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**CITY OF CAMBRIDGE**

Community Development Department

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To: Planning Board

From: CDD Staff

Date: February 10, 2021

Re: Special Permit PB #371, 269-301 Vassar Street

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Submission Type: Special Permit Application

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Applicant: Massachusetts Institute of Technology

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Zoning District(s): Special District 6 (SD-6) and Special District 11 (SD-11)

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Proposal Summary: Construction of two dormitory buildings totaling 327,000 square feet of graduate student housing as well as 345 long-term and 35 short-term bicycle parking spaces.

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Special Permits Requested: Special Permit to increase building height to 105 feet in SD-6 (Section 17.63.2(b)), Special Permit to increase building height to 100 feet in SD-11 (Section 17.203.2), Project Review Special Permit (Section 19.20) and Special Permit for reduction of required off-street parking (Section 6.35.1). *A summary of the applicable special permit findings is listed on the following page. Applicable sections of the zoning are provided in an appendix.*

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Other City Permits Needed: BZA Variance for yard setbacks, Certificate of Appropriateness from Cambridge Historic Commission (CHC)

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Planning Board Action: Grant or deny requested special permits.

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Memo Contents: Review of area planning and zoning, comments on proposal addressing planning, zoning, and urban design.

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Other Staff Reports: Traffic, Parking and Transportation Dept. (TP+T), Department of Public Works (DPW), in separate documents.

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| Requested Special Permits   | Summarized Findings <i>(detailed zoning text on following pages)</i>   |
|---|--|
| Project Review Special Permit<br>(Section 19.20)  | <ul style="list-style-type: none"> <li>• The project will have no substantial adverse impact on city traffic within the study area, upon review of the traffic impact indicators analyzed in the Transportation Impact Study and mitigation efforts proposed.</li> <li>• The project is consistent with the urban design objectives of the City as set forth in Section 19.30.</li> </ul>  |
| Special Permit to reduce required parking<br>(Section 6.35.1)   | <p>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 will provide positive environmental or other benefits to the users of the lot and the neighborhood, including assisting in provision of affordable housing units.</p>   |
| Special Permit to increase building height in SD-6<br>(Section 17.63.2(b))  | <ul style="list-style-type: none"> <li>• The height of the other buildings or portions of buildings constructed in the district is reduced to significantly below the one hundred (100) foot height permitted as of right.</li> <li>• In the vicinity of Fort Washington buildings are constructed below the one hundred (100) foot height permitted or green space is created so as to increase the views from Fort Washington across the MIT campus to the river and to the Boston skyline beyond.</li> <li>• The view corridors along residential Cambridgeport streets, such as Erie and Pacific Streets, are uninterrupted by buildings, wherever possible.</li> <li>• Green space is created in the district at grade where it can be visible to the general public.</li> <li>• The buildings are distributed in the district so as to create a visual penetration as viewed from the residential Cambridgeport neighborhood to the MIT campus and to the River Beyond.</li> </ul> |
| Special Permit to increase building height in SD-11<br>(Section 17.203.2)<br><br>General Special Permit Criteria<br>(Section 10.43) | <p>Special permits will be normally granted if the zoning requirements are met, unless it is found not to be in the public interest due to one of the criteria enumerated in Section 10.43:</p> <ul style="list-style-type: none"> <li>(a) It appears that requirements of this Ordinance cannot or will not be met, or</li> <li>(b) traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character, or</li> <li>(c) the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use, or</li> </ul>   |

| Requested Special Permits | Summarized Findings <i>(detailed zoning text on following pages)</i>  |
|---------------------------|---|
|                           | <p>(d) 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, or</p> <p>(e) 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, and</p> <p>(f) the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.</p> |

**19.30 Citywide Urban Design Objectives [SUMMARIZED]**

| Objective  | Indicators  |
|--|---|
| New projects should be responsive to the existing or anticipated pattern of development.   | <ul style="list-style-type: none"> <li>• Transition to lower-scale neighborhoods</li> <li>• Consistency with established streetscape</li> <li>• Compatibility with adjacent uses</li> <li>• Consideration of nearby historic buildings</li> </ul>   |
| Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.                                   | <ul style="list-style-type: none"> <li>• Inhabited ground floor spaces</li> <li>• Discouraged ground-floor parking</li> <li>• Windows on ground floor</li> <li>• Orienting entries to pedestrian pathways</li> <li>• Safe and convenient bicycle and pedestrian access</li> </ul>   |
| The building and site design should mitigate adverse environmental impacts of a development upon its neighbors.                            | <ul style="list-style-type: none"> <li>• Location/impact of mechanical equipment</li> <li>• Location/impact of loading and trash handling</li> <li>• Stormwater management</li> <li>• Shadow impacts</li> <li>• Retaining walls, if provided</li> <li>• Building scale and wall treatment</li> <li>• Outdoor lighting</li> <li>• Tree protection (requires plan approved by City Arborist)</li> </ul> |
| Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system. | <ul style="list-style-type: none"> <li>• Water-conserving plumbing, stormwater management</li> <li>• Capacity/condition of water and wastewater service</li> <li>• Efficient design (LEED standards)</li> </ul>   |
| New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.                     | <ul style="list-style-type: none"> <li>• Institutional use focused on existing campuses</li> <li>• Mixed-use development (including retail) encouraged where allowed</li> <li>• Preservation of historic structures and environment</li> <li>• Provision of space for start-up companies, manufacturing activities</li> </ul>   |

|  |  |
|--|--|
| Expansion of the inventory of housing in the city is encouraged.   | <ul style="list-style-type: none"> <li>• Housing as a component of large, multi-building development</li> <li>• Affordable units exceeding zoning requirements, targeting units for middle-income families</li> </ul>  |
| Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city. | <ul style="list-style-type: none"> <li>• Publicly beneficial open space provided in large-parcel commercial development</li> <li>• Enhance/expand existing open space, complement existing pedestrian/bicycle networks</li> <li>• Provide wider range of activities</li> </ul> |

## Area Planning and Zoning

### Site Context

The approximately 80,000 square-foot development site is part of a larger, contiguous, multi-building lot owned by MIT known as “Block 7”. The site is located along Vassar Street, across from Briggs Field and just south of Simmons Hall. The site is further bounded by the Grand Junction Railroad tracks and Fort Washington Park to the west, and by Nest Bio Labs at 325 Vassar Street to the south. The current uses of the site include an existing off-street parking lot owned and operated by MIT and an MIT Police Station to the south.



### Site Zoning

The site is located in both Special District 6 (SD-6) and Special District 11 (SD-11), as well as the MIT Institutional Overlay District. However, because the underlying zoning of the site is not Residence A-1, A-2, B, C and/or C-1, the provisions of Section 4.50 do not apply.

Generally, SD-6 follows the standards of the Residence C-3 district and SD-11 follows the standards of the Office-2 district. A summary of the use and dimensional standards for the SD-6 and SD-11 districts are provided below:

| <b>Standard</b>                   | <b>SD-6</b>   | <b>SD-11</b>   |
|-----------------------------------|---|--|
| <b>Permitted Uses</b>             | Same as Residence C-3 but specifically prohibits private parking lots and hotel/motel uses. | Same as Office-2 with additional retail, manufacturing and residential uses permitted. |
| <b>Maximum Floor Area Ratio</b>   | 3.0 for all uses  | 1.25 with 0.75 bonus possible with special permit from the Planning Board              |
| <b>Maximum Building Height</b>    | 100'-180', with additional restrictions   | 85'; 100' with special permit from the Planning Board                                  |
| <b>Yard Setbacks</b>              | None  | Same as Office-2 district  |
| <b>Minimum Off-street Parking</b> | 1 space per 12 beds for dorm uses   | 1 space per 12 beds for dorm uses  |
| <b>Minimum % Open Space</b>       | 10%   | 15%  |

**Area Planning Studies**

*Toward a Sustainable Future (1993 and updated in 2007)* was Cambridge’s first growth policy and developed a list of strategies for managing the City’s pressure for growth and development. Within this document, specific recommendations for Institutional Uses described an overarching approach for institutions like MIT to grow within its historical campus boundaries. To facilitate such growth, the City would need to permit sufficient density and development potential to allow the institution to meet its needs.

*Envision Cambridge (2019)*, the City’s recently adopted Comprehensive Plan, reiterates several of the goals of *Toward a Sustainable Future* in its recommendations for “Higher Education Institutional Areas” such as the MIT Campus area. These recommendations include providing “reasonable densities” for large institutions to grow sustainably within their campus boundaries, and limiting the expansion of institutional footprints to historical campus boundaries and nearby burgeoning mixed-use areas.

As part of the Volpe Rezoning in 2017, MIT and the City of Cambridge entered into a Letter of Commitment in which MIT agreed to create 950 new beds for graduate students. Some of this commitment has been fulfilled in the development of Kendall Square Site 4 and the conversion of beds at 70 Amherst Street, with the remainder expected to be built on the west side of campus.

**Comments on Development Proposal**

**Overall**

This development proposal consists of two separate buildings, a “West Building” and an “East Building,” flanked in the middle by a central plaza that will create a connection between Fort Washington Park, the Grand Junction Multi-Use Path, and Vassar Street. The development will consist of approximately 327,000 square feet and 690 beds, of which the West Building contains 168,000 square feet and 355 beds and the East Building consists of 159,000 square feet and 335 beds.

Since a small portion of this site, a narrow view corridor extending to Vassar Street, is located within the Fort Washington Historic District, MIT will seek a Certificate of Appropriateness from Cambridge Historical Commission (CHC). This proposal generally aligns with the City's growth policies by siting new infill development within MIT's existing campus area. It also furthers the City's goal of encouraging universities to provide on-campus housing for their affiliates, and is intended to fulfill the specific commitment made by MIT in association with the rezoning of the Volpe site.

### ***Zoning Standards***

The site is split-zoned in such a way that a large portion of the site is located in the SD-6 zoning district, and the smaller southwest portion of the site is located in the SD-11 zoning district. Generally, the standards for the corresponding district will apply to the portion of the building that is within it. In other words, the SD-6 standards apply to the portions of the building within SD-6, and the SD-11 standards apply to the portions of the building within SD-11. However, the allowed building density can be distributed across the site as a whole.

### **Uses**

Both buildings are proposed as college/university dormitories for MIT affiliates and will contain apartment-style rooming options with active student lounge areas and resident amenity spaces located along Vassar Street and rounding the corner to the central plaza. Over the past several years, Vassar Street has evolved from smaller-scale office and laboratory buildings and parking areas to a more dense, walkable activity hub of the MIT campus. The location of active amenity spaces along the ground-floor of the proposed dorm buildings will help to reinforce an active street character and encourage pedestrian activity. The proposed dormitory use is consistent with the permitted uses in the SD-6 and SD-11 districts.

### **GFA & FAR**

The total gross floor area (GFA) of the proposed development will be approximately 327,000 square feet. The site is part of a larger, contiguous lot under common ownership by MIT known as "Block 7". The proposed development also includes the demolition and removal of the MIT Police Station, which is approximately 15,000 square feet. GFA and FAR limitations are therefore applied to all of Block 7, resulting in an incremental increase in total GFA from approximately 1.1 million square feet to 1.4 million square feet, and an increase in total FAR from 1.51 to 1.87. The proposed gross floor area and floor area ratio within Block 7 falls within the limitations of the corresponding zoning districts.

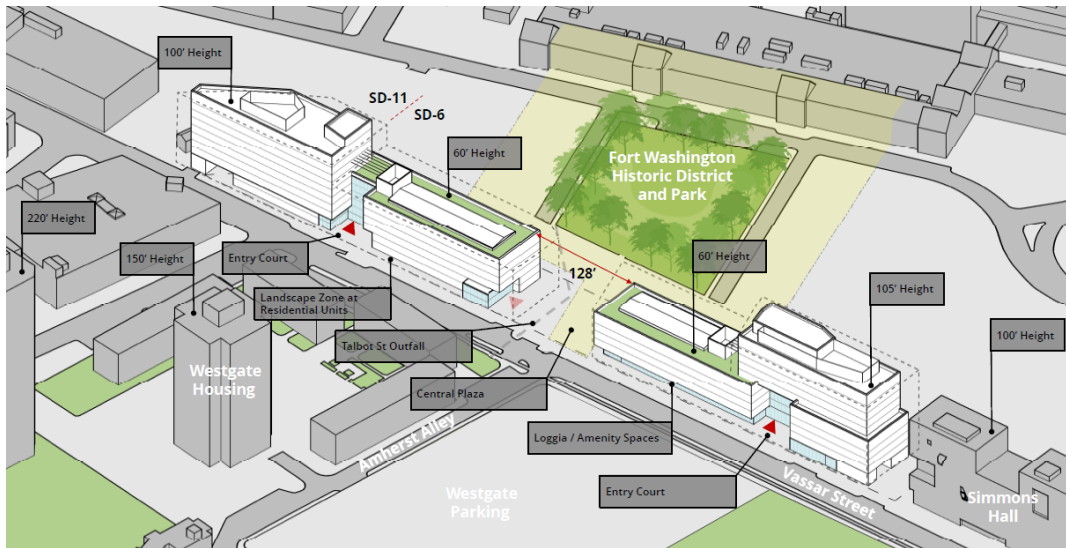
### **Building Height**

As mentioned above, the proposed development consists of an East Building and a West Building. The East Building, located closer to Simmons Hall to the north on Vassar Street, is located entirely within the SD-6 zoning district. The SD-6 zoning district generally permits building heights up to 100', but near Fort Washington Park building heights are further restricted to 60'. To counterbalance this height restriction, additional height up to 180' may be permitted by special permit from the Planning Board.

The West Building, located on the southern portion of the lot, is zoned such that approximately half of the proposed building is in the SD-6 zoning district, and the remaining half is in the SD-11 district. The



SD-11 district permits building heights up to 85', but also allows an increase to 100' through the issuance of a special permit from the Planning Board.



Source: MIT Special Permit Application, 2.1 Proposed Design Massing Diagram

### Yard Setbacks and Open Space

The SD-6 district does not contain minimum yard setbacks per section 17.63.1 of the Zoning Ordinance. However, the SD-11 district contains the same minimum yard setbacks as the Office-2 district, which are based on the height and length of the proposed building (also known as “formula setbacks”). At a minimum, buildings must be at least 10 feet from the front lot line and at least 20 feet from the rear lot line.

Based on the proposed dimensions of the West Building, the formula calculations result in a required front yard setback of 73'2”, side yard setbacks of 41'5”, and rear yard setback of 50'9”. The proposed setbacks are 37'9”, 1'0”, and 13'8”, respectively, and therefore variances will be required from the Board of Zoning Appeal for relief of front, side, and rear yard setback requirements.

The district open space ratio requirements (10% in SD-6 and 15% in SD-11) are only applicable to residential uses. Section 19.59 of the citywide Building and Site Plan Requirements establishes that at least 15% of the lot shall consist of any combination of Green Area or Permeable Open Space, but these specific requirements may be waived for projects seeking a Project Review Special Permit from the Planning Board if the Board finds the proposal to be in general conformance with the Urban Design Objectives in Section 19.30. As with FAR and GFA limitations, this requirement may be applied to lots held under common ownership, as is the case with “Block 7” owned by MIT. The Application does not provide the total open space ratio for the block, but proposes to include a central plaza consisting of approximately 30,100 square feet of open space, of which approximately 15,390 square feet will be publicly beneficial open space. The inclusion of this open space area will be an improvement over the existing site condition, which contains primarily impervious surface used for a parking area.

### Off-Street Parking

The proposed development contains no off-street parking spaces. Applying the base zoning requirements of one parking space per twelve (12) beds, the total minimum off-street parking

requirement is 58 spaces. The Applicant is requesting a special permit from the Planning Board to reduce the required off-street parking to zero spaces, and has submitted supporting documents in the form of a Parking Analysis within the Transportation Access and Circulation Study. For a large institutional use, the parking requirements are normally met within the institution's pooled parking supply. The request for relief simply means that MIT would not be required to add more parking spaces to their campus parking supply as a result of this project. The Traffic, Parking & Transportation (TP&T) Department has submitted a memo to the Planning Board which supports the proposed reduction in the vehicle parking required because MIT is able to meet the anticipated demand within its current institutional pool of off-street parking spaces, and the City's policy of avoiding the creation of new spaces where they are not needed. For additional information and analysis, please see the memo submitted by TP&T to the Planning Board.

#### Loading

The proposed development is required to provide a minimum of four (4) off-street loading spaces according to the standards set forth in Section 6.83 of the Zoning Ordinance, and the Applicant is proposing to provide two (2) new off-street loading spaces. As with other dimensional requirements of the development, the Zoning Ordinance permits institutional uses (such as the Project) to calculate minimum off-street loading requirements based on the aggregate uses on the lot and contiguous lots. The proposed development will take advantage of its existing lot-wide pool for the additional two (2) required off-street loading spaces.

#### Bicycle Parking

SD-6 and SD-11 require a minimum of 0.05 short-term bicycle spaces per bed and 0.5 long-term bicycle spaces per bed; which, aggregated across 690 beds, equals a minimum of thirty-five (35) short-term bicycle parking spaces and three hundred forty-five (345) long-term bicycle parking spaces. The Applicant proposes the inclusion of thirty-five (35) short-term bicycle parking spaces, and three hundred forty-five (345) long-term bicycle parking spaces, which meets the minimum requirements of Article 6.100.

#### ***Special Permits***

As detailed above, the Applicant is seeking four (4) special permits for this project:

1. A Special Permit to increase building height within the SD-6 district from 60' to 105' for the East Building (Section 17.63.2(b))
2. A Special Permit to increase building height within the SD-11 district to 100' for the West Building (Section 17.203.2)
3. A Special Permit to reduce the number of required off-street parking spaces (Section 6.35.1)
4. A Project Review Special Permit (Section 19.20)

#### **URBAN DESIGN COMMENTS**

CDD has collaborated with the Cambridge Historical Commission (CHC) staff on this review, since the proposal is within the CHC's jurisdiction because a portion of the site is within the Fort Washington Historic District. Given their limited purview in this case, CHC staff has suggested that it makes sense for the Planning Board and BZA to conduct their review before the proposal comes to the CHC.



CDD and CHC staff are generally pleased with the overall proposed MIT graduate dormitory design and would like to continue the discussions to review additional refinements of some design elements as well as to ensure the best possible environment for the public realm and beneficial to the occupants' health and wellbeing.

***Built Form: Massing, Form and Architectural Character***

The overall dormitory massing is shaped to respond to the Fort Washington historic district easement and view corridors. The proposed barbell-shaped built dormitory consists of a Tower at each end of the site (East Tower and West Tower) and two lower long and narrow buildings in between (East and West Low Bar buildings), framing a central publicly accessible open space (Central Plaza). The Plaza spatially and visually ties the Low Bar buildings together and to the surrounding context of the Fort Washington Park space, Grand Junction Multi-Use Path and Cambridgeport by responding to established north-south view corridors.

Staff appreciates the overall proposed building massing and modulation as appropriate and contextual. The juxtaposition of massing at different heights provides a built form that relates to the existing MIT housing campus buildings and softens the height impact of the proposed Towers that bookend the site. The East Tower step-back from the East Low Bar building parapet along Vassar Street creates a continuous street wall; and creates a visual break in the East Tower massing. It extends westward to the Central Plaza and visually relates to the West Low Bar building and West building court.

***Façade Design & Architectural Details***

Architecturally, the proposed MIT dormitory is reminiscent of the old railroad warehouses and distribution buildings that often sided tracks in rail districts. The structural post and beam expression generally found in historic warehouses is to some extent manifested in the proposed building fenestration. Staff finds this fenestration pattern in the brick panel and window detailing to be elegant and appropriate for the proposed dormitory facades. Notably, the façade's low window-to-wall ratio improves the building envelope energy performance.

East and West Low Bar Building Facades:

The East and West Low Bar building facades reflect simplicity and a contemporary appeal through their post and beam references. Staff appreciates the level of detail incorporated into the south/Vassar Street and north/Grand Junction facades such as the interplay of the brick frame, infill panel staggered brick work and two-story window openings. Facades facing the Central Plaza are discussed separately below.

Facades facing Central Plaza:

The dormitory façade walls facing the Central Plaza act as a frame for the Plaza and offer exciting potential to bring an animated experience with greater dimensionality to the Plaza space for all residents and visitors. Considering the significance of the visual connection between the historic Fort Washington Park and Central Plaza, staff felt it would be a missed opportunity not to explore more equitable access to those views from common spaces inside the Low Bar buildings. Staff highlights the potential of locating some common areas directly facing the Central Plaza at the ends of each floor in the East and West Low Bar buildings. For example, by using floor to ceiling window walls for these

common spaces, the Plaza facades would provide maximum transparency and views for all residents rather than only to a limited number of private occupants; and provide reference to the south facing walls of the East and West Entry Courts. Staff is cognizant of MIT's commitment to maximize the number of units (roughly between 650-700), and recognizes that this would eliminate, a total of 12 bedrooms and 12 bathrooms; but potentially could be recovered from common space elsewhere in the buildings. Staff felt the multi-benefits of dedicating a modest-sized common space with maximum transparency overlooking both sides of the Central Plaza is a higher use and a valuable resident amenity for health and wellbeing. Potentially, eliminated rooms could be recovered from common space elsewhere in the buildings.

#### East and West Towers Facades:

Staff appreciates the level of details proposed on the north and south facades of the East and West Towers. The flared and inclined recess of the punched-in-windows is a positive architectural feature for the individual dormitory units and expressive of the interior function. The repetitive fenestration seems appropriate and functional. However, the same pattern appears overwhelming where applied over exterior walls of common interior spaces such as lounges, elevator lobbies, or staircases. Staff recommends exploring other fenestration to maximize daylighting, views and add visual interest to the façade where workable for these spaces. For example, delineating common areas' window wall by change in window size, surface level, material, and transparency.

#### Building Entries and Courts

The primary entries to the dormitory are through generously landscaped courtyards accessed directly from the public sidewalk. The entry courts are strategically located along the dormitory façade modulating the otherwise continuous building wall. They enliven the public realm by providing an added green space amenity and bringing south exposure daylighting and views to the dormitory units. There are two main courtyard entry points, one Court at the East Low Bar building and another Court at the end of West Low Bar building that adjoins the West Tower. There are other secondary entry/exit points to lobbies, lounges, staircases, resident amenity spaces and the service areas.

#### East and West Court:

The East Court is a landscaped area roughly 40'X40', accessible directly from the public sidewalk and building colonnade. It provides direct entry to the bike storage area, the lobby/lounge and resident amenity space. The East Court has a 5-story glass south-facing curtain wall providing visual connection, daylighting and views to the interior corridor space, elevator lobby and lounge area. This space also provides side windows for the 4-bedroom units on levels 2-5 in the Low Bar buildings, with levels 6-10 partially extending over the court space. Like the East Court, the West Court south facing wall provides daylighting and views deep inside the interior common spaces through similar curtain wall system. Staff finds the south facing curtain wall (floor to ceiling transparency) and contrasting surface material and color to be visually striking and effective in providing variation and interest along the dormitory facade.

#### ***Mechanical Equipment & Services – Penthouse and Rooftop Equipment***

The proposed MIT dormitory East and West Towers include a screened mechanical space, a potential PV array area, and an enclosed mechanical penthouse space roughly 13' high above the roof level (100' for

the East, 105' for West). The East and West Low Bar Buildings include green roofs encompassing more than 30% of the roof area, a screened mechanical space, and an area for a potential PV array. The roof level of the Low Bar buildings is at 60' and includes a mechanical doghouse that extends 3' above roof level. Staff appreciates the inclusion of 6" deep extensive green roof and area for a potential PV array; and request additional information related to roof access, mechanical doghouse, elevator bulkhead, screening materials and parapet height.

### ***Open Space & Public Realm***

The MIT west campus setting is enhanced by the proposed hierarchy of open spaces. The Central Plaza is the center piece of the open spaces, providing a physical and visual relief to the building massing and creating a green space amenity connected to the public realm and future MIT West Campus Commons on the south side of Vassar and beyond to Memorial Drive. The Plaza's landscape acknowledges the pan-handle shaped Fort Washington historic easements and reflects that geometry in the hardscape elements, providing a dynamic space contrasting with the orthogonal building footprint. It provides a major access point and connection between the dormitory (Vassar Street side public space) and Fort Washington Park, Grand Junction Multi-Use Path, and the Cambridgeport neighborhood. The north sides of the dormitory buildings are connected to the Central Plaza by the North Gardens, a green buffer and linear landscaped area approximately 19'-0" wide at the East building and 13'-8" and increasing westward at the West building Tower. The North Gardens include amenity spaces, backyard spaces and walkways along the Grand Junction Multi-Use Path and provides entry/exits to north facing ground floor units in the East Low Bar building.

The East Low Bar building loggia provides an open space amenity; maximizes visual connection and views to the Central Plaza space and provides shading where bench seating might be located to enhance the public realm. The West Low Bar building landscaped setback along Vassar Street provides a green buffer for the ground level residential units and improves the public realm.

Staff appreciates the open space for its expanse of green spaces and use of permeable pavement as a strategy for stormwater management and green infrastructure. CDD and CHC staff anticipate additional details on hardscape elements and softscape arrangement, especially on tree alignment in the Plaza.

Staff would like to ensure the Central Plaza design provides comfortable and clear access to walk and bicycle, with sufficiently wide direct and unimpeded routes through the space to connect to the Grand Junction Multi-Use Path, Fort Washington Park and beyond. The public ability to traverse the Plaza in order to access the Grand Junction Path and Ft. Washington should also be affirmed through a public access easement. City staff looks forward for further coordination with the Grand Junction Multi-Use Path design work currently underway to strengthen the north/south Plaza connection and access to the Grand Junction Multi-Use Path and to the public realm.

### ***Public Street Design and Transportation Elements***

Staff from CDD, DPW, TPT and MIT design team have met to discuss the Vassar Street public realm and streetscape improvements in the MIT west campus area. This includes the bike lane grade separation, alignment, and adjustments to the access to the western loading dock. City staff expects that the final design will include a fully grade-separated bicycle facility consistent with the rest of Vassar Street, along

with generous sidewalks and additional tree plantings. MIT has also committed to funding an extra-large (27-dock) Bluebikes station; MIT and City staff have identified viable options for the location of the station on MIT property across from the dormitory site.

### ***Sustainability***

The proposed project is subject to the Green Building Requirements in Section 22.20 of the Cambridge Zoning Ordinance. According to the Green Building submission, the project is currently designed to achieve a LEED Gold standard under LEED v4 Residential – Multifamily Homes Midrise, with 74.5 “Yes” credit points, and an additional 12 points designated as “possible.” As required, the submission includes a Net Zero Narrative providing details of design considerations to reduce energy use with regard to building envelope, HVAC systems, hot water systems, and renewable energy.

The MIT design team is pursuing LEED’s Integrative Design Process credit, which promotes high-performance, cost-effective project outcomes through the early analysis, synergies across disciplines and building systems. The team assembled and involved a multi-discipline group early in the design and development process, and engaged in design charrettes and trades training sessions. Staff supports the integrative approach to the design and construction of green buildings.

The mechanical, plumbing, and electrical system of the building include airtight building envelope with thermal bridge construction, and low window-to-wall ratio at 26%. The buildings will have central domestic hot water with natural condensing boiler, and LED lighting. The proposed project also includes green roof areas. Beyond meeting the minimum Green Building Requirements, this project is expected to reduce

energy consumption by 30.8% and reduce greenhouse gas emissions by 16.5% compared to LEED baseline. Additional energy efficiency improvements and reduction in embodied carbon measures are recommended, including pursuing the following:

- Additional points in Energy and Atmosphere category.
- Additional points in Materials and Resources category.
- Additional points in Innovation category.

The proposal’s Net Zero Narrative also includes a study of the solar energy potential of the site, indicating that the roof will be “solar-ready” and could collectively accommodate a 172 kW photovoltaic panel array over the two buildings. Installation of such an array is not currently proposed, but staff recommends pursuing this as a possibility.

Staff will continue to work with the Applicant through continuing design review. The project will be reviewed again at the building permit and certificate of occupancy stages to certify that it remains in compliance with the Green Building Requirements.

### **Continuing Review**

City staff met with the MIT project team on multiple occasions to discuss the proposal and provide comments. Staff is appreciative of the team’s efforts to shape this proposal and look forward to continued collaboration as the project moves forward.

The following is a summary of issues that may be addressed further at the public hearing, or may be incorporated into conditions for continuing design review by staff if the Board decides to grant the special permit:

- Continuing urban design review including the following items:
  - Green roof access, mechanical screen wall material, rooftop equipment, and mechanical doghouse
  - Central Plaza details related to site furnishing including pedestrian lighting, pavement materials and pattern, and color schemes
  - Central Plaza path design to ensure safe and unobstructed travel routes for people walking and bicycling.
  - Grand Junction Multi Use Path fence design.
  - Vassar Street public realm design, including grade-separated cycle track, sidewalks, trees, curb cut design and curb access.
  - Final determination of the Bluebikes station location.