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**APPENDIX A**
- Architectural Development Permit Drawing Set

**APPENDIX B**
- Landscape Development Permit Drawing Set

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**Pacific Residence**
**Development Permit Resubmission**
**Design Rationale**
**May 24, 2019**
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.
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.
Public Realm Framework
Vehicular Circulation and Parking

Key Building Servicing

North-South Pedestrian Routes

Legend

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

Legend

- Existing Pedestrian Route
- Future Pedestrian Route

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.
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.

**SITE ANALYSIS**

**KEY PROJECT STATISTICS:**

- Number of Beds: 941
- Gross Floor Area (above grade): 31,827 m² (342,583 ft²)
- Below-Grade Parking: 189 spaces
- Bike Storage: min. 1 per unit
- GHG Reduction: 70% (compared to baseline building)
- Sustainability Target: LEED Gold
Potential Public Use Locations

Activate “Gateways” into the Site

Existing Building Minimum Separations

Campus Connections Create Site Porosity

Existing Entries

Plazas + Shadowing

Site Analysis Diagrams
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
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 its 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.
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.
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.
Building section looking East through Student Union Blvd. at Building 1

Streetscape Sections
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 - Ground Level

Building 4 - Ground Level

Building 3 - Typical Residential Level

Building 5 - Ground Level
Typical Studio Unit Layout

Typical Studio Plan

Typical Studio Axo
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 Detail

Enlarged Plan

Enlarged Elevation

Section Diagram
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.
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
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

Perspective view looking West on Wesbrook Mall
LANDSCAPE CONCEPTS

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 exhibits 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 SOIL DEPTH PLAN

LANDSCAPE LIGHTING PLAN

LANDSCAPE PLANTING STRATEGY

LANDSCAPE PLANT MATERIALS

LANDSCAPE GRADING SOUTH-WEST

LANDSCAPE GRADING NORTH-EAST

LANDSCAPE CONCEPT SOUTH-WEST

LANDSCAPE MATERIALS

LANDSCAPE PRECEDENTS

UBC PACIFIC RESIDENCE

CONNECT LANDSCAPE ARCHITECTURE INC. DOES NOT GUARANTEE THE EXISTENCE, CONSTRUCTED TO BE COMPLETE OR ACCURATE. ALL EXISTING INFORMATION IS BASED ON AVAILABLE RECORDS AND SHALL NOT BE USED OR CONSIDERED FOR DECISIONS OR WORKS. ANY OTHER DOCUMENT ASSOCIATED WITH THE PROJECT, THE CONFLICT SHALL BE RESOLVED IN CONJUNCTION WITH ALL OTHER LANDSCAPE ARCHITECTURAL DRAWINGS, DETAILS, MATERIALS, PRODUCTS, AND SPECIFICATIONS TO MEET UBC STANDARDS AND UBC DESIGN GUIDELINES.

PROJECT

ISSUED FOR REVIEW 18-10-293

ISSUED FOR REVIEW 18-11-054

ISSUED FOR AUDP 19-01-106

ISSUED FOR COORDINATION TP#219-05-018

CLASS B LOADING

7 Storeys

10 Storeys

CLASS B LOADING

Building 1

Student Union Blvd

Walter Gage Road

Wesbrook

Building 4

Building 3

Building 2

Building 5

VEGETATION

TRANSPORTATION

LANDSCAPE ANALYSIS DIAGRAMS

DESIGN

Student Union Blvd

Watertrough Pond

Pacific Residence | Development Permit Resubmission May 24, 2019
LANDSCAPE SET: ISSUED FOR ADVISORY URBAN DESIGN PANEL

LANDSCAPE DRAWING INDEX

- L6.3
- L6.2
- L6.1
- L6.0
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- L4.2
- L4.1
- L3.3
- L3.2
- L3.1
- L2.3
- L2.2
- L2.1
- L1.6
- L1.5
- L1.3
- L1.2
- L1.1
- L0.3
- L0.2
- L0.1
- L0.0

LANDSCAPE DETAILS - CUSTOM FURNISHINGS
LANDSCAPE DETAILS - FURNISHINGS
LANDSCAPE DETAILS - HARDSCAPE
LANDSCAPE DETAILS - SOFTSCAPE

LANDSCAPE SECTIONS
LANDSCAPE SOIL DEPTH PLAN
LANDSCAPE FURNISHINGS PLAN
LANDSCAPE LIGHTING PLAN
LANDSCAPE TREE PLAN
LANDSCAPE PLANTING STRATEGY
LANDSCAPE PLANT MATERIALS
LANDSCAPE GRADING SOUTH-WEST
LANDSCAPE GRADING SOUTH-EAST
LANDSCAPE GRADING NORTH-EAST
LANDSCAPE CONCEPT SOUTH-WEST
LANDSCAPE CONCEPT SOUTH-EAST
LANDSCAPE CONCEPT NORTH-EAST

CONCEPTUAL SPACE PLANNING
ANALYSIS DIAGRAMS
LANDSCAPE MATERIALS
LANDSCAPE DESIGN CONCEPT

COVER SHEET AND DRAWING LIST

UBC PACIFIC RESIDENCE
March 11, 2019

GENERAL NOTES
ALL CONSTRUCTION, DETAILS, MATERIALS, PRODUCTS, AND SPECIFICATIONS TO MEET UBC STANDARDS AND UBC DESIGN GUIDELINES.

FINAL SELECTION AND APPROVAL OF ALL STREET TREES TO BE DONE BY UBC.

PROJECT SITE LOCATION, AND ELEVATION OF UTILITIES OR CONCEALED STRUCTURES AT THE PROJECT. CONNECT LANDSCAPE ARCHITECTURE INC. DOES NOT GUARANTEE THE EXISTENCE, LATEST EDITION.

ALL PLANTING SHALL BE IN ACCORDANCE WITH CANADIAN LANDSCAPE STANDARD, CONSTRUED TO BE COMPLETE OR ACCURATE.

ALL EXISTING INFORMATION IS BASED ON AVAILABLE RECORDS AND SHALL NOT BE USED OR CONSULTED FOR DETERMINING THE EXISTENCE, LOCATION, AND ELEVATION OF ALL UTILITIES AND / OR CONCEALED STRUCTURES, AND IS DETERMINING THE EXISTENCE, LOCATION, AND ELEVATION OF ALL UTILITIES AND / OR CONCEALED STRUCTURES, AND IS RESPONSIBLE FOR NOTIFYING THE CONTRACTOR IS RESPONSIBLE FOR REPORTING IN WRITING TO THE LANDSCAPE ARCHITECT TO OBTAIN CLARIFICATION IF A DISCREPANCY OCCURS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR COURSE OF THE CONTRACT.

CONJUNCTION WITH ALL OTHER LANDSCAPE ARCHITECTURAL DRAWINGS, DETAILS, ALL LANDSCAPE ARCHITECTURAL DRAWINGS IN THIS PACKAGE SHALL BE READ IN

Enlarged Landscape Plan - North East
Enlarged Landscape Plan - South East
**LANDSCAPE SET: ISSUED FOR ADVISORY URBAN DESIGN PANEL**

**LANDSCAPE DRAWING INDEX**

- L6.3
- L6.1
- L6.0
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- L2.3
- L2.2
- L1.6
- L1.5
- L1.4
- L1.3
- L1.2
- L1.1
- L0.3
- L0.2
- L0.1
- L0.0

**LANDSCAPE DETAILS - CUSTOM FURNISHINGS**

**LANDSCAPE DETAILS - FURNISHINGS**

**LANDSCAPE DETAILS - HARDSCAPE**

**LANDSCAPE DETAILS - SOFTSCAPE**

**LANDSCAPE SECTIONS**

**LANDSCAPE SOIL DEPTH PLAN**

**LANDSCAPE FURNISHINGS PLAN**

**LANDSCAPE LIGHTING PLAN**

**LANDSCAPE TREE PLAN**

**LANDSCAPE PLANTING STRATEGY**

**LANDSCAPE GRADING SOUTH-WEST**

**LANDSCAPE GRADING SOUTH-EAST**

**LANDSCAPE GRADING NORTH-EAST**

**LANDSCAPE CONCEPT SOUTH-WEST**

**LANDSCAPE CONCEPT SOUTH-EAST**

**LANDSCAPE CONCEPT NORTH-EAST**

**CONCEPTUAL SPACE PLANNING**

**LANDSCAPE PRECEDENTS**

**COVER SHEET AND DRAWING LIST**

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**GENERAL NOTES**

- MEET UBC STANDARDS AND UBC DESIGN GUIDELINES.
- FINAL SELECTION AND APPROVAL OF ALL STREET TREES TO BE DONE BY UBC.
- PROJECT SITE.
- LOCATION, AND ELEVATION OF UTILITIES OR CONCEALED STRUCTURES AT THE CONNECT LANDSCAPE ARCHITECTURE INC. DOES NOT GUARANTEE THE EXISTENCE, LATEST EDITION.
- ALL PLANTING SHALL BE IN ACCORDANCE WITH CANADIAN LANDSCAPE STANDARD, CONSTRUED TO BE COMPLETE OR ACCURATE.
- ALL EXISTING INFORMATION IS BASED ON AVAILABLE RECORDS AND SHALL NOT BE USED FOR ARCHITECTURAL DRAWINGS IN THIS PACKAGE SHALL BE READ IN REVISIONS.

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**UBC PACIFIC RESIDENCE**

March 11, 2019

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**Pacific Residence | Development Permit Resubmission May 24, 2019**
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
**MATERIALS AND FORMS**

- **Timber (Composite) Seating on Wall Edges**
- **Raised Planters on Slab**
- **Walls at Seating Height**

- **Concrete Walls**
- **Paving Materials**
- **UBC Standard Bike Rack**
- **Resysta Composite Deck for Custom Benchtops**

- **Native Plants and Rock**
- **Evergreen and Shade**
- **Plaza Canopy**
**Plant Materials**

### EVERGREEN AND SHADE
- Polystichum munitum: Western Sword Fern
- Hosta sieboldiana: Japanese Spirea
- Pachyandra terminalis: Japanese Spirea
- Lavandula angustifolia: English Lavender
- Lonicera piliata: Box-Leaf Honeysuckle

### LAYERED PLANTINGS
- Ceanothus thyrsiflorus 'Victoria': Purple Coneflower
- Ceanothus 'Victoria': Redwood Spurge
- Ceanothus thyrsiflorus: Redwood Spurge
- Ceanothus 'Victoria': Victoria California Lilac
- Ceanothus thyrsiflorus: Victoria California Lilac
- Ceanothus 'Victoria': Western Sword Fern
- Ceanothus 'Victoria': Japanese Spirea
- Ceanothus thyrsiflorus: Japanese Spirea
- Ceanothus 'Victoria': Japanese Spirea
- Ceanothus thyrsiflorus: Japanese Spirea

### SHRUBS
- Buisus microphylla: Little Leaf Boxwood
- Ceanothus thyrsiflorus 'Victoria': Victoria California Lilac
- Cornus stolonifera: Red Osier Dogwood
- Forsythia x intermedia: Forsythia
- Ilex crenata 'Convexa': Japanese Holly
- Lonicera pilata: Box-Leaf Honeysuckle
- Polytrichum munitum: Western Sword Fern
- Rhododendron 'Crete': Pink Rhododendron
- Rhododendron 'Hotei': Yellow Rhododendron
- Rhododendron 'Kenjiro': Pink Yaku Rhododendron
- Sarcococca hookeriana 'Hamble': Himalayan Sweet Box
- Skimmia japonica: Japanese Skimmia
- Spiraea x bumalda 'Goldflame': Goldflame Spiraea
- Taxus baccata 'Fastigate': Irish Yew

### GROUND COVERS AND VINES
- Fragaria chiloensis: Beach Strawberry
- Rubus calycinoides: Emerald Carpet
- Oxalis corniculata: Redwood Spurge
- Pachyandra terminalis: Japanese Spirea

### PERENNIALS, GRASSES, BULBS, AND ANNUALS
- Dicentra formosa: Western Bleeding Heart
- Echinacea purpurea: Purple Coneflower
- Helenium 'Stella D'Oro': Shasta Daisy
- Hosta sieboldiana: Hosta
- Lavandula angustifolia: English Lavender
- Lupine muscari: Lily-lust
- Salvia leucantha: Mexican Feather Grass

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**Pacific Residence | Development Permit Resubmission | May 24, 2019**
LANDSCAPE LIGHTING PLAN

LIGHTING LEGEND
- NEW POLE LIGHT
- EXISTING POLE LIGHT
- EXISTING STREET LIGHT
- RELOCATED STREET LIGHT
- STANDARD LIGHT: BOLLARIN S

Pacific Residence | Development Permit Resubmission | May 24, 2019
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-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:

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

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.
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 Wesbrook 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 Wesbrook 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.

Wesbrook Mall
Wesbrook 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.

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.
## PROGRAM SUMMARY

<table>
<thead>
<tr>
<th>Building</th>
<th>Level</th>
<th>GROSS FLOOR AREA</th>
<th>RESIDENTIAL</th>
<th>NUMBER OF BEDS</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td><strong>B1</strong></td>
<td>Level 1</td>
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<td></td>
<td>Level 2</td>
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<td>Level 3</td>
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<tr>
<td></td>
<td>Below Grade</td>
<td>780 m²</td>
<td>Studio</td>
<td>50</td>
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</tbody>
</table>

### B2

| Building | Level 1 | 780 m² | Studio | 0 |
|          | Level 2 | 750 m² | Studio | 0 |
|          | Level 3 | 750 m² | Quad | 0 |
|          | Level 4 | 750 m² | Quad | 0 |
|          | Level 5 | 750 m² | Quad | 0 |
|          | Level 6 | 750 m² | Quad | 0 |
|          | Level 7 | 750 m² | Quad | 0 |
|          | Level 8 | 750 m² | Quad | 0 |
|          | Level 9 | 750 m² | Quad | 0 |
|          | Level 10 | 920 m² | Studio Accessible | 50 |
|          | Above Grade | 780 m² | Studio | 50 |
|          | Below Grade | 780 m² | Studio | 50 |

### B3

| Building | Level 1 | 780 m² | Studio | 0 |
|          | Level 2 | 780 m² | Studio | 0 |
|          | Level 3 | 780 m² | Quad | 0 |
|          | Level 4 | 780 m² | Quad | 0 |
|          | Level 5 | 780 m² | Quad | 0 |
|          | Level 6 | 780 m² | Quad | 0 |
|          | Level 7 | 780 m² | Quad | 0 |
|          | Above Grade | 780 m² | Studio Accessible | 50 |

### B4

| Building | Level 1 | 780 m² | Quad | 0 |
|          | Level 2 | 780 m² | Quad | 0 |
|          | Level 3 | 780 m² | Quad | 0 |
|          | Level 4 | 780 m² | Quad | 0 |
|          | Level 5 | 780 m² | Quad | 0 |
|          | Level 6 | 780 m² | Quad | 0 |
|          | Level 7 | 780 m² | Quad | 0 |
|          | Above Grade | 780 m² | Studio Accessible | 50 |

### B5

| Building | Level 1 | 780 m² | Quad | 0 |
|          | Level 2 | 780 m² | Quad | 0 |
|          | Level 3 | 780 m² | Quad | 0 |
|          | Level 4 | 780 m² | Quad | 0 |
|          | Level 5 | 780 m² | Quad | 0 |
|          | Level 6 | 780 m² | Quad | 0 |
|          | Level 7 | 780 m² | Quad | 0 |
|          | Above Grade | 780 m² | Studio Accessible | 50 |

### PARKING

<table>
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<tr>
<th>Level</th>
<th>P1</th>
<th>Spaces</th>
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<tr>
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</tbody>
</table>

### AREA TOTALS

| Above Grade Total | 31,837 m² | 342,583 m² |
| Below Grade Total | 9,160 m² | 102,372 m² |
| Total | 31,837 m² | 444,955 m² |

### STATS

| **6.8 Residences** | **516 m²** | **516 m²** |
| **6.8 Residences** | **516 m²** | **516 m²** |