Development Permit Application Submission September 3, 2020









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Project Overview



BCR9

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



nma@ubcproperties.com ZGF Architects Inc.

Nathan Ma

Patrick Cotter | Sophia Zhu | Daniel Szymanski 350 - 355 Burrard Street, Vancouver, BC, V6C 2G8 patrick.cotter@zgf.com | sophia.zhu@zgf.com | daniel.szymanski@zgf.com

Michael Patterson 112 East Broadway, Vancouver BC, V5T 1V9 mp@perryandassociates.ca

5768 Gray Avenue, Vancouver, BC Wesbrook Village, University of British Columbia Lot 9 District Lot 6494 Group 1 New Westminster District Plan EPP86350 030-727-812 47,172 SF / 4,382 SqM **Development Area** SC2A Medium Density Residential (6 Storeys)

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Project Team

UBC Properties Trust

200 - 3313 Shrum Lane, Vancouver, BC, V6S 0C8

perry + associates

Project Information









Project Overview

Data Overview

Site Area 47, 172 SF | 4,382 m²

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

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



Parking



101 6 Visitors + 95 Residents 65 Standard Car Stalls 11 Accessible Car Stalls 25 Small Car Stalls



Bikes

360 Class I Bike Storages 302 2' X 6' Horizontal Bike Storage 58 2' X 3'4" Vertical Bike Storage













Design Rationale and Policy Compliance



Design Rationale and Policy Compliance **Design Policy Compliance**



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-orientated 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 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.







Design Rationale and Policy Compliance Design Policy Compliance

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 multiuse 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

- affordability.



• Successful and popular unit types from UBCPT's past rental portfolio.

• Compact pilot units that offers

• Generous city homes for larger families.





Design Rationale and Policy Compliance **Design Narrative**

Enhancing The Experience of The Natural Setting of Wesbrook Village







Walkability Nature Mews Pedestrian Scale Integration













Design Rationale and Policy Compliance **Design Narrative**

Enhancing The Experience of The Natural Setting of Wesbrook Village



Setting the building in a landscape context to lighten its impact on the site.

transportation.



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.









Design Rationale and Policy Compliance

Strategies and Explorations | Design Iterations

Site Constraints

(1)

(2)

12'-9" (3.9m) setback to allow for a 5' wide direct bike access into the parkade from park with landscape.

- 4' pathway and 4' planting buffer by the shared parkade ramp.
- Site slopes down from Gray Avenue towards south, (3)with a grade difference of about 2.55m.





Density: **2.80**

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

58% Regular Units: 84

36% Inboard Units: 52

Pros

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

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Total Units: 144

6% City Home Units: 8

Cons

- Deep floor plates
- Off balanced unit typology
- Tight crotch opening with less access to daylight.







Design Rationale and Policy Compliance Strategies and Explorations Design Iterations

Refinement 1, L-Shaped with Return



Density: **2.80**

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

86% Regular Units: 124

Total Units: 144

8% Inboard Units: 12

6% City Home Units: 8

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.

Refinement 2 - Pre-Application AUDP Design

L-Shaped Stepped



Density: 2.80

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

78% Regular Units: 112

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.



Total Units: 144



6% City Home Units: 8

Cons

• Widen south end shortened the connection point from BCR9 to BCR7.

P+A ZGF



Design Rationale and Policy Compliance Strategies and Explorations | Courtyard Study



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Submission Requirements



Submission Requirements **REAP Checklist** | 1/3

	Proiect	Inform	ation		
Developer	UBCPT				
Architect	ZGF Archite	cts			
REAP Consultant:	E3 Eco Grou	up Inc.			
Project Name:	Evolve	•			
Neighbourhood	Wesbrook P	lace			
Lot No.:	BCR 8				
Street Address:					
Project Stage:	DP				
UBC DP Reference No.:					
Date of Review:					
Date of Submission:					
Date of Complete Submission:					
CREDITS	Mandatory	Max	Score		
Sustainable Sites (SS)	complete	10	4		
Vater Efficiency (WE)	-	18	10		
nergy & Atmosphere (EA)	-	52	21		
laterials & Resources (MR)	-	18	1		
ndoor Environmental Quality (IEQ)	-	8	6		
Construction (CON)	-	4	2		
nnovation & Design Process (ID)	-	24	14		
Subtotal		134	58		
OTAL		134	58		
RFAP Rating	58	GOI D(15-60 pts)		
45-60 pts	;	Gold			
61-75 pts	;	Gold Plu	us		
76-100pts	i	Platinur	n		

		The intern of the sustainable sites category is to reduce the negative impacts of development, ma enhances the microclimate.	aintain t	ne natural la	ndscape, ve	getation an	o environmental atmoutes of the site and provide new landscaping that
SS		MANDATORY	Score	4 Points	Subm	ission	Mandatory points achieved
SS	M1	Storm Water Management Plan Require all new construction projects detain the 10-year, 24-hour storm volume and discharge at the 2-year, 40-hour pre-development rate on site or at a designated centralized facility using low- impact development and green infrastructure strategies.	М	М	BP		
	M2	Adapted and Ecologically Sound Planting Demonstrate that landscape design has minimized the need for pesticides and irrigation through the selection of dataphive and drought-tolerant plants and consideration of the principles of integrated Pest Management and veriscaping.	М	М	BP		
	M3	Bicycle Storage Provide covered bicycle storage facilities including 1.5 parking spaces per dwelling unit or individual parking garages for Class I use, and 0.5 bicycle parking spaces per dwelling unit for Class II use in accordance with The UBC Development Handbook.	М	М	BP		
	M4	Contribution to Community Car Sharing Contribute to the development of a community car-sharing network by funding the equivalent of one community vehicle per 100 residential units.	М	М		OP	
	M5	Electric Vehicle Charging-Resident Provide a minimum of one energized level 2 outlet per residential unit for non-rental developments or provide energized outlets for 50% of resident parking stalls for rental developments. Level 2 charging capacity that provides a minimum of 40A service and a minimum performance level of 12 kVM per stall, over an eight (8) hour period must be provided. Load sharing (up to four-way) and load management systems may be utilized. Exceptions may be granted in cases where utility mandated transformer upgrades are required.	2	2	BP		
	M6	Light Pollution Reduction Do not exceed the current Illuminating Engineering Society (IES) illuminance requirements as stated in Lighting for Exterior Environments.	М	М	BP		
	M7	Recycling Collection Provide for collection of domestic paper, plastic, glass and metal recyclables by contracting with a waste management company for the service. Recycling storage space shall be designed in accordance with Metro Vancouver's Technical Specifications for Recycling Amenities.	М	м	BP	OP	
	M8	Compost Collection Provide a space in the building for the collection compost and provide for the compost collection through a contract with UBC Waste Management or another waste management service provider. Design the space in the building in accordance with Metro Vancouver's Technical Specifications for Recycling Amenities.	М	М	BP	OP	
SS SS	1.1	OPTIONAL In-Suite Recycling and Compost Separation Provide a space and system for simplified separation and collection of recycling and compostables in each suite or unit.	2	X	BP		
SS	2 2.1	ALTERNATIVE TRANSPORTATION Additional Bicycle Facilities	2	2	BP		
	2.2	In adultant to the requestions to the performance of the performance o	2	?	BP		
	2.3	equipped with Level 2 charging station. Electric Vehicle Charging Stations - Resident Instal Level 2 charging stations for the following percentage of owners'/residents' parking. 1% of owners'/resident' artition = Dente.	2	x	BP		
		20 6 or owners i resources parking – 1 Points 10% of owners/residents' parking – 1 Points Performance Category: Water Performance Category: Water Efficiency (WE)	18	Points			
		The intent of the Water Efficiency category is to encourage strategies that reduce the amount of p	otable v	vater used fo	r landscape	e irrigation a	and building operations.
WE		MANDATORY	Score	: 10 Points	Subm	ission	Mandatory points acheived
WE	M1	Efficient trrigation Technology Design and install a water-efficient irrigation system that includes an automated controller, rain or soil sensors and pressure regulator and for non-grass areas use a micro- or drip-feed irrigation or install a temporary irrigation system.	М	м	BP		
	M2	Low-Flow Faucet Aerators Specify and install low-flow faucets with aerators in all bathroom sinks (max. 3.8 L per minute) and in all kitchen sinks (max. 6.8 L per minute).	М	М	BP		
	M3	Low-Flow Showerheads Specify and install water-saving showerheads with a maximum flow rate of 8.5 L per minute in each shower.	М	M	BP		
	M4	Energy Star Clothes Washers Specify and install Energy Star-labelled clothes washers and dishwashers in each unit, or specify and offer only Energy Star models if these appliances are optional.	М	М		OP	
WE	1.1	UP IUMAL WATER EFFICIENT LANDSCAPING Reduce Potable Water Use Reduce potable water use for site imgation needs by 50% from the calculated mid-summer baseline.	3	3	BP		
	1.2	Eliminate Potable Water Use Eliminate potable water use for site irrigation needs.	3	X	BP		









Submission Requirements **REAP Checklist** | 2/3

WE	2	WATER USE REDUCTION Low-Flow Showerheads	2	2	BP		2.1 Future Renewable Electricity		-
		Specify and install water-saving showerheads (maximum of 5.7 L per minute) in each shower					Pre-wire buildings and provide installation space for future use of photovoltaic technol other resemble clothick according	logies or	
	2.2	Water Efficient Dishwasher	1	x		OP	2.2 Renewable Electricity Utilization		-
		Specify and install water-efficient dishwashers that use ≤ 11 L (2.91 gal) per normal wash cycle or if dishwashers are available only as an option, specify and offer only models complying with					Utilize photovoltaic technologies or other renewable electricity generation for a portion building's electrical supply	n of the	
		this credit.					2.3 Low-Carbon District Energy Utilization		1
	2.3	Most Efficient Clothes Washers Soecify and install Energy Star clothes washers listed as "Most Efficient" (for the year in which	2	x		OP	Connect to the District Energy System for the building's thermal energy supply in prep transition to renewable energy in the future.	paration of	
		the Building Permit is received), or if washers are available only as an option, specify and offer					Performance Category: Materials & Resources (MR)		l
	2.4	Water Use Reduction Package	2	x		OP	The intent of the Materials & Resources category is to encourage design strategies th preferable	at reduce a	2
w	-	Additional credit for achieving credits: WE 1.1, WE 2.1, WE 2.2 and WE 2.3.							l
WE	3.1	WATER METERING Domestic Hot Water metering	3	3	BP		MR OPTIONAL		1
		In units with central hot water, provide individual hot water metering.		_			MR 1 RECYCLED CONTENT AND REUSED MATERIALS		
	3.2	Provide for individual cold water meters for all units.	2	2	BP		1.1 Reused Building Materials Use salvaged, refurbished, or reused materials for at least 5% of the total cost of build	dina	
		Performance Category: Energy & Atmosphere (EA)	52	Points	ud to roduco	the environmental impacts of energy use particularly emissions of least regional	materials	,	
		global air pollutants and greenhouse gases.	mergy re	isources ar	ia to reduce	the environmental impacts of energy use, particularly emissions of local, regional	1.2 Reused Building Materials Use salvaged, refurbished, or reused materials for at least 10% of the total cost of built	ldina	
			Secre	. 21		Mandatany points appaived	materials.		
EA		MANDATORY	ocore	Points	Sub	nission	1.3 Recycled Content Materials Specific and use huidding materials with the following required content locator		
EA	M1	Minimum Roof Insulation	М	м	BP		Common area carpet with minimum 25% recycled content reveals		
		for buildings with attic space and R-28 h·ft ² ·°F/Btu (4.93 °K-m ² /W) for cathedral ceilings/flat		1			Drywall with minimum 15% recycled content Batt insulation with minimum 40% recycled content		
	Mo	roots. Minimum Exterior Wall Insulation	M	-	PD		Doors contain minimum 15% recycled material		
		Design the exterior insulated wall area with a minimum thermal resistance of effective (overall) R			Di		Concrete with min. 20% fly ash content, excluding suspended slabs Concrete with min. 40% fly ash content, excluding suspended slabs		
		15.6 n·tt··Tr/btu (2.75 "K-m2/W) for above grade non-glazed wall areas, and R-7.5 h·ft ^{2,o} F/Btu (1.32 "K-m2/W) "continuous insulation" for below grade walls.					Cabinetry with minimum 20% recycled content		
	M3	Minimum Floor Insulation	М	м	BP		MDF products with minimum 50% recycled content		
		Design floors above non-heated parkade areas with a minimum insulation value of R-30 h·ft ^a ·F/Btu (5.28 °K-m2/W) for framed floors and R-15.6 h·ft ^a ·°F/Btu (2.75 °K-m2/W) for slab		1			Minimum four recycled content items on list above 1 point		
		floors.			-		All eight recycled content items on list above 2 points MR 2 DECIDANAL MATERIAL CONTROL OF		•
	M4	Energy Efficient Windows Specify and install Energy Star-rated windows or windows with a maximum overall U-value of	M	M	BP		recipionally Manufactured Building Materials		-
		0.35 Btu/hr-ft2-°F (2.0 W/m2-°K for non-metal framed windows or a maximum overall U-value of 0.45 Btu/hr-ft2-°F (2.55 W/m2-°K) for metal framed windows		1			Use a minimum of 20% (by value) of building materials and products that are manufact within a radius of 800 km (500 miles)	ctured	
	M5	Minimum Boiler Efficiency	м	м	BP				
		Specify and install boilers with a minimum thermal efficiency of 84% /AFUE of minimum 90%.					2.2 Regionally Sourced Building Materials Of the materials from Credit MR 2.1 use a minimum of 50%. (hv value) of huildion mat	terials and	
	M6	Domestic Hot Water	М	м	BP		MR 3 CERTIFIED AND NON-ENDANGERED FOREST PRODUCTS		
		Specify and install gas DHW boilers with a minimum efficiency of 84% (mid-efficiency boiler).		1			3.1 Dimensional Lumber and Plywood Demonstrate that a minimum of 50% of the total value of dimensional lumber and new	wood is	
	M7	Energy Star Dishwashers and Refrigerators	м	м		OP	continue or a contained of the second and the secon		
		Specify and install Energy Star-labelled dishwashers and refrigerators in each unit.		-			USA 2889 - 2 Points Or Forest Stewardship Council (FSC) - 3 Points		
	M8	Programmable Thermostats Specify and install programmable thermostats for at least the largest heating zone in each unit.	м	м	BP		3.2 Hardwood Floors		
	140	Common Area Liabilian					Specify and install bamboo floors or hardwood floors certified in accordance with the Stewardship Council or CSA 2509. If floors are offered only as an option, specify and	⊢orest offer only	
	n19	Specify and install only non-incandescent lighting, such as fluorescent, compact fluorescent or	M	"	вр		bamboo or renewable products with third-party certification. CSA 2809 – 2 Points		
	M10	LED, in common areas. Parkade and Corridor Lighting Controls	м	м	BP		Or Forest Stewardship Council (FSC) – 3 Points		
		Specify and install parkade and corridor lighting controls to automatically reduce the overall					MR 4 BUILDING PRODUCT INGREDIENTS 4.1 Transparency of Ingredients		•
	M11	Ingriung revel by at least 30% in a lighting zone when the zone is unoccupied. Energy Modeling Workshop	2	2	BP		Install ten different building products from three different manufacturers that evaluate	and	
		Model the energy performance of the building and hold a workshop with the design team, a					disclose the chemical inventory of the product to an accuracy of 0.1% for each produc product selected provide either:	t. For eac	h
		contractor to evaluate the results and optimize the design of the building.					Health Product Declaration Manufacturer Inventory of all incredients by CAS number of		
	M12	Commissioning	4	4	BP	OP	Dedare Label (Living Building Institute)		
		contract a third party Commissioning Authority to develop and implement a commissioning plan for all major building energy systems and verify they are installed, calibrated and perform		1			4.2 Optimization of Ingredients	inger die .	;
E^		according to design intent.		I			Content by demonstrating optimization in one of the following ways:	ingrédien	1
54		Design and construct the building to meet BC Energy Step Code (ESC). The building design					Green v1.2 benchmark 4 minimum Red List free		
		must meet mandatory or optional ESC Step targets, below, and meet the requirements of Section 10.2.3 of the BC Energy Step Code Regulation. The Energy		1			Free of ingredients listed on REACH Authorization and Candidate List		,
		Step Code includes energy targets and an air tightness testing requirement.					Performance Category: Indoor Environmental Quality (IEQ) The intent of the Indoor Environmental Quality category is a chieve enhanced indoor	r environm	1
		Building Envelop Airtightness Testing	2	2	BP	OP			
		An airtightness test meeting ASTM E779 or USACE Version 3 standard, as required by the Energy Sten Code							ľ
		Energy Step Code Step 2	6	6	BP	OP	IEQ MANDATORY IEQ M1 Adhesives and Sealants		
F۵	I	130 kWh/m2-yr (TEUI) and 45 kWh/ m2-yr (TEDI). This credit is mandatory. OPTIONAL		I			Specify and use adhesives, sealants and sealant primers that are Ecologo certified o	r do not	
5		Energy Step Code Step 3	8	X	BP	OP	exceep the VoL limits in the south Clease Air cutality Management District (SCACMD) #1168 on the interior of the building.	y rtule	
		120 kWh/m2-yr (TEUI) and 30 kWh/ m2-yr (TEDI). This credit is optional. Energy Step Code Step 4	15	X	BP	OP	M2 Paints and Coatings	ninimum	
		100 kWh/m2-yr (TEUI) and 15 kWh/ m2-yr (TEDI). This credit is optional.				0.0	Speciny and use paints and coarrigs that carry an Ecologo label or those rated at a m GPI-1 by the Master Painter's Institute on the interior of the building.	=1mum	
		Passive nouse Energy Performance Design and construct the building to conform to the Passive House Planning Package, version 9	5	X	BP	UP	M3 Floor Coverings Snarky and install namet and carnel nucleion that even the following partificationer / a	imet and	
		or newer, meeting the requirements of Section 10.2.3.3 (3) of the Energy Step Code Regulation. This credit is optional.					Rug Institute Green Label Plus.		
EA	1	ENERGY METERING	I	1			M4 Ventilation Effectiveness Prepare and implement an effective air management strateov that meets the reouirem	nents of the	8
_	1.1	Thermal Energy Sub-Metering Provide separate metering in individual units for measuring thermal energy consumption used for	1	1	BP		current versions of CANCSA F326 or ASHRAE-62.1 or 62.2 as applicable to the build confinuation	ding	Ì
		space heating.							
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tion waste, and to select building materials that are environmentally	
nd application of materials and effective ventilation strategies.	
Mandatory points acheived	
	28-07-20







Submission Requirements **REAP Checklist** | 3/3

IEQ	-							
IEO	4	OPTIONAL						
IEQ	1.1	LOW-EMITTING MATERIALS	2	2		OP		
		Specify and use paints and coatings rated at a minimum GPS-2 by the Master Painter's Institute						
	12	on the interior of the building.	2	2		0.0		
	1.2	Specify and install interior composite wood products, such as flooring, doors, trim, etc., that are	2	2		UF		
		low emitting or have no added urea formaldehyde. Cabinetry is excluded from this credit.						
	13	I ow-Emitting Insulation	2	2		OP		
	1.5	Specify and install formaldehyde-free insulation on the interior of the building.	-	-		01		
	1.4	Low -Emitting Cabinetry	2	?		OP		
		Specify and install interior cabinetry doors and boxes that are are low emitting or contain no						
		added urea formaldehyde. Performance Category: Construction (CON)	4	Points				
		The construction process can impose significant and lasting impact on the ecology of both the site	e and be	yond. The C	onstruction	credits ack	nowledge and reward contractors who have followed best practices.	
			Score	2			Mandatory points acheived	
CON	M1	MANDATORY Staging and Construction	м	Points	Subm	ission OP		
		Prepare and implement a staging and construction plan, including alternate detour information						
	Ma	and signage for pedestrians and cyclists.	м	м		OP		
	mLZ	Prepare a site plan showing the sizes and locations of vegetation to be removed, retained and	m			Jr		
		salvaged, including plants located on adjacent public rights-of-way (see reference guide) and develop a plan to effectively bandle debris from land clearing and divert it from landfill diseased		1				
	Mo	Truck Management Dan	й			00		
	- mi J	Prepare and implement a comprehensive truck management plan for the project that conforms to	M	M		UP		
		the UBC Strategic Transportation Plan and the Neighbourhood Plan Development Guidelines.						
	M4	Wheel Wash	м	M		OP		
		Provide a wheel wash for vehicles leaving the site or a street cleaning program and catch basin						
	M5	protection. Frosion and Sedimentation Control	м	M		OP		
	Um	Prepare and implement a Sediment and Erosion Control Plan that conforms to the City of	m			Jr		
		Vancouver Bulletin 2002-003-EV dated March 1, 2017.						
	M6	Waste Management Plan	м	М		OP		
		Prepare and implement a waste management plan that diverts 75% (by weight) of construction, demolition and land clearing waste from landfill.						
CON		OPTIONAL						
CON	1	CONSTRUCTION IAQ MANAGEMENT PLAN	2	1.2		OP		
	1.1	Prepare and implement an Indoor Air Quality (IAQ) Management Plan for the construction and	2	2		UF		
		pre-occupancy phases of the building.						
	1.2	Flushout / IAQ Test After construction ends and prior to occupancy conduct aminimum two-week continuous building	2	X		OP		
		flushout with new filtration media at 100% outside air or conduct a Baseline Indoor Air Quality						
		Test. Performance Category: Innovation & Design Process (ID)	24	Points				
		Test. Performance Category: Innovation & Design Process (ID) The intent of the Innovation & Design Process category is to provide incentive and credit for gene	24 eral desiç	Points in and other	innovative p	oractices th	at improve the overall sustainability and environmental performance of the	
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ID ID ID	M1 M2 1 1.1 2.1 2.2 2.3 3.1	Test: Parlomance Category: Innovation & Design Process (ID) The intert of the Innovation & Design Process category is to provide incentive and credit for gene project. MANDATORY Goal-Setting Workshop Hidi a goal setting workshop including the developer, design consultants and contractor to review the Residential Environmental Assessment Program, set goals for the project and assign responsibilities. Educate the Homeowere Develop a homeower's manual that promotes sustainable behavior and describes all of the sustainable describes and that promotes sustainable behavior and describes all of the sustainable describes and that promotes sustainable behavior and describes all of the generation of owner/resident. Parloma Life-Cycle Assessment of the project's structure and enclosure and demonstrate a minimum of 5% improvement form a reasonable baseline building for three environmental categories. NTEGRATIVE AND UNIVERSAL DESIGN Green Building Specialist Engage an expert in green buildings and sustainable construction practices to provide advice on efficiency green buildings strules to the design team. Design for Safety and Accessibility Demonstrate hat at least 2% of the units in the building have been designed to meet the ACFERONE safets (thi) Inversement Design for Safety and Accessibility Demonstrate hat the design has been reviewed by an accredited Crime Prevention Through Environmental Design (CFEC) practitioner. MARKET TRANSFORMATION EAUCEMENT	24 rral desig Score M M 1 1 1 1 1	Points 14 Points M M X X X X X X	BP BP BP	OP OP	at improve the overall sustainability and environmental performance of the Mandatory points acheived	
ID ID ID ID	M1 M2 1 1.1 2.1 2.2 2.3 3.1 3.1	Test: Performance Catagory: Innovation & Design Process (UD) The intert of the Innovation & Design Process category is to provide incentive and credit for gene project. MANDATORY Gaal-Setting Workshop Hold a gast setting workshop including the developer, design consultants and contractor to review the Residential Environmental Assessment Program, set gaals for the project and assign responsibilities. Educate the Homeowner Develop a homeowner's manual that promotes sustainable behavior and describes all of the sustainable features of the project instructing the homeowner on their proper use. This meanual thould be included in encod flavming or some form that will be accessible beyond the first generation of owner/rested. INFORMATION IN MATERIALS IEEG-Qiela Assessment Perform a Life-Cycle Assessment Program. INFORMATIVE AND UNATERIALS IEEG-Qiela Assessment Improvement from a reasonable baseline building for three environmential categories. INTEGRETURE AND EXERCISE Perform a Life-Cycle Assessment Improvement from a reasonable baseline building for three environmential categories. INTEGRETURE AND EXERCISE Perform a Life-Cycle Assessment Perform a Compervence Perform a Life-Cycle Assessment Perform a Compervence Perform a Compervence Perform Perform a Compervence Perform Perform a Compervence Perform Perfor	24 score: M M 4 1 1 2 1	Points an and other Points M M X X X X X X	BP BP BP	OP OP	at improve the overall sustainability and environmental performance of the Mandatory points acheived	28-07-20
ID ID ID ID	M1 M2 1 1.1 2.1 2.2 2.3 3.3 3.1	Test: Performance Gatagory: Innovation & Design Process (UD) The intert of the Innovation & Design Process category is to provide incentive and credit for gene project. MANDATORY Gaal-Setting Workshop Hold agoal setting workshop including the developer, design consultants and contractor to review the Residential Environmental Assessment Program, set gaals for the project and assign responsibilities. Educate the Homeowere: Develop a homeower's manual that promotes sustainable behavior and describes all of the sustainable features of the project instructing the homeower on their proper use. This manual biolub is included in record drawings or some form that will be accessible beyond the first generation of owner/resident. Perform ALIC-Opt Assessment Program Profile Assessment Profile Asset Profile Profile Assessment Profile Assessment P	24 Score M M 1 1 1	Points 14 Points M M X 1 X X X	BP BP	OP OP OP	at improve the overall sustainability and environmental performance of the Mandatory points acheived	28-07-20
ID ID ID ID	M1 M2 1 1.1 2.1 2.2 2.3 3.1	Test: Performance Gatagory: Innovation & Design Process (UD) The intert of the Innovation & Design Process category is to provide incentive and credit for gene project. MANDATORY Gal-Setting Workshop Hold a gat setting workshop including the developer, design consultants and contractor to review the Residential Environmental Assessment Program, set gaals for the project and assign responsibilities. Educate the Homeowner Develop a homeowner Oreview to Residential Environmental promotes sustainable behavior and describes all of the sustainable features of the project instructing the homeowner on their proper use. This manual should be included in record drawing or some form that will be accessible beyond the first generation of owner/resident. EMFORM Like-QA Assessment Profrom ALIK-QA Assessment of the project structure and enclosure and demonstrate a minimum of 5% improvement from a reasonable baseline building for three environmental categories. MTEGRATIVE AND UNIVERSAL DESIGN Green Building Spacialist Design for Safery and Accessibility Demonstrate that the design has been reviewed by an accredited Crime Prevention Through Environmal Design (PTEP) graditioner. MARKET TRANSFORMATION Educate the design has been reviewed by an accredited Crime Prevention Through Environmatu Design (PTEP) graditioner. MARKET TRANSFORMATION Educate the safers Staff Develop marketing materials based on the environmental performance of the project and ensure the sales staff is aware of and knowledgeable about the green building features.	24 score: M M 4 1 1 1	Points 14 Points M N X X	BP BP BP	OP OP	at improve the overall sustainability and environmental performance of the Mandatory points acheived	28-07-20

ID	4	ACADEMIC LINKS					
	4.1	Enhance Research or Further Student Development	5	5	BP	OP	
		Collaborate with UBC students and/or faculty on a research project or other opportunities to enhance the academic mission of the University and integrate it with the community. The research project should be concurrent with, and applicable to, the current project.					
	4.2	Energy Data Sharing Incorporte a data sharing agreement into the sales contracts or strata constitution that allows building aggregate energy data to be collected for use by the UBC Sustainability and Engineering, Campus & Community Planning.	4	4	BP	OP	
ID	5	INNOVATIVE DESIGN					
	5.1	Innovative Design or Exemplary Achievement Demonstrate exceptional performance above the requirements set by one of the existing credits or the implementation of an innovative design strategy not specifically addressed by any of the existing credits.	2	2		OP	REAP 3.2 W 1.1 Pilot Credit
	5.2	Innovative Design or Exemplary Achievement Demonstrate exceptional performance above the requirements set by one of the existing credits or the implementation of an innovative design strategy not specifically addressed by any of the existing credits.	2	2		OP	REAP 3.2 E P4 Pilot Credit
	5.3	Innovative Design or Exemplary Achievement Demonstrate exceptional performance above the requirements set by one of the existing credits or the implementation of an innovative design strategy not specifically addressed by any of the existing credits.	2	?		OP	

BCR9 REAP 3.1 Workbook 2020-M06-03.xls







28-07-20





2. All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree. 4. Any construction active Zone must be approved 3559 COMMERCIAL STREET VANCOUVER PC LVEN 459 Drawing title: Tree Mar								ivities ved by	or grade changes within the Root Protection the project arborist. ement Plan	6.	This plan is provided accuracy of the locati this plan. Please refer	for context only, and is not certified on of features or dimensions that ar to the original survey plan and engi Drawing No: 3 Date: 2020/09/03	as to the e shown on ineering plans. Page #	
	 Increase of the sector of the							one, measured from the outer edge of the stem of the ses diameter was added to the graphical tree protection mmodate the survey point being in the center of the		6.	by the owners' Regist layout drawings provi This plan is provided accuracy of the locati	ered British Columbia Land Surveyor de by the owners' Engineer (P Eng). for context only, and is not certified on of features or dimensions that ar	r (BCLS) and as to the e shown on	
NOTES	1. Th	e location of un-sur	veyed trees on this plan is a	pproximat	e. Their	3.	The tree protection z	ection zone shown is a graphical representation of the			This plan is based on	a topographic and tree location surv	vey provided	
	-0-	TREE PROTECTION	NZONE AND FENCING	U 0 1)	IN-SURVEYED T MUST BE SURV	TREE ' 'EYED	TO BE RETAINED	т	TREE SUITABLE FOR TRANSPLANT	1.	Base Survey by:			
LEGEND		CRITICAL ROOT ZO	DNE	• S	JRVEYED TREE TO BE RETAINED			×	TREE TO BE REMOVED	RE	FERENCE DRAWING	IGS		



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Submission Requirements Site Photos



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Drawing Requirements



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Drawing Requirements **Project Statistics, Detailed**

5768 Gray Avenue, Vancouver, BC

SITE INFORMATION CIVIC ADDRESS

LEGAL DESCRIPTION	
PARCEL IDENTIFIER (PID)	
DEVELOPMENT AREA	
GROSS SITE AREA	

Lot 9 District Lo New Westmins 030-727-812	ot 6494 G ter Distri	Froup 1 St Plan EPP863	50
SC2A	MEDIU	JM DENSITY RE	ESIDENTIAL
47,172 SF	1	4,382 SqM	

SETBACK &	BUILDING HEIGHT INFOR	RMATION								
SITE COVERAGE	ALLOW	PROPOSED								
		55% MAX	49.0%							
SETBACKS		ALLOW	/ED	PROPOSED						
	NORTH (GRAY AVENUE)	8.2 FT /	2.5 m	6.1 FT	to	8.3 FT	1.9	m to	2.5 m	
	SOUTH (BCR 7)	8.2 FT /	2.5 m	12.8 FT	to	13.2 FT	3.9	m to	4.0 m	
	WEST (BCR 8)	8.2 FT /	2.5 m	20.1 FT	to	21.1 FT	6.1	m to	6.4 m	
	EAST (GREENWAY)	8.2 FT /	2.5 m	6.1 FT	to	8.1 FT	1.9	m to	2.5 m	
BUILDING HEIGHT		ALLOW	/ED	PROPOSED						
		6 STOR	EYS	6 STOREYS						
		75.46 FT /	23.00 m	63.00 FT	1	19.20 m TO	TOP OF PARAF	ET, TYP	ICAL	
				65.00 FT	1	19.81 m TO	TOP OF PARAF	ET, AT I	RAME	
				68.67 FT	1	20.93 m TO	TOP OF ELEVA	TOR OV	ERRUN	
				70.00 FT	1	21.34 m TO	TOP OF SERVIC	E STAI	२	
				72.42 FT	1	22.07 m TO	TOP OF MECHA	NICAL !	EQUIPMENT	

PARKING & LOADING CALCULATIONS		
PARKING STALLS PERMITTED:		
FACULTY AND STAFF RENTAL (NON-MARKET HOUSING)	144 STALLS	1.0 STALL PER PRINCIPAL DWELLING UNIT
VISITOR	15 STALLS	0.1 STALL PER PRINCIPAL DWELLING UNIT
TOTAL PARKING SPACES PERMITTED:	159 STALLS	
OF WHICH:		
ACCESSIBLE STALLS	15 STALLS	0.1 STALL PER PRINCIPAL DWELLING UNIT
PARKING STALLS PROVIDED:		
RESIDENTIAL PARKING STALLS	95 STALLS	0.66 STALLS PER PRINCIPAL DWELLING UNIT
VISITOR STALLS	6 STALLS	6% OF TOTAL PROVIDED STALLS
TOTAL PARKING STALLS PROVIDED	101 STALLS	
OF WHICH:		
ACCESSIBLE STALLS	11 STALLS	10.9% OF TOTAL STALLS
SMALL STALLS	25 STALLS	24.8% OF TOTAL STALLS (MAXIMUM 25% ALLOWABLE)
STANDARD	65 STALLS	64.4% OF TOTAL STALLS

BICYCLE STORAGE CALCULATIONS		
BICYCLE SPACES REQUIRED:		
FACULTY AND STAFF RENTAL (NON-MARKET HOUSING)	216 CLASS I STALLS	1.50 SPACES PER DWELLING
REAP 3.1 - SS 2.1 - ADDITIONAL BIKE FACILITIES	77 CLASS I STALLS	0.25 SPACES PER BEDROOM + IN-BUILDING REPAIR STATION
TOTAL CLASS I BIKE STALLS	293 CLASS I STALLS	
CLASS II	72 CLASS II STALLS	0.50 SPACES PER DWELLING
BICYCLE SPACES PROVIDED:		
TOTAL CLASS I BIKE STALLS	360 CLASS I STALLS	2.50 SPACES PER DWELLING
OF WHICH:		
HORIZONTAL BIKE STORAGE	302 CLASS I STALLS	
VERTICAL BIKE STORAGE	58 CLASS I STALLS	16.1% OF TOTAL STALLS
TOTAL CLASS II BIKE STALLS	46 CLASS II STALLS	
OF WHICH:		
	38 STALLS	82.6% LOCATED ON-SITE
	8 STALLS	17.4% LOCATED OFF-SITE (OUTSIDE OF PROPERTY LINE)
STORAGE LOCKER CALCULATIONS		
STORAGE LOCKER REQUIRED BY UBCPT		
FACULTY AND STAFF RENTAL (NON-MARKET HOUSING)	48 LOCKERS	1.00 LOCKER FOR EACH 3 BED, 3 BED+DEN, AND 4 BED DWELLING
		UNITS INCLUDING THE 8 CITY HOMES
STORAGE LOCKER PROVIDED		
STORAGE LOCKERS	47 LOCKERS	0.33 LOCKERS PER DWELLING

- Reducing the number of vehicle parking stalls required for visitors from 0.1 stall per principal dwelling unit (15 stalls required) down to 6% of total vehicle parking stalls provided (6 stalls) for visitor use. Using recent projects as a precedent, this reduced parking ratio provides a sufficient 1 number of stalls for its intended use within a minimal amount of parkade levels.
- 2 Reducing the number of accessible parking stalls required from 0.1 stall per principal dwelling unit (15 stalls required) down to allocating and sizing 10% of the provided vehicle parking stalls (11 stalls) for accessible use only. Using recent projects as a precedent, this reduced parking stalls and sizing 10% of the provided vehicle parking stalls (11 stalls) for accessible use only. ratio provides a sufficient number of stalls for its intended use within a minimal amount of parkade levels.
- Reducing the number of Class II bike stalls required from 0.5 stall per dwelling (72 stalls required) down to 0.32 stall per dwelling (46 stalls provided). Proposing to share Class II bike stalls across BCR8 (110 residential units) and BCR9 (144 residential units) as the two sites share a 3 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). - BCR 8 = 48 stalls (20 onsite in the courtyard, 28 offsite on Gray Avenue and Wesbrook Mall. - BCR 9 = 46 stalls (38 onsite in the courtyard, 8 offsite on Gray Avenue by the building entrance.
- 4 17.4% of Class II bike stalls (8 stalls) are place outside of the property line. These offsite bike stalls are placed by the building entrance off Gray Avenue, where such placement provides easy access and better utilization.
- 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. 5 FSR area projection encroaching into the 2.5m setback from Level 3 to Level 5 at northeast corner of the site along the future park pathway. Encroaching into the setback by 0.65m over a length of 7.05m.

AREA SUMMARY TOTAL RESIDENTIAL AREA (INCLUDED FROM FSR) (INCLUDED FROM FSR) TOTAL INTERIOR CIRCULATION & LOBBY AREA TOTAL SERVICES (INCLUDED FROM FSR) TOTAL AMENITY AREA (EXCLUDED FROM FSR) TOTAL GROSS FLOOR AREA DEDUCT: IN-SUITE UNIT STORAGE (EXCLUDED FROM FSR) (MAX. ALLOWABLE 40 SF / BUILDING EFFICIENCY (RESIDNETIAL AREA / GROSS FLOOR AREA) FSR (FLOOR SPACE RATIO) ALLOWED 132,081 SF / 2.80 FSR

AMENITY SPACE CALCULATIONS										
AMENITY	ALLOWED				PROPOSED					
	13,869 SF /	1,288 SqM	10%	OF TOTAL GFA	1,077 SF / 100 SqM 0.78% OF TOTA	AL GFA				
					INDOOR AMENITY & GU	INDOOR AMENITY & GUEST SUITE				

AREA B	REAKDOWN BY	FLOOR												
					FSR INCL	USION				FSR EXCLUSION				
LEVEL	GFA		RESIDENTIAL	UNITS	CIRCULATION SERVICES		AMENITY	AMENITY		IN-SUITE STORAGE		FLOOR AREA CONTRIBUTE TO FSR		
LEVEL 1	23,166 SF /	2,152 SqM	19,167 SF /	1,781 SqM	2,694 SF /	250 SqM	227 SF	/ 21 Sq	M 1,077 SF /	100 SqM	1,000 SF /	93 SqN	21,088 SF	/ 1,959 SqM
LEVEL 2	23,166 SF /	2,152 SqM	21,342 SF /	1,983 SqM	1,721 SF /	160 SqM	102 SF	/ 10 Sq	M - /	-	760 SF /	71 SqN	22,406 SF	/ 2,082 SqM
LEVEL 3	23,125 SF /	2,148 SqM	20,966 SF /	1,948 SqM	2,056 SF /	191 SqM	102 SF	/ 10 Sq	M - /	-	1,000 SF /	93 SqN	22,125 SF	/ 2,055 SqM
LEVEL 4	23,125 SF /	2,148 SqM	20,966 SF /	1,948 SqM	2,056 SF /	191 SqM	102 SF	/ 10 Sq	M - /	-	1,000 SF /	93 SqN	22,125 SF	/ 2,055 SqM
LEVEL 5	23,125 SF /	2,148 SqM	20,966 SF /	1,948 SqM	2,056 SF /	191 SqM	102 SF	/ 10 Sq	M - /	-	1,000 SF /	93 SqN	22,125 SF	/ 2,055 SqM
LEVEL 6	22,986 SF /	2,135 SqM	20,827 SF /	1,935 SqM	2,056 SF /	191 SqM	102 SF	/ 10 Sq	M - /	-	1,000 SF /	93 SqN	21,986 SF	/ 2,043 SqM
TOTAL	138,692 SF /	12,885 SqM	124,236 SF /	11,542 SqM	12,640 SF /	1,174 SqM	739 SF	/ 69 Sq	M 1,077 SF /	100 SqM	5,760 SF /	535 SqM	131,855 SF	/ 12,250 SqM

RESIDENTIAL AREA BREAKDOWN

UNIT MIX												
					NUMBER OF UNIT	S PER FLOOR			TOTAL UNITS IN			
UNIT TYPE	UNIT AREA RANGE	AVG. UNIT SIZE	L1	L2	L3	L4	L5	L6	BUILDING	% OF TOTAL	TOTAL AREA	
STUDIO	386 SF - 523 SF	435 SF / 40 SqM	4	2	2	2	2	2	14	9.7%	6,088 SF /	566 SqM
ONE BED	521 SF - 547 SF	533 SF / 50 SqM	1	3	2	2	2	2	12	8.3%	6,396 SF /	594 SqM
ONE BED + DEN	613 SF - 646 SF	628 SF / 58 SqM	1	2	2	2	2	2	11	7.6%	6,910 SF /	642 SqM
TWO BED	689 SF - 729 SF	709 SF / 66 SqM	2	2	5	5	5	5	24	16.7%	17,026 SF / 1	,582 SqM
TWO BED + DEN	761 SF - 1,077 SF	869 SF / 81 SqM	5	6	6	6	6	6	35	24.3%	30,428 SF / 2	,827 SqM
THREE BED	851 SF - 986 SF	951 SF / 88 SqM	-	-	2	2	2	2	8	5.6%	7,611 SF /	707 SqM
THREE BED + DEN	1,086 SF - 1,470 SF	1,204 SF / 112 SqM	7	1	3	3	3	3	20	13.9%	24,084 SF / 2	237 SqM
FOUR BED	1,148 SF - 1,862 SF	1,285 SF / 119 SqM	5	3	3	3	3	3	20	13.9%	25,691 SF / 2	,387 SqM
TOTAL		863 SF / 80 SqM	25	19	25	25	25	25	144	100%	124,236 SF / 11	.542 SqM

OF WHICH:	REGULAR	INBOARD	CITY HOME	TOTAL
STUDIO	14			14
ONE BED	12	-		12
ONE BED + DEN	11			11
TWO BED	-	24		24
TWO BED + DEN	35	-		35
THREE BED	8			8
THREE BED + DEN	14		6	20
FOUR BED	18		2	20
TOTAL UNITS	112	24	8	144
%	78%	17%	6%	100%



	124,236 SF	1	11,542 SqM
	12,640 SF	/	1,174 SqM
	739 SF	/	69 SqM
	1,077 SF	/	100 SqM
	138,692 SF	/	12,885 SqM
3.72 SqM PER DWELLING UNIT)	5,760 SF	1	535 SqM
	89.6%		

	PROPOSED	
12,271 SqM	2.80 FSR 131,855 SF /	12,250 SqM
	*WITH MAXIMUM ALLOWABLE IN-SUITE STORAGE EXCLUS	SION
	**FSR = TOTAL GROSS FLOOR AREA - TOTAL AMENITY AR	EA - IN-SUITE
	UNIT STORAGE	



Drawing Requirements **Context** | UBC



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Drawing Requirements

Context | Wesbrook Place Neighbourhood



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Drawing Requirements **Context** | Wesbrook Place Development Plan



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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)



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Drawing Requirements

Survey Plan

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SKETCH SHOWING TOPOGRAPHIC SURVEY OF LOT 9 DISTRICT LOT 6494 GROUP 1 NEW WESTMINSTER DISTRICT PLAN EPP86350

SCALE 1 : 150 ALL DISTANCES ARE IN METRES





(C) Alco Correnali Resinancion The plan is the exclusive property of larry it Associates and may not be offend or reproduced without written consent of some.	
<u>NOTE</u> :	
THIS PROPERTY MAY BE SUBJECT TO THE FOLLOWING CHARGE:	
EASEMENT BB567951	
NOTE: ALL EXITORS AND INSTRUCTS SOMELARE IN METRICS. ALL EXITORS AND INSTRUCTS SOMELARE IN METRICS. AND ADDRESS AND INSTRUCTS COME DELEVAND (BETHER) ANDROAF IND, AND ANDRESSTE BOLLEVAND) GEORETIC ELEVATION - RASST	
MURRAY & ASSOCIATES PROFESSIONAL LAND SURVEYORS 201-2248 Bord AVENUE SURREY, BC V3W 369 (604) 597-3189	

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FIELD SURVEY: APRIL 1, 2020 FILE 8613CA-294

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Drawing Requirements Shadow Analysis



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Drawing Requirements **Streetscape Datums**



Streetscape Elevation, North | Along Gray Avenue



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Drawing Requirements Streetscape Datums



Streetscape Elevation, East | Along Greenway



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Perspective Views | View from Gray Avenue Looking East





Firewall
 Building Entrance
 City Homes

4 Shared Parkade

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Drawing Requirements

Perspective Views | View of Building Entrance and City Homes





1 Firewall **2** Building Entrance **3** City Homes



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Drawing Requirements Perspective Views Townhouse Entry





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Drawing Requirements

Perspective Views | View from McCrae Lane Looking South





1 Building Entrance 2 Mews 3 Park Beyond

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Perspective Views | View from Gray Avenue Looking West





Firewall
 Building Entrance
 City Homes
 Shared Parkade
 Park Beyond

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Drawing Requirements Perspective Views | View from Park Looking North





1 BCR 8 **2** Direct Access to P1 3 BCR 7









Perspective Views | View of Courtyard





BCR 8
 City Homes
 Shared Parkade

4 Future Development

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Drawing Requirements

Perspective Views | View of Courtyard Looking North







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Perspective Views View in Courtyard Looking South





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Drawing Requirements Floor Plans Parkade Plan



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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

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Legend 0' 2' 4' 8' 16'



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Legend O C

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

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Legend



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Legend \bigcirc 0' 2' 4' 8' 16'



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Drawing Requirements North Elevation | Along Gray Ave.



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Drawing Requirements South Elevation | Along Pathway Connection Between BCR 7, 8 and 9



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	G1	Clear Glazing
Colour Metal Panel, Rustic Yellow	G2	Glass Guardrail,
	G3	Glass Guardrail,
	SP1	Spandrel, Char

C1 Finished Concrete (Planters)





Drawing Requirements **East Elevation** | Along Greenway



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Drawing Requirements West Elevation | Along Courtyard Link Between BCR 8 and 9



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MC3
Colour Metal Panel,
Rustic Yellow





Drawing Requirements Courtyard Elevation | North



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Drawing Requirements Section

<u>LEVEL P1</u> 235.67' / 71.83 m



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5' - 0"

25' - 11"

7.90 m









Drawing Requirements **Landscape** | Context and Circulation Plan



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Drawing Requirements Landscape | Proposed Landscape Concept



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Drawing Requirements Landscape Precedents



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Drawing Requirements Landscape | Key Plan



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Drawing Requirements Landscape | Lighting Plan



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Drawing Requirements Landscape | Planting Plan



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Drawing Requirements Landscape | Sections





Section A - Through Courtyard and Lawn Area











Section B - Through Play Area and Outdoor Amenity











Section C - City Home Patio Along Gray Avenue

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Section D - Northeast Patio Along BC Research Park Pathway

Section E - Southeast Patio Along BC Research Park Pathway



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Drawing Requirements Landscape | Sections



Section F - South Entrace Along Pathway To BC Research Park



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Section G - South Patio Along Pathway To BC Research Park







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Appendix



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.

Safe Lighting Levels and High Visibility

- 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.






Appendix **Sustainability Statement**



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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.



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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 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 preformed in that space.











Appendix 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





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Appendix **Landscape** | Previous Landscape Concept



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Appendix Landscape | Proposed Landscape Concept



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

- (2) The entry door to the bike room has been revised to address CPTED concerns.
- 3 Stormwater connection to the park added.
- (4) 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.
- 5 The patios and planters adjusted to better integrate with the building elevation and to provide for larger planters and more soil volumes.



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Appendix Alternative Parkade Plan | More Bike Storage based on REAP 3.2 Requirement



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PORTLAND 1223 SW Washington Street Suite 200 Portland, OR 97205 T 503.224.3860

SEATTLE 925 Fourth Avenue Suite 2400 Seattle, WA 98104 T 206.623.9414

LOS ANGELES 515 South Flower Street Suite 3700 Los Angeles, CA 90071 T 213.617.1901

WASHINGTON, DC 1800 K Street NW

Suite 200 Washington, DC 20006 T 202.380.3120

NEW YORK 419 Park Avenue South

419 Park Avenue South 20th Floor New York, NY 10016 T 212.624.4754

VANCOUVER, BC 355 Burrard Street

Suite 350 Vancouver, BC V6C 2G8 Canada T 604.558.8390

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www.zgf.com

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