



25 Broadway & Third Street Park

DESIGN SUBMISSION
CITY OF CAMBRIDGE PLANNING BOARD

July 18, 2023

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1. Design Review Narrative



Volpe C1 Design Review

Project Summary

The proposed Building C1 project is a mixed-use building containing approximately 407,893 square feet of Gross Floor Area located within the Volpe Exchange Parcel in the PUD-7 District of Kendall Square. It is one of eight building projects approved by the Planning Board as part of Special Permit #368. The C1 project will be a 16-story commercial lab and office building and will include approximately 12,645 square feet of retail space on the ground floor (of which, approximately 8,258 square feet is exempt from the calculation of Gross Floor Area). Flexible lab and office space will be located on levels 2-16. Above the roof is a two-story mechanical penthouse with a screened rooftop for base building and tenant equipment. The main entry to the building will be located at 25 Broadway.

Up to 321 parking spaces will be allocated for Building C1 consistent with the approved Special Permit. Vehicles will access the underground garage that will be located below Building C1 primarily via a ramp on Potter Street. Consistent with the approved PUD, loading facilities will be at-grade and accessed from Fifth Street. To the extent needed, surface parking spaces will be provided until additional parking spaces are built in future phases as part of the shared parking strategy, and one or more temporary access ramps may be provided for the garage as construction proceeds.

Long-term bicycle parking with elevator access will be accommodated in the first level of the underground garage. At least 93 long-term bicycle parking spaces required per the program components of C1 will be available upon building occupancy. Likewise, there will be 38 short-term bicycle parking spaces within the building's adjacent landscape. Ground floor retail and active use space is an integral component of the Volpe Development Plan. The prominent location of Building C1 allows for building entries and active ground floor uses to be programmed along Broadway, Broad Canal Way, and Third Street Park – three primarily pedestrian zones. This will keep the ground floor dynamic throughout the day, evening and weekend. The inclusion of largely transparent ground floor facades will serve to blur the boundary between inside and outside, thereby energizing both. These venues will provide opportunities for both planned and serendipitous social and intellectual interaction to occur.

Although tenants for the ground floor are not yet identified, the spaces are designed to accommodate active retailers that will complement the level of energy expected along Broadway, Third Street, Fifth Street, Broad Canal Way, Third Street Park and elsewhere in Kendall Square. MIT and its design teams are working closely to ensure that all spaces are appropriately sized and can be successfully activated with a variety of tenants. Moreover, as outlined in its Letter of Commitment dated October 23, 2017, MIT will form an Open Space and Retail Advisory Committee during the construction phase of the project to help guide programming that is welcoming, diverse and inclusive.

Consistency with Special Permit

C1 measures 407,893 total non-exempt square feet of GFA, which reflects the following permitted GFA exemptions: GFA associated with Retail/Active ground floor space occupying less than 3,000 square feet of floor area (8,258 square feet) and the application of a 20,916 square feet GFA exemption for office/lab innovation per Cambridge Zoning Ordinance 13.96.3. Building C1 GFA measurement is within the 1,673,250 square feet of commercial GFA allowed by the Final Development Plan Special Permit, including Minor Amendment #1. Building C1 further complies with the Special Permit for height as the building height is within the allowable height of 250 feet. The Development Program contained in this Design Review Submission is consistent with the Development Program for Building C1 contained in the Special Permit. The GFA, building height, setbacks and mix of uses of Building C1 have not changed in any material way as indicated by the Dimensional Table included in the application.

Sitework Phasing

The submission herein is intended to reflect parts of the development plan subject to the current design review process. Building C1 will include completion of open space and roadway elements ("sitework") around the perimeter of Building C1 to the curb and along Broadway from Third Street to Fifth Street and up to and including the adjacent portion of Broad Canal Way. The sitework associated with Building C1 is expected to be delivered before receipt of its Certificate of Occupancy. A significant portion of the remaining Volpe site will need to be controlled as it will be a demolition and construction staging area. Utility services may also be under varying stages of construction.

STATUS OF MITIGATION AND COMMITMENTS

Transportation

In accordance with Special Permit PB #368 and Minor Amendment #1, MIT is committed to completing the applicable transportation mitigation requirements stipulated in Appendix C (Transportation Mitigation Program) prior to the completion of Phase 1. MIT is coordinating with City departments (DPW, TPT, CDD), as well as the Cambridge Redevelopment Authority (CRA), and has shared detailed plans and sections of the anticipated Broadway reconstruction. MIT has also engaged with the adjacent property owner at 303 Third Street regarding details of work abutting their property. In addition, MIT is coordinating with Eversource regarding its extensive enabling work in the same area. Further discussions with all stakeholders are necessary and will continue on a concurrent timetable with the Building C1 project in order to finalize a plan for transportation mitigation.

Please note the Building C1 project's limit of work shown herein is intended to reflect Building C1's frontage along Broadway which comprises portions of the open space and landscaping that are also subject to design review.

Open Space

Pursuant to Planning Board Decision PB #368 Conditions 3(c) and 4(c)(iv), a draft legal mechanism for the preservation of the Permanently Guaranteed Open Space, including Third Street Park, was submitted to the City Solicitor on December 1, 2022. To enable an efficient review, a draft easement for the streets at Volpe, including the Third Street Park, was also submitted on December 1, 2022.

Dimensional Form

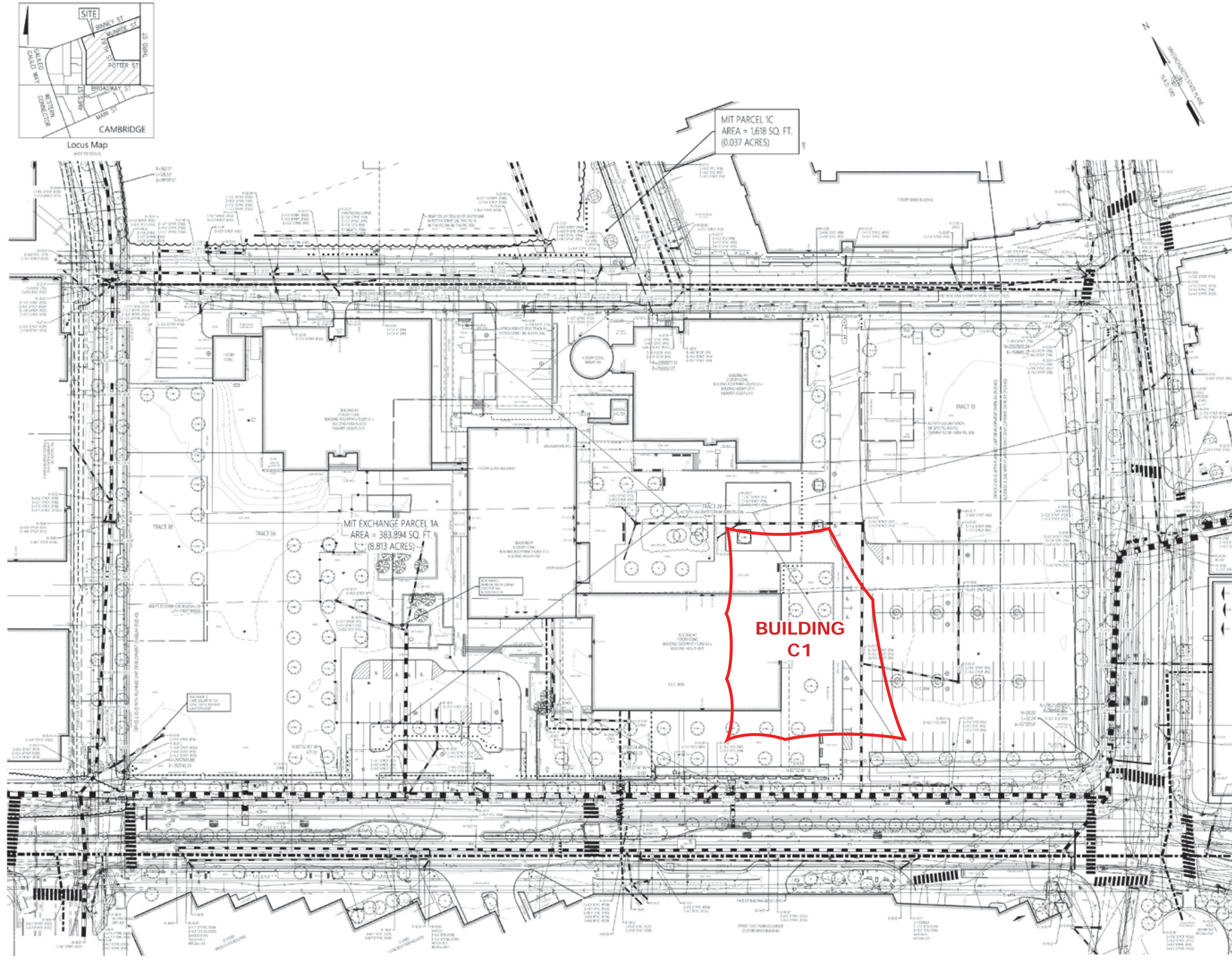
The Standard Cambridge Form with revisions to show progress toward maximum allowable Gross Floor Area of overall PUD Final Development Plan is included in this submission.

Use Description

All uses will be consistent with those approved in the Cambridge PUD-7, Section 13.92 and as further described in Article 4.000 of the Zoning Ordinance.

Existing Site Plan

\\volpe\jg\proj\2023\10\14\Site Exchange Parcel\10\14\Site\101401.dwg



Volpe C1 Design Review

Dimensional Form

The Standard Cambridge Form with revisions to show progress toward maximum allowable Gross Floor Area of overall PUD Final Development Plan is included in this submission.

Notes:

(1) Development Parcel does not include 5,890 sf “CRA Parcel” or 1,618 sf “GSA Triangle Parcel” shown on Figure A1: Survey one or both of which may be added in the future in the Special Permit.

(2) Government uses will be relocated to the Government Owned Lot, located in PUD-7, but not part of the Project Development Parcel.

(3) Includes all Office and Laboratory uses listed in Section 4.34 of the Cambridge Zoning Ordinance (“CZO”).

(4) Includes the Innovation Space required per Section 13.96.3 of the CZO, and subject to the GFA exemptions set forth therein.

(5) Includes all uses listed in Section 4.31(g) (Multifamily Dwelling) of the CZO; presently, MIT does not currently plan to include any hotel use (Section 4.31(i)(2)) within the Project, but may add limited hotel use by minor amendment to the development, subject to complying with the requirements of Section 13.93.1(c)(2).

(6) Includes all uses listed in Section 4.35 of the CZO, other than subsection(j); includes exemption and will meet frontage requirement specified in Section 13.96.1(b)(1) of the CZO.

(7) Community Center as defined in Section 13.96.5 of the CZO, shall be constructed as part of Building R1 and is exempt in accordance with Section 13.94(b)(5) of the CZO.

(8) Required Publicly Beneficial Open Space reflects the requirement of Section 13.94(a) of the CZO that a minimum 25% of the land area of the PUD-7 District, less the Government Owned Parcel, shall be Public Open Space or Publicly Beneficial Open Space. Approximately 3.5 acres or 152,460 sf of Publicly Beneficial Open Space shall be provided on the PB-368 Development Parcel as set forth in the Final Development Plan.

(9) Approximately 1,608 sf of additional Publicly Beneficial Open Space may be located on a the GSA Triangle Parcel (See Note 1, above)

(10) Includes both off-street (below grade garage) and on-street parking on new private streets.

(11) Existing parking, related to the Government Use, is reduced from 570 spaces to 318 spaces and has been relocated to Federal Parcel in PUD-7.

(12) Spaces may be provided on grade on an interim basis pursuant to Section 13.95.6 of the CZO and Condition #5.c.v of the Special Permit, in anticipation of later construction of structured parking. Space count shown at unshared demand.

Development Parcel (1)(2)	Allowable by Special Permit
Land Area (sf)	455,750
Land Area (Acre)	10.46
Total Non-Exempt GFA	2,820,000
Residential (5)	1,128,000
Commercial (3)	1,692,000
<i>Innovation (4)</i>	83,663
<i>Retail (6)</i>	18,750
Total Exempt GFA ***	189,913
Ground Floor Retail (6)	81,250
Community Space (7)	25,000
Innovation (4)	83,663
Total Dwelling Units	1,400
Publicly Beneficial Open Space (8),(9)	152,460 sf/3.5 acre
Permanently Guaranteed Open Space	87,120 sf
Max Height	455 ft.
Min Yard Setbacks	0
Off Street Parking (10),(11),(12)	1,759
Long Term Bicycle Parking	1,876
Short Term Bicycle Parking	338

C1 Special Permit	C1 Design Review
N/A	N/A
N/A	N/A
401,784	407,893
N/A	N/A
375,868	382,590
20,916	20,916
5,000	4,387
35,916	29,174
15,000	8,258
N/A	N/A
20,916	20,916
N/A	N/A
N/A	46,686 sf
N/A	35,872 sf
250 ft.	250 ft.
0	0
N/A	321
103	93
32	38

Volpe C1 Design Review

For more than 20 years, the Volpe Transportation Center site has been gated off and effectively closed to the public. The redevelopment of the site is a long-awaited opportunity to begin to reopen the site to the public for its use and enjoyment. Located at the corner of Broadway and Third Street Park, Building C1 will be a new mixed-use office and laboratory building that will support the Kendall Square innovation ecosystem. Redevelopment of this site will unlock connections to the surrounding community and draw visitors to Third Street Park, a nearly 1.0 acre park that will be delivered alongside Building C1. The ground floor active uses will provide opportunities for retail spill out that complement the activity of Third Street Park.

The architectural character along Broadway in Kendall Square is diverse, with a mix of historic and modern buildings that reflect the area's evolution over time. Many of the older buildings in the area were constructed in the late 19th and early 20th centuries and feature distinctive brick facades and ornate details. In recent years, an influx of modern, glass-clad buildings has brought a new energy and vibrancy to the area. The design approach for Building C1 takes cues from both the historic and modern architectural styles in the area to create a cohesive and visually interesting street-scape that complements the existing context. The goal is to create a sense of continuity with the existing urban fabric while also introducing fresh and innovative design elements that reflect the project's forward-looking vision.

URBAN DESIGN

The Building C1 ("C1") is a key element of the Volpe Redevelopment project and is consistent with the design guidelines and objectives of PUD-7. The building's form is responsive to its context, with a design that is complementary to the Third Street Park and surrounding neighborhood.

The importance of place-making is paramount to the building's design. To that end, the building's design incorporates a mix of uses, including retail and lab/office and is visually connected to the adjacent buildings by a network of pedestrian-friendly streets and public spaces. The building's ground floor will be activated with retail, food & beverage and other uses that contribute to the vitality of the streetscape.

Its prominent location also allows C1 to serve as a gateway to Cambridge; the building will be a new landmark that activates the corridor along Broadway. The building's unique design will create a sense of arrival and a memorable first impression for visitors to Cambridge.

Overall, Building C1 is a key component of the Volpe Redevelopment project, and its design reflects a commitment to creating a dynamic and inclusive urban hub.

ARCHITECTURAL EXPRESSION

The proposed massing complies with the spirit of the Design Guidelines by creating proportional shifts from base to middle to cap. The architectural shape is inspired by the building's direct relationship to Third Street Park and Community Center Park, creating an inviting and embracing form.

The Street Level

At the street level, C1 is designed to create an engaging and welcoming environment for pedestrians. The building will feature approximately 12,645 square feet of new retail space that maximizes transparency along the base of the building, providing clear visibility into the space from Broadway, Broad Canal Way, and Third Street Park.

The materiality of the building's design will further engage pedestrian traffic with its warm colors, material selections whose tactility directly engages the public by changing the reading of the building as you approach it, and organic formal qualities. These materials will help to create a cohesive and inviting environment that blends seamlessly with the surrounding neighborhood. The design also incorporates spill-out space along Third Street Park and Broadway, blurring the lines between the park, streets and the C1 building and creating a vibrant and engaging public realm.

Careful attention has been placed on the design of the Fifth Street facade, which responds to pedestrians while managing design considerations associated with a loading dock. The scale of the facade is carefully calibrated to create a welcoming and human-scaled environment that encourages pedestrian interaction, while still accommodating the logistical needs of the building.

The Podium and Terrace Level

The C1 podium, consisting of Levels 2-5, is appropriately designed to the surrounding urban scale. The building facade features an organic-shaped panel that speaks directly to the park. This tactile modulated panel responds directly to the building's solar exposure with varying ratios of solid paneling to glazing. The design incorporates a green trim accent along the perimeter of the high-performance glazing, which will help tie the building to its surrounding environment.

The podium levels are separated from the upper mass through the introduction of a horizontal terrace at Level 6. The terrace directly engages with the urban fabric on three sides, along Broadway, Third Street Park and Broad Canal Way, creating a dynamic and inviting space for building occupants. The design of the terrace provides tenant access to outdoor space and incorporates features that create a comfortable micro-climate for users including shaded seating areas. The terrace also introduces plantings that enhance and soften the space while engaging with the surrounding parks and green space below.

The Tower

The upper mass is comprised of Levels 7-16, along with two mechanical floors. It is designed to complement the podium levels by utilizing complimentary modulated panels with an organic form, fritted glazing and green accent trim. The resulting composition is a cohesive architectural expression and a structure that provides flexible column-free spaces for adaptable lab environments and open collaborative spaces.

The organic tactile panels on the upper mass modulate horizontally and vertically to respond to solar exposure. This design strategy will balance solar control while maximizing daylight, creating an optimal working environment. The south facing occupiable levels will provide expansive views of the Charles River and Boston. The facade design continues incorporating the facade's green trim from the podium level is continued in the tower, thereby visually connecting the tower to the park below.

The glazing of the tower incorporates triple glazing with two coatings that deflect UV and infrared light, contributing to the energy performance of the facade while creating an optimal working environment. The mechanical levels of the tower are an extension of the facade design and incorporate the same organic tactile panels to provide an overall cohesive architectural expression.

RESILIENCY

The C1 building design not only focuses on sustainable design, but also incorporates environmental resilience in all aspects of the project. The building has been designed to anticipate the 2070 Cambridge Projected Flood Elevations and the 100-year precipitation elevation, incorporating measures to mitigate potential flood risks. The ground floor level features curbing with integral passive flood mitigation, while critical infrastructure has been raised to Level 2 to ensure a responsive and resilient building. Building C1 will be resilient to the 2070 10-year precipitation and storm surge elevation of EL 21.9' with passive flood mitigation. A 35" sill will protect areas of the ground floor below EL 21.9'. Passive flood gates installed at all building entries below EL 21.9 will rise automatically in the event of a flood, protecting building occupants and property without active measures. Critical infrastructure will be elevated above the 2070 100-year precipitation and storm surge elevation of EL 23.5.

ENVIRONMENTAL IMPACT (WIND, NOISE)

Building C1 has been designed to mitigate adverse environmental impacts upon its neighbors. The team has tested wind conditions to reflect planting, landscape and the Building C1 design in six development configurations of the buildings on the Volpe site. A pedestrian wind study is included in this submission. Results from the study inform how the building is designed including mechanical penthouse layouts and equipment design as well as site features such as tree placement. Based on the results of these studies, the areas around Building C1 are in the comfortable range for sitting, standing, and walking. In the interim condition when the R1 Building is present, potentially uncomfortable wind speeds are expected occasionally in a small area of the sidewalk between C1 and R1. This temporary condition will be mitigated by proposed landscaping in the Third Street Park and adjacent sidewalks. Winds speeds on the site will be further reduced with the addition of all the Volpe masterplan

buildings and proposed masterplan landscaping.

Mechanical equipment will be designed to address noise and exhaust with sound attenuating and other noise mitigation features. As currently specified, all project mechanical and electrical equipment will comply with state regulations and with the City of Cambridge noise regulations at all nearby properties. Parts of the facade will function as an acoustical barrier around rooftop equipment. The air source heat pumps will be provided with manufacturer's discharge sound attenuators and acoustical compressor wraps. The air handlers will be provided with sound attenuators for the outside ductwork. The EAHUs will be provided with discharge sound attenuators on the exhaust side. Cooling towers will be equipped with the manufacturers' reduced noise fans and controlled with variable frequency drives. Emergency generators will be provided with sound-reducing weatherproof enclosures.

A shadow study is included in this submission to reflect the design development since granting of the Special Permit.

SUSTAINABILITY

MIT's commitment to sustainable development in the Volpe Redevelopment project is demonstrated in the C1 design to meet the rigorous requirements of the Massachusetts Stretch Energy Code (10th Edition) and the City of Cambridge's Net Zero Action Plan. The C1 building is a next-generation sustainable structure that minimizes environmental impact while promoting sustainable practices. Sustainability is an integral part of the building's design, with a projected 48% reduction in energy use over the baseline, a focus on resiliency, operational efficiency and a positive contribution to the community. In addition, the building is designed to be all-electric ready for future conversion.

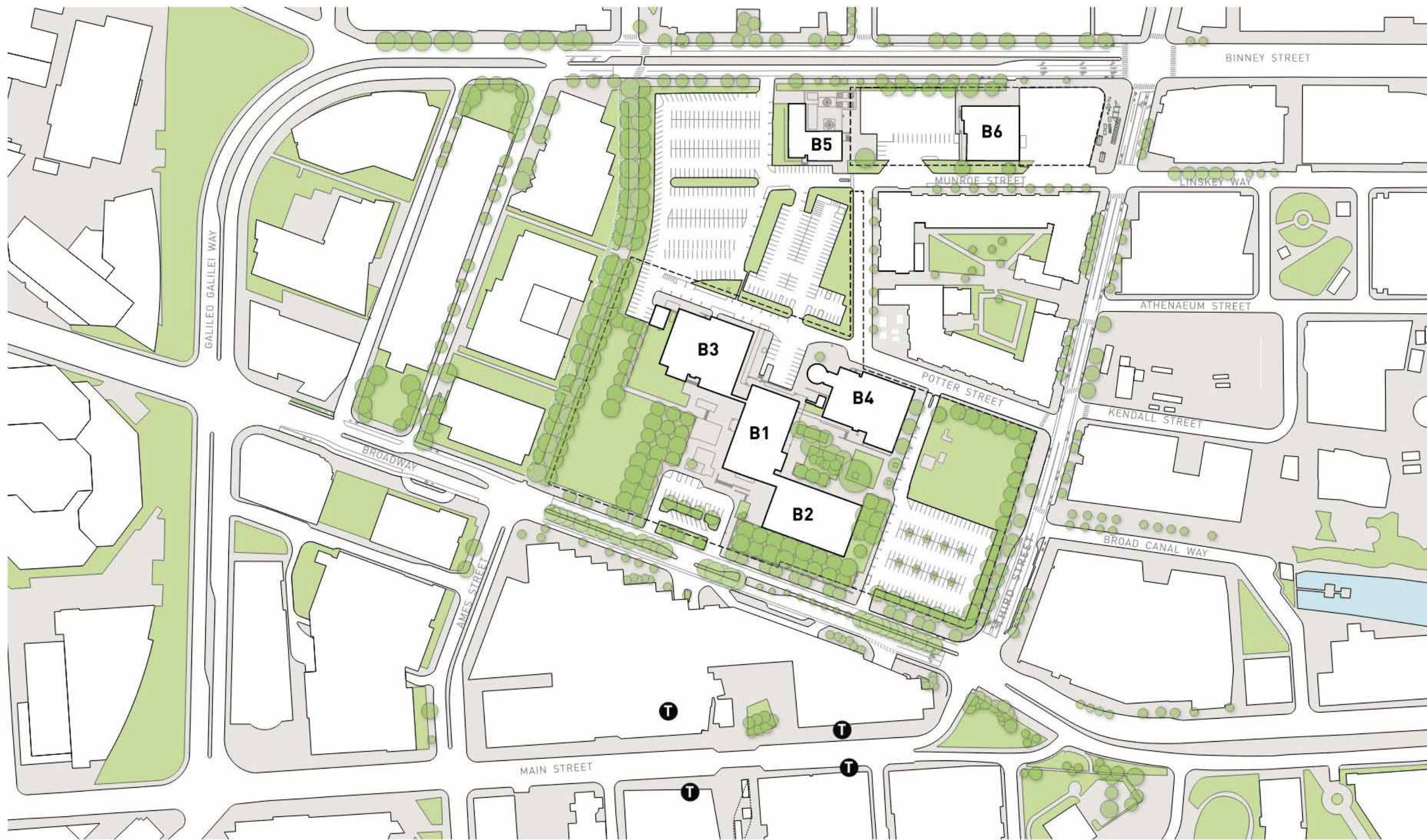
To achieve these goals, the project has employed an integrated design process that brings together technical experts to ensure the operational and functional efficiency of C1 is integrated with the entire Volpe Redevelopment. This approach has allowed the project to incorporate best practices when considering design and operation, storm water management, black water reuse, accessibility, and landscaping strategies.

The building design also conforms to Article 22 requirements and meets the Leadership in Energy and Environmental Design

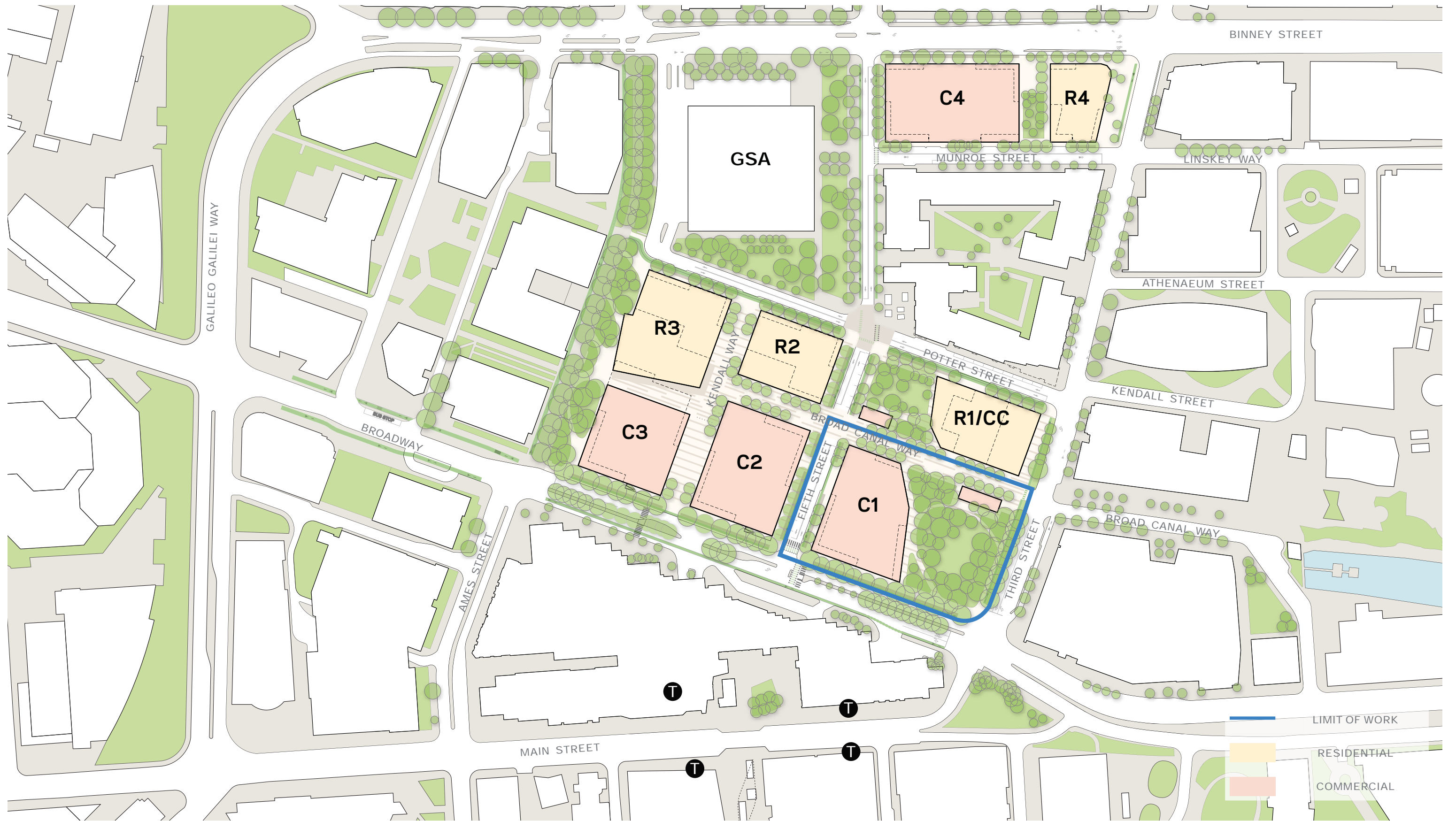
(LEED) Gold standard, with a projected rating of 75 points under Version 4 of the rating system. The team continues to evaluate opportunities for achieving a LEED Platinum rating. Through its incorporation of the latest energy standards and sustainability initiatives, such as material content disclosures that prioritize healthy buildings and indoor environments, the Volpe redevelopment will be one of the largest LEED developments in Cambridge. As required by Special Permit #368, included in this submission are a LEED Checklist and Narrative for Building C1 consistent with the City of Cambridge's Article 22 Special Green Building Permit and Planning Unit Development (PUD) District 7 zoning requirements. These materials address the sustainability standards contained in Section 13.89.4 and the sustainability strategies and guidelines set forth in Appendix D of Special Permit #368.

2. Design Review Graphic Material



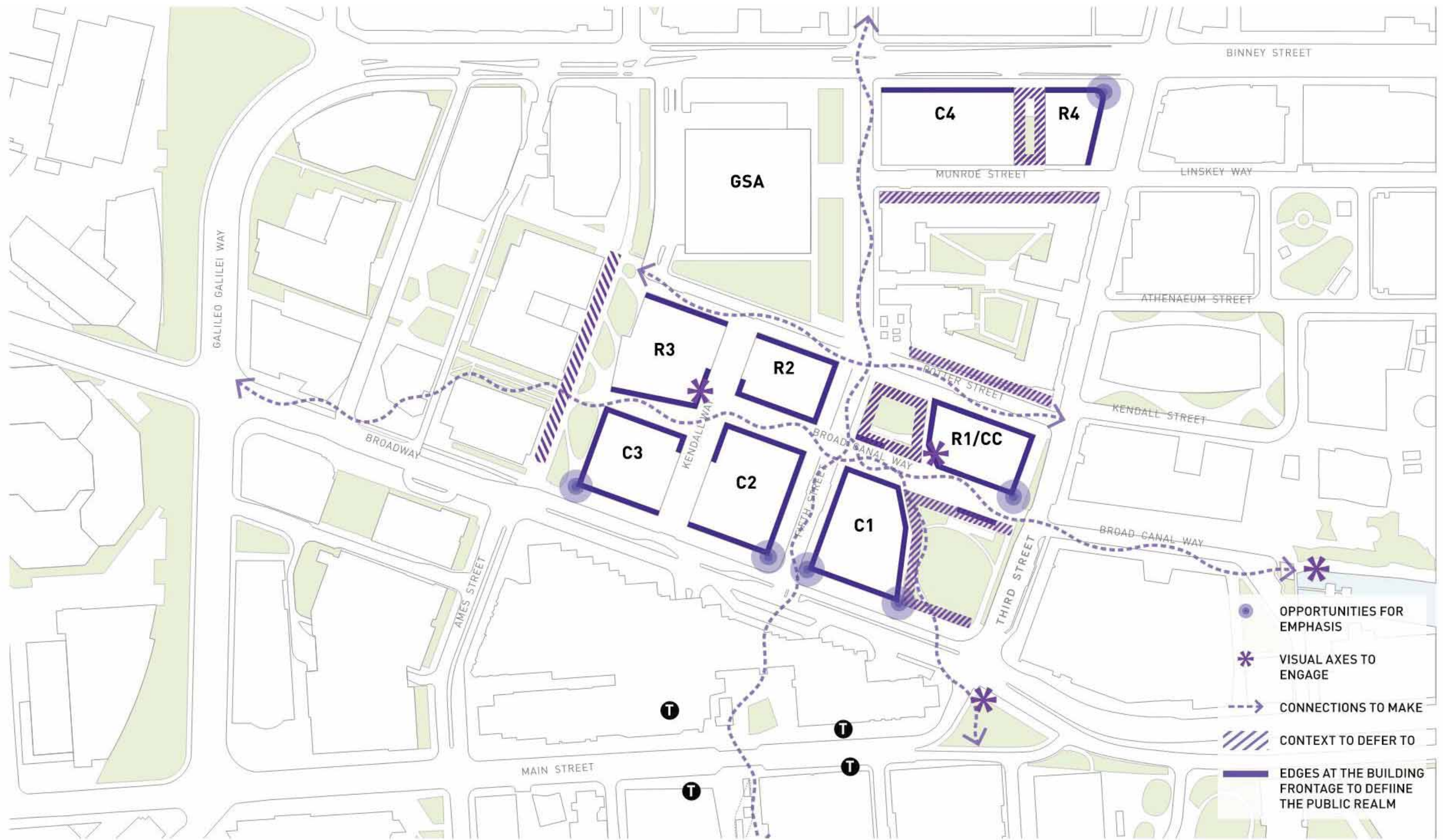


2021-06-04 FINAL DEVELOPMENT PLAN, VOLUME 2

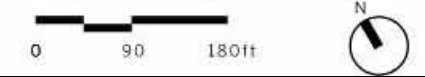


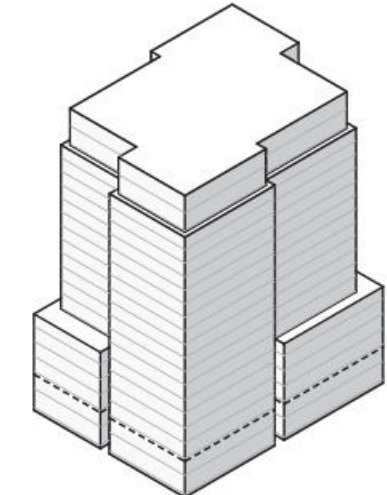
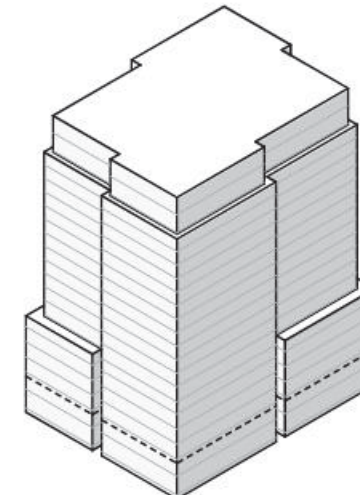
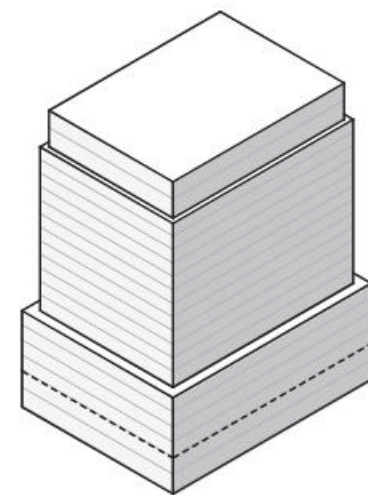
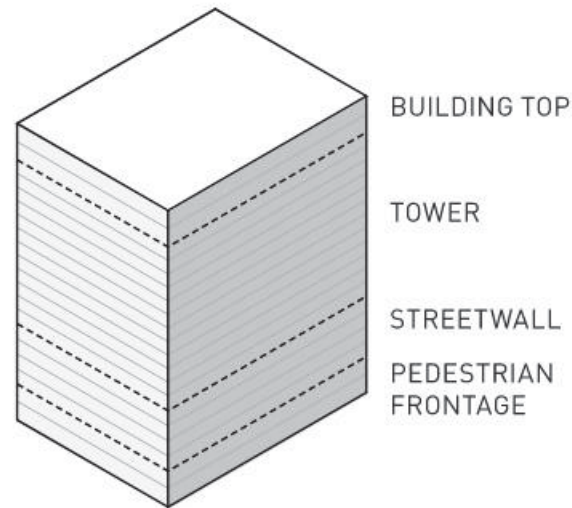
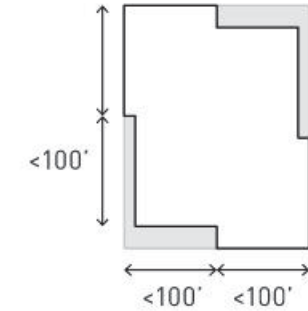
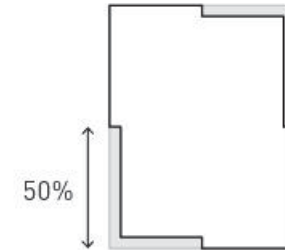
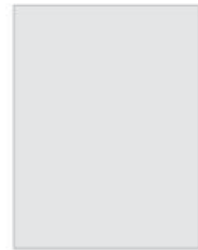
2021-06-04 FINAL DEVELOPMENT PLAN, VOLUME 2





2021-06-04 FINAL DEVELOPMENT PLAN, VOLUME 2





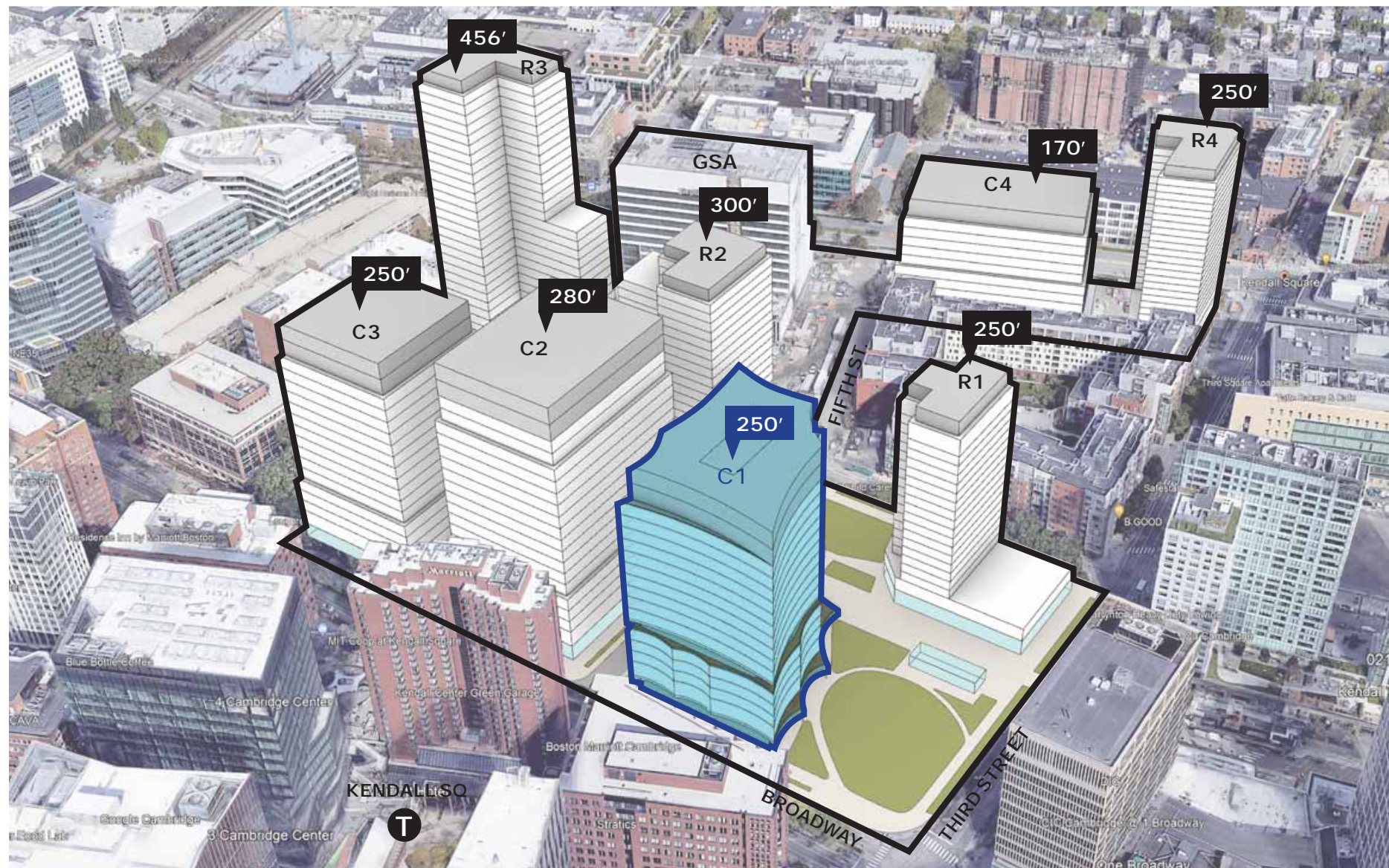
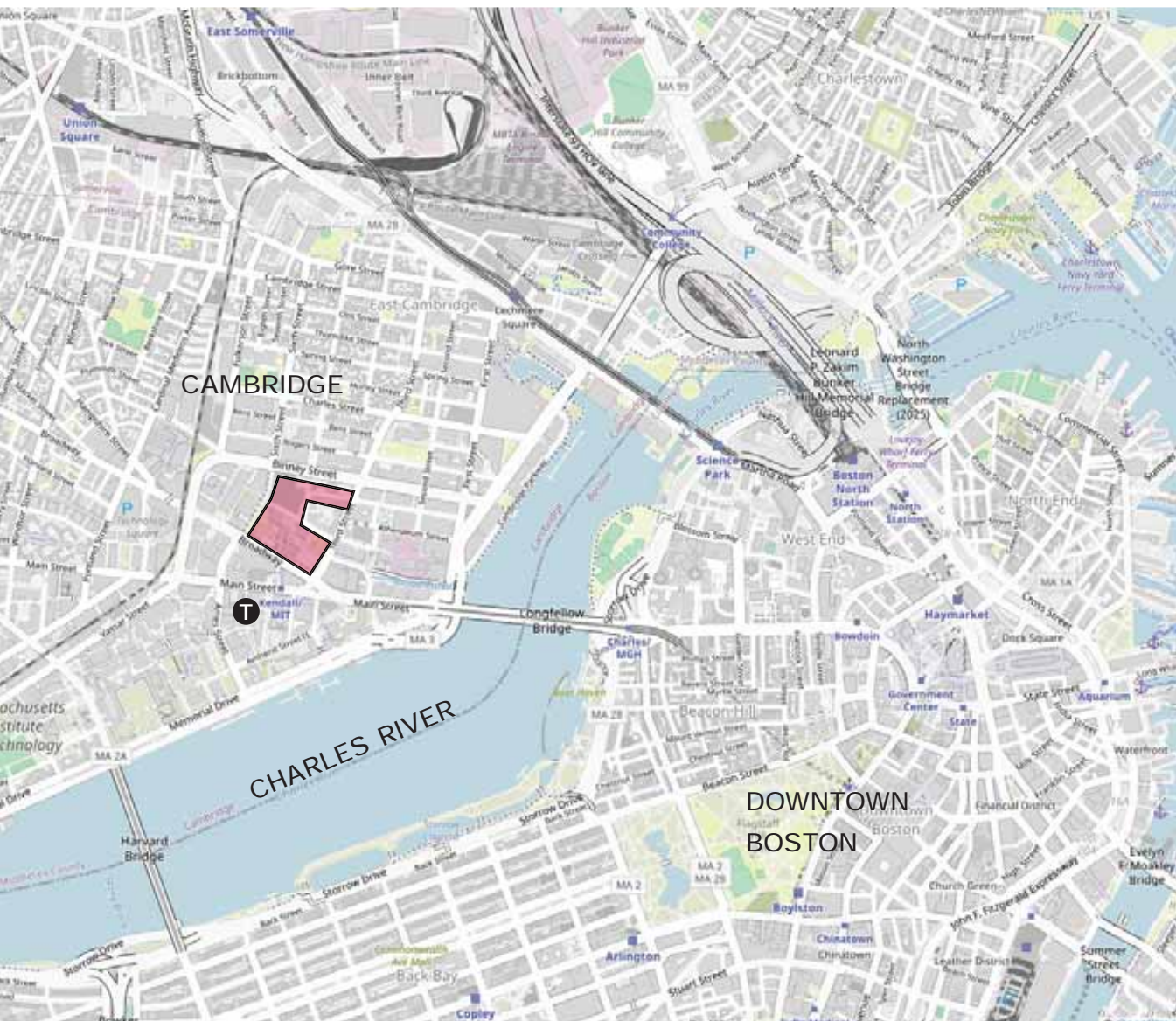
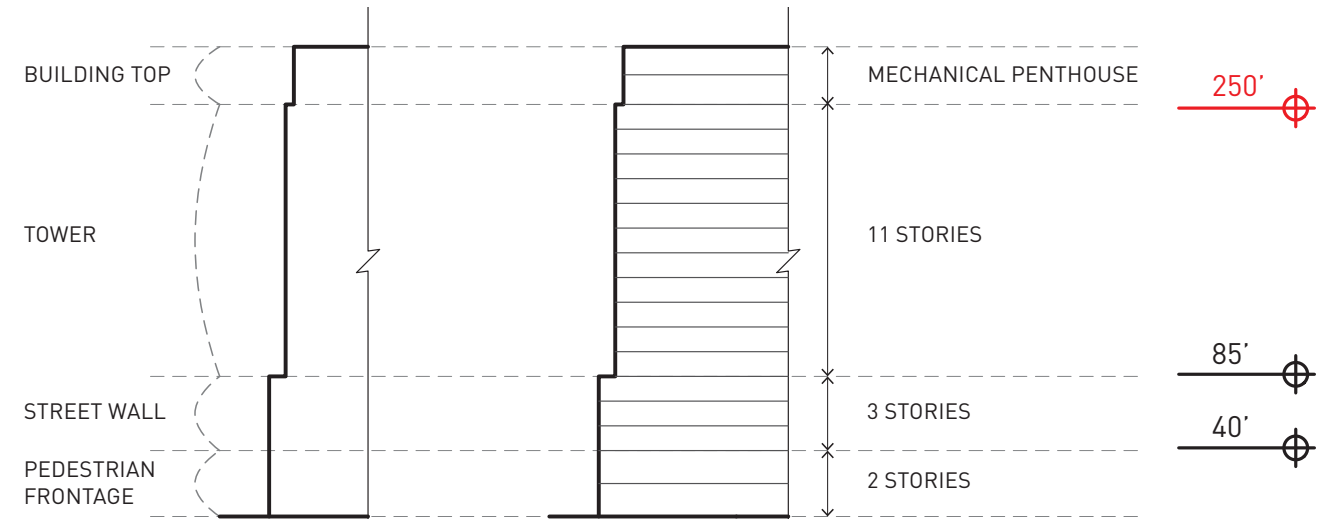
Buildings should consist of up to four different, but integrated zones - the pedestrian frontage zone, the streetwall, the tower, and the building top.

Tower frontage should be set back 8 - 10 ft from the streetwall. Building Tops should be stepped back a minimum of 5 ft from the plane of the tower façade.

50 - 80% of tower frontage should be set back 8 - 10 ft from the streetwall with greater setbacks provided at open spaces, Loughrey Walkway, and the 303 Third Street.

On towers greater than 100 ft in horizontal length, create vertical zones, differentiated by changes in plane of at least 8 ft.

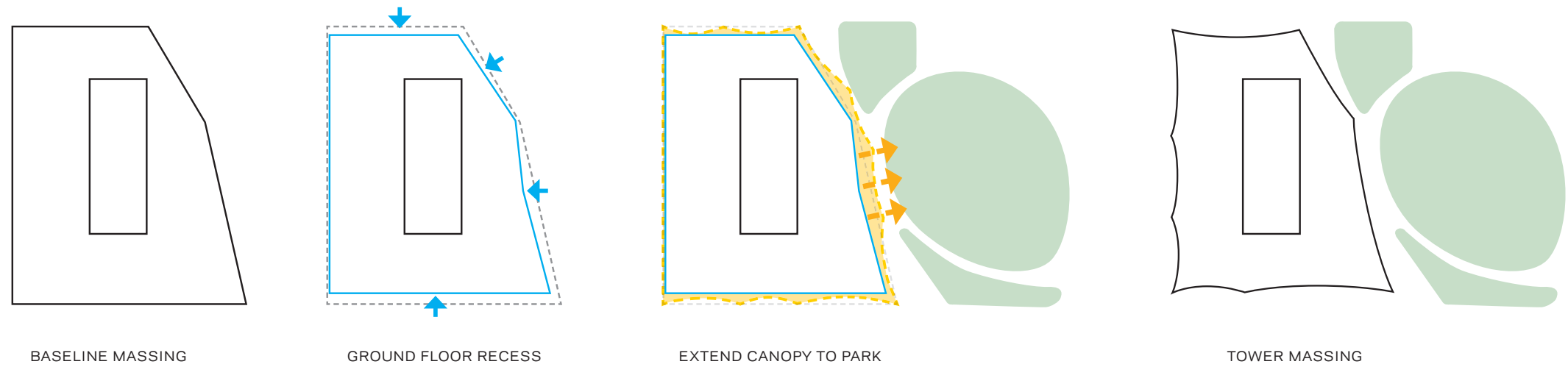
C1 DESIGN GUIDELINE



MASSING CONCEPT

The tower massing is a direct response to the organic nature of the park within the city. The scalloped form is responding to the energy of the landscape and city spaces between buildings, creating a welcoming gesture to the public space.

The massing plays with this concept at different scales; shifting from smaller pedestrian scale curves in the podium to larger gestural curves in the tower, that respond to the zoning setback requirements. A unified massing is curated by maintaining key inflection points vertically up through the penthouse on each facade.

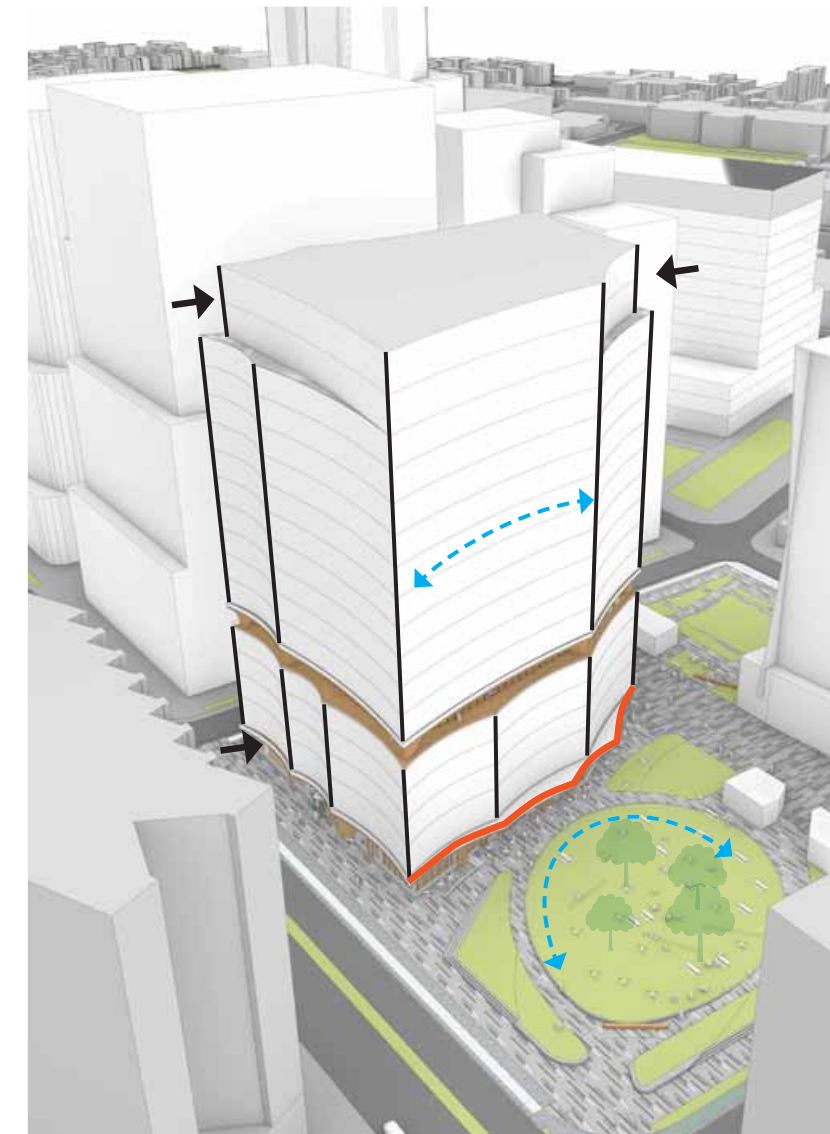


BASELINE MASSING

GROUND FLOOR RECESS

EXTEND CANOPY TO PARK

TOWER MASSING





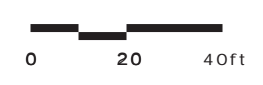


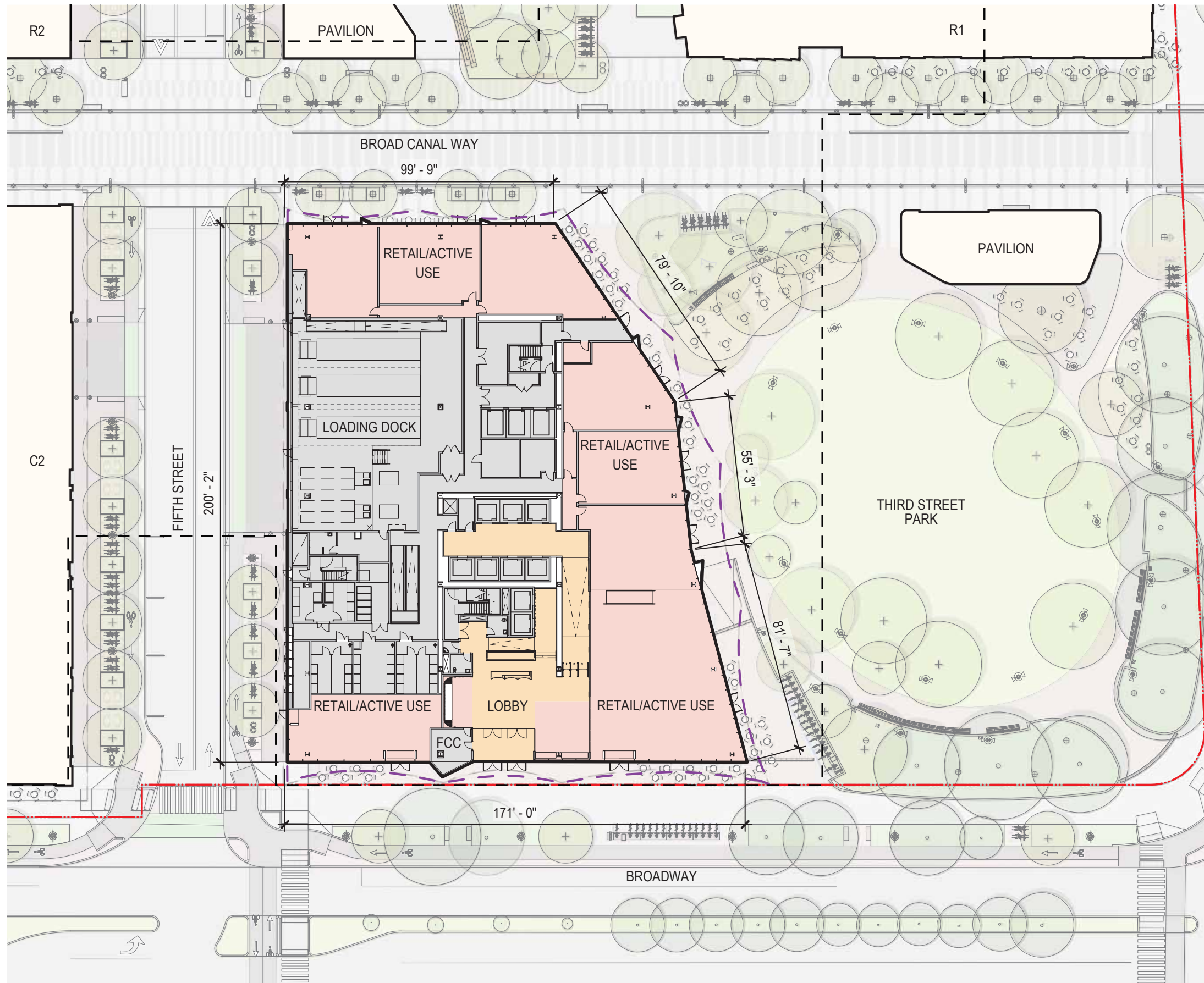






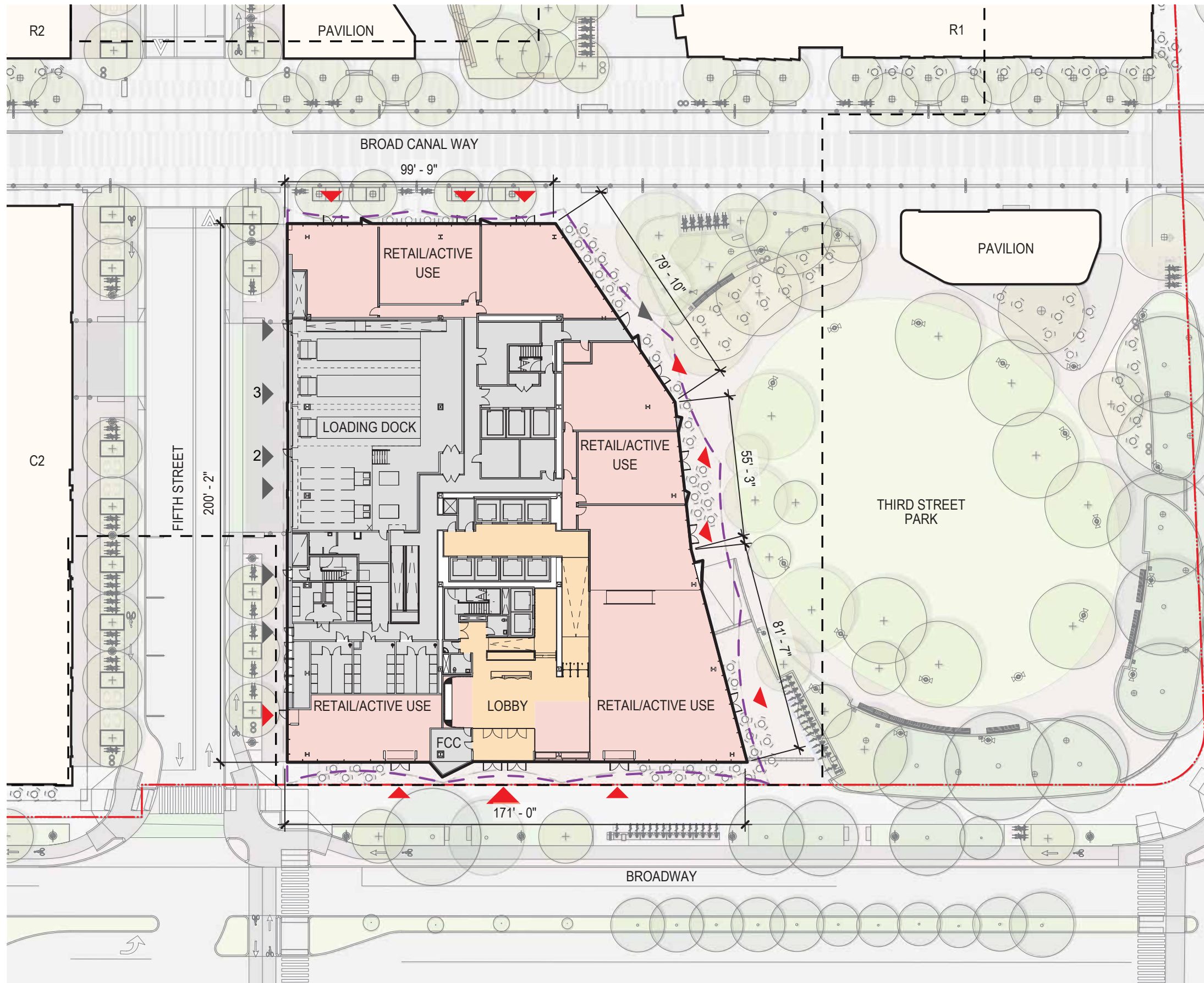
— LIMIT OF WORK





- - - - - PROPERTY LINE
- - - - - LINE OF GARAGE BELOW
- - - - - CANOPY ABOVE
- RETAIL/ACTIVE USE
- LAB/OFFICE
- MECHANICAL/BOH

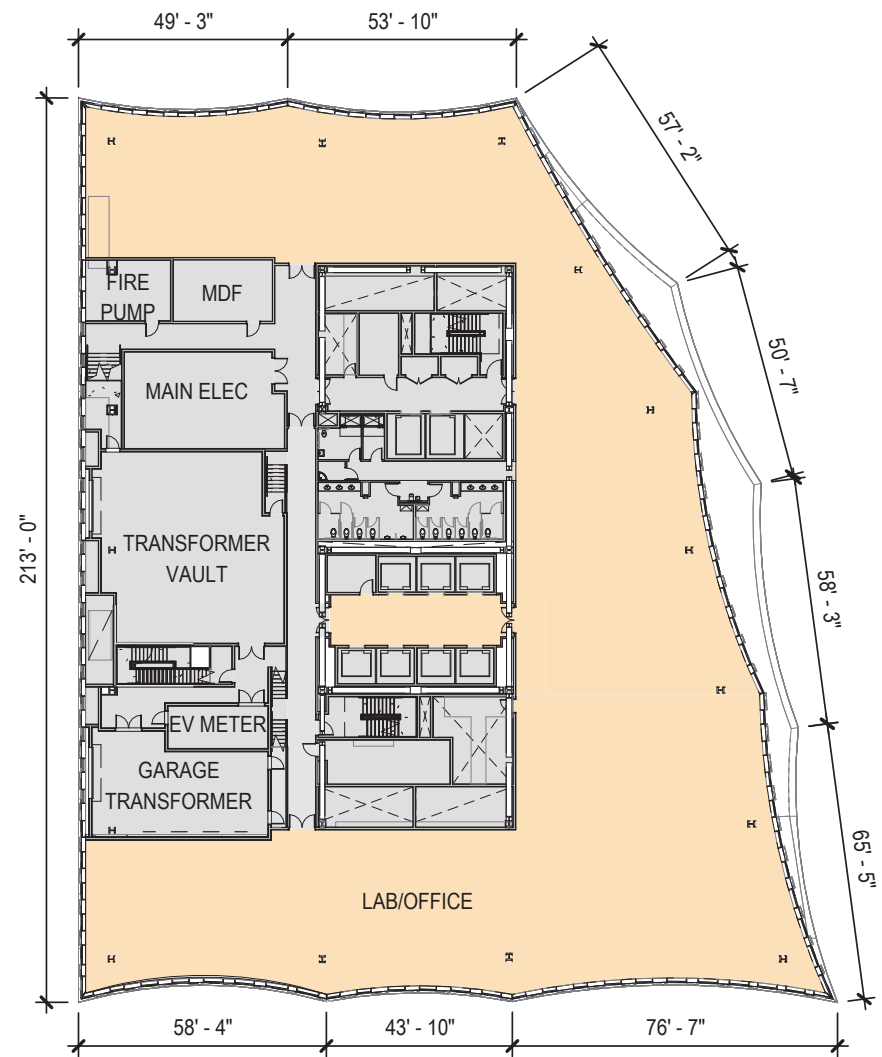




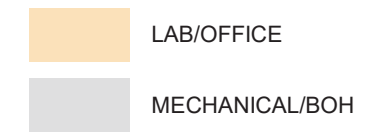
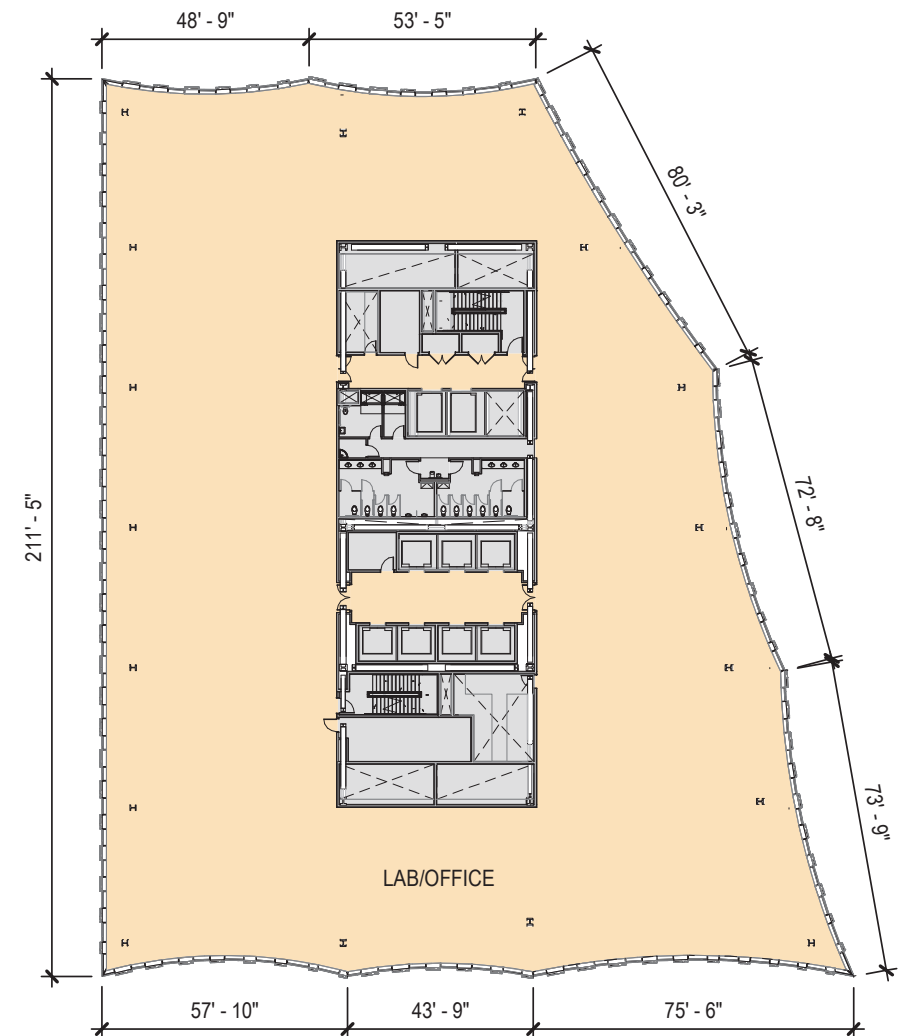
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- ▲ BUILDING SERVICE ENTRY
- ▲ RETAIL ENTRY OR SECONDARY BUILDING ENTRY
- ▲ BUILDING ENTRY
- PROPERTY LINE
- - - LINE OF GARAGE BELOW
- - - CANOPY ABOVE
- RETAIL/ACTIVE USE
- LAB/OFFICE
- MECHANICAL/BOH



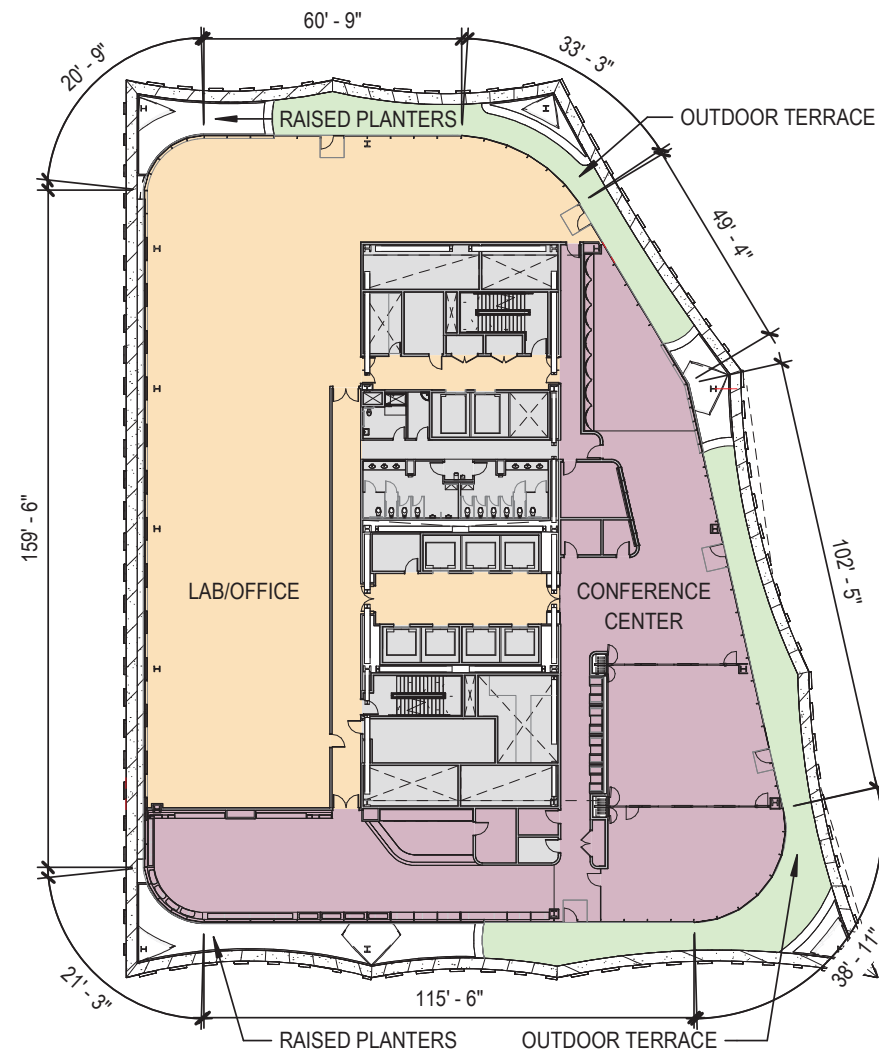
Level 2



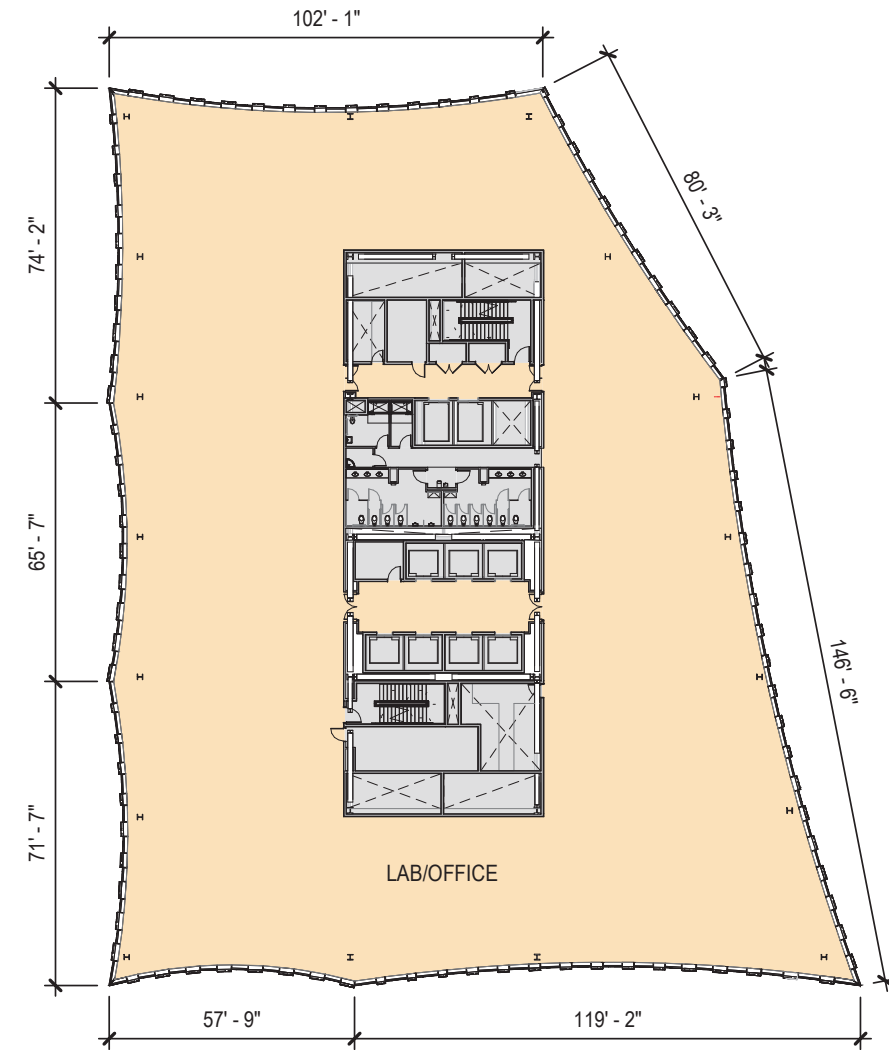
Levels 3-5



Level 6



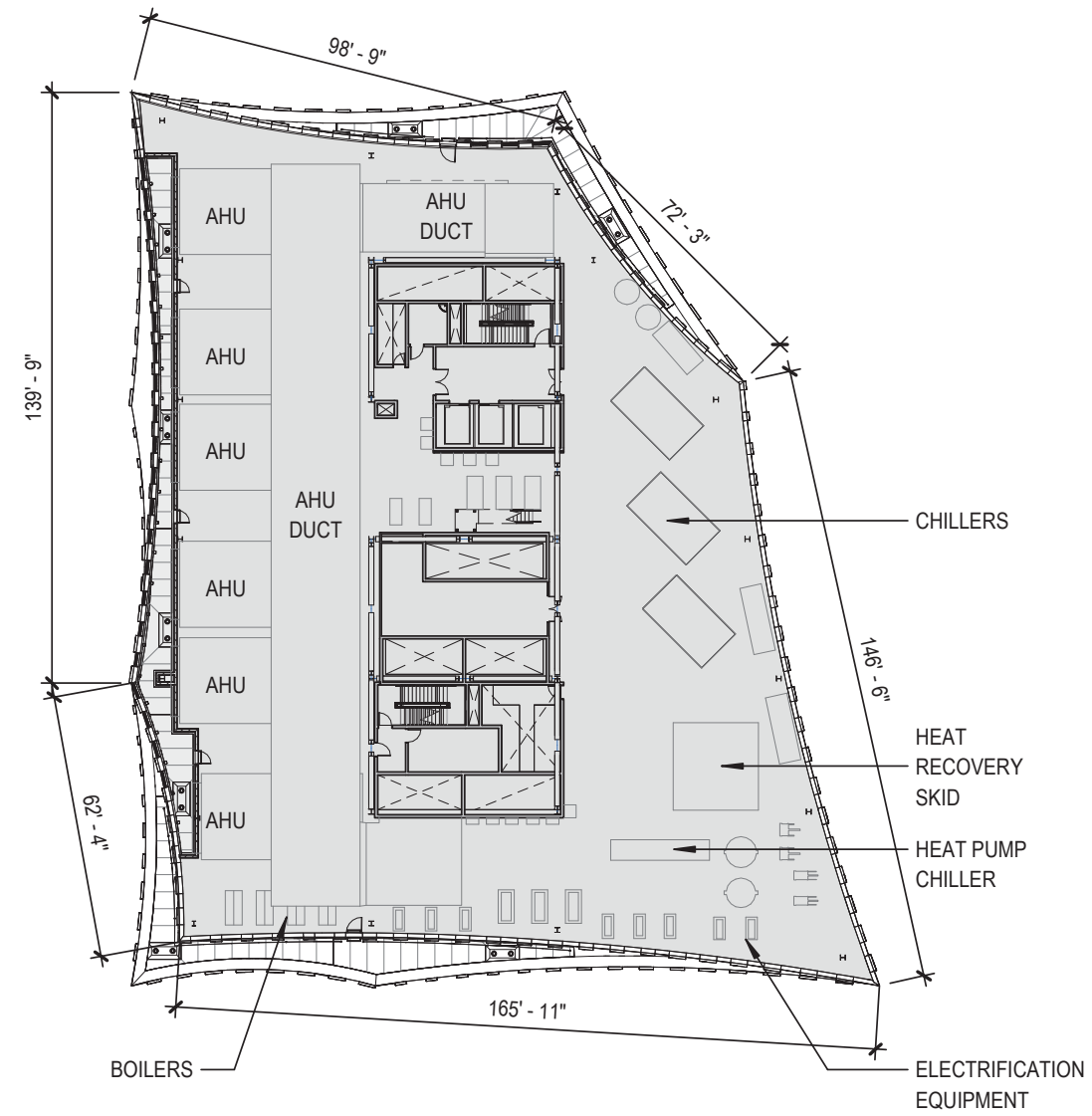
Levels 7-16



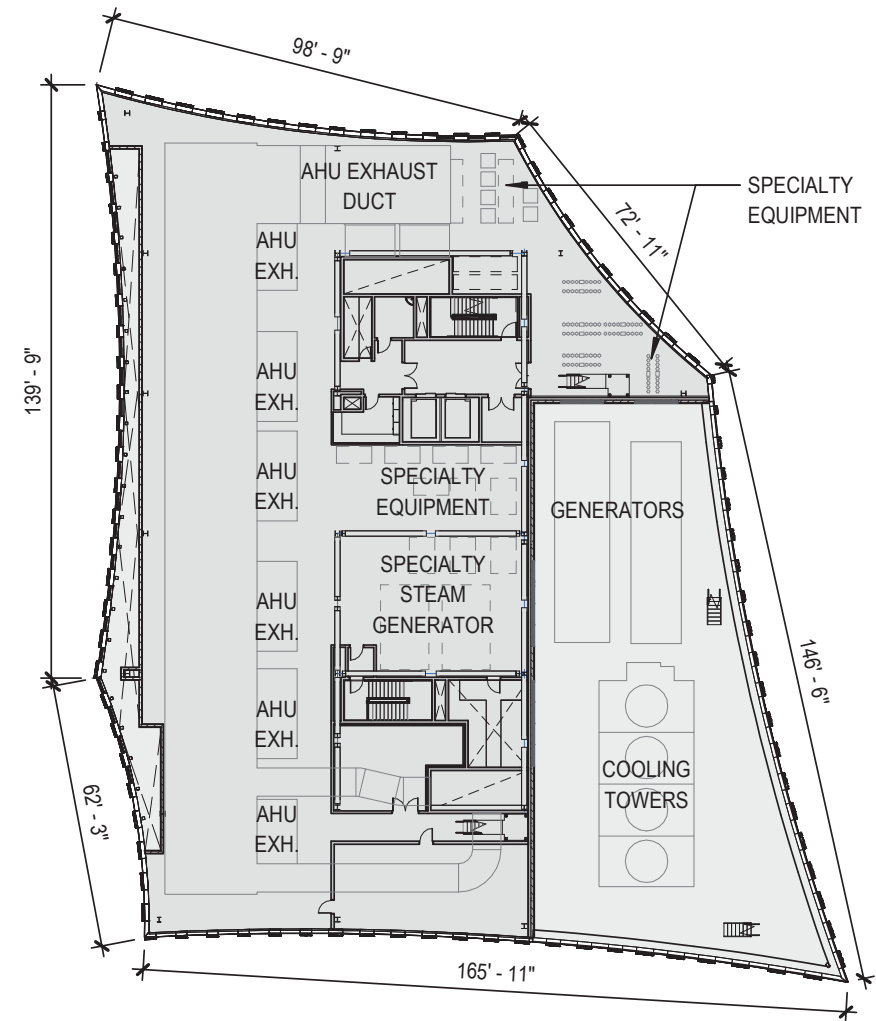
- TERRACES
- AMENITY
- LAB/OFFICE
- MECHANICAL/BOH



Level M1



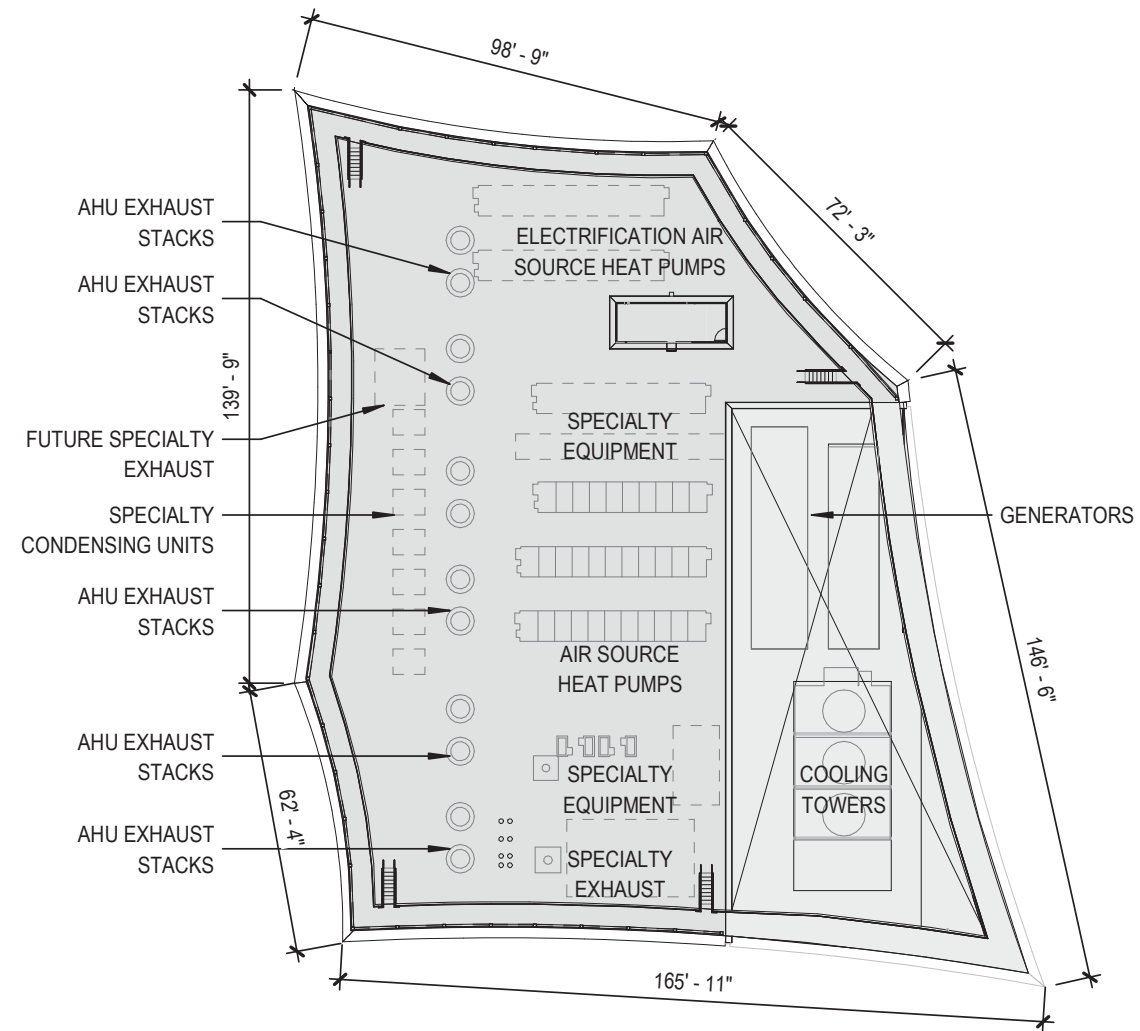
Levels M2



MECHANICAL/BOH

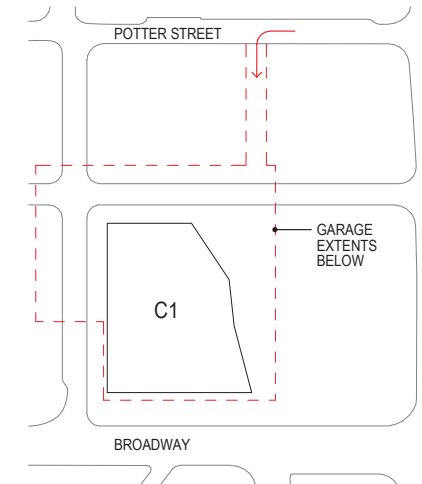


Roof



MECHANICAL/BOH



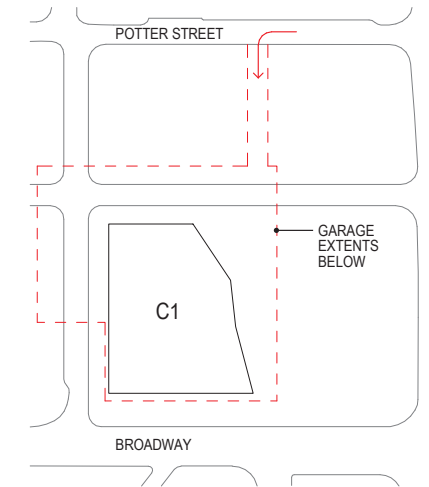


	Total Garage Spaces	C1 Striped Spaces	C1 Compact Spaces
P1	112	86	39
P2	152	116	49
P3	156	119	50
Total	420	321	138

420 Potential Spaces Constructed with Garage
 321 to be Striped as Part of C1

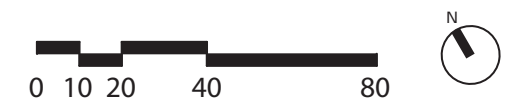
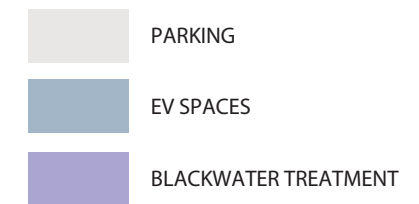
- LONG TERM BICYCLE PARKING
- PATH TO BICYCLE PARKING
- PARKING
- EV SPACES
- BLACKWATER TREATMENT

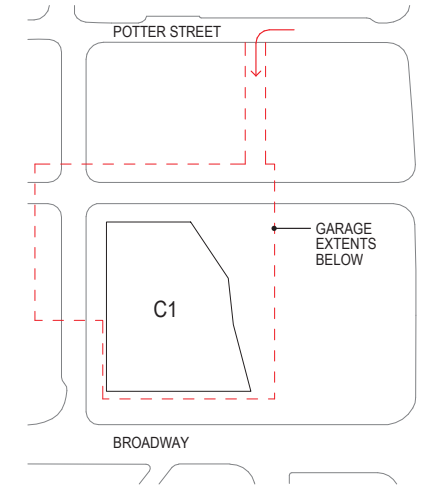
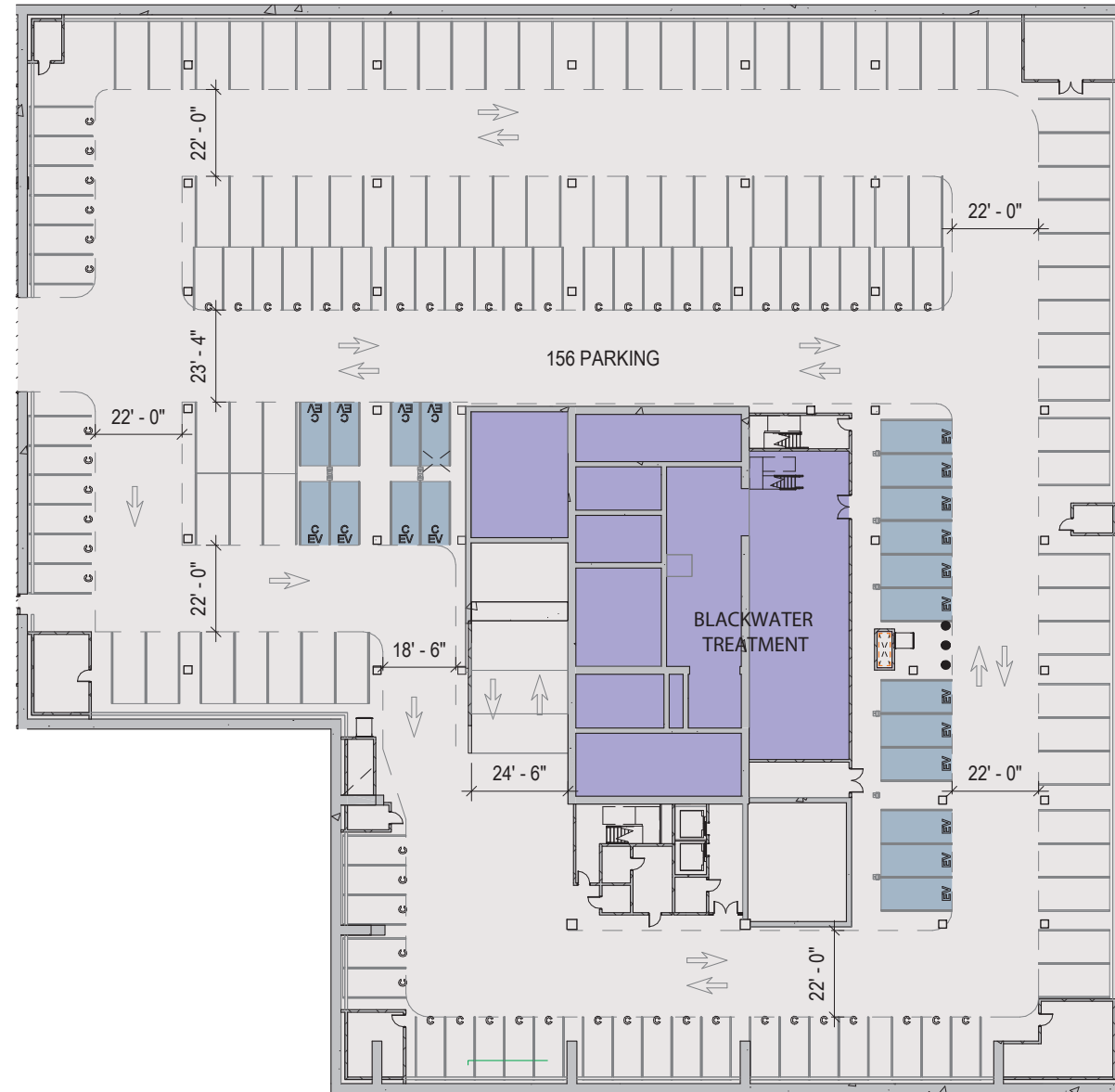




	Total Garage Spaces	C1 Striped Spaces	C1 Compact Spaces
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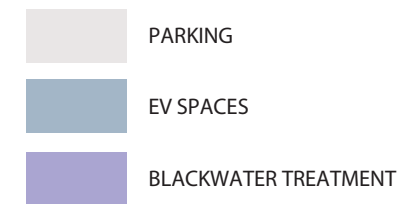
420 Potential Spaces Constructed with Garage
 321 to be Striped as Part of C1

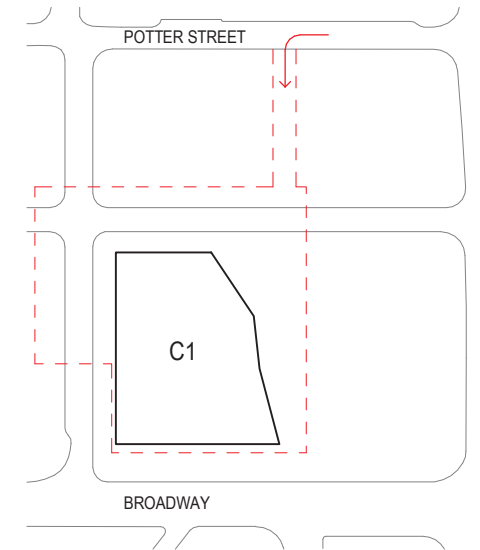
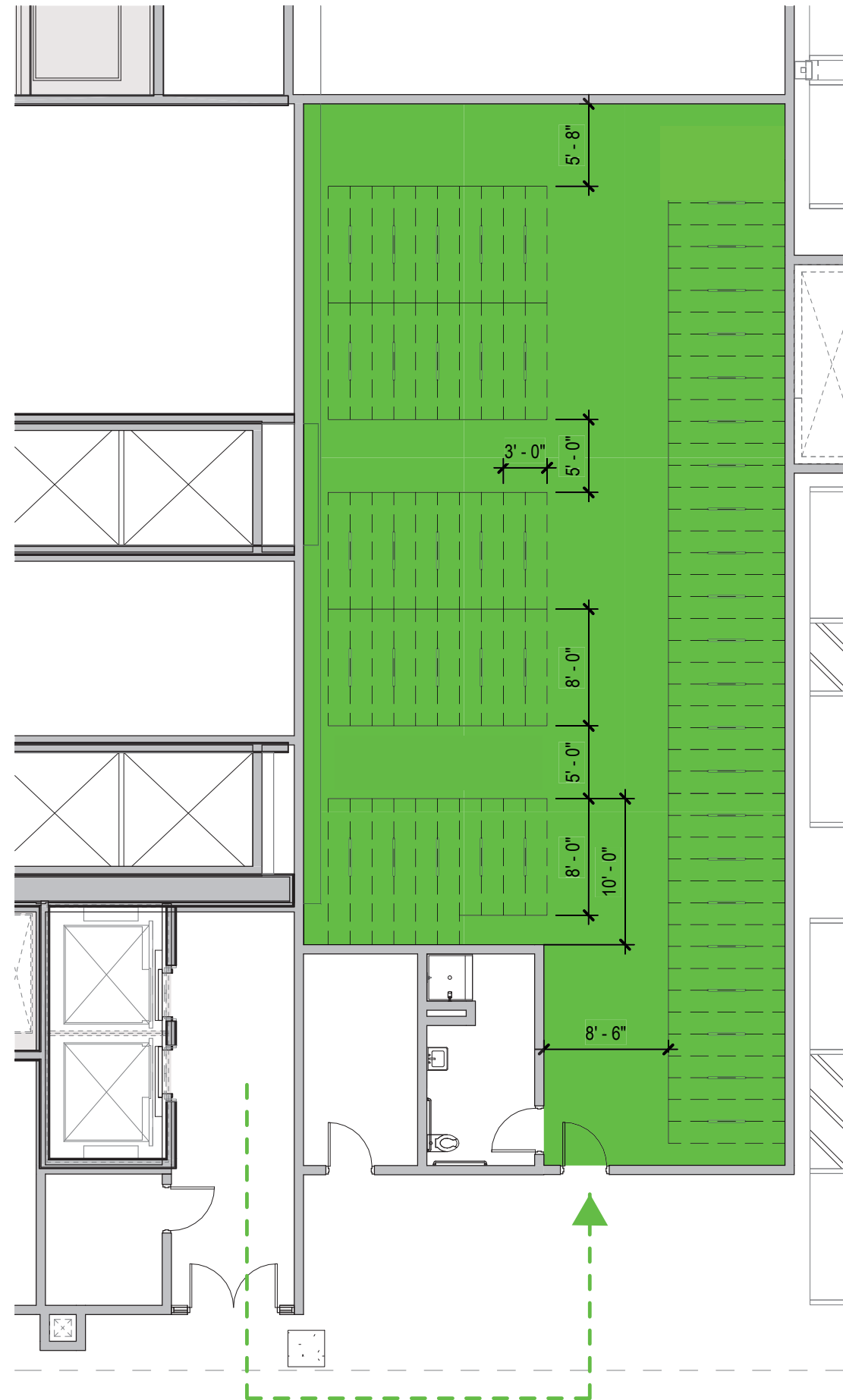




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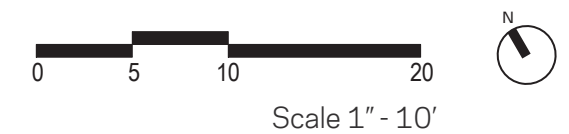
420 Potential Spaces Constructed with Garage
321 to be Striped as Part of C1

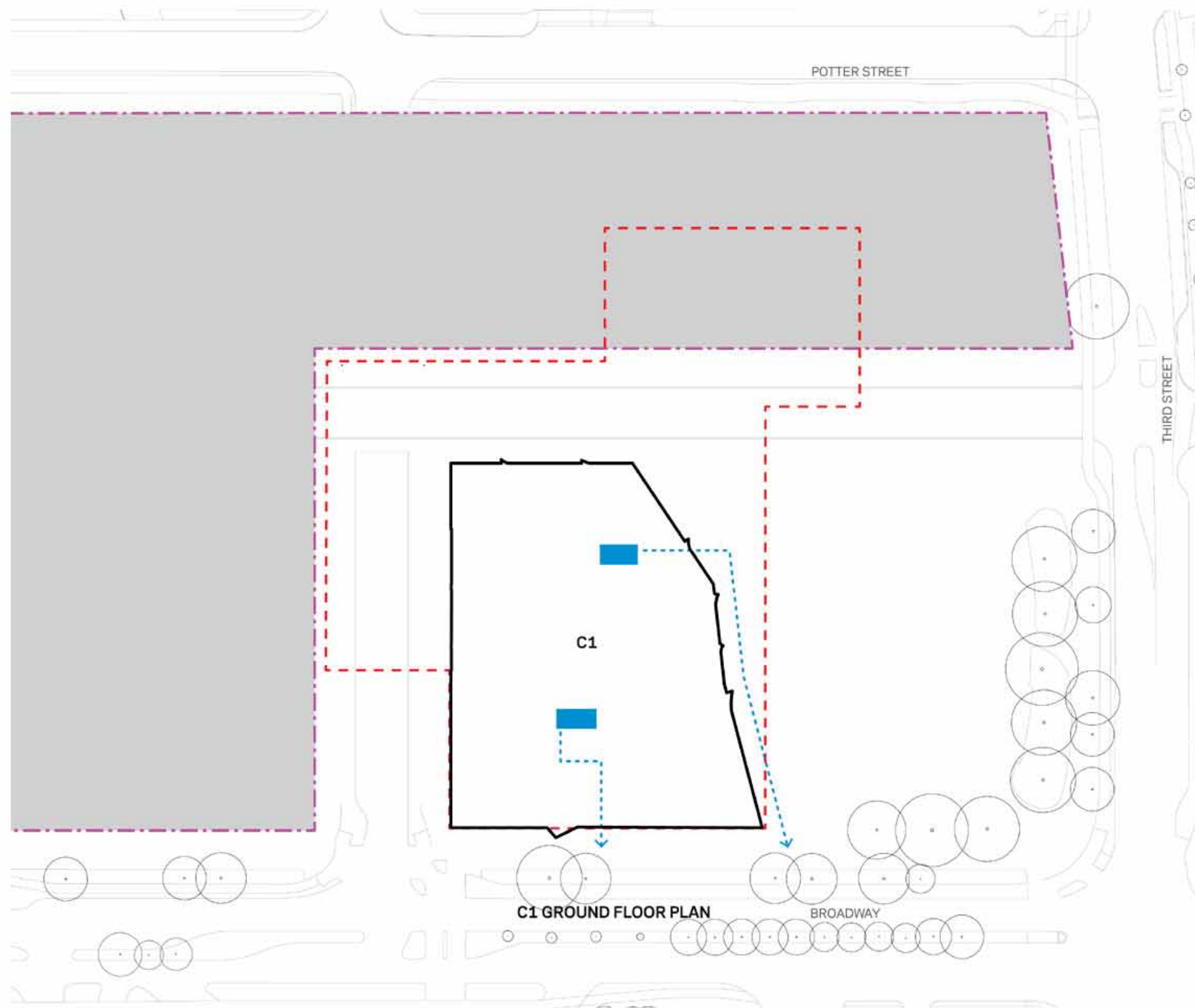




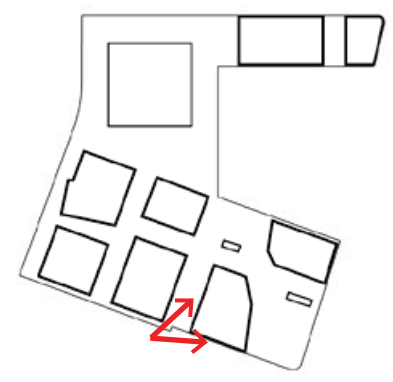
93 LONG TERM BICYCLE PARKING SPACES

- LONG TERM BICYCLE PARKING
- PATH TO BICYCLE PARKING

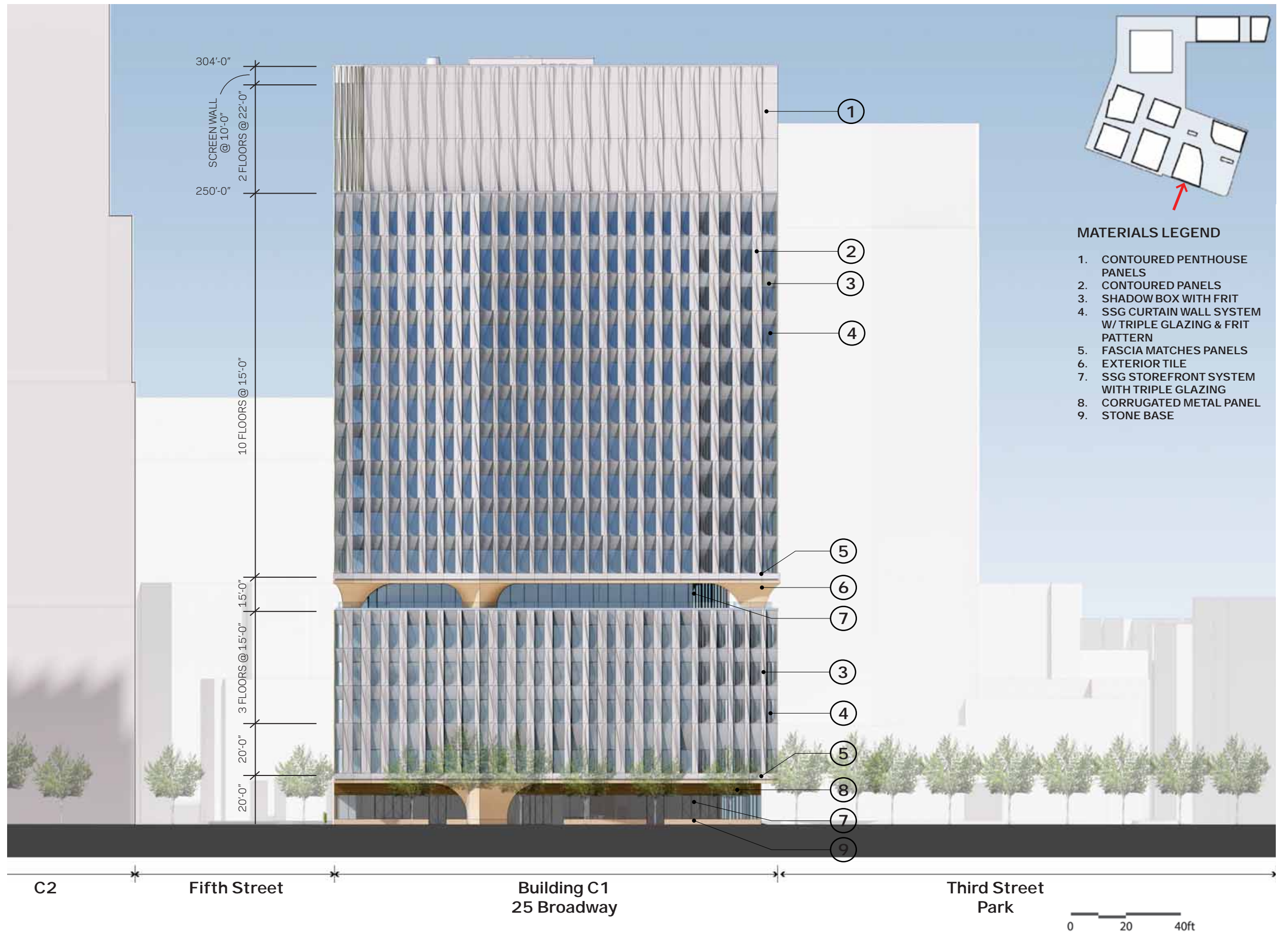












MATERIALS LEGEND

1. CONTOURED PENTHOUSE PANELS
2. CONTOURED PANELS
3. SHADOW BOX WITH FRIT
4. SSG CURTAIN WALL SYSTEM W/ TRIPLE GLAZING & FRIT PATTERN
5. FASCIA MATCHES PANELS
6. EXTERIOR TILE
7. SSG STOREFRONT SYSTEM WITH TRIPLE GLAZING
8. CORRUGATED METAL PANEL
9. STONE BASE

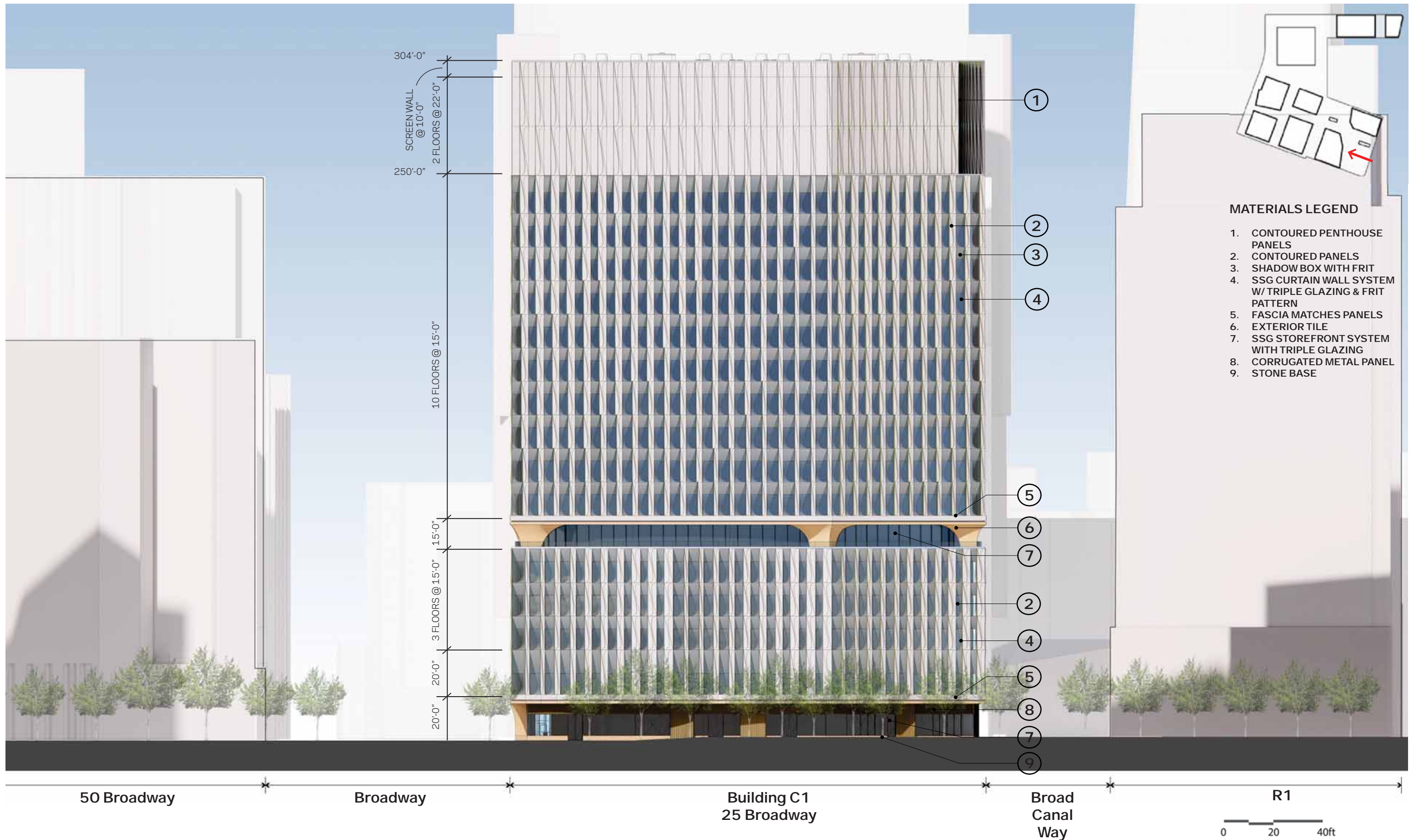
C2

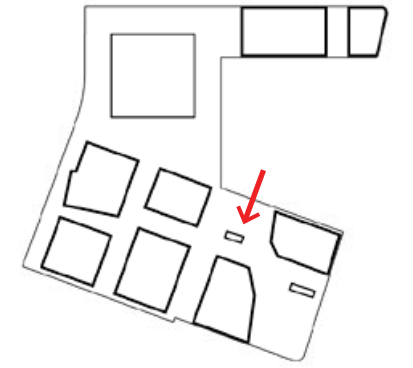
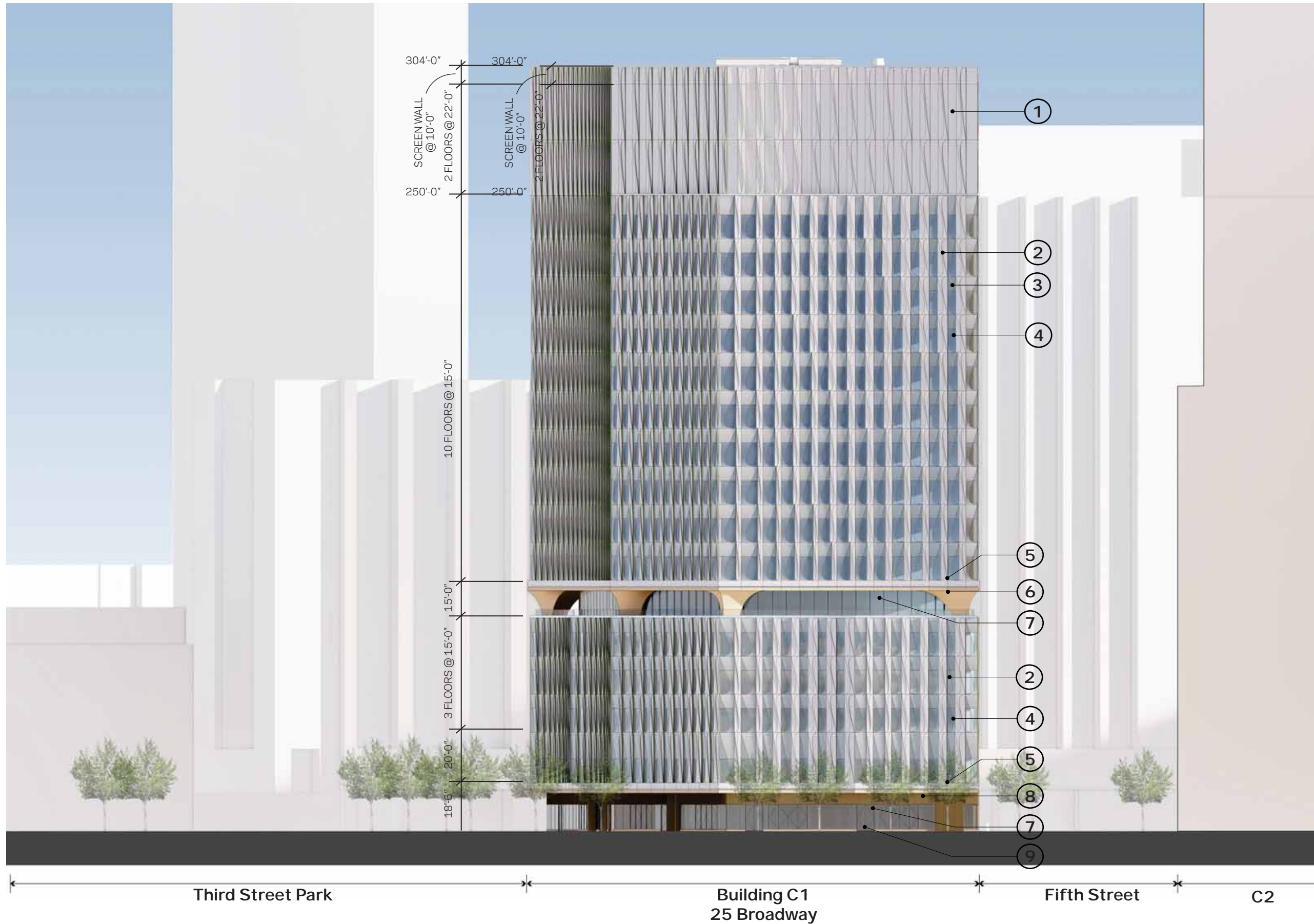
Fifth Street

Building C1
25 Broadway

Third Street
Park

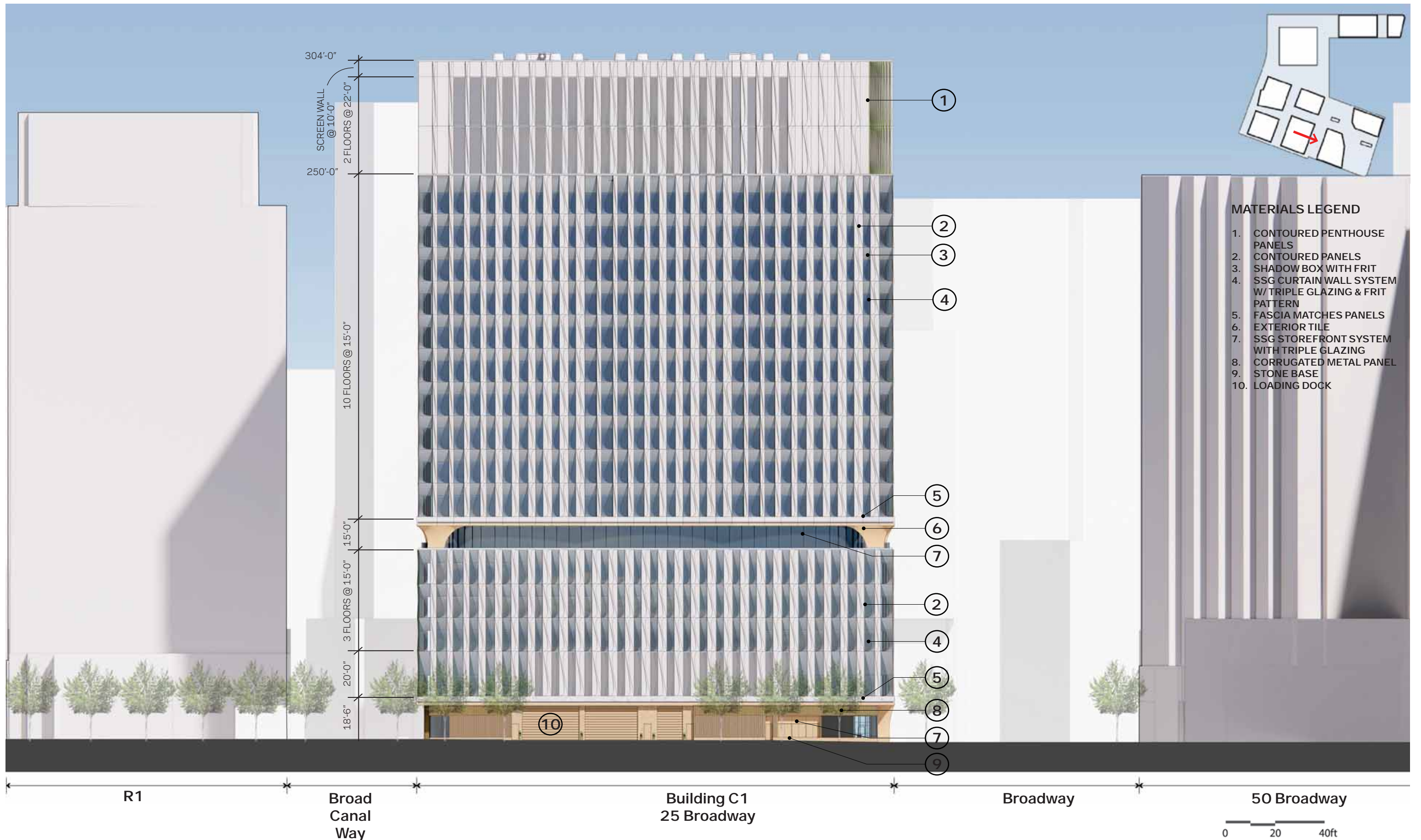
0 20 40ft



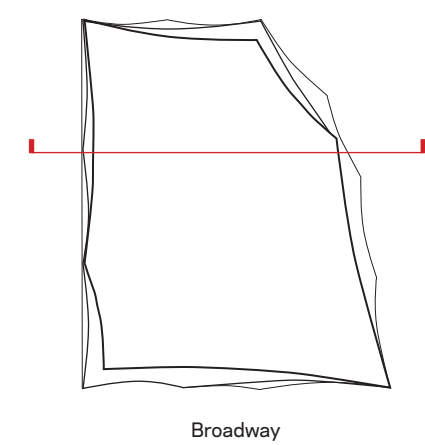
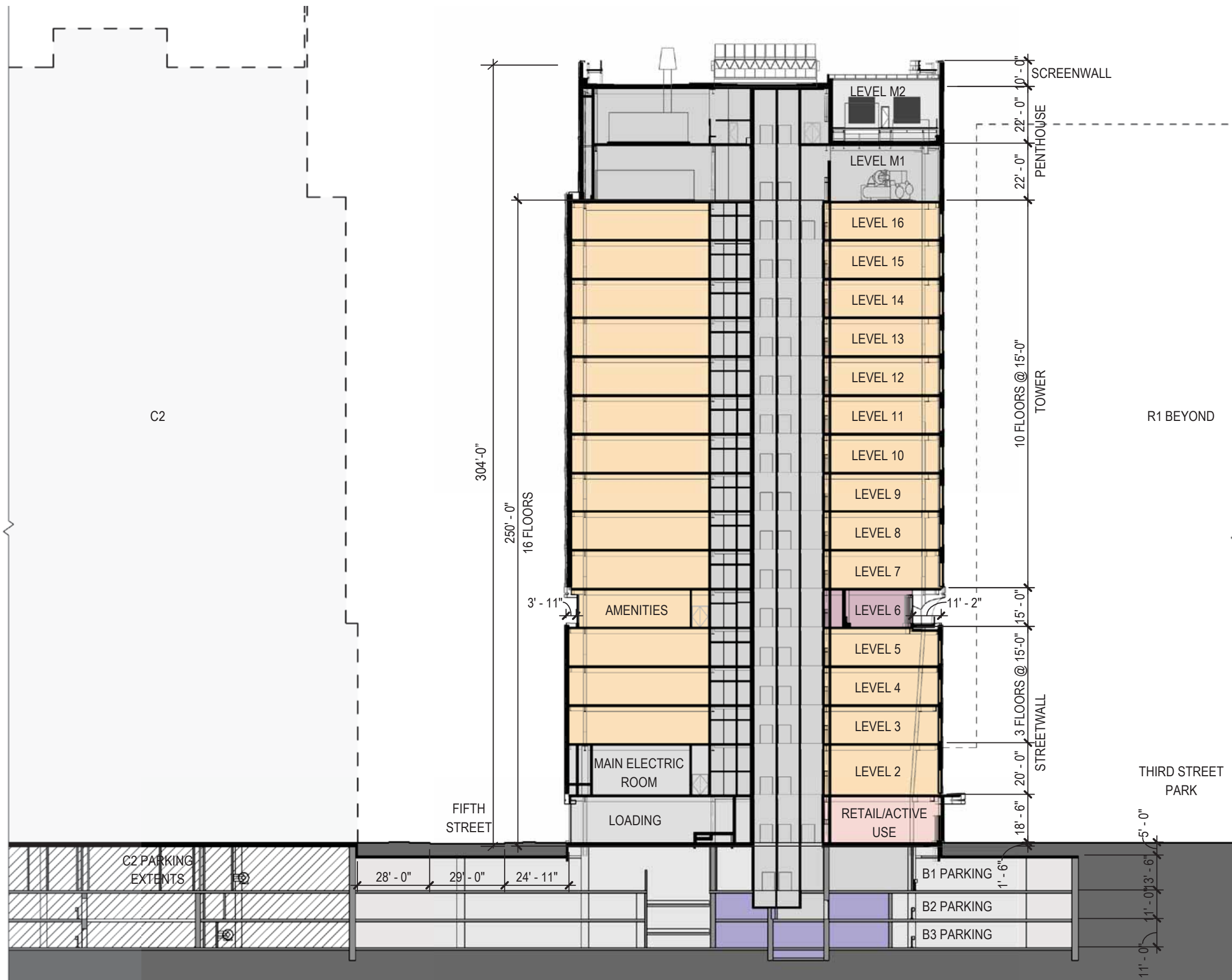





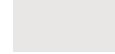
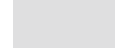

MATERIALS LEGEND


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3. SHADOW BOX WITH FRIT
4. SSG CURTAIN WALL SYSTEM W/ TRIPLE GLAZING & FRIT PATTERN
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8. CORRUGATED METAL PANEL
9. STONE BASE

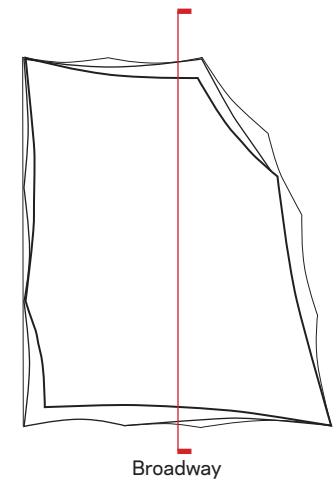
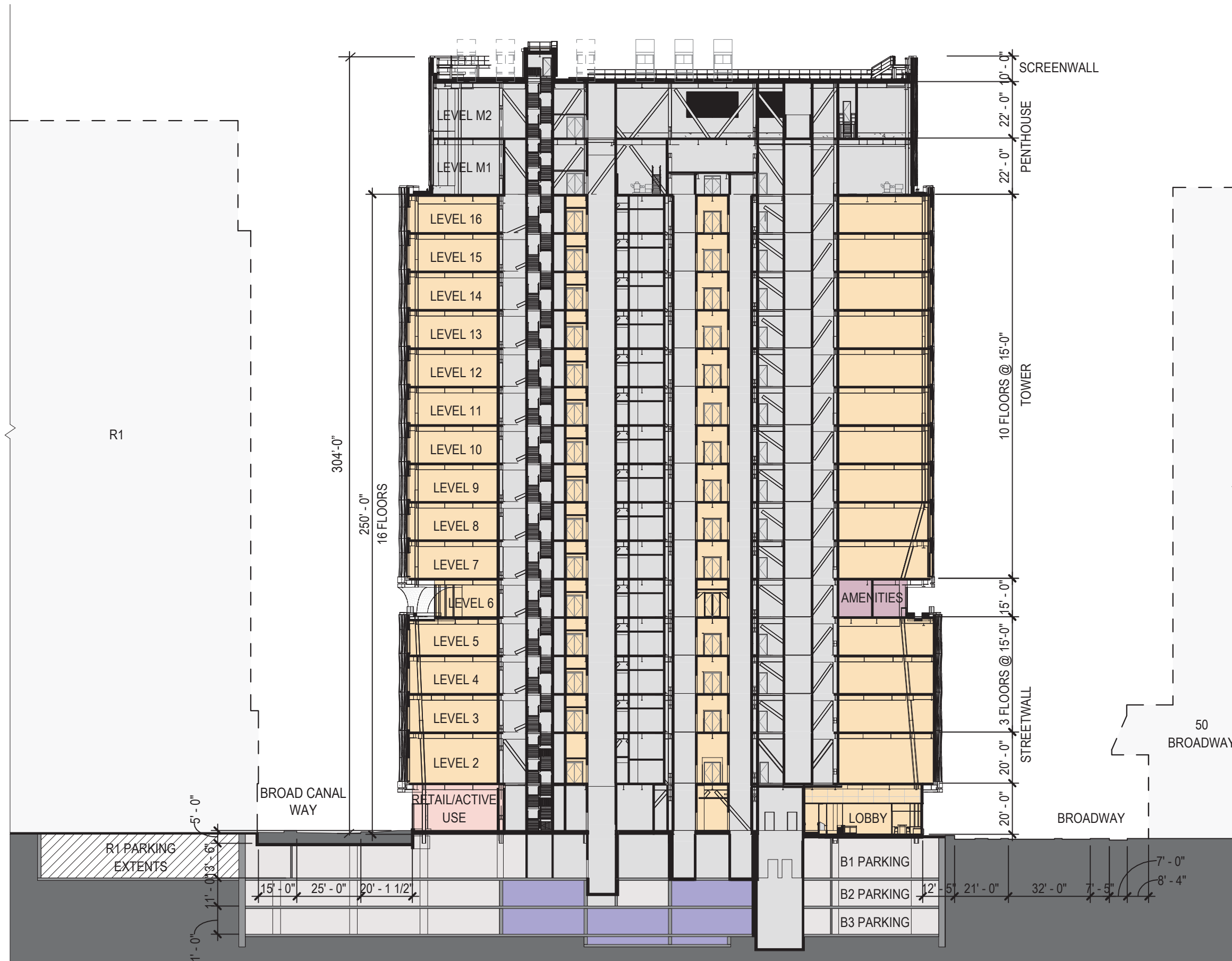


- MATERIALS LEGEND**
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 2. CONTOURED PANELS
 3. SHADOW BOX WITH FRIT
 4. SSG CURTAIN WALL SYSTEM W/ TRIPLE GLAZING & FRIT PATTERN
 5. FASCIA MATCHES PANELS
 6. EXTERIOR TILE
 7. SSG STOREFRONT SYSTEM WITH TRIPLE GLAZING
 8. CORRUGATED METAL PANEL
 9. STONE BASE
 10. LOADING DOCK



	RETAIL/ACTIVE-USE
	AMENITY
	LAB/OFFICE
	PARKING
	MECHANICAL/BOH
	BLACKWATER TREATMENT





- RETAIL/ACTIVE-USE
- AMENITY
- LAB/OFFICE
- PARKING
- MECHANICAL/BOH
- BLACKWATER TREATMENT



Glazing

- Vision Glass
- Shadow Box
- Glass Railing
- Frit Pattern on Glass



Unitized Curtain Wall with Vision Glazing



Shadow Box



Glass Railing



Glazing with Frit Pattern

Tower and Podium

- Panelization
- Aluminum Panel (Column Enclosure & Soffit)



GFRC



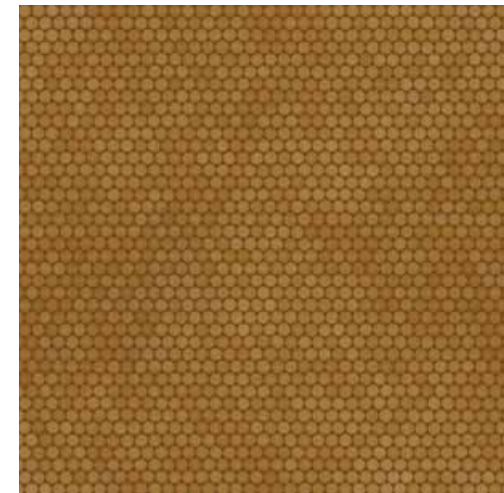
Metal Panel with Perforations



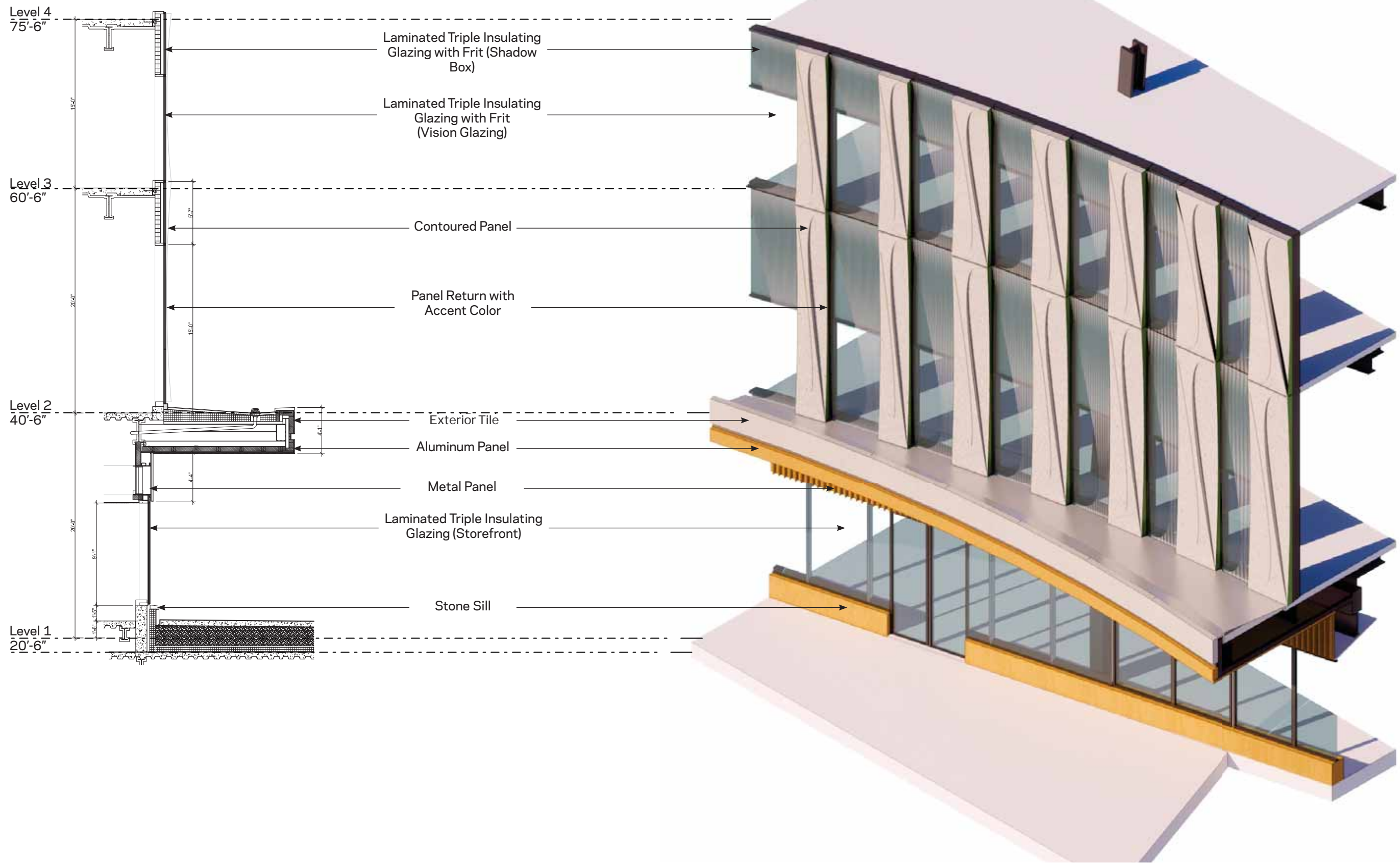
Aluminum Profile

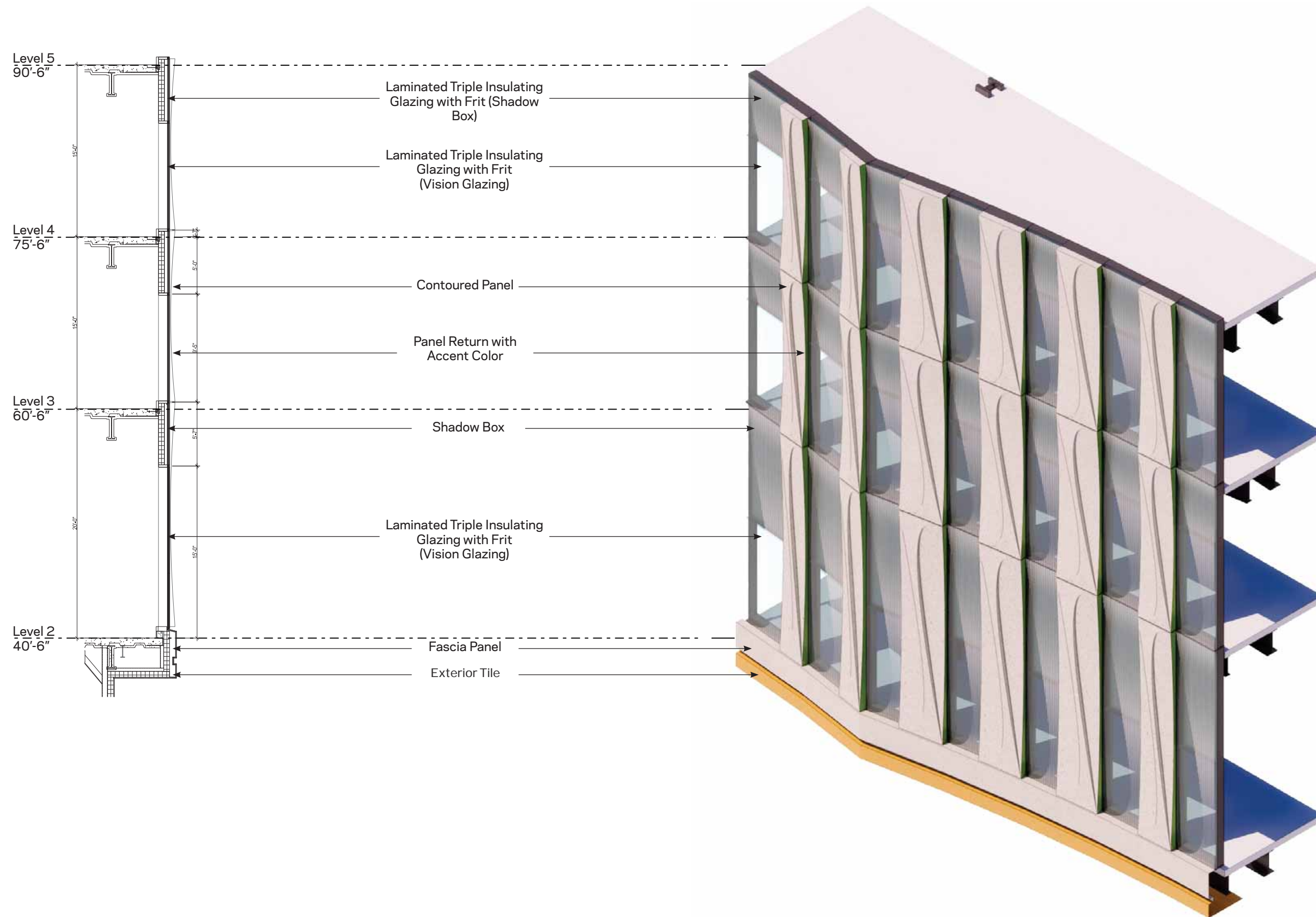


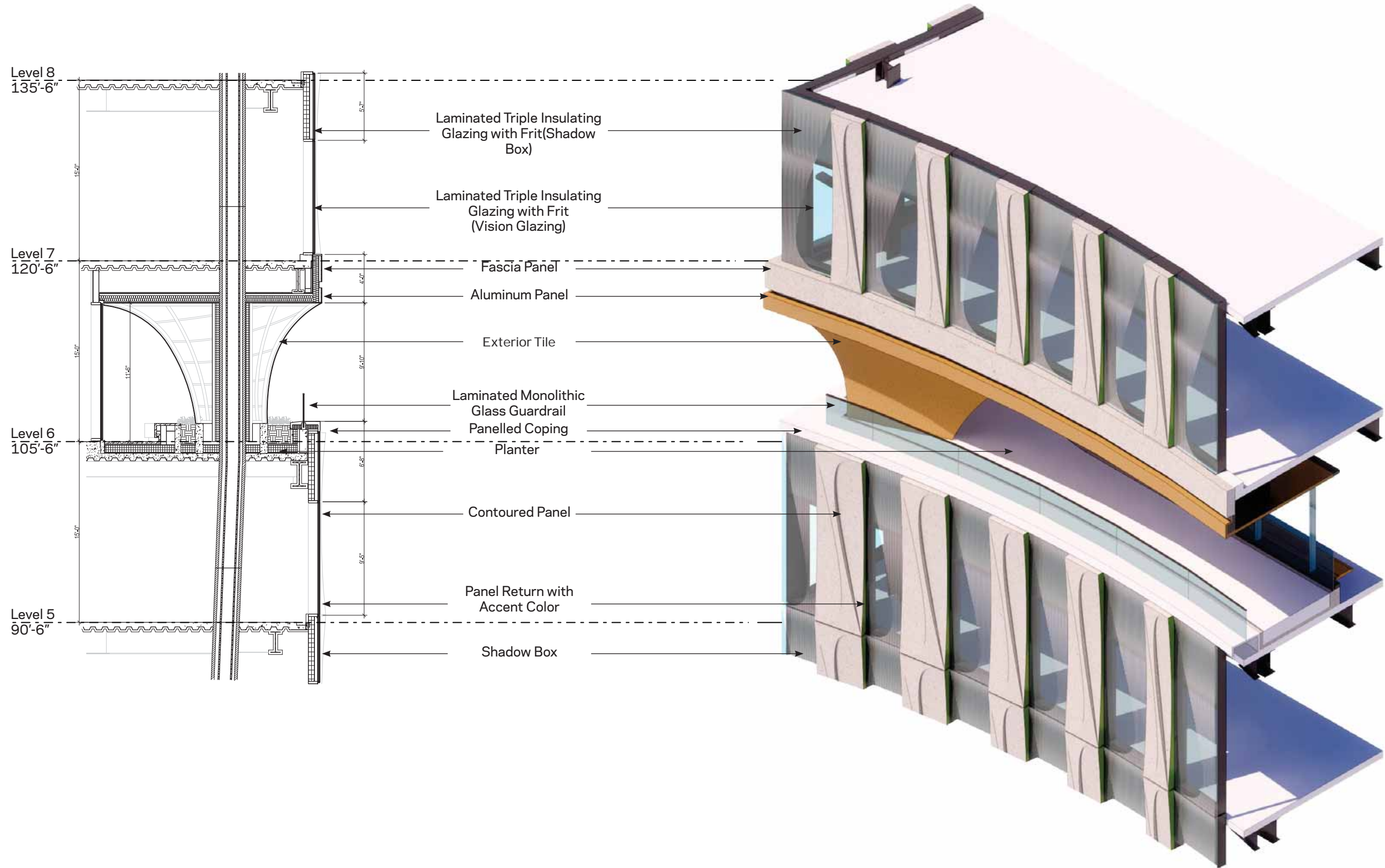
Structural Silicone Glazed (SSG) Curtain Wall System

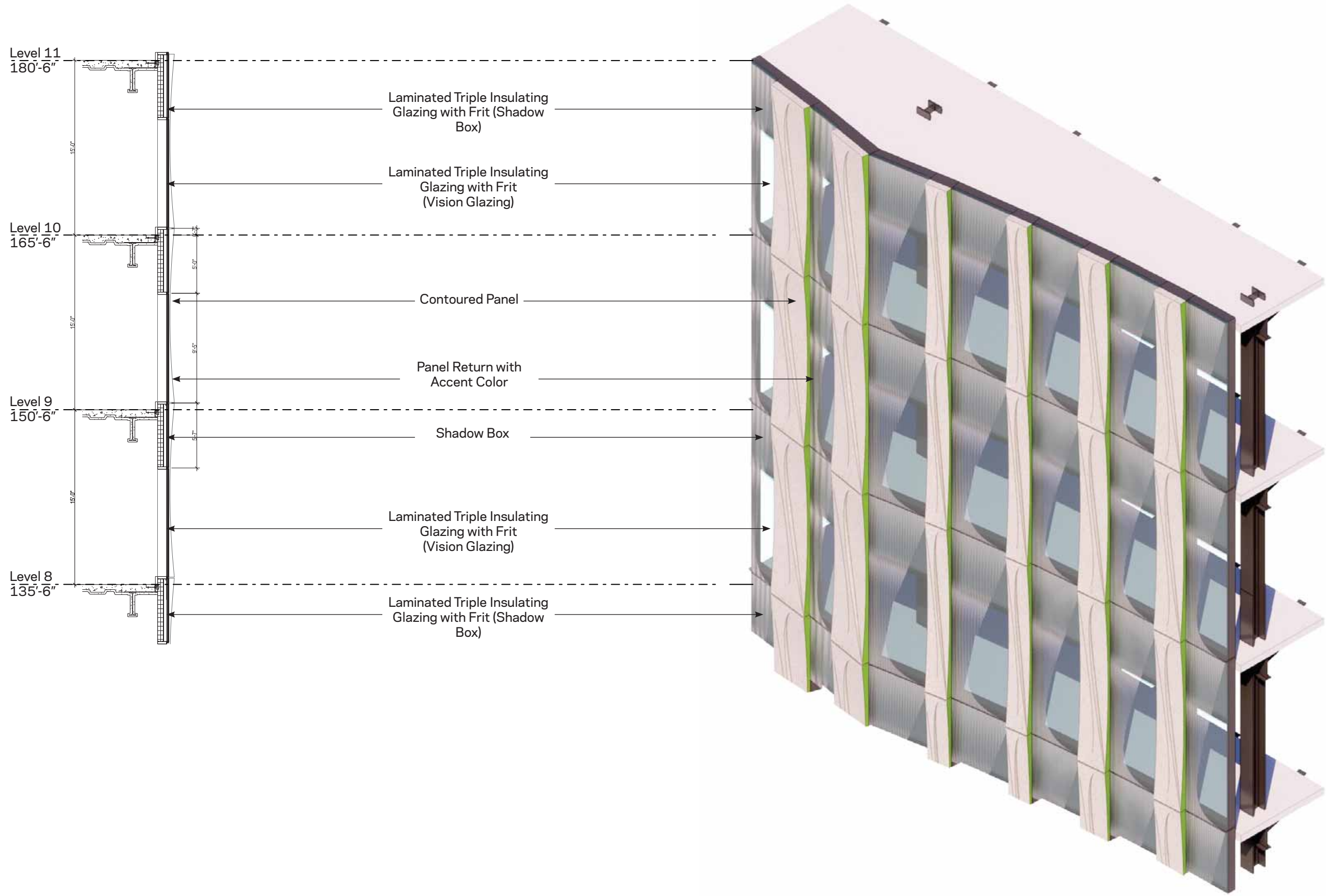


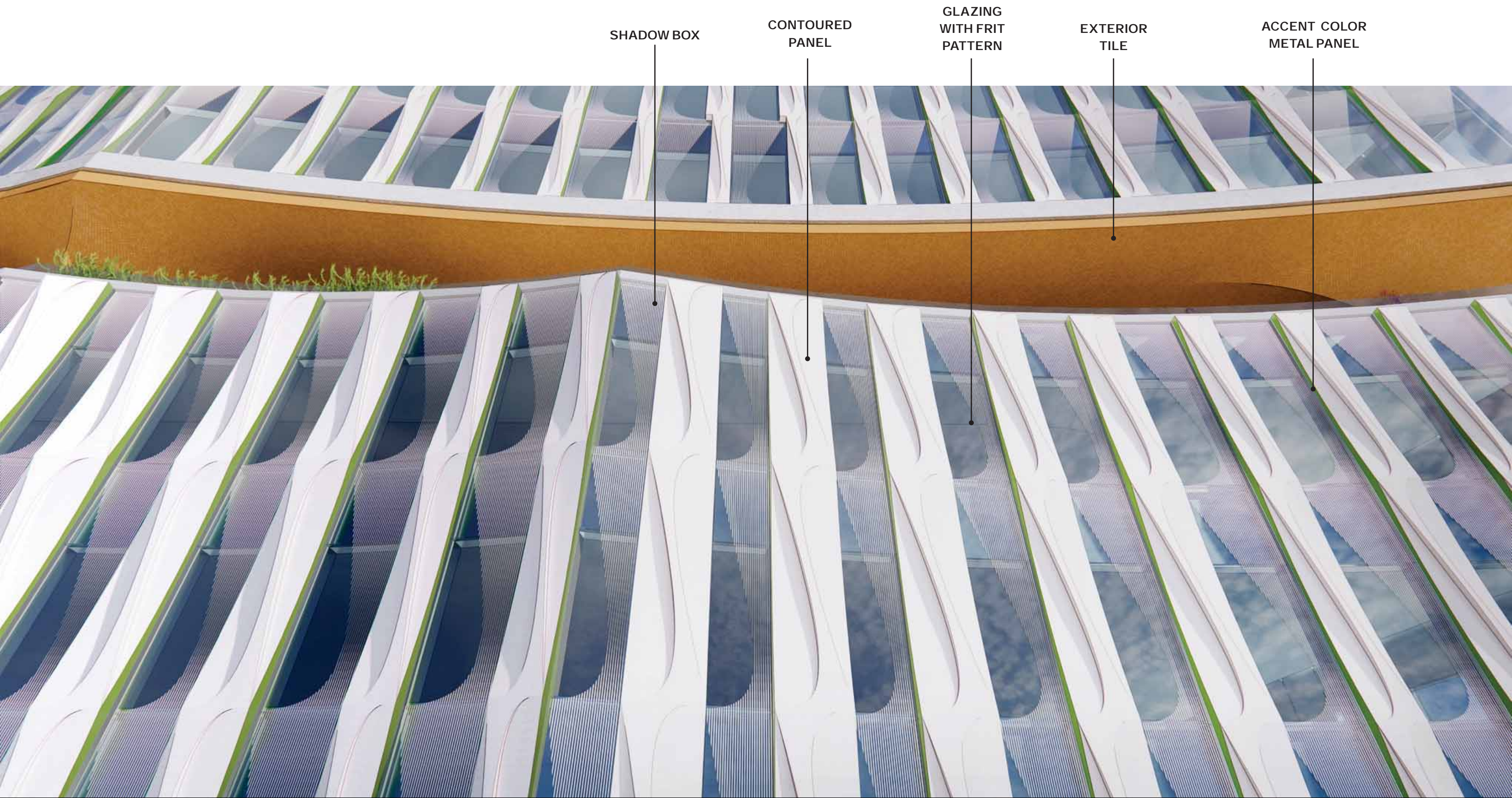
Exterior Tile











SHADOW BOX

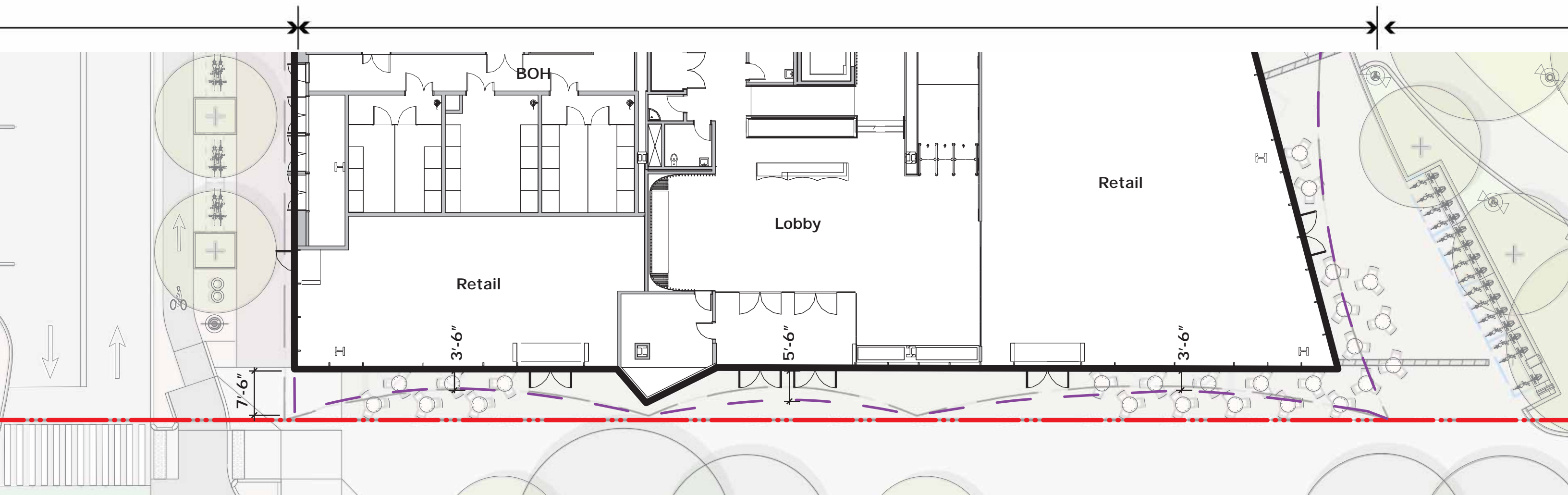
CONTOURED
PANEL

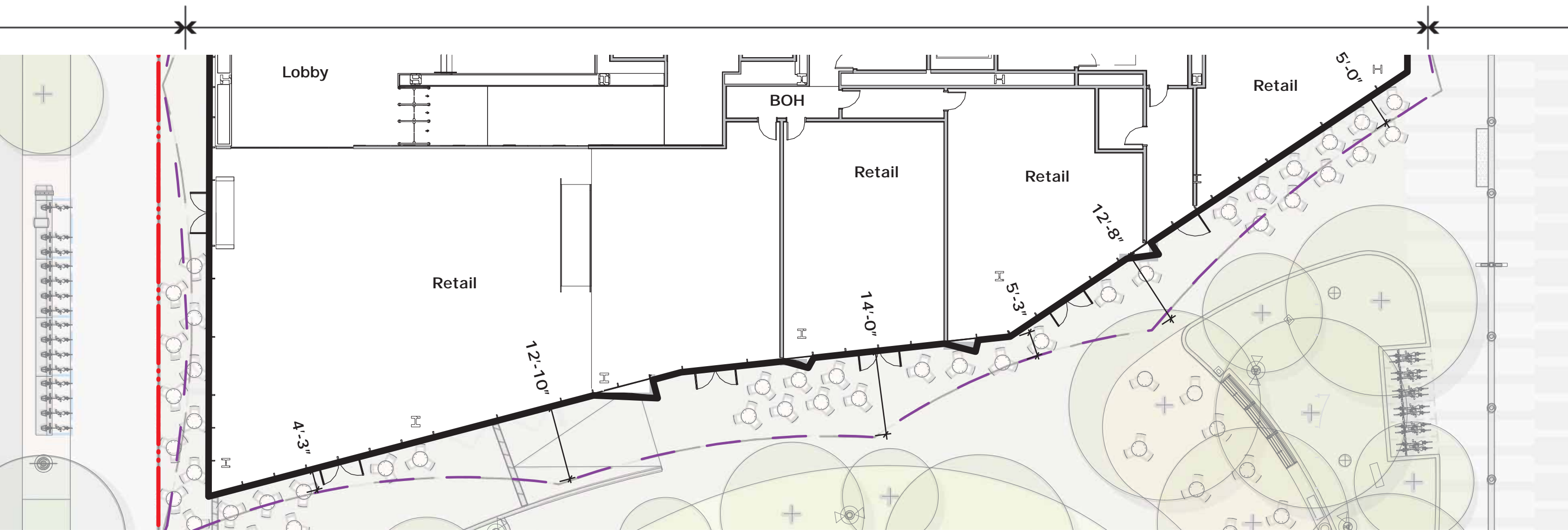
GLAZING
WITH FRIT
PATTERN

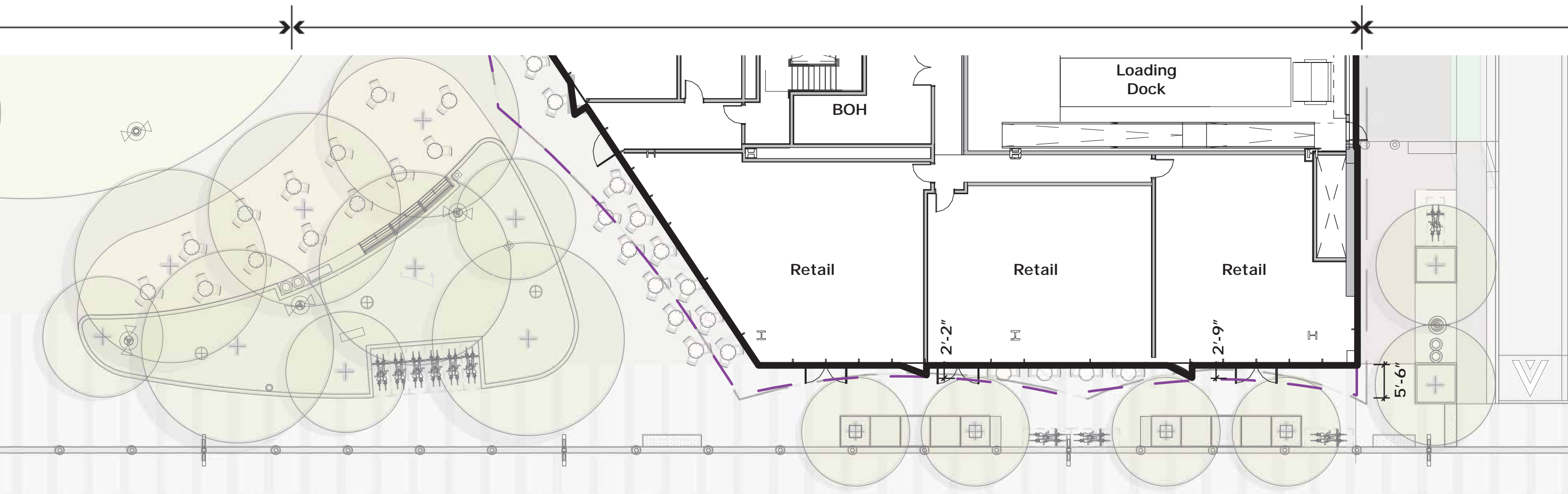
EXTERIOR
TILE

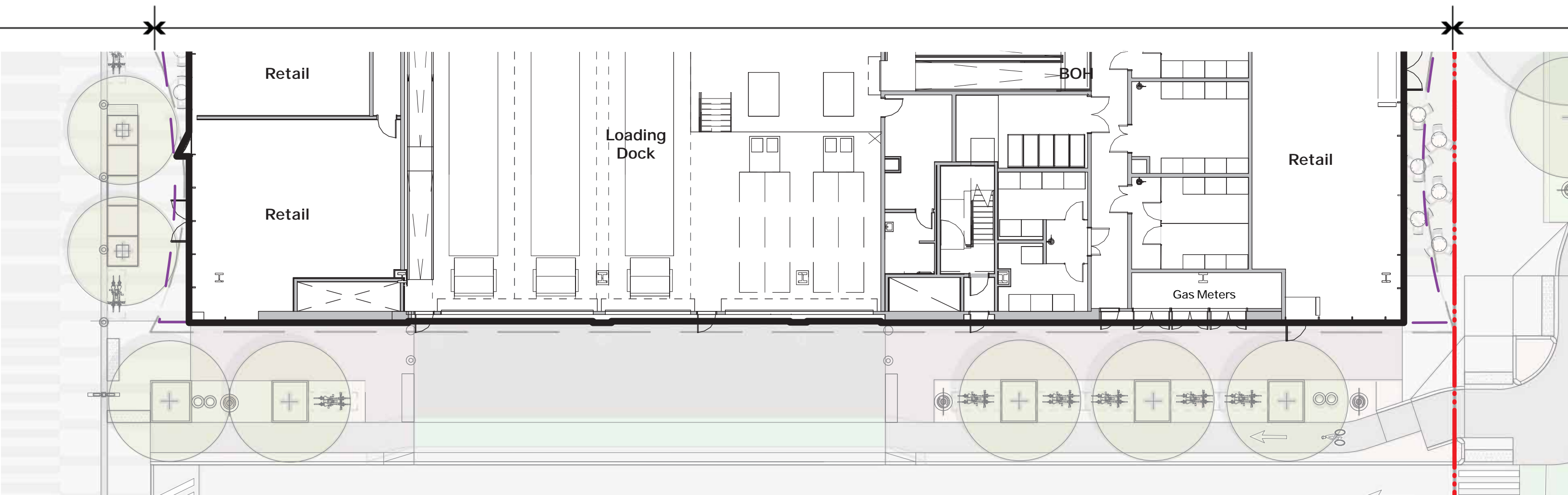
ACCENT COLOR
METAL PANEL











Lighting Design Narrative

PERFORMANCE REQUIREMENTS

Exterior architectural lighting systems for the Volpe Redevelopment will combine aesthetic quality, urban design requirements and user experience considerations to create a cohesive luminous environment that welcomes people to the new C1 building and its associated open space.

The Volpe Redevelopment project will be designed to meet illumination requirements per the current IESNA Lighting recommended practices as well as complying with LEED V4.1 to achieve a gold rated building. Exterior lighting will also comply with Cambridge Outdoor lighting Ordinances to achieve a design that creates a safe nighttime environment that mitigates light trespass and glare.

DESIGN REQUIREMENTS

Exterior lighting will utilize LED sources and fixtures will be selected to minimize glare, while providing the appropriate illumination level. LEDs will match color temperature and visible color appearance with minimal color shift of the source over the anticipated life of the LED system. The color temperature(s) (CCTs) of LEDs will range from 3000K to 3500K depending on the location and usage. LED color rendering index (CRI) will be 80 or above. The minimum lifetime of the LEDs will be 50,000 hours. The project will utilize lighting controls that can turn lights off or dim down at a predetermined time in the evening. As part of future design phases the project will study the uplighting in combination with the canopy to confirm that any proposed uplighting conforms to the City of Cambridge's Outdoor Lighting Ordinance.

ENTRIES

The entry perimeter around the building will be illuminated with wall mounted luminaires. The design will carefully select the fixture optics to minimize unwanted uplight outside of that needed to highlight the ceiling plane. In addition to uplighting the ceiling, the column enclosures will be accented with targeted uplighting helping clearly demarcate the entry points to both the building lobby and retail spaces.





L6 TERRACE

Similar to L1, the design intent at the L6 Terrace is to provide general lighting by illuminating the ceiling plane. The directed uplighting is achieved by a continuous tape lighting adjacent to the inset level 6 exterior enclosure. The fixture's location adjacent to the glazing helps eliminate unwanted trespass outside the terrace. The column enclosures are located within the planted areas and are illuminated with inground point source floodlights. Below the benches, there is a continuous linear tape to add a low-level highlight to the bench locations. The final layer of lighting consists of point source uplights within the planters illuminating the trees.

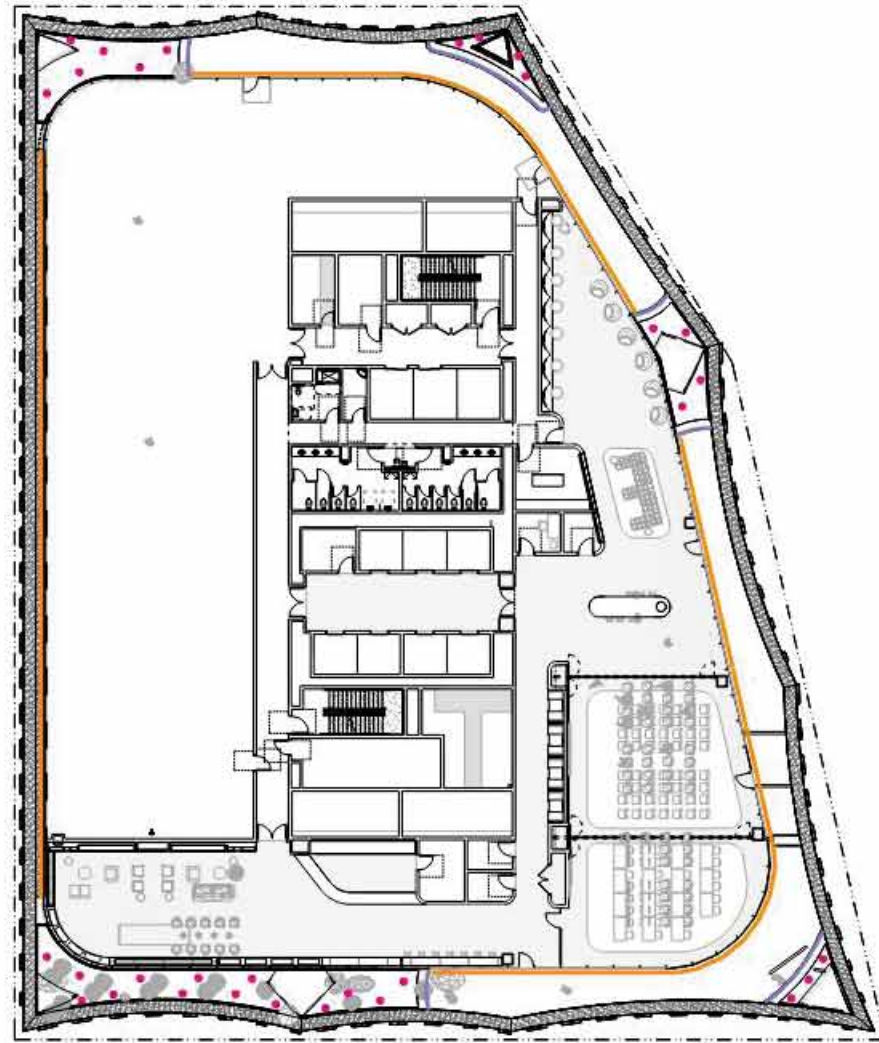
LOADING DOCK

Above the loading dock the doors will be illuminated with recessed downlights within the soffit above. This approach eliminates the opportunity for any potential damage to the fixtures. The remainder of the elevation employs a decorative wall pack mounted 12'-0" above the doors or windows and that illuminates the area immediately around the building egress doors.



-  DIRECTED UPLIGHT WITH CUTOFF
-  MOUNTED LINEAR
-  DOWNLIGHT IN SOFFIT
-  DECORATIVE WALL PACK





- DIRECTED UPLIGHT WITH CUTOFF
- CURB LIGHT
- DIRECTED TREE UPLIGHT WITH CUTOFF







Maximum Signage Area - Cambridge Article 7		
Total Maximum Area- All sides (x1)		
North	99.68 lf (27.75' from street x1)	99.68 sf
West	200.00 lf (38.79' from street x1)	200.00 sf
South	170.88 lf (48.3' from street x1)	170.88 sf
East	200.00 lf (185.3' from Street x1)	200.00 sf
	Total lf 670.56 (x1)	670.56 sf

Freestanding Sign(s) Per Lot (7.16.22a)

A sign that is attached to or part of a completely self-supporting structure and which is not attached to any building or other structure.

Maximum size: 30 sq. ft. total
Quantity: (2) sum of both must be < or = 30 sq ft.
Maximum Height: 15'-0" from mean of grade
Illumination: Natural or External Lighting Only

Projecting Sign(s) Per Lot (7.16.22b)

Any sign, other than a wall sign or free standing sign, that is attached to and projects from a building face. A projecting sign shall include marquee, canopy, and awning mounted signs.

Maximum size: 13 sq. ft.
Quantity: 1/ground floor establishment, plus one (1) for any public building entrance not serving a ground floor establishment
Maximum Height: 20'-0" or below sill of second floor
Illumination: Natural or External Lighting Only

Wall Mounted Sign(s) Per Lot (7.16.22c)

Any sign affixed in such a way that its exposed face and all sign area is parallel or approximately parallel to the plane of the building to which it is attached. A wall sign shall be considered a projecting sign if the sign face projects more than twelve (12) inches from the face of the building. Wall signs shall include signs located on or behind the surface of windows.

Maximum size: < or = 60 sq. ft.
Quantity: Not Limited
Maximum Height: 20'-0" or below sill of second floor
Illumination: Natural or External Lighting or other internal lighting if:

- Either the vertical or horizontal dimension of the sign does not exceed thirty (30) inches; and the sign:
- Is located behind the glass of a window, or
- Is mounted such that the sign face does not extend more than two (2) inches beyond the plane of that portion of the building façade to which the sign is attached, or if extending more than two (2) inches beyond the plane of the building, only that portion of the sign face consisting of letters and numerals is illuminated, or
- Consists of independent, individual letters or graphic symbols mounted directly to the surface of the building facade to which the sign is attached or is mounted on an unilluminated raceway or channel which is then directly attached to the building facade.

7.13.6 Establishment, Ground Floor **

A separate and distinct use, business, enterprise, or institution having a separate public entrance to the outside of a building, which entrance is at grade or within six feet of grade as measured at the street line.

7.14 (d) Calculations of Area and Height of Signs

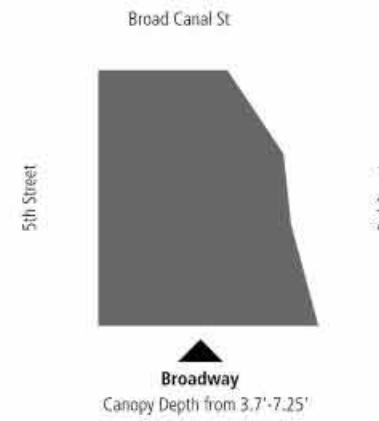
Where the sign consists of individual letters or symbols attached to or painted on a surface, wall or window, the area of the sign shall be considered to be that of the smallest rectangle or other geometric shape which encompasses all letters and symbols.

7.14 (e) Calculations of Area and Height of Signs

Only one face of a two-sided sign shall be counted in computing the area of a sign, provided the sign faces are parallel and of equal size.

7.16.11.4 Exempt Signs*

Signs necessary for public safety and convenience not exceeding six (6) square feet per sign face, provided such signs contain no advertising.



Current Design	Sign Type	Area	Max Allowable Area
Building ID	Wall	58 sf	60 sf
Retail 1	Wall	42 sf	60 sf
Retail 1	Projecting	10 sf	13 sf
Retail 7	Wall	42 sf	60 sf
Retail 7	Projecting	10 sf	13 sf
Building Address*	Wall	.75 sf	Exempt
Total Area		162 sf	170.88 sf

*Exempt Signage not in final calculations



7.13.6 Establishment, Ground Floor **

A separate and distinct use, business, enterprise, or institution having a separate public entrance to the outside of a building, which entrance is at grade or within six feet of grade as measured at the street line.

7.14 (d) Calculations of Area and Height of Signs

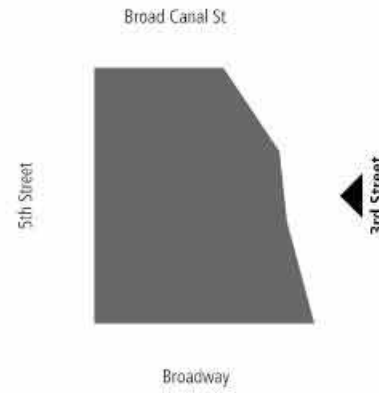
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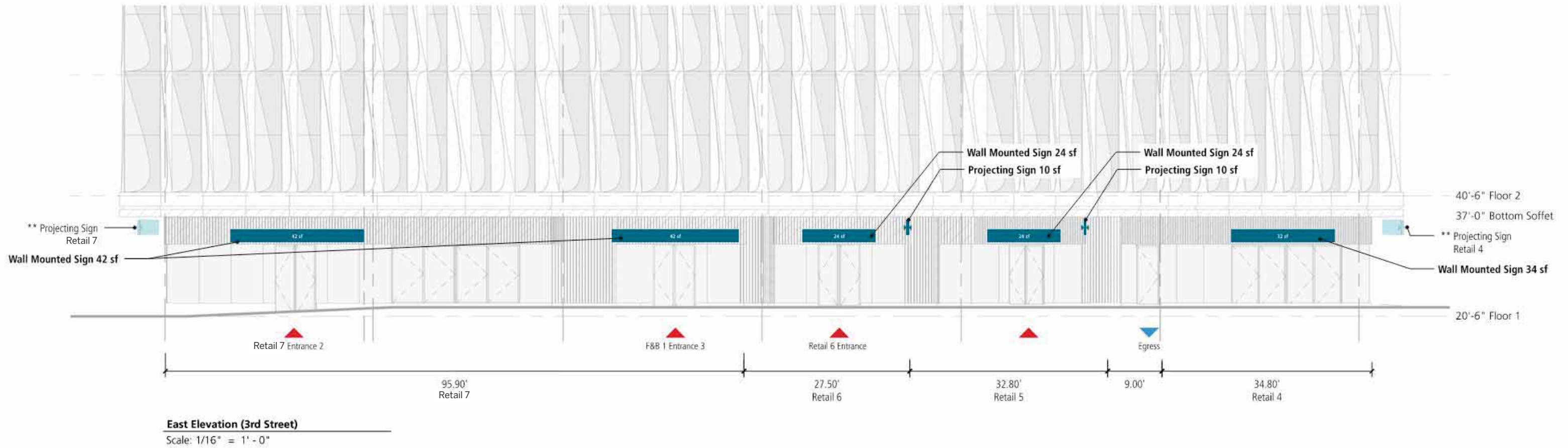
Signs necessary for public safety and convenience not exceeding six (6) square feet per sign face, provided such signs contain no advertising.



Current Design	Sign Type	Area	Max Allowable Area
Retail 7	Wall	42 sf	60 sf
Retail 7	Wall	42 sf	60 sf
Retail 6	Wall	24 sf	60 sf
Retail 6	Projecting	10 sf	13 sfF
Retail 5	Wall	24 sf	60 sf
Retail 5	Projecting	10 sf	13 sf
Retail 4	Wall	34 sf	60 sf
Total Area		186 sf	200.00 s

* 10 sf reserved for subdivision of F&B 1 space if needed in the future

** Projecting Signs for F&B 1 & Retail 4 Assigned to Broadway and Broad Canal St calculation.



7.13.6 Establishment, Ground Floor **

A separate and distinct use, business, enterprise, or institution having a separate public entrance to the outside of a building, which entrance is at grade or within six feet of grade as measured at the street line.

7.14 (d) Calculations of Area and Height of Signs

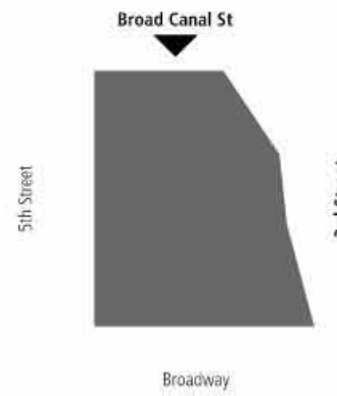
Where the sign consists of individual letters or symbols attached to or painted on a surface, wall or window, the area of the sign shall be considered to be that of the smallest rectangle or other geometric shape which encompasses all letters and symbols.

7.14 (e) Calculations of Area and Height of Signs

Only one face of a two-sided sign shall be counted in computing the area of a sign, provided the sign faces are parallel and of equal size.

7.16.11.4 Exempt Signs*

Signs necessary for public safety and convenience not exceeding six (6) square feet per sign face, provided such signs contain no advertising.



Current Design	Sign Type	Area	Max Allowable Area
Retail 4	Wall	21 sf	60 sf
Retail 4	Projecting	10 sf	13 sf
Retail 3	Wall	27 sf	60 sf
Retail 3	Projecting	10 sf	13 sf
Retail 2	Wall	21 sf	60 sf
Retail 2	Projecting	10 sf	13 sf
Total Area		99 sf	99.68 s



North Elevation (Broad Canal St)

Scale: 1/16" = 1' - 0"

7.13.6 Establishment, Ground Floor **

A separate and distinct use, business, enterprise, or institution having a separate public entrance to the outside of a building, which entrance is at grade or within six feet of grade as measured at the street line.

7.14 (d) Calculations of Area and Height of Signs

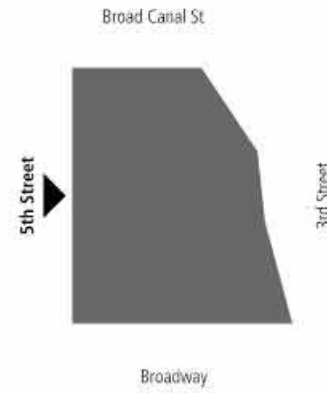
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7.14 (e) Calculations of Area and Height of Signs

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7.16.11.4 Exempt Signs*

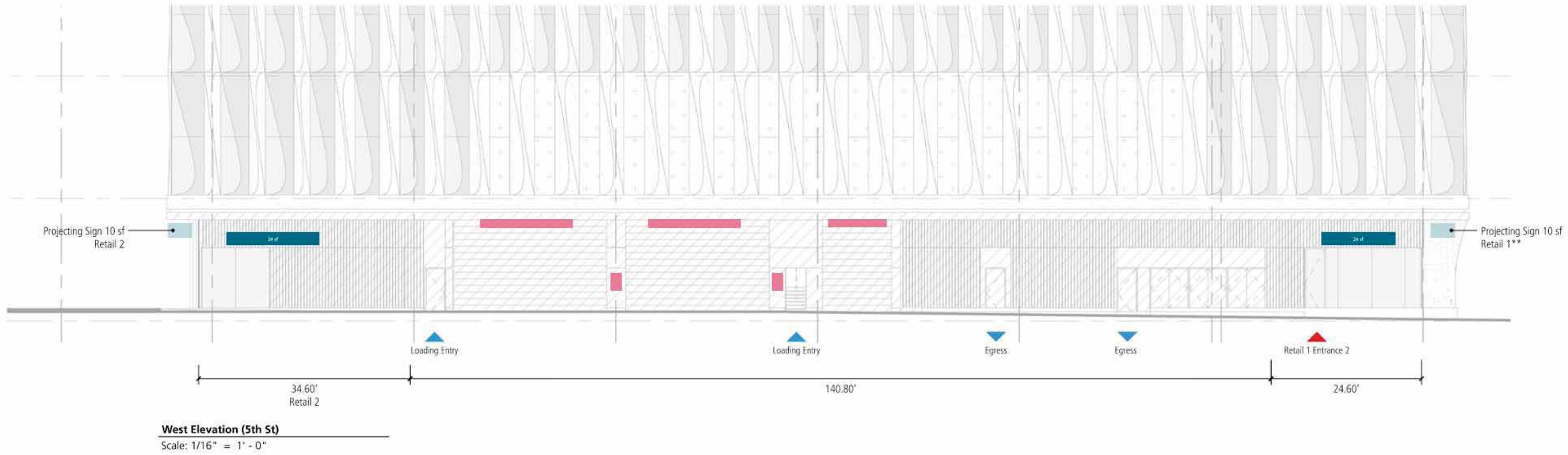
Signs necessary for public safety and convenience not exceeding six (6) square feet per sign face, provided such signs contain no advertising.



Current Design	Sign Type	Area	Max Allowable Area
Retail 1	Wall	34 sf	60 sf
Retail 2	Wall	24 sf	60 sf
Loading Dock ID & Clearance*	Wall	80 sf total	60 sf/Each
Total Area		138 sf	200.00 sf

* Loading Dock ID & Clearance will be exempt if under 6 sf and containing no advertisement

** Projecting Signs for Retail 1 & 2 Assigned to Broadway and Broad Canal St calculation.





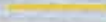


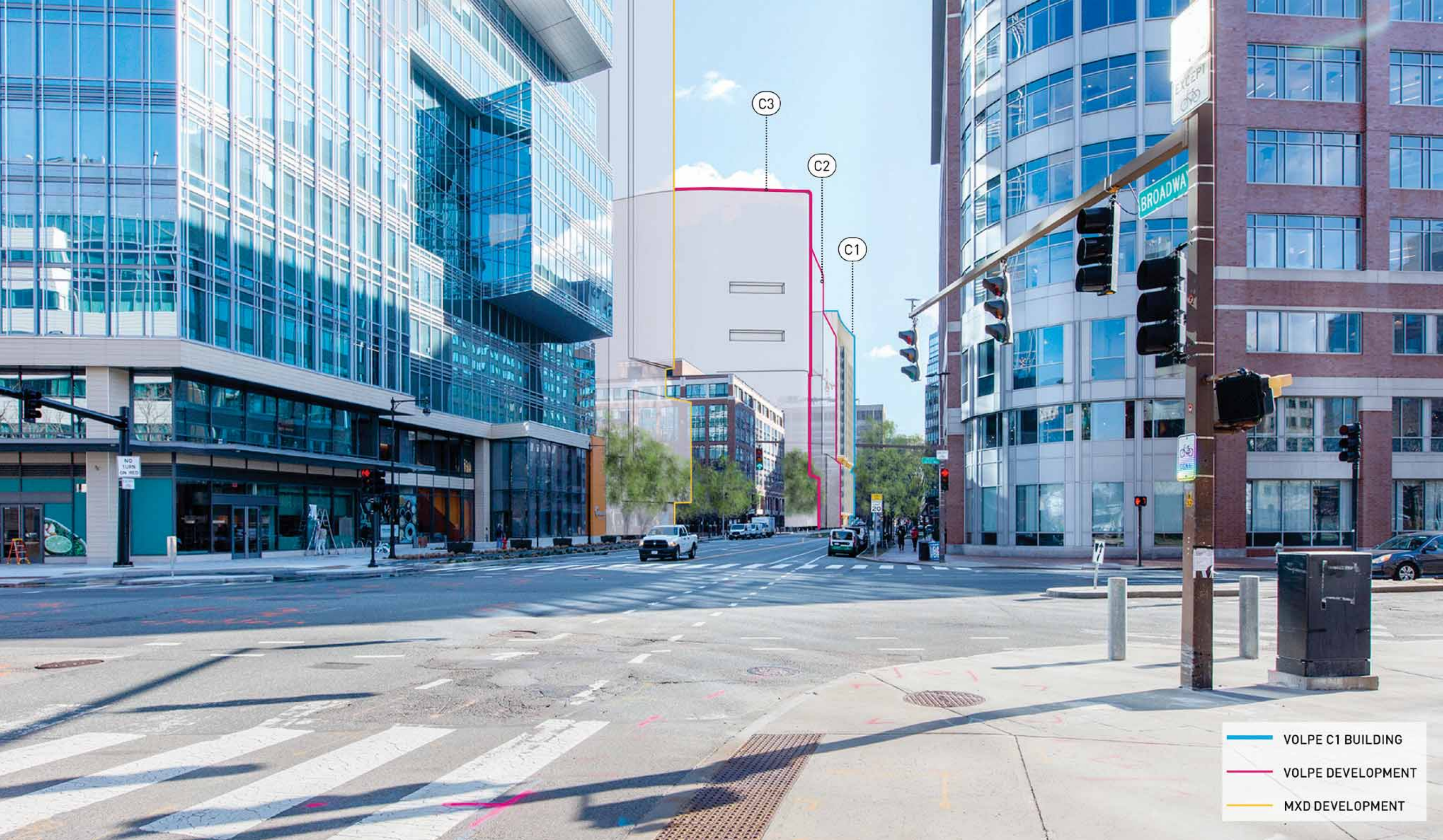








-  VOLPE C1 BUILDING
-  VOLPE DEVELOPMENT
-  MXD DEVELOPMENT



C3

C2

C1

- VOLPE C1 BUILDING
- VOLPE DEVELOPMENT
- MXD DEVELOPMENT