioned spaces to minimize pollutants into the mid-rise. (2 pts.)

**IEQ 11.1 Environmental Tobacco Smoke Reduction for MID-RISE**

It is the intent of this project to prohibit smoking in common areas, exterior areas on the property that are within 25' from entries, air intakes and windows and to communicate these prohibitions through lease agreements, CC&Rs and signage. (0.5 pts.)

**AWARENESS & EDUCATION**

**1 Point expected**

**AE Prereq 1.1 Basic Operations Training**

Basic operations training will take place and will include provision of operations and training manuals to home occupants and a one hour walkthrough of the home with the occupants.

**AE 1.2 Enhanced Training**

The construction team will provide 2 hours of training for occupants in addition to the training provided in AE prereq 1.1 (1 pt.)

**AE 1.3 Public Awareness**

The team will explore possible means to promote general public awareness about LEED for Homes by carrying out the following activities: Conduct an open house for the public lasting at least 4 hours, publish a website with at least 2 pages of detailed information and display LEED for Homes signage on the exterior of the buildings (1 pt.)

**AE 2 Education of Building Manager**

The construction team will explore the possibility of providing the building manager with an operations and training manual. The team may have the construction team provide a one hour walkthrough for the building manager of the building prior to occupancy. (1 pt.)