



HOTSON | Ryder

Pacific Residence
Development Permit Resubmission
Design Rationale
May 24, 2019

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Bird's Eye View of Site

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**Pacific Residence
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01 INTRODUCTION

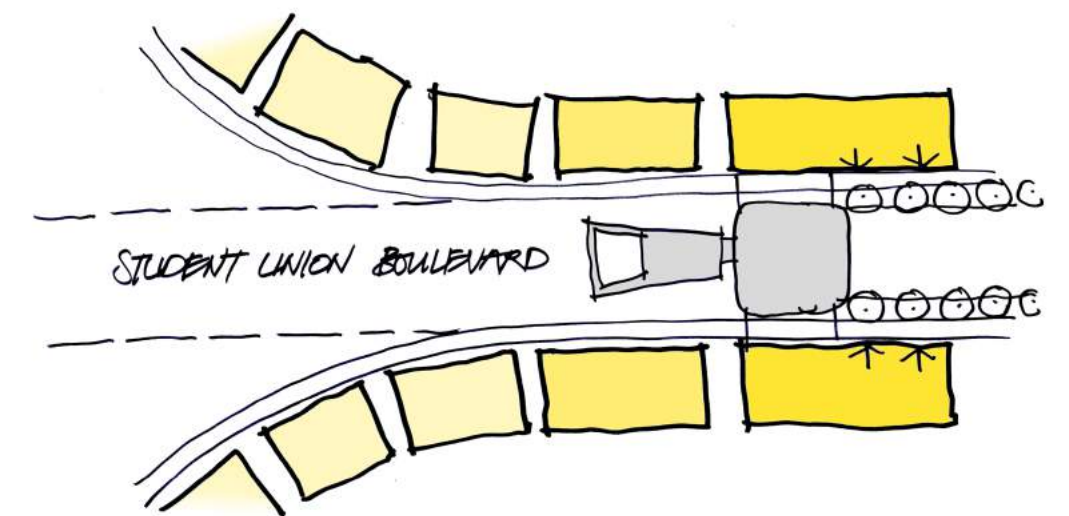
The Pacific Residence student housing project is one component of a campus-wide program to substantially increase the number of beds available to students enrolled at UBC. The specific mandate of the project is to create approximately 1,000 new beds for upper year students as part of the long term development of a thriving, diverse, and sustainable community on the UBC Vancouver campus.

The strategy for accommodating this program is to build a consistent form around the south and east perimeter of the existing Walter Gage precinct, where surface parking lots are currently located. This linear arrangement allows for a variety of building heights, located to best fit into the varying neighbourhood context, while accommodating the density of the project within the narrow project site. To this end, there are several key principles that have been established to guide the planning of the project:

- Ensure that the project respects the context of the neighbourhood, particularly the residential areas of the UEL and the Theology precinct.
- Put “the zipper” on Student Union Boulevard, where development defines and unifies this important campus street.
- Establish a “gateway” at the intersection of Westbrook Mall and Student Union Boulevard, relating to the recent Exchange Residence to the south, and signaling arrival at the campus.
- Provide ground level animation along Student Union Boulevard through the selection and placement of programmatic uses and activities.
- Establish a pedestrian circulation framework that ties into the preferred movement routes both within the Walter Gage precinct and to linkages to the broader campus to the south and west.
- Include two levels of underground parking to replace lost surface parking, and to add to the campus inventory for new uses located on site.
- Develop a construction methodology that maximizes prefabrication, or other means, to provide an economic and simplified building process.



Existing Gage Student Residences



“Putting the zipper” on Westbrook and Student Union Boulevard

02 UNIVERSITY BOULEVARD PRECINCT

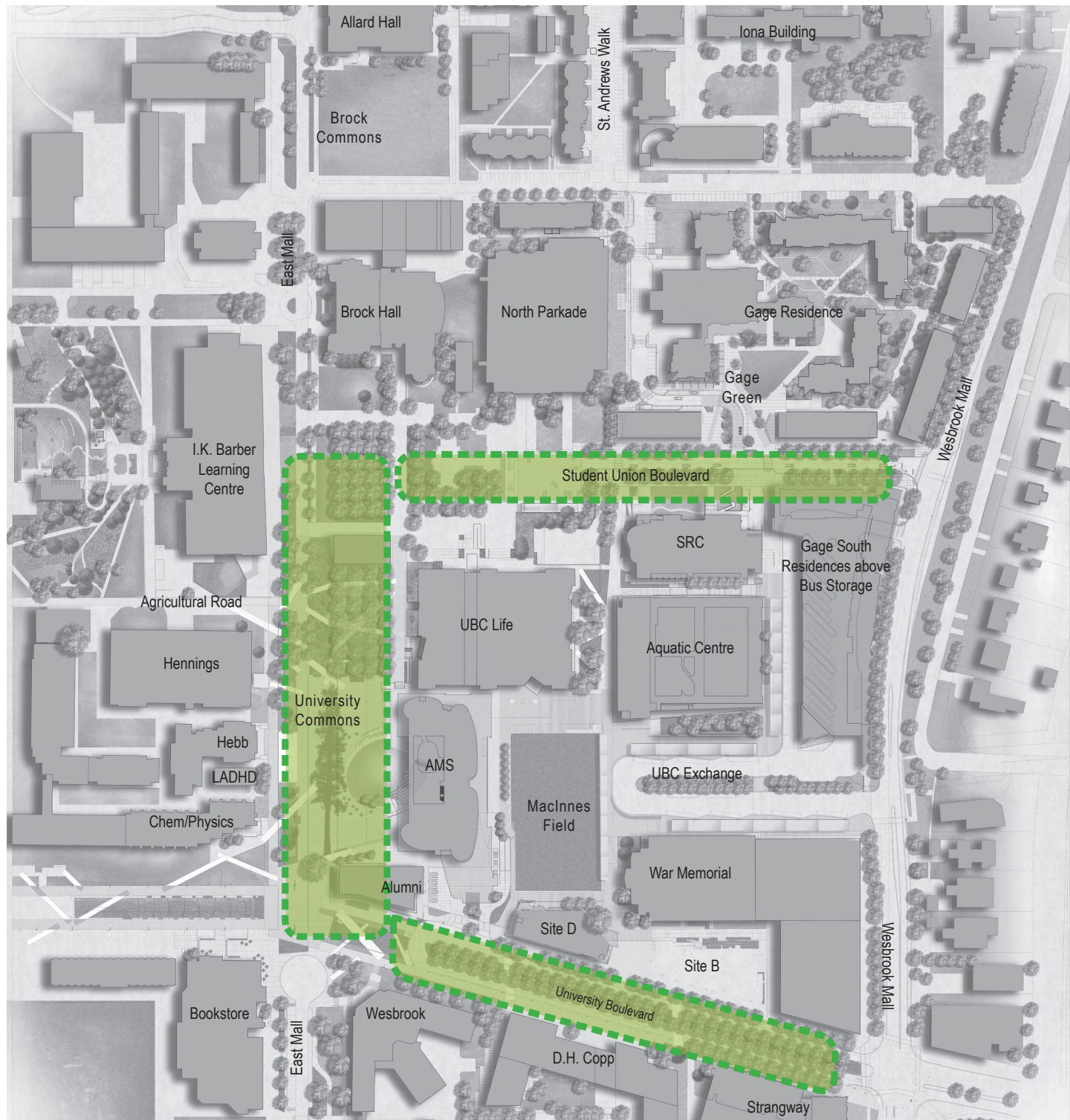
The arrangement of the five buildings forming the UBC Pacific Residence reconciles the spatial planning interface between the existing orthogonal campus grid with the non-orthogonal alignment of Wesbrook Mall. This edge delineates the denser academic campus from the adjacent University Endowment Lands, and provides a landscape buffer to the east of the existing Gage Residences.

The project also begins the re-imagining of Student Union Boulevard - an important gateway to the campus. The proposed buildings (as well as other future academic buildings) frame this new, more 'urban' public realm, which will extend west along Student Union Blvd. towards East Mall

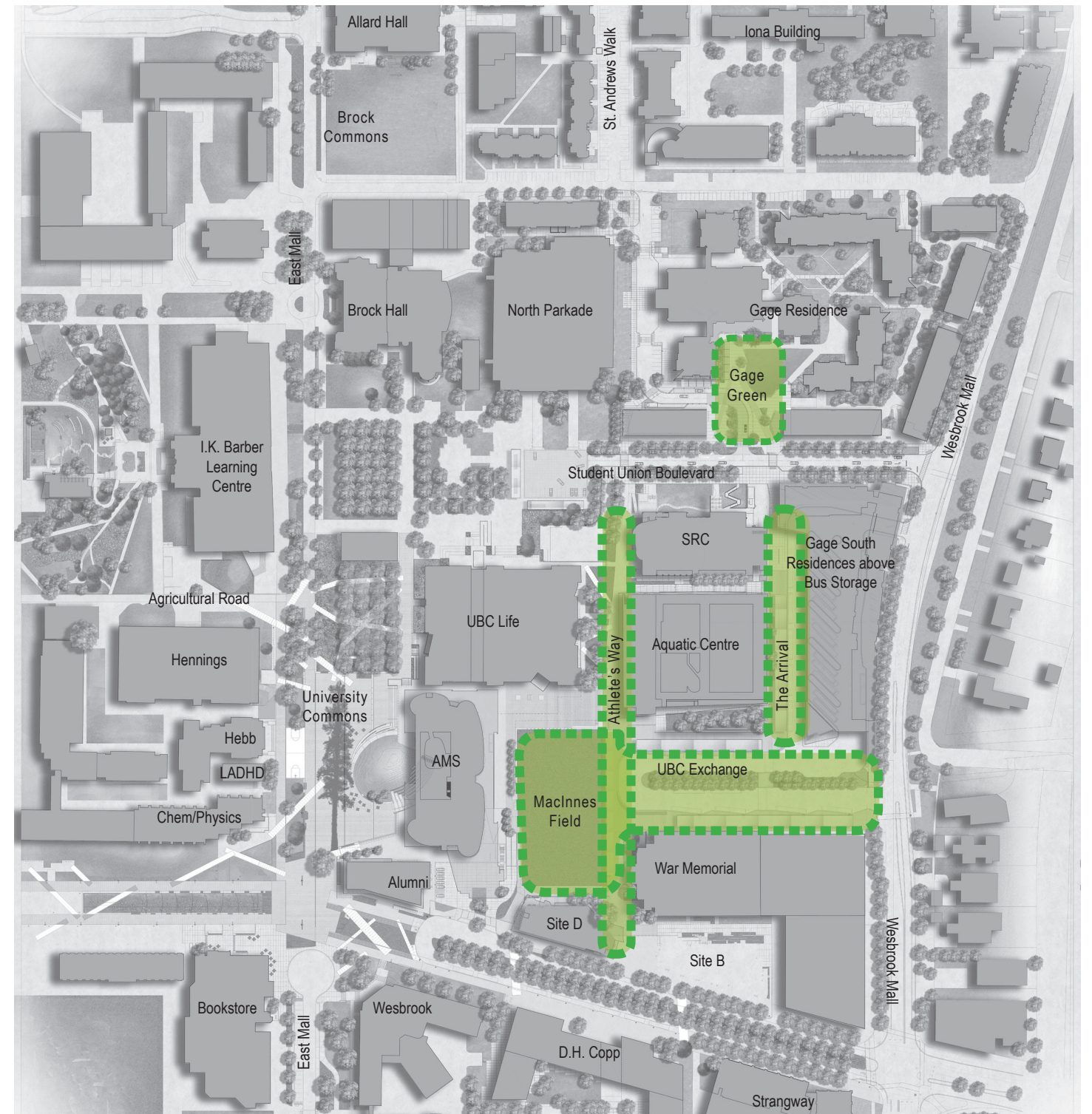
Proposed Figure Ground Relationship



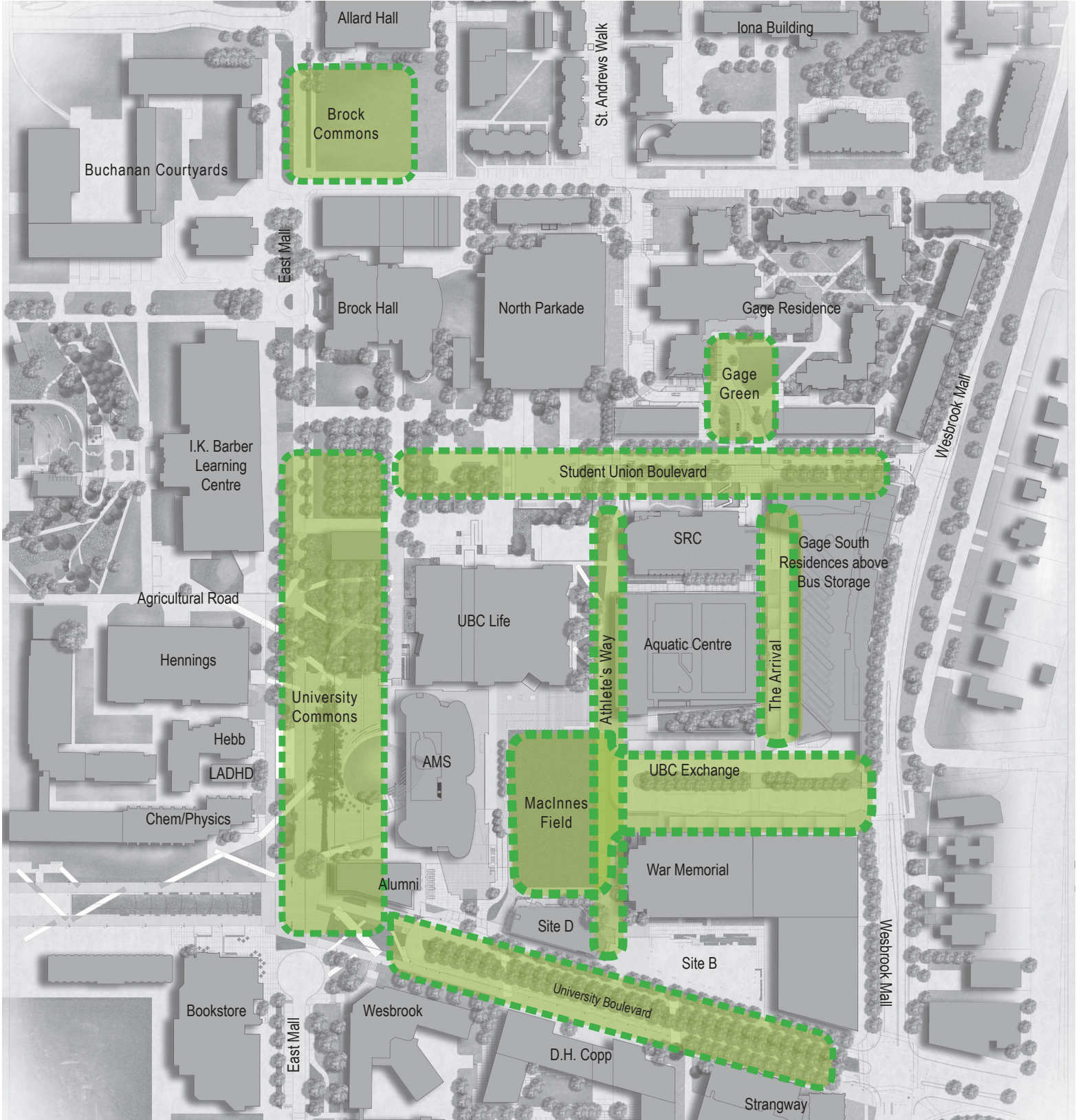
Public Realm Framework - THE CRESCENT



Public Realm Framework - THE CORE

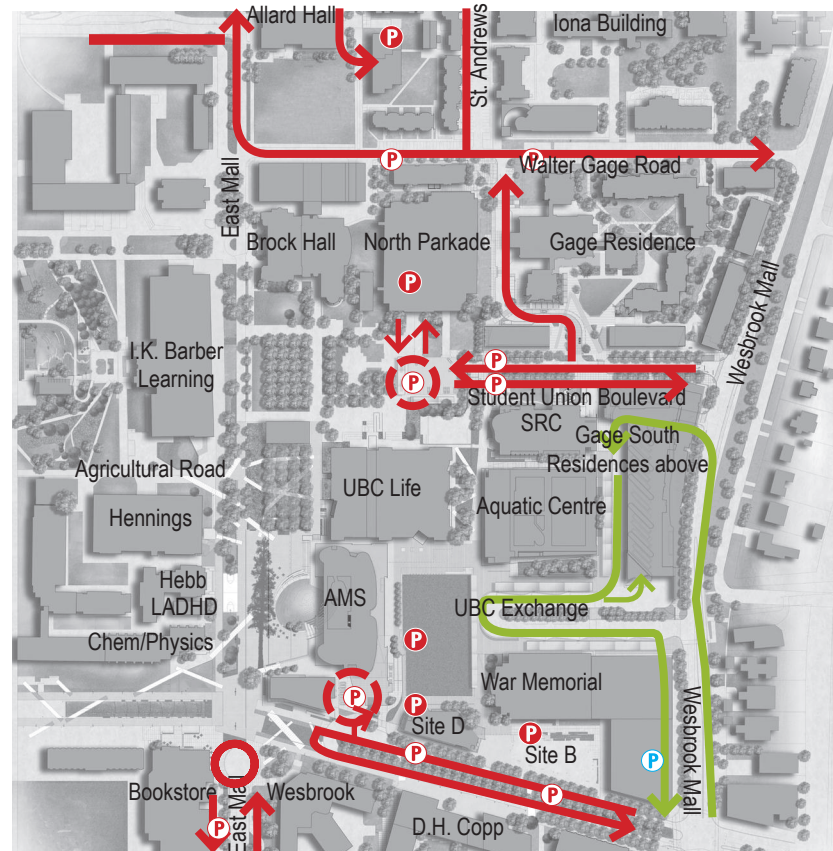


Public Realm Framework



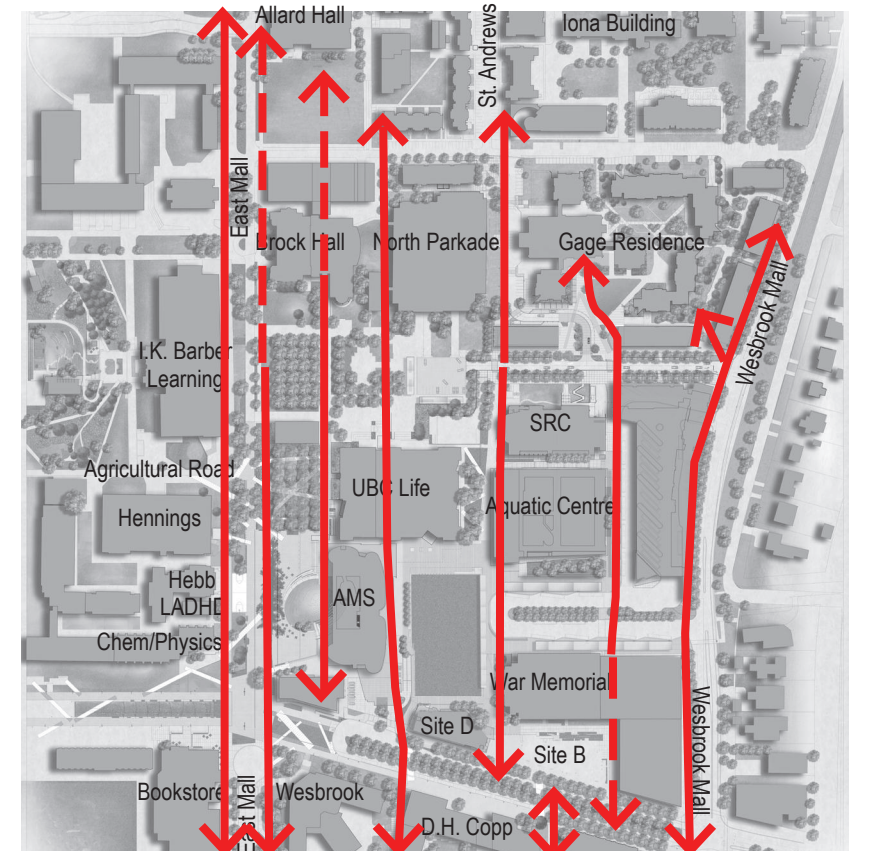
Vehicular Circulation and Parking

- Legend**
- vehicular routes
 - diesel bus route
 - auto court/turnaround
 - parking structure
 - surface parking
 - car share

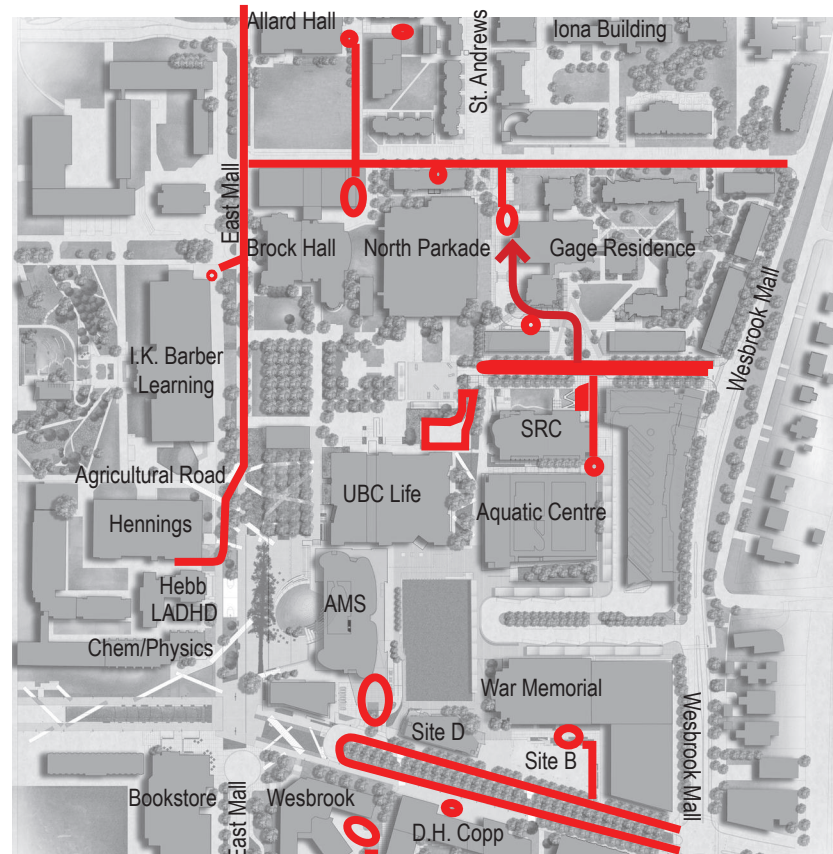


North-South Pedestrian Routes

- Legend**
- Existing Pedestrian Route
 - Future Pedestrian Route

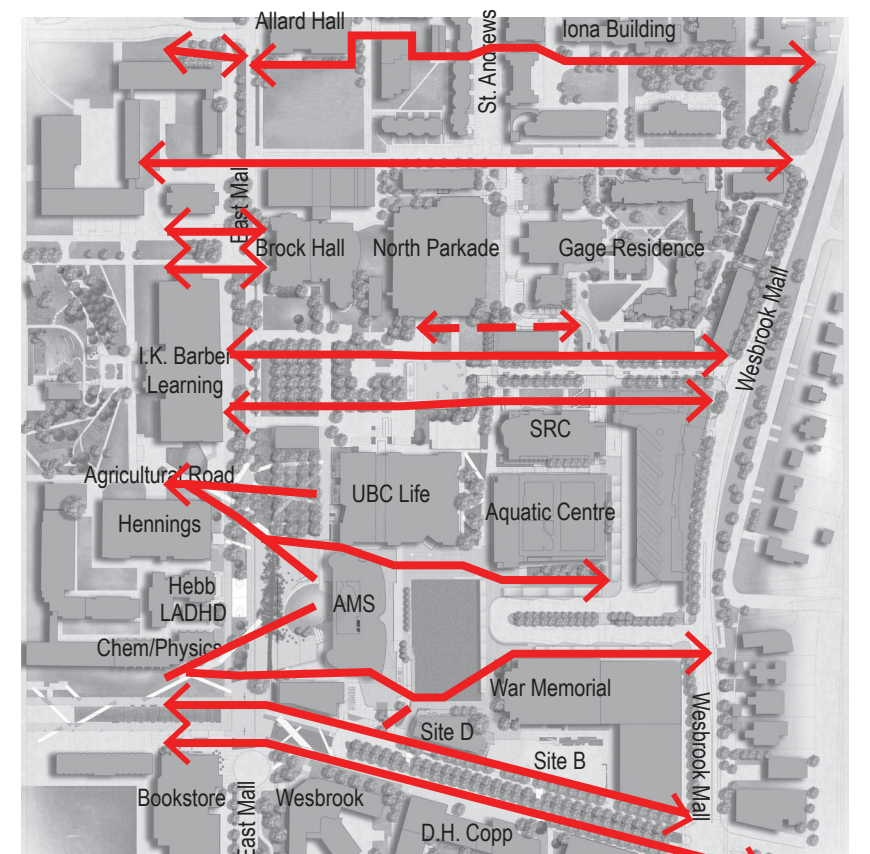


Key Building Servicing



East-West Pedestrian Routes

- Legend**
- Existing Pedestrian Route
 - Future Pedestrian Route



Public Space Sequence

- GAGE COURT**
- High pedestrian movement
 - Drop-off for hotel/students
 - Sense of address / Front Door
 - Student space with outdoor activities (seating, gatherings)

- STREET**
- Traditional urban street
 - Varying sidewalk widths based on pedestrian flow
 - Shared vehicle/bike lanes
 - Street trees in tree wells
 - Parallel parking both sides

- QUAD**
- Traditional campus green space
 - Defined edges

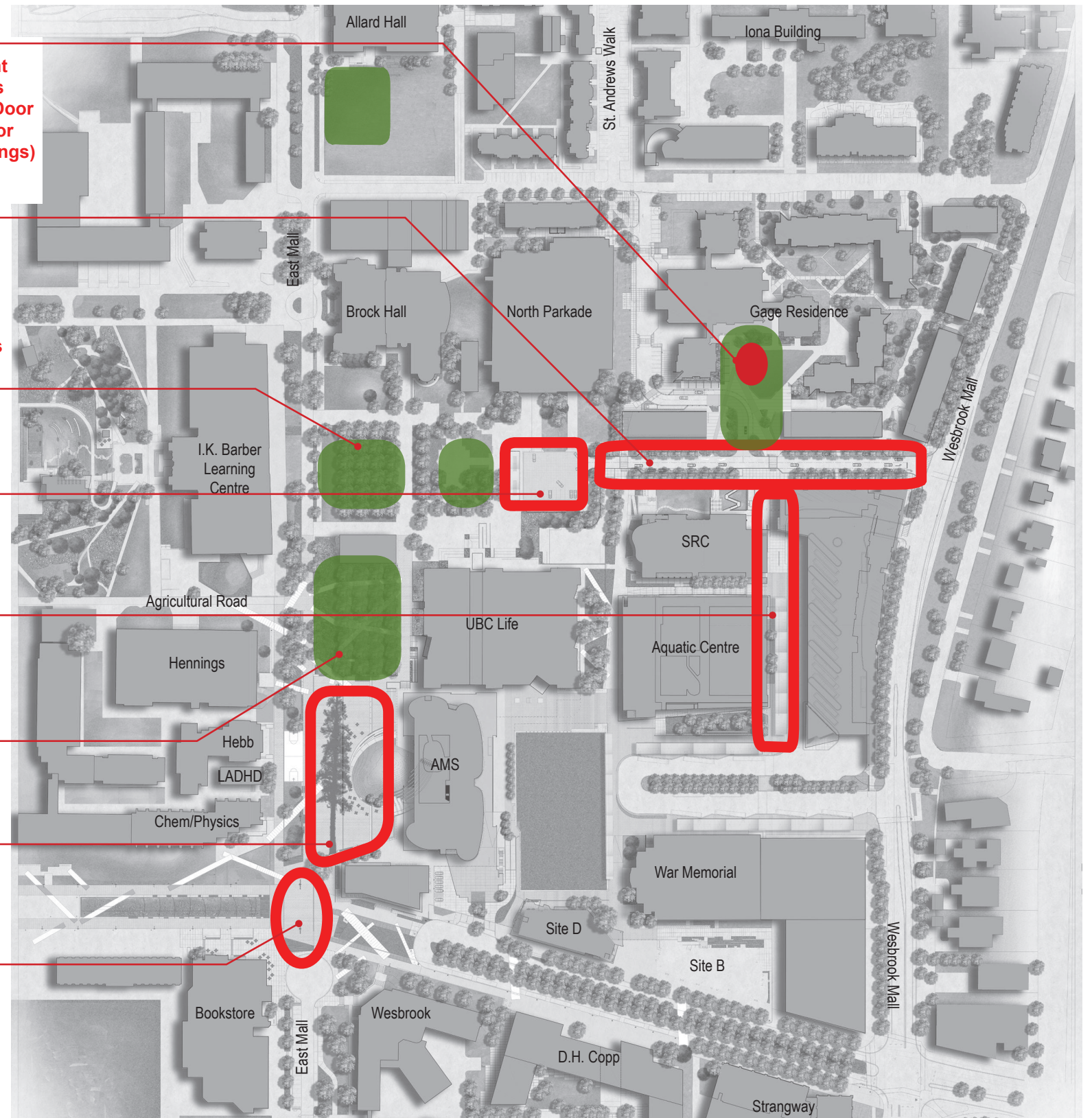
- ARRIVAL PIAZZA**
- Pick up/drop off
 - Urban character
 - Defined Edges
 - Weather protection

- THE ARRIVAL**
- Pedestrian Corridor
 - Transit Hub
 - Weather Protection

- THE BOSQUE**
- Formal green space
 - Provide opportunities to occupy

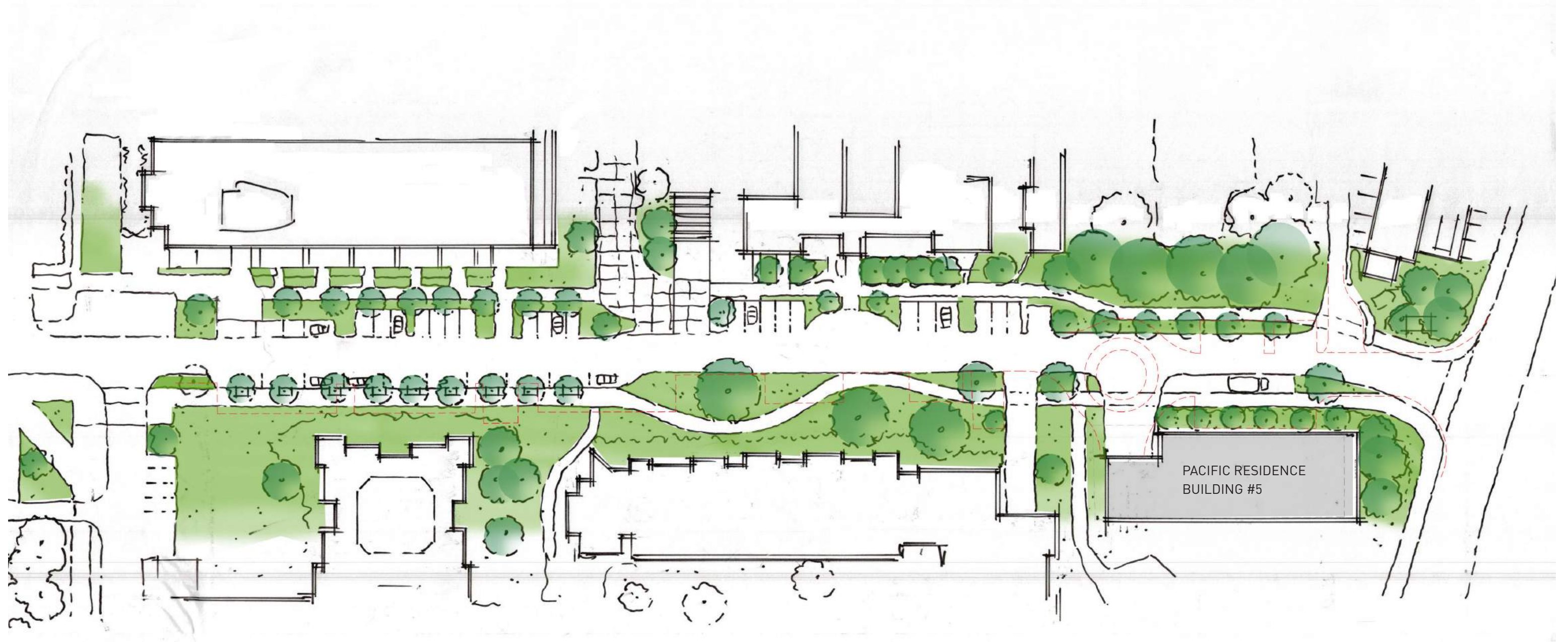
- UNIVERSITY COMMONS**
- Urban character
 - Large/organized campus events
 - Animated edges

- LEE PLAZA**
- Crossroads
 - Defined edges with seating platforms
 - Small scale events



Re-Alignment of Walter Gage Road

UBC Campus and Community Planning is currently undertaking a study to re-align Walter Gage Road. This benefits the neighbourhood context by creating sidewalks and a more consistent public realm. As it relates to the Pacific Residence project, this re-alignment creates additional space for the landscape buffer between the building face and the sidewalk/street.



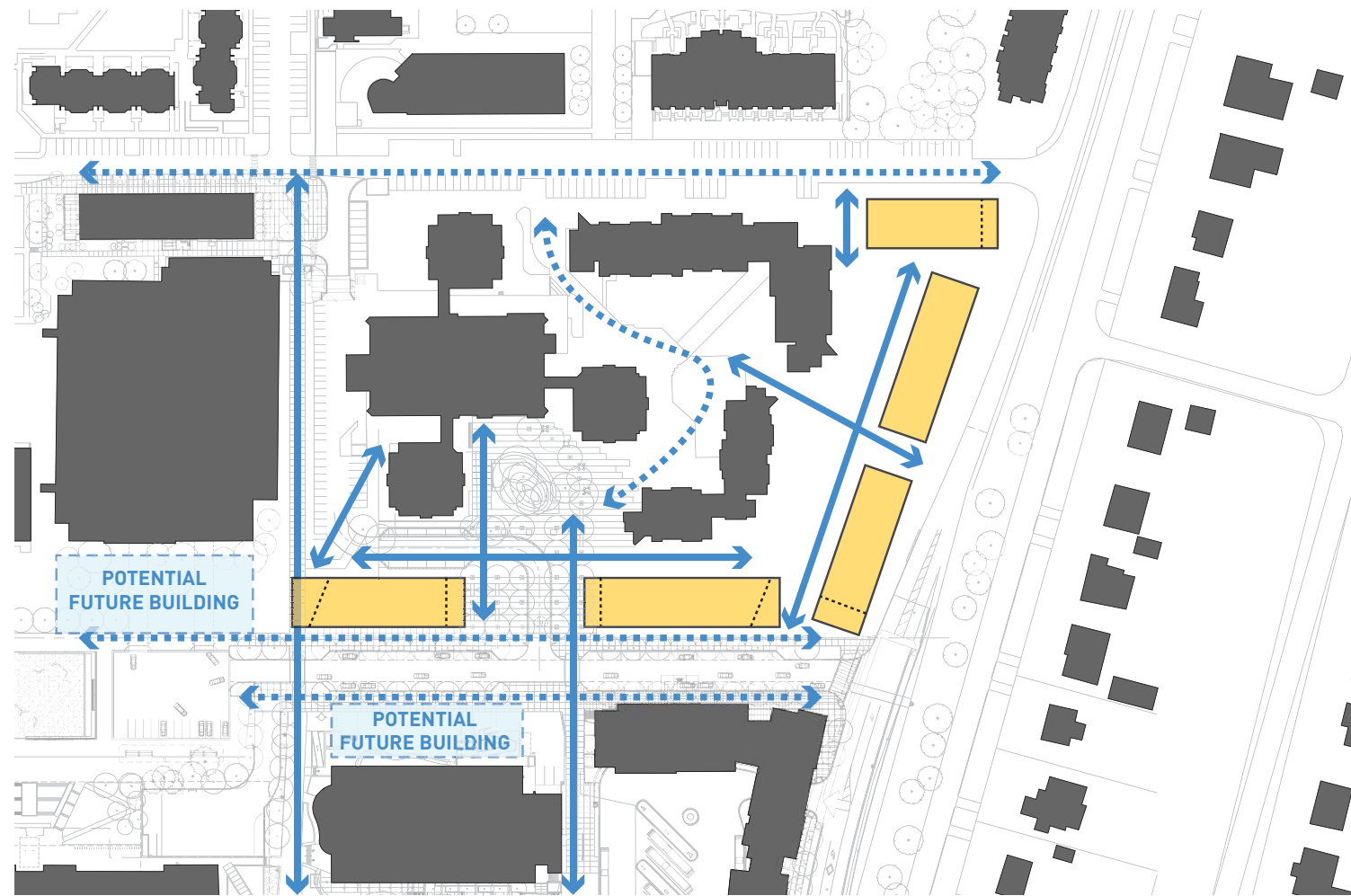
03 SITE ANALYSIS

Key project objectives were developed to inform the master planning through a detailed analysis of existing physical conditions and pedestrian connections observed around the project site.

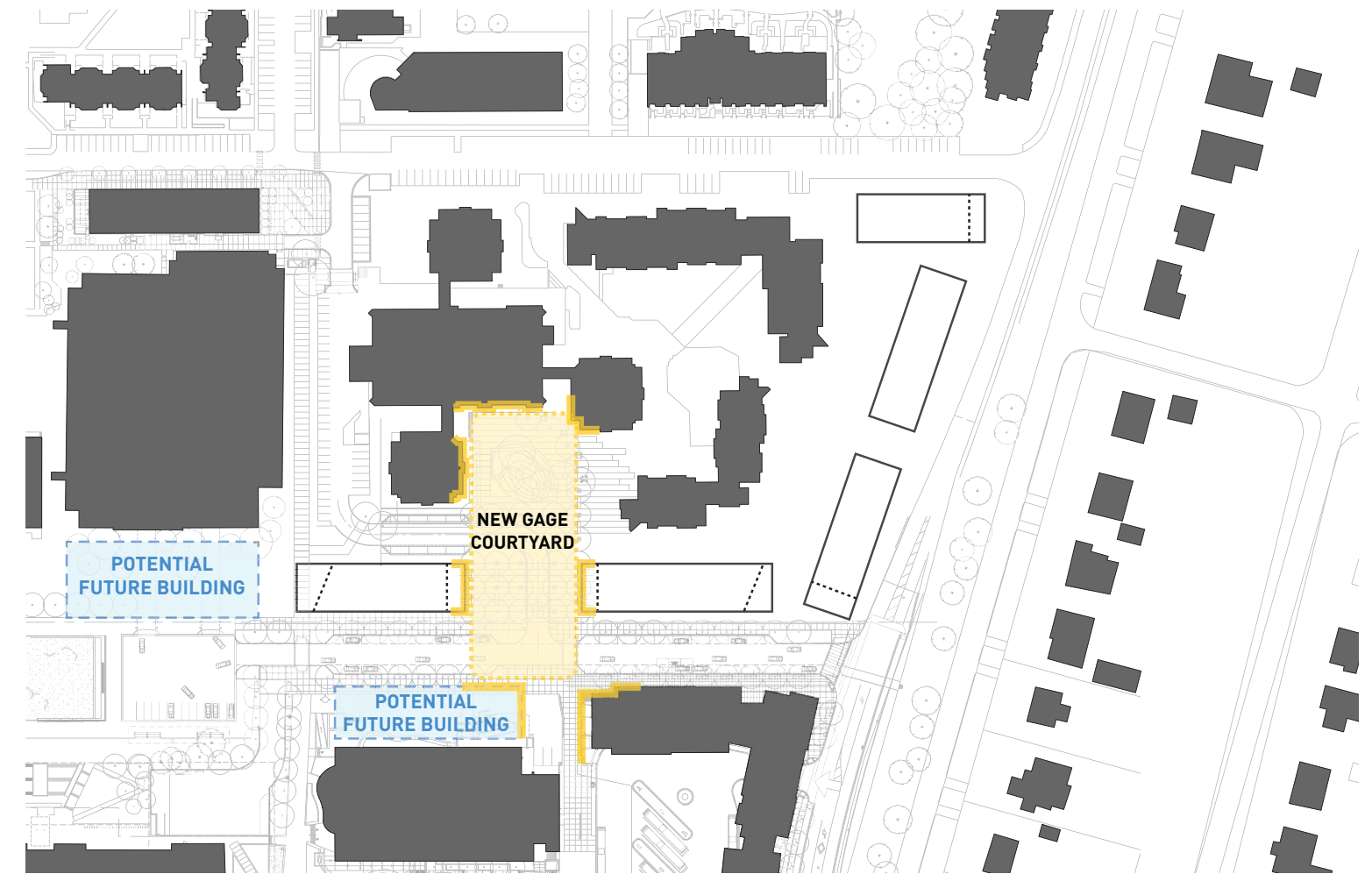
The following diagrams illustrate a number of the strategic site planning criteria that are supported by the preferred master plan.

KEY PROJECT STATISTICS:

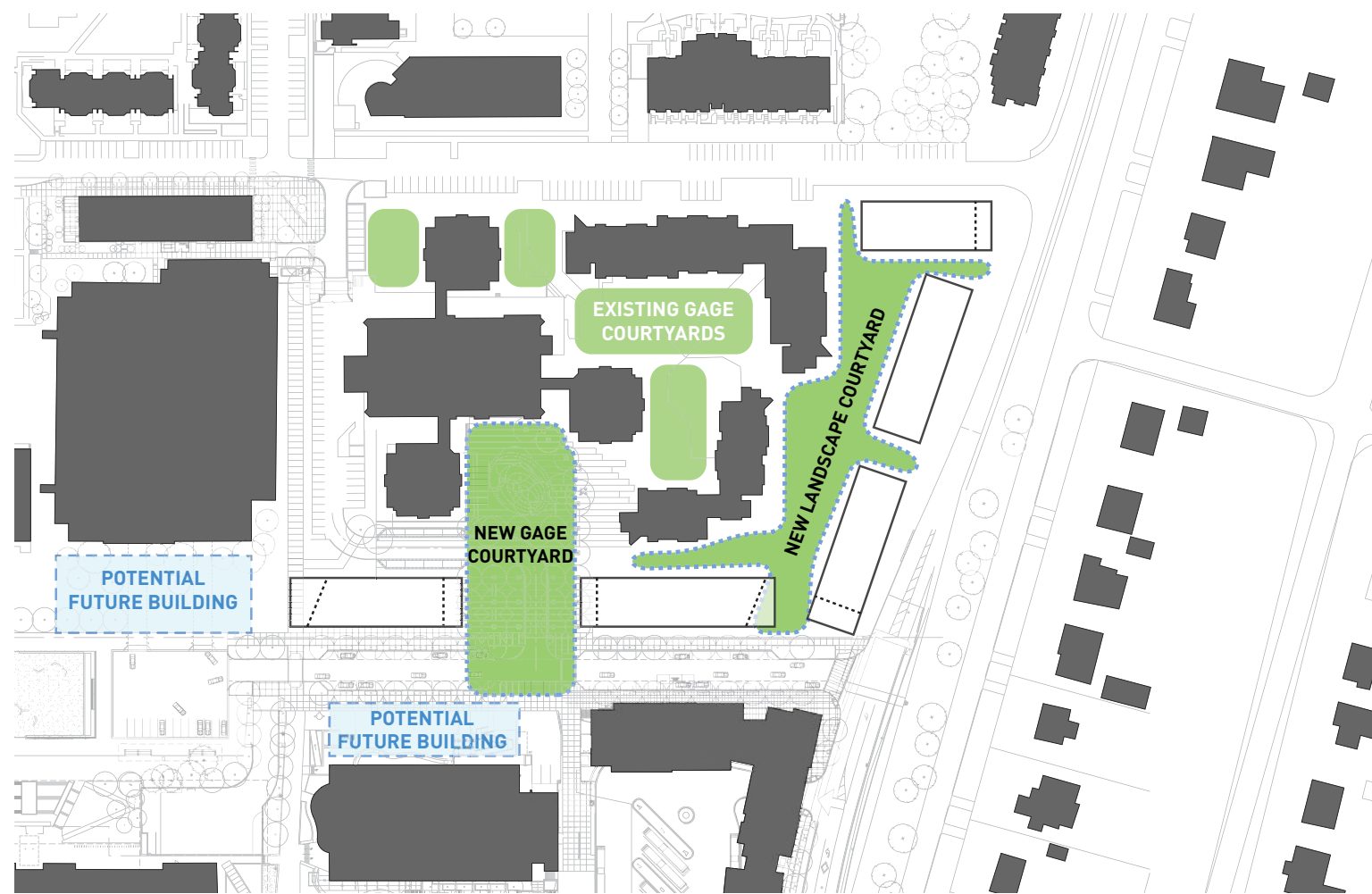
Number of Beds:	941
Gross Floor Area (above grade):	31,827 m ² (342,583 ft ²)
Below-Grade Parking:	189 spaces
Bike Storage:	min. 1 per unit
GHG Reduction:	70% (compared to baseline building)
Sustainability Target:	LEED Gold



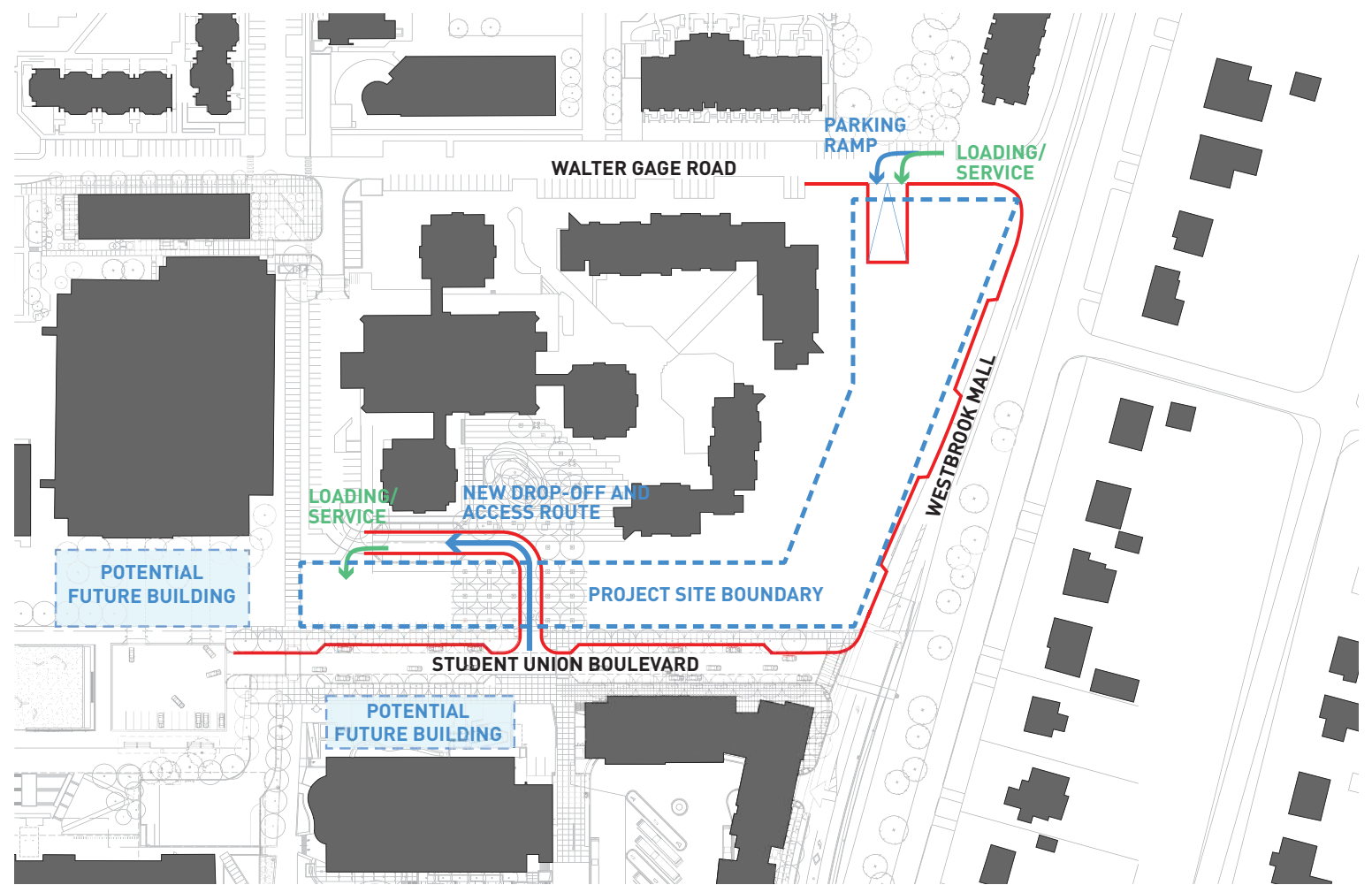
Campus Connections to Create Site Porosity



Building Edges Activate Gage Courtyard

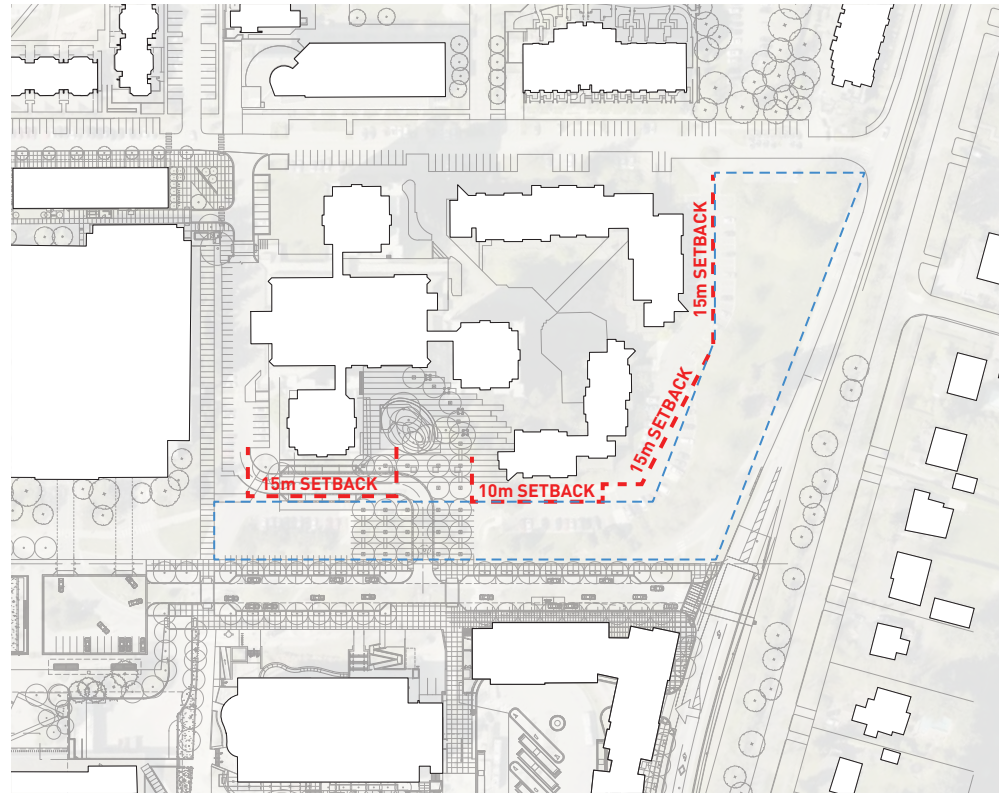


Courtyards and Plazas

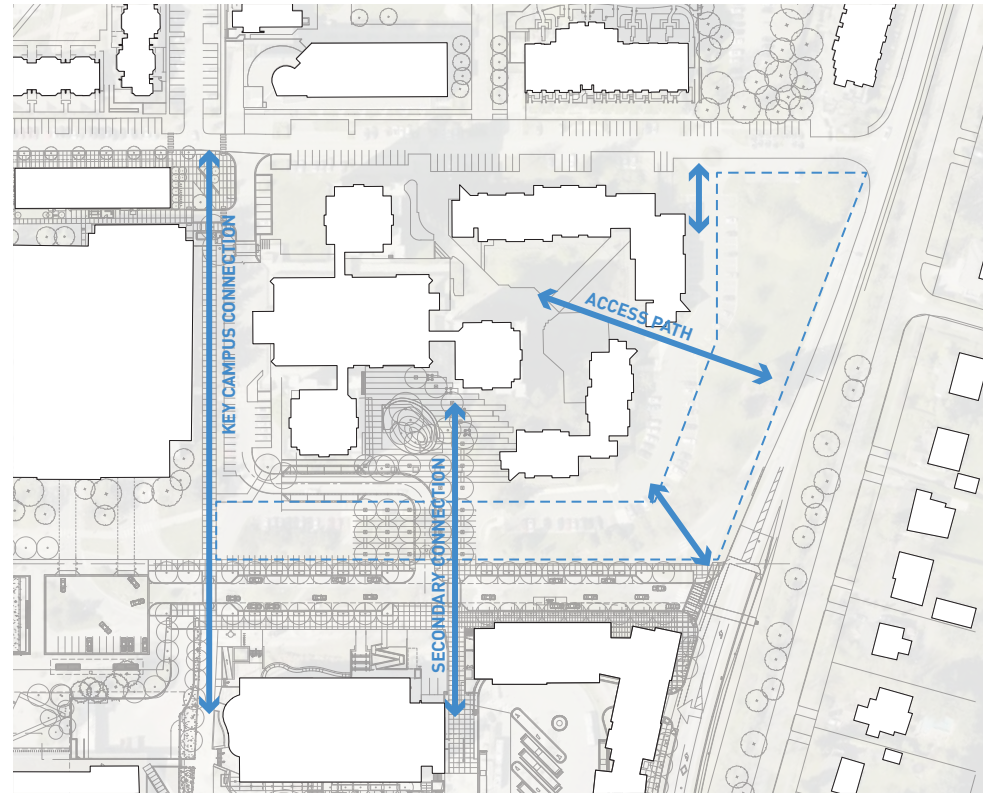


Re-align Student Union Blvd. and Proposed Site Access

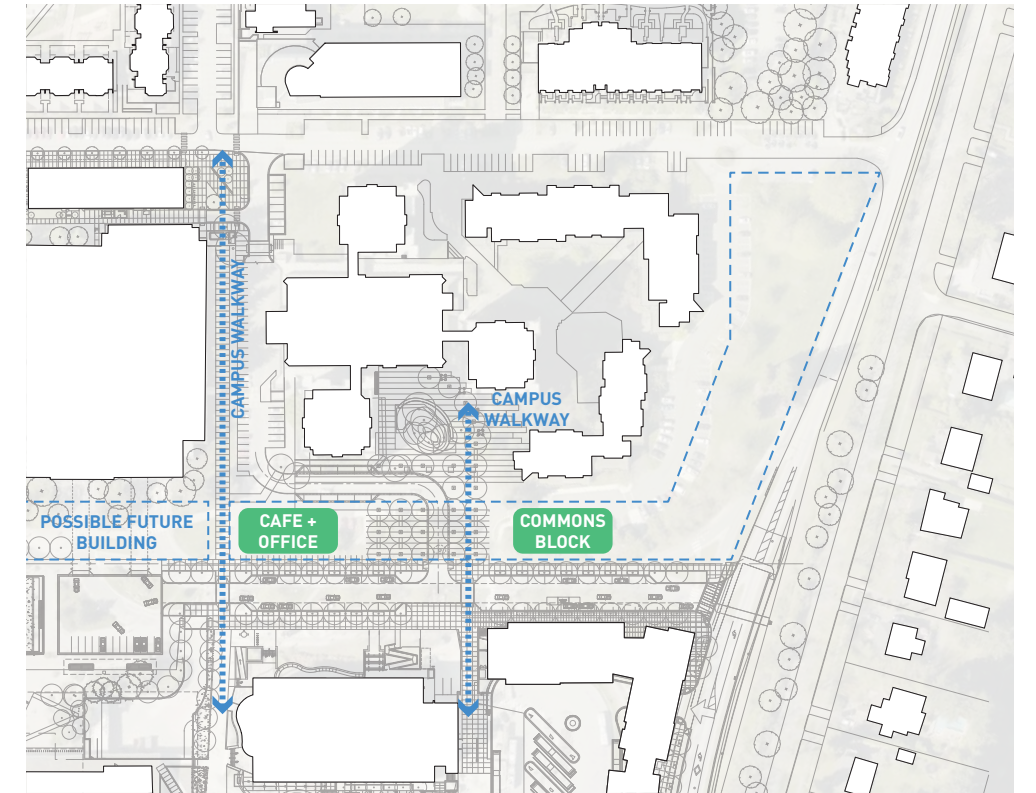
Site Analysis Diagrams



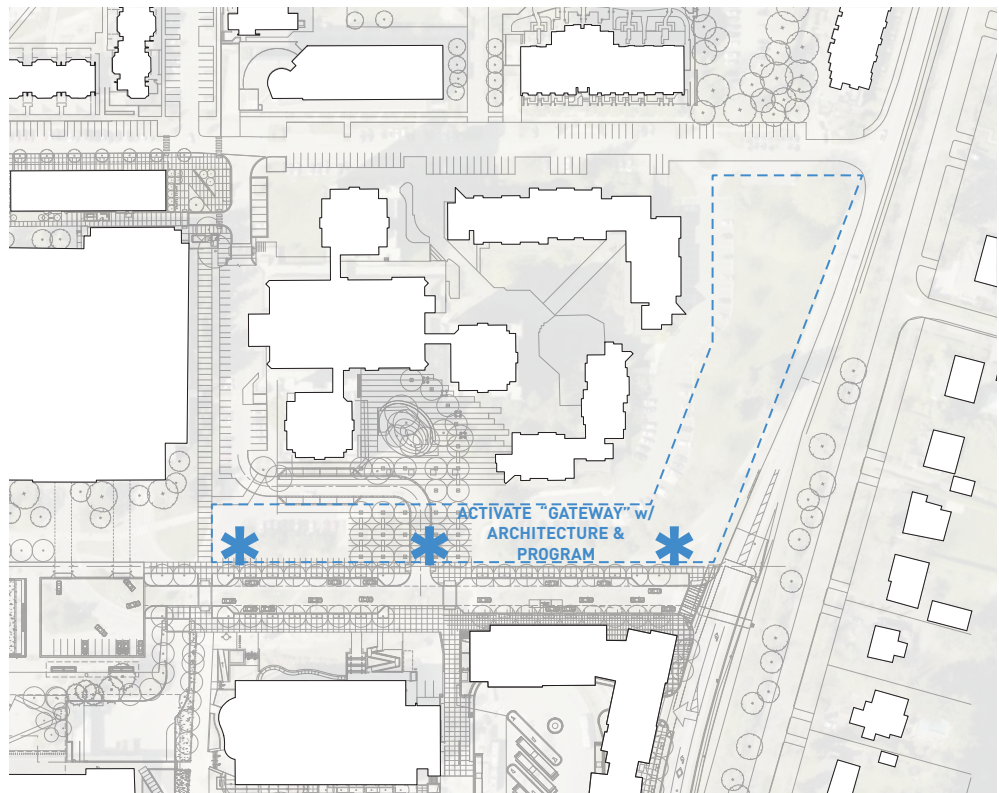
Existing Building Minimum Separations



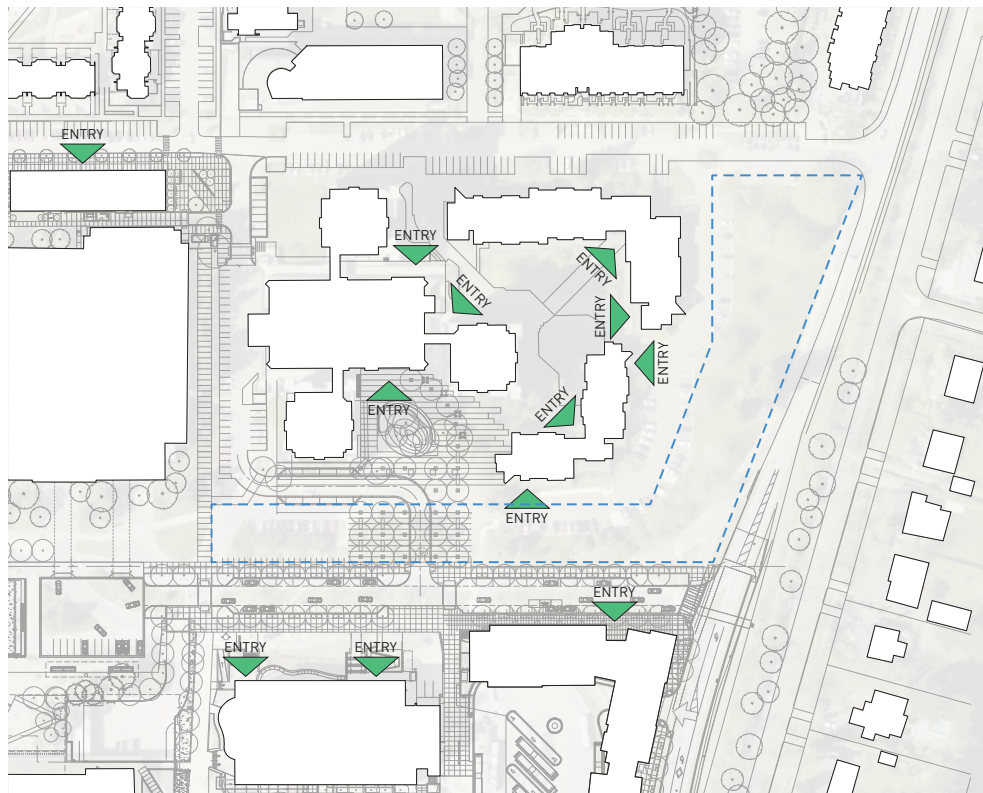
Campus Connections Create Site Porosity



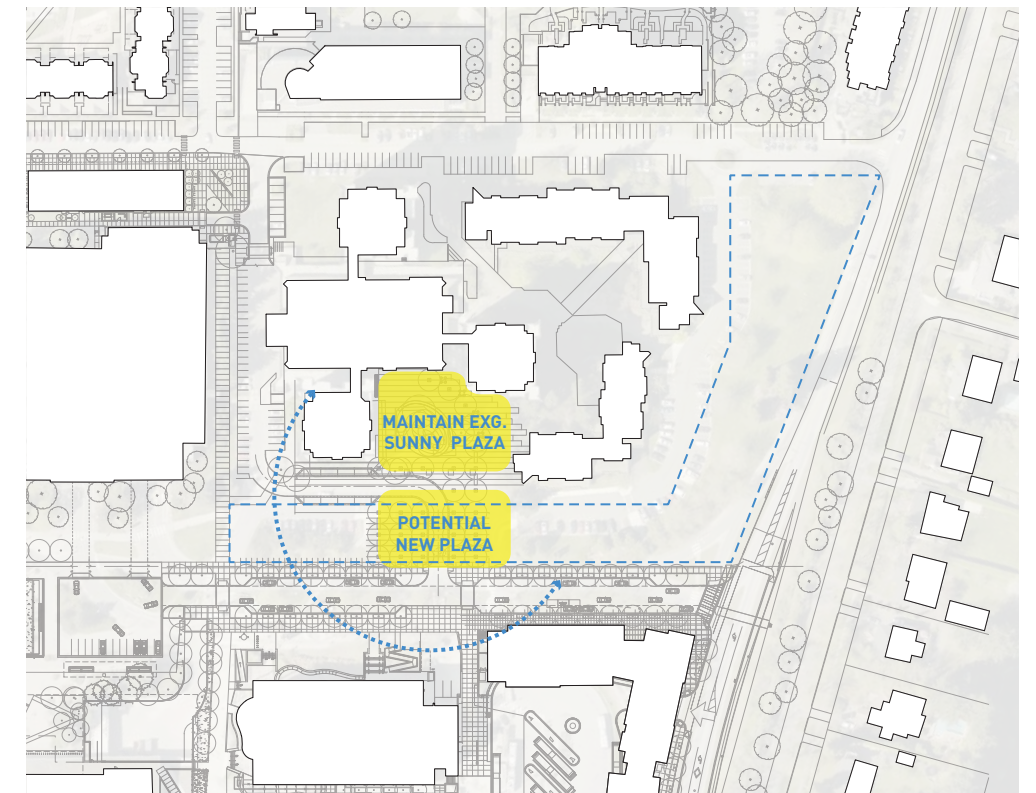
Potential Public Use Locations



Activate "Gateways" into the Site

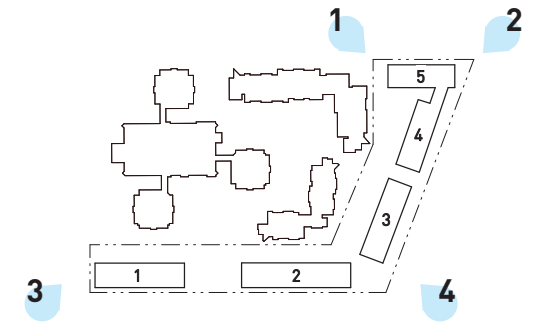


Existing Entries



Plazas + Shadowing

04 SITE PHOTOS



1. View from Walter Gage looking East



2. View from Wesbrook Boulevard looking South



3. View from Student Union Boulevard looking North



4. View from Wesbrook Boulevard looking West

05 MASSING

Initial Massing Studies & Progression



The project is organized in a slender arrangement of buildings which wrap the perimeter of the site. Gaps are introduced between buildings to ensure physical and visual porosity throughout the site, and also relating to existing and desired pedestrian connections. **The proposed massing seeks to mediate the density on Wesbrook Mall as a transition from the lower scale residential contexts to the north and east**, along with the taller scale of the recent Exchange Residence to the south, and the existing Gage Residence towers to the west.

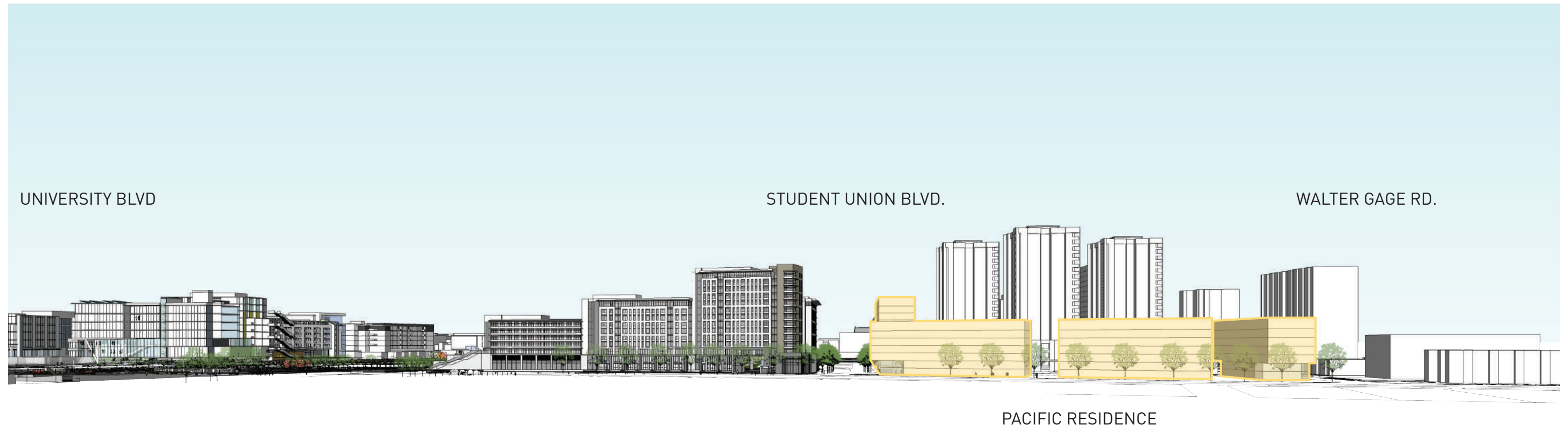
The proposed massing on Student Union Blvd. responds to the 10-storey portion of the Exchange Residence to the south, **to create a consistent streetwall condition for this urban public realm.**

The proposed 7-storey massing scale on Wesbrook Mall seeks to balance the required density of the project in a **mid-rise residential scale to transition with the various neighbourhood adjacencies.**

A series of revisions and design development has been made to the project, to both the physical form of the program and buildings, as well as refinements to the architectural design and landscape architecture.

- PROGRAM REDUCTION: Academic office program removed from Building 1, reducing it's height from 10 storeys to 8 storeys.
- MASSING SHIFTS: Adjustments to building locations and sizes seek to "anchor" the project in the campus context. The revised site plan organization aligns with key existing buildings, in order to connect the project with the surrounding buildings and reinforce pedestrian movement/desire lines. A new plaza - "Gage Court" - becomes relevant to the existing Gage Residences, the new Pacific Residence, as well as Student Union Blvd.
- WESBROOK / STUDENT UNION CORNER: Building massing on Wesbrook Mall has been shifted south, to create a mid-rise building "anchor" at the intersection with Student Union Blvd. This allows Building 2 to shift further west on Student Union Blvd., which further augments the reading of the project along Wesbrook Mall, as well as how it relates to the Exchange Residence to the south.

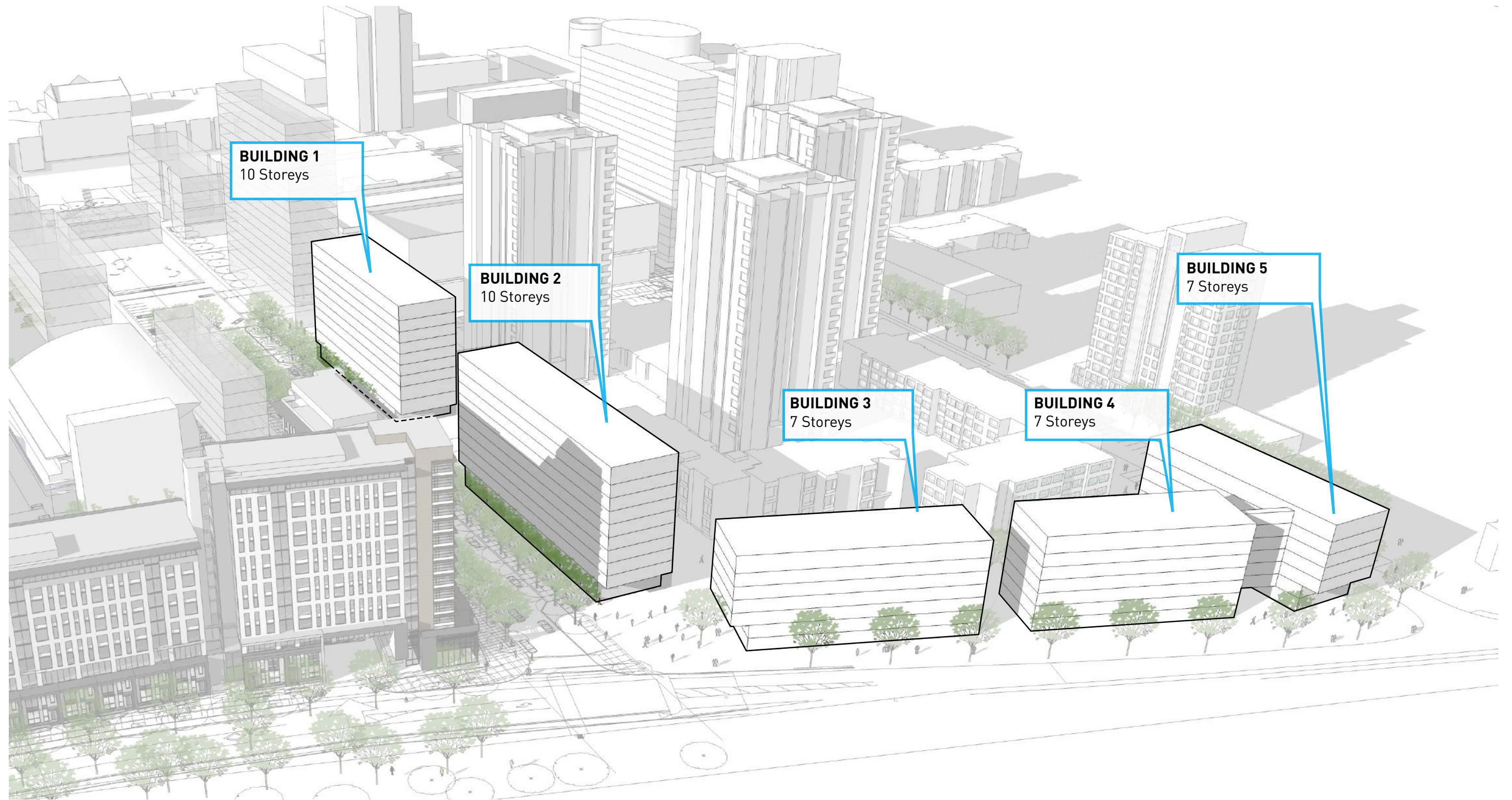
- FACADE DESIGN DEVELOPMENT: The "Grid" expression on the facades has been further developed to create different readings across the height of the buildings, as well as from one building to the next, with the goal of bringing a more human scale to the architecture. The "grid" concept responds in different ways across the "base", "middle", and "top" shifting the scale and reading of the buildings when adjacent to the buildings, as well as augmenting the scale and reading when experienced from further away.
- LANDSCAPE: The landscape reinforces connections between the street and interior courtyard, as well as the renewed role of Gage Court.



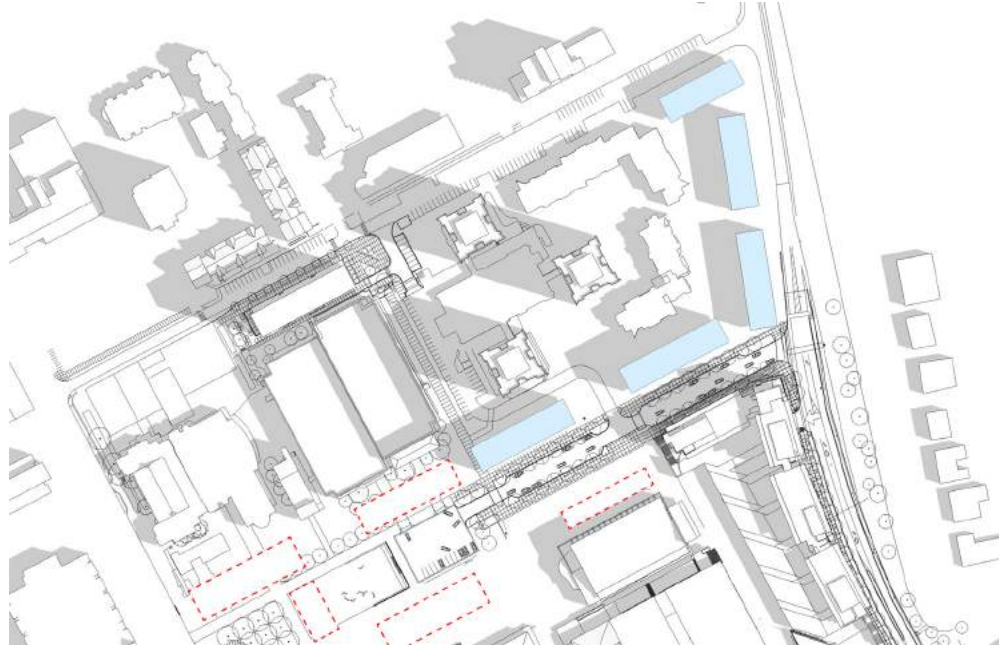
Campus Precinct context looking West along Wesbrook Mall

Revised Massing

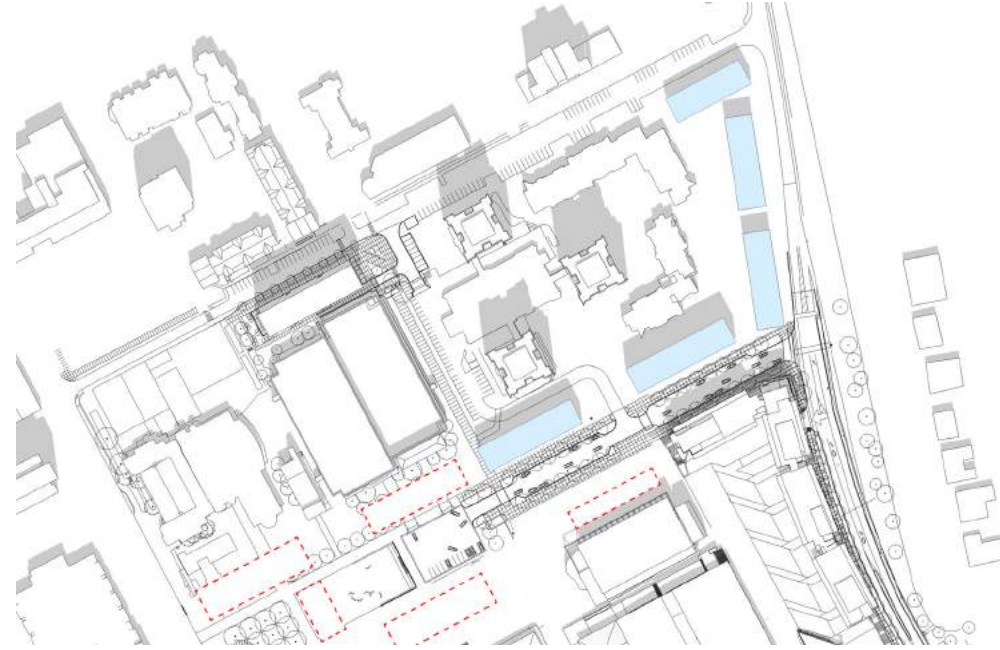
Potential Future Building massing further east in the Student Union Blvd. 'corridor' is shown here as a reference (grey tone), including a potential 18-storey building at the southern end of the North Parkade.



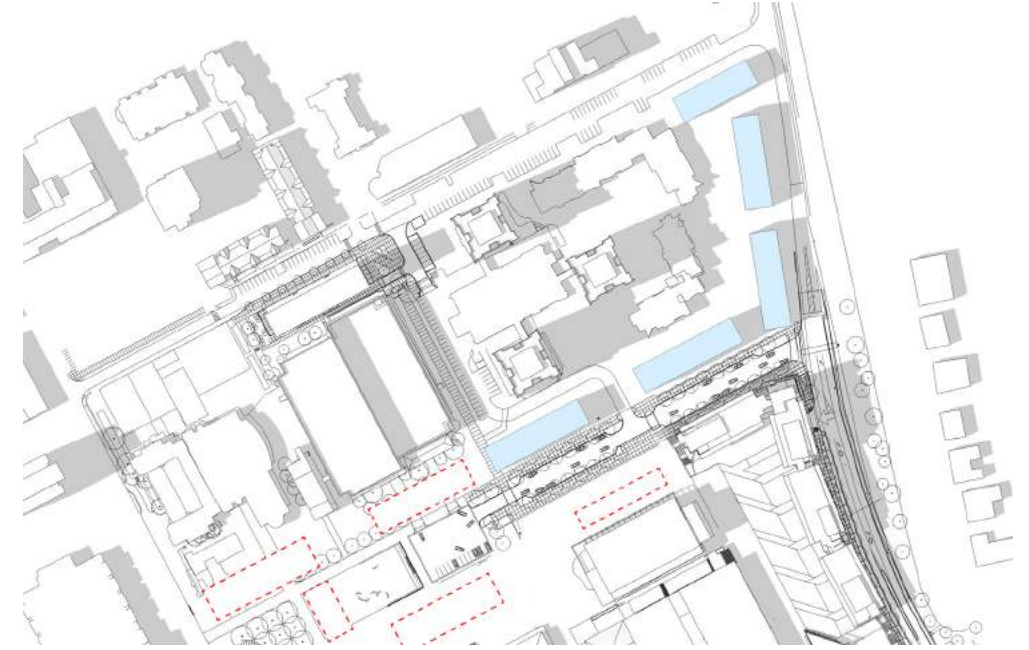
06 SOLAR STUDIES



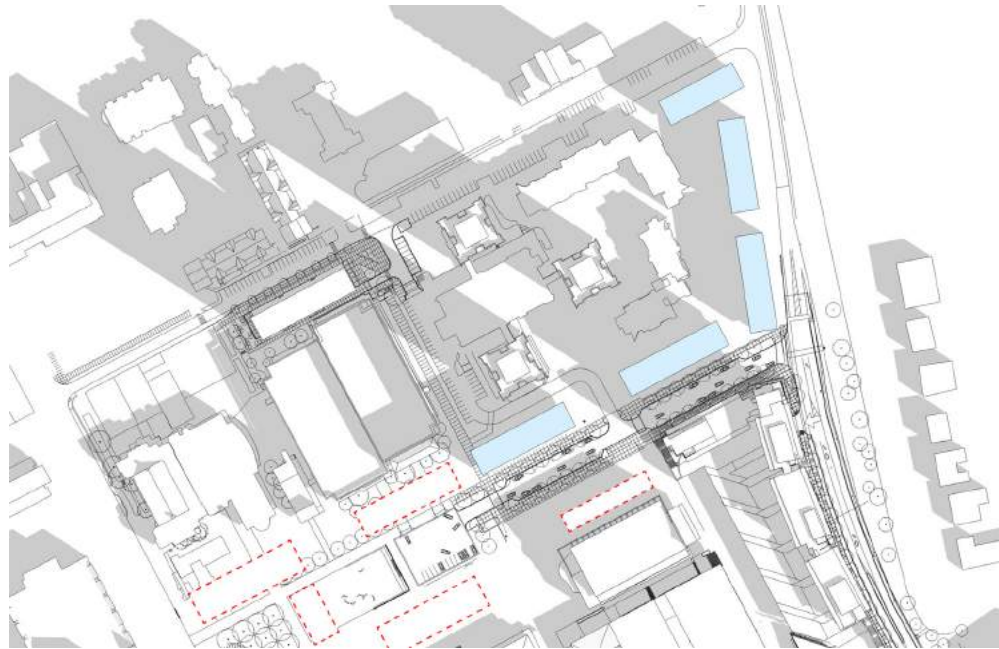
June 21, 10am



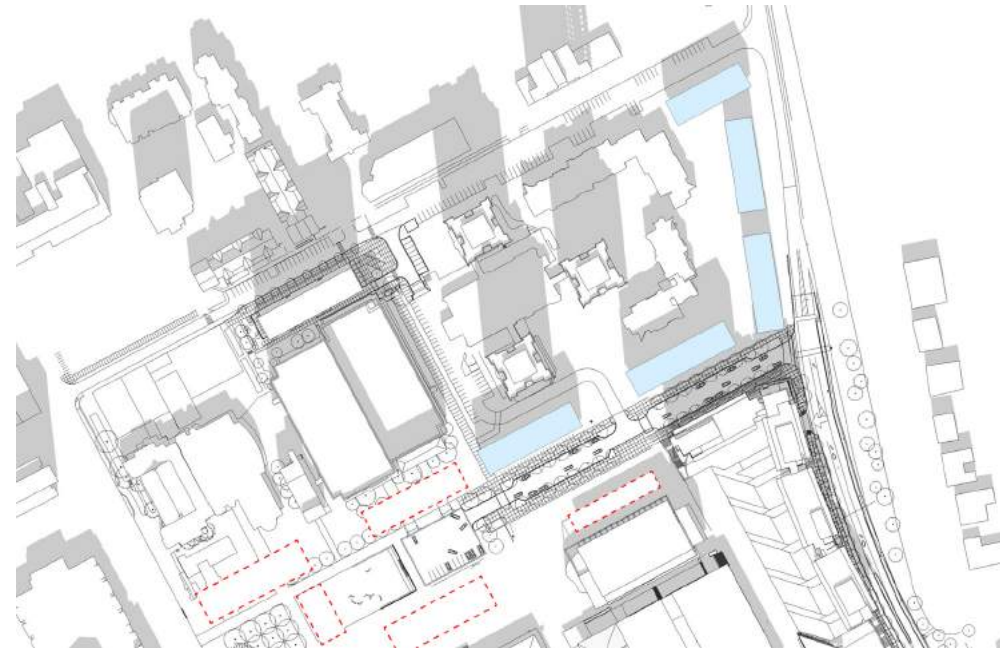
June 21, 12pm



June 21, 2pm



March 21, 10am



March 21, 12pm

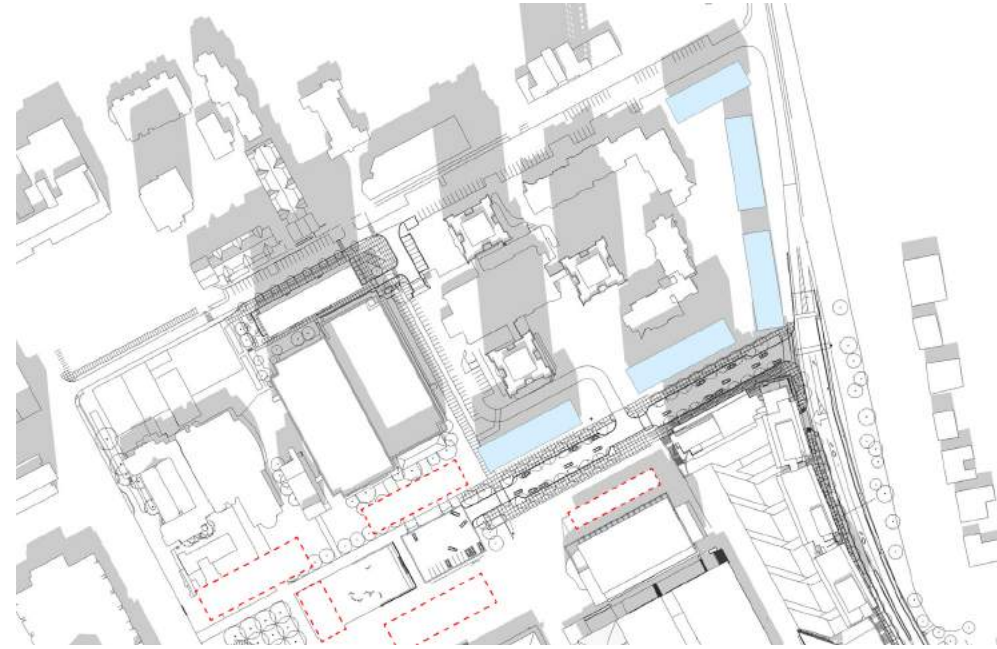


March 21, 2pm





September 21, 10pm



September 21, 12pm



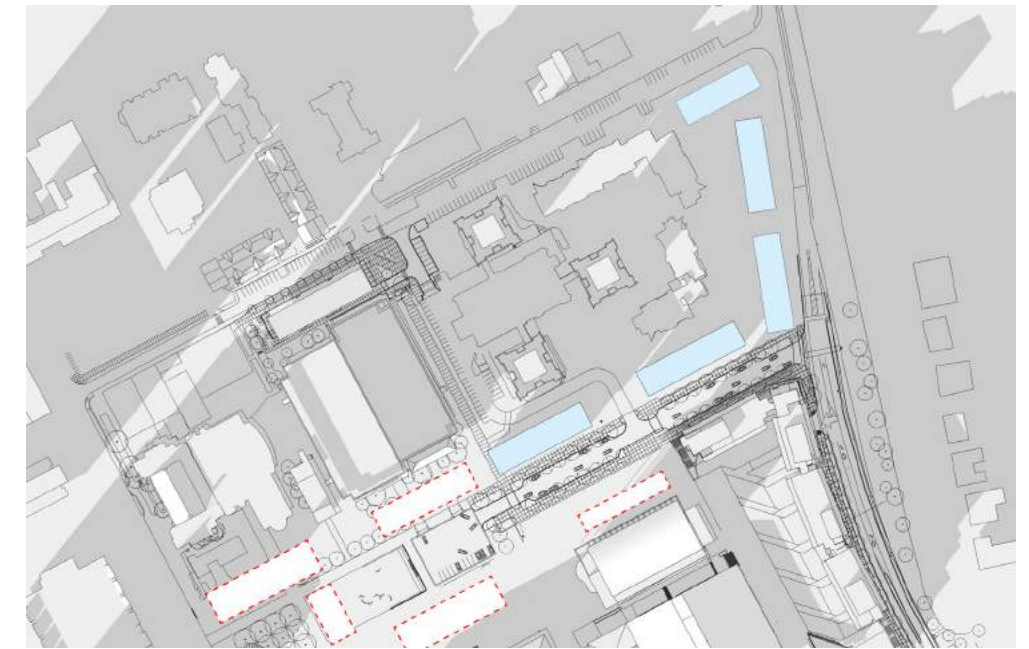
September 21, 2pm



December 21, 10am



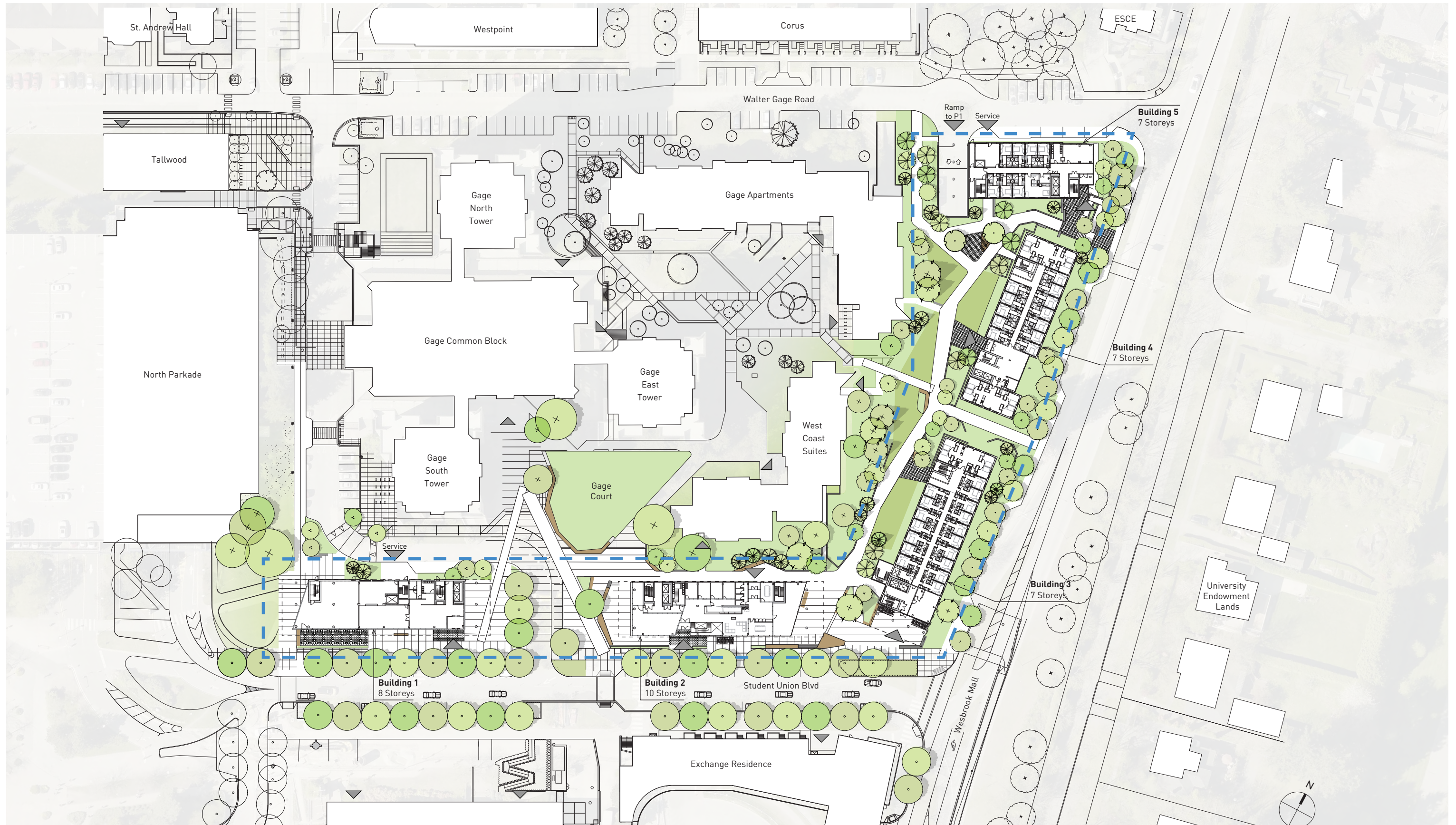
December 21, 12pm



December 21, 2pm



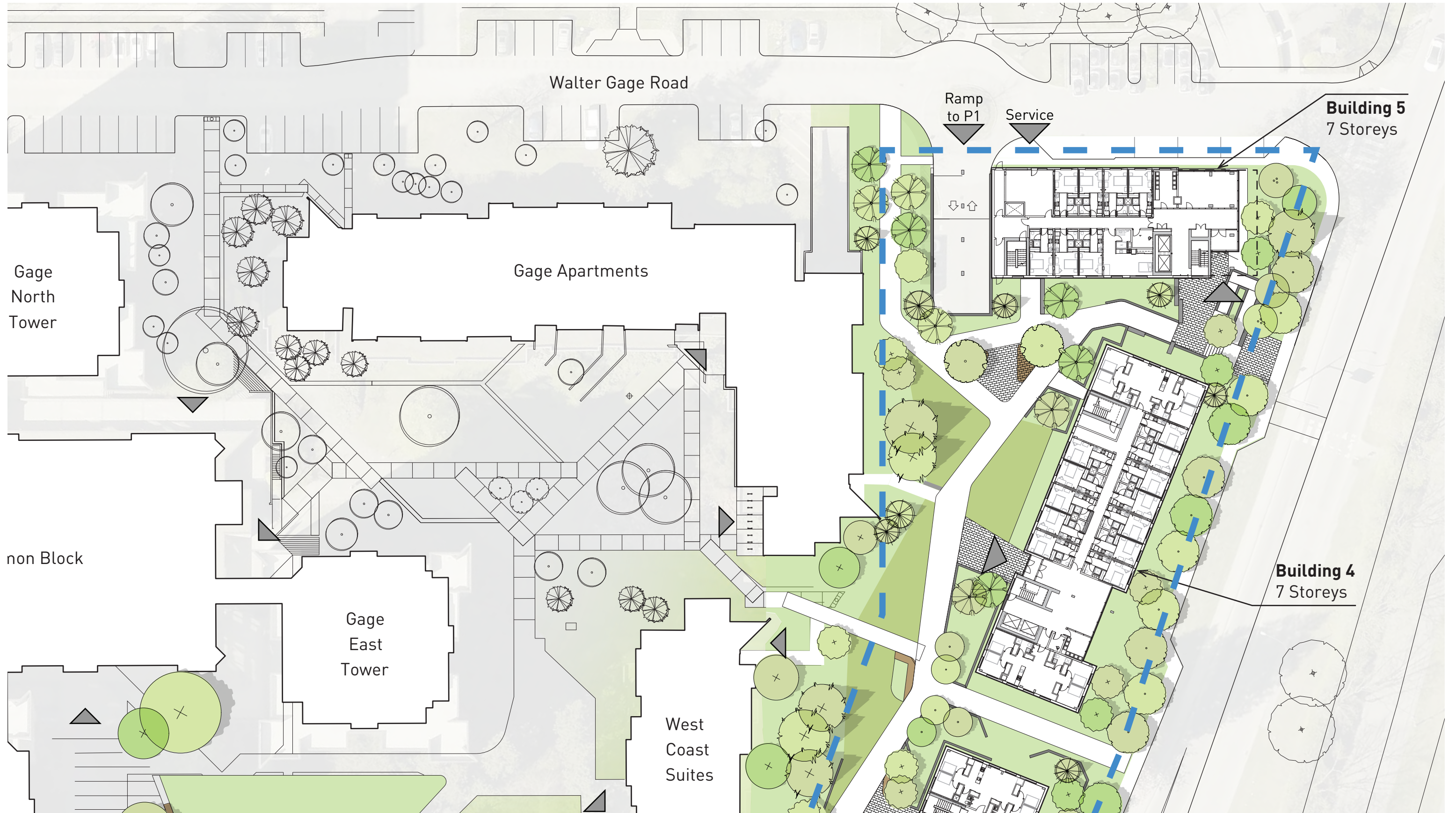
07 SITE PLAN



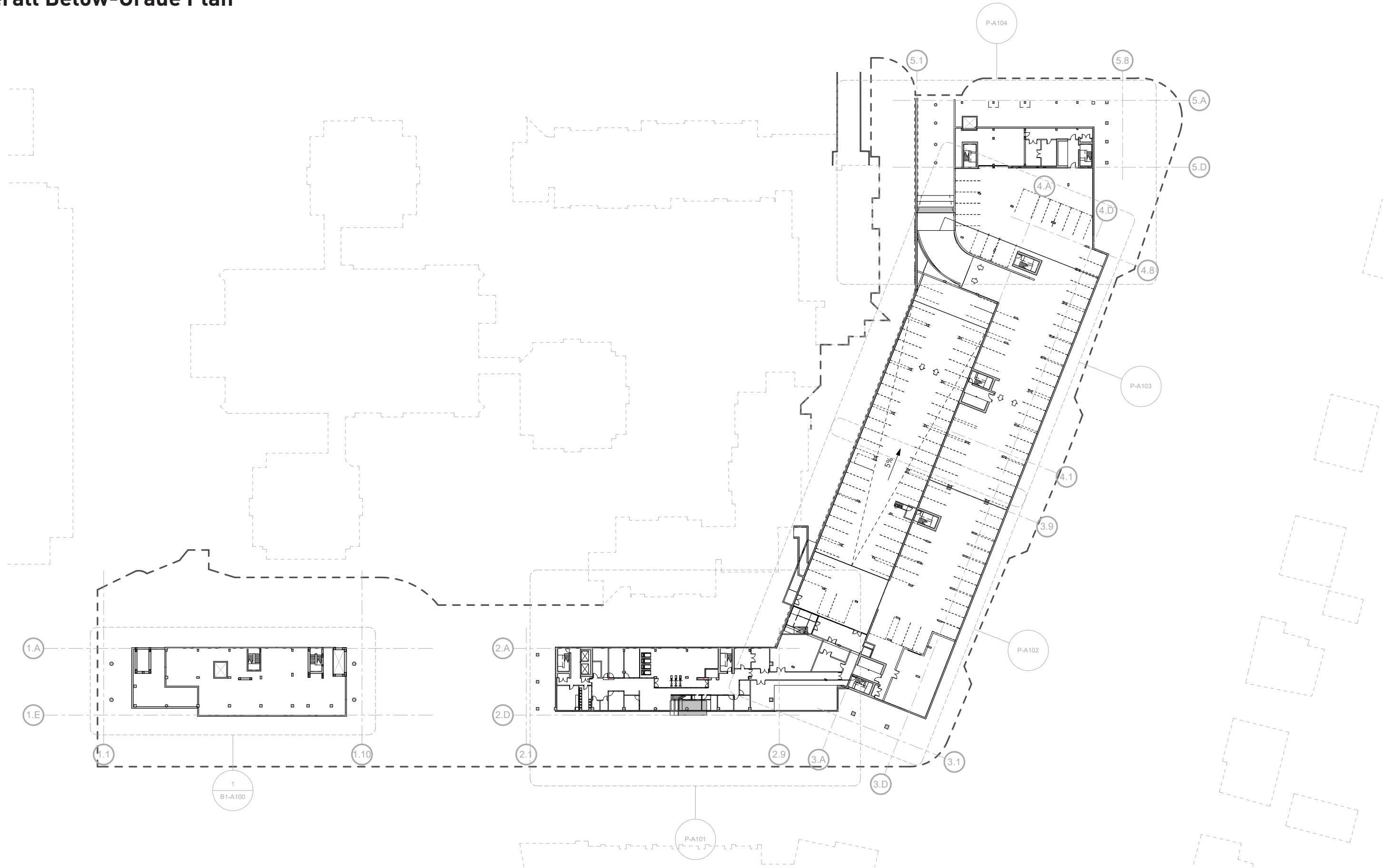
Enlarged Site Plan



Enlarged Site Plan



Overall Below-Grade Plan



08 PUBLIC REALM

The ground floor levels within the project contain a variety of programs, organized through relationships with the larger precinct public realm planning goals, programmatic relationships, and with controlled pedestrian circulation in mind. The building façade is pulled back at ground floor entries, with full height glazing provided to enhance transparency at building entrances and public amenity areas. 'Public facing' programs are predominantly placed in Buildings 1 and 2, to create street-level animation on Student Union Blvd. At night time, artificial lighting levels have been established throughout the outdoor spaces of the project, as well as soffit down-lighting at building entries to create a safe and welcoming environment around buildings while recognizing the sustainability objectives of dark sky strategies.

Large setbacks and breaks between buildings incorporated in the design create a sense of openness to the spaces around the buildings. The development will enhance the public experience along the 3 adjacent streets by virtue of the public programs and uses. Ground-oriented units at grade will increase the "eyes and ears" on the street and sense of defensible and observed space.

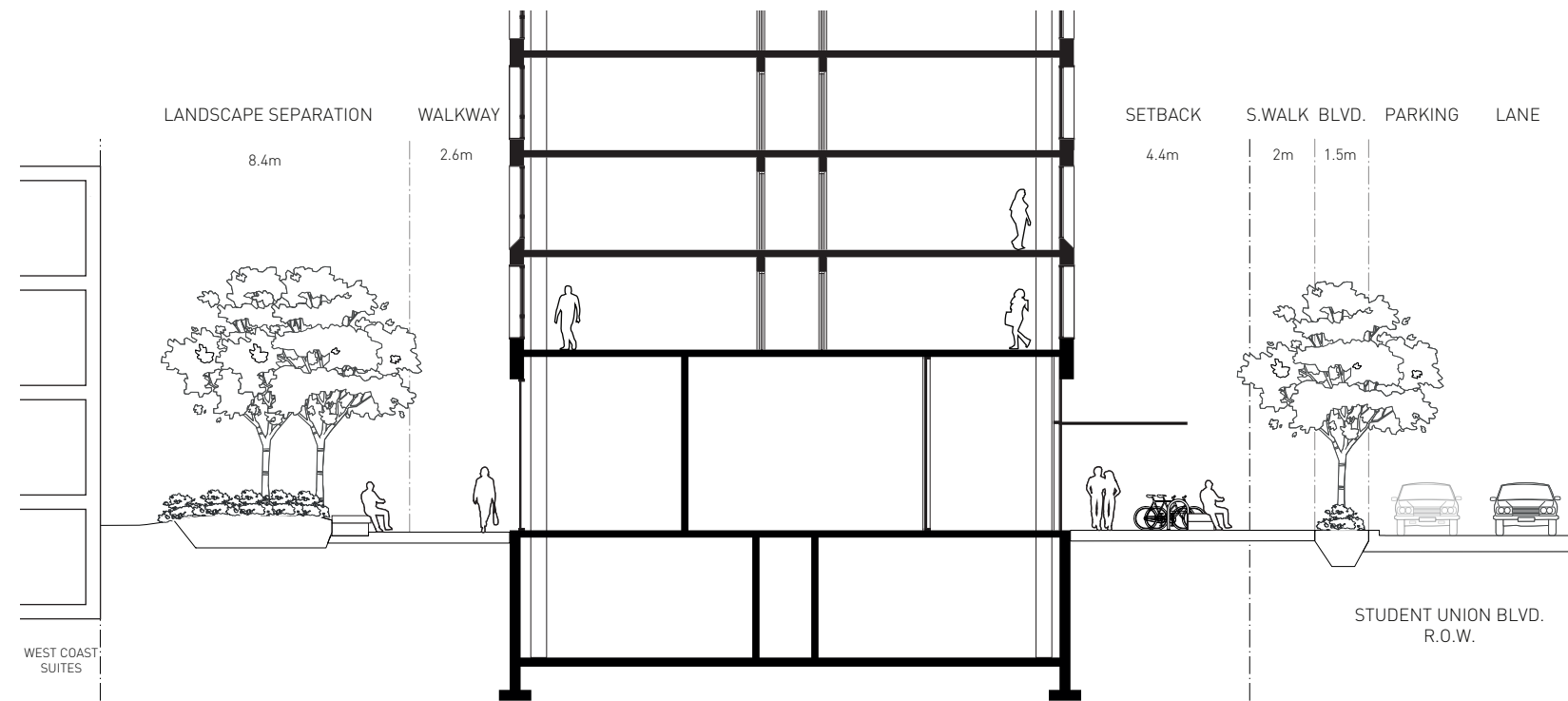
Student Housing and Hospitality Services (SHHS) has a large portfolio of ground-oriented units throughout the campus, including immediately adjacent to this project in the Gage Apartments and West Coast Suites buildings. Additional design considerations have been made to ensure privacy for the ground-level units, including large setbacks from Wesbrook Mall, landscape planting buffers around the perimeter of the buildings, and also by raising the ground floor level above the sidewalk elevation. These all act to control and deter approach to ground level suites, and provide a degree of physical security. 'Bottom-up' blinds are proposed at the windows, to allow for individual levels of privacy for the occupants.

Residential uses - including housing units, lobbies, laundry facilities, and student lounges - are organized along Wesbrook Mall, the new landscape courtyard, as well as Walter Gage Rd.

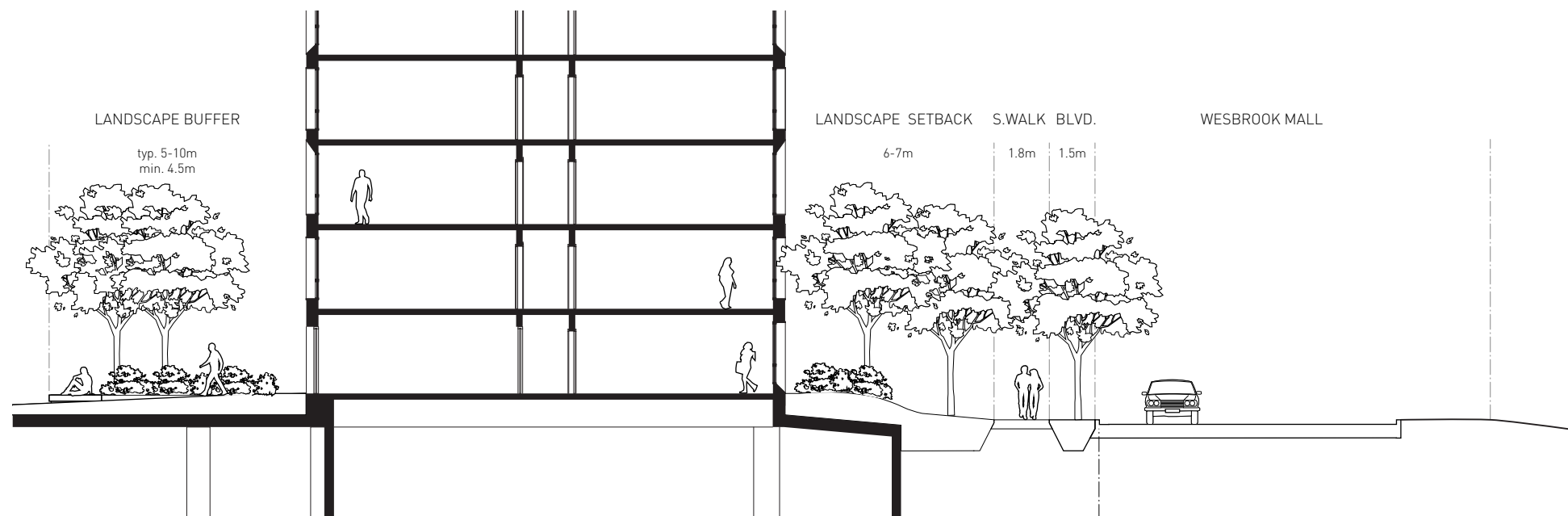
CPTED strategies for the project follow established principles of: surveillance, movement control, physical security, defensible space, and management and maintenance. These principles are integrated throughout the urban design of the project.

Benches and larger seating areas provide places for activity and socialization throughout the site. Pathways and lighting are located to define and illuminate pedestrian routes of travel.

Street section looking East through Student Union Blvd. at Building 2

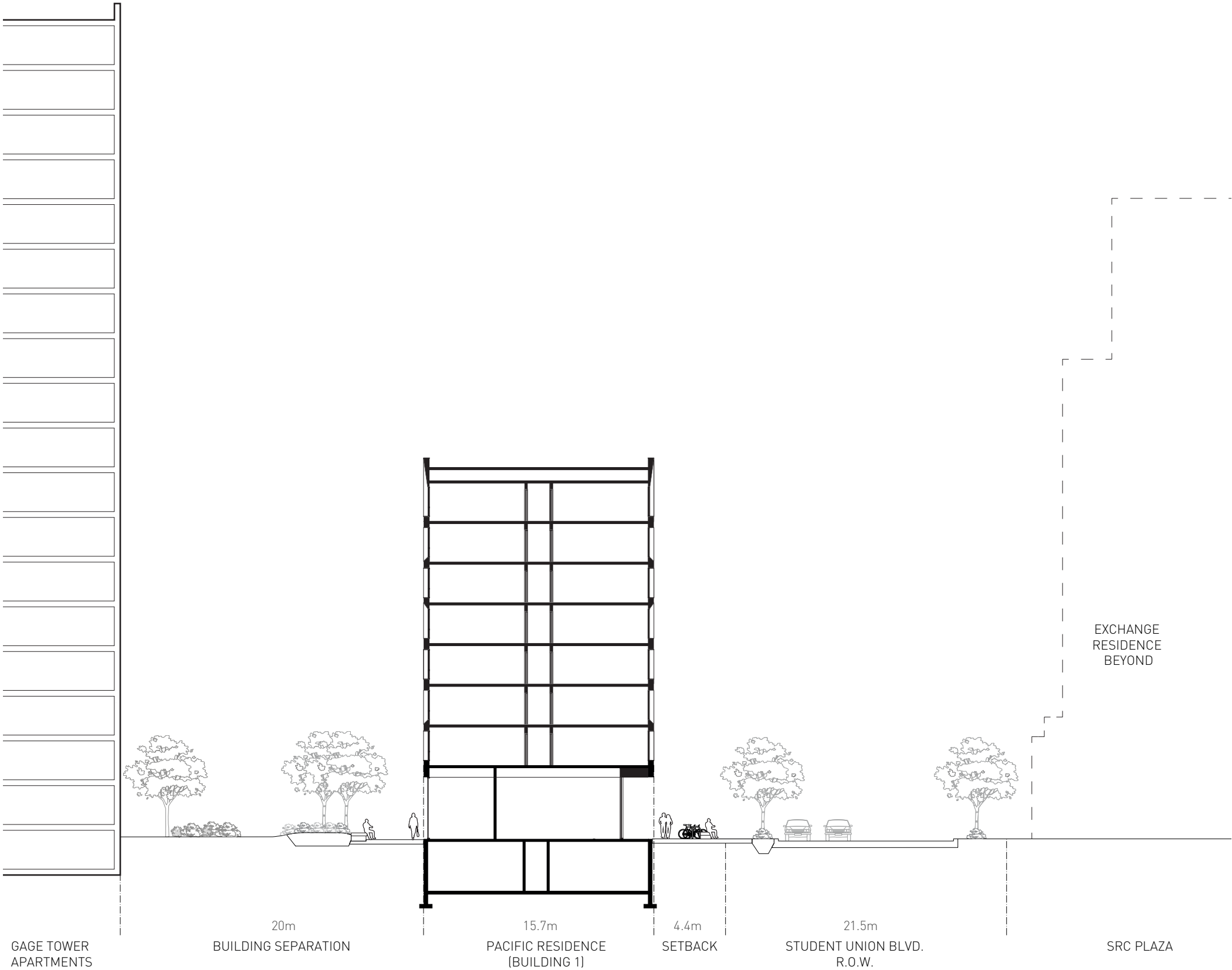


Street section looking North through Wesbrook Mall at Building 3 & 4



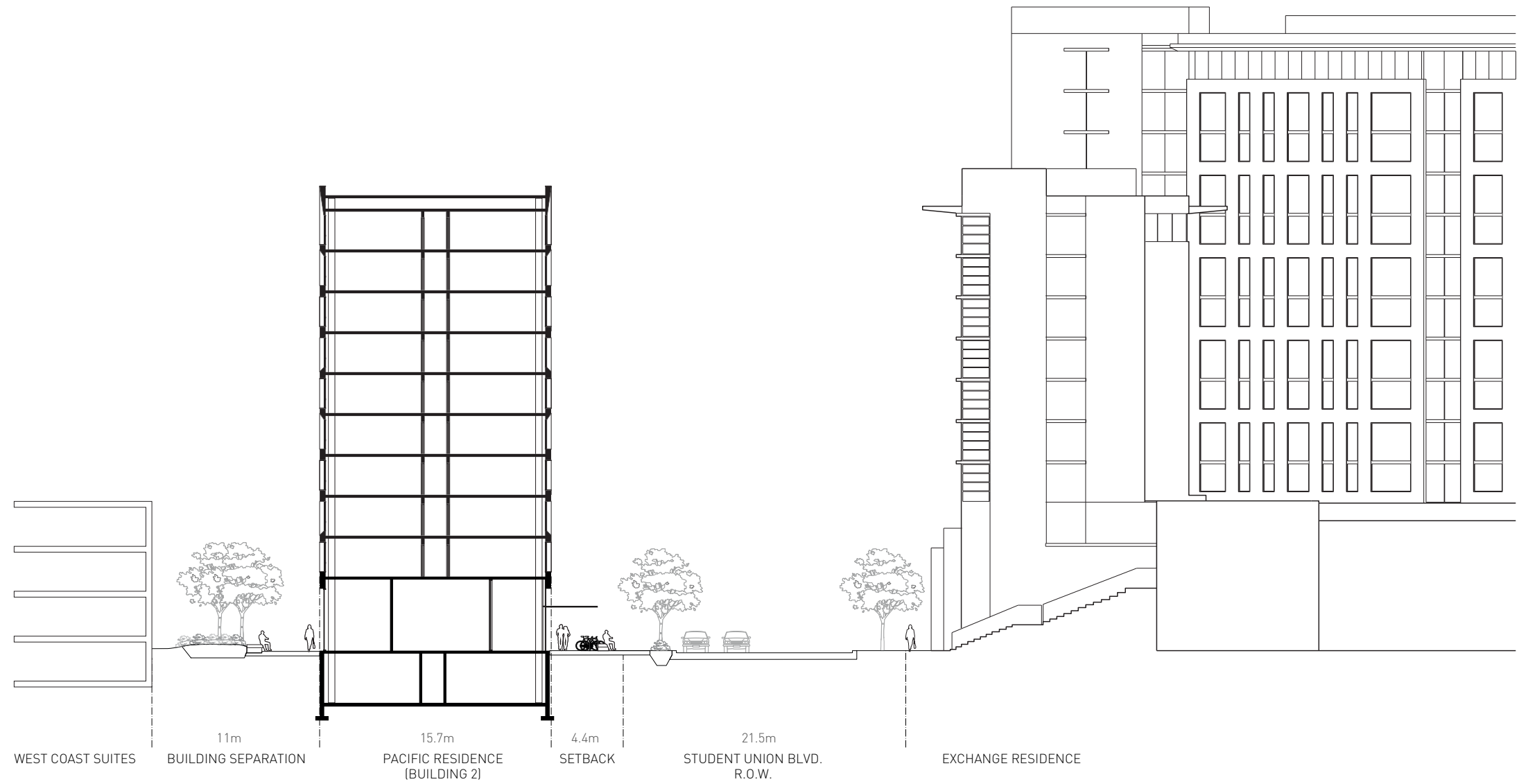
Streetscape Sections

Building section looking East through Student Union Blvd. at Building 1

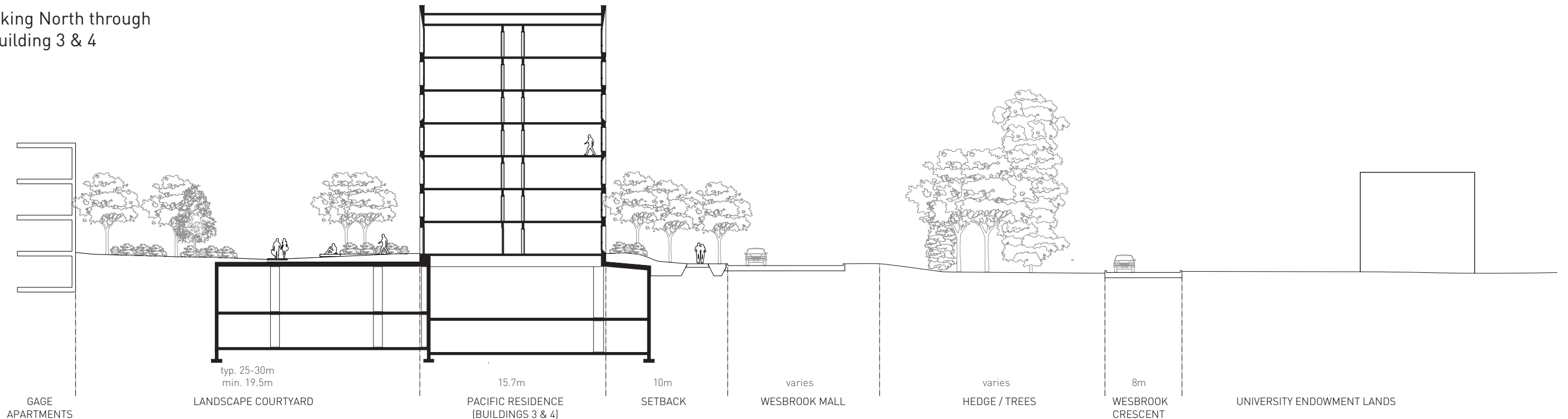


Streetscape Sections

Building section looking East through Student Union Blvd. at Building 2

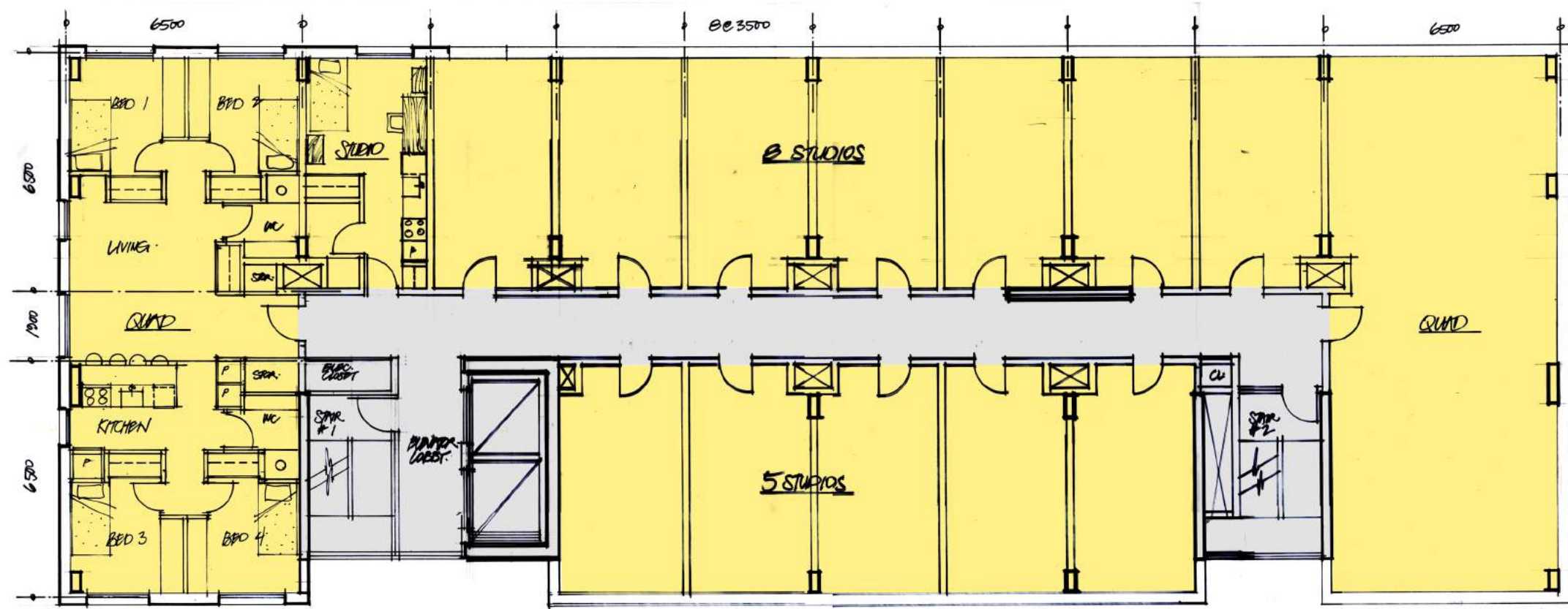


Building section looking North through Wesbrook Mall at Building 3 & 4

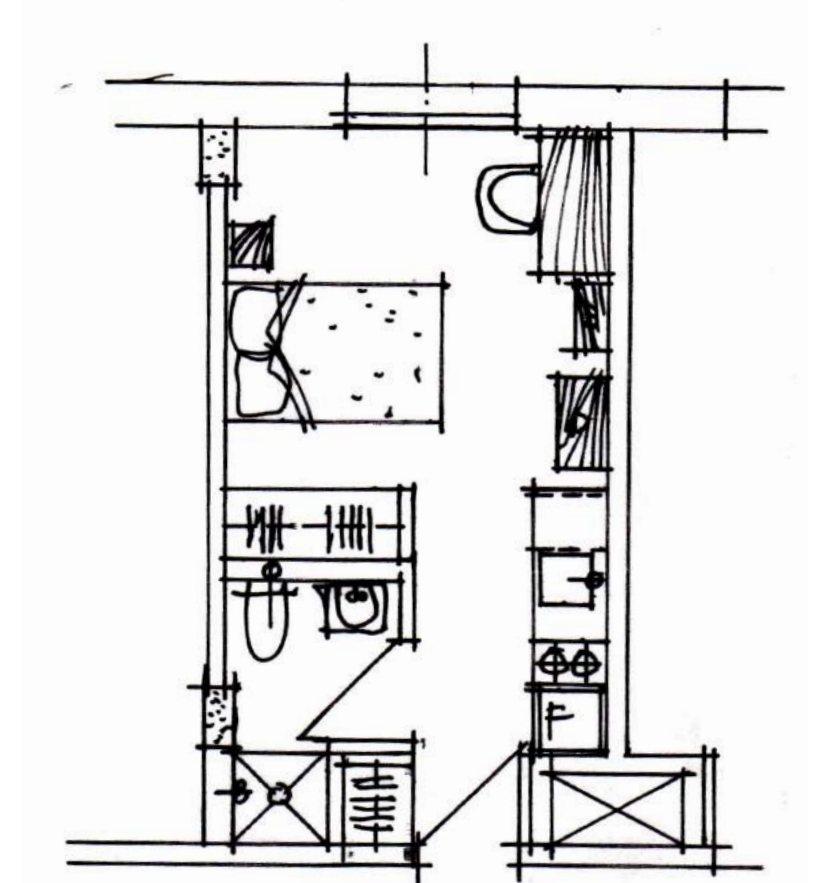


09 PROGRAM PLANNING

Prototypical Residential Floor Plans

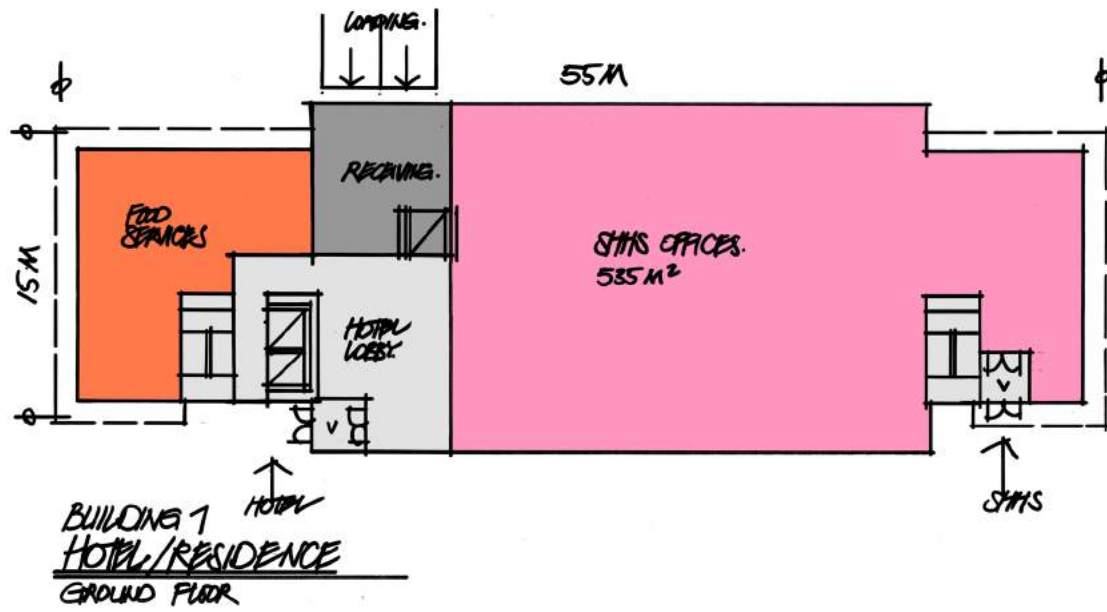


Typical Residential Floor Plan

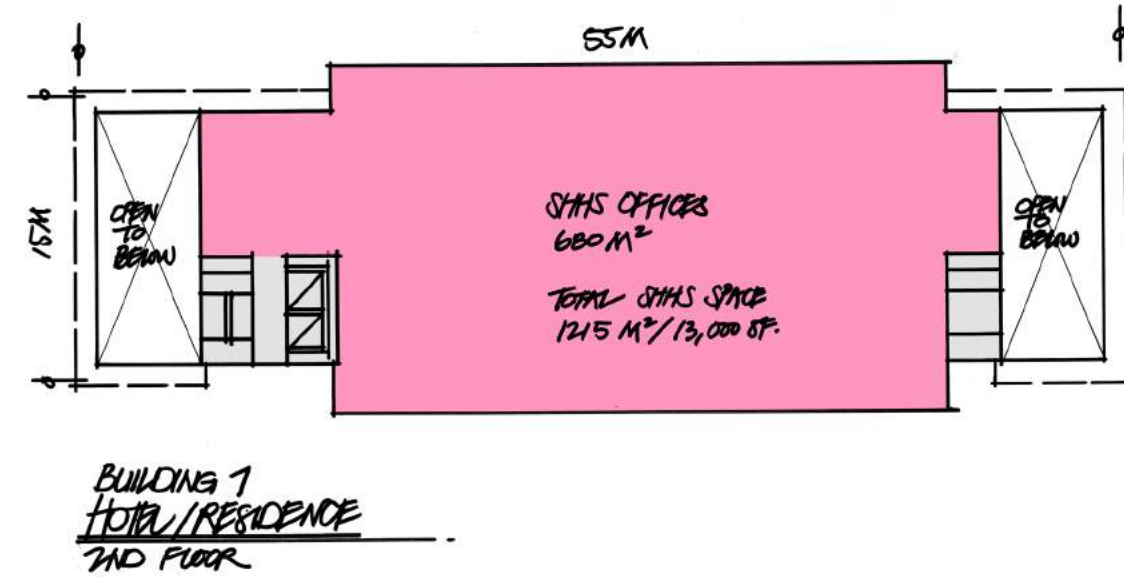


Prototypical Studio Unit Plan

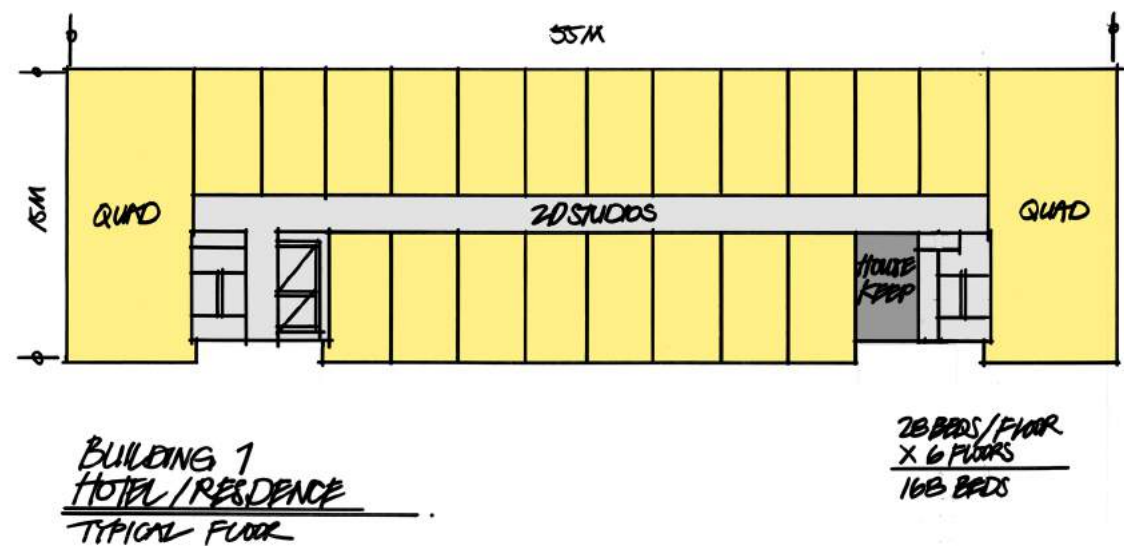
Prototypical Floor Plans



Building 1 - Ground Level

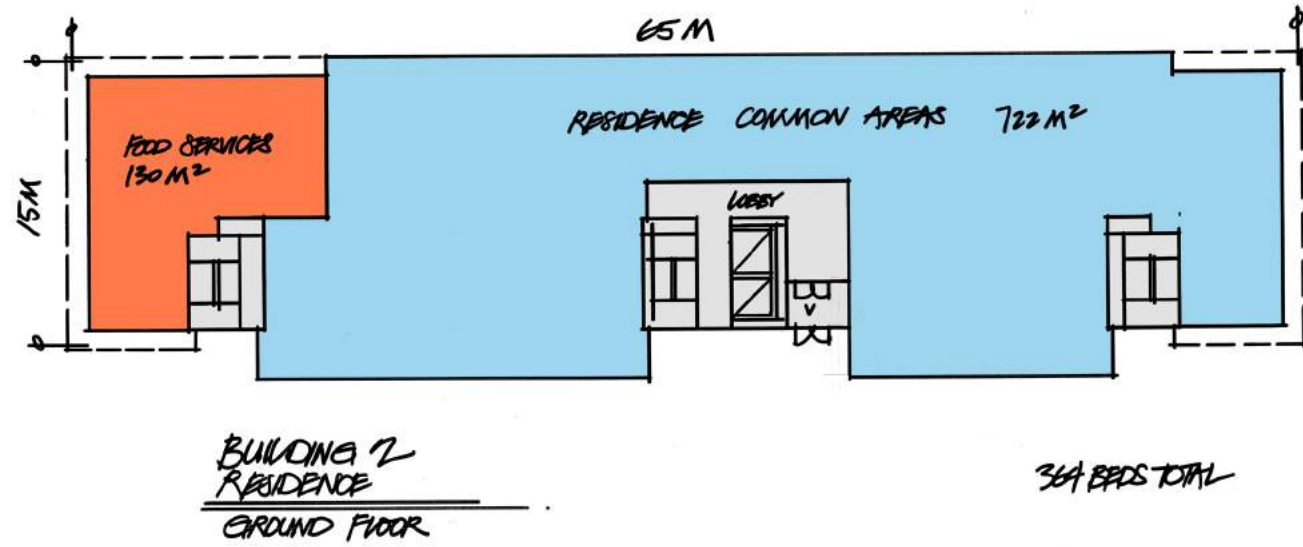


Building 1 - Typical Office Floor Plan

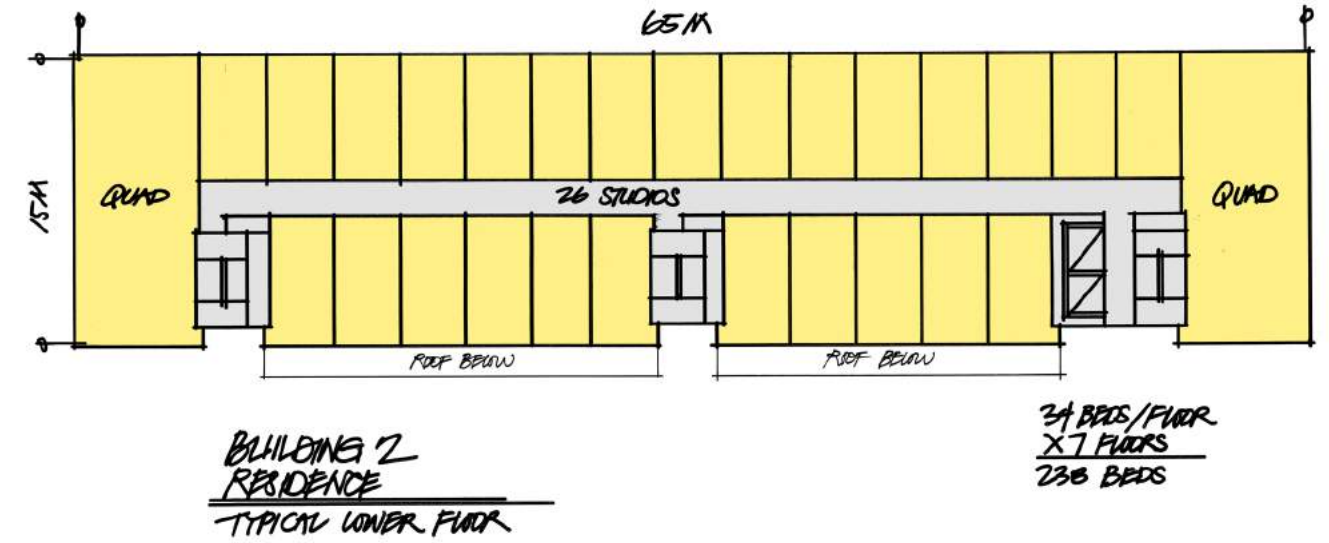


Building 1 - Typical Residential Floor Plan

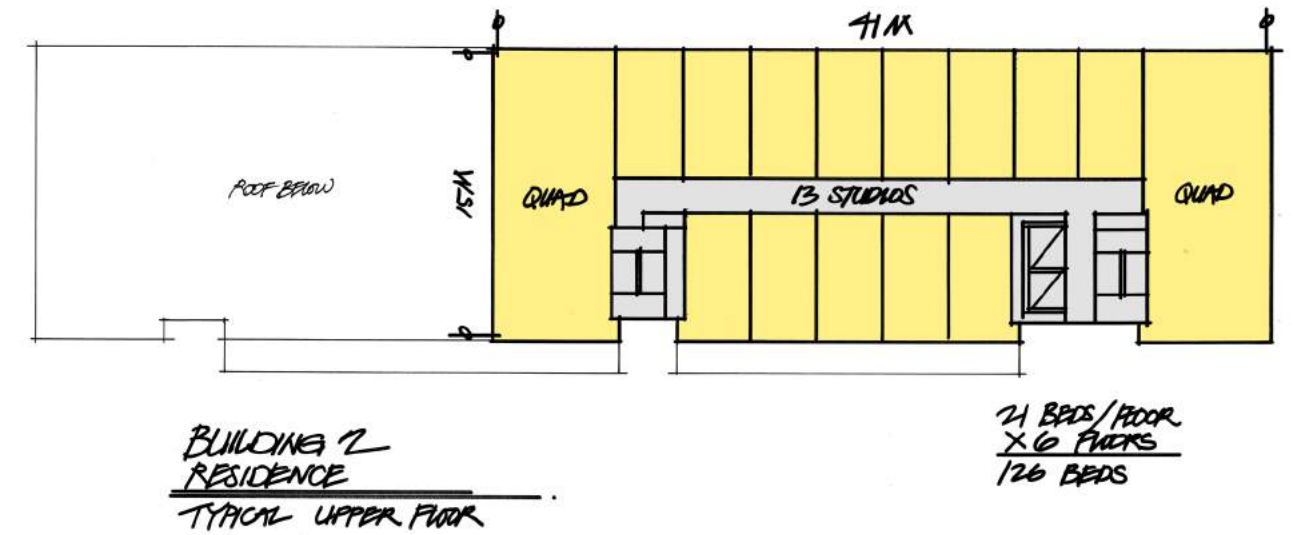
Prototypical Floor Plans



Building 2 - Ground Level

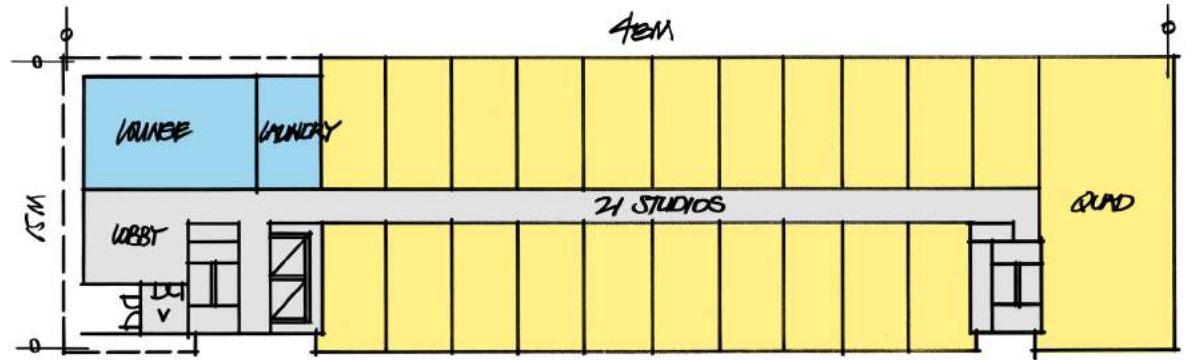


Building 2 - Typical Lower Level Residential Floor



Building 2 - Typical Upper Level Residential Floor

Prototypical Floor Plans



BUILDING 3
RESIDENCE
GROUND FLOOR

25 BEDS THIS FLOOR
242 BEDS TOTAL

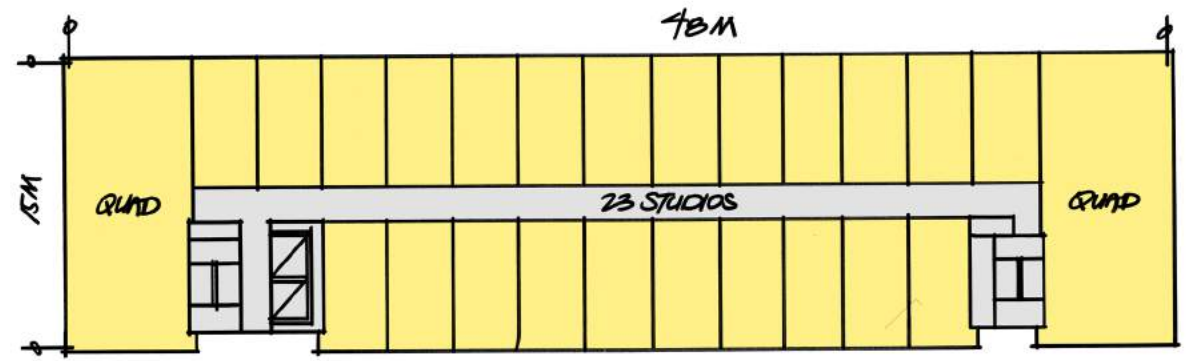
Building 3 - Ground Level



BUILDING 4
RESIDENCE
GROUND FLOOR

17 BEDS THIS FLOOR
TOTAL 142 BEDS

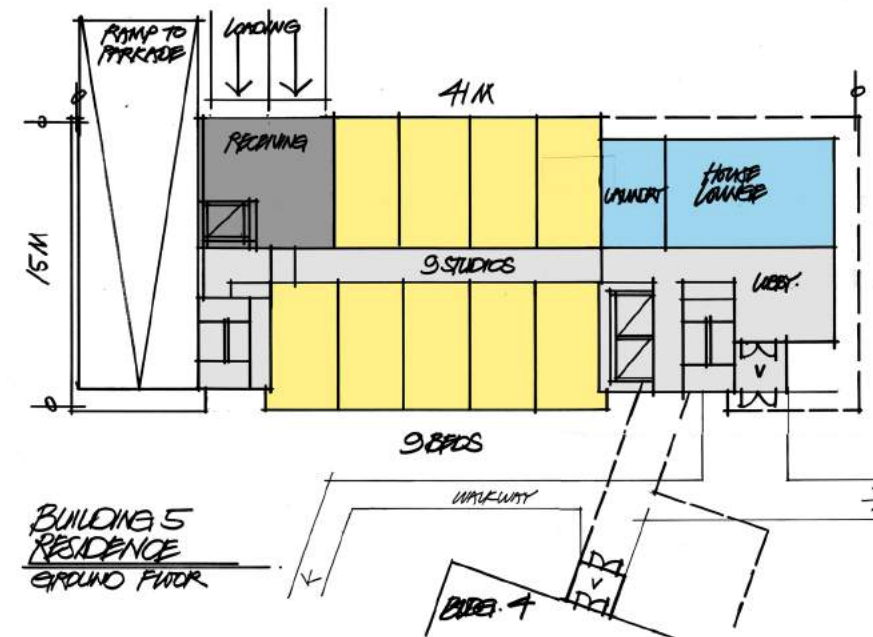
Building 4 - Ground Level



BUILDING 3
RESIDENCE
TYPICAL FLOOR

31 BEDS PER FLOOR
X 7 FLOORS
217 BEDS

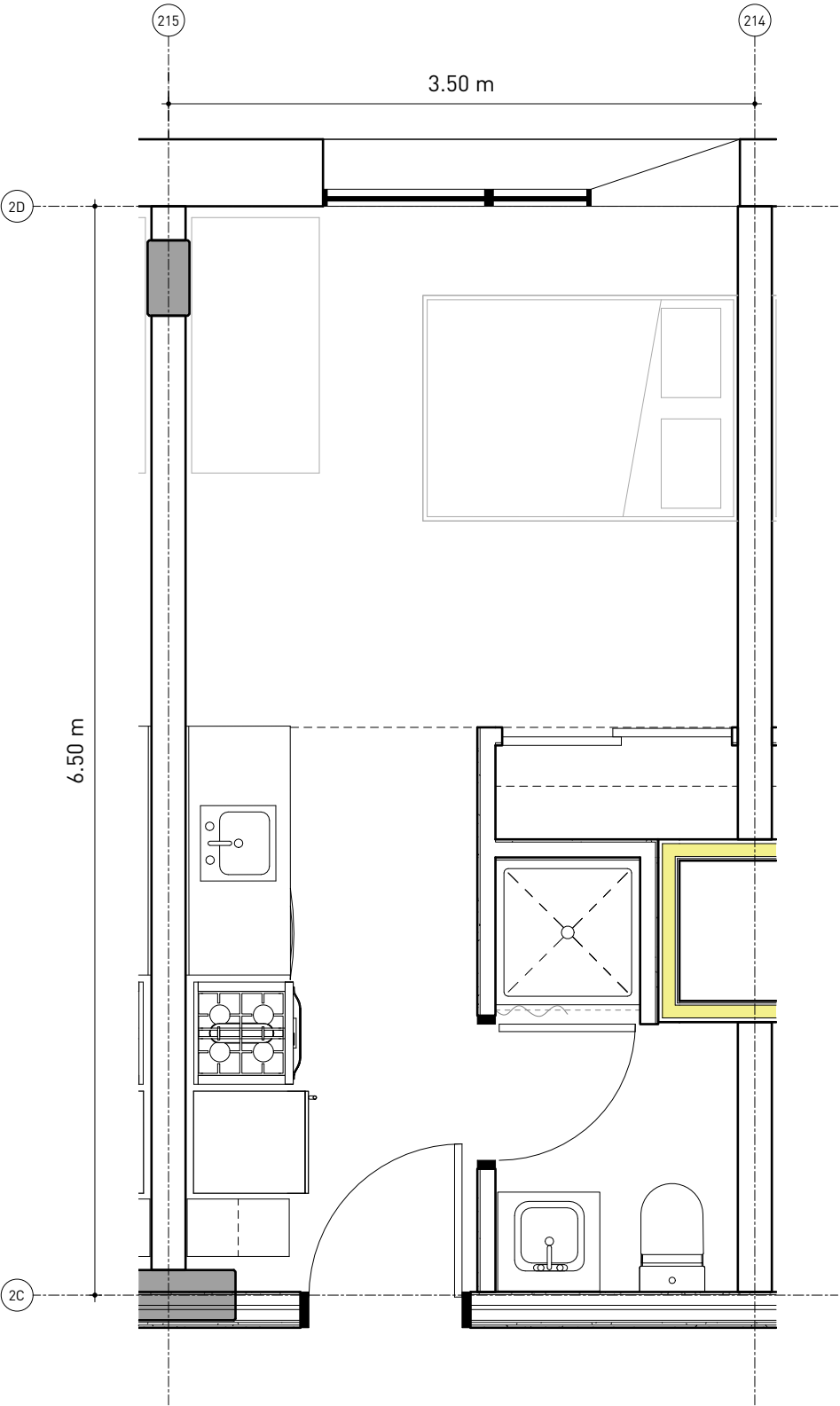
Building 3 - Typical Residential Level



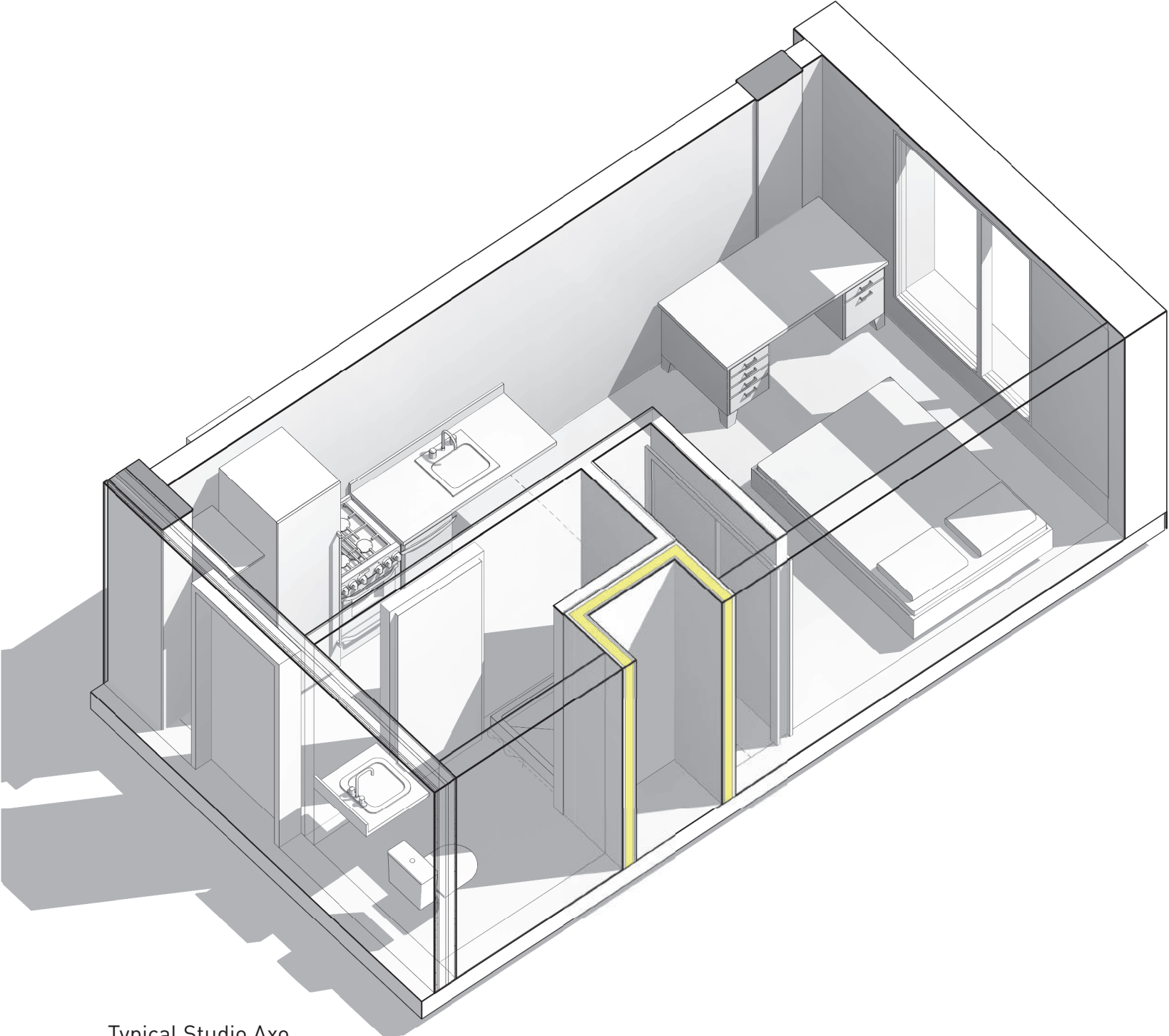
BUILDING 5
RESIDENCE
GROUND FLOOR

Building 5 - Ground Level

Typical Studio Unit Layout

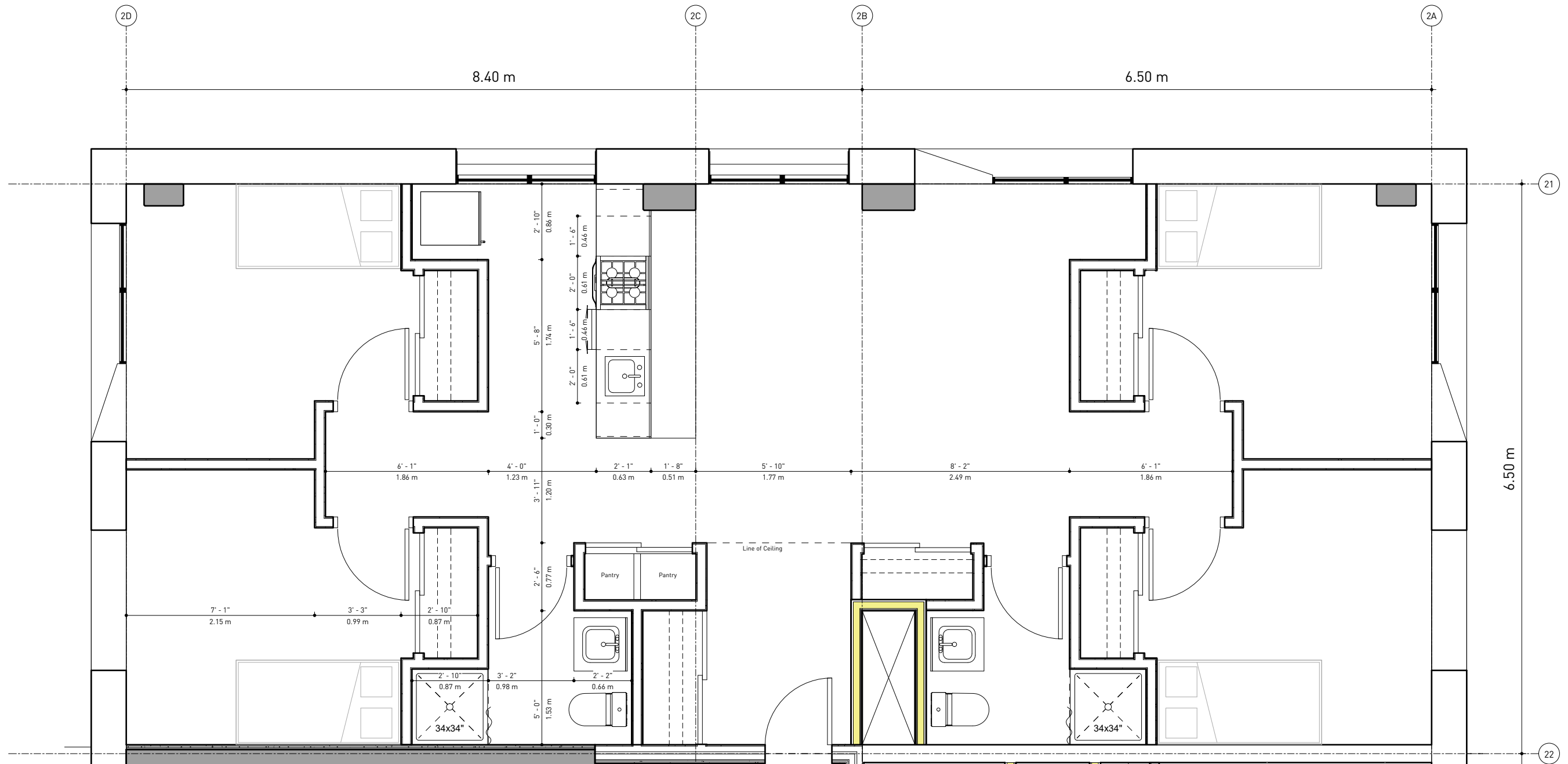


Typical Studio Plan



Typical Studio Axo

Typical Quad Unit Layout



Typical Quad Plan

10 FACADE DESIGN

This project seeks to create a new architectural addition to the varied typologies found within the Gage Precinct, while also building upon the recent Exchange Residence to the south, and Tallwood Residence to the northwest. Key goals for the project include creating a sense of depth to the facades, through the use of recessed windows, and to also create a sense of variation - through the use of repetition, alternating patterning, and perceived movement. Vertical circulation (staircases) will be made evident on the facade through the use of glazed areas.

A series of initial concepts explored the scale and repetition of the typical window modules. These concepts have tested window sizes, repetition, patterning, and also considerations for solar shading. Various materials have also been considered, with a view towards creating a durable, and elegant design, while also fitting with the overall project construction budget.

The preferred design for the facades assumes that room windows are generally located according to plan arrangements, and the façade patterning is achieved through an alternating use of recessed faceted metal panels, which appear “carved” from the building faces. These window surrounds angle into the 4 sides of the window frames in an alternating pattern, creating a sense of variety and movement to the facades. The faceted window surrounds will be formed in metal - in a finish similar to the final window frame colour selections - and complementary to the facade material tones.

To provide diversity to this large project of five buildings, the buildings are proposed to be clad in two tones of masonry, to create an alternating pattern between the different buildings. This will further help to break up the overall reading of the project, while the detailing and facade expression will tie the buildings together into a cohesive whole.

Masonry (especially white brick) was used extensively at UBC in the mid- to late- 20th Century and, more recently, in a number of the contemporary buildings on campus. At the Exchange Residence to the south, a dark grey ironspot brick has also been used in combination with white brick. By applying a consistency of materials such as brick, as part of the design of this complex, greater campus clarity can be achieved.

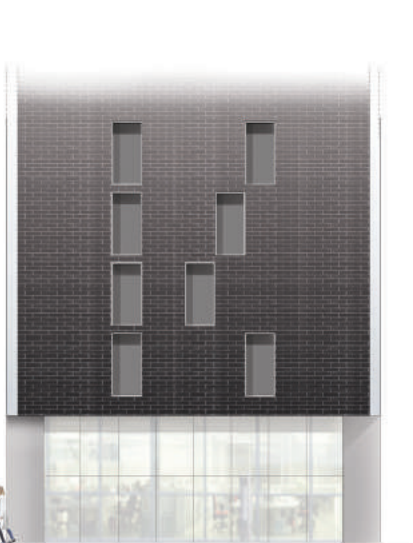
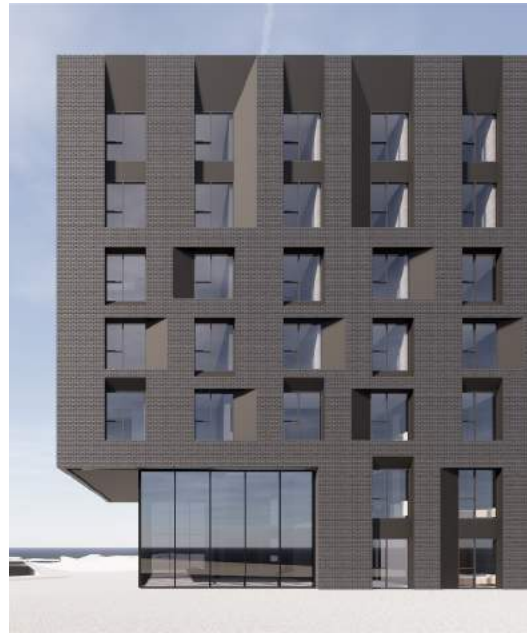
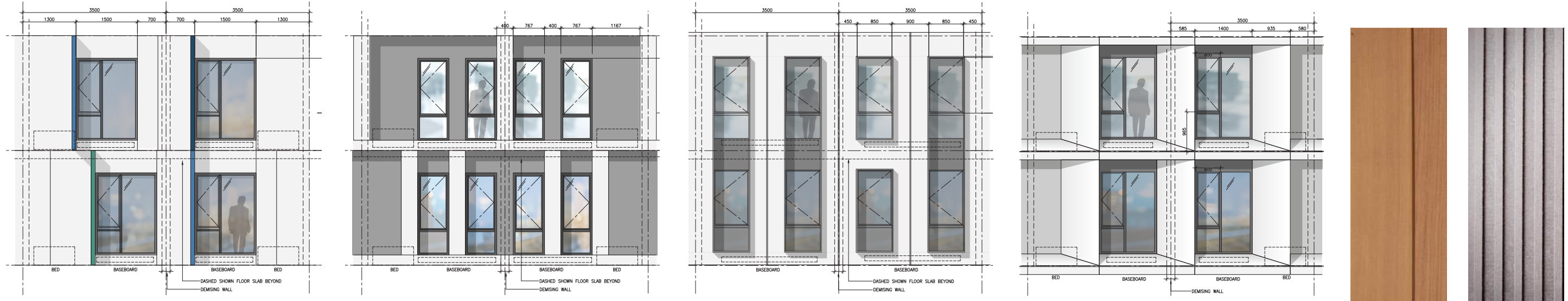
Ground levels will be predominantly glazed with a high-performance SSG curtain wall system at all entries, program areas and lobbies, to create a sense of transparency and activity at the “base” of the project. This also emphasizes openness and engagement with the streets. The areas also appear “carved” from the building masses, through the use of recessed entries and cantilevers at the ground floor levels. Soffit areas are proposed to be wood.



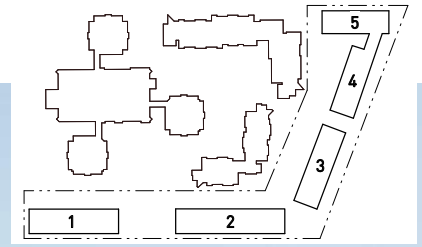
Facade Concept



Facade Studies

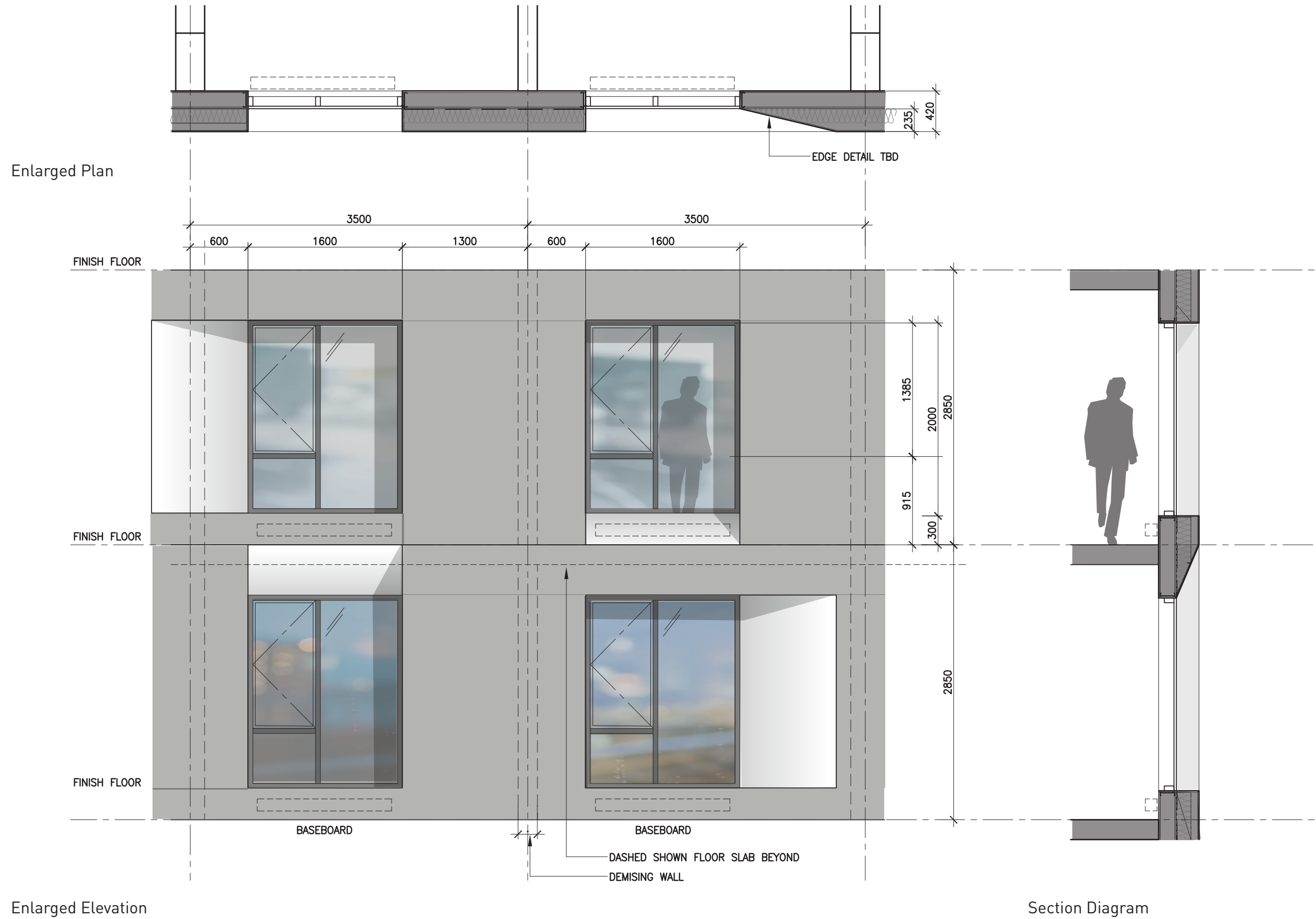


3D Perspective



Perspective view from Student Union and Wesbrook Intersection

Facade Detail



Facade Design Development Progression

The facade design has been progressed to create subtle changes of scale and expression to the different buildings. The manipulations to the overall facade "grid" bring more of a human-scale to the ground levels of buildings. The "stretching" of the window patterns at the upper floor levels creates a sense of scale and accentuates the "tops" of the buildings.

Variation and subtle playfulness is further introduced to the facades by varying the height of key windows across the various building facades.



1. "Static" Facade grid pattern.



2. Stretch "Top" window patterns to accentuate and articulate scale of upper portions of the buildings.



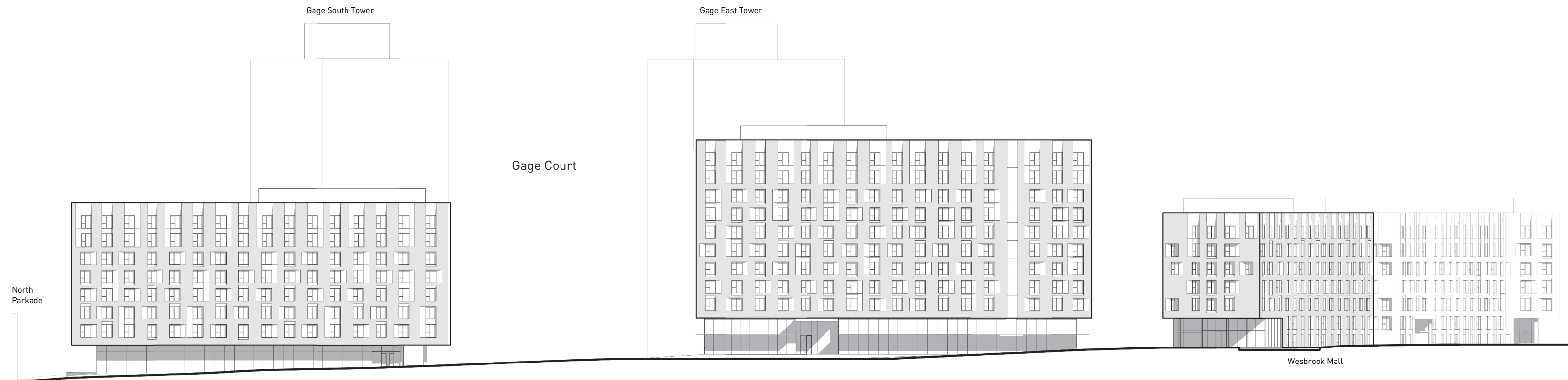
3. Stretch "Base" windows to create scale shift at ground levels.

Facade "End" Treatment Design Progression

The facade design at the ends of the buildings has evolved by working from the inside out - optimizing window placement based on interior unit layout, maximizing daylight, and patterning studies, to create dynamic and varied facades which wrap around the building faces and ends.

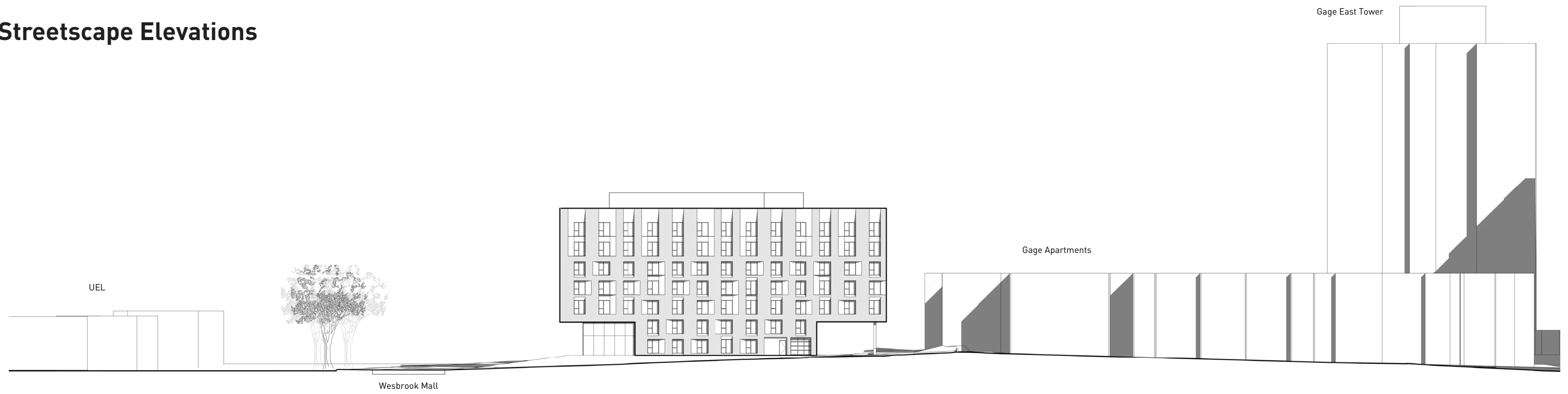


Streetscape Elevations



Student Union Blvd. Streetscape Elevation

Streetscape Elevations



Walter Gage Road Streetscape Elevation

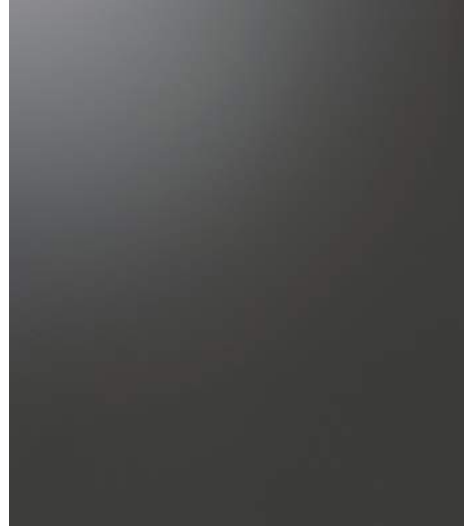


Wesbrook Mall Streetscape Elevation

Proposed Material Palette



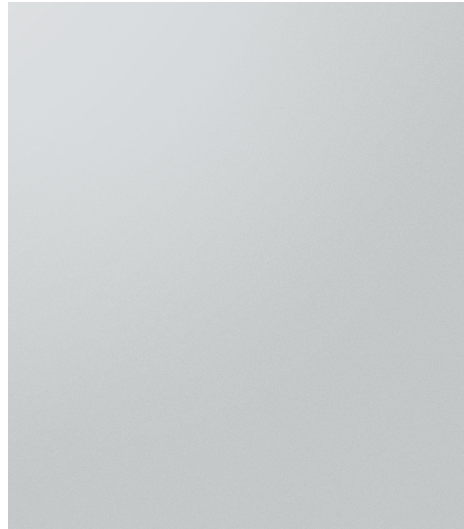
Dark Grey Ironspot Brick



"Dark Anodized" Metal



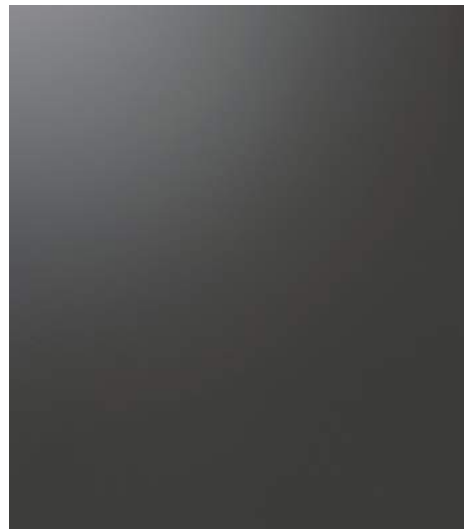
White Brick



"Clear Anodized" Metal



Grey Speck Brick



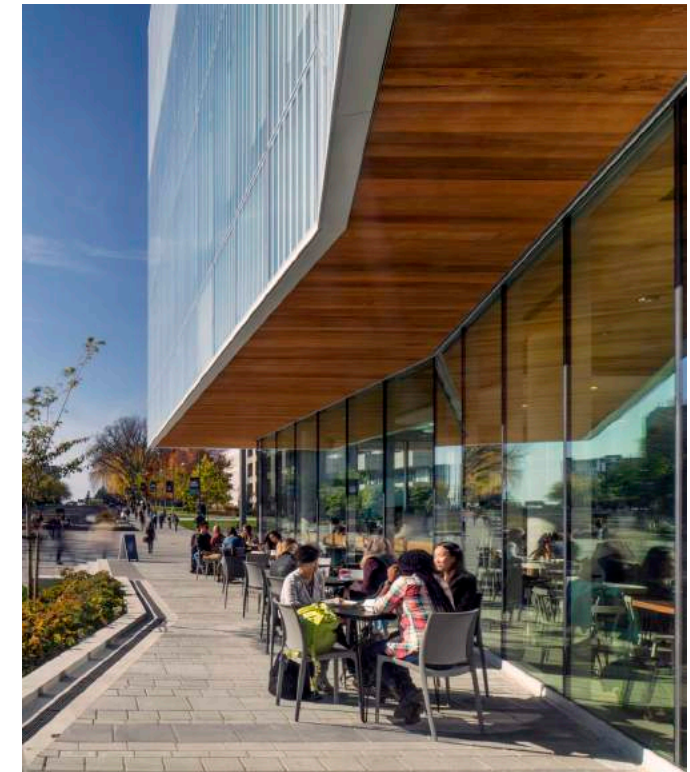
"Dark Anodized" Metal



Concrete



Cedar Soffits

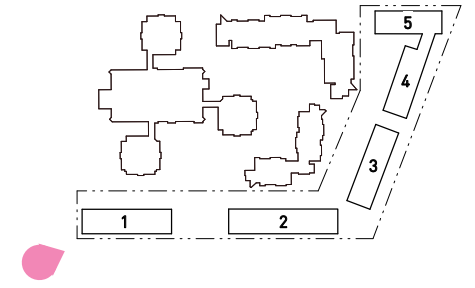


SSG Curtain Wall (with Cedar Soffits)

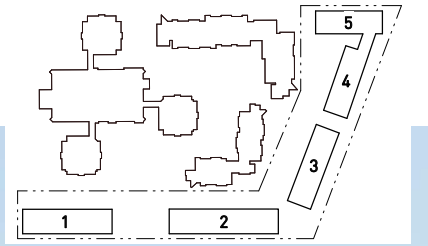
3D Perspectives



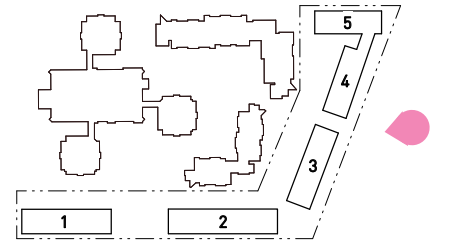
Perspective view looking East on Student Union Blvd.



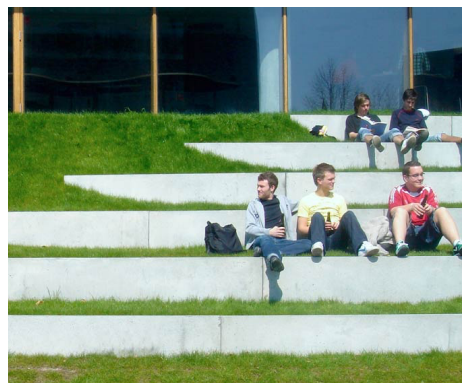
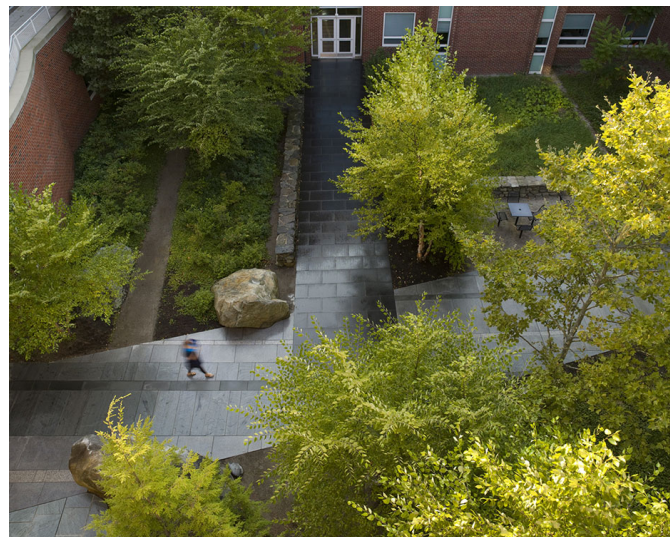
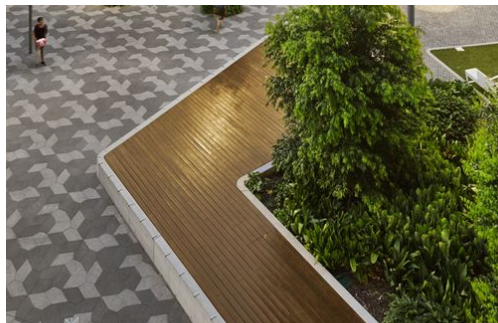
3D Perspectives



3D Perspectives



Perspective view looking West on Wesbrook Mall



LANDSCAPE DESIGN CONCEPT

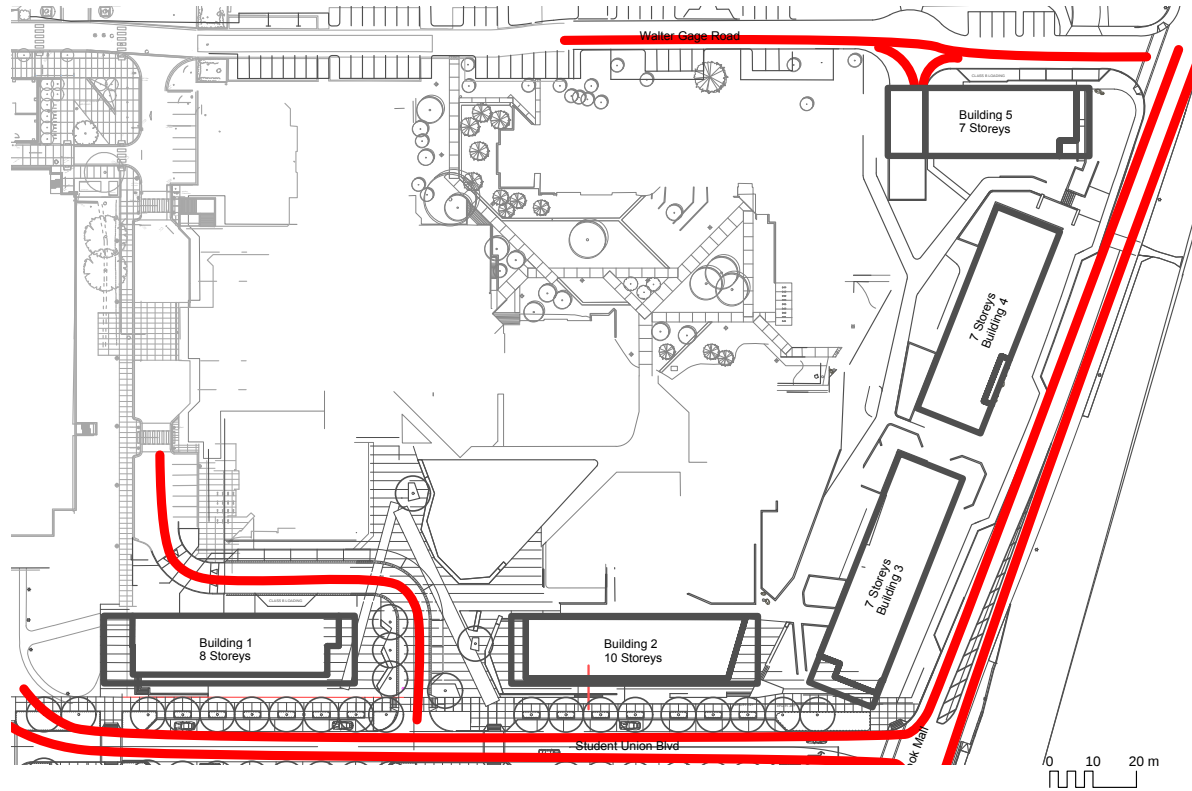
THIS INFILL PROJECT IS A TRANSITION ZONE BETWEEN ESTABLISHED EXISTING BUILDINGS AND LANDSCAPE, AND AN UPGRADED WESBROOK MALL, WHICH IS A KEY TRAVEL CORRIDOR. AS SUCH IT ENHABITS THE SAME CONDITIONS AS THE EDGE OF A FOREST OR THE EDGE OF THE OCEAN, WHERE THE LARGER AND MORE ESTABLISHED WOODLAND TRANSITIONS TO A MORE OPEN CONDITION. IN THIS STUDENT ECOTONE AREA THERE IS THE OPPORTUNITY FOR MOVEMENT, EDDIES, AND MINGLING.

THE KEY FOCUS IS A FUNCTIONAL PEDESTRIAN CORRIDOR THAT HELPS LINK MANY OF THE SURROUNDING SPACES. THIS IS DESIGNED TO FLOW AND PROVIDE QUICK AND UNIMPEDED MOVEMENT OF STUDENTS, AND TIE INTO THE EXISTING PATH NETWORK. OPPORTUNITIES TO STOP AND USE SITE EDGES ALLOW FOR THE SPACES TO BE MORE THAN CORRIDORS. WALLS AND NOOKS WILL PROVIDE OPTIONS TO USE THE OUTDOOR SPACES, AND PROVIDE LIFE AROUND THE BUILDINGS.

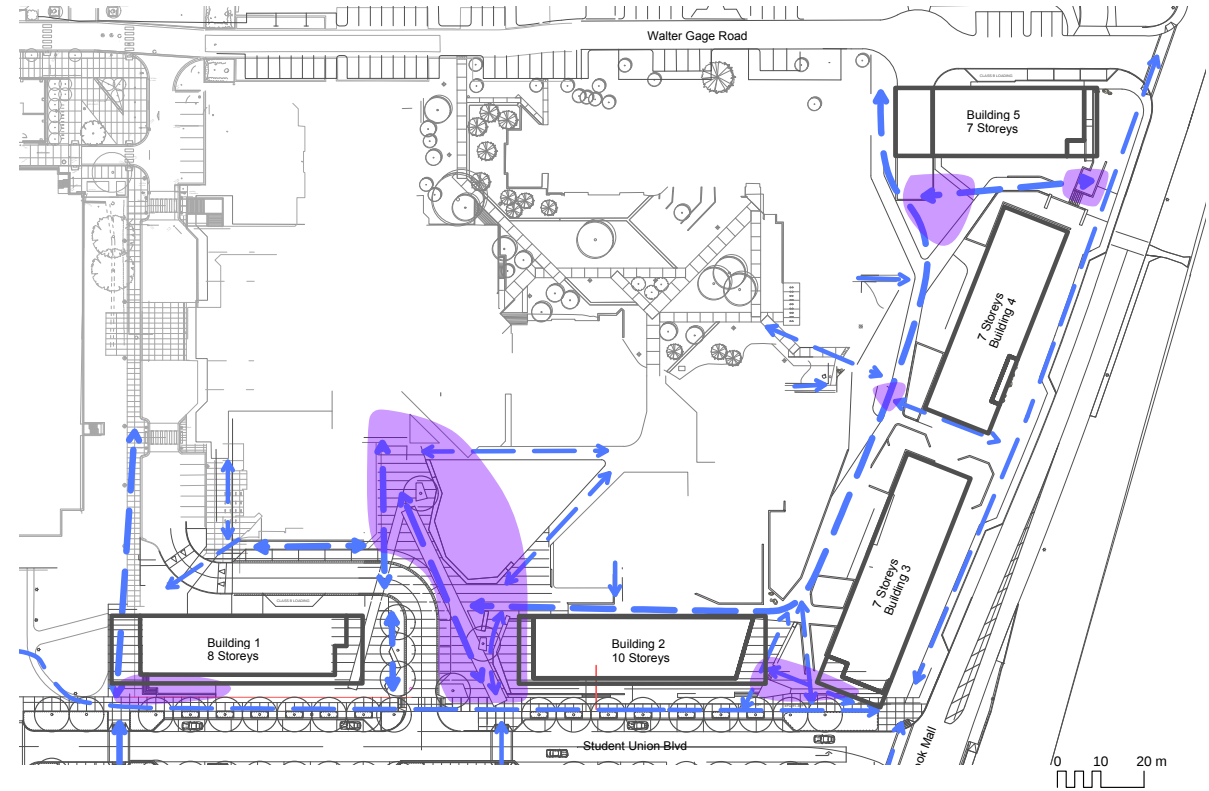
LANGUAGE OF THE LANDSCAPE DESIGN SHIFTS AS ONE MOVES FROM THE ESTABLISHED LANDSCAPE OF THE ADJACENT BUILDINGS TOWARDS THE BUSY MALL OR STUDENT UNION BOULEVARD. THE PLANTING, LANDSCAPE FORMS, AND MATERIALS WILL ALL TRANSITION FROM MORE MORE NATURAL TO MORE FORMAL CHARACTER. THIS WILL FUNCTIONALLY FIT INTO THE NEED FOR FLEXIBLE FORMS TO FIT WITH THE EXISTING EDGE CONDITIONS, AND CHANGE TO THE MORE RATIONAL FORMS OF THE STREET EDGES. THE EXISTING GRID IS REFERENCED, WITH ADJUSTMENT TO THE BUILDING FORMS, AND SMALL TOUCHES TO GIVE CHARACTER SPECIFIC TO THIS AREA.

SCALE OF MATERIALS (PLANTING AND HARD MATERIALS), AND THE SCALE OF SPACES, CHANGE WITH THIS TRANSITION. THE INNER SPACES HAVE LARGER TREES, MORE NATIVE PLANTS, AND MORE INTIMATE SPACES. AS YOU MOVE TOWARDS THE STREETS, THE SPACES OPEN UP AND BECOME MORE POROUS. ELEMENTS OF THE MORE NATURAL FORMS FLOW OUT AND HINT AT THE CHARACTER BEHIND THE BUILDINGS.

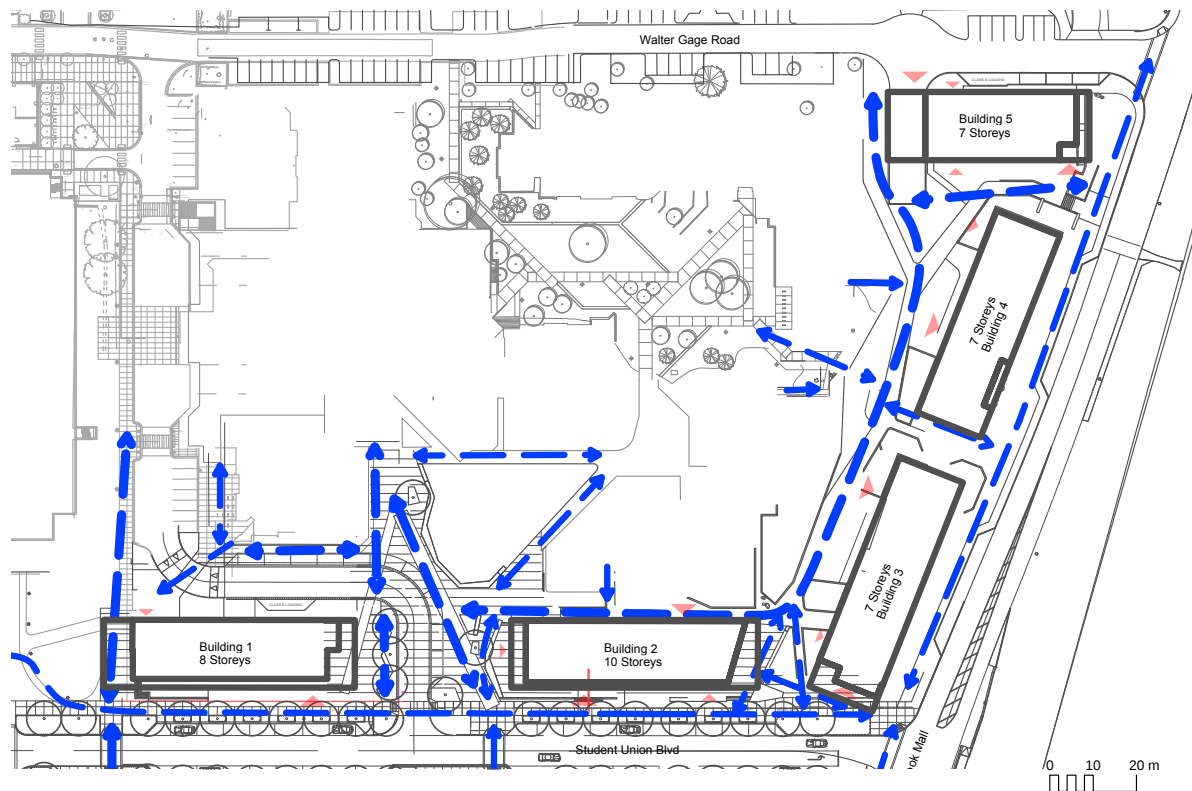
Landscape Analysis Diagrams



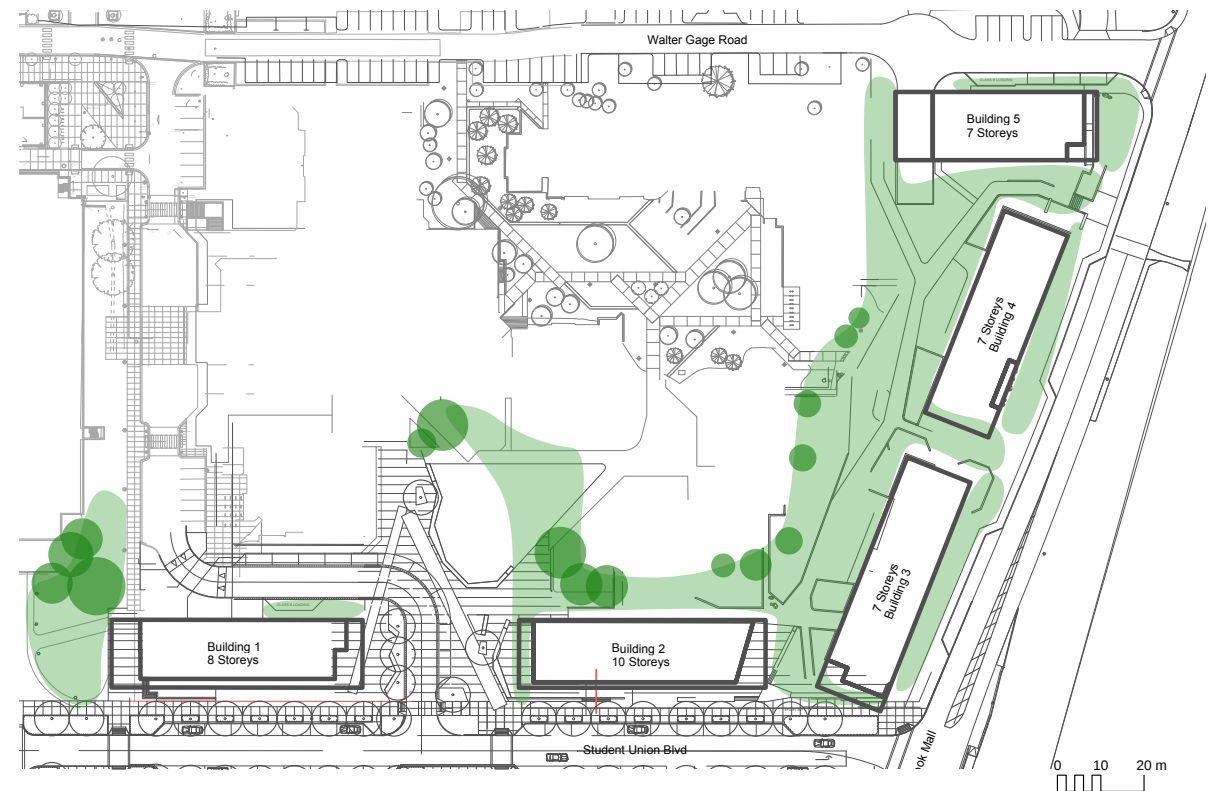
VEHICULAR MOVEMENT



KEY SPACES

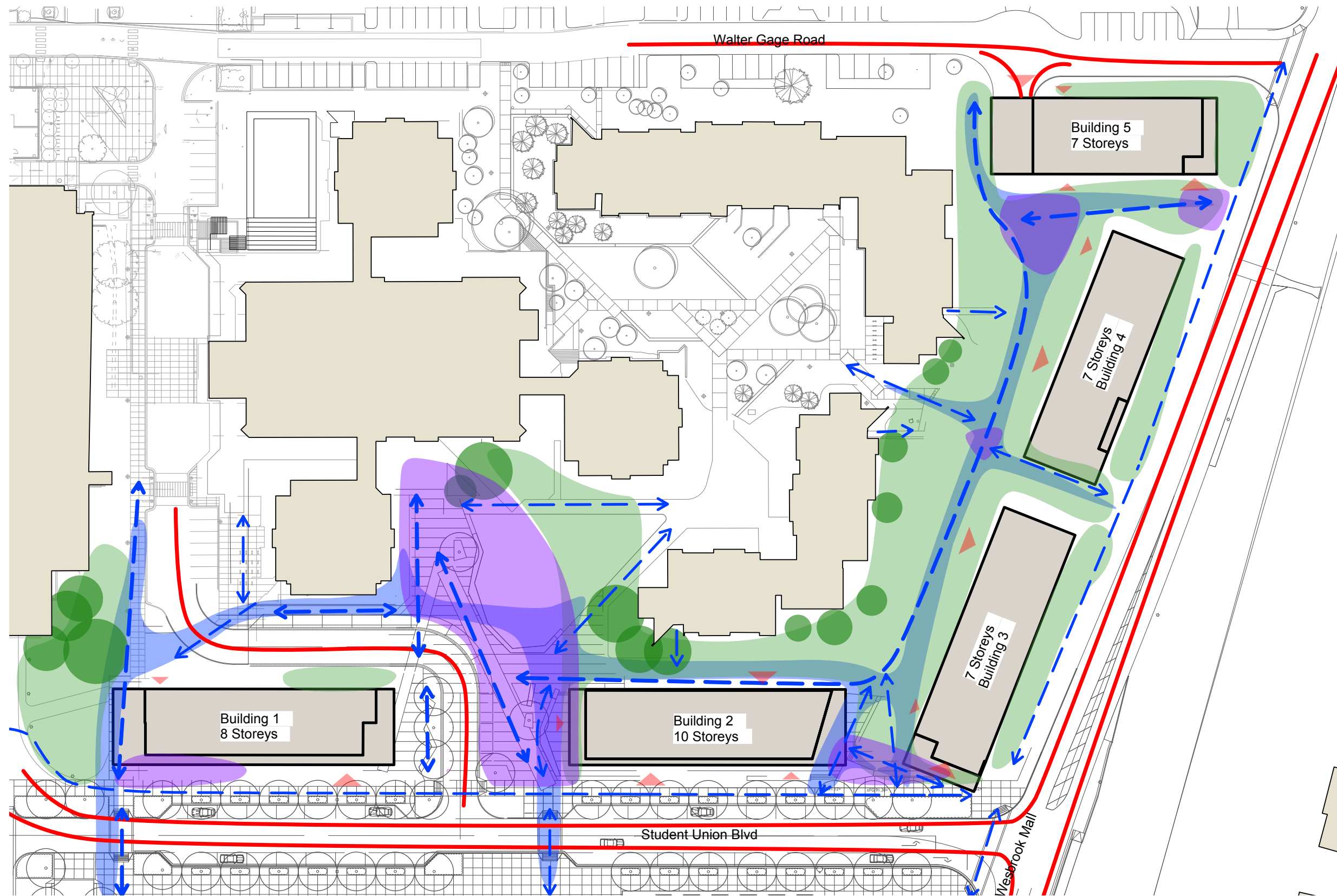


PEDESTRIAN HIERARCHY

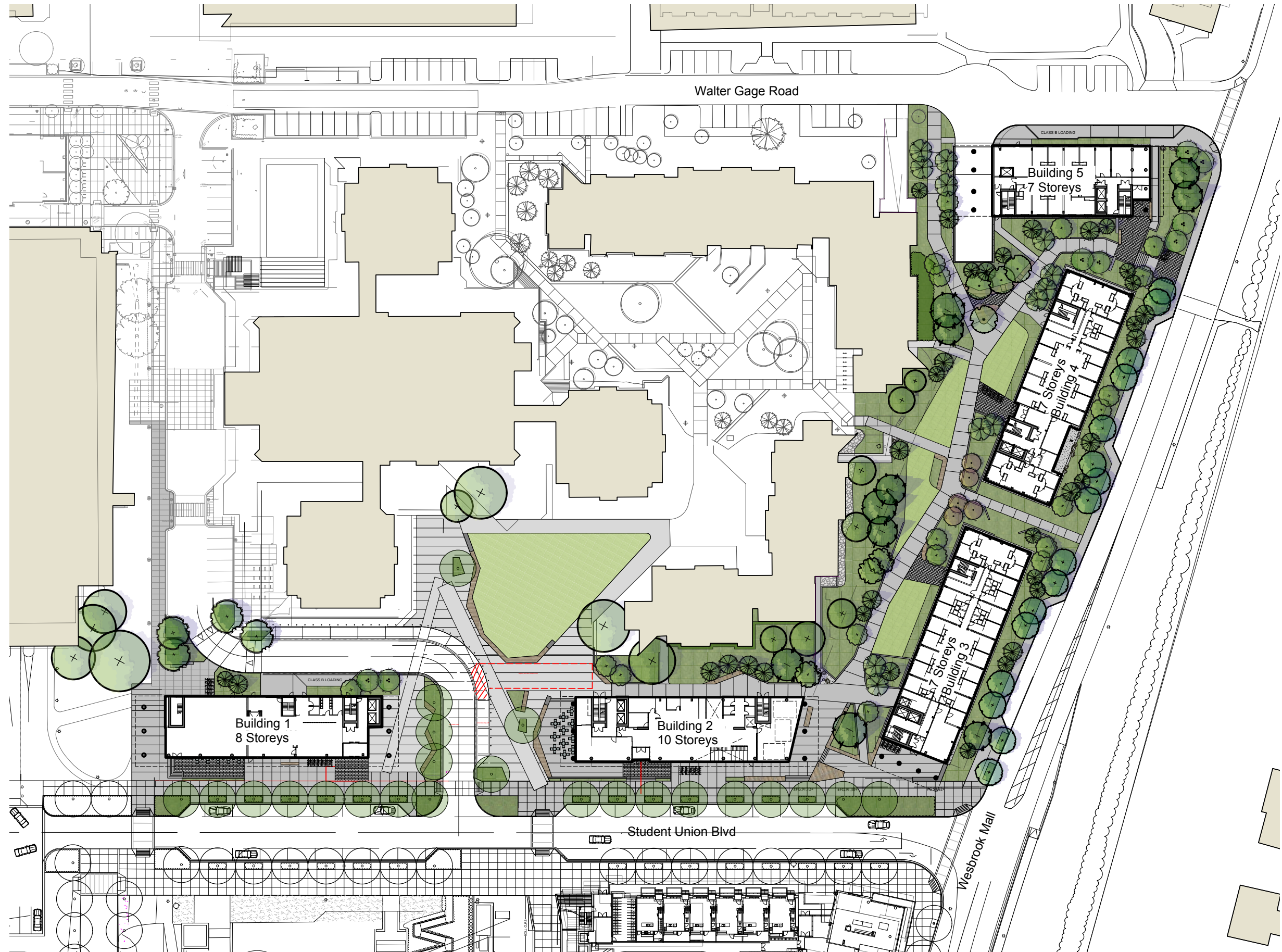


VEGETATION

Conceptual Space Planning



Landscape Site Plan



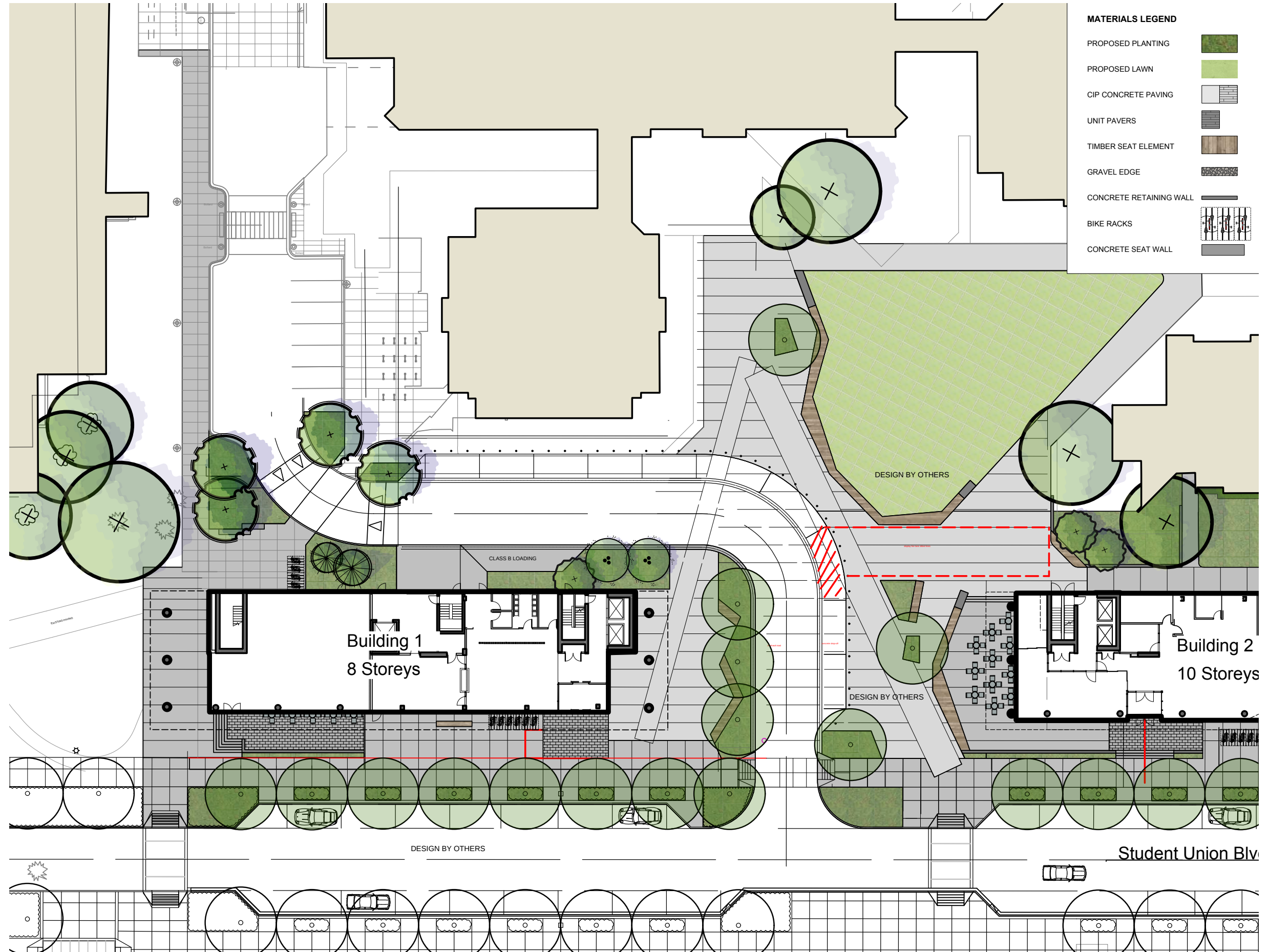
Enlarged Landscape Plan - North East



Enlarged Landscape Plan - South East



Enlarged Landscape Plan - South West



Landscape Concepts

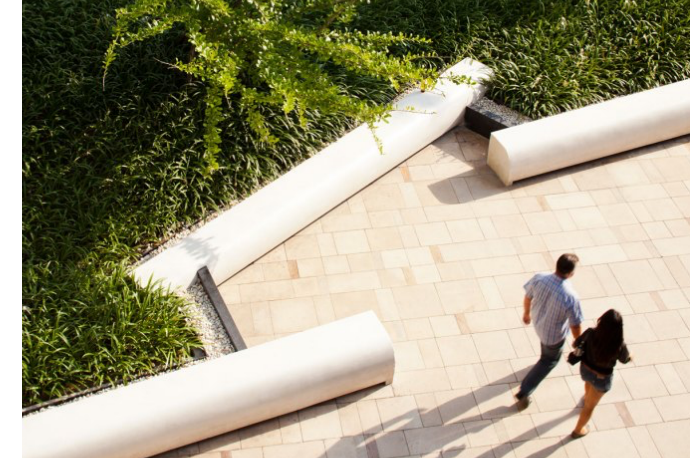
PATHWAYS AND NODES



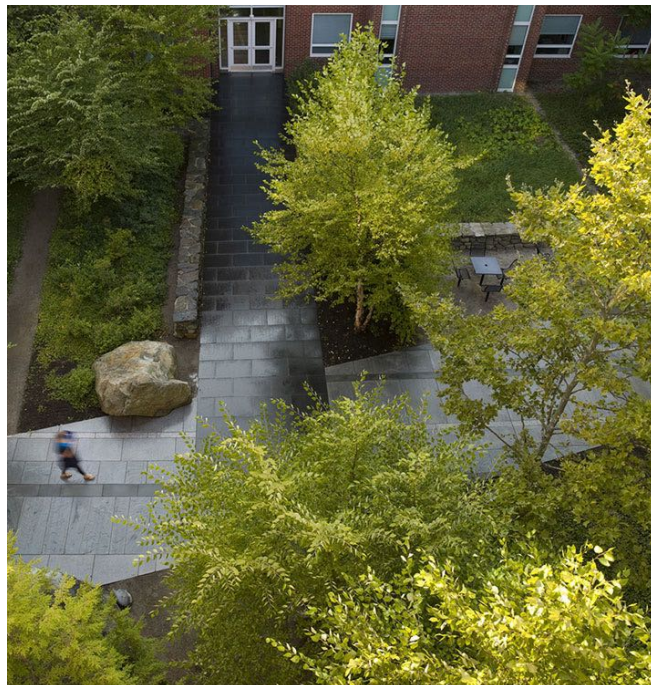
FORM AND CHARACTER, GREENWAY QUALITIES



PATHWAY FLOW, CAMPUS GEOMETRY



SEAT WALLS, SMALL SEATING NOOKS



TREE CANOPY, SCALE OF GREENERY, VISIBILITY



FEATURE SPACES WITH SEAT WALLS



SEATING EDGES AS RETAINING



Landscape Concepts

MATERIALS AND FORMS



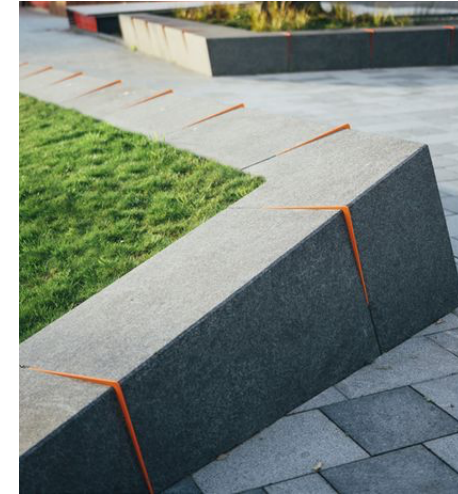
TIMBER (COMPOSITE) SEATING ON WALL EDGES



RAISED PLANTERS ON SLAB



WALLS AT SEATING HEIGHT



CONCRETE WALLS



PAVING MATERIALS



NATIVE PLANTS AND ROCK



EVERGREEN AND SHADE



PLAZA CANOPY

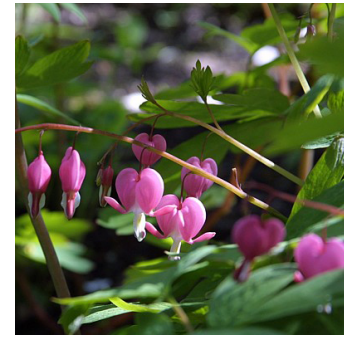


UBC STANDARD BIKE RACK



RESYSTA COMPOSITE DECK FOR CUSTOM BENCHTOPS

Plant Materials



Dicentra formosa
Bleeding Heart

Hosta sieboldiana
Hosta



Pachysandra terminalis
Japanese Spurge

Polystichum munitum
Western Sword Fern

EVERGREEN AND SHADE

PLANT LIST				
TREES QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
10	Abies grandis	Grand Fir	4.5m ht., B&B	as shown
18	Acer circinatum	Vine Maple	5cm cal., B&B	as shown
8	Acer griseum	Paper Bark Maple	5cm cal., B&B	as shown
5	Acer palmatum 'Osakazuki'	Osakazuki Japanese Maple	3m ht., B&B	as shown
16	Acer platanoides	Norway Maple	6cm cal., B&B	as shown
4	Cercis canadensis	Eastern Redbud	5cm cal., B&B	as shown
4	Ginkgo biloba	Ginkgo Tree	6cm cal., B&B	as shown
34	Picea breweriana	Brewer Spruce	3.5m ht., B&B	as shown
12	Stewartia pseudocamellia	Japanese Stewartia	5cm cal., B&B	as shown
3	Styrax japonica	Japanese Styrax	6cm cal., B&B	as shown

SHRUBS				
	Buxus microphylla	Little Leaf Boxwood	#5 pot	18" o.c
	Ceanothus thyrsiflorus 'Victoria'	Victoria California Lilac	#5 pot	36" o.c
	Cornus stolonifera	Red Osier Dogwood	#5 pot	36" o.c
	Forsythia x intermedia	Forsythia	#5 pot	48" o.c
	Ilex crenata 'Convexa'	Japanese Holly	#3 pot	30" o.c
	Lonicera pileata	Box-Leaf Honeysuckle	#3 pot	30" o.c
	Polystichum munitum	Western Sword Fern	#1 pot	24" o.c
	Rhododendron 'Crete'	Pink Rhododendron	#5 pot	36" o.c
	Rhododendron 'Hotei'	Yellow Rhododendron	#5 pot	36" o.c
	Rhododendron 'Ken Janeck'	Pink Yaku Rhododendron	#3 pot	24" o.c
	Sarcococca hookerana 'Humilis'	Himalayan Sweet Box	#2 pot	24" o.c
	Skimmia japonica	Japanese Skimmia	#2 pot	24" o.c
	Spiraea x bumulda 'Goldflame'	Goldflame Spiraea	#2 pot	24" o.c
	Taxus baccata 'Fastigiata'	Irish Yew	1.2m ht., B&B	24" o.c

GROUND COVERS AND VINES				
	Fragaria chiloensis	Beach Strawberry	4"(10cm) pot	15" o.c
	Rubus calycinoides	Emerald Carpet	4"(10cm) pot	15" o.c
	Oxalis crassipes	Redwood Spurge	4"(10cm) pot	15" o.c
	Pachysandra terminalis	Japanese Spurge	4"(10cm) pot	15" o.c

PERENNIALS, GRASSES, BULBS, AND ANNUALS				
	Dicentra formosa	Western Bleeding Heart	#1 pot	18" o.c
	Echinacea purpurea	Purple Coneflower	#1 pot	18" o.c
	Hemerocallis 'Stella D'Oro'	Day Lily	#1 pot	18" o.c
	Hosta sieboldiana	Hosta	#1 pot	18" o.c
	Lavandula angustifolia	English Lavender	#1 pot	18" o.c
	Liriope muscari	Lily-turf	#1 pot	18" o.c
	Stipa tenuissima	Mexican Feather Grass	#1 pot	24" o.c



LAYERED PLANTINGS



Lavandula angustifolia
English Lavender



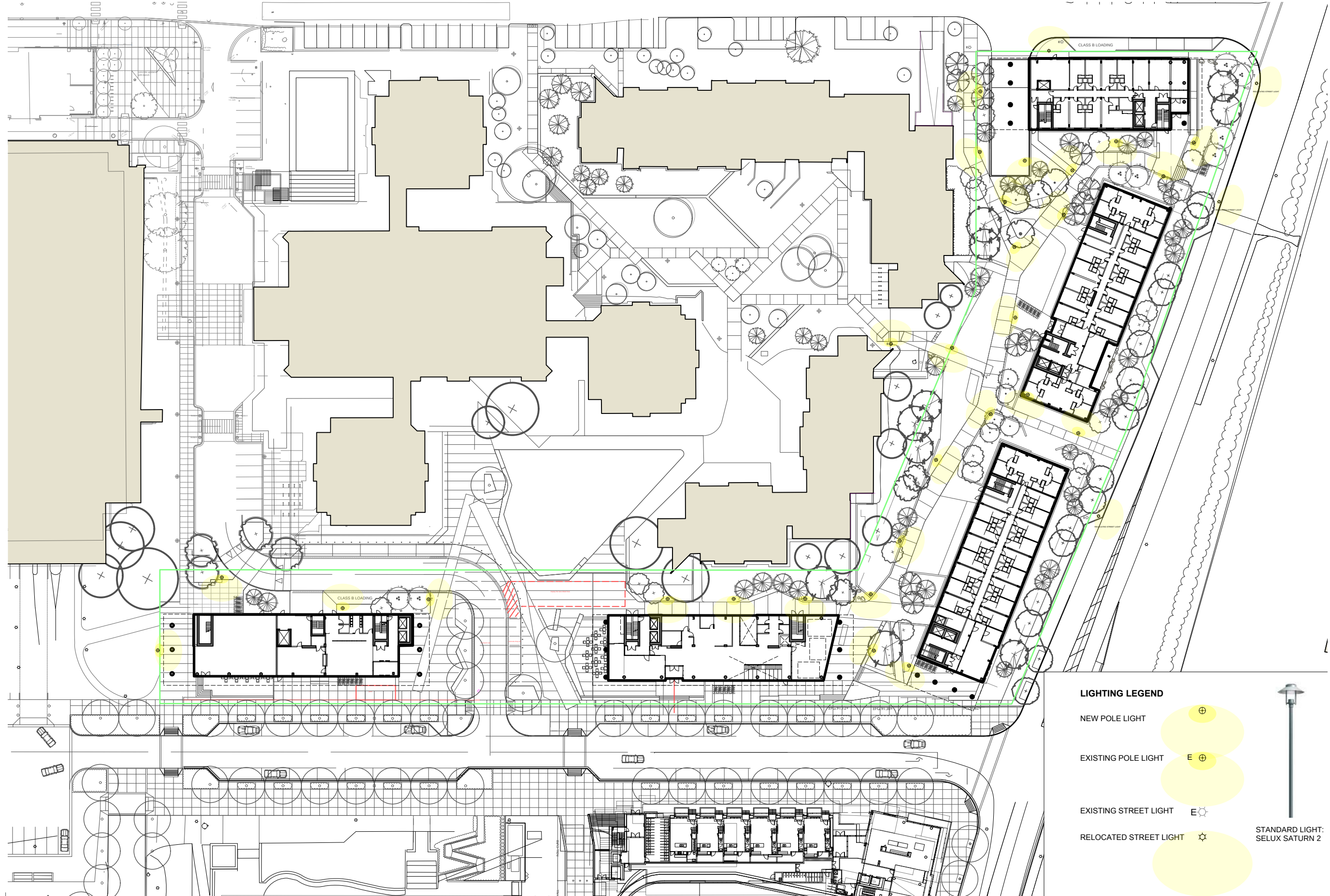
Lonicera pileata
Box-Leaf Honeysuckle



Ceanothus 'Victoria'
California Lilac



Taxus baccata 'Fastigiata'
Irish Yew



LIGHTING LEGEND

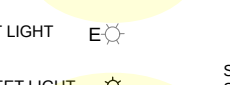
NEW POLE LIGHT



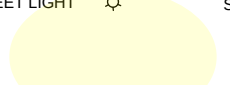
EXISTING POLE LIGHT



EXISTING STREET LIGHT



RELOCATED STREET LIGHT



STANDARD LIGHT:
SELUX SATURN 2

13 SUSTAINABILITY



LEED v4 for BD+C: New Construction and Major Renovation Preliminary LEED Scorecard

Project Name: Gage Student Residence Infill
Date: 17 Dec 2018



The Pacific Residences project will provide approximately 1,000 beds for upper year students, as well as a dedicated commons-block with a front desk, laundry facilities, fitness space, music practice rooms, house lounge, quiet study room and a games room.

The project includes approximately 34,000 m2 of development in five mid-rise residential buildings along Wesbrook Mall and Student Union Boulevard, including 2 levels of below-grade parking. The project Design Brief (Campus + Community Planning, March 28, 2017) references the following specific, measurable, sustainability objectives that will inform the design for the project:

Building Certification

The project must follow the UBC LEED Implementation Guide (LEED v4) in developing the LEED strategy for the project, which aims to align the LEED Building Design + Construction (LEED BD+C) v4 rating systems and UBC campus policy to facilitate a high-performance built environment on campus. It supports the provincial requirement for all publicly funded new construction and major renovation projects to achieve LEED Gold certification.

Building Performance

Specific greenhouse gas emission and energy use reduction targets are set for the project in the Design Brief. They may be refined with the project team as the design progresses and must be tracked through to building occupancy. The specific targets are shown below:

Metric	Definition	Metric
TEUI	Total Energy Use Intensity (includes all energy end-uses in the building, including all plug-loads and process loads).	130
TEDI	Thermal Energy Demand Intensity (including envelope heat loss and ventilation load).	40
DHW	Domestic Hot Water (maximum DHW energy use).	29
Plug Loads	Plug Loads (maximum plug-load energy).	30

Y ? N
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Credit Integrative Process 1

13	0	19	Location and Transportation	32
16			Credit LEED for Neighborhood Development Location	16
1			Credit Sensitive Land Protection	1
2			Credit High Priority Site	2
5			Credit Surrounding Density and Diverse Uses	5
5			Credit Access to Quality Transit	5
1			Credit Bicycle Facilities	1
1		1	Credit Reduced Parking Footprint	1
1			Credit Green Vehicles	1

3	7	0	Sustainable Sites	10
			Prereq Construction Activity Pollution Prevention	Required
1			Credit Site Assessment	1
2			Credit Site Development - Protect or Restore Habitat	2
1			Credit Open Space	1
3			Credit Rainwater Management	3
2			Credit Heat Island Reduction	2
1			Credit Light Pollution Reduction	1

8	0	3	Water Efficiency	11
			Prereq Outdoor Water Use Reduction	Required
			Prereq Indoor Water Use Reduction	Required
			Prereq Building-Level Water Metering	Required
1		1	Credit Outdoor Water Use Reduction	2
6			Credit Indoor Water Use Reduction	6
2			Credit Cooling Tower Water Use	2
1			Credit Water Metering	1

21	6	6	Energy and Atmosphere	33
			Prereq Fundamental Commissioning and Verification	Required
			Prereq Minimum Energy Performance	Required
			Prereq Building-Level Energy Metering	Required
			Prereq Fundamental Refrigerant Management	Required
6			Credit Enhanced Commissioning	6
14	2	2	Credit Optimize Energy Performance	18
1			Credit Advanced Energy Metering	1
2			Credit Demand Response	2
3			Credit Renewable Energy Production	3
1			Credit Enhanced Refrigerant Management	1
2			Credit Green Power and Carbon Offsets	2

6	3	4	Materials and Resources	13
			Prereq Storage and Collection of Recyclables	Required
			Prereq Construction and Demolition Waste Management Planning	Required
3		2	Credit Building Life-Cycle Impact Reduction	5
1		1	Credit Building Product Disclosure and Optimization - Environmental Product Declarations	2
2			Credit Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1		1	Credit Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit Construction and Demolition Waste Management	2

7	6	3	Indoor Environmental Quality	16
			Prereq Minimum Indoor Air Quality Performance	Required
			Prereq Environmental Tobacco Smoke Control	Required
2			Credit Enhanced Indoor Air Quality Strategies	2
3			Credit Low-Emitting Materials	3
1			Credit Construction Indoor Air Quality Management Plan	1
2			Credit Indoor Air Quality Assessment	2
1		1	Credit Thermal Comfort	1
2		2	Credit Interior Lighting	2
3			Credit Daylight	3
1			Credit Quality Views	1
1			Credit Acoustic Performance	1

4	2	0	Innovation	6
3	2		Credit Innovation	5
1			Credit LEED Accredited Professional	1

4	0	0	Regional Priority	4
1			Credit Regional Priority: Enhanced Commissioning	1
1			Credit Regional Priority: Indoor Water Use Reduction	1
1			Credit Regional Priority: Optimize Energy Performance	1
1			Credit Regional Priority: Building Life Cycle Impact Reduction	1

67 24 35 TOTALS Possible Points: **126**
Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

The design brief also emphasizes the following strategies:

- Smart commissioning and monitoring based commissioning, which aligns with the approach to commissioning in LEED v4.
- Passive design strategies to achieve the energy targets before considering traditional mechanical solutions.
- Design for a well-sealed building, to be verified through airtightness testing (ASTM E779 or USACE Version 3).

- Planning for sewage heat recovery and solar PV.
- Comfort modeling to ensure thermally comfortable spaces.

The brief also identifies priorities and opportunities for water conservation and material resources.

14 TRANSPORTATION / LOADING / BIKE STORAGE

Transport

The project team met with Krista Falkner, Transportation Engineer, UBC C&CP on September 25th, 2018 where vehicle loading, access, building addressing, and parking were reviewed.

Walter Gage Road

Walter Gage Road is a secondary road that runs east-west at the north of the site. Jurisdiction of the roadway is shared with the University Neighbourhoods Association (UNA). The UNA maintain all surfaces from the back of curb north of Walter Gage Road, consequently any proposed changes that impact upon this area must be achieved with the agreement of the UNA. We request that a meeting with the UNA be arranged early in Design Development, to review the following proposals which will impact on the current road alignment.

Parallel car parking is proposed to the north of Building 5 (south side of Walter Gage road) including a single Class B, 5 tonne, parallel loading bay. SHHS advised that the parallel alignment of the loading bay is optimum for garbage truck collection at this location and garbage collection should be limited to daytime hours. At this location, parallel parking will move north, away from Building 5 as much as possible. This will allow for a degree of privacy between the ground floor studio units of Building 5 and the roadway. However the additional traffic load expected to arise from the development will not support any reduction in roadway width at the junction with Westbrook Mall. The proposed parallel parking arrangement to the south side of Walter Gage road also dictates that a complementary arrangement of parallel parking to the north side is pursued.

The sidewalk to the north of Walter Gage will be maintained, and a pedestrian crossing is required at the junction of Westbrook Mall. A secondary crossing is proposed to the west of Building 5 to allow students a safe access path to the sidewalk on Walter Gage Road.

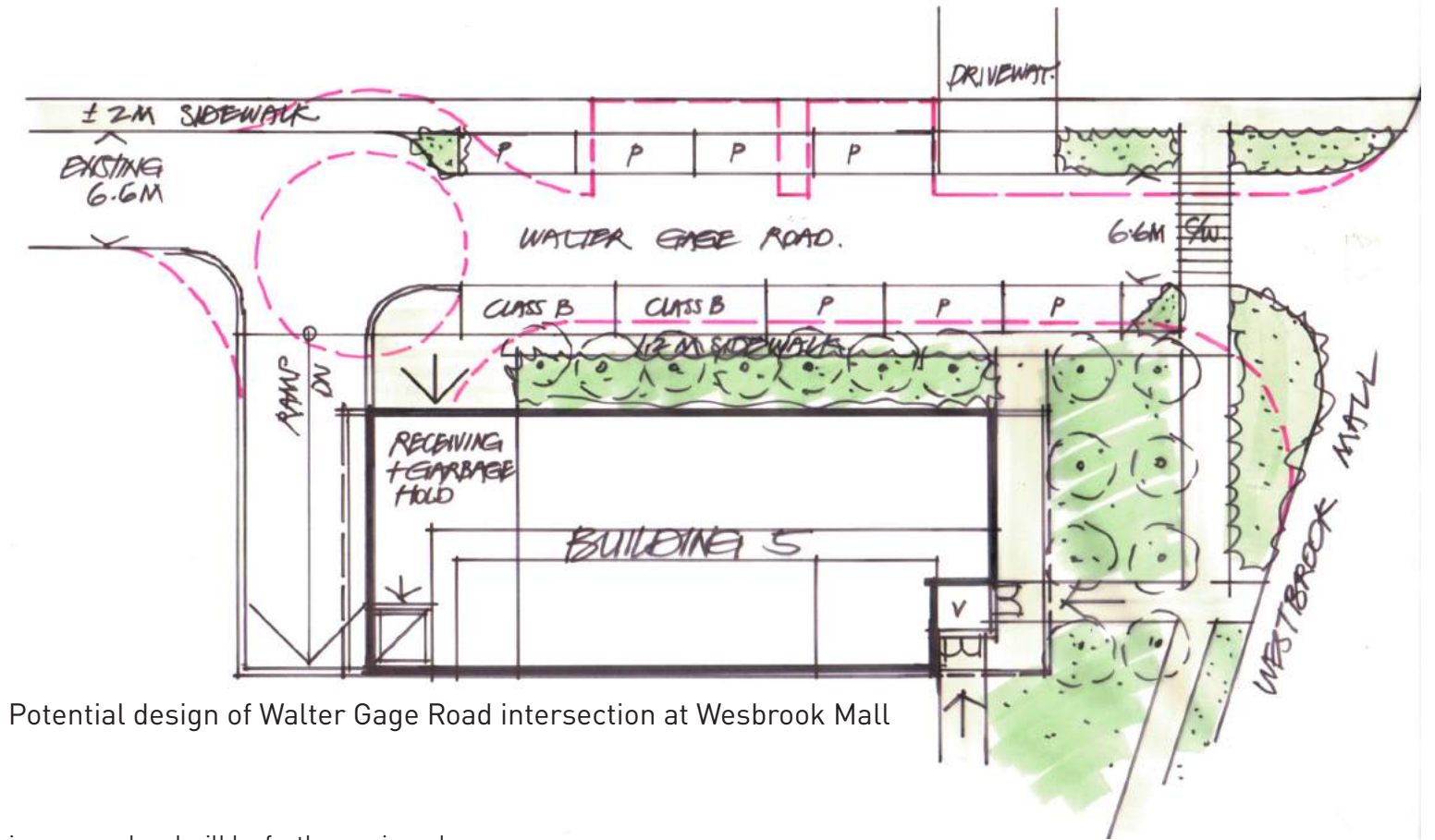
The above proposals also suggest the removal of the existing roundabout and a wider review of the extended roadway design and alignment of Walter Gage Road, and how it serves other buildings and projects. We suggest that this happens concurrently with the Design Development phase.

Westbrook Mall

Westbrook is a main north south arterial on campus and a future southbound bike lane adjacent to buildings 3 and 4 is planned. Consequently, minimal street parking is proposed except for two move in / move out layby spaces with roll over curbs for each building. It is expected that these laybys will likely be used for delivery drop-off parking as well. These spaces would also be considered for future ride sharing pick up and drop off.

Student Union Boulevard

Student Union Boulevard is a primary east west route whose use is currently being redeveloped as part of the wider University Boulevard Neighbourhood plan. Parallel street parking is proposed to the north side of Student Union Boulevard with a 30 minute parking restriction.



Potential design of Walter Gage Road intersection at Westbrook Mall

Building Addressing

The following building addressing strategy is proposed and will be further reviewed with Vancouver Fire Rescue Services and Campus & Community Planning during Design Development:

- Building 1 – Street address on Student Union Boulevard (also for summer hotel-use taxi drop-off)
- Building 2 through 5 – Shared street address on Student Union Boulevard
- Building 5 – Secondary address on Walter Gage Rd. for delivery dock

Parkade

UBC C&CP, SHHS and PAS have evaluated current and future parking provision in a document entitled 'Exploration of Gage Precinct Parking Scenarios' (Working Draft, dated August 28th, 2018) This has identified an optimum scenario of between 150 and 250 car spaces in a two level parkade. This is provided in the proposed Schematic Design. Summer hotel use of Building 1 during vacation period will also use the parkade.

Bike Parking

The majority of bike parking will be provided within student bedrooms with a wall-mounted bike hook. At Building 1, due to its hotel function during summer months, bikes will not be stored within individual rooms, therefore secure bike spaces will be provided in the basement. Short term at-grade bike parking will be provided at all building entrances and at the café location, although no overnight parking will be provided.

15 WASTE HANDLING

Garbage

SHHS manage their own garbage collection services. Through discussions with David Kiloh during Schematic Design, the following collection strategy has been established:

Building 1

Students will bring waste from their rooms to a storage location at the base of Building 1, at Level B1. Waste will be moved by staff via the shared freight elevator to a garbage room at Level 1, adjacent to the receiving area on the north side of the building. Garbage containers will be moved from this location to the existing Gage Towers compactor to the north of Building 1. The same garbage facilities will be used for the commercial café space at Level 1. Frequency of removal is to be established.

Buildings 2 through 5

Students will bring waste from their rooms to two storage locations at the base of Building 3 and Building 5, at Level B1. A 'Universal Handling Equipment' micro compactor at each location will compact waste for removal via a 'Canev Might-E-Tug', to a waste collection point immediately to the North of Building 5 on Walter Gage Road. Frequency of removal is to be expected to be twice a week and collection will not take place outside of work hours.

Deliveries

Linen and material delivery strategies are in-development with SHHS and the following scenarios are envisaged:

Building 1

Deliveries, including linen for summer hotel operation, will be made to the receiving area at Level 1, and transferred to a storage/holding area at B1 via the shared freight elevator. Distribution to individual floors will utilize the regular residential passenger elevators.

Building 2 through 5

The proposed Class B parking bay to the north of Building 5 will service the receiving area in Building 5. Supplies will be transferred to P1 via freight elevator, from where they will be distributed through the parkade to Buildings 2, 3 and 4, as well as the existing West Coast Suites and Walter Gage Apartments. Connections to the two aforementioned existing buildings will be made via ramped corridors, pending detailed investigation of existing floor levels.



Garbage Compactor



"Canev Might-E-Tug"

PROGRAM SUMMARY

UBC PACIFIC RESIDENCE

2019.04.18

Building	Level	GROSS FLOOR AREA		RESIDENTIAL	NUMBER OF BEDS		
					Unit Type	Unit Count	Bed Count
B1	Basement	580 m2	6,243 ft2				
	Level 1	628 m2	6,760 ft2			0	0
	Level 2	905 m2	9,741 ft2	905 m2	Studio	27	27
					Studio Accessible	1	1
					Quad	0	0
	Level 3	905 m2	9,741 ft2	905 m2	Studio	27	27
					Studio Accessible	1	1
					Quad	0	0
	Level 4	905 m2	9,741 ft2	905 m2	Studio	27	27
					Studio Accessible	1	1
					Quad	0	0
	Level 5	905 m2	9,741 ft2	905 m2	Studio	27	27
					Studio Accessible	1	1
					Quad	0	0
	Level 6	905 m2	9,741 ft2	905 m2	Studio	27	27
					Studio Accessible	1	1
					Quad	0	0
Level 7	905 m2	9,741 ft2	905 m2	Studio	27	27	
				Studio Accessible	1	1	
				Quad	0	0	
Level 8	905 m2	9,741 ft2	905 m2	Studio	27	27	
				Studio Accessible	1	1	
				Quad	0	0	
Above Grade		6,963 m2	74,949 ft2	6,335 m2			196
B2	Basement	738 m2	7,944 ft2				
	Level 1	704 m2	7,578 ft2			0	0
	Level 2	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 3	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 4	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 5	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 6	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 7	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 8	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 9	890 m2	9,580 ft2	890 m2	Quad	2	8
Studio					21	21	
Level 10	890 m2	9,580 ft2	890 m2	Quad	1	4	
				Studio	20	20	
Above Grade		8,714 m2	93,797 ft2	8,010 m2			256
B3	Level 1	785 m2	8,450 ft2	785 m2	Quad	1	4
	Level 2	785 m2	8,450 ft2	785 m2	Studio	16	16
					Studio	18	18
	Level 3	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 4	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 5	890 m2	9,580 ft2	890 m2	Quad	2	8
					Studio	21	21
	Level 6	890 m2	9,580 ft2	890 m2	Quad	2	8
Studio					21	21	
Level 7	890 m2	9,580 ft2	890 m2	Quad	2	8	
				Studio	21	21	
Above Grade		6,020 m2	64,799 ft2	6,020 m2			187

UBC PACIFIC RESIDENCE

2019.04.18

Building	Level	GROSS FLOOR AREA		RESIDENTIAL	NUMBER OF BEDS			
					Unit Type	Unit Count	Bed Count	
B4	Level 1	760 m2	8,181 ft2	760 m2	Quad	2	8	
					Studio	12	12	
	Level 2	760 m2	8,181 ft2	760 m2	Quad	2	8	
					Studio	13	13	
	Level 3	780 m2	8,396 ft2	780 m2	Quad	2	8	
					Studio	17	17	
	Level 4	780 m2	8,396 ft2	780 m2	Quad	2	8	
					Studio	17	17	
	Level 5	780 m2	8,396 ft2	780 m2	Quad	2	8	
					Studio	17	17	
	Level 6	780 m2	8,396 ft2	780 m2	Quad	2	8	
					Studio	17	17	
	Level 7	780 m2	8,396 ft2	780 m2	Quad	2	8	
					Studio	17	17	
	Above Grade		5,420 m2	58,340 ft2	5,420 m2			166
	B5	Level 1	530 m2	5,705 ft2	530 m2	Studio	9	9
						Studio Accessible	0	0
Level 2		530 m2	5,705 ft2	530 m2	Quad	0	0	
					Studio	11	11	
Level 3		730 m2	7,858 ft2	730 m2	Studio Accessible	1	1	
					Quad	2	8	
Level 4		730 m2	7,858 ft2	730 m2	Studio	14	14	
					Studio Accessible	1	1	
Level 5		730 m2	7,858 ft2	730 m2	Quad	2	8	
					Studio	14	14	
Level 6		730 m2	7,858 ft2	730 m2	Studio Accessible	1	1	
					Quad	2	8	
Level 7		730 m2	7,858 ft2	730 m2	Studio	14	14	
					Studio Accessible	1	1	
Level 8		730 m2	7,858 ft2	730 m2	Quad	2	8	
					Studio	14	14	
Level 9		730 m2	7,858 ft2	730 m2	Studio Accessible	1	1	
	Quad				2	8		
Above Grade		4,710 m2	50,698 ft2	4,710 m2			136	
PARKING	P2	3,120 m2	33,583 ft2		Spaces		66	
	P1	5,160 m2	55,542 ft2		Spaces		123	
						Total	189	
AREA TOTALS		Above Grade Total	31,827 m2	342,583 ft2				
		Parking Total:	8,280 m2	89,125 ft2				
		Below Grade Total:	9,598 m2	103,312 ft2				
		Total	41,425 m2	445,895 ft2				
STATS	Premium Bed			6,335 m2		196		
	Standard Bed			24,160 m2		745		
	Total			30,495 m2		941		