Development Permit Application Submission

September 3, 2020
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**Site and Context**

BCR 9 is located within Wesbrook Place Neighbourhood near the intersection of Wesbrook Mall and Gray Avenue. The site is bound by a main traffic route to the North, Gray Avenue, and a pedestrian mews to the East, leading to a future park at the southeast corner. Together with BCR 8 ‘Evolve’, the six-storey development on the West, and BCR7, a future development of varying scale South of the site, the project frames an internal courtyard offering a variety of amenity programs for residents.

**Proposed Project**

The Wesbrook Place Neighbourhood Plan defines the zoning and density requirements. As such, the project, a long term property of UBCPT, is defined as a 6-story wood frame structure geared towards faculty and staff rental. The essence of the design pulls strongly from the neighbourhood plan as it is designed to respond to existing urban fabric, while anticipating future developments and embracing its own site constraints.

The project seeks to establish itself as a means of enhancing the pedestrian experience both along Grey Avenue and the Mews. This pressure targets the pedestrian scale of the first two levels as means to closely develop a dialog with the surrounding landscape. Allowing for a more economical and strategic focus in the architectural expression within the massing.

A significant grade change is experienced across the northwest/southeast diagonal cut of the site, providing an opportunity for direct bike and stroller access to the Parkade off the Mews. The proposal aims to utilize REAP requirements in order to allocate additional bike storage and further reduce car parking on site, supporting UBC’s goal of promoting a more sustainable environment for the community.

Residential units within the 6-storey faculty and staff housing offer a mixture of studio, 1-bedroom, 2-bedroom, 3-bedroom and 4-bedroom single level units, as well as ground related two level city homes along the east-west wing. The project provides both indoor and outdoor amenity programs within the ground floor and courtyard.
Project Overview

Client
UBC Properties Trust
Nathan Ma
200 - 3313 Shrum Lane, Vancouver, BC, V6S 0C8
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Architect
ZGF Architects Inc.
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patrick.cotter@zgf.com | sophia.zhu@zgf.com | daniel.szymanski@zgf.com

Landscape
perry + associates
Michael Patterson
112 East Broadway, Vancouver BC, V5T 1V9
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Project Information
Civic Address
5768 Gray Avenue, Vancouver, BC
Wesbrook Village, University of British Columbia

Legal Description
Lot 9 Lot 6494 Group 1
New Westminster District Plan EPPB6350

Parcel Identifier (PID)
030-727-812

Total Site Area
47,172 SF / 4,382 SqM

Development Area
SC2A Medium Density Residential (6 Storeys)
**Project Overview**

### Data Overview

- **Site Area**: 47,172 SF | 4,382 m²
- **Density**: 2.80
- **Proposed Height**: 6 Storeys
  - 65’ | 19.81 m To Top of Parapet, at Frame
  - 70’ | 21.34 m To Top of Service Stair
- **Site Coverage**: Max Allowable 55%
  - 49.0%
- **Efficiency**: 89.6%
- **Gross Floor Area**: 138,692 SF | 12,885 m²
- **Total Residential FSR Area Inclusion**: 124,236 SF | 11,542 m²
- **Indoor Amenity FSR Area Exclusion**: 1,077 SF | 100 m²

### Unit Breakdown

- **1 Bed**: 16%
  - Units: 23
  - Ave. Size: 579 SF
- **2 Bed**: 41%
  - Units: 59
  - Ave. Size: 804 SF
- **Studio**: 10%
  - Units: 14
  - Ave. Size: 435 SF
- **3 Bed**: 19%
  - Units: 28
  - Ave. Size: 1,132 SF
- **4 Bed**: 14%
  - Units: 20
  - Ave. Size: 1,285 SF

### Parking

- **Vehicles**: 101
  - 6 Visitors + 95 Residents
  - 65 Standard Car Stalls
  - 11 Accessible Car Stalls
  - 25 Small Car Stalls

- **Bikes**: 360
  - Class I Bike Storage
  - 302’ X 6’ Horizontal Bike Storage
  - 58’ X 3’4” Vertical Bike Storage

- **Lockers**: 47
  - Storage Lockers

### Total Units: 144

- **Regular**: 78%
  - Units: 112
- **Inboard**: 16%
  - Units: 24
- **City Home**: 6%
  - Units: 8
Design
Rationale and Policy
Compliance
Design Policy Compliance

The project is designed with three key drivers in mind:

- Provide maximum allowable housing that is viable for UBCPT’s rental pro forma
- Consolidate open space with adjacent sites
- Generate a balance and variety of unit types that caters to a wide range of renter demographics

The project seeks to establish itself as a means of enhancing the pedestrian experience within the natural setting of Wesbrook Village. This targets the human scale within the first two levels as means of generating a dialog with the surrounding landscape. Subsequently allowing for a more economical and strategic focus in the architectural expression within the massing. The massing moves away from the traditional approach where the upper two levels are stepped back to reduce the overall volume. Instead, a two-storey datum is created at the ground level, allowing the upper massing to expand without compromising the open landscape below. The upper massing is encapsulated with three intersecting framed elements. Positioned at the crossroad of multiuse corridors, the frames are highlighted at their exposed ends with a pallet of colours to establish the building’s identity. The strategy brings a unique visual backdrop within the lush green corridors of Wesbrook Village, further enhancing the pedestrian experience.

Under the tight site constraints, further explorations of the building footprint to maximize housing while developing a meaningful architectural form landed with the proposed stepped approach. The stepping compliments the positioning of Evolve (BCR8) and frames the courtyard with an intention to eliminate the “dead shadow” zones created by typical interior corners, increasing enable light access into the crotch units and sun access in the public realm. An additional benefit of this strategy is that it provides a varied backdrop to the inner courtyard as it’s experienced in other public parks within Wesbrook Village.

Pilot units, as a result of the building massing, offer a high degree of rental flexibility and demographics, adding diversity to UBCPT’s rental portfolio. Understanding the lighting concerns of deep units, several lighting studies were conducted to inform design decisions and to ensure livability and comfort of such units. Living and personal space were positioned toward the exterior of the unit, while private and storage spaces were moved toward the entry way, ensuring that the living space is comparable to that of the typical units found within the project.

Neighbourhood Context

The finer detail and urban design being developed throughout this project aims to be complement with the existing built form, public realm, and landscape character of Wesbrook Village.

The project offers ground-orientated dwelling units throughout the scheme with unique unit addressing and lighting, creating a strong identity and presence along Gray Avenue and the mew leading to the future research park, as well as the inner courtyard. Outdoor living spaces afforded by these ground-oriented units increase their livability and provide the neighbourhood with increased security through passive surveillance and active street frontage.

Architecture

The essence of the design pulls strongly from the neighbourhood plan as it is designed to respond to the existing urban fabric, while anticipating future developments and embracing its own site constraints.
The project seeks to establish itself as a mean of enhancing the pedestrian experience within the natural setting of Wesbrook Village.

**Materiality**

The continuation of a simple contextual material palette offers honest west coast textures and colours. The project utilizes three elevating frames and three key contrasting tones to help strategically highlight and breakdown elements of the mass.

- Light grey paneling is used as the main façade material to lighten the overall mass. The neutral background accentuates other colour accents and textures, creating a simple yet strong scheme.

- Dark grey paneling ties the building together at the inner crotch area and at the building entrance; the dark grey paneling is also used under the windows to balance the proportions of light panels to the darker window openings. The effect is to reduce the industrial/institutional feeling of the façade.

- Wood accent siding joins the windows between L1 and L2, creating a continuous base supporting the elevated frames above. The softness and warmth created is experienced and appreciated more at the pedestrian level. The wood accents is also applied throughout the development to add interest to selected recessed balconies and soffits.

- The colours at the end of the elevated frames are selected from the colour spectrum typically seen in a cross section of wood (earth tones in brownish red, orange, and yellow). The combination mimics the effect of wood instead using a physical wood grained elements.

**Amenity**

The development is providing an active and expansive amenity area adjoining interior and outdoor spaces via the courtyard. The indoor amenity space is intended to be a vibrant multi-use space for residents to both work and socialize, with a focus on encouraging a sense of community amongst all residents. A guest suite is also provided as a popular demand from UBCPT’s previous rental developments.

A larger shared courtyard is provided by consolidating the open spaces with the adjacent “Evolve” (BCR 8) development. The shared outdoor amenity space offers a variety of programs that caters to a wide range of users.

Utilizing the existing grade change, the project offers direct bike and stroller access to the parkade from the Mews to enhance a safe and pleasant environment that separates pedestrian/cyclist from vehicular traffic. A bike repair area is also provided directly by the bike entrance to add ease of use and promote alternative modes of transportation.

**Building Performance**

Project Performance Targets: REAP 3.1 Gold (minimum)

The BCR 9 multi-family residential building will target the UBC Residential Environmental Assessment Program (REAP) 3.1 Gold performance level. In anticipating the upcoming update to the certification system, BCR 9 will target a few requirements from REAP 3.2 to set an example for future UBCPT projects. In addition to energy, site design will provide outdoor amenity spaces and enhanced bike facilities (repair workshop, additional bike parking) to encourage a healthy campus lifestyle and connection to the outdoors.
Design Rationale and Policy Compliance

Key Drivers

Provide Maximum Allowable Housing

• Achieving 2.8 FSR.
• Make it viable for UBCPT’s rental performance, as all units will be offered below market rental rates.

Consolidate Open Space With Adjacent Sites

• Bounded by constrains from all four sides, to achieve the desired density without compromising the generous courtyard space framed by BCR7, 8 and 9.

Provide a Balanced and Variety of Unit Types

• Successful and popular unit types from UBCPT’s past rental portfolio.
• Compact pilot units that offers affordability.
• Generous city homes for larger families.
Enhancing The Experience of The Natural Setting of Wesbrook Village

Walkability
Nature
Mews
Pedestrian Scale
Integration
Enhancing The Experience of The Natural Setting of Wesbrook Village

Walkability
- Supporting UBC’s goal of promoting a more sustainable environment for the community, heavy focus is placed on walkability and alternative modes of transportation.

Nature

Mews
- Design of “green streets” intended for pedestrians, bicycles and other non-motorized vehicles.

Pedestrian Scale
- Enhancing the experience at eye level.
- Integrating public and private realm at the base of the building.
- Setting the building in a landscape context to lighten its impact on the site.

Integration
- Marriage between architecture and landscape to create a contextual response that enhancing the pedestrian experience as one pass by.
Design Rationale and Policy Compliance

Design Moves

1. Conventional Siting
Conventional approach to a building with open spaces surrounding it.
Creating a street wall to reinforce the urban village feel.

2. Modulating Massing
Building recedes on the upper level that brings light down to the street, however, pushing the building out into the public realm.

3. Expanded Open Space
Undercut the first two floors, creating a 2-storey datum that recedes back behind the landscapes, and enhancing pedestrian walking experiences.
Site Constraints

1. 12’-9” (3.9m) setback to allow for a 5’ wide direct bike access into the parkade from park with landscape.
2. 4’ pathway and 4’ planting buffer by the shared parkade ramp.
3. Site slopes down from Gray Avenue towards south, with a grade difference of about 2.55m.

Initial Design, L-Shaped

Density: 2.80
Floor Space Ratio With Maximum Allowable In-Suite Storage Exclusion (40 SF / Unit)

Total Units: 144
58% Regular Units: 84
36% Inboard Units: 52
6% City Home Units: 8

Pros
- Simple shape.
- Open up the courtyard.
- Better connection with BCR7 to the south.

Cons
- Deep floor plates
- Off balanced unit typology
- Tight crutch opening with less access to daylight.
Design Rationale and Policy Compliance

Strategies and Explorations | Design Iterations

Refinement 1, L-Shaped with Return

- **Pros**
  - Bigger BCR9 courtyard.
  - Balanced and variety of unit types offered (types that were successful at past projects, ground related city homes, and pilot deep units that offer affordability).
  - Featured 4 bedroom unit on the return.

- **Cons**
  - Return slightly encloses on courtyard with shortened the connection point from BCR9 to BCR7.
  - Overshadow on the inner corner at south end.

```
Density: 2.80
Floor Space Ratio With Maximum Allowable In-Suite Storage Exclusion (40 SF / Unit)

86% Regular Units: 124
8% Inboard Units: 12
6% City Home Units: 8
```

Refinement 2 - Pre-Application AUDP Design

L-Shaped Stepped

- **Pros**
  - Bigger BCR9 courtyard.
  - Building footprint framing the courtyard creating interest.
  - Balanced and variety of unit types offered (types that were successful at past projects, ground related city homes, and pilot deep units that offer affordability).
  - Best access to daylight for all units.

- **Cons**
  - Widen south end shortened the connection point from BCR9 to BCR7.

```
Density: 2.80
Floor Space Ratio With Maximum Allowable In-Suite Storage Exclusion (40 SF / Unit)

78% Regular Units: 112
16% Inboard Units: 24
6% City Home Units: 8
```
Strategies and Explorations | Courtyard Study

Refinement 2 - Pre-Application AUDP Design, Courtyard Study

Complimentary Angle Framing the Courtyard

Design Rationale and Policy Compliance
Submission Requirements
UBC Residential Environmental Assessment Program
REAP 3.1

Project Information
Developer: UBC
Architect: ZGF Architects
REAP Consultant: E3 Eco-Group Inc.
Project Name: Evolve
Neighbourhood: Wesbrook Place
Lot No.: BC08
Street Address:
Project Stage: DP
UBC DP Reference No.:
Date of Submission:

Submission Requirements
REAP Checklist

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REAP Rating: 58

Score: 4 Mandatory points achieved
Score: 10 Mandatory points achieved

UBC Residential Environmental Assessment Program
REAP 3.1 Workbook 2020-08-03.xlsx 28-07-20
### Materials & Resources Category

**Performance Category: Materials & Resources (MR) 18 Points**

#### Subcategory 1: Reused Building Materials 2 X OP

- **Objective:** Improve indoor air quality by reducing volatile organic compounds (VOCs) from incoming building materials.

- **Details:**
  - Free of ingredients listed on REACH Authorization and Candidate List
  - Health Product Declaration
  - Manufactured Inventory of all ingredients by CAS number, of manufacturer

- **Points:**
  - Fabricated from a minimum of 10% post-consumer recycled content
  - Full Post-consumer reclaimed materials

#### Subcategory 2: Dimensional Lumber and Plywood 3 X OP

- **Objective:** Reduce embodied energy and greenhouse gas emissions by using locally sourced and certified lumber.

- **Details:**
  - Declare Label (Livng Building Institute)
  - Manufacturer Inventory of all ingredients by CAS number, of 

- **Points:**
  - Use salvaged, refurbished, or reused materials for at least 10% of the total cost of building materials.

#### Subcategory 3: Regionally Manufactured Building Materials 1 X OP

- **Objective:** Support local economies and reduce the environmental impact of transportation.

- **Details:**
  - Use building materials and products that are manufactured within a radius of 800 km (500 miles).

- **Points:**
  - Use a minimum of 20% (by value) of building materials and products that are manufactured within a radius of 800 km (500 miles).

**Additional Guidance:**

- Consider using materials that meet the requirements of the Passive House Planning Package, version 9, for space heating.

- **Notes:**
  - Provide separate metering in individual units for measuring thermal energy consumption used for space heating.
  - Use solar energy systems that comply with the requirements of the Solar Energy Information Network (SEIN) for space heating.

- **Supporting Documents:**
  - Product declarations for building materials and products.
  - Certifications from industry organizations or regional authorities.

---

### Performance Points

#### EA 2 RENEWABLE ENERGY

- **Objective:** Contribute to sustainable energy production and reduce reliance on fossil fuels.

- **Details:**
  - Free of ingredients listed on REACH Authorization and Candidate List
  - Manufacturer Inventory of all ingredients by CAS number, of

- **Points:**
  - Achieve credits for generating renewable electricity.

**Notes:**

- **Credits Completion:**
  - Credit 1.1: Future Renewable Electricity 1 1 BP
  - Credit 2.1: Renewable Energy 2 X OP

- **Supporting Documents:**
  - Certification from recognized organizations.

---

### IEQ MANDATORY Points

- **Objective:** Enhance indoor environment quality by reducing exposure to harmful substances.

- **Details:**
  - Free of ingredients listed on REACH Authorization and Candidate List
  - Manufacturer Inventory of all ingredients by CAS number, of

- **Points:**
  - Achieve credits for meeting indoor environmental quality standards.

**Notes:**

- **Credits Completion:**
  - Credit 1.1: Low-emitting Ingredients 1 1 BP
  - Credit 2.1: Low-emitting Ingredients 2 X OP

- **Supporting Documents:**
  - Certification from recognized organizations.

---

### IEQ OPTIONAL Points

- **Objective:** Further improve indoor environment quality beyond mandatory requirements.

- **Details:**
  - Free of ingredients listed on REACH Authorization and Candidate List
  - Manufacturer Inventory of all ingredients by CAS number, of

- **Points:**
  - Achieve additional points by meeting specific criteria.

**Notes:**

- **Credits Completion:**
  - Credit 1.2: IAQ Design Guidance 1 1 BP
  - Credit 2.2: IAQ Design Guidance 2 X OP

- **Supporting Documents:**
  - Certification from recognized organizations.
### Submission Requirements

#### REAP Checklist | 3/3

#### Performance Category: Innovation & Design Process (ID) 24 Points

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The Implementation of the Innovation & Design Process category is intended to provide incentive and credit for general design and other innovative practices that improve the overall sustainability and environmental performance of the project.

The Construction credits acknowledge and reward contractors who have followed best practices to effectively manage construction activities in a manner that supports sustainability goals.

### Development Permit Application Submission | September 3, 2020 - 20 -
**Tree Survey**

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**NOTES**

1. The location of an surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.

2. All tree protective fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the root of the tree.

---

**LEGEND**

- **GREEN** CRITICAL ROOT ZONE
- **RED** TREE PROTECTION ZONE AND FENCING
- **BLACK** TREE STUMP FROM WHICH TRUNK COMPLETELY REMOVED
- **WHITE** TREES TO BE REMOVED
- **BLUE** TREES SUITABLE FOR TRANSPLANT

---

**REFERENCE DRAWINGS**

1. **Tree Survey By:**

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**DATE:** September 3, 2020

---

**Tree Survey**

- Proposed sidewalk within TRZs of all trees must be built under arborist supervision. Proposed sidewalk with TRZs of tree #1 and #2 must be built above grade, with zero excavation and avoid root impact methods.
- TRZ fencing must be in place prior to any work within.
- Proposed stormwater and sanitary drain within TRZ of tree #3 has not been approved by UBC.
- UBC has reviewed any proposed servicing. Proposed servicing must be reviewed by UBC prior to construction to ensure tree retention.

---

**Tree Survey**

- Tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. (Note tree diameter was added to the graphical tree protection zone to accommodate the survey point being in the center of the tree.
- Any construction activities or grade changes within the Root Protection Zone must be approved by the project arborist.

---

**Tree Survey**

- This plan is based on a topographic and tree location survey provided by the owners’ Registered BC Land Surveyor (RBCS) and layout drawings provided by the owners’ Engineer (P.Eng).
- This plan is provided for personal use only and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plans and engineering plans.

---

**Tree Survey**

- Trees OS-55 and OS-56 are recommended for removal due to conflicts with grading shown on engineering plans. Must receive permission from owner prior to removal.
Submission Requirements

Site Photos

1. Site
2. Surrounding area with Ivy sign
3. Residential area with trees
4. Street view with sidewalk
5. Street view with greenery

Development Permit Application Submission | September 3, 2020 - 22 -
## Project Statistics, Detailed

### Development Information
- **Civic Address**: 5750 Gray Avenue, Vancouver, BC
- **Legal Description**: Lot 9 District Lot 6494 Group 1 New Westminster District Plan EPP86350
- **Gross Site Area**: 47,172 SF / 4,382 SqM

### Project Statistics
- **Total Services (Included From FSR)**: 739 SF / 69 SqM
- **Total Residential Area (Included From FSR)**: 124,236 SF / 11,542 SqM

### Building Information
- **Gross Site Area**: 47,172 SF / 4,382 SqM
- **Development Area**: SC2A Medium Density Residential
- **Legal Description**: Lot 9 District Lot 6494 Group 1
- **Civic Address**: 5750 Gray Avenue, Vancouver, BC
- **Gross Floor Area**: 121,431 SF / 11,380 SqM

### Floor Area Breakdown
- **Total Residential Area**:
  - Level 1: 15,422 SF / 1,425 SqM
  - Level 2: 23,166 SF / 2,152 SqM
  - Level 3: 20,966 SF / 1,948 SqM
  - Level 4: 1,077 SF / 100 SqM
  - Level 5: 23,166 SF / 2,152 SqM
  - Level 6: 2,694 SF / 250 SqM

### Parking Calculations
- **Total Parking Spaces Permitted**: 159 Stalls
  - Level 1: 23,166 SF / 2,152 SqM
  - Level 2: 21,342 SF / 1,983 SqM
  - Level 3: 1,721 SF / 160 SqM
  - Level 4: 102 SF / 10 SqM
  - Level 5: 22,406 SF / 2,082 SqM
  - Level 6: 1,000 SF / 93 SqM

### Building Height & Setback Information
- **Building Height**: 6 Stories
- **Setback**: 8.2 FT / 2.5 m

### Building Efficiency
- **Building Efficiency**:
  - **2.5 m Building Height**: 53.46 FT / 16.29 m
  - **6.1 m to 6.4 m**: 75.46 FT / 23.00 m

### Site Information
- **Gross Site Area**: 47,172 SF / 4,382 SqM

### Unit Information
- **Total Units**: 144
  - Level 1: 25
  - Level 2: 24
  - Level 3: 25
  - Level 4: 25
  - Level 5: 35
  - Level 6: 24

### Storage Lockers Required
- **Storage Lockers Required**: 67 lockers

### Roof Area
- **Roof Area**: 50.8 SF / 4.7 SqM

### Other Information
- **FSR area projection encroaching into the 2.5m setback from Level 3 to Level 6 at northwest corner of the site along Gray Avenue.**
- **Encroaching into the setback by 0.41m to 0.69m over a length of 7.73m.**
- **Reduction in number of accessible parking stalls required from 0.1 stall per principal dwelling unit (15 stalls required) down to 0.05 stall per principal dwelling unit (7 stalls provided).**
- **Proposing to share Class II bike stalls across BCR8 (111 residential units) and BCR9 (144 residential units) as the two sites share a common courtyard, providing a total of 94 Class II bike stalls (0.37 stall per dwelling unit for the combined total of 254 residents units between BCR8 and BCR9).**
- **Consideration of reducing the number of accessible parking stalls required from 0.1 stall per principal dwelling unit (15 stalls required) down to 0.05 stall per principal dwelling unit (7 stalls provided).**
- **Proposing to share Class II bike stalls across BCR8 (111 residential units) and BCR9 (144 residential units) as the two sites share a common courtyard, providing a total of 94 Class II bike stalls (0.37 stall per dwelling unit for the combined total of 254 residents units between BCR8 and BCR9).**
- **Reducing the number of accessible parking stalls required from 0.1 stall per principal dwelling unit (15 stalls required) down to 0.05 stall per principal dwelling unit (7 stalls provided).**
- **Proposing to share Class II bike stalls across BCR8 (111 residential units) and BCR9 (144 residential units) as the two sites share a common courtyard, providing a total of 94 Class II bike stalls (0.37 stall per dwelling unit for the combined total of 254 residents units between BCR8 and BCR9).**
Context | UBC

- Westbrook Place
- Pacific Spirit Regional Park
- UBC Farm

University of British Columbia
University Golf Club
Pacific Spirit Regional Park
Vancouver West Point Grey
W 4th Ave
W 10th Ave

UBC Farm
SW Marine Dr

Site

Development Permit Application Submission | September 3, 2020 - 26 -
Context | Wesbrook Place Neighbourhood
Drawing Requirements

Context | Wesbrook Place Development Plan

- **Maximum 3.5 FSR**
  - High Rise (14 - 22 Storeys)
  - with Low Rise/Townhouses (3 - 5 Storeys)

- **Maximum 2.8 FSR**
  - High Rise (14 - 18 Storeys)
  - with Low Rise/Townhouses (3 - 6 Storeys)

- **Maximum 2.0 FSR**
  - Low Rise (4 Storeys)

- **Maximum 1.2 FSR**
  - Low Rise (3 Storeys)

- Mixed-Use Commercial Centre
- Schools
- Green Edge
- Usable Neighbourhood Open Space (UNOS)
- Greenway
- UBC Farm

- **Site Maximum 2.8 FSR**
  - Medium Density Residential (6 Storeys)
Site Plan

BCR 8

BCR 7

BCR 9
5768 Gray Avenue, Vancouver, BC
Drawing Requirements

Shadow Analysis

Summer Solstice

Spring/Fall Equinox

Winter Solstice

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Streetscape Datums

Datum responding to 6-storey BCR 8 on the west

Stepped down datum responding to the transition

Streetscape Elevation, North | Along Gray Avenue

Future Development
3-Storey Townhomes, 5-Storey Apartment and Tower

Mews

BCR 9
6-Storey

Shared Ramp

BCR 8
6-Storey
Drawing Requirements

**Streetscape Datums**

- Stepped down datum responding to the transition due to grade change

Streetscape Elevation, East | Along Greenway

- BCR 7 (Future) 6-Storey
- Mews
- BCR 9 6-Storey
- Gray Ave.
- Existing 3-Storey Townhomes

2-Storey Pedestrian Realm
Perspective Views | View from Gray Avenue Looking East

1. Firewall
2. Building Entrance
3. City Homes
4. Shared Parkade

Gray Ave.
Perspective Views | View of Building Entrance and City Homes

1. Firewall
2. Building Entrance
3. City Homes
Perspective Views | Townhouse Entry
Perspective Views | View from McCrae Lane Looking South

1. Building Entrance
2. Mews
3. Park Beyond
Perspective Views | View from Park Looking North

1. BCR 8
2. Direct Access to P1
3. BCR 7
Perspective Views | View of Courtyard

1. BCR 8
2. City Homes
3. Shared Parkade
4. Future Development
Perspective Views | View of Courtyard Looking North
Perspective Views | View in Courtyard Looking South
**Floor Plans | Parkade Plan**

**101**
**Car Parking**
- 65 Standard Car Stalls
- 11 Accessible Car Stalls
- 25 Small Car Stalls

**360**
**Bicycle Parking**
- 302 2’ X 6’ Horizontal Bike Storage
- 58 2’ X 3’-4” Vertical Bike Storage

**47**
**Lockers**

---

**Legend**
- **Amenity**
- **Circulation**
- **Storage / Service**
- **Parkade**

*Alternative plan option with additional bike storages to meet REAP 3.2 requirement shown in Appendix.*

---

**Development Permit Application Submission | September 3, 2020 - 45 -**
Floor Plans | Roof

Legend

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom
- 1 Bedroom (Inboard)
- 2 Bedroom (Inboard)
- 3 Bedroom (City Home)
- 4 Bedroom (City Home)
- AMENITY
- CIRCULATION
- SERVICES
- FIRE SEPARATION
North Elevation  |  Along Gray Ave.

Drawing Requirements

- **F1**: Fiber Cement Board, Light Grey
- **F2**: Fiber Cement Board, Charcoal Grey
- **F3**: Fiber Cement Siding, Light Grey
- **W1**: Wood Accent Siding
- **M1**: Metal Panel, White
- **M2**: Metal Panel, Charcoal Grey
- **MC1**: Colour Metal Panel, Rustic Brown
- **MC2**: Colour Metal Panel, Rustic Orange
- **MC3**: Colour Metal Panel, Rustic Yellow
- **G1**: Clear Glazing
- **G2**: Glass Guardrail, Frosted
- **G3**: Glass Guardrail, Clear
- **SP1**: Spandrel, Charcoal Grey
- **C1**: Finished Concrete (Planters)
South Elevation | Along Pathway Connection Between BCR 7, 8 and 9

- Fiber Cement Board, Light Grey
- Fiber Cement Board, Charcoal Grey
- Fiber Cement Siding, Light Grey
- Wood Accent Siding
- Metal Panel, White
- Metal Panel, Charcoal Grey
- Colour Metal Panel, Rustic Brown
- Colour Metal Panel, Rustic Orange
- Colour Metal Panel, Rustic Yellow
- Clear Glazing
- Glass Guardrail, Frosted
- Glass Guardrail, Clear
- Spandrel, Charcoal Grey
- Finished Concrete (Planters)
Drawing Requirements

West Elevation | Along Courtyard Link Between BCR 8 and 9

Gray Avenue

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0' 2' 4' 8' 18'
## Courtyard Elevation | South

- **F1**: Fiber Cement Board, Light Grey
- **F2**: Fiber Cement Board, Charcoal Grey
- **F3**: Fiber Cement Siding, Light Grey
- **W1**: Wood Accent Siding
- **M1**: Metal Panel, White
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- **MC3**: Colour Metal Panel, Rustic Yellow
- **G1**: Clear Glazing
- **G2**: Glass Guardrail, Frosted
- **G3**: Glass Guardrail, Clear
- **SP1**: Spandrel, Charcoal Grey
- **C1**: Finished Concrete (Planters)

### Drawing Requirements

- **0' 2' 4' 8' 18'**

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**Development Permit Application Submission | September 3, 2020**
Section 249.33' / 76.00 m

LEVEL 1
259.33' / 79.04 m

LEVEL 2
269.33' / 82.09 m

LEVEL 3
279.33' / 85.14 m

LEVEL 4
309.33' / 94.28 m

LEVEL 5
289.33' / 88.19 m

LEVEL 6
299.33' / 91.24 m

MAXIMUM BUILDING HEIGHT
324.79' / 99.00 m

T.O. ROOF PARAPET
312.33' / 95.20 m

LEVEL P1
235.67' / 71.83 m

BIKE REPAIR CHILL WATER PUMP ROOM
SUB ELEC ROOM
VEST. RESIDENT PARKING ELEV CTRLVEST.
BIKE ENTRY STAIR ENTRANCE
LOBBYINDOOR AMENITY
GRAY AVENUE

ZGF Architects Inc.
355 Burrard Street,
Suite 350
Vancouver, BC V6C 2G8
T: 604 558 8390
www.zgf.com

Drawing Title
Revisions
Notes

Client
Project

2020/09/01
V25371
DP3.11

Checker
Author

0' 2' 4' 8' 16'

UP
DN
UP
DN
UP
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UP
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UP
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UP
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UP
DN

Fire Hydrant
Telecom
Hydro
LB
LB

2%

BCR9 (4 racks, 8 stalls)
(10 racks, 20 stalls)
(9 racks, 18 stalls)
(10 racks, 20 stalls)

LINE OF OVERHANG ABOVE
LINE OF OVERHANG ABOVE
Landscape Precedents

1. Amenity Pavilion
2. Native Planting
3. Outdoor Seating
4. Undulating Play
5. Bike Hub
6. Entry Signage and Seating
7. Integrated Seating
8. Seating Deck
9. Open Lawn
10. Stormwater Channel
Drawing Requirements

**Landscape | Key Plan**

- FEATURE PAVING
- PRECAST CONCRETE PAVING
- STEPPING STONES
- CIP RUBBER SURFACING
- DRAIN ROCK EDGER
- CP CONCRETE PAVING
- CONCRETE STAIRS
- CONCRETE PLANTER WALL
- METAL GATE
- METAL GUARDRAIL
- PRIVACY SCREEN
- METAL PLANTER
- BIKE RACK
- SEATING DECK
- LINEAR BENCH
- TERRACE SEATING
- MOVABLE FURNITURE
- ENTRY SIGNAGE
- GARDEN TRELLIS
- STORMWATER CHANNEL
- WALL + STEP LIGHT
- TRELLIS UPLIGHT AND DOWNLIGHT. REFER TO DETAILS EXISTING LAMP STAND
- LED STRIP LIGHT
- RECEPTACLE LOCATION (GFCI IN EXTERIOR GRADE BOX)
- TREE LIGHTING
- DECORATIVE BOLLARD LIGHT
- LS
- TL
- U
- WB
- SL

---

**Development Permit Application Submission | September 3, 2020 - 61 -**
Drawing Requirements

Landscape | Grading Plan
Landscape | Planting Plan

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**Planting Plan**

**Plant List**

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**Drawing Requirements**

- FEATURE PAVING
- PRECAST CONCRETE PAVING
- STEPPING STONES
- CIP RUBBER SURFACING
- DRAIN ROCK EDGER
- CIP CONCRETE PAVING
- METAL GATE
- METAL GUARDRAIL
- PRIVACY SCREEN
- METAL PLANTER
- BIKE RACK
- SEATING DECK
- LINEAR BENCH
- TERRACED SEATING
- MOVABLE FURNITURE
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- CONCRETE PLANTER WALL
- TREE LIGHTING
- DECORATIVE BOLLARD LIGHT
- LED STRIP LIGHT
- RECEPTACLE LOCATION (GFCI IN EXTERIOR GRADE BOX)
- WALL + STEP LIGHT
- TRELLIS UPLIGHT AND DOWNLIGHT. REFER TO DETAILS EXISTING LAMP STAND

---

Development Permit Application Submission | September 3, 2020 - 64 -
Section A - Through Courtyard and Lawn Area
Section B - Through Play Area and Outdoor Amenity
Section C - City Home Patio Along Gray Avenue
Section D - Northeast Patio Along BC Research Park Pathway

Section E - Southeast Patio Along BC Research Park Pathway
Section F - South Entrance Along Pathway To BC Research Park

Section G - South Patio Along Pathway To BC Research Park
Appendix

CPTED Statement . . . . . . . . . . . . i
Sustainability Statement . . . . . . . . . ii
Light Study . . . . . . . . . . . . . . . . iii
Previous Landscape Concept . . . . . . . v
Proposed Landscape Concept . . . . . . vi
Alternative Parkade Plan . . . . . . . . vii
Appendix

CPTED Statement

Automobile Theft

- Residential and visitor parking stalls are provided in a monitored, fully enclosed, in a well-lit one-level below grade parkade.
- Vehicular access into the parkade is provided through a secure overhead door at the entry to the vehicular ramp and controlled by fob access.

Natural Surveillance

- The building is sited to reinforce the street wall along Gray Avenue, to overlook the greenway and park to the east and to create a large shared open courtyard with the Evolve project to the west. The adjacency and overlook provided through this design contribute to the overall security of the neighbourhood through an ‘eyes on the street’ natural surveillance approach to design.
- Doors, door hardware and framing will be durable and vandal resistant.
- Operable windows are located in visible areas minimizing any potential for concealed attempts at breaking and entering.

Security

- The entrances into the residential lobby, stairs and parkade will be outfitted with a keypad and a swipe card reader. No public access will be permitted.
- Camera surveillance will be provided in the main entrance lobby, in the parkade and in all bike / storage rooms.
- A monitored fire alarm system combined with annunciator will be installed. Each unit and the parking garage will be its own fire detection and suppression system.
- The building entrance and lobby is addressed off Gray Avenue, will be clearly visible from the street and illuminated through the evening hours. The lobby will be fobbed for resident access only with an interphone panel provided for visitors at the main lobby entrance and parkade ramp. The lobby has been located to provide views and direct access into the shared exterior amenity courtyard space.
- Ground floor units are provided a patio with overlook and a direct connection to the adjacent public realm/shared courtyard with lighting and wayfinding signage integrated into each connection. Additionally, the upper units have exterior patios with overlook of the adjacent public realm/courtyard spaces.
- The parkade exterior bike access located at the south east corner of the site has been revised to respond to concerns raised at the preliminary advisory design panel. The exiting from the bike room has been adjusted to provide glazing in the exit doors, to align the doors with the exterior walkway for clear site lines and to remove any potential hiding spaces along the walkway. Lighting will be provided to ensure nighttime illumination. The exterior walkway is open to view from the park and the future BCR 7 building.
- The courtyard is designed to encourage both active and passes uses for the residents. A large open lawn area provides flexible use for a range of activities and is supported by adjacent seating areas and social gathering spaces for families and residents to interact. Lighting has been integrated into the design to encourage evening use by the residents and to ensure that all areas are adequately illuminated. The design encourages a number of different types of spaces with multiple means of access. Isolated spaces served by one connection are avoided in the design.
- Pathway access is provided to the building exit on the west side of the building. This pathway is provided clear sight lines and will be illuminated at night for visibility and security.
- Resident overlook of the courtyard spaces, the variety of amenity activities provided, site lighting and clear view lines all contribute to provide a safe environment.
- Lighting surrounding the development, throughout all public access pathways and at all external unit entries provides a safe and well-lit environment for both residents and adjacent public alike for this development.
- The building has been designed with a clean simple footprint that minimizes the number of obstructed views and blind spots at grade.
- The residential garbage / recycling area and mail room are completely enclosed within the building footprint and accessible only to residents and service providers.
- Light coloured paint for parkade walls and ceiling to enhance light levels for visibility.
- Parkade walls and columns will be painted light colours.
SUSTAINABILITY STATEMENT

UBCPT – BCR9

REAP 3.1

UBCPT has committed to designing and constructing a quality development that follows high sustainability standards, enhancing performance and durability in the project. BCR9 meets these sustainability standards through rigorous design, construction methodology, and quality assurance from concept to construction.

E3 is working as the green building specialist alongside UBCPT and the project team to ensure BCR9’s success in meeting REAP Gold. Consultant meetings are ongoing during early design phase to ensure the development is meeting REAP requirements. Quality assurance and management during the construction phase will ensure that the development meets sustainability criteria from concept to practice. E3 and the project team will compile and review necessary documentation to meet REAP 3.1 GOLD guidelines and ensure the sustainability of the project.

The project team has ensured BCR9 is sustainable across all seven REAP categories. Some of the sustainable features of the project include:

- The project is designed to have a high energy performance and meet Step Code 2
- A high number of on-site bicycle facilities and a repair station will be provided to encourage tenants to use sustainable modes of transport
- A variety of efficient fixtures, appliances, and landscaping elements will be selected to maximize efficient water use
- Careful site planning, staging and construction, and stormwater controls will ensure minimal erosion and disturbance to the site
- Materials with a high recycled content, that reduce the environmental impacts associated with construction, will be used
- Low VOC paints, adhesives, sealants, and flooring will be specified to ensure occupant’s health and wellbeing
- UBC’s district energy system provides optimal thermal comfort for residents

UBCPT and the project team is working with E3 to incorporate sustainability as a critical component to the development. BCR9 reflects the developer’s commitment to ensuring sustainable design and construction for residential developments with higher quality and lower environmental impacts.
Appendix

Light Study

A series of studies and design iterations were conducted to improve the light quality and comfort levels of the deep units situated along the courtyard.

Extensive analysis, as well as precedent projects of similar depth of units, has determined that the quality and feel of the living space in the deep unit is comparable to that of a typical depth unit located in a similar orientation. The effective depth of the living space is equivalent in both unit types, hence, proportionate light quality. Clerestory windows will be provided in the inboard bedrooms to bring increased ambient light levels into the sleeping area.

Proposed Design

Annual Light Accumulation

The following daylight study analyzes annual accumulation of light within each space. The ideal target for visual comfort is 300 lux found primarily around the first 15ft of the exterior facade. Deeper into the unit (30ft), lighting levels were recorded as 150 lux, a figure that is reflective of comfortable levels for the potential tasks performed in that space.
Light Study | Unit Plan Lighting Comparison

Unit Plans: Typical Depth

Unit Plans: Deep Unit with Inboard Bedroom

Summer Solstice 2PM, 30' from Window

Summer Solstice 2PM, 30' from Window
Appendix

Landscape | Previous Landscape Concept

Development Permit Application Submission | September 3, 2020  -  v  -

Wesbrook Mall
Gray Avenue

Future Connection To UBC Research Park

BCR 7

BCR 8

BCR 9
Adjustments have been made to the townhouse units to provide for a more direct connection to the adjacent public realm and courtyard open space.

The entry door to the bike room has been revised to address CPTED concerns.

Stormwater connection to the park added.

The two courtyards have been refined to provide for a variety of spaces. More planting has been integrated to help enhance and buffer adjacent spaces to provide more nuanced separation between the smaller social spaces and larger more active spaces.

The patios and planters adjusted to better integrate with the building elevation and to provide for larger planters and more soil volumes.
Alternative Parkade Plan | More Bike Storage based on REAP 3.2 Requirement

**Car Parking**
- 4 stalls from proposed plan
  - 63 Standard Car Stalls
  - 10 Accessible Car Stalls
  - 24 Small Car Stalls

**Bicycle Parking**
+ 80 bike stalls from proposed plan
  - 355 2' x 6' Horizontal Bike Storage
  - 85 2' x 3' - 4' Vertical Bike Storage

*42.5 Class I Bike Storages required for REAP 3.2 Prerequisite + Additional Credit

**Lockers**

Legend
- Amenity
- Circulation
- Storage / Service
- Parkade

Increased Bike Storage (+80 Stalls)

Direct Bike Access From Park

Notes

Application
ZGF Architects Inc.

Checked By: