

Design Review Submission

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Existing Context







MASTER SITE PLAN





CONTEXT ALIGNMENTS





SITE ENTRY





URBAN EDGE











EXISTING NEIGHBORHOOD IMAGES



2 Proposed Design



151 Morgan Avenue (Parcel Q2) is a proposed commercial laboratory / office building of approximately 163,794 GFA within the mixed-use Cambridge Crossing development. The six story building is comprised of five tenant levels topped by a single level mechanical floor, two stories of below grade parking and building support spaces throughout. Parcel Q2 is located at the corner of Water Street and Morgan Avenue. The north parcel line is along Morgan Avenue and the west is along Water Street. The south parcel line abuts the new transit center being constructed by the MBTA. The east parcel line faces Parcel Q1 with an outdoor plaza in between.

SCALE & MASSING

The massing of the building is guided by the 85' maximum building height of the development, the build-to lines along each orientation of the parcel and the base, middle and top organization of the building facades. The mid-rise 85' height restriction and approximate 300' length of the parcel suggested a horizontal orientation of the building. The horizontality of the massing is expressed as a series of stacked extrusions of varying lengths that visually breakup the building into several smaller masses with a clearly delineated base, middle and top. The massing responds to each of the build to lines of the parcel differently.

To the north and the west, the massing is built to the public realm to create a strong street edge along Morgan Avenue and Water Street. To the south, the setback provides a space for landscaping and a spatial buffer between the two functions. Along the east, the massing is setback 9' from the build-to line to maximize the plaza space between it and parcel Q1. The first floor on the east side is cut back further to create a covered public porch. The expression of stacked extrusions oriented lengthwise along the east-west axis of the parcel, create horizontal datums to delineate floor lines at the base, middle, and top of the massing. The extrusions are defined and separated by a different "gasket" material. The composition of the extrusions and gaskets create variability that is intended to provide scale and distinguishable components along each façade. At the ground level, the extrusions are eroded to balance transparency, solidity, and differentiation from the upper body of the building. At level 4, the stacked extrusions are set back to emphasize a podium along the north facade. The stepping of the massing allows solar access

to mitigate shadows to the proposed park along Morgan Avenue and a generous terrace facing north with views to beyond.

FACADES AND MATERIALITY

The facades are designed to make Q2 into a gateway as you enter Cambridge Crossing. Accordingly, the most interesting facades as the sides that frame the Water street entrance from the neighborhood and the plaza entry from the MBTA station.

The east and west facades are articulated as the end grains that push inward and outward to amplify the stacking of the extrusions. On the east, the extrusions give depth and visual vibrancy to the facade. At the ground level, the extrusions are setback to create a covered, programmable urban space with a mixture of hardscape and plantings that face the new Station Plaza and Parcel Q1. On this facade, there is a secondary entry to bike parking and the garage elevator and lobby. The elevator and lobby serve as an entry point for bicycle commuters who will have access to internal bicycle storage facilities located on the ground floor with auxiliary parking available via elevator on the parking level below. The varied end grain of the extrusions along the west facing Water Street provide similar visual interest to the east, providing a visual cue from the neighborhood to the entry into Cambridge Crossing from the south. On the ground floor of the west façade facing the street, the end grain of the extrusion provides a location for the vehicular entry and exit doors and loading docks. On the north and south facades, the extrusion vary in length and scale. The north and south façade are distinct from each other due to their orientation, function, and articulation.

The primary "front door" for the building is on the north side of the building along Morgan Avenue which provides direct access to the main building lobby. The entry is conceptually located in the gasket between two extrusions on the ground floor and act as a void between them. The void in the massing is intended to break up the length of the facade. On the exterior there is a large canopy which demarcates the main doors along Morgan Avenue. The canopy provides respite and a place of pause prior to entering and exiting the building. Above the ground floor, the north façade maximizes the percentage of glass to provide views to the public realm and green spaces across Morgan Avenue. This large amount of glazing also takes advantage of the benefit of north facing glass for tenants. The south façade faces the bus depot and like the north is a composition of extrusions. Yet, the south facade has unique circumstances which differentiates its articulation from the north.



There is an increased solid to void proportion to each extrusion due to less interesting exterior views and the southern solar orientation.

The southern façade relies on the compositions of the extrusions and gaskets to provide variability and express masses stacked on top one another. On levels 2 through 5, the glazing consists of vertically proportioned punched windows with a larger field of curtainwall betwen the two extrusions. The material palette of the building utilizes textured ribbed metal panel, curtain wall and metal plate as its three basic elements. The solid portion of the extrusions are articulated with a vertical grain using metal ribbed panels with curtain wall system at the openings. The curtain wall on the length of the extrusions have shadowbox glass at the column lines and ceilings. The curtain wall frame is outboard of the ribbed metal panel and emphasize the floor lines at each level. The end grain of the extrusions are filled with a large curtainwall and shadowbox glass system. The curtain wall system varies in depth in relation to the ends of the extrusions on the building. On the east and west facades, the depths play an integral role in the dynamic visual texture of the facades as mentioned above. The gaskets between the extrusions are flat metal plates and are seen as a secondary material. The finish and color of the extrusions are a warm light grey tone which are differentiated from the slightly darker gaskets. This differentiation helps amplify and distinguish each of the elements from one another.

At the ground floor, the extrusion material is substituted with a metal plate with a darker finish to distinguish the base of the building from the levels above and from the material of the gasket and extrusion. Tenant space glazing conditions at the ground level that face North, East and West will utilize ultra-clear glass for increased transparency. At the upper portions of the building above the ground floor, the glazing is a standard clear glazing except for the southern façade which utilizes dynamic glazing. The dynamic glass is a self-tinting electrochromic glass that provides shade and glare control. At the mechanical penthouse there are storm louvers on the south facade and a mechanical rooftop screen above. The louvers are horizontality oriented to reinforce the grain of the façade with a finish that matches the ribbed metal panels. Above the penthouse, a mechanical screen steppes back from the building edge to conceal its visibility. The mechanical screen utilizes similar cladding and detailing to reflect the architectural expression of the building's extrusion form.

INTERACTION WITH THE PUBLIC REALM

The landscape around Parcel Q2 at Cambridge Crossing extends the fabric of the neighborhood, while addressing quite different urban conditions on each of the four sides of the building.

The primary façade facing Morgan Avenue and the CX Parcel I park continue the street tree and streetscape elements of the neighborhood with a high deciduous canopy, a generous sidewalk with clear sight lines, and site furnishings. Structural planting soil and an aeration system under the pavement provide healthy conditions for urban street trees to thrive. Areas for gathering and relaxation along the sidewalk are created between trees, and exposed aggregate pavement is used to distinguish the main entrance to signify to pedestrians where to enter the building.

Along Morgan Ave between building Q2 and Q1 a plaza enriches the space created by the enclosure of the two buildings. Brick bands extend from the station plaza into the Q2 plaza which guide green line users into the rest of the Cambridge Crossing neighborhood. Below the building arcade, exposed aggregate pavement creates an outdoor retail seating alcove with moveable tables, chairs, and games. The flexible nature of the seating and program in the plaza allows for seasonal changes and pop-up specialty programs for the businesses in Q2, Q1 or the public. The flowering vines growing up the Q2 building colonnade mirror the climbing vines on the east façade of building Q1 creating a plaza enveloped by green walls.

Along the eastern façade facing Water Street the loading dock and parking garage entry are nestled in between a double row of high deciduous canopy, a generous sidewalk with clear site lines, and site furnishings. The streetscape vernacular of the surrounding streets is continued along Water Street to blend into the overall neighborhood.

The southern façade facing the MBTA drop-off and bus shelters are fitted with vine structures, shrubs and low groundcovers that bring visual seasonal interest for pedestrians, while also framing views to and from the building. The vines structures to the south of the building create a unique identity which distinguishes this threshold of Cambridge Crossing as the entry to the neighborhood from Water Street.







MORGAN AVENUE VIEW







(FOREGROUND TREES REMOVED)







BASE - MIDDLE - TOP DIAGRAM







NORTH EAST CORNER VIEW







(FOREGROUND TREES REMOVED)







NORTHEAST CORNER VIEW (NIGHT TIME)







VERTICAL BREAK IN FACADE







MORGAN AVENUE VIEW







MORGAN AVENUE VIEW





NORTH WEST CORNER VIEW





MAIN ENTRY VIEW







WEST FACADE VIEW









WATER STREET VIEW







WATER STREET VIEW (VIADUCT REMOVED)



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STAGGERED EXTRUSION DIAGRAM









ELECTROCHROMIC GLASS - STAGE 3



ELECTROCHROMIC GLASS - STAGE 2



WATER STREET VIEW - ELECTROCHROMIC GLASS











ELECTROCHROMIC GLASS - TINT STAGES





CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 72 ACUITY

VISIBLE LIGHT TRANSMISSION (VLT) - **67** SOLAR HEAT GAIN COEFFICIENT (SHGC) - **0.28** LOCATION: LEVEL 2-6 NORTH / EAST / WEST TYPICAL BUILDING CURTAIN WALL ULTRA CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 60 STARPHIRE

VISIBLE LIGHT TRANSMISSION (VLT) - **74** SOLAR HEAT GAIN COEFFICIENT (SHGC) - **0.41** LOCATION: LEVEL 1 NORTH, SOUTH, EAST, WEST CURTAIN WALL / RETAIL / LOBBY

DYNAMIC GLAZING

VISIBLE LIGHT TRANSMISSION (VLT) - **VARIABLE** SOLAR HEAT GAIN COEFFICIENT (SHGC) - **VARIABLE** LOCATION: LEVEL 2-5 SOUTH PUNCHED WINDOW CURTAIN WALL / SOUTH CURTAIN WALL







*COLOR / TINT STAGES VARIES, REFER TO ELECTROCHROMIC GLAZING DIAGRAM (PG. 28)





SOUTH EAST CORNER VIEW





STAGGERED EXTRUSION DIAGRAM



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FLOOR PLAN - GROUND LEVEL

GENERAL NOTE

• SEE PAGES 42 - 47 FOR FACADE ARTICULATION DIMENSIONING





FLOOR PLAN - MEZZANINE LEVEL

GENERAL NOTE

• SEE PAGES 42 - 47 FOR FACADE ARTICULATION DIMENSIONING





FLOOR PLAN - LEVEL 2

• SEE PAGES 42 - 47 FOR FACADE ARTICULATION DIMENSIONING



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FLOOR PLAN - LEVEL 3



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FLOOR PLAN - LEVEL 4




FLOOR PLAN - LEVEL 5



MECHANICAL PENTHOUSE PLAN

• SEE PAGES 42 - 47 FOR FACADE ARTICULATION DIMENSIONING





290' - 0"



FLOOR PLAN - PARKING LEVEL 2



PARKING	
COMMON AREA	
VERT. TRANSPORT.	
BACK OF HOUSE	

P1	P2	TOTAL	SYM	PARKING SPACE TYPE
18	0	18	EV-S	ELECTRIC VEHICLE (STANDARD)
19	0	19	EV-C	ELECTRIC VEHICLE (COMPACT)
01	0	01	۷	VAN
02	02	04	А	HANDICAP ACCESSIBLE
13	39	52	S	STANDARD
13	38	51	С	COMPACT
66	79	145		TOTAL PARKING SPACES



290′ - 0″



FLOOR PLAN - PARKING LEVEL 1



PARKING

COMMON AREA

VERT. TRANSPORT.

BACK OF HOUSE

MECHANICAL

P1	P2	TOTAL	SYM	PARKING SPACE TYPE
18	0	18	EV-S	ELECTRIC VEHICLE (STANDARD)
19	0	19	EV-C	ELECTRIC VEHICLE (COMPACT)
01	0	01	V	VAN
02	02	04	А	HANDICAP ACCESSIBLE
13	39	52	S	STANDARD
13	38	51	С	COMPACT
66	79	145		TOTAL PARKING SPACES



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ARTICULATION DIMENSIONING - GROUND LEVEL

• SEE PAGES 53 - 65 FOR FACADE / MATERIALITY / DETAILED ARTICULATION













GENERAL NOTE • SEE PAGES 53 - 65 FOR FACADE / MATERIALITY / DETAILED ARTICULATION



ARTICULATION DIMENSIONING - LEVEL 5

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DIVCOWEST.



ARTICULATION DIMENSIONING - MECHANICAL PENTHOUSE PLAN

Cambridge Crossing[®]

DIVCOWEST.





BUILDING SECTION E-W





* ALL MECHANICAL EQUIPMENT BELOW MECHANICAL SCREEN



BUILDING SECTION N-S







* ALL MECHANICAL EQUIPMENT CONCEALED BEHIND FACADE



NORTH ELEVATION

GENERAL NOTE • REFER TO PAGE 53-55 FOR ENLARGED ELEVATION VIEWS



* ALL MECHANICAL EQUIPMENT CONCEALED BEHIND FACADE



SOUTH ELEVATION



DIVCOWEST. Cambridge Crossing^o

EAST / WEST ELEVATIONS





NORTH ELEVATION

MATERIAL LEGEND

GENERAL NOTE

• REFER TO PAGE 62-65 FOR 3D VIEWS OF FACADE ARTICULATION





SOUTH ELEVATION

MATERIAL LEGEND



EAST / WEST ELEVATIONS

MATERIAL LEGEND

• REFER TO PAGE 62-65 FOR 3D VIEWS OF FACADE ARTICULATION



NORTH ELEVATION

DIVCOWEST.



GLAZING TYPES - NORTH ELEVATION

DYNAMIC GLAZING SHADOW BOX CLEAR GLASS ULTRA CLEAR GLASS

• REFER TO PAGE 29 FOR GLASS TYPE AND PROPERTIES

GENERAL NOTE



SOUTH ELEVATION

DIVCOWEST.

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GLAZING TYPES - SOUTH ELEVATION



• REFER TO PAGE 29 FOR GLASS TYPE AND PROPERTIES

GENERAL NOTE



EAST ELEVATION

WEST ELEVATION



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GLAZING TYPES - EAST AND WEST ELEVATION



• REFER TO PAGE 29 FOR GLASS TYPE AND PROPERTIES

GENERAL NOTE





FACADE MATERIALITY - ENTRY / LOBBY





ENTRANCE CANOPY

ALUMINUM TEXTURED PANEL

ALUMINUM PLATE REVEAL PANEL

LOW IRON ULTRA CLEAR

GLAZED ENTRY DOORS

ULTRA CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 60 LOW IRON STARPHIRE

CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 72 ACUITY



ALUMINUM TEXTURED PANEL BASIS OF DESIGN - PPG DURANAR MOONDUST MICA #UC1016688F



ALUMINUM PLATE REVEAL PANEL BASIS OF DESIGN -PPG DURANAR MEDIUM GRAY #UC102662F



ALUMINUM PLATE PANEL BASIS OF DESIGN - PPG DURANAR BRONZE #UC130935F

GRANITE BASE BASIS OF DESIGN - CAMBRIAN BLACK - HONED

GENERAL NOTE • REFER TO PAGE 62-65 FOR 3D VIEWS OF FACADE ARTICULATION ALUMINUM TEXTURED PANEL WRAPS TOP OF EXTRUSION PROFILE

> ALUMINUM TEXTURED PANEL



DIVCOWEST.



FACADE MATERIALITY - WEST/SOUTH FACING

ALUMINUM TEXTURED PANEL

CURTAINWALL (CLEAR GLASS AND

ALUMINUM REVEAL EXTRUSION

CURTAINWALL (DYNAMIC GLAZING AND SHADOWBOX)



CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 72 ACUITY



ALUMINUM TEXTURED PANEL BASIS OF DESIGN - PPG DURANAR MOONDUST MICA #UC1016688F



ALUMINUM PLATE REVEAL PANEL BASIS OF DESIGN -PPG DURANAR MEDIUM GRAY #UC102662F



ALUMINUM PLATE PANEL - LOUVER BASIS OF DESIGN - PPG DURANAR SUNSTORMBRONZE #UC130935F





FACADE MATERIALITY - SOUTH FACADE

ALUMINIUM TEXTURED PANEL

STORM LOUVER

ALUMINUM PERIMETER

DYNAMIC GLAZING

ALUMINUM REVEAL TRIM



CLEAR GLASS BASIS OF DESIGN - VITRO - SOLARBAN 72 ACUITY



ALUMINUM TEXTURED PANEL BASIS OF DESIGN - PPG DURANAR MOONDUST MICA #UC1016688F



ALUMINUM PLATE REVEAL PANEL BASIS OF DESIGN -PPG DURANAR MEDIUM GRAY #UC102662F



ARCHITECTURAL STORM LOUVER BASIS OF DESIGN - AIROLITE SCH601 SUNSTORMBRONZE #UC130935F



SECTION: ARCH STORM LOUVER BASIS OF DESIGN - AIROLITE SCH601

GENERAL NOTE

• REFER TO PAGE 62-65 FOR 3D VIEWS OF FACADE ARTICULATION





NORTH FACADE 'GASKETS' ARTICULATION



Cambridge Crossing[®] **DIVCO**WEST.

NORTH FACADE ARTICULATION



SOUTH FACADE 'GASKETS' ARTICULATION

• REFER TO PAGE 59-65 FOR FACADE / MATERIALITY ARTICULATION • REFER TO FLOOR PLANS FOR HORIZONTAL BREAKS



DIVCOWEST. Cambridge Crossing*

SOUTH FACADE ARTICULATION

	LOOVERS
	METAL PANEL
	2" WIDE HEAD REVEAL
 	5/8" WIDE METAL PANEL REVEAL
	WINDOW WITH SHADOW BOX
 	PERIMETER FIN PROFILE
	2" WIDE JAMB REVEAL
 	2" WIDE SILL / METAL PANEL REVEAL
 	TEXTURED METAL PANEL (DEPTH VARIES WITHIN CORRUGATION)



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D





Cambridge Crossing®

SUSTAINABILITY GOALS & ACHIEVEMENTS

3

System metering



Decoupled HVAC system



Efficient air-side heat recovery



LED Lighitng



Dynamic glazing



Native Landscape



Low flow fixtures



Rain water cistern



Life-cycle assessment

NORTHPOINT BLVD Main Entrance +31.50 - - - - - - - - ike / Pedesrtian Parking Entrance rkina Entranc В ersounce Access 30.50 WATEI t Maint. Access 31.50 versounce Access MITTELET (1011)

2070 Cambridge Flood elevation = 24

All Parcel Q2 entrances located above predicted flood elevaitons

M ACENTECH

33 Moulton Stre idge MA 02138 617 499 8000

October 13, 2021

Adam Blood ZGF Architects LLP 600 14th Street NW, Suite 800 Washington, DC 20005

adam.blood@zqf.com Via Email:

DD Community Noise Memo Subject CX Parcel Q2 Laboratory Building Cambridge, MA Acentech Project No. J634371

Dear Adam:

This report presents our review of community noise generated by project mechanical equipment for the proposed new laboratory building at Cambridge Crossing Parcel Q2 in Cambridge, MA. This report is based on the DD progress drawings dated September 23, 2021.

NOISE CRITERIA

CITY OF CAMBRIDGE, MA NOISE ORDINANCE

The City of Cambridge Code of Ordinances, Chapter 8.16: Noise Control Ordinance defines the maximum allowable noise limits generated by project equipment. These noise limits are enforced at adjacent property lines, and are defined in A-weighted sound pressure levels (dBA) and by frequency bands, based on zoning districts. Residential zones (which the project area is within) have the most stringent noise criteria, with maximum limits of 60 dBA during the day (7 AM - 6 PM) and 50 dBA at night (6 PM - 7 AM).

COMMUNITY NOISE

METHODOLOGY

We developed a computer model of project mechanical noise using CadnaA (DataKustik GmbH) acoustical

Mechanical Equipment in Model

The following mechanical equipment has been proposed for the project and was input into our model.

modeling software, based on the DD progress drawings and specified mechanical equipment.

- (4) Air Handling Units: Data based on custom Haakon models. Sound power levels at each AHU OA Inlet is reported as 73 dBA by the manufacturer. ✤ (4) Exhaust Air Handling Units: Data based on custom Haakon models, 2 fans per unit. Sound power levels at each EAHU exhaust stack outlet is calculated to be 85 dBA based on the fan and sound attenuator selections.
- (1) 3-Cell Cooling Tower: Based on Marley model NC8407RCN3 with Ultra Quiet Fans

acoustics | av/telecom/security | vibration





RESILIENCY AND ACOUSTICS

CC:

Sincerely,

Adam Blood October 13 2021 Page 2 of 2

*	(13) Rooftop Heat Pumps:	Based on Multistack model ARA030L. 8 heat pumps will be provided as part of the base scope; 5 additional heat pumps are included as part of the LEED Platinum alternative configuration. All 13 heat pumps were included in these calculations.
*	(3) Emergency Generators	Base building and two tenant emergency generators (assumed to be tested during daytime hours in series). Generators are located outdoors and will be provided with exterior sound enclosures rated to achieve a minimum noise reduction of 25 dB at 1 meter.
		All generators based on CAT C32DR35 rated for 1000 kW.

COMPUTER MODEL RESULTS

We have estimated the noise levels generated by specified project mechanical equipment at properties surrounding the project site based on the most recent design drawings. Noise levels at the nearest adjacent property line were estimated to be 53 dBA during the daytime and 47 dBA at night, both meeting the noise criteria. Noise levels at property lines further from the project site are estimated to be even quieter

CODE COMPLIANCE

All building mechanical equipment will comply with the City of Cambridge noise regulations at all nearby properties as currently specified.

* * * * * *

I hope that you will find this information useful and will be pleased to answer any related questions.

Jay Bliefnick, PhD

Senior Consultant Direct: 617-499-8072 jbliefnick@acentech.con

Rose Mary Su (Acentech)





LEGEND

















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EQUINOX



SHADOW STUDY: EXISTING CONDITIONS



DIVCOWEST.

12 PM



WINTER SOLSTICE

















EQUINOX



SHADOW STUDY: PARCEL Q2 NET CONDITIONS

12 PM

DIVCOWEST.





WINTER SOLSTICE





NORTH ELEVATION

EAST ELEVATION





SOUTH ELEVATION

WEST ELEVATION



PROPOSED EXTERIOR SIGNAGE LOCATIONS

SIGNAGE LEGEND





Green Building Rating System Narrative Article 22: Green Building Requirements Design Review Submission: Cambridge Crossing Parcel Q2 May 10, 2022

Introduction

Parcel Q2 is currently registered under the U.S. Green Building Council's LEED v4 Building Design and Construction (BD+C) Core & Shell program. Select credits will be substituted with v4.1 options, where beneficial to the project. The project is anticipated to achieve LEED Gold Certification. Currently, Parcel Q2 is pursuing a combined 68 points, putting the project over the minimum 60 points required for LEED Gold.

The LEED Identification Number is 1000145807. Design Review with the USGBC will likely occur in late fall of 2022. Construction Review will likely occur in summer of 2025, after construction is complete.

LEED v4 BD+C Core & Shell Summary

The following points are being pursued ("yes" or "likely" status):

Integrative Process: 1 point Location & Transportation: 16 points Sustainable Sites: 9 points Water Efficiency: 7 points Energy & Atmosphere: 16 points Materials & Resources: 4 points Indoor Environmental Quality: 6 points Innovation: 6 points Regional Priority: 3 points

Sum total: 68 points

LEED Certification Narrative

Integrative Process

Throughout the early design phases, the team has studied site conditions, basic envelope attributes, energy-related systems, and water-related systems to identify potential synergies across disciplines and building systems. These studies are being used to inform the Owner's Project Requirements (OPR) and the Basis of Design (BOD) documents.

Location & Transportation

Sensitive Land Protection: 2 points likely

Parcel Q2 is located on previously developed land.

High Priority Site: 3 points likely

The project is located on a brownfield with soil and groundwater contamination. Remediation will be performed to meet the requirements of the Authority Having Jurisdiction.

v4.1 Surrounding Density and Diverse Uses: 4 points likely, 2 points maybe

Parcel Q2 is in a very dense, mixed-use urban area. The site is within a previously developed area, as a part of the Cambridge Crossing development project. The project's Walk Score is 84, which confirms 4 points under the v4.1 credit substitution.

v4.1 Access to Quality Transit: 4 points likely, 2 points maybe

The project entries are located within ¼ mile of the future Lechmere MBTA Station. Additionally, the bus and shuttle routes that serve the station confirms 4 points under the v4.1 credit substitution. The impact of extension to the light rail system's Green line will be evaluated for additional points.

Bicycle Facilities: 1 point likely

The building's entry is located within 200 yards of a bicycle network that connects the project to over 10 diverse uses. The design provides 28 short-term bicycle storage (above the minimum requirement for 2.5% of all peak visitors) and 50 long-term bicycle storage (above the minimum requirement for 5% of all regular building occupants). On-site showers with changing facilities are included in the design and within the maximum allowable distance required by LEED. Additionally, all bicycle storage provided is within the maximum allowable distance.

v4.1 Reduced Parking Footprint: 1 point likely

Under a v4.1 option, provided parking is required to not exceed code minimums and must meet a 30% reduction from the baseline ratios. The current design meets the credit requirements.

v4.1 Green Vehicles: 1 point likely

Following the v4.1 option, no parking spaces are required to be designated for Green Vehicles. However, with this option, Electric Vehicle Supply Equipment (EVSE) is to be provided for 5% of the total parking spaces. The project greatly exceeds this minimum requirement by providing 37 spaces with EVSE out of 145 total parking spaces.

Sustainable Sites

Prereq. Construction Activity Pollution Prevention

An erosion and sedimentation control plan will be implemented for the project. This plan will reduce pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust.

Site Assessment: 1 point likely





LEED DESIGN NARRATIVE


A site assessment will be completed including topography, hydrology, climate, vegetation, soils, human use, and human health effects. This assessment will be used to inform the project's design.

Site Development – Protect or Restore Habitat: 1 point maybe, 1 point no

This credit is dependent on if financial support for a nationally or locally recognized land trust or conservation organization will be included within the project budget.

Open Space: 1 point likely

The project design includes a minimum 30% open space, with 25% of that space as vegetated area. This is considering the project's limit of work as the LEED Boundary (The Station Plaza West is not included within the LEED boundary).

v4.1 Rainwater Management: 3 points likely

The project can manage stormwater runoff on site for 90th percentile of rainfall. A cistern is provided in the project design to store rainwater for use by the cooling tower.

Heat Island Reduction: 2 points likely

Both nonroof site and roof strategies will be utilized to reduce heat island effect. Since the roof is low slope, the initial SRI value must be 82 minimum. Initial calculations show compliance based on the SRI value of site pavement and roof material. If for some reason the project is unable to meet the requirements for two points, the project can earn one point since over 75% of parking will be undercover.

Light Pollution Reduction: 1 point likely

The project design will meet uplight and light trespass requirements, using the backlightuplight-glare (BUG) method.

Tenant Design and Construction Guidelines: 1 point likely

The project team will equip tenants with education related to implementing sustainable design and construction features in any tenant improvement projects.

Water Efficiency

Prereq. Outdoor Water Use Reduction

The project will reduce its landscape water requirement by at least 30% from the calculated baseline for the site's peak watering month. These reductions will be achieved by selecting low-water/native plant species and by installing efficient irrigation systems.

Prereq. Indoor Water Use Reduction

For fixtures and fittings, the project design will achieve above the 20% minimum water consumption reduction from baseline. All appliances, equipment, and processes will meet the minimum requirements per LEED. All newly installed toilets, urinals, private lavatory faucets, and showerheads will be WaterSense labeled.

Prereq. Building-Level Water Metering

Permanent water meters will measure the total potable water use for the building and associated site. Monthly and annual data will be shared with USGBC for the five-year period required by LEED.

Outdoor Water Use Reduction: Points will be tracked under Indoor Water Use Reduction to reflect the Whole Project Water Use calculation path (Pilot Credit)

The designed landscape water requirement currently shows a 56% reduction in water use from the baseline.

Indoor Water Use Reduction: 6 points likely (Whole Project Water Use Pilot Credit)

The project design reduces indoor water consumption by 26% using lower flow and flush fixtures. Combined with the Outdoor Water Use reduction and rainwater reuse in the cooling tower, a 46% total water use reduction is achieved. This reduction translates to 6 points under the Pilot Credit "Whole Project Water Use".

Cooling Tower Water Use: Points will be tracked under Indoor Water Use Reduction to reflect the Whole Project Water Use calculation path (Pilot Credit)

The project design complies with the credit requirements (meets potable water analysis and cooling tower cycles); however, it is more advantageous to pursue the Pilot Credit "Whole Project Water Use," in order to reflect the rainwater that is captured, stored in the cistern and reused by the cooling tower.

Water Metering: 1 point likely

The project team will select two of the following water subsystems to meter: irrigation, indoor plumbing fixtures and fittings, domestic hot water, boiler, reclaimed water, or other process water.

Energy & Atmosphere

Prereq. Fundamental Commissioning and Verification

A third-party Commissioning Agent will be responsible for reviewing the Design and Construction Documents, Owner's Project Requirements and Basis of Design documents. Additionally, the CxA will develop and implement a Cx plan, confirm incorporation of Cx requirements into the construction documents, develop construction checklists, develop a system test procedure, verify system test execution, maintain an issues and benefits log throughout the Cx process, prepare a final Cx process report, document all findings and recommendations, and issue reports directly to the owner throughout the process.

Prereq. Minimum Energy Performance

The project must demonstrate an improvement of 2% for core and shell projects in the proposed building performance rating compared to the baseline. The project is currently showing a 21% reduction. An energy model (calculated according to the Building Performance Method in ASHRAE Appendix G) will analyze how the efficient MEP and building envelope systems help achieve energy reduction.



LEED DESIGN NARRATIVE



Prereq. Building-Level Energy Metering

Permanent building energy meters will measure the total energy use for the building. Monthly and annual data will be shared with USGBC for the five-year period required by LEED.

Prereq. Fundamental Refrigerant Management

The project will not use chlorofluorocarbon (CFC)-based refrigerants in new heating, ventilating, air-conditioning, and refrigeration (HVAC&R) system.

Enhanced Commissioning: 5 points likely, 1 point maybe

Enhanced Commissioning and Building Envelope Commissioning are to be included in the project scope. Inclusion of Monitoring-based Commissioning is to be determined in subsequent project phases.

Optimize Energy Performance: 10 points likely, 8 points maybe

The project's LEED Gold energy target will be a 21 - 26% reduction, corresponding with 10-12 Likely points. Its LEED Platinum energy target will be 26 - 32% reduction, corresponding with 12-14 Likely points. Whole building energy simulations are being performed in each design phase to analyze reduction strategies.

Advanced Energy Metering: 1 point no

The owner is not likely to pursue this credit for Parcel Q2 since meters are not advantageous for the project.

Demand Response: 2 points no

The owner has not pursued Demand Response on past projects and will not be pursuing it for Parcel Q2.

Renewable Energy Production: 3 points no

This credit is unlikely to be pursued, due to the high energy demand of lab spaces, along with the limited building roof and site area.

Enhanced Refrigerant Management: 1 point likely

The refrigerant calculation shows compliance with Option 2 of this credit, meaning that the refrigerants used on the project are within the impact limits.

Green Power and Carbon Offsets: 2 points maybe

Green Power, Carbon Offsets, or Renewable Energy Certificates are unlikely to be pursued on this project, unless necessary to achieve a desired certification level.

Materials & Resources

Prereg. Storage and Collection of Recyclables

The project will dedicate areas for the collection and storage of recyclable materials for the entire building. Recyclable materials to be collected will include mixed paper, corrugated cardboard, glass, plastics, and metals. The project team will also identify two of the following to be safely collected, stored, and disposed of: batteries, mercurycontaining lamps, and electronic waste.

Prereq. Construction and Demolition Waste Management Planning

The Contractor will develop and implement a construction and demolition waste management plan. This plan will identify at least five materials for diversion.

v4.1 Building-Life Cycle Impact Reduction: 1 point likely, 3 points maybe, 2 points no

Under v4.1 option 2, the project scope will include a "whole-building life-cycle assessment" to understand the ecological impact of the design and construction. The maybe points are being held for possible reduction in global warming potential (embodied carbon) and other impact areas. The design and construction team will evaluate what to target and what is achievable.

v4.1 Building Product Disclosure and Optimization – Environmental Product Declarations: 1 point likely, 1 point no

The team will track and include at least 10 environmental product declarations (EPDs) for permanently installed products on the project.

v4.1 Building Product Disclosure and Optimization – Sourcing of Raw Materials: 2 points maybe The team is evaluating the feasibility of including recycled content in the steel used for the project and whether the steel will be supplied within 100 miles.

v4.1 Building Product Disclosure and Optimization – Material Ingredients: 1 point likely, 1 point no

The team will track and include at least 10 health product declarations (HPDs) for permanently installed products on the project.

v4.1 Construction and Demolition Waste Management: 1 point likely, 1 point maybe The project will divert 50% of construction and demolition waste and target generating

less than 15 pounds per square foot of waste.

Indoor Environmental Quality

Prereq. Minimum Indoor Air Quality Performance

The project will meet the minimum requirements of ASHRAE Standard 62.1–2010, Sections 4–7 for mechanically ventilated spaces and meet the requirements of ASHRAE Standard 62.1–2010, Section 4 for naturally ventilated spaces.

Prereg. Environmental Tobacco Smoke Control

The project will prohibit smoking inside the building. Any smoking outside the building will only occur in designated smoking areas located at least 25 feet from all entries,





LEED DESIGN NARRATIVE



outdoor air intakes, and operable windows. To indicate the no-smoking policy, signage will be posted within 10 feet of all building entrances.

Enhanced Indoor Air Quality Strategies: 2 points likely

The project will include permanent entryway systems at least 10 feet long in the primary direction of travel at regularly used exterior entrances. Spaces where hazardous gases or chemicals may be present or used will be sufficiently exhausted. Each ventilation system that supplies outdoor air to occupied spaces will have particle filters of MERV 13 or higher. Additionally, outside air ventilation rates will be 30% above ASHRAE 62.1-2010.

v4.1 Low-Emitting Materials: 3 points likely

The design team will specify product categories that meet the compliant emissions and content standards identified by LEED. The four targeted categories are: flooring, paint, insulation, and ceilings.

Construction Indoor Air Quality Management Plan: 1 point likely

A Construction IAQ management plan will be implemented for construction and preoccupancy phases. The plan will be developed to follow LEED requirements.

Daylight: 3 points no

The project will not include scope for a daylight model.

Quality Views: 1 point maybe

The project design would need to identify a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area. Additionally, 75% of all regularly occupied floor area would need to have at least two of the required types of views. A tenant fit-out plan is required to demonstrate compliance.

Innovation

Innovation Credits: 5 points likely

The team has identified the following credits for pursuit:

- Innovation: Green Building Education (signage and information on display throughout the building)
- Innovation: Occupant Comfort Survey (survey building occupants every 2 years)
- Pilot Credit: Social Equity within the Project Team (The project's architecture • firm has their JUST. Label)
- Exemplary Performance: Track and include 20 EPDs (exceeds minimum credit requirements)
- Exemplary Performance: Track and include 20 HPDs (exceeds minimum credit requirements)

LEED Accredited Professional: 1 point yes

There are many LEED Accredited Professionals involved with the Parcel Q2 project, but the LEED AP will likely be the Green Building Professional (required under Cambridge's Zoning Code Article 22).

Regional Priority

The following Regional Priority credits are identified, based on the project's location: High Priority Site: 1 point likely The threshold to achieve this credit is 2 points, which the project is on track to meet

Optimize Energy Performance: 1 point likely The threshold to achieve this credit is 8 points, which the project is on track to meet.

Rainwater Management: 1 point likely

Building Life-cycle Impact Reduction, Indoor Water Use Reduction, or Renewable Energy Production: 1 point maybe

threshold required:

Building Life-cycle Impact Reduction threshold: 2 points

Indoor Water Use Reduction threshold: 4 points

The following credit is currently "no" in the LEED checklist:



BranchPattern

The threshold to achieve this credit is 2 points, which the project is on track to meet.

The following credits do not currently have enough "likely" points to meet the minimum

Renewable Energy Production threshold: 2 points



YLMN

LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: Cambridge Crossing Parcel Q2 Date: 05/10/22

_	1		Credit	Integrative Process	1					
0	16	4 0	Locat	tion and Transportation	20	0 4	4 6	6 4 Mate	rials and Resources	14
			Credit	LEED for Neighborhood Development Location	20	Y		Prereq	Storage and Collection of Recyclables	Required
	2		Credit	Sensitive Land Protection	2	Y		Prereq	Construction and Demolition Waste Management Planning	Required
	3		Credit	High Priority Site	3		1 3	2 Credit	Building Life-Cycle Impact Reduction	6
	4	2	Credit	Surrounding Density and Diverse Uses	6		1	1 Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	4	2	Credit	Access to Quality Transit	6		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1		Credit	Bicycle Facilities	1		1	1 Credit	Building Product Disclosure and Optimization - Material Ingredients	2
	1		Credit	Reduced Parking Footprint	1		1 1	Credit	Construction and Demolition Waste Management	2
	1		Credit	Green Vehicles	1					
_						0 6 1 3 Indoor Environmental Quality 10				
0	9	1 1	Susta	ainable Sites	11	Y		Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Construction Activity Pollution Prevention	Required	Y		Prereq	Environmental Tobacco Smoke Control	Required
	1		Credit	Site Assessment	1	2	2	Credit	Enhanced Indoor Air Quality Strategies	2
		1 1	Credit	Site Development - Protect or Restore Habitat	2		3	Credit	Low-Emitting Materials	3
	1		Credit	Open Space	1	-	1	Credit	Construction Indoor Air Quality Management Plan	1
	3		Credit	Rainwater Management	3			3 Credit	Daylight	3
	2		Credit	Heat Island Reduction	2		1	Credit	Quality Views	1
	1		Credit	Light Pollution Reduction	1					
	1		Credit	Tenant Design and Construction Guidelines	1	1 8	5 0	0 Innov	vation	6
						Ę	5	Credit	Innovation	5
0	7	0 4	Wate	r Efficiency	11	1		Credit	LEED Accredited Professional	1
Y			Prereq	Outdoor Water Use Reduction	Required					
Y			Prereq	Indoor Water Use Reduction	Required	0 3	3 1	0 Regi	onal Priority	4
Y			Prereq	Building-Level Water Metering	Required	-	1	Credit	High Priority Site	1
		2	Credit	Outdoor Water Use Reduction	2	-	1	Credit	Optimize Energy Performance	1
	6		Credit	Indoor Water Use Reduction	6	-	1	Credit	Rain Water Management	1
		2	Credit	Cooling Tower Water Use	2		1	Credit	WBLCA, Indoor Water Use Reduction, or Renewable Energy Production	1
	1		Credit	Water Metering	1					
							67 2	4 <mark>18</mark> TOT <i>I</i>	ALS Possible Points	s: 110
0	16	11 6	Energ	gy and Atmosphere 33			Ce	ertified: 40 to 4	19 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110	
Y			Prereq	Fundamental Commissioning and Verification	Required					
Y			Prereq	Minimum Energy Performance	Required					
Y			Prereq	Building-Level Energy Metering	Required					
Y			Prereq	Fundamental Refrigerant Management	Required					
	5	1	Credit	Enhanced Commissioning	6					
	10	8	Credit	Optimize Energy Performance	18					
		1	Credit	Advanced Energy Metering	1					
		2	Credit	Demand Response	2					
		3	Credit	Renewable Energy Production	3					
	1		Credit	Ennanced Retrigerant Management	1					
		2	Credit	Green Power and Carbon Uffsets	2					

DIVCOWEST.



LEED SCORE CARD - OVERVIEW