

March 5, 2021

VIA E-MAIL AND HAND DELIVERY

Chair Catherine Preston Connolly
and Members of the Cambridge Planning Board
344 Broadway
Cambridge, MA 02139
sjoseph@cambrigema.gov

Re: CambridgeSide 2.0 Project – 20 CambridgeSide Building Design Review

Dear Chair Connolly:

We are pleased to submit the enclosed design review materials for the proposed redevelopment of the former Macy's building, also known as 20 CambridgeSide, located at the corner of Land Boulevard and CambridgeSide Place. Construction of the 20 CambridgeSide building is to be completed as part of the Initial Phase of the redevelopment of the CambridgeSide site in Cambridge, Massachusetts (the "Site") into a premier mixed-use development including a combination of residential, retail, office, laboratory and restaurant uses (the "CambridgeSide 2.0 Project"), which was approved by the Planning Board in the Special Permit Decision for PB #364 dated February 17, 2021 (the "Decision"). Consistent with the Decision, we propose a reconstruction of the existing three-story retail building located on the 20 CambridgeSide site that will result in a 10-story primarily office/laboratory building, with retail, lobby and gathering spaces on the ground floor.

Over the last two and a half years of the Site's rezoning and special permit process, we have met various times with City departments, including Community Development Department (CDD), Traffic Parking & Transportation, the Department of Public Works and the Water Department, in order to inform the design of the CambridgeSide 2.0 Project. Most recently, such meetings included informal meetings with CDD urban design staff to review detailed aspects of the 20 CambridgeSide building, such as general massing and façade articulation strategies. As demonstrated by the enclosed materials, we have designed the 20 CambridgeSide building to be consistent with the CambridgeSide 2.0 Final Development Plan, which is incorporated into the Decision. We have prepared the enclosed materials to be responsive to the design-related comments received from CDD urban design staff and Planning Board members during the special permit process.

In order to facilitate your review of the enclosed materials, we have included a response chart that summarizes where each of the Condition 4 design review requirements are satisfied within the enclosed narrative and graphic exhibits. As demonstrated by the attached chart, we have addressed the various submittal and design review standards set forth in Condition 4 with respect to the design of the 20 CambridgeSide building.

At this time, we are also seeking design review approval of the other Initial Phase building, which is to be located at 60 First Street and for which we are simultaneously submitting a complete package of design review materials.


As detailed in the enclosed materials, the 20 CambridgeSide building has been designed to be consistent with the Decision and complies with the applicable design review criteria set forth in Condition

4 of the same. Accordingly, we respectfully request that the Planning Board schedule the 20 CambridgeSide building design review for the Board's earliest available meeting to review the same.

Thank you for your consideration of the enclosed design review materials. We look forward to presenting to the City of Cambridge Planning Board.

Very truly yours,

NEW ENGLAND DEVELOPMENT



John E. Twohig

Enclosures

20 CambridgeSide

Design Review – Condition Response Chart

The following chart identifies where within the enclosed package of materials each of the various Design Review submittal requirements are satisfied, which requirements are set forth in Condition 4 of the PB #364 Decision dated February 17, 2021.

Condition	Requirement	Location within Enclosed Package
4.a.i.	A dimensional form describing the Gross Floor Area, building height, setbacks, size of open space, and vehicular and bicycle parking spaces, as well as cumulative dimensional information for all development approved in this PUD, that has been previously constructed or has received final design review approval from the Planning Board.	See Table 1.
4.a.ii.	A description of all uses intended to be located within the new or renovated buildings.	See Narrative, Project Summary (page 1) and Ground Floor Uses and Activation (page 2) and Exhibits 5-10.
4.a.iii.	A Site Development Plan, revised as necessary, showing the proposed boundary lines for the subject building site and other building sites within the PUD.	See Exhibit 1.
4.a.iv.	<p>A site plan (or plans) of the entire building site illustrating, in detail:</p> <ul style="list-style-type: none"> • Conceptual plans for all roadways or sidewalks adjacent to the building site, including any planned changes approved or to be approved in the future by City departments. • Circulation routes to, from and through the site for pedestrians, bicyclists, passenger vehicles and service or delivery vehicles. • The locations of all access and egress points for pedestrians, bicyclists, passenger vehicles and service or delivery vehicles 	See Exhibits 4, 33-34 and 43-50 and Parking, Loading and Circulation (page 48).
4.a.v.	Scaled and dimensioned floor plans of each level of the proposed building.	See Exhibits 5-10.
4.a.vi.	A scaled and dimensioned roof plan, illustrating all features proposed to be located on the roof including the arrangement of any rooftop mechanical systems and enclosures, and any proposed lighting that will be visible from outside the building.	See Exhibits 11-13 and 37 and Narrative, Rooftop Penthouse (page 2).
4.a.vii.	Scaled and dimensioned elevations of each side of the proposed building with labels and descriptions of proposed	See Exhibits 14-26 and 30-32 and

	exterior façade materials, which shall include any visible rooftop mechanical equipment, screening devices, exterior vents, lighting fixtures and other appurtenances, as well as focused elevations of each of the ground floor façades.	Narrative, Building Massing and Building Character and Materiality (pages 1-2).
4.a.viii.	A signage plan showing the general locations and areas of all signage visible from the public way, including the general design characteristics of any wayfinding signage intended to serve the PUD as a whole.	See Exhibits 35-36.
4.a.ix.	A plan showing the locations and describing the general characteristics of proposed art installations.	See Exhibit 32.
4.a.x.	Perspective views of the building site from significant vantage points, including public streets from which the building will be visible at a distance, as well as pedestrian views from all sides of the building to illustrate how the building will relate to the adjacent public realm.	See Exhibits 27-29 and 40-42.
4.a.xi.	The Green Building Review materials required to certify compliance with Condition #11 of this Decision, as set forth in that Condition.	See Green Building Review (pages 57-60).
4.a.xii.	A Noise Mitigation narrative and acoustical report prepared by a professional acoustical engineer, addressing the requirements in Section 13.107.2 and Condition #9 of this Decision.	See Noise Mitigation Study (pages 61-65).
4.a.xiii.	A Light Mitigation narrative for any building containing laboratory use, addressing the requirements in Section 13.107.3 and Condition #9 of this Decision.	See Narrative, Lighting (page 2) and Exhibit 37.
4.b.	In addition to presenting design drawings and illustrations, the Permittee shall present the following materials to the Planning Board at the design review meeting: <ul style="list-style-type: none"> i. A physical, contextual scale massing model of the proposed building and surrounding buildings. ii. Samples of materials to be employed for major elements of the building façade. 	These materials will be presented to the Planning Board at the design review meeting. Still images of the physical model are included as Exhibits 38-39.
4.c.	Publicly Beneficial Open Space located on a particular building site shall be reviewed and approved by the Planning Board as part of the design review process for each individual building site.	Consistent with the Final Development Plan, there is no Publicly Beneficial Open Space proposed on the 20 CambridgeSide building site.
4.h.	City Department Review. <ul style="list-style-type: none"> i. Technical Standards. Design elements on a building site requiring technical review for compliance with 	See Narrative, Technical Standards and Public Improvement

	<p>City requirements or standards, such as parking facilities, bicycle parking facilities, loading facilities, bicycle and vehicular access and egress, public bicycle sharing stations, stormwater management systems and Green Building materials (per Section 22.20), shall be reviewed by applicable City departments (which may include CDD, TP&T, DPW, Electrical or Water Departments, or others) at a conceptual design stage prior to submission of materials for review by the Planning Board. Final plans shall be reviewed by City departments for compliance with applicable standards and requirements prior to issuance of a Building Permit.</p> <p>ii. Public Improvements. Before submitting a Design Review package to the Planning Board that includes the design of any public improvements, including but not limited to construction of public streets or infrastructure, the Permittee shall submit conceptual design drawings of such public improvements for review and comment by applicable City departments. Subsequent to Planning Board Design Review approval of a building site but prior to completing final construction drawings of any such public improvements, the Permittee shall prepare and submit 75% design drawings of such public improvements for review and comment by applicable City departments. All public improvements on City-owned property shall be subject to final approval by applicable City departments.</p>	Requirements (page 2).
4.d. – 4.g., 4.i., 4.j.	Such provisions of Condition 4 do not set forth applicable submittal requirements and, therefore, are not detailed on this chart or in the attached package of materials.	N/A



MARCH 2021



CambridgeSide 2.0

20 CambridgeSide Design Review Submittal

Submitted to:
City of Cambridge

Submitted by:

**NEW ENGLAND
DEVELOPMENT**

New England Development
75 Park Plaza, Boston, MA 02116

Prepared by:





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20 CambridgeSide Design Review Narrative

The following narrative and attached graphic materials and reports are provided in accordance with Condition 4 of the Special Permit Decision for PB #364 (CambridgeSide 2.0) dated February 17, 2021 (the "Decision"), which addresses the design review requirements for buildings developed pursuant to the Decision. As detailed throughout this narrative, the proposed 20 CambridgeSide (20CS, formerly known as Macy's) building has been designed to be consistent with the Decision, which incorporates the approved Final Development Plan for the CambridgeSide 2.0 Project.

Over the last two and half years of the rezoning and special permit process, the development team has met various times with City departments, including CDD, TP&T, DPW and the Water Department. These meetings have also included informal meetings most recently with CDD design staff to review detailed aspects of the 20CS building design, particularly the general massing and proposed façade articulation strategies. Materials presented herein reflect CDD design staff input.

Project Summary

As indicated in the design review graphic materials herein, the 20CS building will be located at the corner of Land Boulevard and Cambridgeside Place and will involve reconstruction of an existing three-story building, designed for single tenant retail use, situated above two levels of below-grade parking.

The proposed reconstruction will result in a 10-story office/laboratory building, with retail and other Active Uses, including an entry lobby to support the building's commercial uses, on the ground floor. Additional details regarding uses proposed at the building is provided on the Dimensional Form on page 3.

In conformance with the Decision, the 20CS building will have a height of approximately 155 feet and will incorporate appropriate setbacks to complement the scale of surrounding buildings.

The existing Macy's foundation and structure, up to the second floor slab, will be retained and reinforced to support the new 9 story steel-framed structure that will be connected to the existing structure via structural transfer system directly above the existing Macy's second floor slab. Consistent with the approved Final Development Plan and as indicated on Exhibits 43 and 44, parking layouts and circulation at the two below grade levels will remain, altered for the new structural reinforcement and new building support functions. Vehicular circulation patterns within the garage will remain as they currently exist, parking spaces will be restriped around reinforced column and foundation structures, and new elevator access will be provided to the street level and to the tower lobby above.

The existing core mall electrical service on the ground floor of Macy's will be retained while the existing loading dock, which services a portion of the existing core retail and adjacent hotel Marlowe in addition to the new construction, will be renovated. The balance of the ground floor will be fully renovated and repurposed, incorporating ground-floor retail and lobby uses that will help to foster a welcoming pedestrian environment along the building's perimeter on Land Boulevard and Cambridgeside Place.

Design Intent Overview

The proposed design is consistent with the goals and design standards set forth in the approved Final Development Plan and the Decision, which standards incorporate policy objectives identified in the earlier Eastern Cambridge design documents set forth in Section 13.107.5 of the Cambridge Zoning Ordinance (the "CZO"). The primary urban design goals include: a contextual massing approach that addresses multiple proximate neighborhood scales while reducing the perceived height of the building and mechanical penthouse; material expression rooted in the site's architectural heritage and which simultaneously embraces contemporary conditions and uses; architectural celebration of the prominent riverfront corner location at the Cambridgeside Place and Land Boulevard intersection; and ground-floor Active Uses that maximize visual connection to support the creation of an active, engaging streetscape.

Building Massing

The building massing, as indicated on Exhibits 14-15 and 38-39 (sections and model photographs), incorporates a series of setbacks that help reduce the building's perceived mass while visually relating the building to the scale and height of buildings in the neighborhood. Consistent with the approved Final Development Plan, the building's base massing incorporates the building's first 5 stories up to a first setback condition at a height of approximately 82'-8". This setback addresses the height of the Marlowe Hotel directly adjacent to the site, acknowledging and extending this most immediate horizontal datum. This approximately 11'-0" setback provides opportunity for a tenant to provide an exterior amenity terrace with riverfront views. The building's middle massing element extends 3 floors (levels 6-8) to a height of approximately 126'-2", in conformance with the approved Final Development Plan by creating a second exterior amenity terrace. The Applicant will complete the upper-level exterior amenity terraces to be compliant with all building code requirements; any additional tenant work for the terraces will be limited (e.g., floor finishes) and completed as part of

standard tenant fitout work, subject to receipt of a building permit for the same. This datum acknowledges the height of the riverfront hotel structures on the opposite side of Land Boulevard. The building's top massing extends 2 more stories (levels 9 and 10) up to the building's maximum height of 155'-0", which height is consistent with the approved Final Development Plan. Finally, the mechanical penthouse screen steps back 13'-0" from the building façade along Land Boulevard and Cambridgeside Place, aiding in reducing its perceived bulk.

Building Character and Materiality

The material expression of the building is rooted in the load bearing, brick masonry heritage of the industrial use buildings of East Cambridge. The building's base is most rooted in this history, with the brick masonry expressed in a single story, pier and spandrel expression articulating the building's primary structural modules. The brick masonry detailing in the horizontal spandrels, including introduction of soldier coursing, brick rotation, relief and shadow, reflects this masonry craft and tradition, providing visual interest at a pedestrian scale. The glazed openings are expressed with single story projected pewter gray metal frames, introducing a modern materiality, crisp detailing, embracing the contemporary life science research and development building usage, while also providing shading and glare control for energy performance and occupant comfort. In combination with the brick, the frames provide complementary tonality, rich texture, relief, depth of light and shadow to the façade, as indicated on Exhibits 20 and 21.

The main entry to the 20CS building fronts onto CambridgeSide Place, and is expressed as a two-story recessed volume framed in metal, echoing at a larger scale the one story glazed framed openings in the building base. The two story vision glass accentuates visual connection to the interior volume, while a glass and metal canopy structure provides entry identity, building address and weather protection.

The façade expression of the building's middle massing merges the above-described brick masonry expression with modern materiality, proportion and scale. Full brick masonry piers remain marking primary structural column locations and intermediate pier conditions, but now are extended uninterrupted for 3 stories, yielding thinner, more modern proportions. Metal panels replace brick in the horizontal spandrel conditions, allowing for a multi-story vertical expression of glazing. The metal panels are setback from the brick piers and proposed in a complementary, neutral pewter gray color, giving subtle hierarchy of expression to the brick piers, as indicated on Exhibits 22 and 23.

As indicated on Exhibit 24, at the building's top levels, metal and glass supplant the brick masonry in a contemporary expression. This expression wraps the building's west façade, which extends above the core mall roof, reducing the building's perceived weight and bulk above the core mall roof. The metal color now shifts to a warmer, bronze, tone. The metal panel and glass detailing is intentionally simple and consistent, providing a quieter expression at the top of the building.

The building's southeast corner expresses itself as a series of concentric arcs, reinforcing the Land Boulevard and Cambridgeside Place intersection and addressing the prominent western approach view. The arcs express themselves as a series of faceted pier and glazing modules that transition from east to south facing façades. These faceted planes will create subtle shifts in light, shadow and reflectance, marking the building's corner.

The building's materiality and visual expression also holistically integrates strategies for building energy performance/emissions reductions and occupant comfort. The entire building will employ high performance triple glazing with low emissivity coatings and low to moderate reflectivity for highest thermal and solar performance and visual clarity. Additional levels of thermal insulation will be included in both the brick masonry and metal panel clad opaque areas of the building façades. Each façade type employs solar shading strategies appropriate to its solar orientation. At the base of the building the projected frames provide both heat gain and glare control benefits along the east façade, while additional frame depth is introduced at the Cambridgeside Place façade, addressing the southwesterly solar exposure. At the east and west orientations of the building's upper façades, projecting vertical solar shading fins in perforated metal, provide similar heat gain and glare control functionality, while providing a subtle layer of texture and relief to the façades.

The 20CS building, in relationship to both the abutting core mall building at the southwest corner and the abutting Marlowe building at the northeast corner, will maintain a contextual, considered urban design approach. In both instances, the garage access ramps will be maintained while the 20CS massing will set back, allowing visual relief and volumetric completion to both the existing and proposed 20CS massing. As indicated on Exhibit 29, at the southwest corner, the building's middle massing carries down to the ground plane, creating a volumetric return to the core mall building which currently does not exist. The return wall will be clad in brick matching the core mall building brick, and will be capped with cornice and solarium detailing, adding volume and depth to the core mall building as seen from the southeast. As indicated on Exhibit 20, at the northeast corner, similarly,

the building's top level façade system carries down to the third floor with a 2 story volume containing the tower's new electrical infrastructure coming to the ground plane at the garage entry. This set back condition maintains the Marlowe building's south facing return wall, including continued visibility of the Marlowe's identity signage. At both conditions, canopies above the garage entry ramps extend to the street wall, providing visibility for these garage access locations.

As indicated in the photographs included on exhibits Exhibits 38 and 39, a physical model of the proposed building, in its context, is available. The project team will make the model available for virtual viewing consistent with staff and Planning Board needs. Similarly, photographs of proposed building materials are incorporated within Exhibits 20-25.

Rooftop Penthouse

Significant design consideration has been given to the placement and design of the building's penthouse. The penthouse, as indicated on Exhibits 14 and 15, is configured with a continuous approximately 13'-0" stepback along both Land Boulevard and Cambridgeside Place, which conforms to the approved Final Development Plan. The geometry of the penthouse echoes the building's geometry, with radiused corner transitions concentric to the radiused corners of the building below. The penthouse is clad with architectural channel glass, as indicated on Exhibit 25. The channel glass screen wall is detailed to screen both enclosed and exterior equipment, while providing a rich, neutral and moderately reflective surface meant to visually dematerialize the penthouse volume against the sky. Louvers are concentrated on the penthouse west face, away from site lines along Land Boulevard and Cambridgeside Place. The louvers are visually disguised, as the louver assembly includes perforated metal panels placed in front of the louvers. These panels, set flush to and within the same modular pattern of the channel glass, visually extend the main character of the screen wall.

Ground Floor Uses and Activation

The ground floor of the 20CS building will incorporate new Active Uses and an engaging streetscape, as well as a ground floor main building entry with publicly accessible lobby, and a significant public-facing permanent public art installation.

The building's main lobby, which will be publicly accessible, will be a two-story volume prominently expressed on the corner of Cambridgeside Place and Land Boulevard. The main entry, a two story volume recessed for added visual presence and beneficial solar shading, will be a fully glazed element for maximum transparency and invitation. Rounding the corner onto Land Boulevard, two-story storefront vision glazing with detailed brick piers and spandrels will provide visual engagement for the building's the interior environment, which will provide an amenity rich environment for the public, including

a variety of seating opportunities, interior landscaping and art. At the ground level base of the building, special consideration is given to the character - scale, relief, texture and rich brick detailing - of the brick masonry piers and spandrels in combination with the storefront treatment, which will be glazed in high performance, low iron, ultra clear glazing.

The retail space to be located at the south-west corner of the project will have ground level display storefront and direct entry from Cambridgeside Place, allowing for unique identity and signage opportunities to encourage public engagement.

Moving east along Land Boulevard and fronting the building's loading and services bays, a signature public art installation is proposed. As indicated on Exhibit 32, the art installation is proposed along the ground floor building frontage lining the loading and service areas fronting Land Boulevard. The intent is for the art installation to integrate with the building enclosure, maintaining the necessary service functions including garage meter access, active garage ventilation louvers and loading dock entry, while also creating an inviting street edge.

The project's development and design team will work with the City of Cambridge to develop a selection process for a permanent world-class art installation. The Applicant will fund the cost of the art installation, as well as associated fees and commissions required by the selected artist. The Applicant will engage the services of an art consultant to coordinate the selection and approval process with the City's Public Art Commission and other agencies as required by the City of Cambridge.

Construction of the 20CS building will also involve improvements to the existing Land Boulevard and Cambridgeside Place streetscape, including enhanced landscaping, as indicated on Exhibit 34. For example, lively English Oak trees will be added to infill the existing tree pattern and shrubs will be planted adjacent to the trees at the sidewalk along the curb-line, creating a low visual buffer for the façade opening to the along Land Boulevard. Additionally, granite pavers, with a contrasting pattern and color from the sidewalk pavers, will be installed to welcome pedestrians at the crosswalk landing at Land Boulevard.

Lighting

The façade lighting celebrates the building's prominent corner locations while accentuating the contextual approach to the overall building design. The façade lighting accents the brick masonry detailing of the building's 5th story massing up to the first stepback at approximately 82'-8" in height. Street level lighting will focus on legibility of the main entry, pedestrian comfort and accenting of brickwork detailing. The upper stories of the building do not receive façade lighting treatment, allowing them to visually fade at night, effectively reducing the building's perceived scale at night. Façade lighting will consist of down lighting, utilizing high cut off fixtures, thereby eliminating light pollution and providing effective glare con-

trol. Additionally, the façade lighting will be dimmable to allow further flexibility with respect to neighborhood light level programming throughout the night. Details on the proposed exterior lighting are shown on Exhibit 37, including additional narrative on the lighting approach.

Additionally, consistent with the Decision, the 20CS building will comply with light mitigation requirements for a building containing laboratory use set forth in Section 13.107.3 of the CZO and Condition #9 of the Special Permit. In order to ensure that such interior lighting requirements for laboratory areas will be incorporated into a future tenant's interior fit out project, the development team has produced written tenant standards requiring tenant compliance with these requirements.

Technical Standard and Public Improvement Requirements

Over the last two-and-a-half years, the development team has met numerous times with various City departments regarding the more technical standards (such as transportation and Green Building requirements) and proposed public infrastructure improvements (e.g., stormwater improvements) associated with the CambridgeSide 2.0 project.

The development team met, and had ongoing correspondence with, the Traffic, Parking & Transportation (TP&T) Department over the course of the last two years to review and determine appropriate transportation measures, as summarized in the certified TIS for the project and the transportation mitigation measures incorporated into the Decision. The approved Final Development Plan and Decision establish the mutually agreed upon approach to a vehicular and bicycle parking across the PB-364 Development Parcel, as well as transportation mitigation measures that were reviewed at a conceptual stage. The development team is committed to continuing to coordinate with TP&T to finalize the specific design and implementation of the proposed transportation measures over the course of the project.

The development team has also worked with the Department of Public Works (DPW) and the Water Department to identify appropriate infrastructure upgrades to be implemented by the Applicant in order to meet the project's I/I requirement. In May of 2019, the Applicant proposed an interceptor drain concept that will intercept the existing City drains in a new infiltration collection treatment and redirect their flows from the MWRA Marginal Conduit to the existing CAM 017 outfall on the downstream side of the Binney Street regulator. This interceptor drain concept has been approved by DPW and is carrying forward. The Land Boulevard I/I Project is intended to be completed in the Fall of 2022. In accordance with the DPW standards incorporated into the Decision, the development team will continue to follow other DPW and Water Department requirements for utility and site improvements as construction of the project, including the 20CS building, commences.

Since February 2020, the development team has coordinated with Community Development Department (CDD) staff to incorporate Article 22 Green Building requirements into the overall CambridgeSide 2.0 Project, as well as into the Initial Phase buildings. The overall CambridgeSide 2.0 Green Building Report was certified by CDD on August 12, 2020, and a building specific Green Building Report for 20 CambridgeSide was certified by CDD on November 6, 2020 (Included on page 59). With respect to the 20CS building, the development team will comply with the City's ongoing requirements for Green Building compliance as the building progresses to the building permit and certificate of occupancy stages of development.

Dimensional Form

Please see following Table 1: Dimensional Form.

Conclusion

As detailed throughout this application and demonstrated by the graphics included within the same, the 20CS building has been designed to conform to the applicable design review standards set forth in Condition 4 of the Decision, including with respect to the following criteria:

- The architectural design of building facades, with special attention to the ground level.
- The placement of rooftop mechanical equipment, along with the design of penthouses and other features meant to screen such equipment, and any other exterior features within or surrounding the building site.
- The configuration and design of pedestrian, bicycle and vehicular modes of access and egress.
- The design of landscape elements, and modifications to abutting street or sidewalk rights of way, with attention to pedestrian and bicycle circulation and comfort and management of potential conflicts between pedestrian and bicycle paths of travel.
- Any potential impacts of the proposed design on the public realm or on properties outside of the PUD, including but not limited to visual impacts, noise impacts, wind impacts, and effects on the safety and comfort of pedestrians, bicyclists and motorists in the area, and measures that are being taken to mitigate such impacts.
- The measures being implemented to promote highly sustainable design and development reflecting the goals and objectives established by the City.

Accordingly, we respectfully request that the Planning Board approve the proposed design of the 20CS building as described throughout this application.



Table 1: Dimensional Form

20 CambridgeSide Development Program	Gross Floor Area (sq ft)			Net New GFA (sq ft) Calculation for 20 CambridgeSide	
	Final Development Plan	Design Review*			
Gross Floor Area				Total Proposed GFA:	360,000
Office (sq ft) (Zoning Article 4.34 (a-e))	55,000	48,000		Total Existing GFA:	125,000
Office and Laboratory (sq ft) (Zoning Article 4.34 (f))	295,000	295,000		Net New GFA Proposed:	235,000
Retail (sq ft)	10,000	17,000			
Residential (sq ft)	N/A	N/A		Net New GFA Available for Development:	340,000 ^{1, 2}
Total Gross Floor Area (sq ft)	360,000	360,000			

PUD-8 Final Development Plan Shared Program ³			
	Final	Existing	Design Review
Open Space (sq ft)	244,600 ⁴	230,600	230,600
Off-Street Parking Spaces	1,695	2,490	2,490 ⁵
Long-Term Bicycle Parking Spaces	450	46	107
Short-Term Bicycle Parking Spaces	146	85	87
Loading Bays	12-20	15	14

* As the design of the 20 CambridgeSide building progresses to the construction drawing and building permit stages of development, the proposed Gross Floor Area (GFA) will be further refined to account for allowable exemptions from the calculation of GFA.

¹ The Net New GFA Available for Development does not account for the 86,000 sf of Net New GFA allocated to the other Initial Phase building, 60 First Street, for which a Design Review application is being simultaneously submitted. A total of 254,000 sf of Net New GFA will be available for development following completion of both Initial Phase buildings.

² No more than 575,000 sf of Net New GFA may be constructed pursuant to Section 13.104.1 of the CZO. Net New GFA may be allocated to development in either of the Project's Phases in accordance with PB #364.

³ Consistent with PB #364 and the Final Development Plan, requirements for Open Space, parking, bicycle parking and loading may be met across the PUD-8 Development Parcel, intended to serve the interconnected mixes proposed as part of the CambridgeSide 2.0 project, at full buildout. The numbers identified here do not account for any improvements to be constructed as part of the 60 First Street building. Following completion of both Initial Phase buildings, there will be a total of 234,820 sf of Open Space, 2,490 off-street parking spaces (subject to footnote 5 below), 143 long-term bicycle parking spaces, 87 short-term bicycle parking spaces and 14 loading bays to serve the uses on the PUD-8 Development Parcel.

⁴ Per Section 13.105 of the CZO applicable to the PUD-8 District, Open Space includes (i) the off-site Public Open Space at Charles Park and Canal Park and (ii) the on-site Publicly Beneficial Open Space, to be comprised of the publicly accessible mall atrium space, the public easement for Cambridgeside Place and the new Mall connector in the 60 First Street building, new setbacks and new pocket parks on First Street as generally depicted in the approved PB #364 Open Space Plan.

⁵ Consistent with PB #364 and the Final Development Plan, the total number of parking spaces on the PUD-8 Development Parcel will be reduced from 2,490 to approximately 1,695 at the time of demolishing the existing above-grade structured parking garage. The total number of parking spaces may be marginally reduced as a result of construction of the 20 CambridgeSide building due to site or structural support requirements, to be determined as the building is constructed. All parking is subject to maximum ratios by use set forth in Section 13.106.4 of the CZO, and in no event shall less than 1,695 parking spaces exist on the PUD-8 Development Parcel.

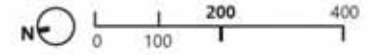
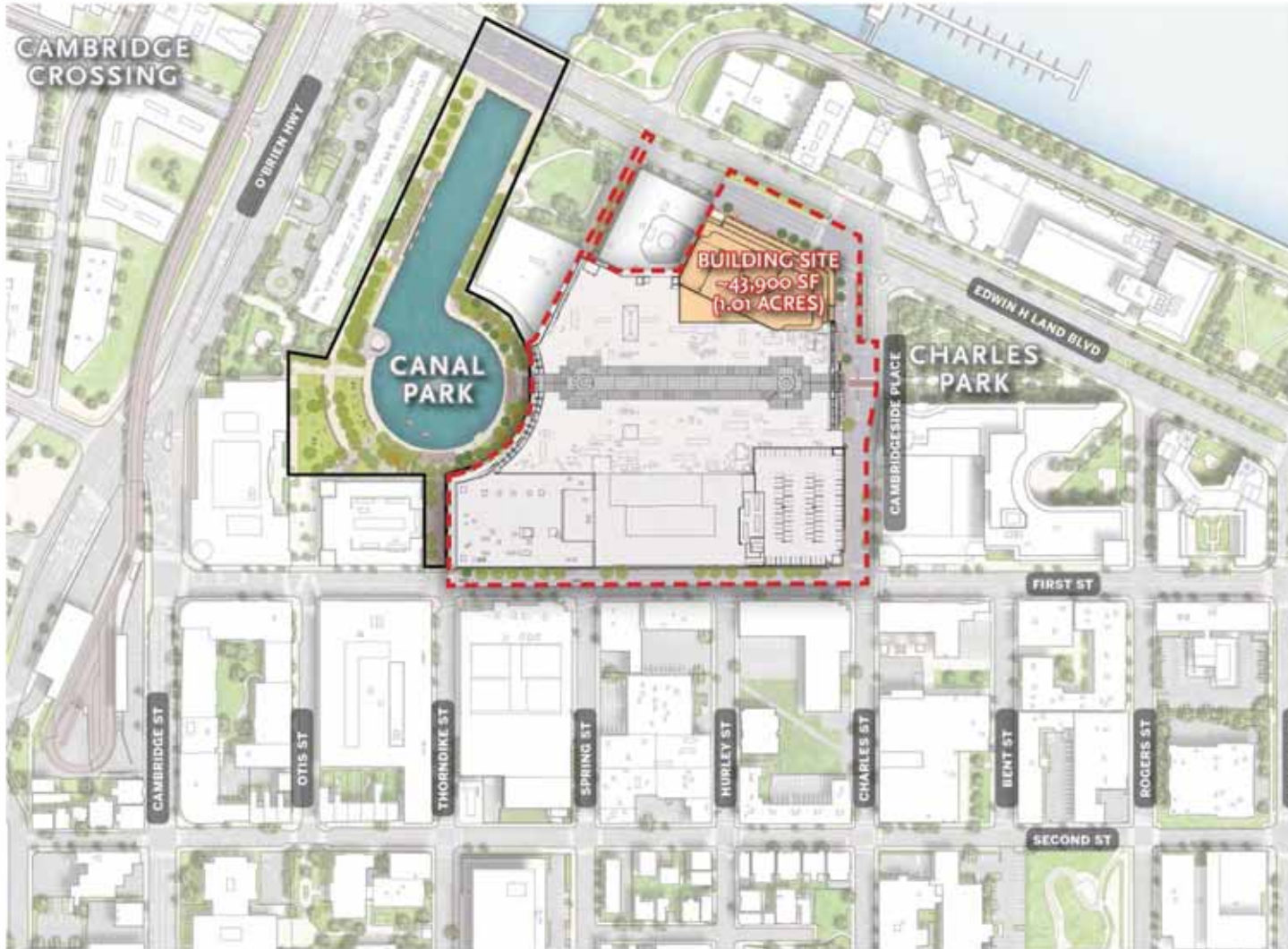
20 CambridgeSide



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS

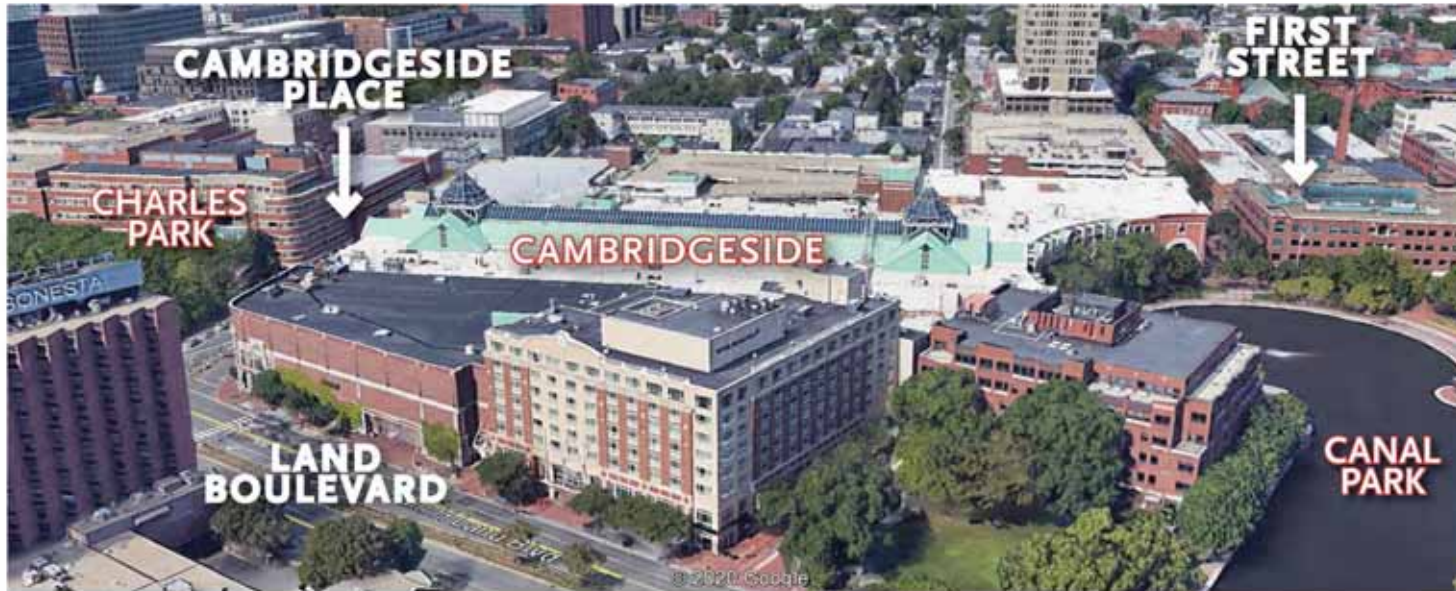
20 CambridgeSide DEVELOPMENT PLAN

EXHIBIT 1



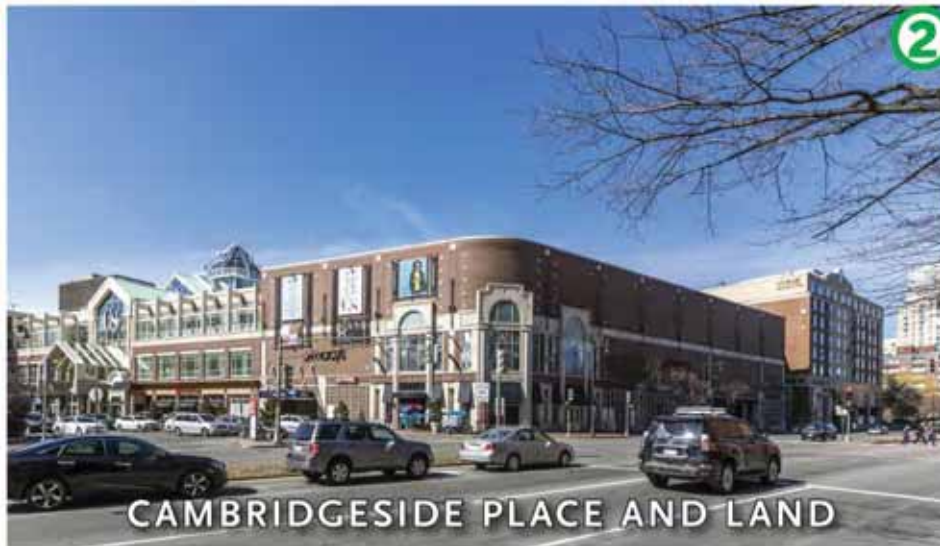
Legend

 PUD-8 DEVELOPMENT PARCEL



20 CambridgeSide EXISTING CONDITIONS

EXHIBIT 2



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | Cs

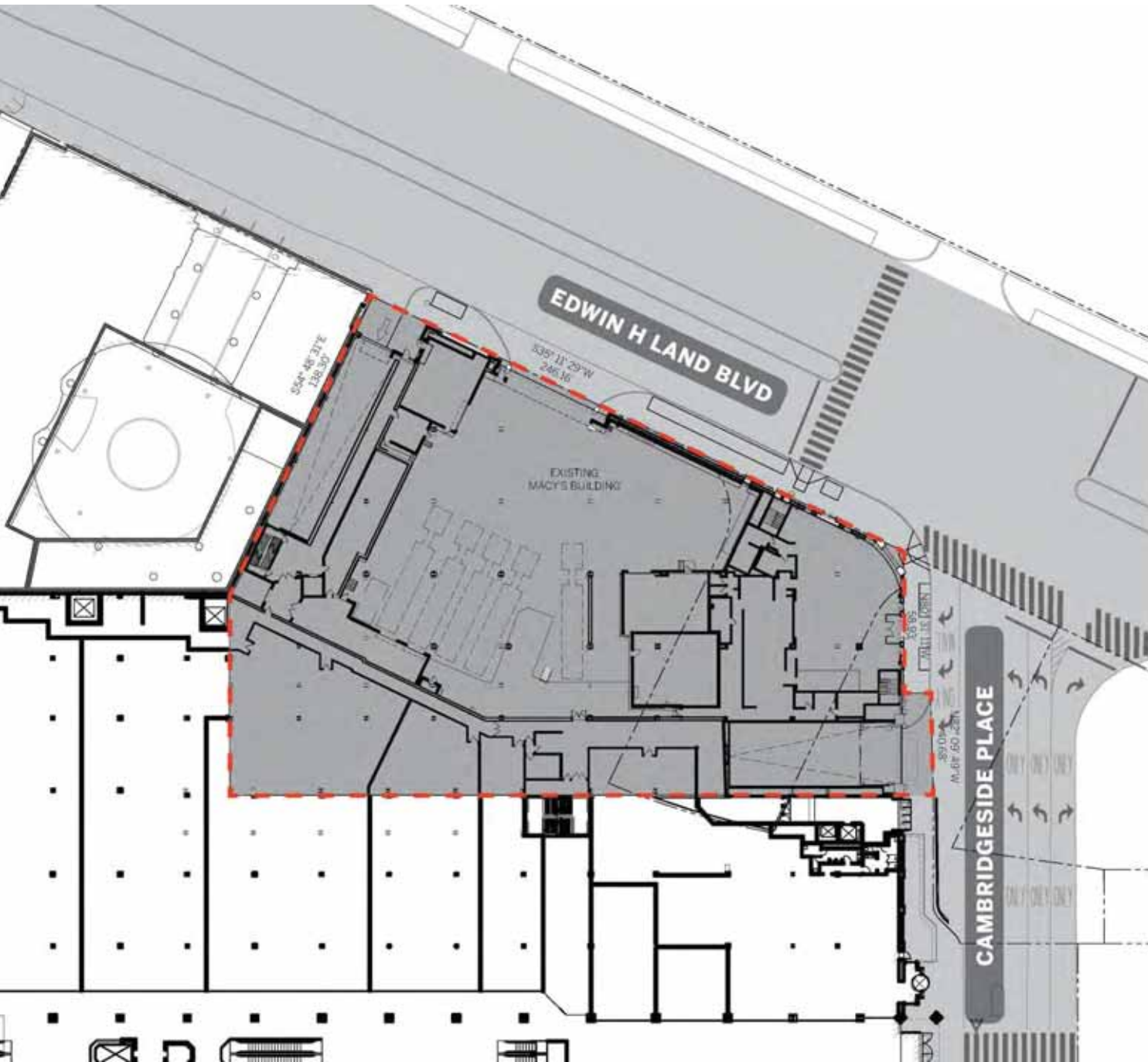
20 CambridgeSide EXISTING CONDITIONS

EXHIBIT 3



Legend

- BUILDING SITE
- PROJECT SITE
- ROADWAY AND SIDEWALK



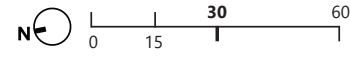
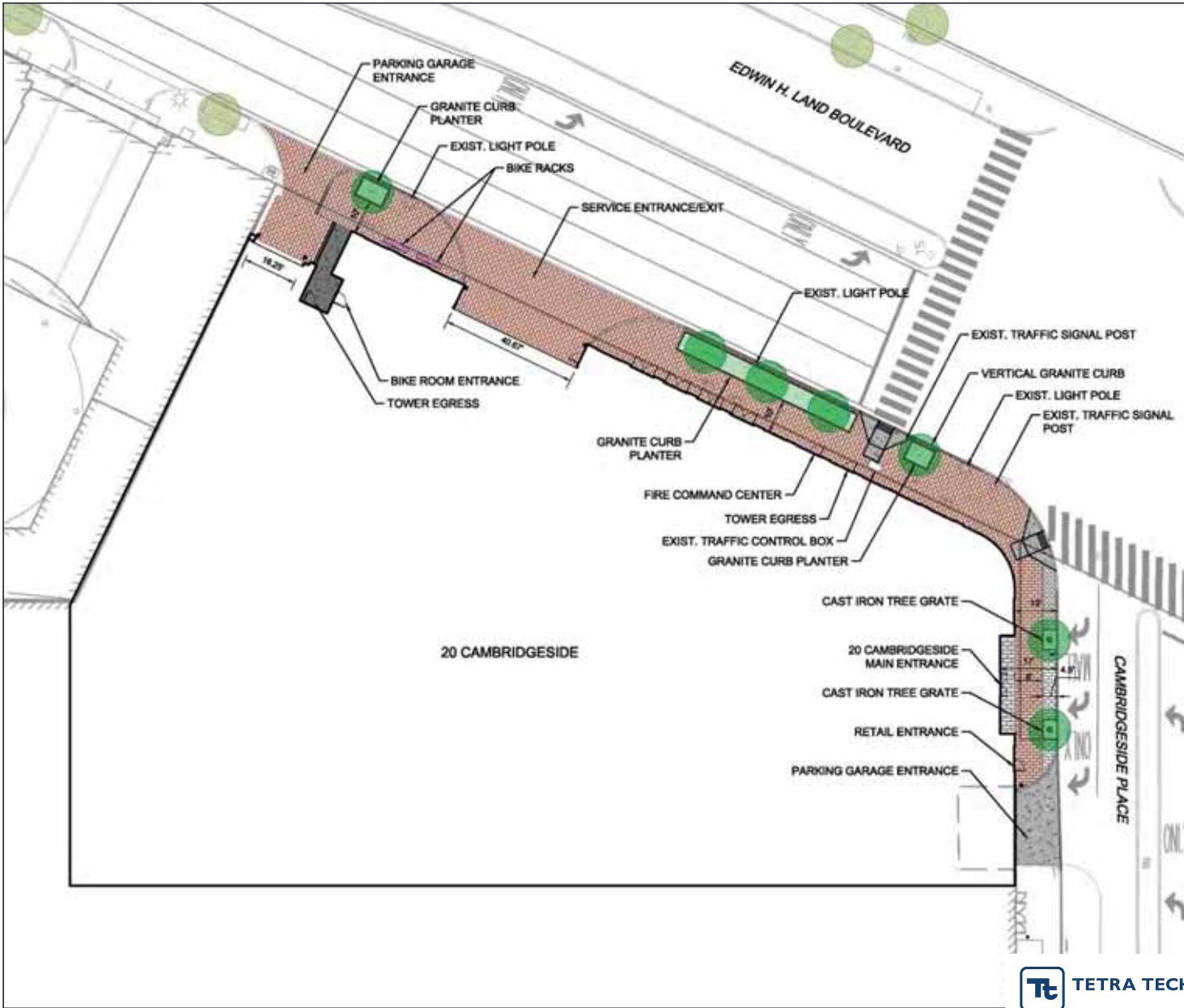
Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |

20 CambridgeSide SITE PLAN

EXHIBIT 4



Legend

-  BRICK PAVING
-  GRANITE PAVERS
-  PERMEABLE PAVERS
-  CONCRETE PAVING
-  EXISTING TREE
-  PROPOSED TREE



20 CambridgeSide GROUND FLOOR PLAN

EXHIBIT 5



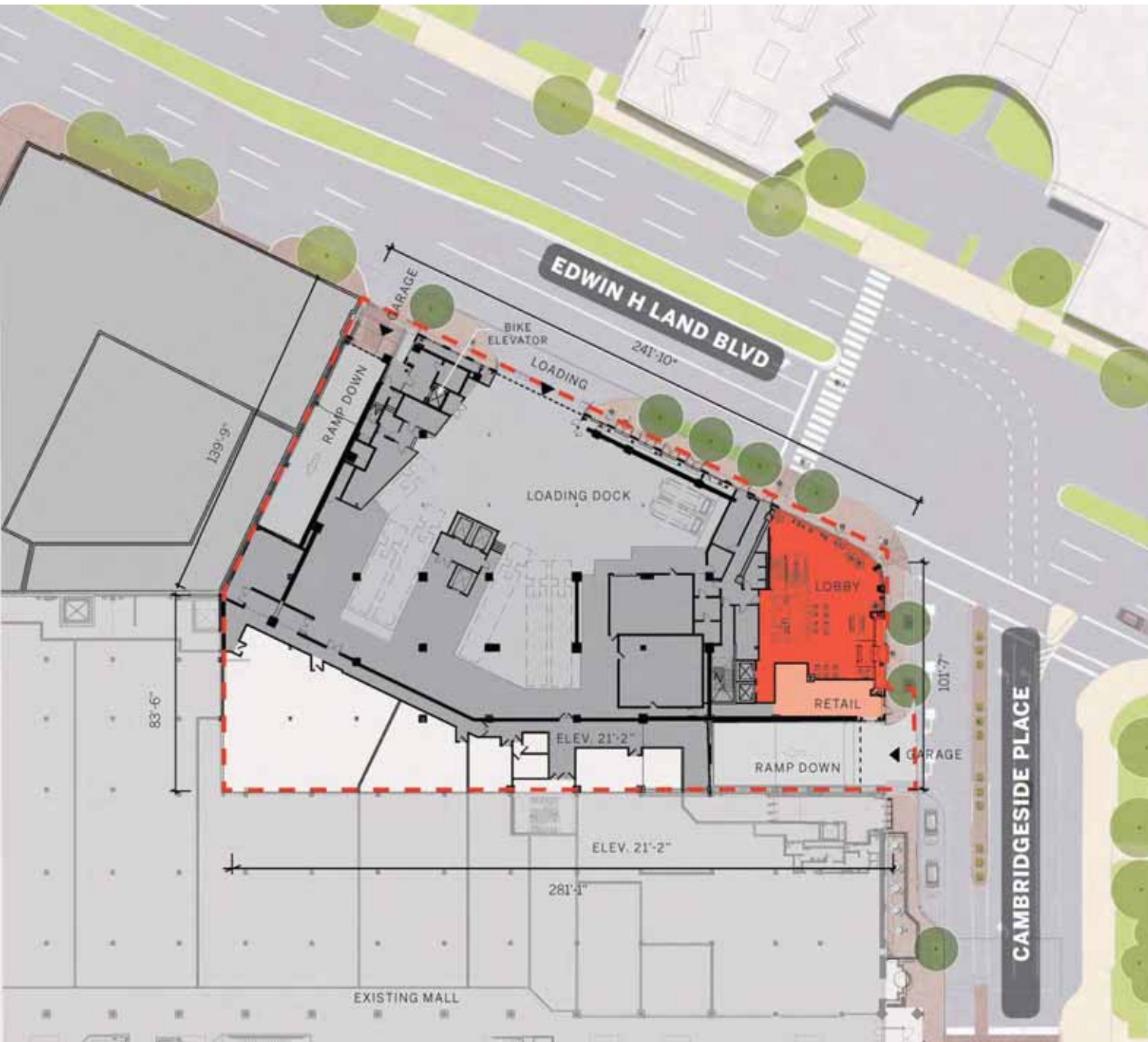
Legend

- BUILDING SITE
- RETAIL/ACTIVE STOREFRONT
- LOBBY / GATHERING
- BOH
- PARKING/LOADING

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



20 CambridgeSide 2nd FLOOR PLAN

EXHIBIT 6



- Legend**
- RETAIL/ACTIVE STOREFRONT
 - LOBBY / GATHERING
 - OFFICE/LAB
 - BOH
 - PARKING/LOADING
 - OTHER



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide

3rd FLOOR PLAN

EXHIBIT 7



Legend

- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHER

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide

4th and 5th FLOOR PLAN

EXHIBIT 8



Legend

- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHER

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide

6th to 8th FLOOR PLAN

EXHIBIT 9



Legend

- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHER
- TERRACE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide

9th and 10th FLOOR PLAN

EXHIBIT 10



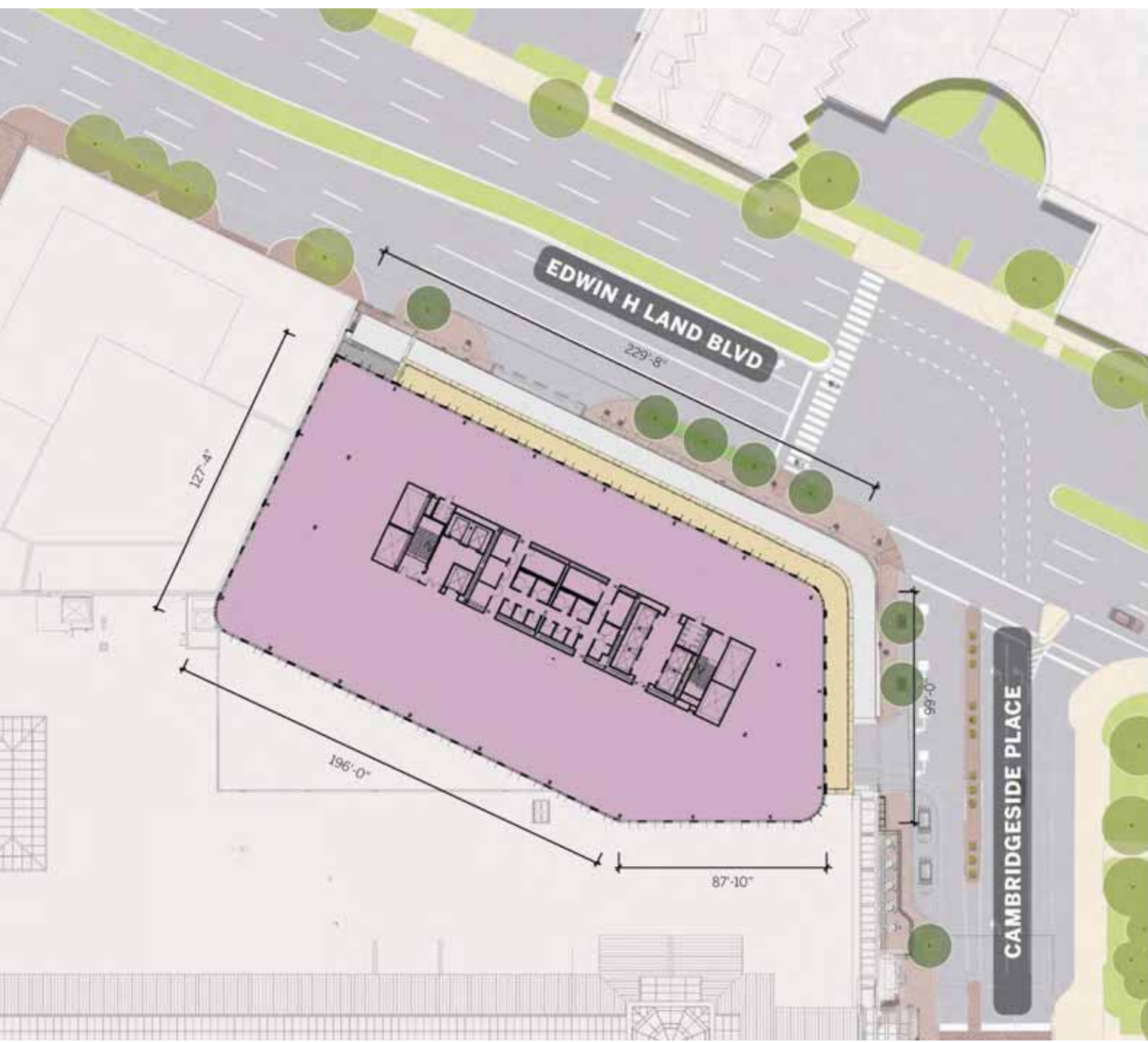
Legend

- RETAIL/ACTIVE STOREFRONT
- OFFICE/LAB
- BOH
- PARKING/LOADING
- OTHER
- TERRACE

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide MECHANICAL LEVEL 1 PLAN

EXHIBIT 11



Legend

- BOH
- LOUVER LOCATOR

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | Cs



20 CambridgeSide MECHANICAL LEVEL 2 PLAN

EXHIBIT 12



Legend

- BOH
- LOUVER LOCATOR

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS



20 CambridgeSide ROOF PLAN

EXHIBIT 13



Legend

□ OTHER

Keyplan

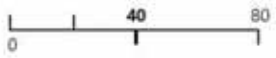


NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide EAST/WEST SECTION

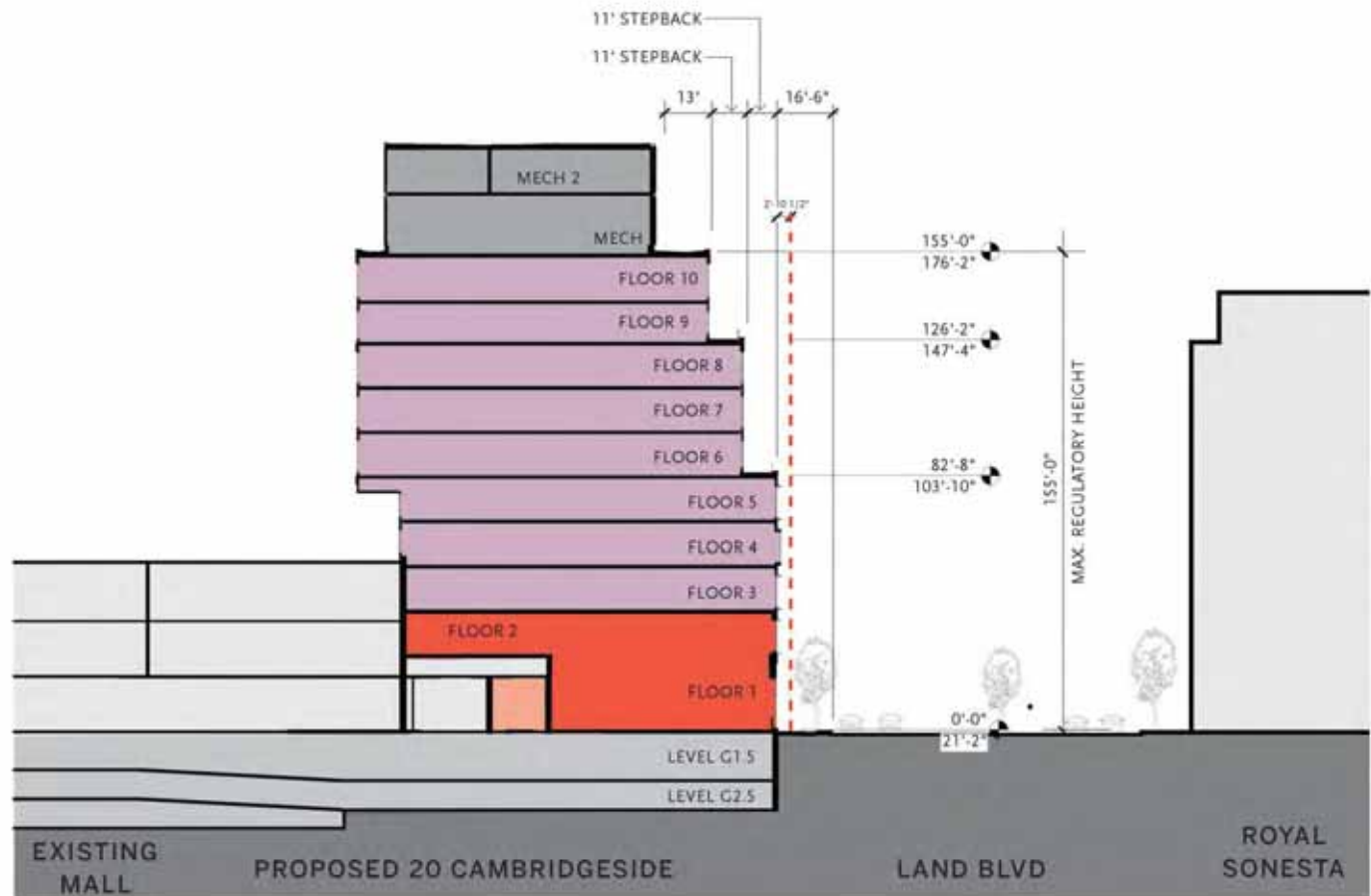
EXHIBIT 14



- Legend**
- PROJECT BOUNDARY
 - RETAIL/ACTIVE STOREFRONT
 - LOBBY / GATHERING
 - OFFICE/LAB
 - BOH
 - PARKING/LOADING
 - OTHER

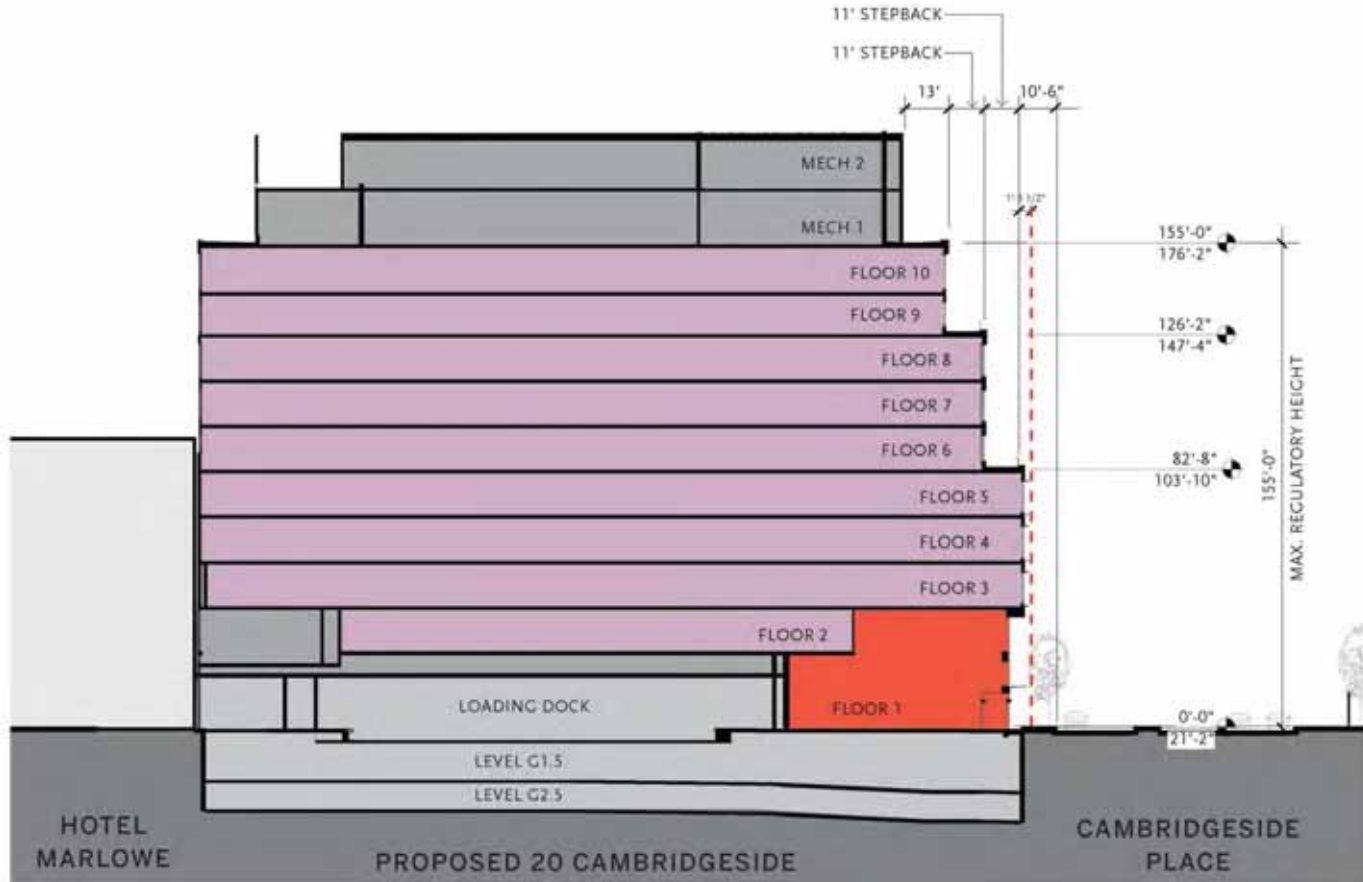


NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide NORTH/SOUTH SECTION

EXHIBIT 15

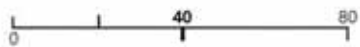


- Legend**
- PROJECT BOUNDARY
 - RETAIL/ACTIVE STOREFRONT
 - LOBBY / GATHERING
 - OFFICE/LAB
 - BOH
 - PARKING/LOADING
 - OTHER



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**

20 CambridgeSide EAST ELEVATION



CHANNEL GLASS PANELS

FACADE SYSTEM 1

FACADE SYSTEM 2A

FACADE SYSTEM 2B

CHANNEL GLASS

ALUMINUM PANEL SUN SHADE

METAL PLATE WALL PANEL (BRONZE) - MP-3

METAL PLATE WALL PANEL - MP-4

BRICK - BR-2

METAL PLATE WALL PANEL - MP-2

METAL PLATE WALL PANEL - MP-1

BRICK - BR-1

EXHIBIT 16

STONE BASE

LOUVERS

METAL PANELS

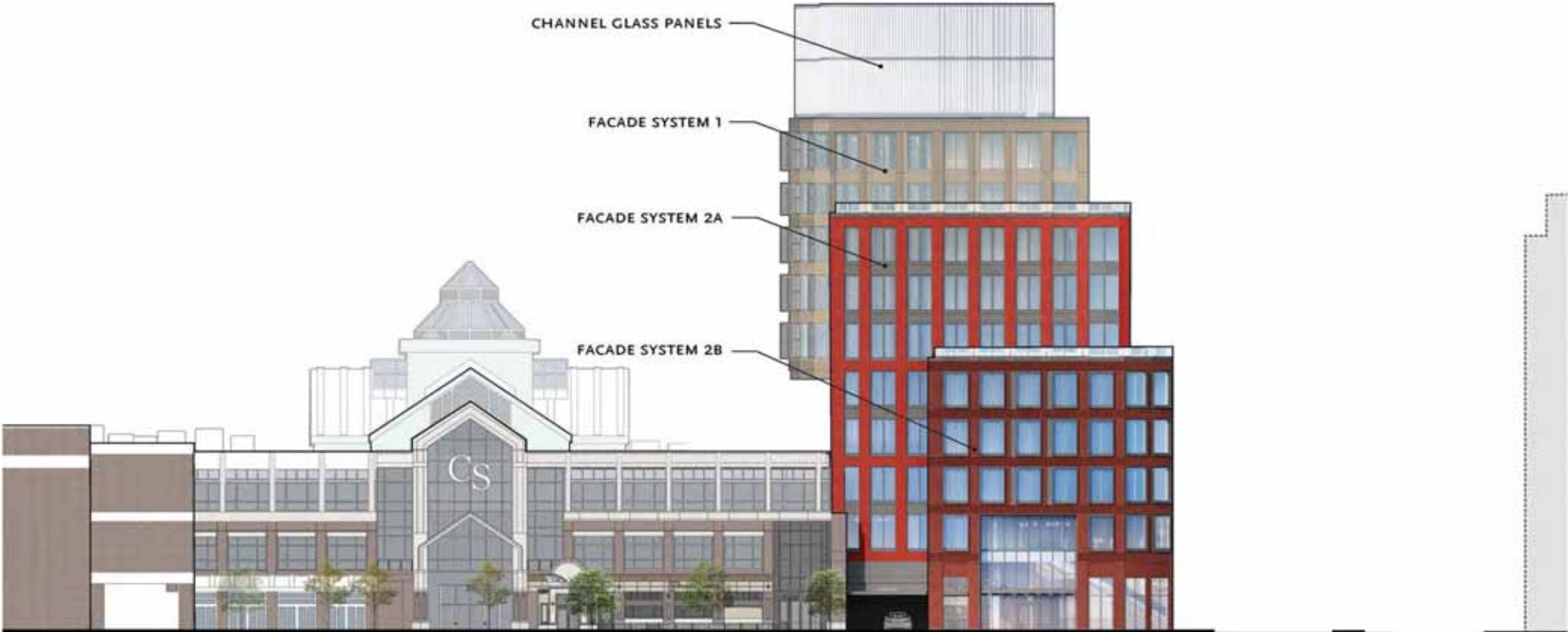


NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | Cs

20 CambridgeSide SOUTH ELEVATION



EXHIBIT 17



20 CambridgeSide WEST ELEVATION

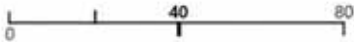


EXHIBIT 18



20 CambridgeSide NORTH ELEVATION

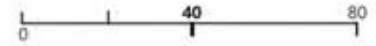
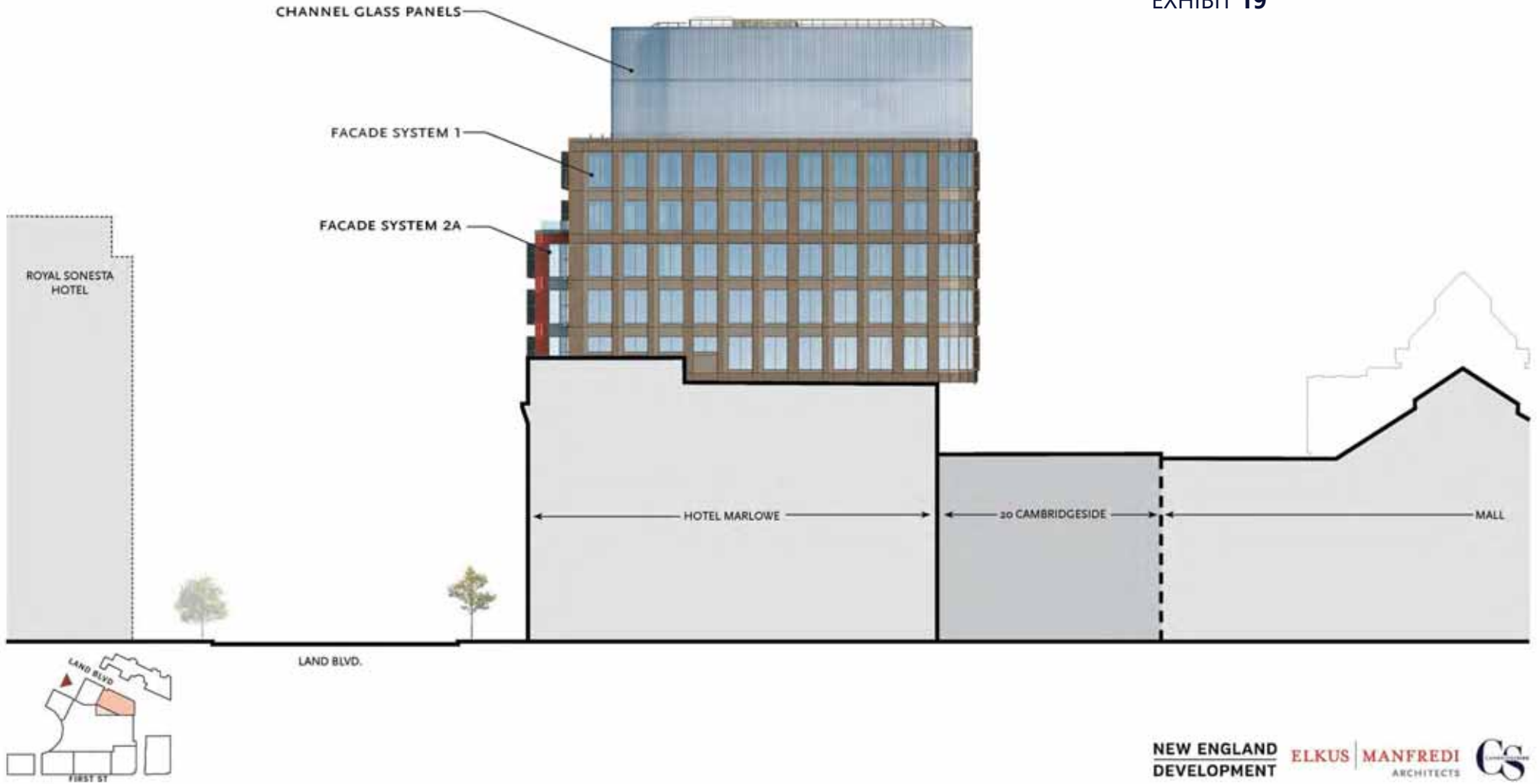


EXHIBIT 19



20 CambridgeSide FACADE SYSTEM 2B

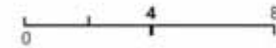
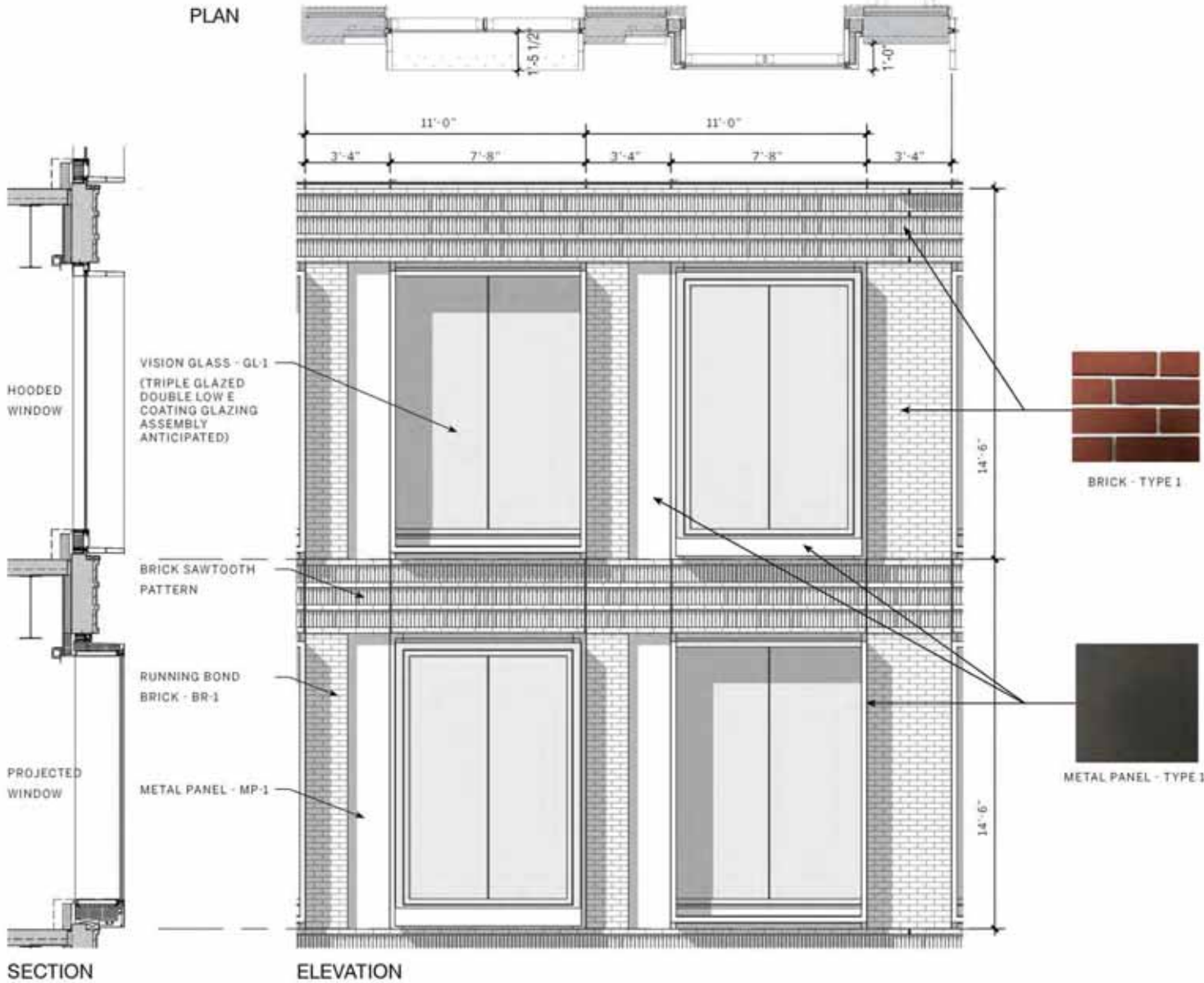


EXHIBIT 20



DETAIL VIEW





20 CambridgeSide

FACADE SYSTEM 2B

EXHIBIT 21



NEW ENGLAND
DEVELOPMENT

ELKUS | MANFREDI
ARCHITECTS



20 CambridgeSide FACADE SYSTEM 2A

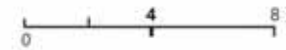
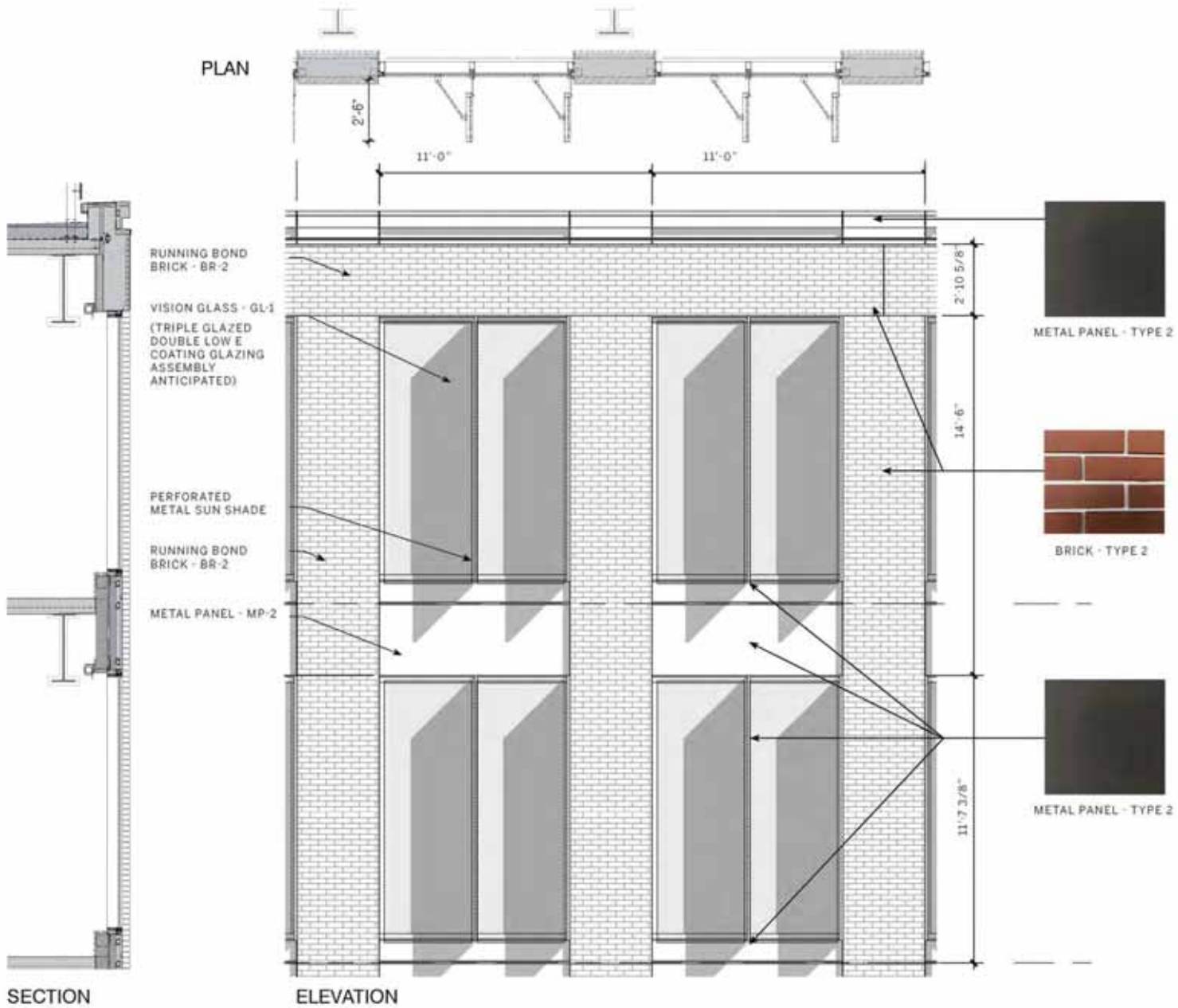


EXHIBIT 22



DETAIL VIEW





20 CambridgeSide

FACADE SYSTEM 2A

EXHIBIT 23



NEW ENGLAND
DEVELOPMENT

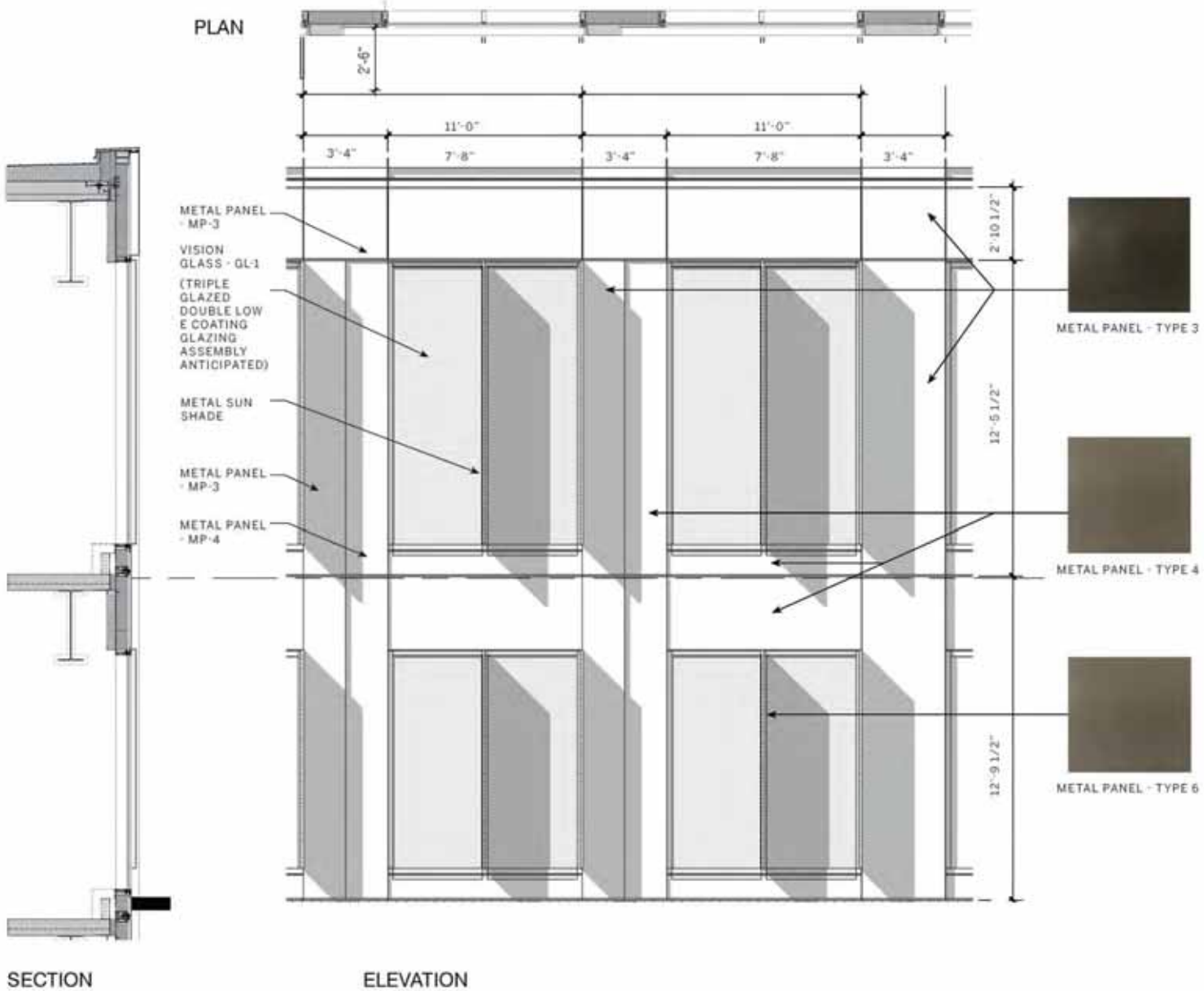
ELKUS | MANFREDI
ARCHITECTS



20 CambridgeSide FACADE SYSTEM 1



EXHIBIT 24



DETAIL VIEW



20 CambridgeSide PENTHOUSE CHANNEL GLASS



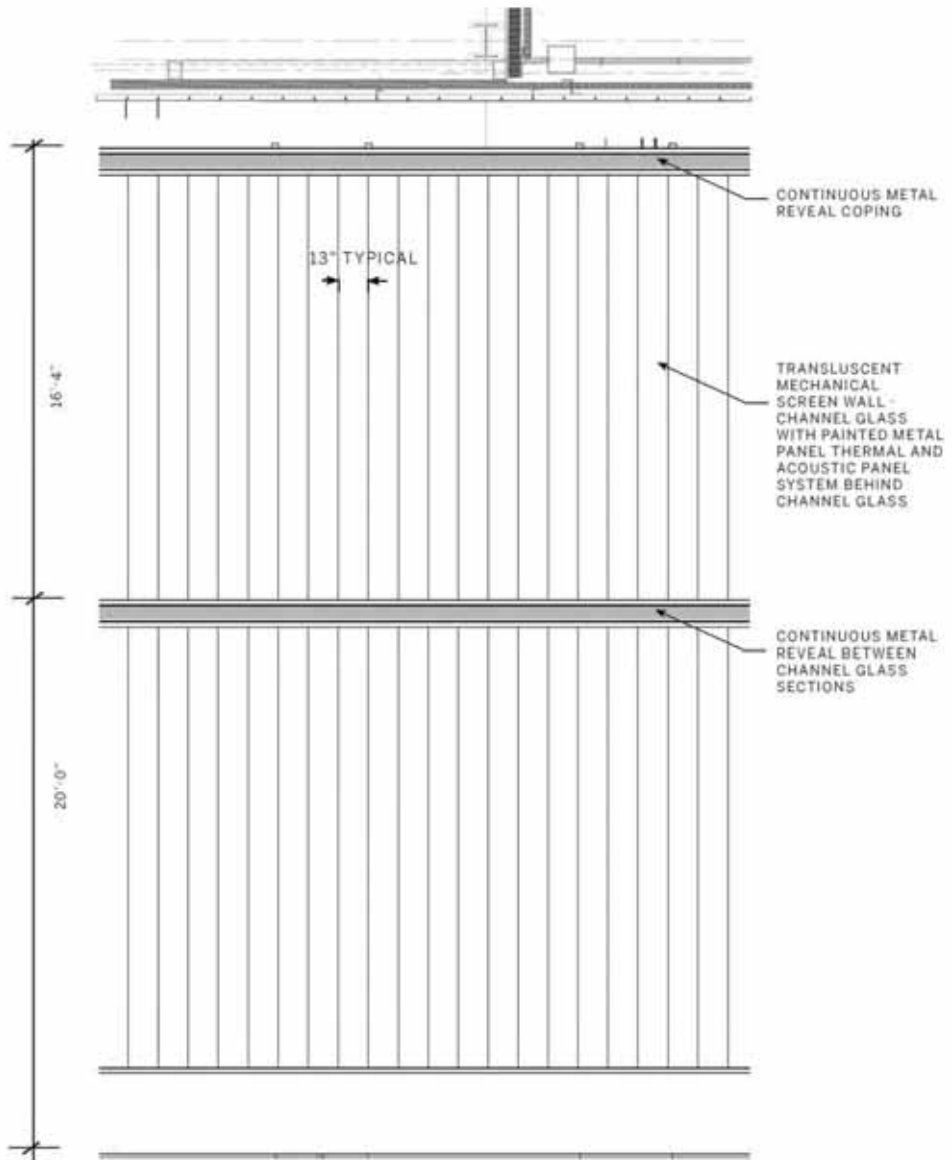
EXHIBIT 25



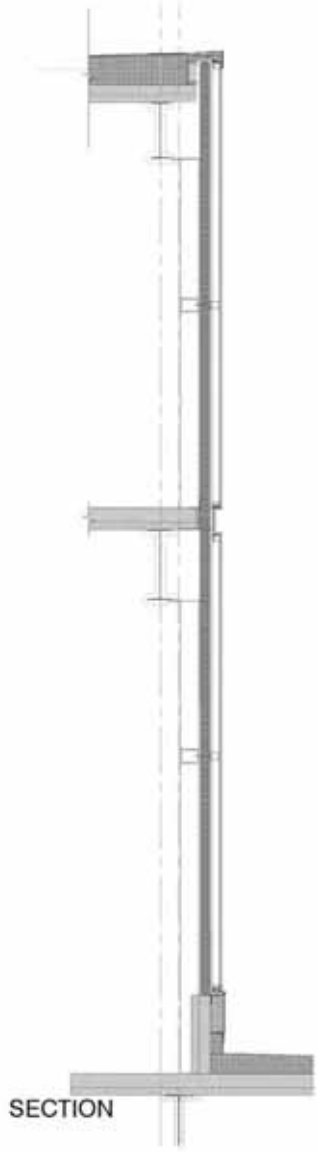
DETAIL VIEW



PLAN



ELEVATION



SECTION



20 CambridgeSide

FACADE SYSTEM 1 &
PENTHOUSE GLASS

EXHIBIT 26



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | CS

20 CambridgeSide

VIEW FROM LAND BLVD.
AND CAMBRIDGESIDE PL.

EXHIBIT 27



20 CambridgeSide STREETSCAPE VIEW

EXHIBIT 28



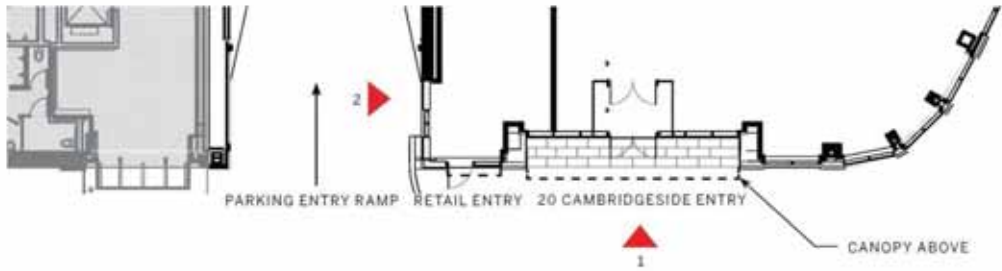
NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**

20 CambridgeSide

LOBBY ENTRY

EXHIBIT 29





20 CambridgeSide SOUTHEAST CORNER

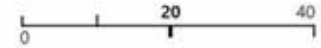
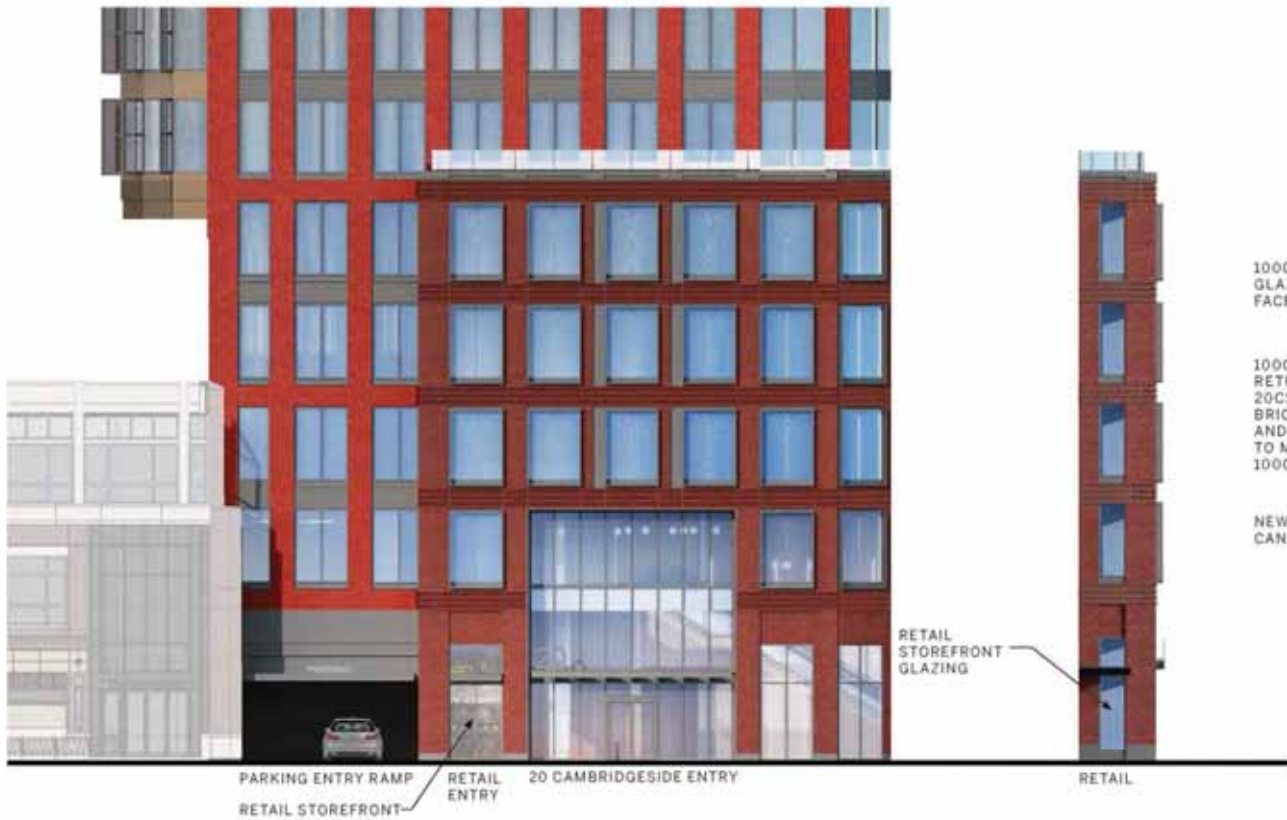


EXHIBIT 30



1 - PARTIAL SOUTH ELEVATION

2 - PARTIAL WEST ELEVATION

100CS SOLARIUM
GLAZING TO RETURN TO
FACE OF 20CS FACADE

100CS ENTRY TO
RETURN TO FACE OF
20CS FACADE - IN
BRICK, STONE BASE,
AND PRECAST COPING
TO MATCH EXISTING
100CS CONSTRUCTION

NEW PARKING ENTRY
CANOPY



20 CambridgeSide

PEDESTRIAN ZONE
SOUTH FACADE

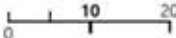
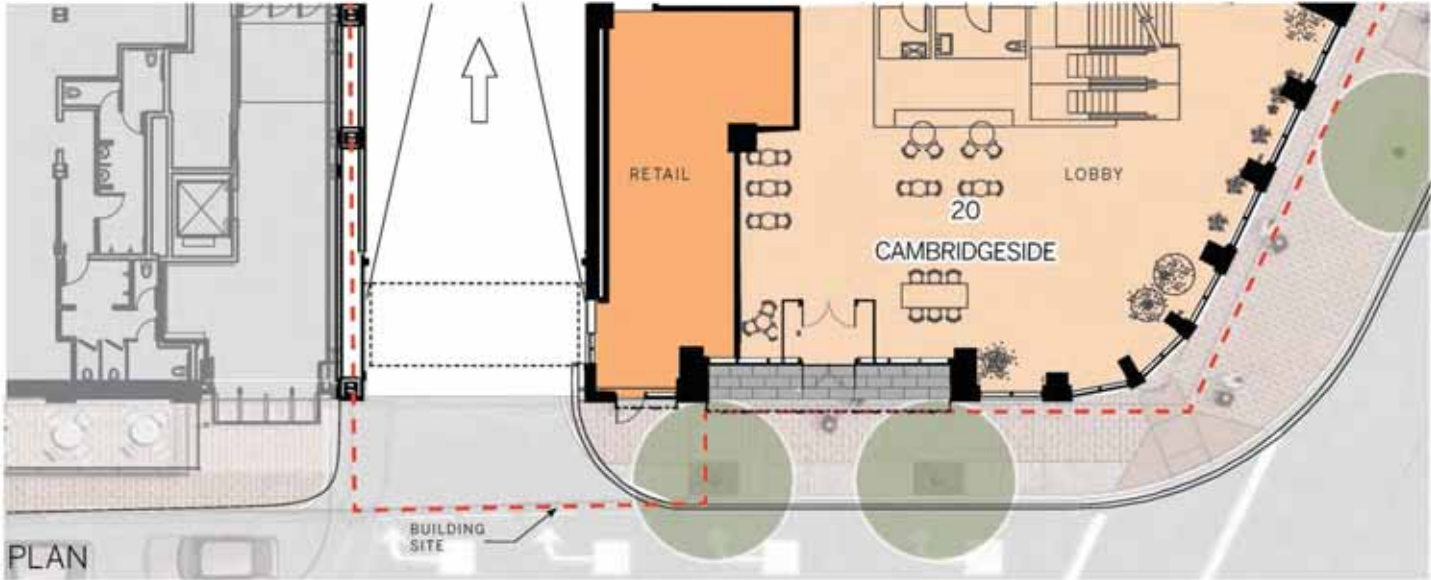


EXHIBIT 31



PROPOSED



PLAN

20 CambridgeSide

PEDESTRIAN ZONE EAST FACADE

EXHIBIT 32

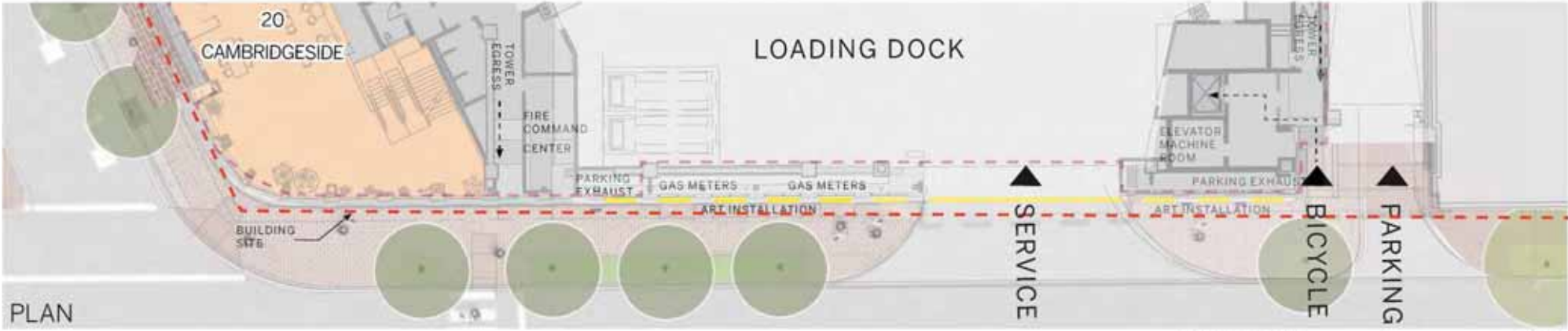


PREVIOUS

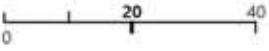


PROPOSED

TOWER EGRESS FCC PARKING EXHAUST GAS METERS LOADING DOCK ENTRY PARKING EXHAUST PARKING ENTRY



PLAN



NEW ENGLAND DEVELOPMENT ELKUS | MANFREDI ARCHITECTS

20 CambridgeSide LANDSCAPE MATERIAL PLAN

EXHIBIT 33



CAMBRIDGE CITY
STANDARD BRICK PAVING



GRANITE ENTRANCE
PAVING



TREE GRATE



PLANTER POTS

20 CambridgeSide LANDSCAPE PLANTING PLAN

EXHIBIT 34



ENGLISH OAK



ENGLISH OAK

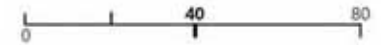


LILY TURF

20 CambridgeSide

BUILDING ADDRESS AND PARKING WAYFINDING SIGNAGE

EXHIBIT 35



Legend

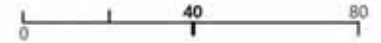
 PROPOSED SIGNAGE LOCATIONS



20 CambridgeSide

BUILDING ADDRESS AND PARKING WAYFINDING SIGNAGE

EXHIBIT 36



Legend

 PROPOSED SIGNAGE LOCATIONS



MALL

20 CAMBRIDGESIDE

HOTEL MARLOWE





20 CambridgeSide EXTERIOR LIGHTING

EXHIBIT 37

THE PRIMARY INTENT OF THE FAÇADE LIGHTING DESIGN IS TO CELEBRATE THE BUILDING'S PROMINENT CORNER LOCATION AND TO EMPHASIZE THE CONTEXTUAL MASSING OF THE BUILDING'S FIRST FIVE STORIES THUS LETTING THE UPPER FLOORS VISUALLY DIMINISH AT NIGHT.

A LAYERED APPROACH TO THE FAÇADE LIGHTING WITH VARYING BRIGHTNESS LEVELS WILL DRAW PEOPLE'S EYES WITHOUT DISTRACTING AND WILL RESPECT THE RELATIONSHIPS OF BUILDINGS IN THE NEIGHBORHOOD.

THE PRIMARY AND BRIGHTEST LAYER SHALL BE THE ENTRY PORTAL. A LINEAR LIGHT WILL WRAP THE TWO STORY ENTRY FOR EASY OF WAYFINDING. ADDITIONALLY DOWNLIGHTING SHALL BE IMPLEMENTED INTO THE ENTRY CANOPY TO PROVIDE EGRESS AND ENTRY LIGHTING.

A SECONDARY LAYER SHALL USE LINEAR DOWNLIGHTS INSET WITHIN EACH WINDOW ON THE FIRST LEVEL, HIGHLIGHTING THE FINELY DETAILED ARCHITECTURAL BRICKWORK AS WELL AS PROVIDING A COMFORTING SCALE FOR THE PEDESTRIAN STREETScape.

THE FINAL LAYER SHALL BE LOCATED AT THE CORNICE OF LEVEL 5, EMPHASIZING THE BUILDING'S SHAPE AND SCALE ALONG THE STREET EDGE. A CONTINUOUS LINEAR DOWN LIGHT SHALL GRAZE THE BRICKWORK AND BRING OUT THE MATERIALS TEXTURE.

ALL THE LIGHTING ON THE BUILDING SHALL BE DIMMABLE TO BALANCE BRIGHTNESS IF NEEDED AND TO RESPECT NEIGHBORHOOD CONCERNS ALLOWING DIFFERENT LIGHT LEVELS THROUGHOUT THE NIGHT.

20 CambridgeSide PHYSICAL MODEL

EXHIBIT 38



LOOKING SOUTHWEST



LOOKING NORTHWEST



LOOKING NORTHEAST



LOOKING SOUTHEAST

20 CambridgeSide PHYSICAL MODEL

EXHIBIT 39



LOOKING NORTH



LOOKING NORTHWEST



LOOKING NORTHWEST



LOOKING NORTHEAST



20 CambridgeSide LAND BOULEVARD VIEW

EXHIBIT 40



20 CambridgeSide

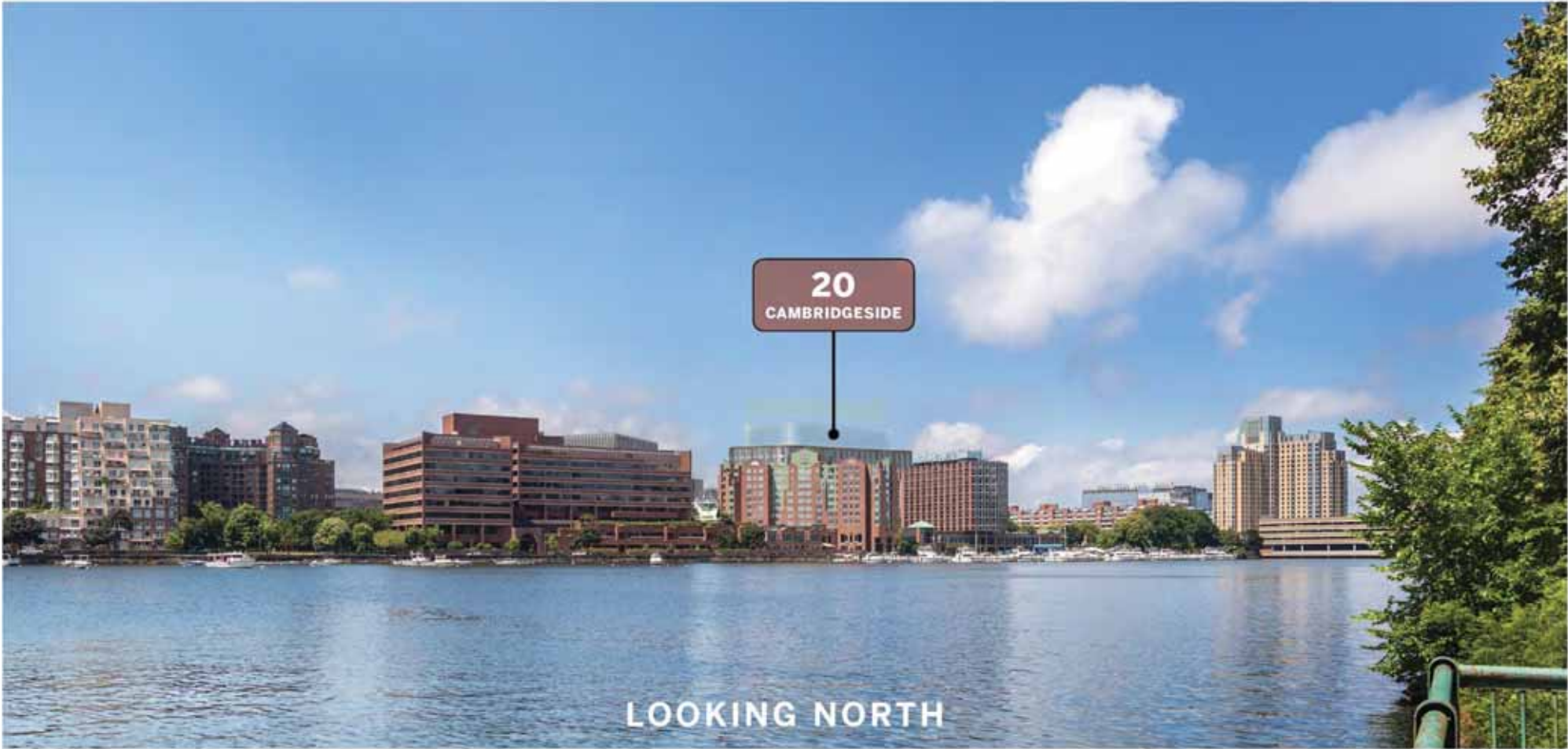
LAND BOULEVARD

EXHIBIT 41



FROM LAND BOULEVARD LOOKING SOUTH

20 CambridgeSide
LONGFELLOW BRIDGE
EXHIBIT 42





Parking, Loading and Circulation

Parking

As indicated on Exhibits 43 and 44, the proposed project includes renovation of the portion of the existing Lower Garage located underneath the 20CS building site area. The proposed renovations include structural foundation reinforcing required for the 10-story structure. The existing garage access driveway ramps on Land Boulevard and Cambridgeside Place will be retained and new public elevator access to street level is proposed within the 20CS footprint area.

Consistent with the Decision, all approved uses on the PB-364 Development Parcel (including those within the 20CS building) will be served by existing parking spaces on site, which will be reduced over project buildout from the existing 2,490 spaces to approximately 1,695 parking spaces.

Bicycle Parking

The Decision provides that the required number of bicycle parking spaces for the entire PB-364 Development Parcel at full buildout shall be 450 long-term spaces and 146 short-term spaces. Long-term bicycle parking spaces may be provided anywhere on the site and are permitted to serve all approved uses in the PUD. Upon completion of the 20CS building project, a total of 107 long-term bicycle parking spaces will be available on the PB-364 Development Parcel. The long-term bicycle spaces located within the 20CS building, as indicated on Exhibit 49, will be accessed from grade at Land Boulevard, served by an accessible elevator to a storage area within the Lower Garage. Upon completion of the 20CS building project, a total of 87 short-term bicycle parking spaces will be available on the PB-364 Development Parcel, with new proposed short-term spaces on the 20CS site to be located on the sidewalk along Land Boulevard as indicated on Exhibit 4. Following the completion of both Initial Phase buildings, there will be a total of 143 long-term bicycle parking spaces and 87 short-term bicycle parking spaces on the PB-364 Development Parcel.

Loading/Service

Consistent with the Decision, loading facilities will be shared across the buildings and uses on the entire PB-364 Development Parcel, including the 20CS building site, in order to serve the interconnected mix of uses at the site. Upon completion of the Initial Phase buildings, a total of 14 loading bays will exist across the PB-364 Development Parcel, which is consistent with the approved range of loading bays for the site under the Decision (including the Phasing Timeline included on Appendix A of the Decision).

As part of the 20CS project, the existing Macy's loading dock accessed from Land Boulevard will be renovated. The renovated loading dock will maintain off-street loading for all loading dock users. As indicated on Exhibit 50, truck maneu-

vering for entry and exit will continue to be accommodated within the enclosed loading dock area, including truck sizes up to a WB-50, with no on-street loading. The renovated loading dock arrangement within the loading dock will accommodate retail, hotel and new lab/office users. 6 truck loading bays are proposed. Additionally, 2 bays for garbage and recycling services are provided. New service elevators will be located within the loading dock area, serving lab/office users in the new 10-story structure. The loading dock will continue to be actively managed to allow for on-going coordination and oversight of loading dock activities and operations.

20 CambridgeSide

LOWER GARAGE LEVEL G2.5

EXHIBIT 43



Legend

- PROPERTY LINE
- BOH
- PARKING/LOADING
- OTHER

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | Cs



20 CambridgeSide

LOWER GARAGE LEVEL G1.5

EXHIBIT 44



Legend

- PROPERTY LINE
- BOH
- LONG TERM BIKE PARKING
- PARKING/LOADING
- OTHER

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS | **CS**



20 CambridgeSide GROUND FLOOR ENTRY

EXHIBIT 45



Legend

- BUILDING SITE
- BUILDING ENTRY
- RETAIL ENTRY
- PARKING ENTRY
- SERVICE ENTRY

Keyplan



NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



20 CambridgeSide PEDESTRIAN/BICYCLE CIRCULATION DIAGRAM

EXHIBIT 46



Legend

- BUILDING SITE
- PEDESTRIAN CIRCULATION
- WALKED BICYCLE CIRCULATION
- BICYCLE CIRCULATION

Keyplan

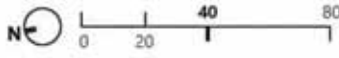
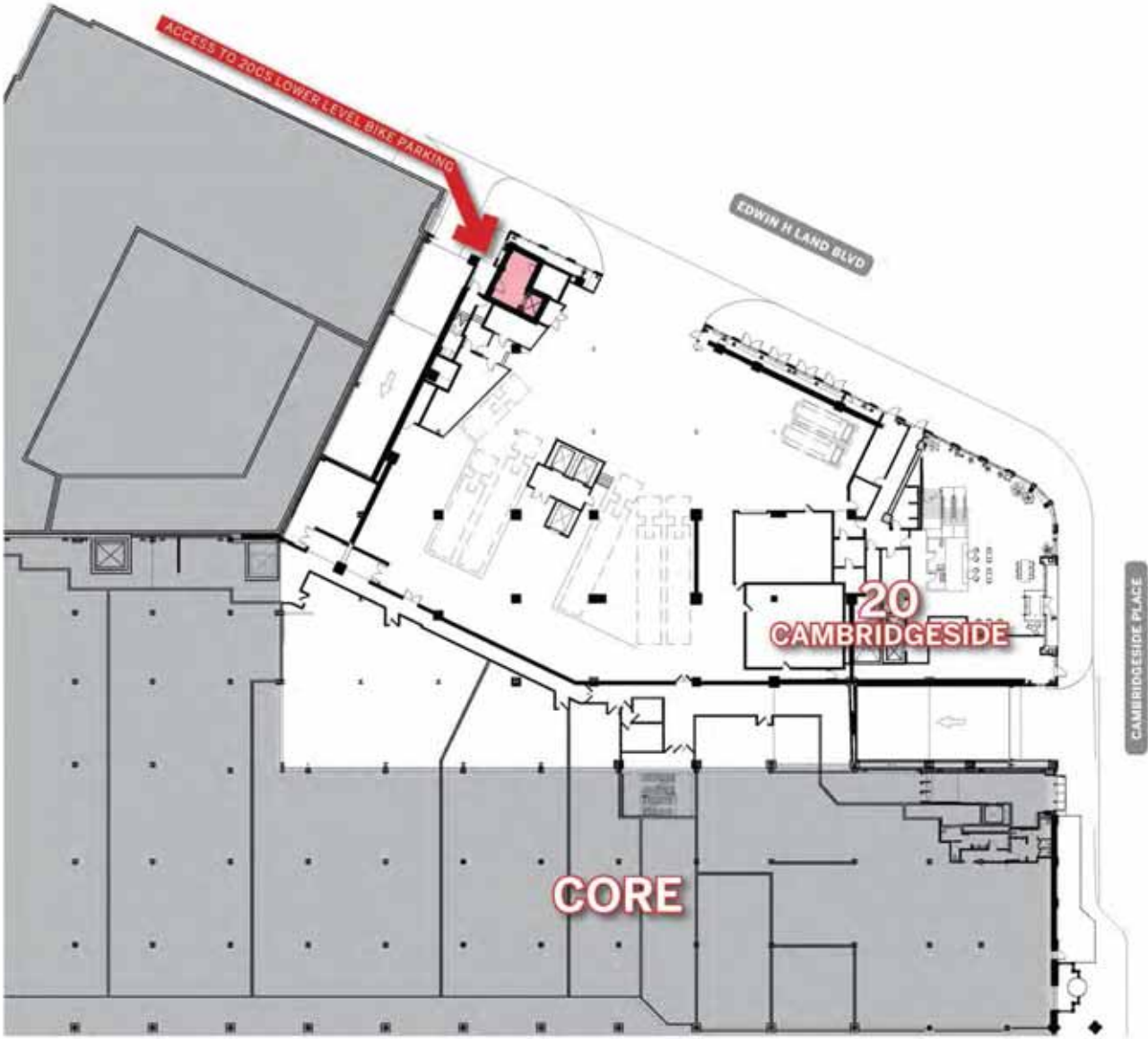


NEW ENGLAND DEVELOPMENT | ELKUS | MANFREDI ARCHITECTS |



20 CambridgeSide BIKE PARKING PLAN

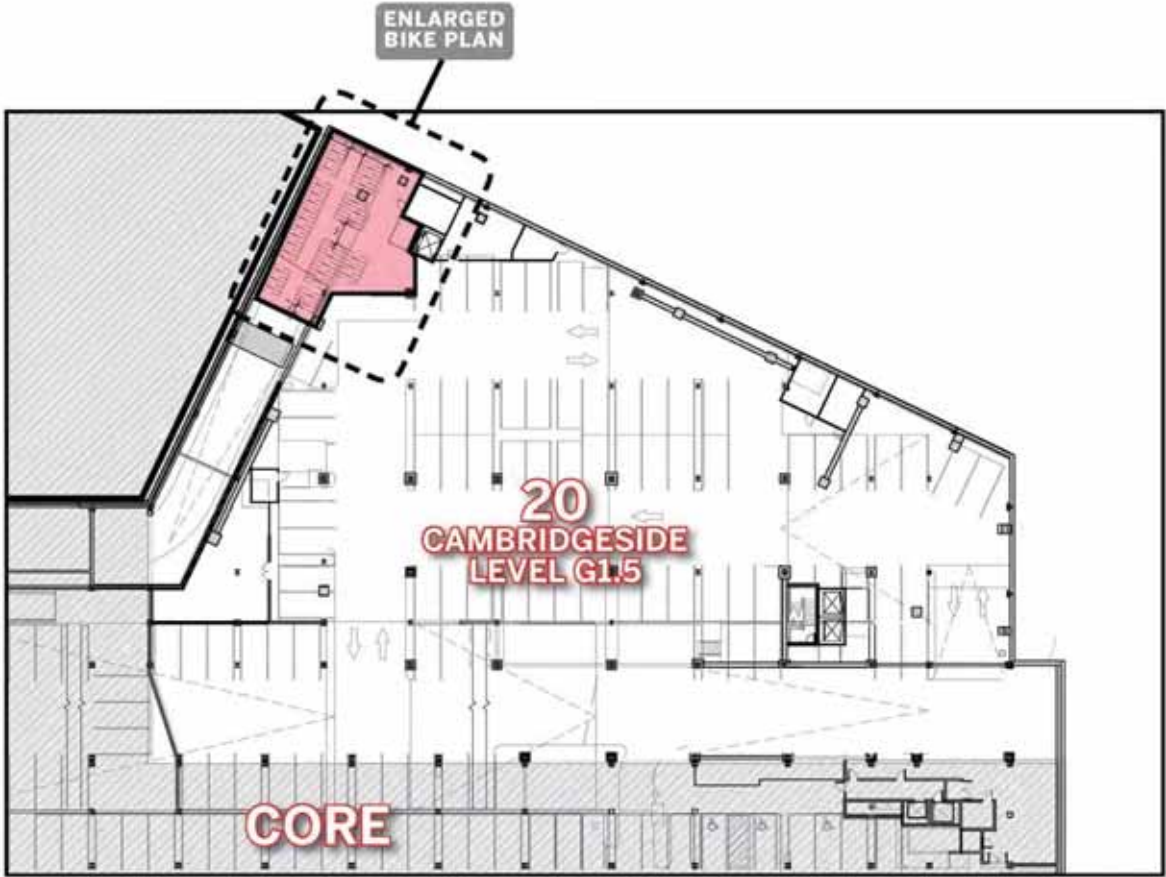
EXHIBIT 47



Legend
LONG TERM BIKE PARKING

20 CambridgeSide BIKE PARKING LEVEL G1.5

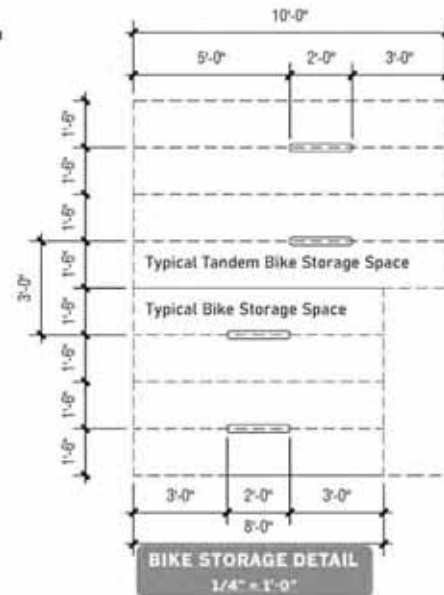
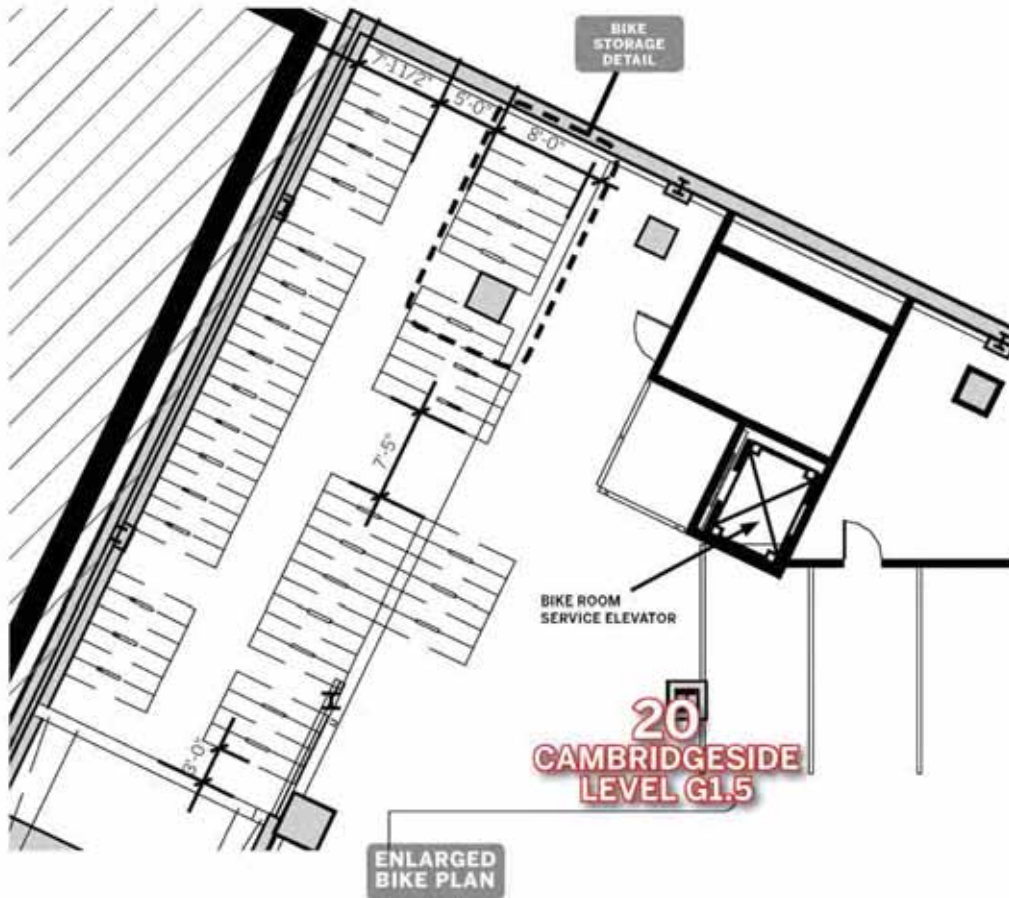
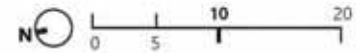
EXHIBIT 48



Legend

 LONG TERM BIKE PARKING

20 CambridgeSide BIKE PARKING DETAIL PLAN

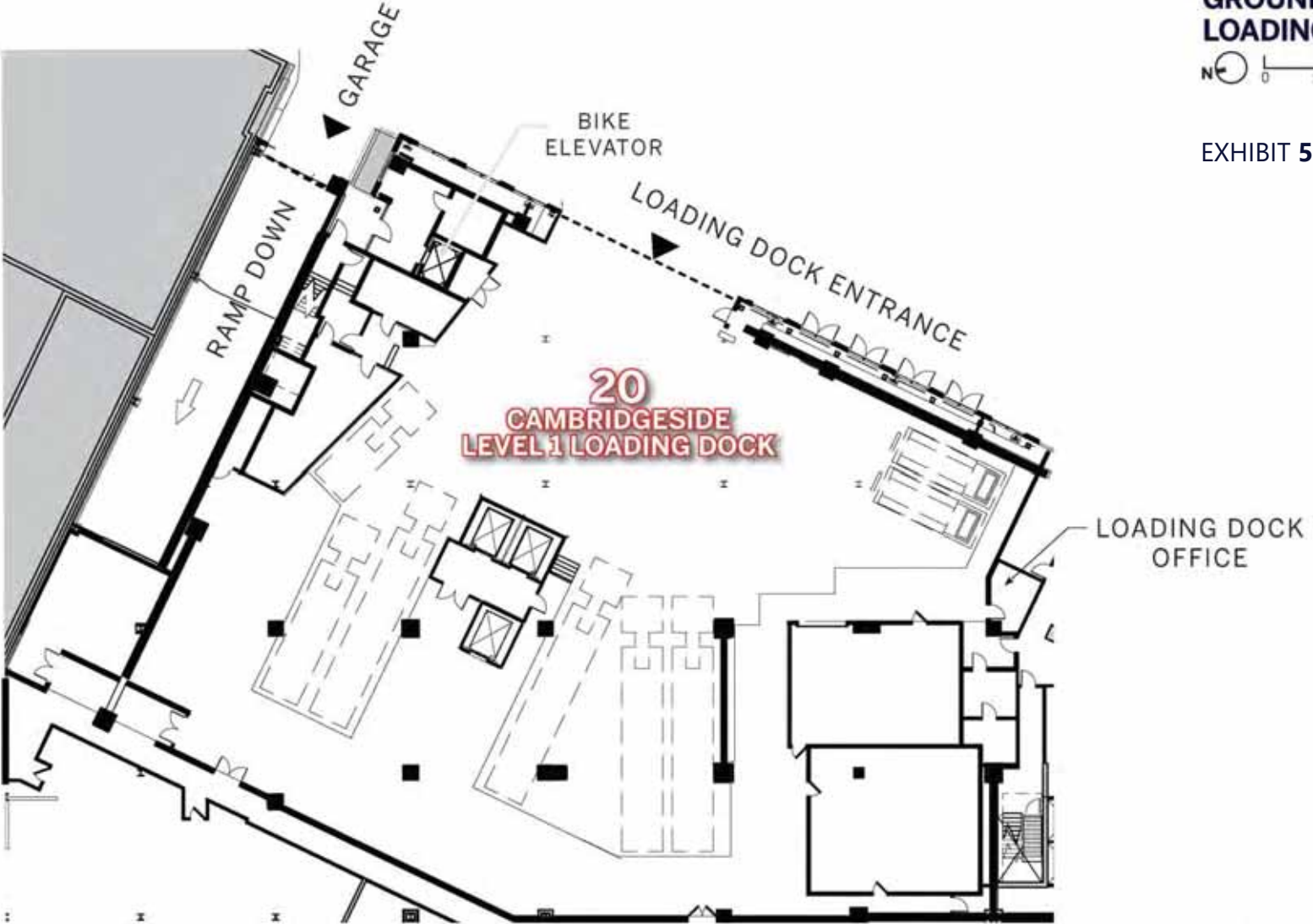


20 CambridgeSide

GROUND FLOOR LOADING DOCK



EXHIBIT 50





Green Building Review

Condition 11 Compliance

Building Sustainability

The building has been designed to meet the requirements of Section 22.20 of the CZO and has been registered with the United States Green Building Council under the LEED for Core and Shell Development version 4 rating system. The building is targeting 70 out of a possible 110 credit points with an additional 16 credit points still undergoing evaluation to determine feasibility of achievement. By targeting 70 credit points, the building anticipates meeting the City of Cambridge requirement to be LEED v4 Gold 'certifiable'. Additionally, in accordance with Section 13.107.4 and as detailed further in the attached Green Building Report, the following best practices have been incorporated into the 20 CambridgeSide building:

Energy and Emissions:

The building is designed to meet IECC 2015/ASHRAE 90.1-2013 energy efficiency requirements to comply with the requirements of the Massachusetts Stretch Energy Code. Based on current modeling, it is expected that the building will achieve at least a 23.7% annual energy cost savings when compared to the ASHRAE 90.1-2010 baseline. Using the LEED Alternative Compliance Path for Alternative Energy Performance Metric, the building demonstrates a 37% reduction in greenhouse gas emissions and a 28.4% source energy consumption reduction compared to the LEEDv4 baseline.

Urban Site and Landscaping; Water Management:

Through the use of native/adaptive plant species selection, the building site's landscape water requirement (as calculated by the EPA WaterSense Water Budget Tool) will be reduced by at least 30% from the calculated baseline for the site's peak watering month. The landscape design will include softscape areas which will be planted with a diverse palette of materials which are native, adaptive, low-maintenance, and no irrigation requirements beyond establishment and have year-round aesthetic appeal. The 20 CambridgeSide building will meet the Cambridge DPW Stormwater Management Standards to the maximum extent practicable, including the implementation of best management practices (BMPs) such as permeable pavers and tree grates to provide additional water quality treatment measures and promote stormwater infiltration and groundwater recharge to the maximum extent practicable.

Cool Roofs & Site Cooling Strategies:

The roof and non-roof hardscape materials of the building will include light-colored surfaces to reduce the overall heat island effect impact on the building site. The roof membrane will be a high albedo roof product with an initial SRI value of 82 minimum.

Monitoring:

The building will conform to the requirements of the Cambridge Building Energy Use Disclosure Ordinance as required by Chapter 8.67 of the Municipal Code. In addition to this, ICO Energy and Engineering has been engaged to perform monitoring-based commissioning activities as they relate to the operations and maintenance of the building once it has been occupied.

Healthy Living and Working:

A direct line of sight to the outdoors will be provided for 75% of the regularly occupied floor area of the building, which may include unobstructed views, views to landscaped areas, sky, pedestrian walkways, and streetscapes.

Transportation:

The building's location within East Cambridge provides various transportation options. The Project is located within ½ mile walking distance of the Lechmere T station, which provides users of the site with access to 424 weekday rides and 264 weekend rides via the MBTA Green B, C, D, and E lines, and MBTA bus lines 69, 80, 87, and 88. As described earlier in this application, exterior short-term and covered long-term bicycle storage is also planned for visitors and regular occupants of the building. The immediate neighborhood provides a direct connection to a local bicycle network that links to a variety of services with pedestrian and cyclist access. 10 shower rooms are provided throughout the building that can be accessed by building occupants in order to support cycling to and from the site.

Flood Resiliency:

The existing first-floor elevation of the 20 CambridgeSide building is approximately at elevation 21.3 and will not be impacted by the projected 2070 flood depths (e.l. 20.3). However, a few potential locations which could be improved, including the Loading/Service entrance and the Land Boulevard garage entrance, will be addressed during project construction to protect the Project from the projected 2070 100-year precipitation flood depth.

In accordance with Conditions 4 and 11 of the Decision, the Applicant obtained from CDD a certified Green Building Report for the 20 CambridgeSide building on November 6, 2020, which is included with this submission on pages 59-60.

20 CambridgeSide Green Building Report
CDD Comments on Special Permit Submission

Green Building Requirements

20 CambridgeSide Green Building Report – Comments on Special Permit Stage

Status: The Community Development Department (CDD) received the final update of the Green Building Report for the Design Review stage of 20 CambridgeSide, per Section 22.25.1 of the Zoning Ordinance, on 10/30/2020. The project includes construction of a ten-story building to accommodate office and laboratory uses in addition to retail use in the ground floor with a total gross floor area (GFA) of 327,981 SF. This building is part of the CambridgeSide Planned Unit Development [PB-364]. CDD staff have reviewed the project's GBR report and offer the following Determination, Summary of Compliance and Advisory Comments on its green building and net zero attributes.

CDD Determination: 20 CambridgeSide project is part of a Planned Unit Development (PUD) for which the Applicant has already submitted documents demonstrating compliance with the Green Building Requirements at the special permit stage. The documentation provided would be sufficient to demonstrate compliance with the Green Building Requirements of Section 22.24 for this component of the project. Since a special permit approving the Final Development Plan has not yet been granted, approval of this submission is contingent on approval of the Final Development Plan, which may contain additional conditions or guidelines related to green building, sustainability and resilience per Section 13.100.

A revised GBR submission with additional documentation will also be required prior to application for building permit and granting certificate of occupancy.

LEED Project Summary: This project is subject to the City's Green Building Requirements (Section 22.20, Zoning Ordinance). The Project is currently meeting the minimum Green Building Requirements, with 70 credit points, targeting LEED Gold, under LEED v4 BD+C. Additional 16 credit points have been designated as possible points to be pursued. The Green Building Report for this project is anticipated to be complete and meets Article 22 requirements pending approval of the Final Development Plan.

LEED Rating System: LEED v4 BD+C – Core and Shell Development

Summary of Compliance and Comments:

Green Building Professional Affidavit Certification

- Christopher Schaffner of The Green Engineer has been identified as the Green Building Professional for the project. The affidavit states that this professional has reviewed all relevant documents for this project and confirm to the best of his/her knowledge that those documents indicate that the project is being designed to achieve the requirements of Section 22.24 under Article 22.20 of the Cambridge Zoning Ordinance.
- A copy of the professional's credential from Green Building Rating Program has been provided.

Rating System Checklist, Rating System Narrative, and Net Zero Narrative

- The project is pursuing Integrative Process credit.
- The project is pursuing Enhanced Commissioning using Path 2 in Option 1, which includes commissioning process for various building systems and assemblies as well as Monitoring-Based Commissioning of energy and water consuming systems in the building.

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- The project is targeting a 32.7% improvement in energy cost savings over the baseline using the Alternative Compliance Path of Alternative Energy Performance Metric in pursuing Optimize Energy Performance credit. The proposed building source energy use intensity (EUI) will be approximately 315 kBtu/sf-yr.
- The project is pursuing Innovation credit using Option 3, which includes comprehensive composting as pilot performance strategy, construction and demolition waste management as exemplary strategy, and design for active occupants, Green Building education, and purchasing low or no mercury lamps as innovation strategies.
- LEED-credit points summary:
 - Integrative Process – 1 point
 - Location and Transportation – 19 points
 - Sustainable Sites – 6 points
 - Water Efficiency – 8 points
 - Energy and Atmosphere – 19 points
 - Materials and Resources – 3 points
 - Indoor Environmental Quality – 6 points
 - Innovation – 6 points
 - Regional Priority – 2 points
- Anticipated building envelope performance including roof, foundation, walls and window assemblies, and window-to-wall ratio:
 - Building envelope performance comparison between latest edition Massachusetts Stretch Energy Code baseline and proposed design indicates the proposed design performance is on par with regard to window and wall assemblies and roof system.
- Anticipated energy loads, baseline energy simulation tool assumptions, and proposed energy targets as currently modelled in this design phase:
 - Proposed site energy use intensity (EUI) will be 39% below baseline with a targeted EUI of approximately 145 kBtu/sf-yr. The targeted source EUI is 315 kBtu/sf-yr.
 - Proposed GHG emissions will be 36% reduction from baseline with targeted GHG emission of 3606 MT CO_{2e}.
- Description of building energy performance integrated into the project's planning, design, and engineering, massing, envelope systems, building mechanical systems, on-site and off-site renewable energy systems, and district-wide energy systems:
 - High performing envelope with continuous envelope insulation on walls and roofs.
 - Low Window to Wall Ratio at 44%.
 - High efficiency heat recovery equipment and high efficiency chiller and boiler plants.
 - High efficiency plumbing system to reduce water and energy use.
 - LED lighting.
 - Low flow plumbing fixtures.

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- Description of technical framework for transitioning project to net zero emission in the future, including future net zero emission options for building envelope, HVAC systems, domestic hot water, interior lighting, and on-site and off-site renewable energy sources:
 - Install 138 kW photovoltaic panel array on the solar-ready roof with annual generation capacity of 179 MWh/yr.
 - HVAC system transitioning to net-zero carbon source.
- Description of programs offered by local utility companies that are being considered to improve building performance:
 - Eversource utility rate incentives
 - Mass Save Programs for Integrated Design Path for Large Buildings

Advisory Comments by CDD Staff:

The City's goal is to promote environmentally sustainable and energy-efficient design and development practices in new construction and renovation of existing buildings. Recommended practices include the reuse of existing buildings and materials, the conservation of natural resources and reduction of toxins in building materials and construction methods, and the reduction in energy use in construction and daily operations. Other design strategies that would foster pedestrian, bicycle, and public transit use in the city include compact arrangement of buildings and permitted mix of land uses. CDD staff would encourage the Project Team to pursue the highest level of sustainable and energy-efficient design possible and recommend pursuing the following:

- Additional (2) points for Indoor Water Use Reduction Use credit in Water Efficiency category.
- Additional points, (1) for Optimize Energy Performance credit, (1) for Advanced Energy Metering credit, (1) for Renewable Energy Production credit, and (2) points for Green Power and Carbon Offsets credit in Energy and Atmosphere category.
- Additional points, (4) for Building Life-Cycle Impact Reduction credit, (1) for BPDO-Sourcing of Raw Materials credit, and (1) for Construction and Demolition Waste Management credit in Materials and Resources category.
- Additional (1) point for Low-Emitting Materials credit in Indoor Environmental Quality category.
- Additional points, (1) for Indoor Water Use Reduction and (1) for Building Life-Cycle Impact Reduction in Regional Priority category in Regional Priority category.
- Consider pursuing Envelope Commissioning.
- Explore whether green roof and/or vegetative surfaces are feasible at various levels of the building.

Staff urge the design team to keep pursuing additional points especially from impactful categories such as energy and atmosphere, indoor environmental quality and materials and resources. It would be helpful to know more about product and materials on some of the LEED credits before applying for certificate of occupancy. Some of these credits include, but not limited to, credit 2, Building Product Disclosure & Optimizations (BPDO): EPDs, credit 4, BPDO: Material Ingredients, and Credit 2, IEQ Low Emitting Materials. In addition, it would be informative for staff to know comments issued by USGBC for their review process of 20 CambridgeSide.

The project will be subject to further review prior to receiving its Building Permit and Certificate of Occupancy. CDD Staff is available to work with the Applicant through continuing design review and looks

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forward to receiving updates on the project's Net Zero Narrative and modeled energy savings as the design moves forward.

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Noise Mitigation Study

Section 13.107.2 Compliance

Noise Mitigation

As demonstrated by the immediately following Environmental Sound Analysis, the 20CS building will conform to the requirements of the City of Cambridge Municipal Noise Ordinance and the Decision, which incorporates Section 13.107.2 of the CZO, for noise or vibration emanating from the building. Refer to the memo on the following pages for a summary of noise analysis and confirmation of compliance with City of Cambridge requirements.



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Table 1: City of Cambridge Maximum Allowable Octave Band Sound Pressure Levels

Octave Band Center Frequency of Measurement (Hz)	Residential Area (Daytime) dB	Residential Area (Nighttime) dB	Commercial/Business (All Times) dB
31.5	76	68	79
63	75	67	78
125	69	61	73
250	62	52	68
500	56	46	62
1000	50	40	56
2000	45	33	51
4000	40	28	47
8000	38	26	44
Single Number Equivalent	60 dBA	50 dBA	65 dBA

Project-Specific Noise Budget Limits

A noise budget limit has been established by the Master Plan team which determined the allowable sound pressure levels during daytime and nighttime hours at community receivers for each project in the Cambridgeside Redevelopment area. These limits are summarized in the Tables 2 and 3, below, and are well under the city daytime and nighttime limits. Figure 1 shows the project site location and community receivers, identified by the Master Plan team.



Figure 1: Project Site and Nearby Noise-Sensitive Receivers



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PROJECT SOUND SOURCES

The list below shows the preliminary list of equipment for this project:

- Six air handling units (AHU), 50,000 cfm each, similar to Hakkon Industries, located in a sound-insulated penthouse, ventilated through acoustical louvers.
- Six exhaust air handling units (EAHU), 50,000 cfm each, similar to Hakkon Industries TCBAE with Plasticair exhaust stack with silencers, located in a sound-insulated penthouse.
- Four cooling towers, similar to BAC 3000 with Whisper Quiet Fans on VFD. The cooling towers are surrounded by sound absorptive screen walls.
- Four garage exhaust fans, 13,500 cfm each, similar to Greenheck, equipped with sound attenuators.
- One loading dock exhaust fan, 27,300 cfm, similar to Greenheck, equipped with sound attenuators.
- Two diesel standby generators (500 kW and 750 kW) with sound enclosures.

PREDICTED SOUND LEVELS

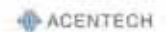
Your engineer has provided us with outdoor equipment selections and sound data information. The proposed equipment and location that may impact community noise are attached in Appendix A of this report. We have predicted the sound levels of the future equipment at community receivers, shown in Figure 1. Residential receivers (including hotels) are shown in white, and commercial receivers are shown in orange. As part of our prediction, we have assumed that for nighttime conditions, all rooftop mechanical equipment will operate at the highest-load nighttime condition. Emergency generators are assumed to be tested one at a time, and only during daytime hours.

Predicted Equipment Sound Levels

Based on the equipment sound data and the noise control measures described above, we predicted the rooftop equipment sound emission levels from project site to the closest receivers.

Table 2: Daytime and nighttime predicted project sound levels excluding the emergency generator

Receiver Location	Predicted Project Level (dBA)	Master Plan Nighttime Sound Budget Limit (dBA)
R2	36	49
R6	33	57
R7	34	53
R8	32	55
R9	33	44
R10	29	40
R11	33	44
R13	33	42
R14	36	53
R15	36	56
R1	31	36
R3	45	49
R4	32	39
R5	33	34
R12	29	46
R16	34	48
R17	45	46
R18	32	48
R19	33	42



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Table 2: Overall daytime predicted project sound levels including the emergency generator

Receiver Location	Predicted Project Level (dBA)	Master Plan Daytime Sound Budget Limit (dBA)
R2	51	64
R6	50	61
R7	51	63
R8	49	55
R9	50	50
R10	46	53
R11	49	53
R13	48	60
R14	48	63
R15	50	59
R1	47	53
R3	55	60
R4	48	58
R5	51	53
R12	43	55
R16	52	60
R17	51	60
R18	47	54
R19	49	57

The predicted A-weighted levels with the noise control described above will be within the Project Master Plan Sound Budget and the City of Cambridge allowable daytime and nighttime sound limits.

Tone Evaluation

Based on the equipment sound data and the predicted sound levels to the closest receivers, we do not anticipate the equipment to emit tonal sound as defined by the state of Massachusetts.

CONCLUSION

Based on our evaluation of the rooftop equipment and emergency generators proposed for 20 Cambridgeside project, equipment sound emission to the community are within the acceptable sound limits.

* * * * *

I trust this letter provides the information that you need at this time. If you have questions, please call me on my direct line at 617.499.8050.

Sincerely,

Rose Mary Su
Principal Consultant

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APPENDIX A – BUILDING UPPER PENTHOUSE PRELIMINARY PLAN



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APPENDIX A – BUILDING LOWER PENTHOUSE PRELIMINARY PLAN

