


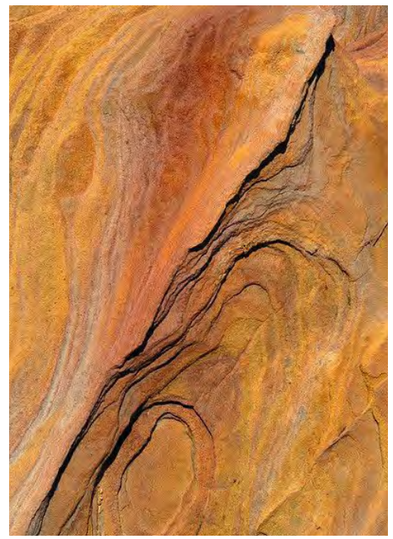

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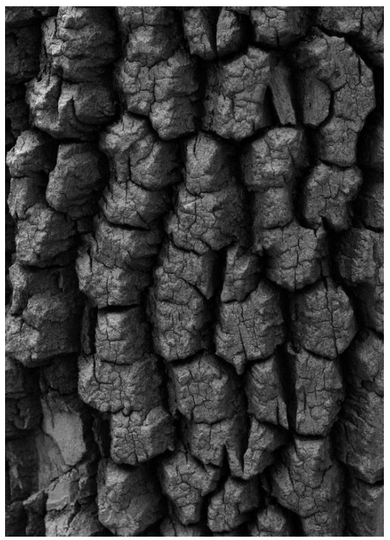
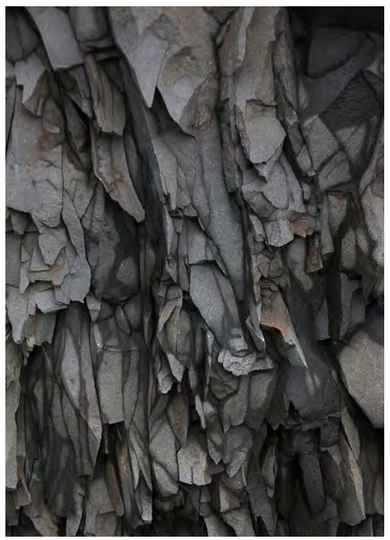

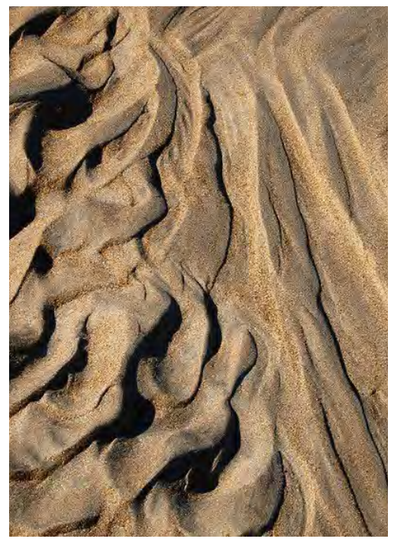

CLIENT:

UBC PROPERTIES TRUST

DESIGN TEAM:

dys architecture

connect
LANDSCAPE ARCHITECTURE

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1.1 CAMPUS CONTEXT

UBC University campus sits in a unique coastal setting, sandwiched between Pacific Spirit Regional Park and the Salish Sea. The campus itself is made up of several thriving neighbourhoods and academic communities. Wesbrook Place is named after Frank Fairchild Wesbrook, the first president of the University of British Columbia. The neighbourhood sits to the south of the UBC campus itself, with a more urban village feel of low and mid-rise residential developments surrounding open green spaces and parks. The primary connection of Wesbrook Mall greenway runs North to South connecting Wesbrook place directly to the heart of the UBC Academic Campus.

> *"The province set aside 3,000 acres in the peninsula as the University Endowment Lands, with the plan to develop housing to financially sustain UBC as a leading teaching and research university."*
>
> *Joanne Proft, Associate Director, Campus + Community Planning*

1. University Boulevard

2. UEL University Marketplace

3. Foreshore Trails

4. Pacific Spirit Regional Park

1.2 NEIGHBOURHOOD CONTEXT

Wesbrook Place has a unique urban character with a community plan focused on facilities within walking distance from the centre of the neighbourhood. The neighbourhood includes a high school, a community centre, rental homes, family and seniors housing options, and includes faculty-staff rental housing and market condominiums. The commercial town centre includes a large grocery store, restaurants, cafes, shops and services.

The village itself radiates from the commercial town centre at the heart of Wesbrook Place, to several mid-rise housing communities each surrounding a public green space. These green spaces are connected either by water features or other hard landscape features to aid in way finding. The high-rise residential towers that fringe Wesbrook Place neighbourhood are set away from the main arterial road of Wesbrook Mall, giving a pleasant scale to the residential developments that surround the village centre.

> *"Create a mixed-use neighbourhood with a distinct "urban village in the woods"character that combines various types and tenures of residential use, a village commercial centre, a community centre and school facilities."*
>
> *1.4.2 Planning Objectives - Wesbrook Place Neighbourhood Plan*

WESBROOK PLACE

BCR SITES

1. Wesbrook Village Centre

2. Academy

3. University Hill Secondary School

4. UBC Botanical Garden Nursery

1.3 SITE CONTEXT

BCR site 6 is just over 10,700 sq.m, making up the southeast corner of the BC Research parcel. The BC Research sites historically contained BC Research buildings, an Ocean Engineering Centre and a Paper and Pulp Research Centre. BCR 6 is a combination of what were previously BCR Lots 5 and 6. The development lots surround a central green park that borders onto the roads of the block on all four sides.

The future research park provides greenway access to Smith Park to the North, Council Trails in Pacific Spirit Regional Park to the East and direct connection to Wesbrook Mall greenway. Across the street from BCR 6 sits a six storey mid-rise residential building called Nobel house which contains staff and faculty housing.,

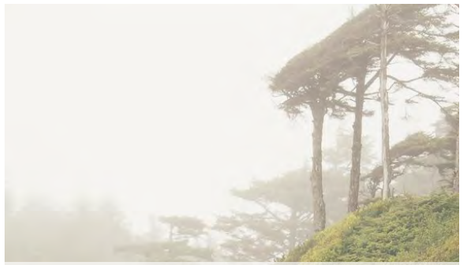
BCR 8 and 9 are under development, with BCR 8 comprised of a six storey wood frame building also containing staff and faculty housing. Some of the unique features of BCR Lot 6 are its primary street frontage on Wesbrook Mall, its secondary street frontage on to Binning Road to the south and the immediate connection to the future research park. Some key challenges to the site are its existing topography, with a 6m grade difference from the NW to SE corners.

1. Evolve - Under Construction

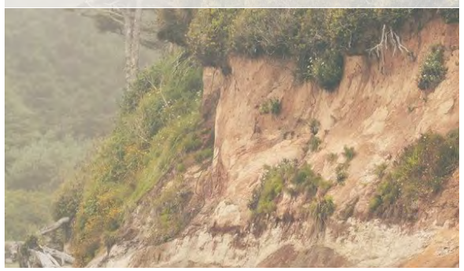
2. Michael Smith Park

3. Nobel House

4. ETC3 - Emerging Technologies Centre for Canada and China



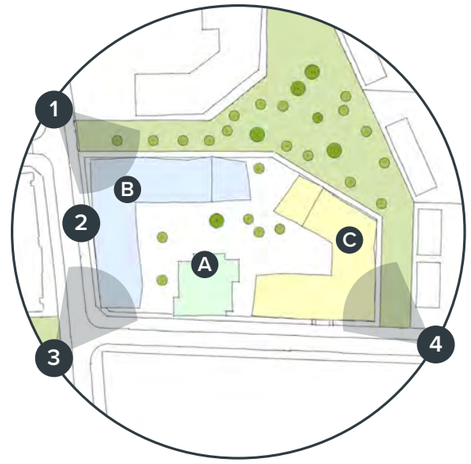
2.0 SITE ANALYSIS



2.1 SITE PHOTOS

Walking downhill along Wesbrook Mall the primary approach to the site is seen in photo 1 from the corner of the intersection of Ross Drive and Wesbrook Mall. Continuing down Wesbrook Mall the road itself is bordered by avenues of trees on both sides. Photo 3 shows the second approach to the site from the corner of Wesbrook Mall and Binning Road. This approach will to be a key view that visitors and residents alike will experience when arriving in Wesbrook Village from the south.

If you continue down Binning Road and turn back on yourself to look at the site, the change in grade becomes apparent. This SE corner of BCR 6 is the lowest point in elevation on the site. Walking south from the centre of the future research park will be an approximate 5% slope.



1. Corner of Ross Drive and Wesbrook Mall

2. Looking South down Wesbrook Mall

3. View from the corner of Wesbrook Mall and Binning Road.

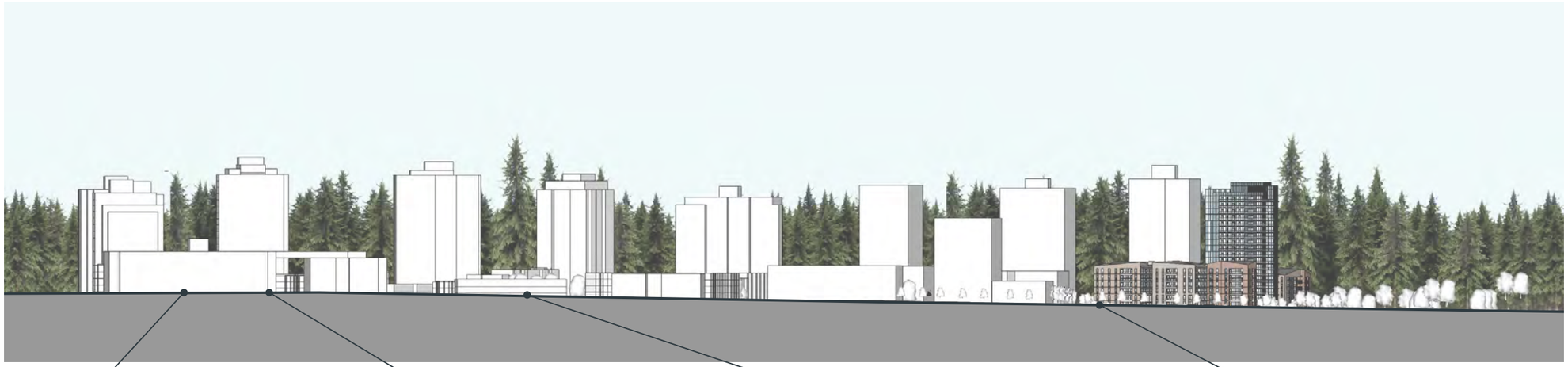
4. View from the SE corner of BCR6

2.2 FABRIC OF THE NEIGHBOURHOOD

The character of Wesbrook Place Neighbourhood is defined by its tree lined avenues, strong village aesthetic and mixture of open and intimate green spaces. Taking a section along Wesbrook Mall itself, this strong physical connection to the main academic campus becomes more apparent in the material palette along the street.

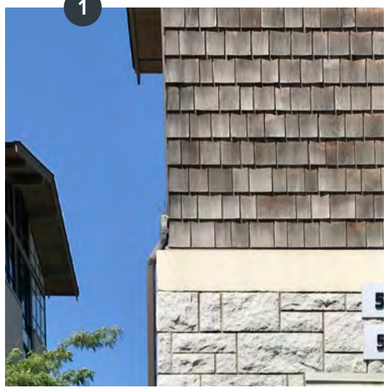
Figure 1 shows the wood and stone tones used for some the key buildings surrounding the heart of the village centre. As you move further down Wesbrook Mall these warm tones are repeated in varying combinations of materials.

> *"Building materials should be selected from a palette of materials deemed appropriate for a predominantly residential neighbourhood to provide some cohesiveness and recall the University character and traditions."*
>
> *3.5.5 Materials - Wesbrook Place Neighbourhood Plan*



GRANITE TERRACE

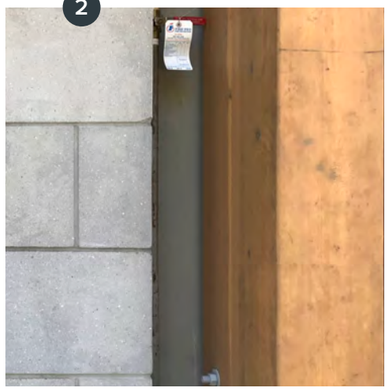
1



5923 Berton Avenue

TAPESTRY

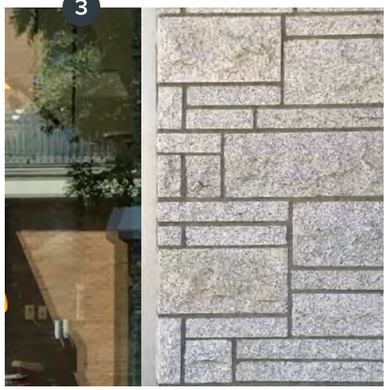
2



3338 Wesbrook Mall

MBA HOUSE

3



3381 Wesbrook Mall

ETON

4

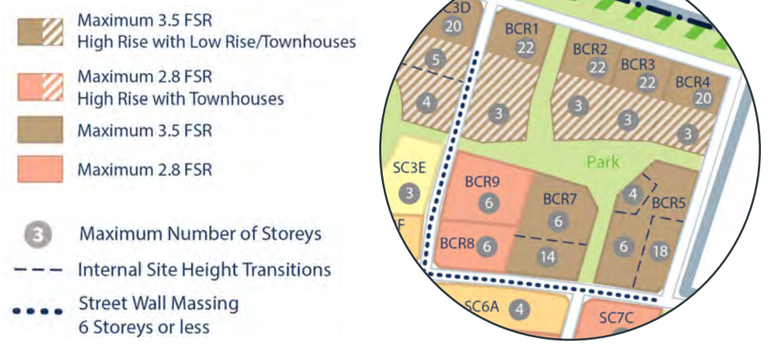
3487 Binning Road

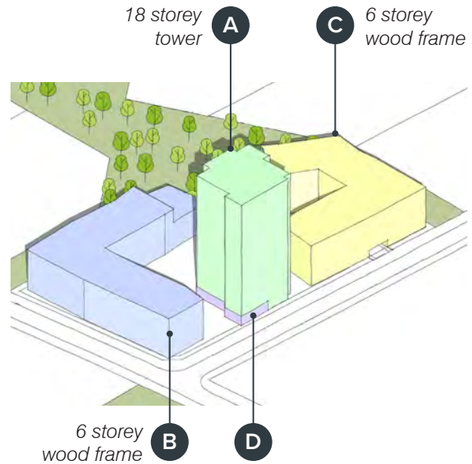
2.3 RESPONSE TO POLICY

The Wesbrook Place Community Plan (Amended April 2020) outlines the maximum density and maximum number of storeys permitted on the site (excerpt below). The 18 storey tower is permitted in a zone along Binning Road with six storey dropping to four storey residential fronting on to the future park. The Community Plan highlights that a six storey street wall is to be maintained along the western site edge fronting on to Wesbrook Mall.

The arrangement of the massing on site is in direct response to several iterations of site massing studies, taking into account the relationship of the tower height and its impact on surrounding existing and future developments. The project program consists of three buildings. Building A is an 18-storey tower with a 6-storey podium fronting onto Binning Road. Building A currently contains a children's day-care on the ground floor. Building B and C are 6-storey wood frame buildings which will house faculty and staff accommodation, stepping down to four stories adjacent to the park.

Neighbourhood Plan





A. Market rental

B. Faculty & Staff Housing

C. Faculty & Staff Housing

D. Childrens Day-care

2.4 DESIGN RESPONSE

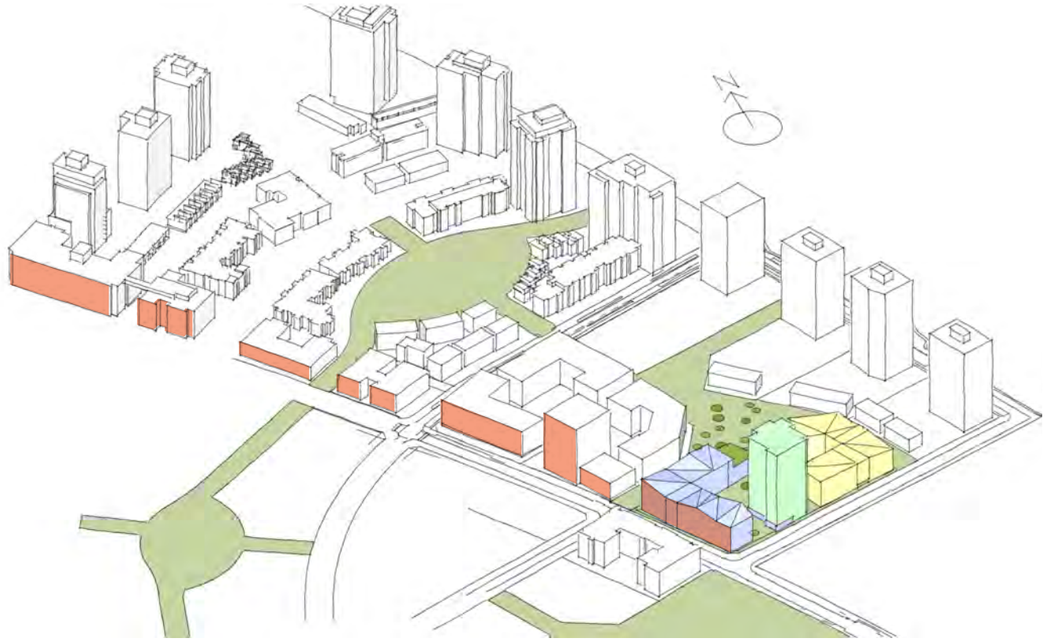
At the beginning of the design process for BCR 6 we identified four main design moves that directly addressed key Design Guidelines in the Wesbrook Place Neighbourhood Plan. These four design responses are outlined on the facing pages:

- The buildings massing and orientation was considered to not only optimize sunlight within the units, but sunlight to the central courtyard.

- All three buildings maintain, a minimum of a 2.5m setback which allows for a more respectful transition from private to public realm.

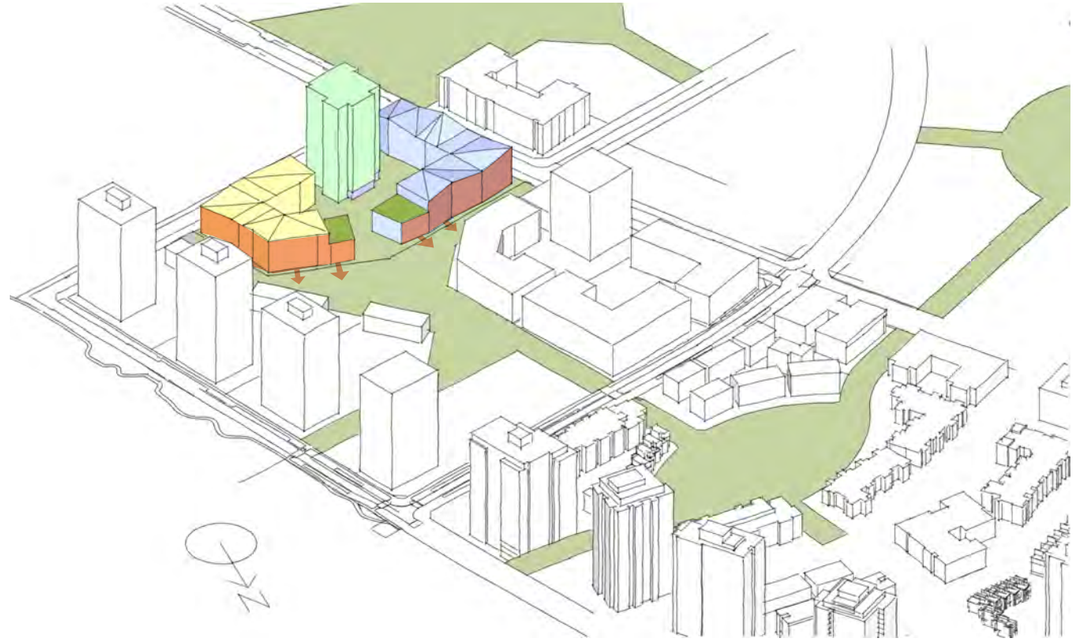
- All ground-oriented units facing the public park and the street, have direct access at street level and park edges, further animating the street scape and pedestrian network.

> *"The design should ensure that as many ground-oriented residential units as possible have direct access from the street and linear open space system in order to animate the street-scape and the pedestrian network."*
>
> *3.5.2 Siting and Orientation - Wesbrook Place Neighbourhood Plan*



1 CONTINUED STREET FRONTAGE

The massing arrangement of BCR 6 retains the six storey street frontage outlined in the Neighbourhood Plan but slightly alters the angle of the roof line to reduce the visual impact of the massing when seen from Wesbrook Mall.



2 STEPPING OUT INTO THE PARK

The 6-storey faculty & staff accommodation wrap the east and west ends to give ground oriented units along these three edges direct access into the park. These buildings step down to four stories adjacent to the park to emphasize the visual connection to the future park and to enhance solar access to the park.

DESIGN RESPONSE

These four primary moves helped shape the architectural form into a rationalised design. Each move individually had a knock on effect to the buildings program - for example locating the childrens day-care on the ground floor of building A rather than building B gave more opportunity for the outdoor play area to be designed into the central courtyard space maximising solar exposure and minimising overshadowing.

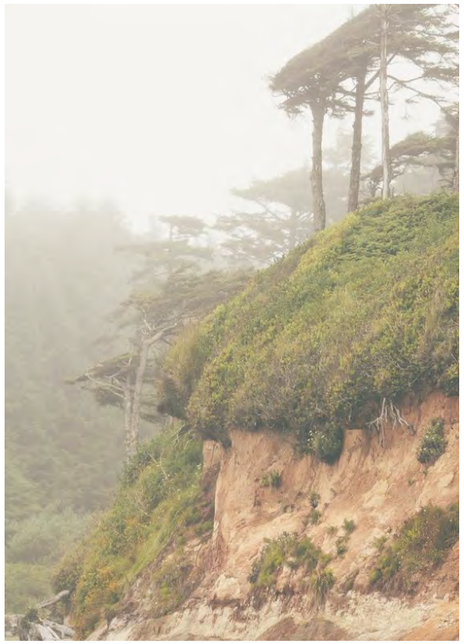
> *“Building form should facilitate social interaction and a sense of community among the residents of the neighbourhood, with surrounding areas and with the campus as a whole.”*
>
> *3.5.1 Character and Intent - Wesbrook Place Neighbourhood Plan*

3 OPENING UP SPACES BETWEEN FORMS

To soften the edges of the building form, slightly angling the walls on each end of the buildings gives a more open and welcoming presence to the spaces inbetween. The building forms promote social interactions and sense of community among residents within the central courtyard and porosity into the site.

4 GREEN FINGERS IN TO THE COURTYARD

Opening up the spaces between the building forms gives the opportunity for landscape to spill from the park into the central courtyard. A second layer of green landscaping steps up from the park onto the four storey green roof terraces and then again up onto the green roof terrace.



3.0 DESIGN RATIONALE

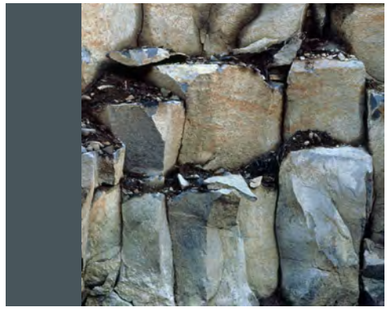
3.1 TOPOGRAPHY

The inspiration for BCR 6 architectural language came from the unique location of the UBC campus itself. Taking inspiration from the rugged coastline and its geographical features that surround the site, a typology of patterns and forms began to take shape.

The peninsula that the UBC campus sits on is the product of millennia of the forces of nature forming and wearing away the rock and sediment formations that make up the ground that the university is built on today.

> *"Geologists distinguish five major rock types in the Vancouver area. The most extensive are: granitic and metamorphic rocks of the Coast and Cascade Mountains. Overlying these within the Fraser Valley is a thick sequence of sedimentary rock (sandstone and shale),Volcanic intrusions fill fractures within granitic, metamorphic and sedimentary rocks."*
>
> *Canadian Geoscience Education Network (CGEN)*

1. Steepland Sediments

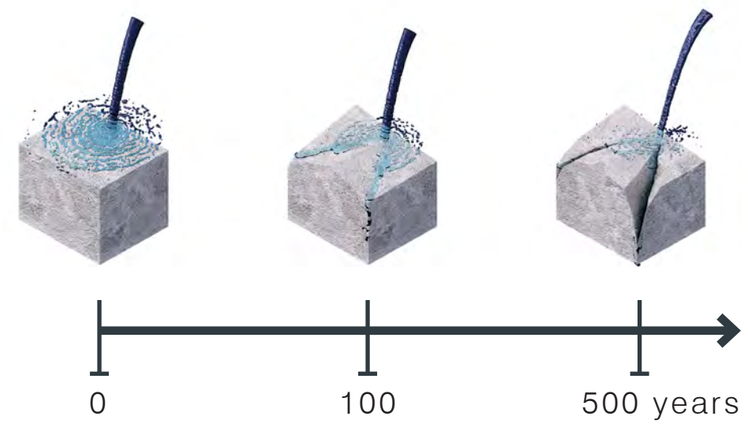


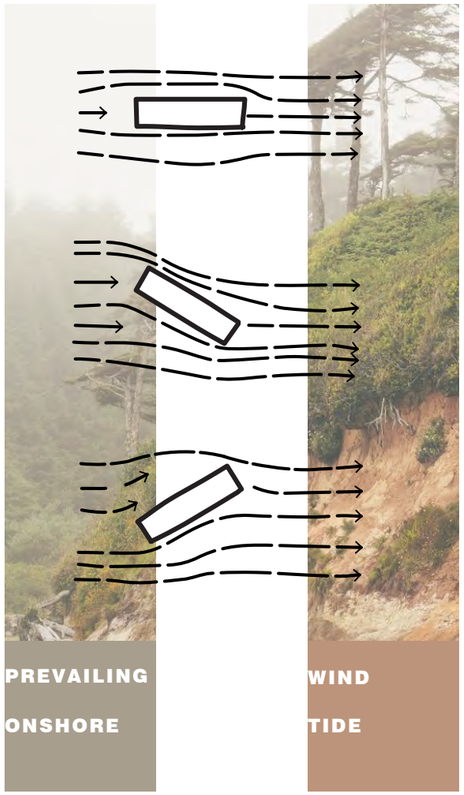
2. Granitic Rock

3. Gravel and Sand

3.2 PRINCIPAL MOVES

Taking inspiration from this battle of the elements the only evidence of this constant relentless change is in the shapes and patterns left behind. The constant slow wearing away of water and wind on rock formations leads to fissures and cracks opened up over centuries of exposure. Below is a diagram showing from left to right, the gradual wearing affect of water on a sharp block of stone over time.



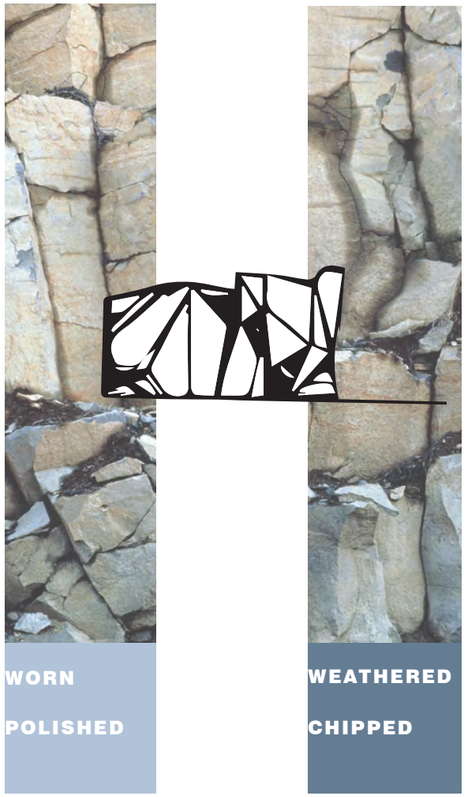


PREVAILING

ONSHORE

WIND

TIDE

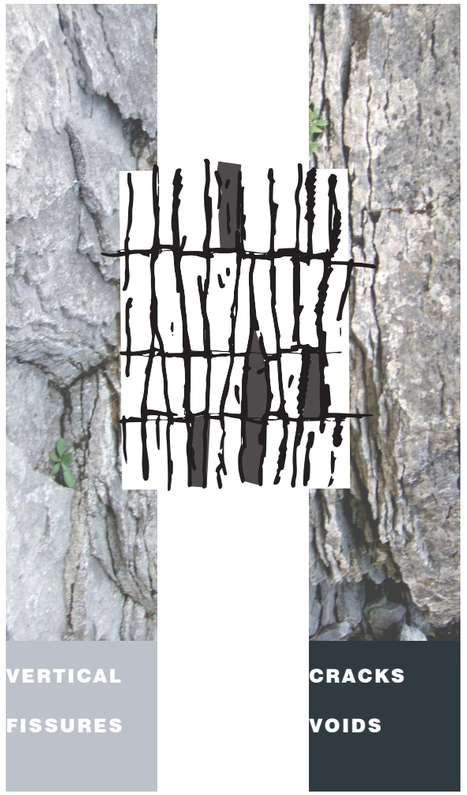


WORN

POLISHED

WEATHERED

CHIPPED



VERTICAL

FISSURES

CRACKS

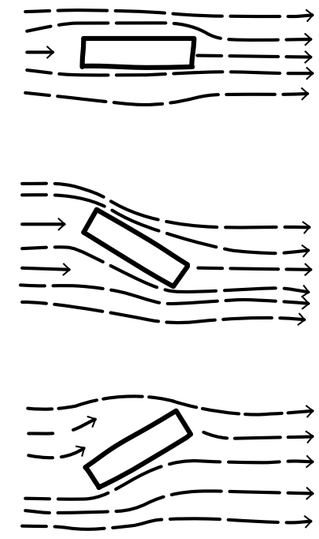
VOIDS

3.3 CRACKS BETWEEN FORMS

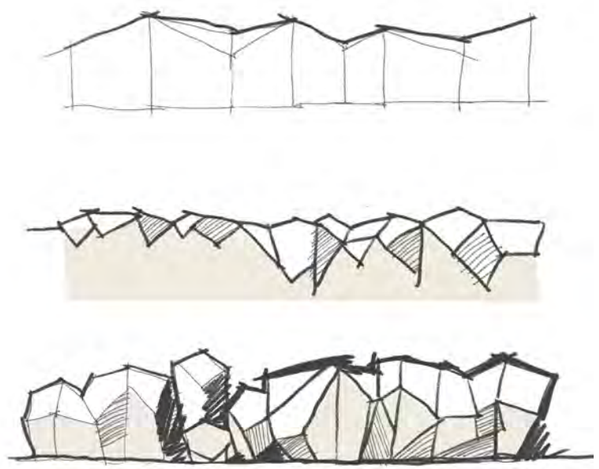
We start with a combination of forms as outlined in the Community Plan as the extents of the mass and start chipping away to create a final building form. Squared off perpendicular edges are rarely a naturally occurring phenomenon, so introducing irregular angles to the site massing in plan creates interesting opportunities for a more engaging built form.

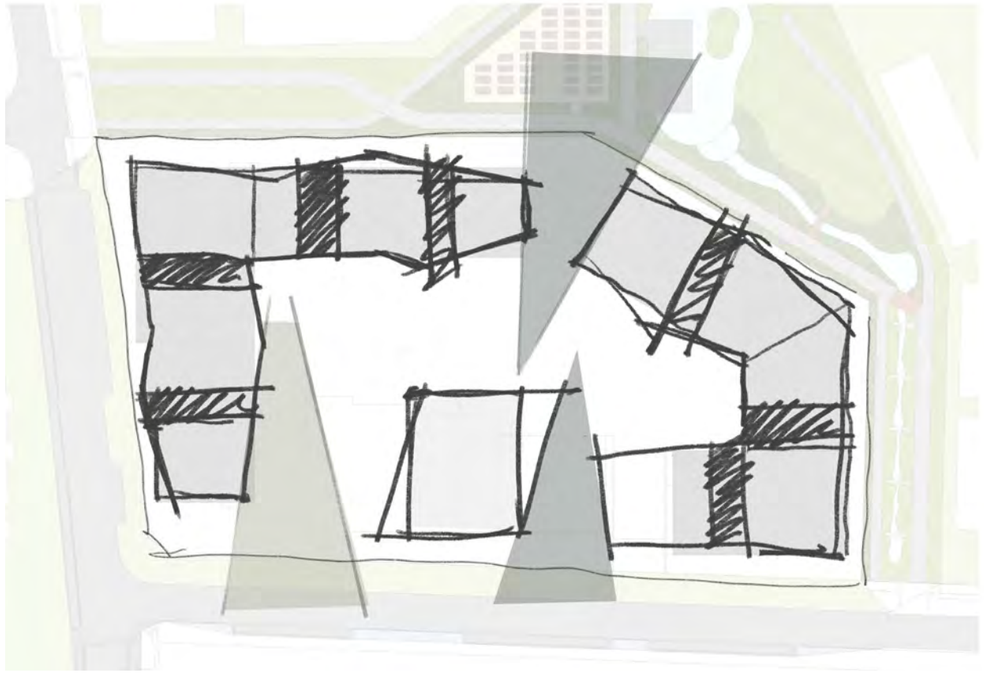
By playing with these angles - the relationship between each of the three forms on the site is slightly altered, the notion of discovery and invitation can be felt by the observer when looking in or looking out of the central courtyard. Starting in plan, the design team decided to look at which moves and angles benefitted the pedestrian realm the most, giving more opportunity for greater visual connection between the park and the site.

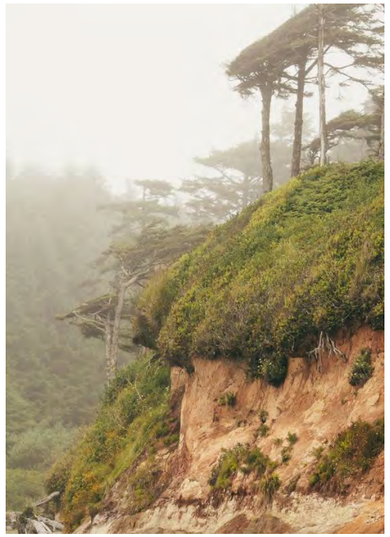
> *"Vary roof slopes with changes in height, with some flat sections and taller accents, towers or special architectural features. Celebrate the gaps as viewed between buildings by composing smaller building forms that minimize the larger buildings."*
>
> *3.5.6 Fronting Wesbook Mall - Wesbrook Place Neighbourhood Plan*



winds







sculpted by the wind

3.4 TEXTURED BUILDING SKIN

Zooming in on the detail of the surrounding natural textures we start to see more evidence of these patterns. At a micro scale - the vertical cracks in a face can be seen in tree bark, rock and create an interlocking lattice of solid and void. Translating this series of irregular cracks into an architectural expression can be done on several scales.

On a micro scale - The vertical textured cladding panels on the mid-rise mimic textured natural forms such as rock or tree bark. Similarly, the tower cladding panels play with different tones of blue-greys which highlight patterns found within natural rock formations.

On a macro scale - Using the gaps created by the building materials to allow for glazing or punched balcony expression.

vertical cracks

interlocking forms

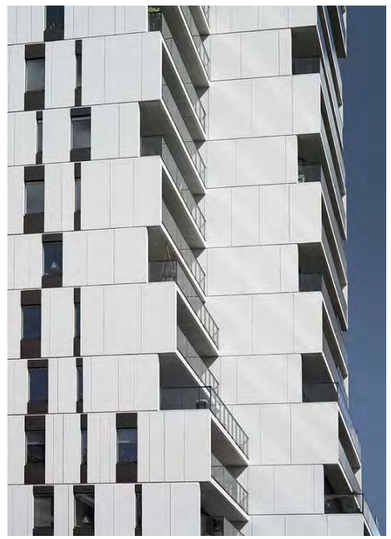
3.5 BUILDING MATERIALS

The BCR 6 material palette is a balance between two key temperatures, the warmer earthy tones have been chosen for the low six storey forms to emphasize solidity and enhance the village feel of the street-scape along Wesbrook Mall. The cooler tones on the tower were chosen to give a sense of clean vertical lines against the backdrop of the sky.

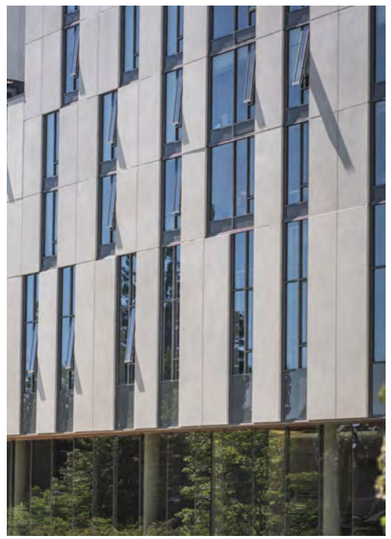
To achieve this interlocking pattern on the tower a composite metal panel would be used on the North and South elevations giving increased visual interest to the two primary elevations visible when travelling North or South on Wesbrook Mall. This interlocking pattern will be emphasised by using a darker tone of window wall, creating further contrast between what is visually perceived as solid and void.

To break up the facades on the six storey forms, a darker cementitious panel will be used in the building cracks. These visual cracks help to break up the building form along the street edge.

18 storey tower



composite metal panel

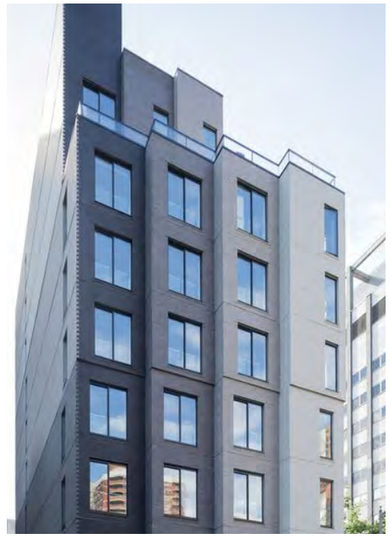


darker tone window wall

cooler sky tones

6 storey mid-rise

cementitious panel



vinyl windows

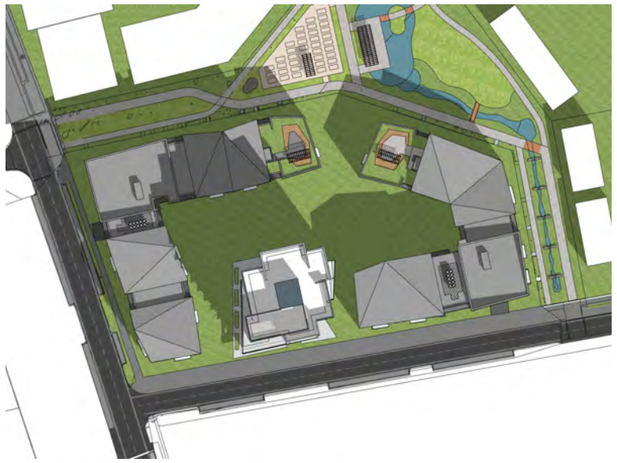
warmer earth tones

3.6 SHADOW STUDIES

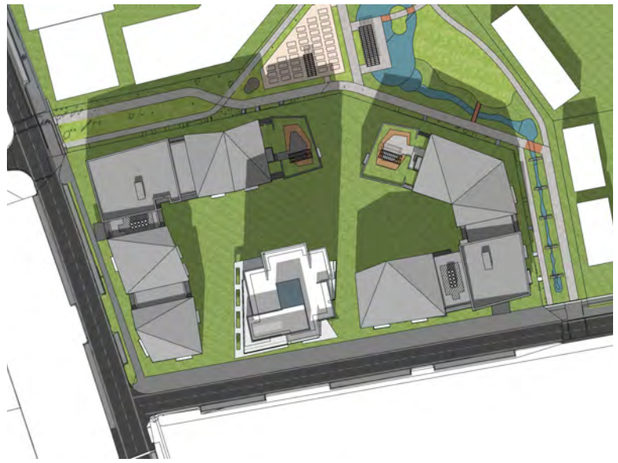
Shadow studies for both the solstice and equinox were conducted, looking at the optimum location for the tower in relation to the two mid-rise buildings and the courtyard. Taking into account the results of the these shadow studies, the buildings primary entrances are located on the southern facade for buildings A and C and the western facade of building B.

In response to extensive studies on locating the tower, the final location was found to have the least amount of overshadowing impact on existing adjacent residences to the west and future low-rise residences fronting on to the park to the East.

SPRING EQUINOX



Mar 21st - 10:00

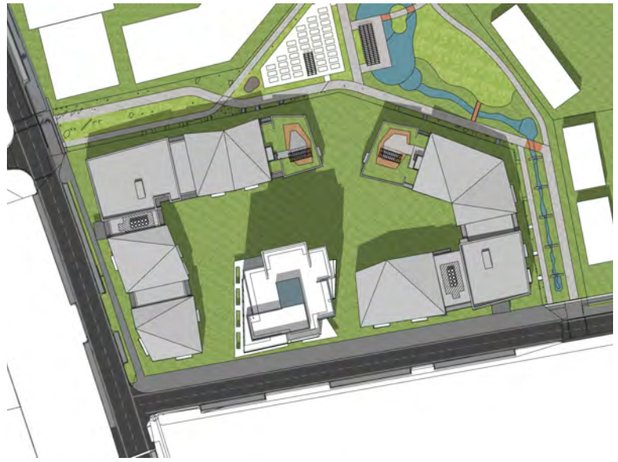


Mar 21st - 12:00

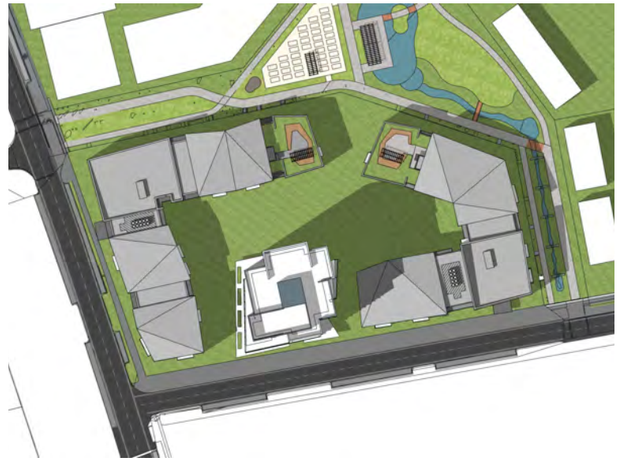
Mar 21st - 14:00

SUMMER SOLSTICE

Jun 20th - 10:00

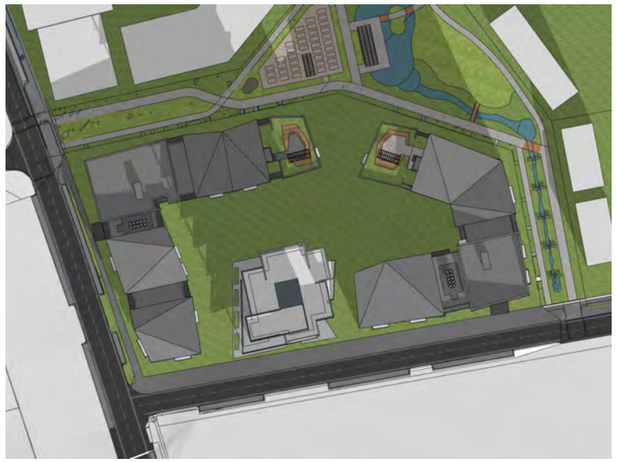


Jun 20th - 12:00

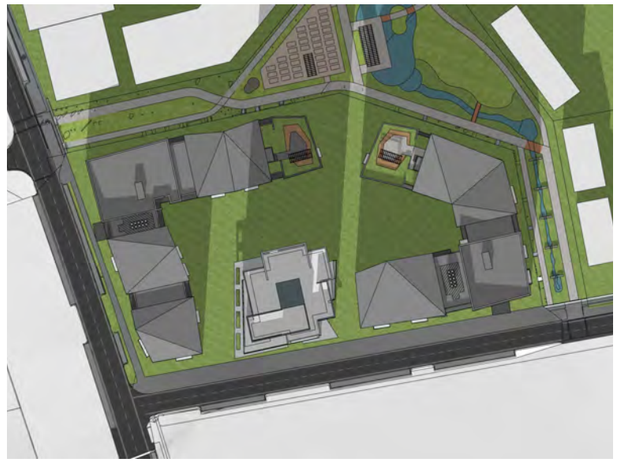


Jun 20th - 14:00

WINTER SOLSTICE



Dec 21st - 10:00



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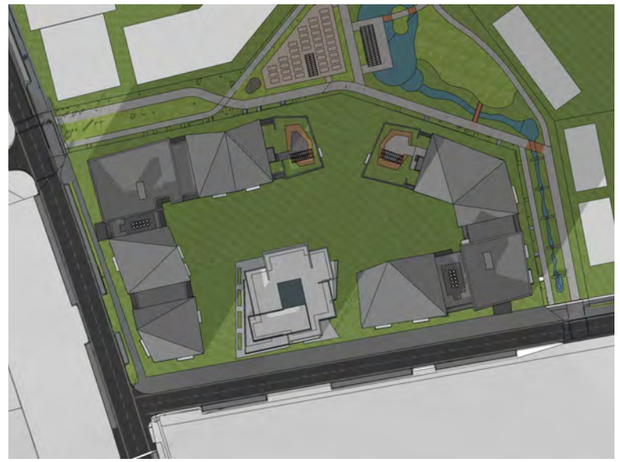

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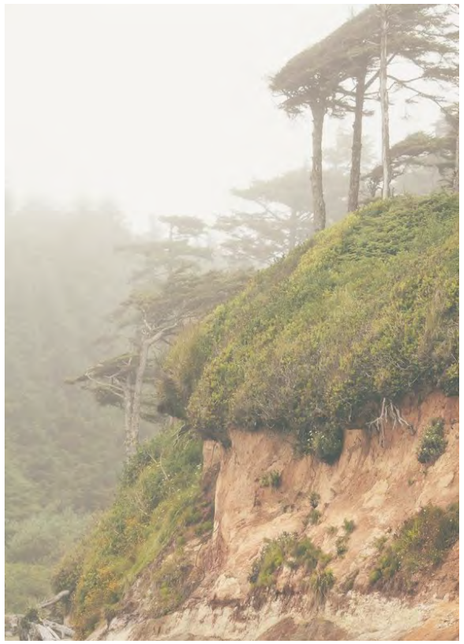
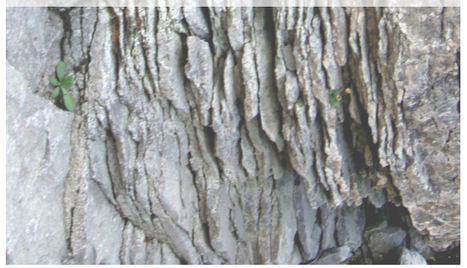


4.0 DRAWING PACKAGE



CIVIC ADDRESS		
LEGAL DESCRIPTION	LOT 5 AND LOT 6, DISTRICT LOT 6494, GROUP 1, N.W.D, PLAN EPP86350	
ZONING (AS PER UBC DEVELOPMENT HANDBOOK 2020)	SC3C	HIGH DENSITY RESIDENTIAL – HIGHRISE/TOWNHOUSES
SITE AREA	115288.4 SQ.FT.	10710.6 SQ.M.

	ALLOWED		PROPOSED	
SETBACKS	**M**	**FT**	**M**	**FT**
FRONT YARD SETBACK	2.5	8.2	2.5	8.2
SIDE YARD SETBACK	2.5	8.2	2.5	8.2
REAR YARD SETBACK	2.5	8.2	2.5	8.2
FSR	3.5		3.50	
BUILDING AREA	37487.2 SQ.M.	403509.40 SQ.FT.	37480.7 SQ.M.	403438.7 SQ.FT.
SITE COVERAGE	50%		50.8%	

BUILDING HEIGHT	**ALLOWED**		**PROPOSED**	
BUILDING A -TOWER	18 STOREYS		18 STOREYS	
	53.0 M	173.9 FT	*54.18 M	177.8 FT
BUILDING B - MID-RISE			6 STOREYS	
BUILDING C - MID-RISE			6 STOREYS	

*** VARIANCE REQUEST**
Request height variance of 3'-11" due to the significant slope in the site.

PARKING SUMMARY			
VEHICLE PARKING	**ALLOWED/REQUEST**	**PROPOSED**	
BLDG.A-MARKET RENTAL (TOWER)	144	**159**	0.65 space per principal dwelling unit
BLDG.B-FACULTY&STAFF RENTAL (MIDRISE)	103	**104**	0.65 space per principal dwelling unit
BLDG.C-FACULTY&STAFF RENTAL (MIDRISE)	90	**91**	0.65 space per principal dwelling unit
RESIDENT SUBTOTAL	**337**	**354**	
VISITOR STALLS	52	**49**	Min. of 0.1 spaces per principal dwelling unit
CHILD CARE - DROP-OFF	5	**5**	1 parking stall for every 8 full time equivalent childcare spaces
CHILD CARE - STAFF	2	**2**	Min.of 2 parking spaces for staff
TOTAL PARKING SPACES	**396**	**410**	
INCLUDING :			
HANDICAP STALLS (included in total)	52	**50**	Min. of 0.1 spaces per principal dwelling unit
SMALL CAR STALLS (included in total)	99	**40**	Max. 25% of the required # of parking spaces
CAR WASH	4	**4**	For every 100 parking spaces

	UPPER LEVEL			MAIN LEVEL			LOWER LEVEL			SUBTOTAL
	STANDARD	SMALL CAR	H/C	STANDARD	SMALL CAR	H/C	STANDARD	SMALL CAR	H/C	
DAYCARE	0	0	0	2	3	2	0	0	0	**7**
VISITOR	22	0	0	21	2	4	0	0	0	**49**
RESIDENTIAL	103	6	14	136	13	24	26	16	16	**354**
SUBTOTAL	125	6	14	159	18	30	26	16	16	**410**
	145			**207**			**58**			

BICYCLE PARKING SUMMARY	**REQUIRED**	**PROPOSED**	
RESIDENT STALLS - CLASS I			* As per REAP 3.2 ▪ An in building bicycle repair station; and
BLDG A-TOWER	400		▪ Provide Class 1 bicycle storage facilities at a rate of: 1.5 spaces per studio or one bedroom unit;
BLDG B-MID-RISE	355		2.5 spaces per 2 bedroom unit;
BLDG C-MID-RISE	314		and 3 spaces per 3 or 4 bedroom units.
			(Requirements include 10% oversize spaces, and one electrical outlet per two spaces); and
SUBTOTAL	**1068**	**972**	
VISITOR STALLS - CLASS II			* As per REAP 3.2
BLDG A-TOWER	111		▪ 0.5 Class 2 bicycle storage spaces per dwelling unit; and
BLDG B-MID-RISE	79		▪ A 2 x 3 m concrete pad outside the building, close to the building entrance,
BLDG C-MID-RISE	69		with a standard outlet or conduit for electrified bike share.
SUBTOTAL	**258**	**72**	

RESIDENTIAL AREA SUMMARY - BLDG A-TOWER (MARKET RENTAL)

LEVEL	GROSS FLOOR AREA external face (sq.ft)	BUILDING AREA to exterior face of stud wall (sq.ft)	EXCLUSION - AMENITY (day care, ammenity] (sq.ft)	EXCLUSION - STORAGE (sq.ft)	EXCLUSION - MECH. / ELEC. (sq.ft)	F.S.R AREA (sq.ft)
Rooftop						**0.0**
18	8456.2	8151.4			65.5	**8085.9**
17	8456.2	8151.4			65.5	**8085.9**
16	8456.2	8151.4			65.5	**8085.9**
15	8456.2	8151.4			65.5	**8085.9**
14	8456.2	8151.4			65.5	**8085.9**
13	8456.2	8151.4			65.5	**8085.9**
12	8456.2	8151.4			65.5	**8085.9**
11	8456.2	8151.4			65.5	**8085.9**
10	8456.2	8151.4			65.5	**8085.9**
9	8456.2	8151.4			65.5	**8085.9**
8	8456.2	8151.4			65.5	**8085.9**
7	8456.2	8151.4			65.5	**8085.9**
6	8456.2	8151.4			65.5	**8085.9**
5	8456.2	8151.4			65.5	**8085.9**
4	8456.2	8151.4			65.5	**8085.9**
3	8456.2	8151.4			65.5	**8085.9**
2	8456.2	8151.4			65.5	**8085.9**
1	8456.2	8151.4	5569.6		65.5	**2516.3**
TOTAL	**152,211.6**	**146,725.2**	**5,569.6**	**-**	**1179.0**	**139,976.6**

UNIT SUMMARY -BLDG A: TOWER (MARKET RENTAL)

LEVEL	STUDIO (MICRO)	1-BED	2-BED	3-BED	CITY HOME	TOTAL
Rooftop						
18	8	2	1	2		13
17	8	2	1	2		13
16	8	2	1	2		13
15	8	2	1	2		13
14	8	2	1	2		13
13	8	2	1	2		13
12	8	2	1	2		13
11	8	2	1	2		13
10	8	2	1	2		13
9	8	2	1	2		13
8	8	2	1	2		13
7	8	2	1	2		13
6	8	2	1	2		13
5	8	2	1	2		13
4	8	2	1	2		13
3	8	2	1	2		13
2	8	2	1	2		13
1	0	0	0	0		0
TOTAL	**136**	**34**	**17**	**34**		**221**
PERCENTAGE	62%	15%	8%	15%		
TARGET	30%	22%	21%	18%	9%	

RESIDENTIAL AREA SUMMARY - BUILDING B-MID-RISE (FACULTY & STAFF)

LEVEL	GFA	BA	AMENITY	STORAGE	MECH./ELEC.	FSR AREA
Rooftop						**0.0**
6	23276.9	22479.8		650.4	68.2	**21761.2**
5	23276.9	22479.8		650.4	68.2	**21761.2**
4	26479.0	25589.2		677.1	68.2	**24843.9**
3	26479.0	25589.2		677.1	68.2	**24843.9**
2	25976.9	25090.0		643.6	68.2	**24378.2**
1	26099.9	25211.3	757.7	547.3	68.2	**23838.1**
TOTAL	**151,588.6**	**146,439.3**	**757.7**	**3,845.9**	**409.2**	**141,426.5**

UNIT SUMMARY - BLDG B: MID-RISE (FACULTY & STAFF) ORIGINAL

LEVEL	STUDIO	1-BED+D	2-BED	2-BED+D	3-BED	4-BED	TOTAL
Rooftop							
6	1	8	2	6	4	3	24
5	1	8	2	6	4	3	24
4	2	9	2	7	5	3	28
3	2	9	2	7	5	3	28
2	2	8	2	7	5	3	27
1	3	8	0	7	5	3	26
TOTAL	**11**	**50**	**10**	**40**	**28**	**18**	**157**
PERCENTAGE	7.0%	31.8%	6.4%	25.5%	17.8%	11.5%	
TARGET	7%	28%	13%	19%	19%	13%	

re

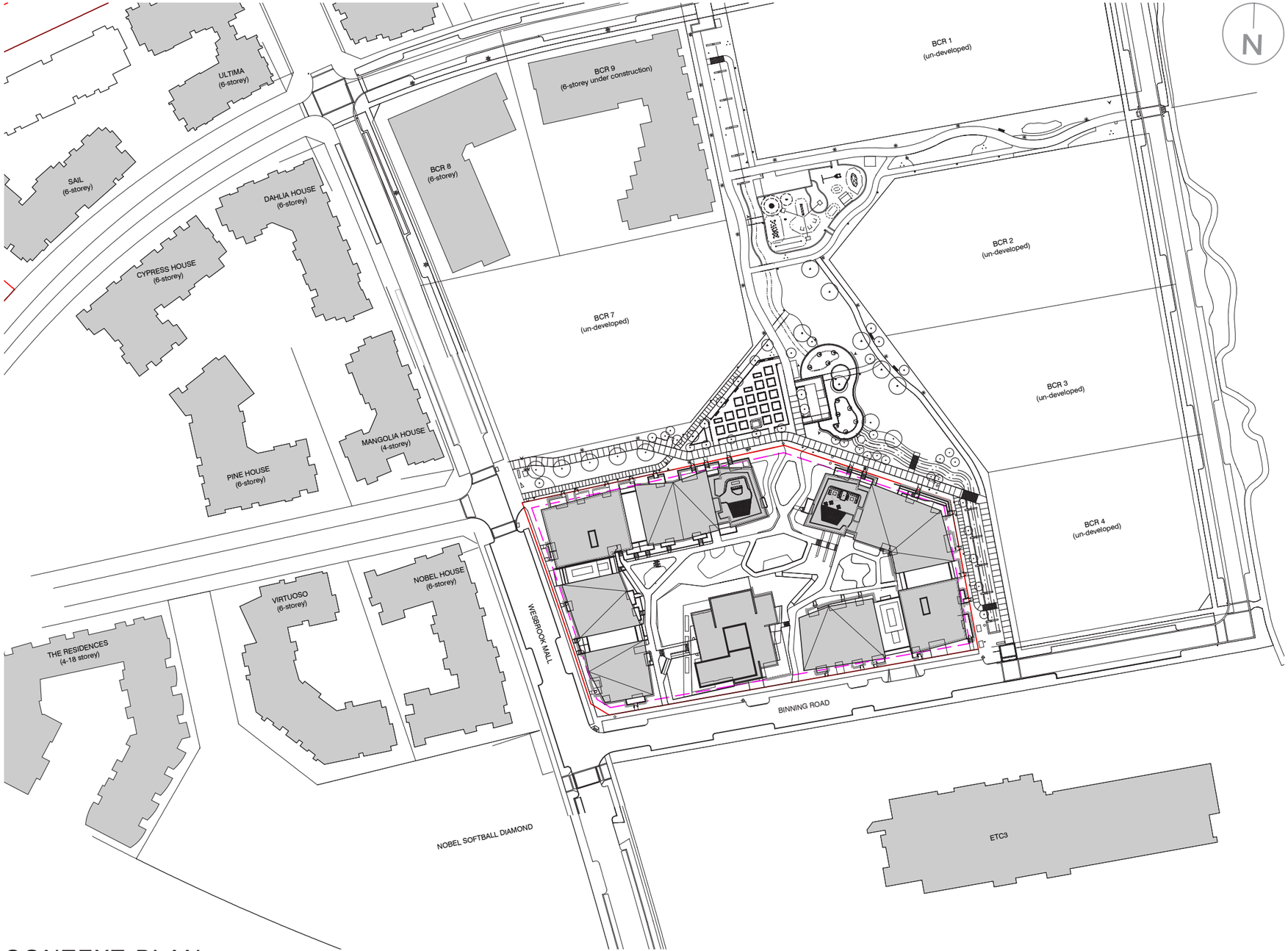
LEVEL	GFA	BA	AMENITY	STORAGE	MECH./ELEC.	FSR AREA
Rooftop						**0.0**
6	20227.9	19521.7	292.9	467.2	68.2	**18693.4**
5	23642.2	22839.0	292.9	467.2	68.2	**22010.7**
4	23642.2	22839.0	292.9	467.2	68.2	**22010.7**
3	23642.2	22839.0	292.9	467.2	68.2	**22010.7**
2	23642.2	22839.0	292.9	467.2	68.2	**22010.7**
1	17317.8	16556.9	911.4	277.9	68.2	**15299.4**
TOTAL	**132,114.5**	**127,434.6**	**2,375.9**	**2,613.9**	**409.2**	**122,035.6**

UNIT SUMMARY - BLDG C: MID-RISE (FACULTY & STAFF) ORIGINAL

LEVEL	STUDIO	1-BED+D	2-BED	2-BED+D	3-BED	4-BED	TOTAL
Rooftop							
6	1	6	3	6	4	1	21
5	2	6	5	6	4	2	25
4	2	6	5	6	4	2	25
3	2	6	5	6	4	2	25
2	2	6	5	6	4	2	25
1	1	5	0	6	3	1	16
TOTAL	**10**	**35**	**23**	**36**	**23**	**10**	**137**
PERCENTAGE	7.3%	25.5%	16.8%	26.3%	16.8%	7.3%	
TARGET	7%	28%	13%	19%	19%	13%	

SUBTOTAL	**403,438.7**
FSR	**3.50**

SUBTOTAL	**515**



CONTEXT PLAN

CPTED STRATEGIES:

1. Territoriality: A series of boundary markers are implemented along the site edges, including landscape walls, hedges and fences to help define territory. As well, many of the outdoor private spaces are designed for active use and will be maintained at a high level.

2. Defensible Space: Established territory is seen at the private terraces fronting Binning Road, Wesbrook Ave, and the adjacent park spaces north and east as well as inside the interior courtyard.

3. Target Hardening: There are many instances where target hardening is in play, for instance, reinforced entry doors to parking storage, bike storage and private garages, inclusion of security systems.

4. Choice: Courtyard access and egress has multiple points of entry and choice to avoid dead end routes.

5. Lighting: Public and semi-public spaces will be lit.

6. Natural Surveillance: Buildings and patios have oversite into internal courtyard and perimeter walkways and site edges.

7. Site Lines: Meandering pathways will have site lines to entries, nodes and exit points within the landscape.

SITE ANALYSIS

TOPOGRAPHIC SURVEY OF LOT 5 AND LOT 6 DISTRICT LOT 6494 GROUP 1 NEW WESTMINSTER DISTRICT PLAN EPP86350 UNIVERSITY OF BRITISH COLUMBIA

PARCEL IDENTIFIER LOT 5 030-727-774

PARCEL IDENTIFIER LOT 6 030-727-782

CIVIC ADDRESS ..... 3800 BLOCK WESBROOK MALL
UNIVERSITY OF BRITISH COLUMBIA

0 2 5 10 15

SCALE 1 : 250

ALL DISTANCES ARE IN METRES

7 PLAN EPP86350

10 PLAN EPP86350

5 PLAN EPP86350

6 PLAN EPP86350

WESBROOK MALL

ROAD

Rem DL 6494 Gp1

54.497

39.520

61.212

44.731

85.030

86.605

54.118

NOTES :

ALL ELEVATIONS AND DISTANCES SHOWN ARE IN METRES.
ELEVATIONS ARE DERIVED FROM UBC MONUMENT W-W, LOCATED ON EAST MALL IN FRONT OF THE CEME BUILDING (BETWEEN AGRONOMY ROAD AND UNIVERSITY BOULEVARD)
GEODETIC ELEVATION = 93.631

MURRAY & ASSOCIATES
PROFESSIONAL LAND SURVEYORS
201-12448 82nd AVENUE
SURREY, BC V3W 3E9
(604) 597-9189

GREGORY MARSTON BCLS: 794
PLAN DATE: FEBRUARY 06, 2020
FIELD SURVEY: FEBRUARY 04, 2020
FILE 8613CA-293

Removal of existing curbs and installations of proposed curbs within 1.5m of TPZ of trees UBC06 must occur under arborist supervision.

Any proposed sidewalk or road works within 1.5m of TPZs of trees UBC07, UBC08 and UBC14 must occur under arborist supervision.

LEGEND

- CRITICAL ROOT ZONE
- TREE PROTECTION FENCING
- SURVEYED TREE TO BE RETAINED
- UN-SURVEYED TREE TO BE RETAINED
- TREE TO BE REMOVED

NOTES

1. The location of un-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 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.
3. The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. ($\frac{1}{2}$ the trees diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree)
4. Any construction activities or grade changes within the Root Protection Zone must be approved by the project arborist.
5. This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provide by the owners' Engineer (P Eng).
6. This plan is provided for context 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 plan and engineering plans.

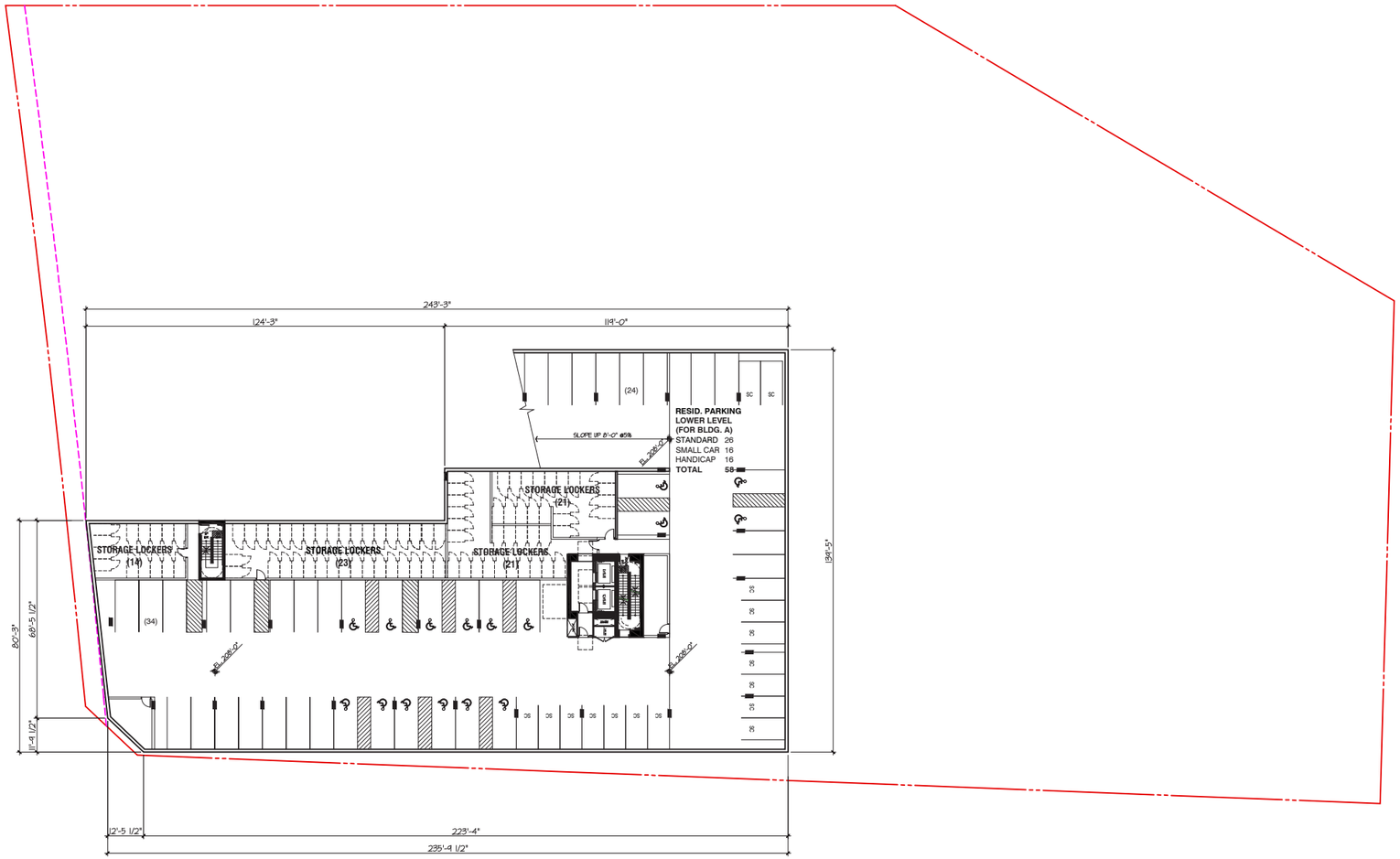
REFERENCE DRAWINGS

1. Base Survey by Murray & Associates dated February 6, 2020.
2. U/G Parking Level P1 Plan (Main Level) by dys architecture dated January 27, 2022.

DIAMOND HEAD
3559 COMMERCIAL STREET
VANCOUVER BC | V5N 4E8
T 604.733.4886

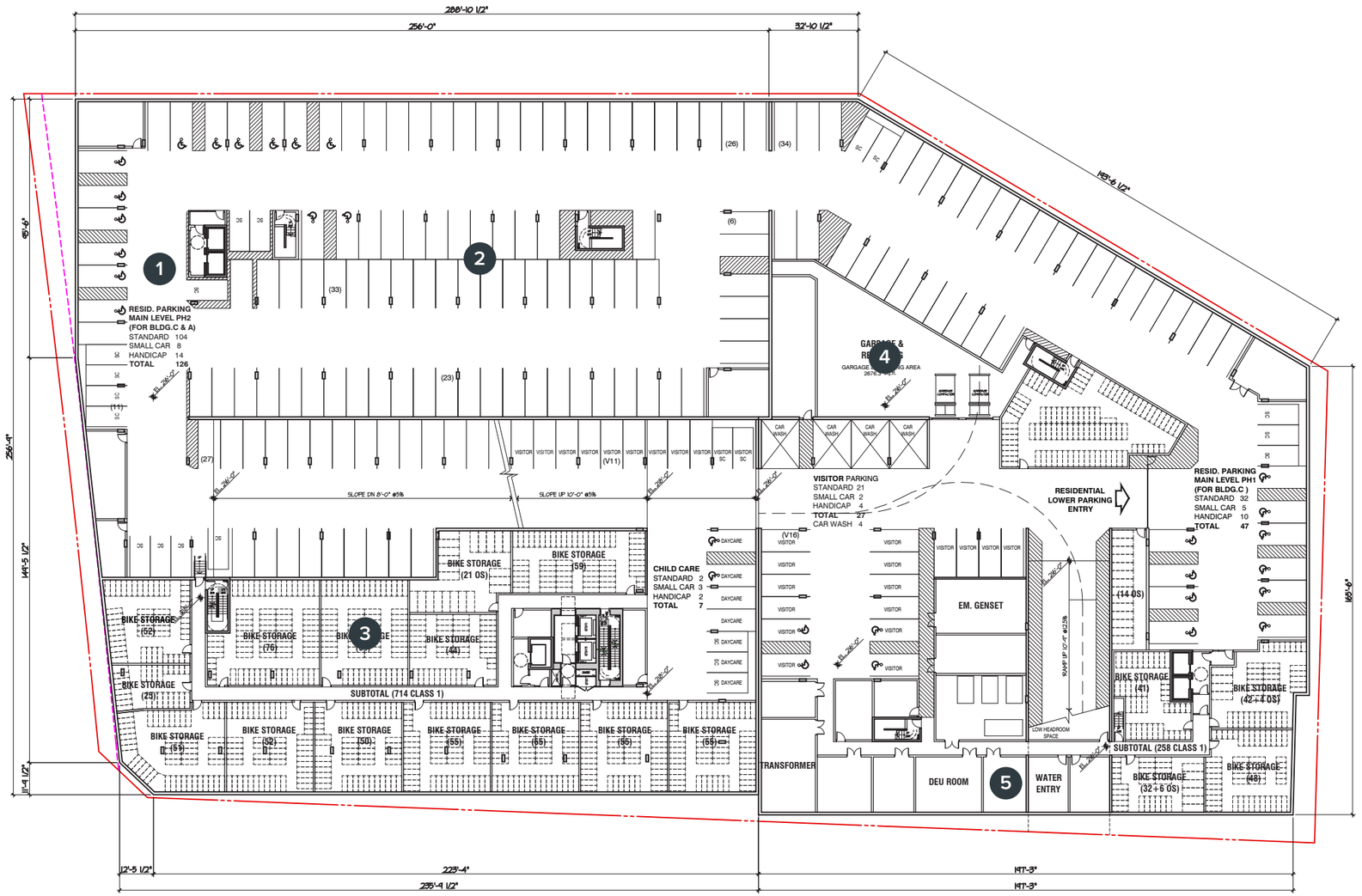
Drawing title: Tree Management Plan
Project address: Lots BCR 5 and 6, UBC
Client: UBC Properties Trust

Drawing No: 01
Date: 2021/02/24
Drawn by: DBE
Page Size: TABLOID 11"x17"



0 15' 30' 65'

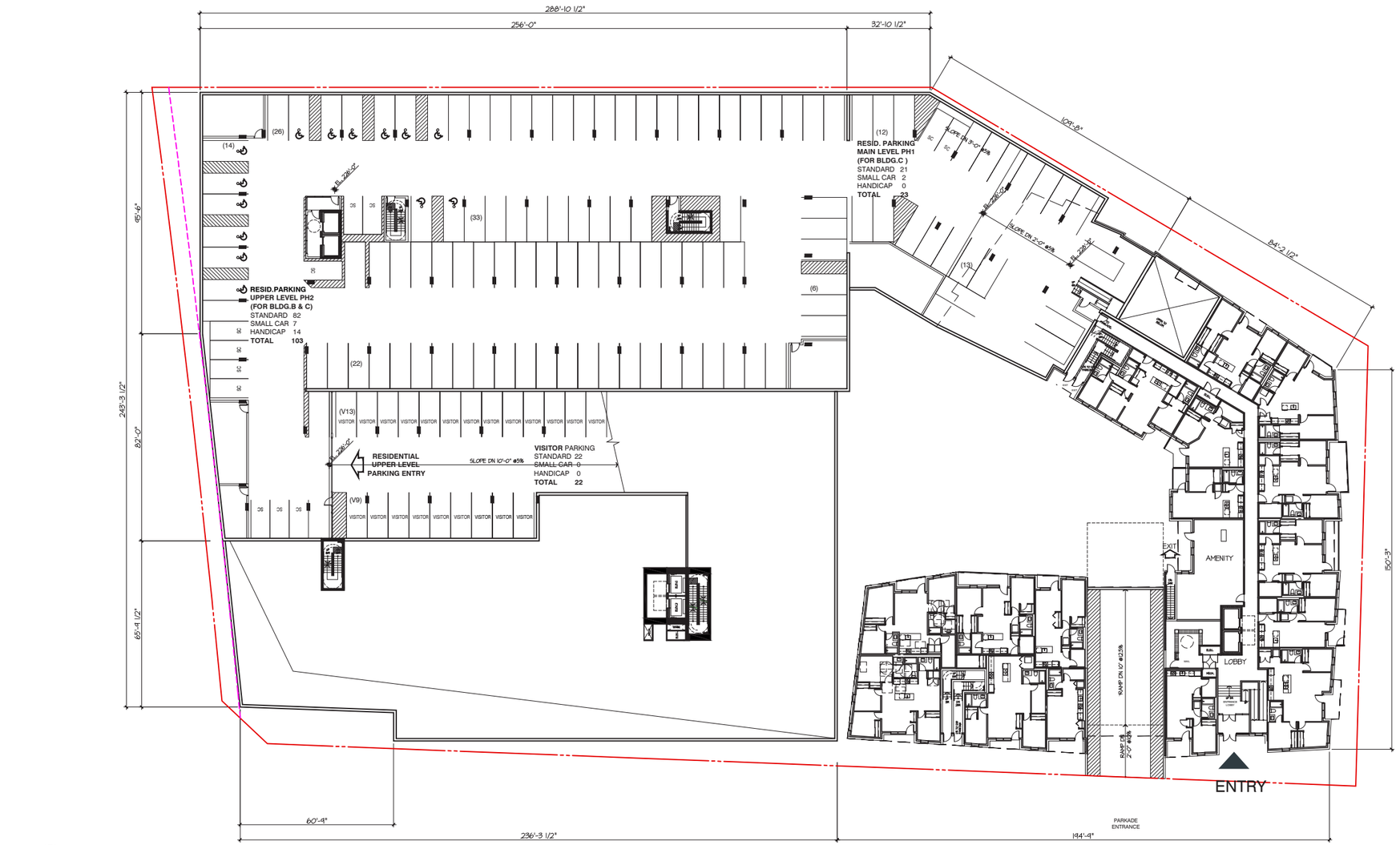
P2 PARKING PLAN



0 15' 30' 65'

P1 PARKING PLAN

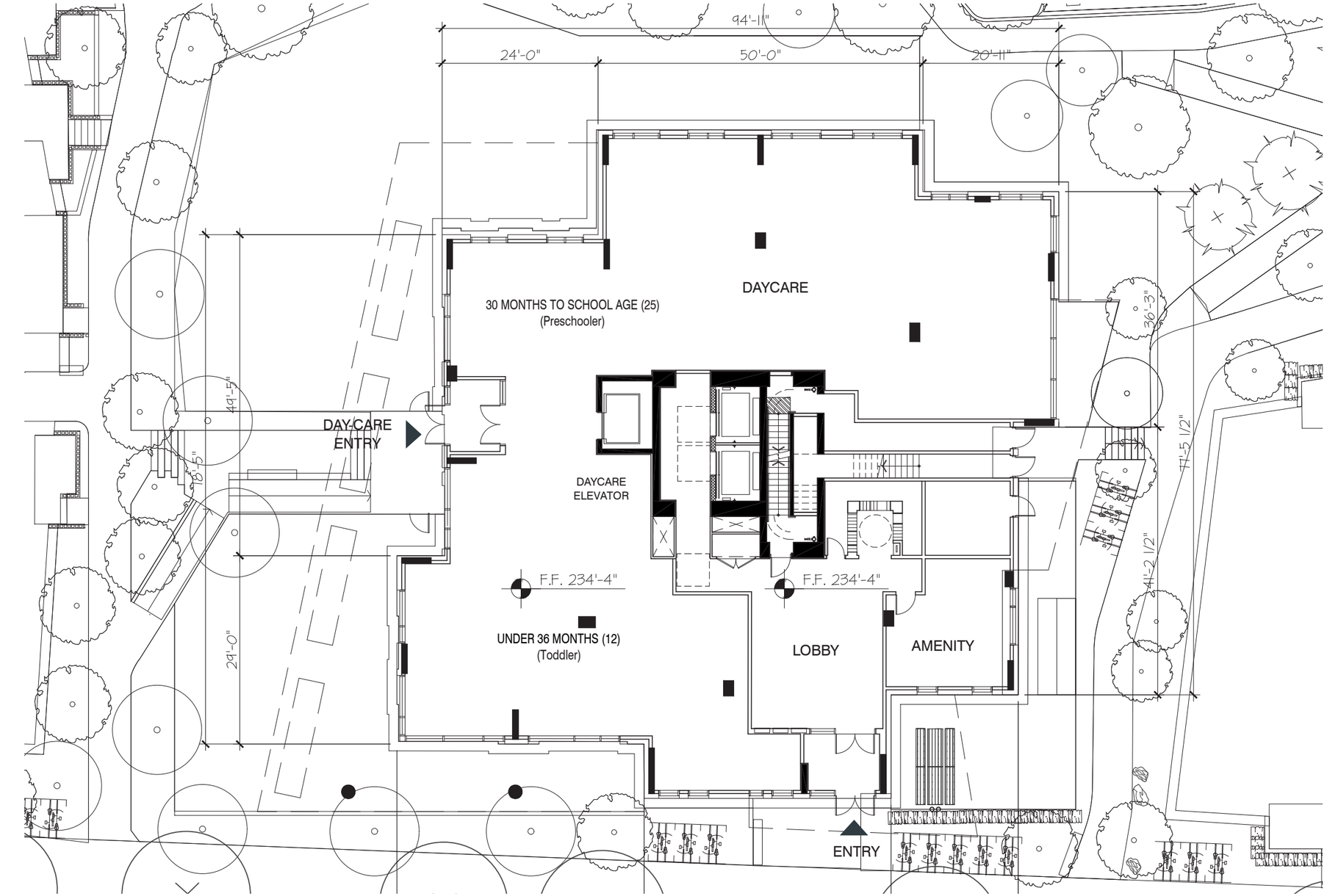
1. *Residents Upper Parking*
2. *Combined Parking P1*
3. *Combined Bike Storage Lockers*
4. *Combined Garbage & Recycling*
5. *Service Rooms*



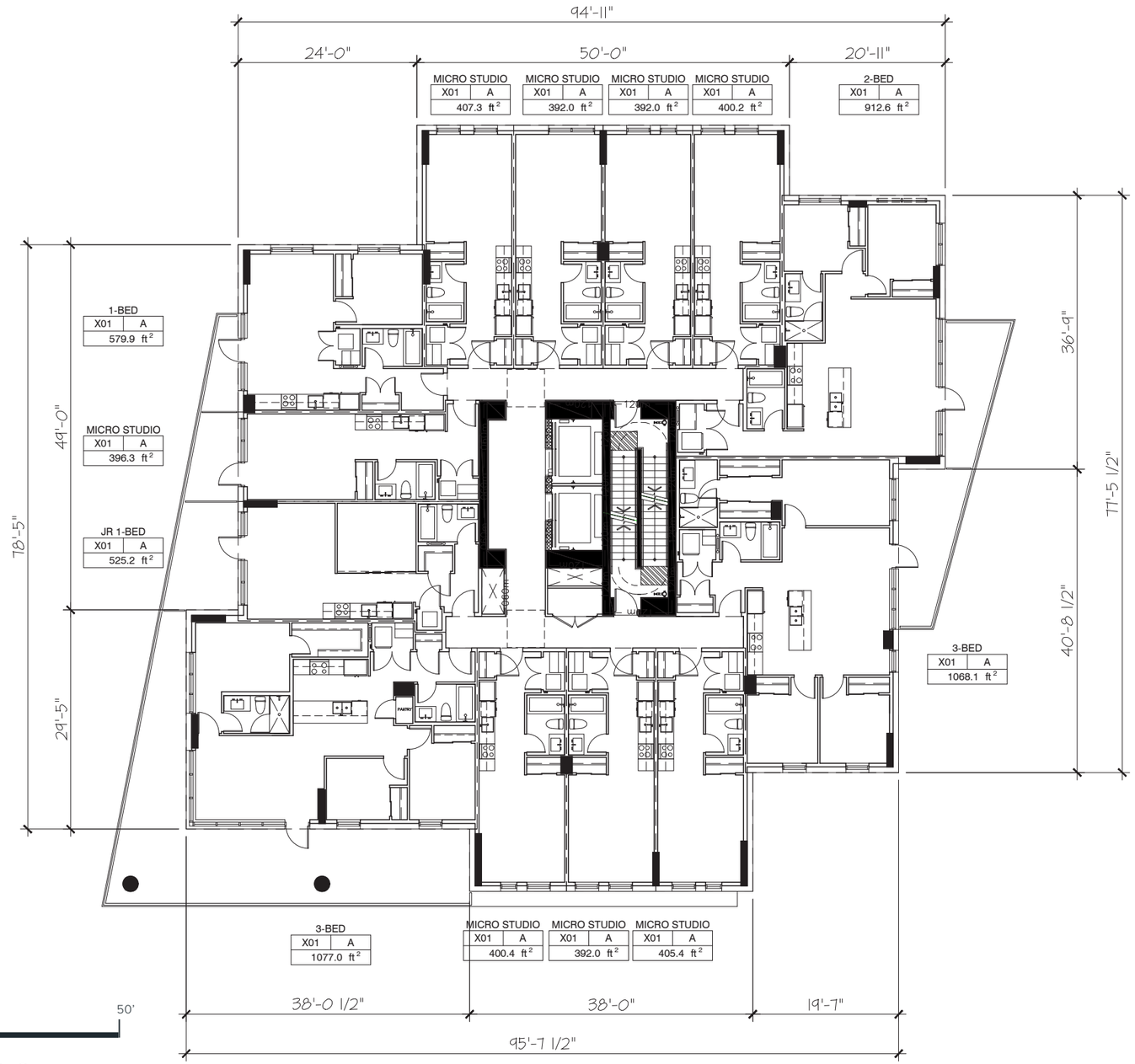
P0 PARKING PLAN & LEVEL 1 BUILDING C

A. *Market rental*
B. *Faculty & Staff Housing*
C. *Faculty & Staff Housing*
D. *Childrens Day-care*

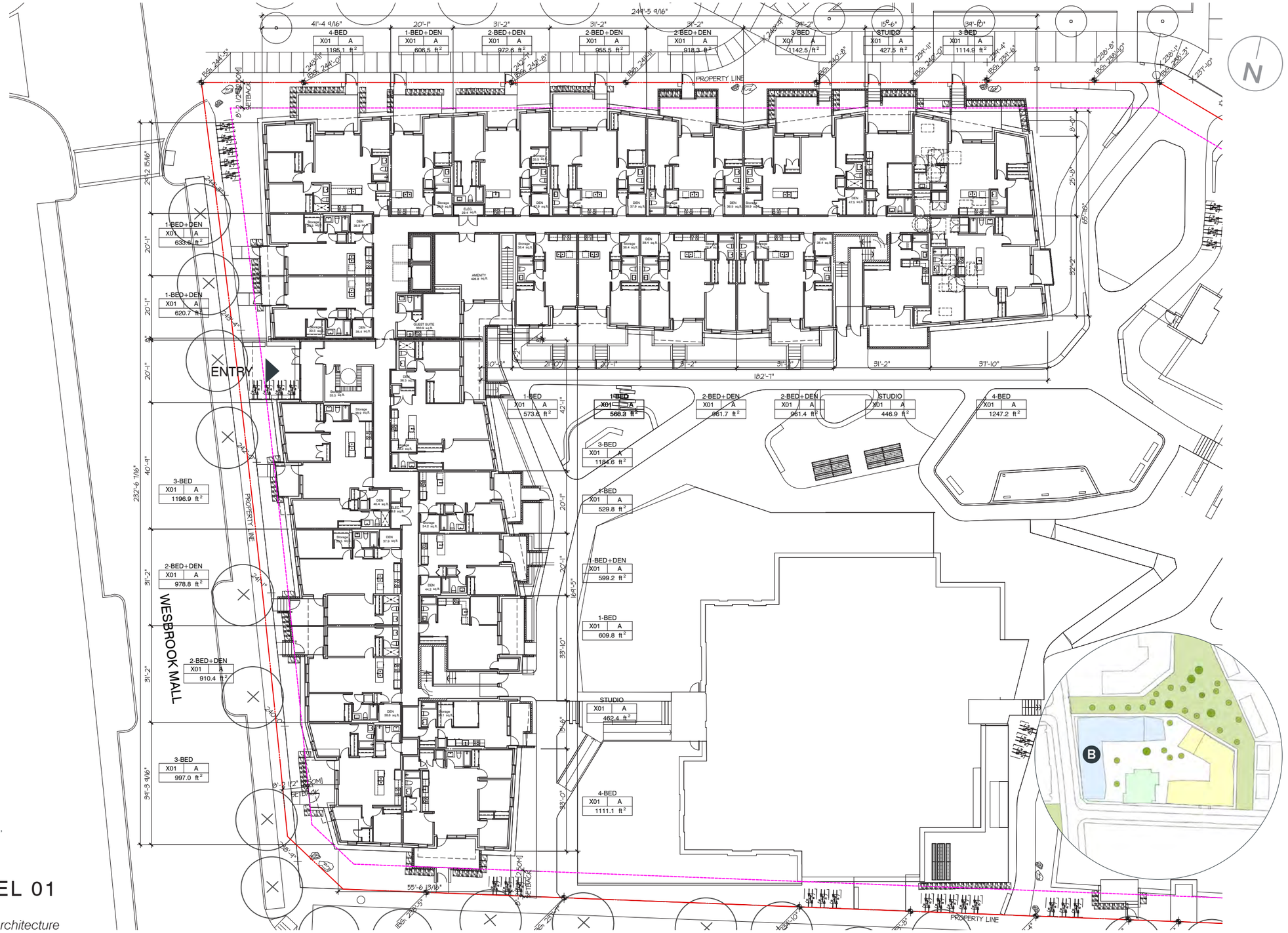
LEVEL 01 SITE PLAN



BUILDING A LEVELS 01



BUILDING A LEVELS 02-18



0 10' 20' 50'

BUILDING B - LEVEL 01

0 10' 20' 50'

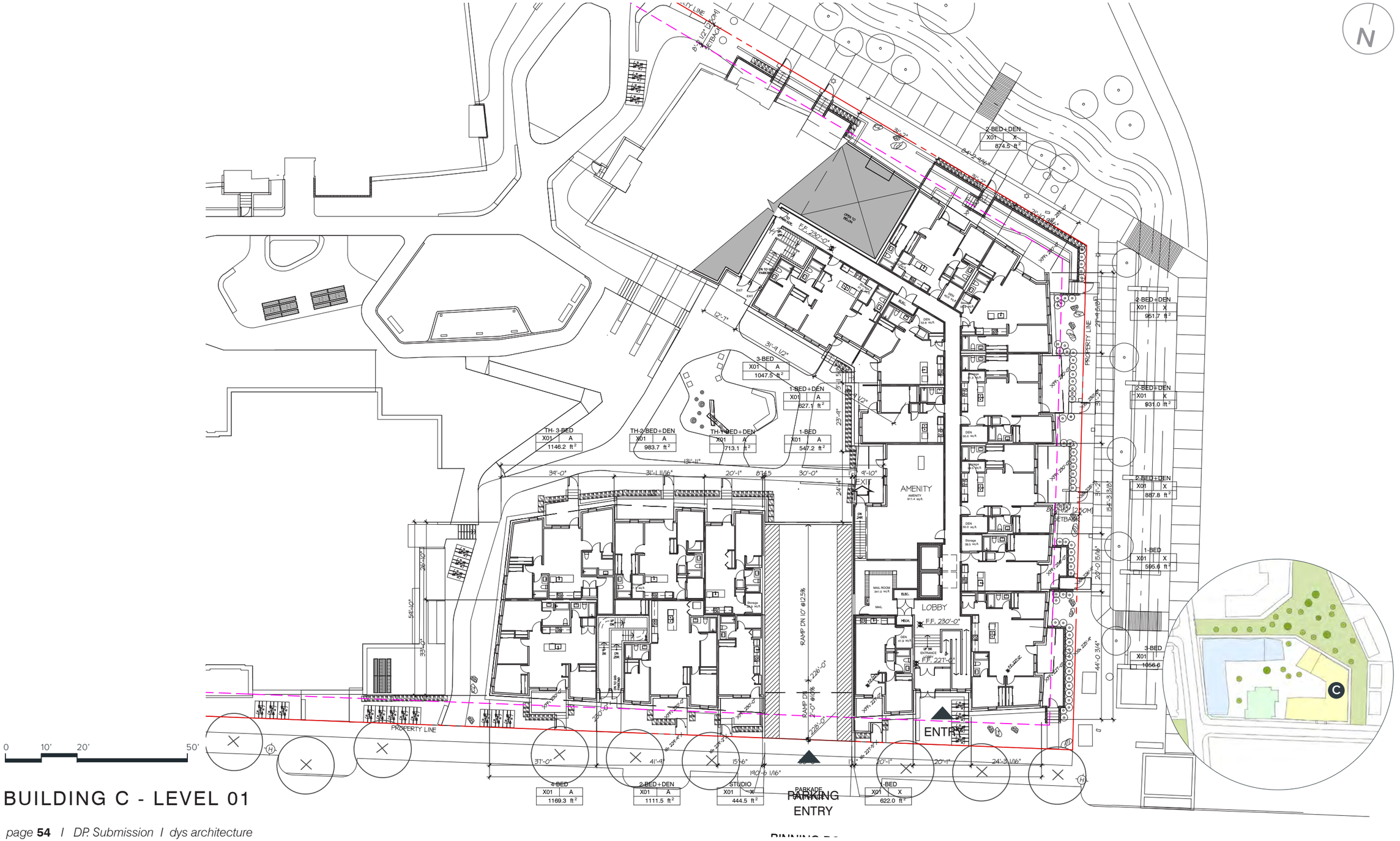
BUILDING B - LEVEL 02

0 10' 20' 50'

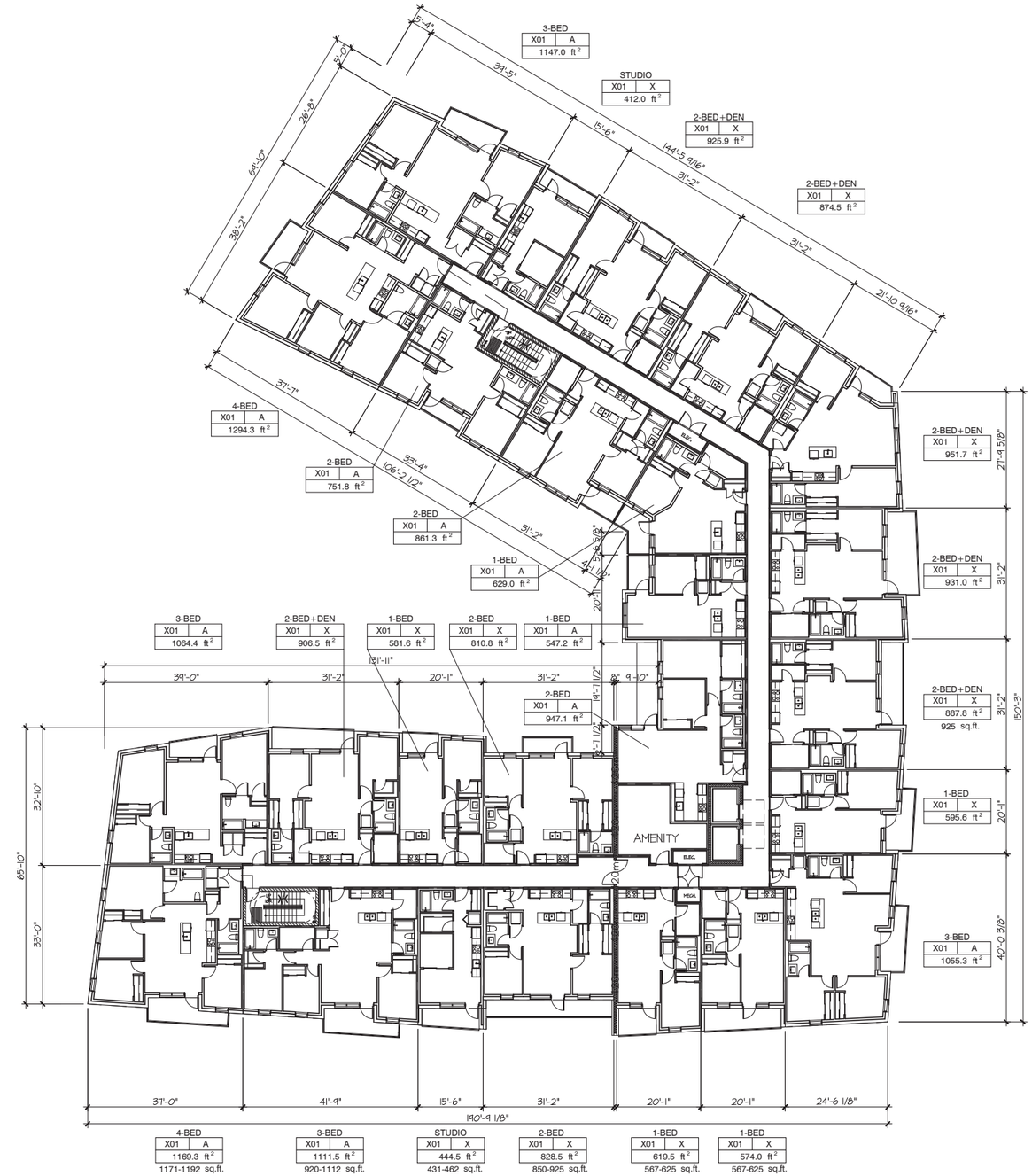
BUILDING B - LEVEL 03-04

0 10' 20' 50'

BUILDING B - LEVEL 05-06

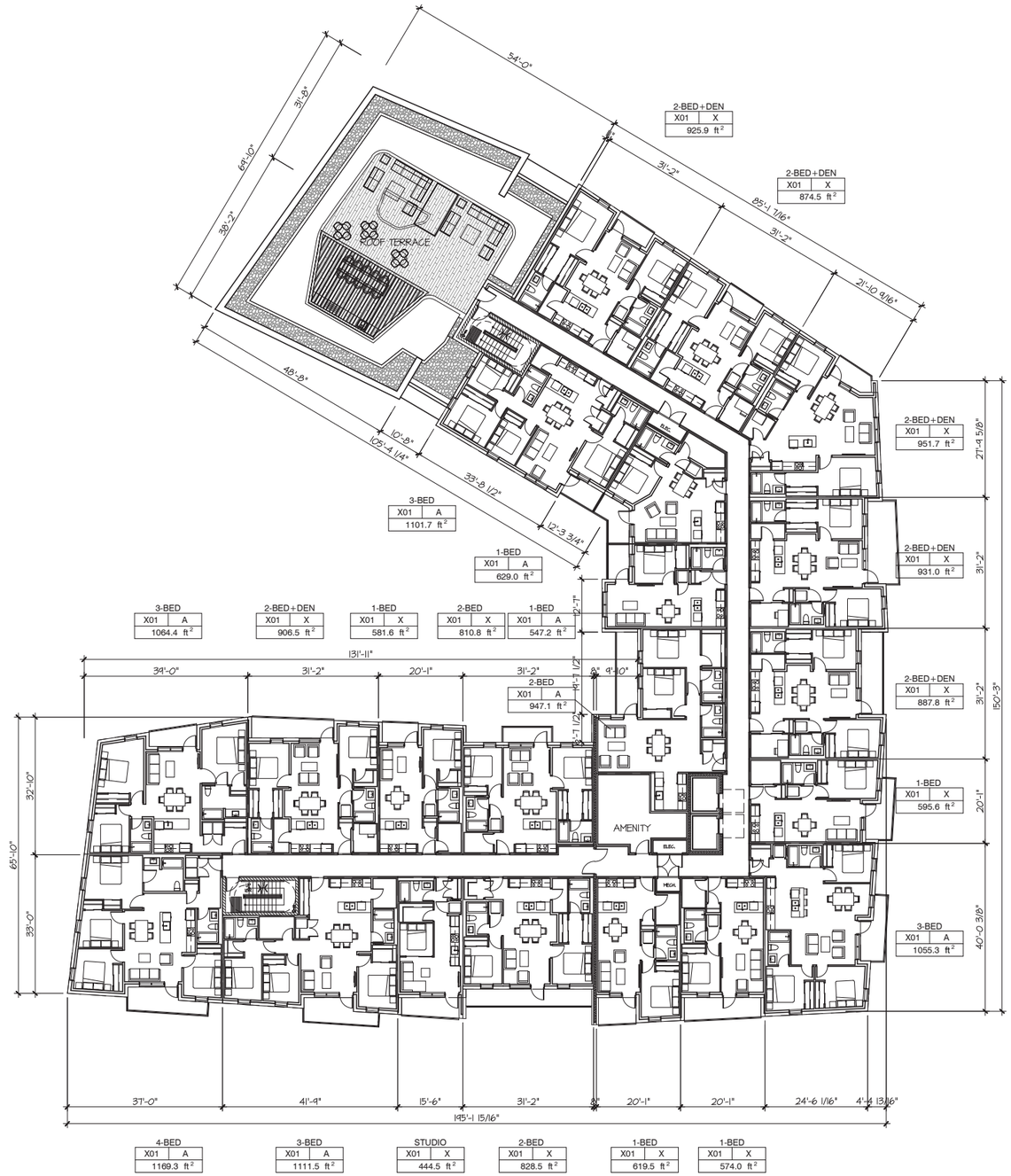


BUILDING C - LEVEL 01



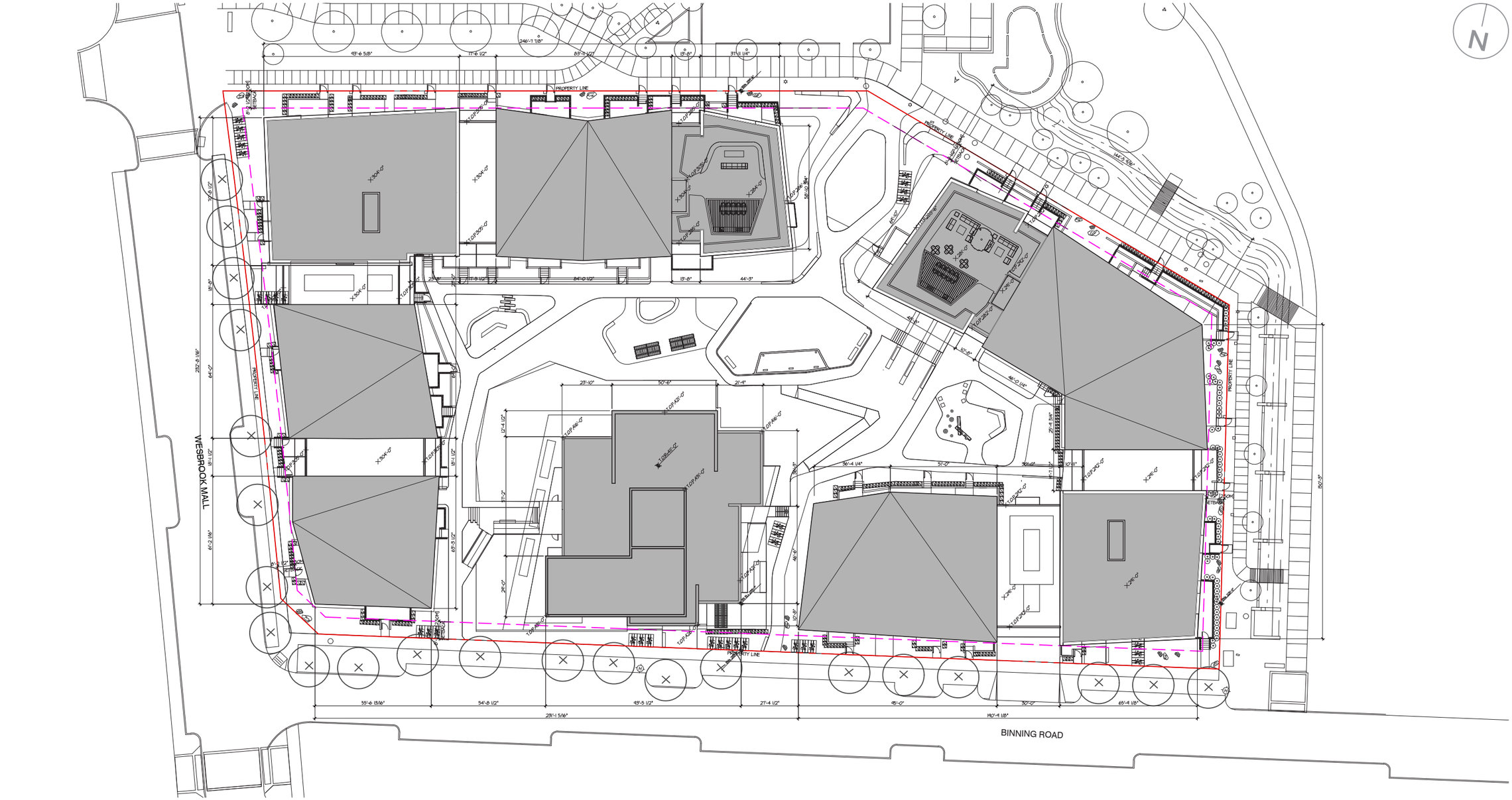
0 10' 20' 50'

BUILDING C - LEVEL 02-05

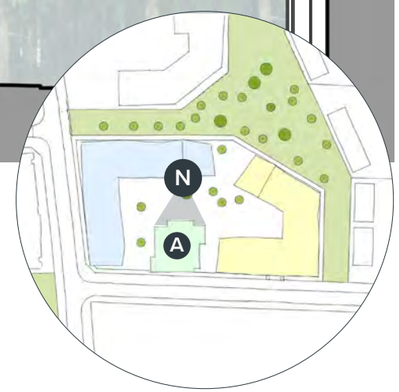


0 10' 20' 50'

BUILDING C - LEVEL 06


N
WESBROOK MALL
BINNING ROAD
PROPERTY LINE
SETBACK
0
15'
30'
65'

ROOF PLAN



BUILDING A - NORTH

0 10' 20' 50'

1 **Longboard Channel Siding**
Wood effect soffit

2 *White Glass privacy screens*

3 **BM Ebony King 2132-20**
Back painted Spandrel Glass

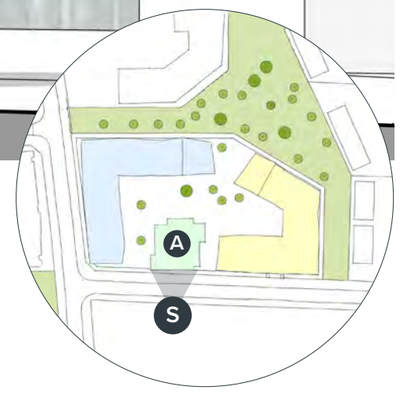
4 **BM Hudson Bay CC-810**
Composite Metal Panel

5 **BM Blue Nose CC-800**
Composite Metal Panel

6 **BM Denim Wash CC-770**
Composite Metal Panel

BUILDING A - SOUTH

0 10' 20' 50'



BUILDING A - EAST

0 10' 20' 50'

BUILDING A - WEST

0 10' 20' 50'

BUILDING B - NORTH

0 10' 20' 50'

1 **BM Interlude AF-135**
Ceraclad fiber cement siding

2 **BM Dufferin Terrace CC-456**
Ceraclad fiber cement siding

3 *White Fritted Balcony Glazing*

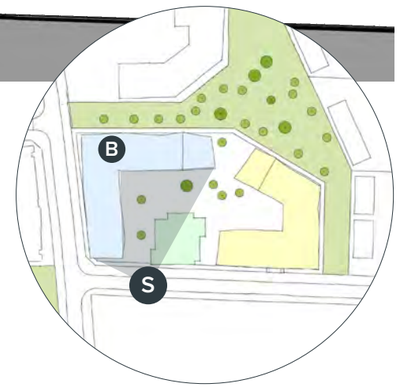
4 **BM Iron Mountain 2134-30**
Ceraclad fiber cement siding

5 **Longboard Channel Siding**
Wood effect soffit

6 **BM Serengeti Sand 2164-40**
Ceraclad fiber cement siding

BUILDING B - SOUTH

0 10' 20' 50'

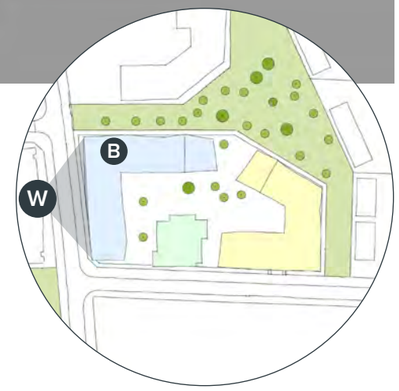


BUILDING B - EAST

0 10' 20' 50'

BUILDING B - WEST

0 10' 20' 50'



BUILDING C - NORTH

0 10' 20' 50'

BUILDING C - SOUTH

0 10' 20' 50'

BUILDING C - EAST

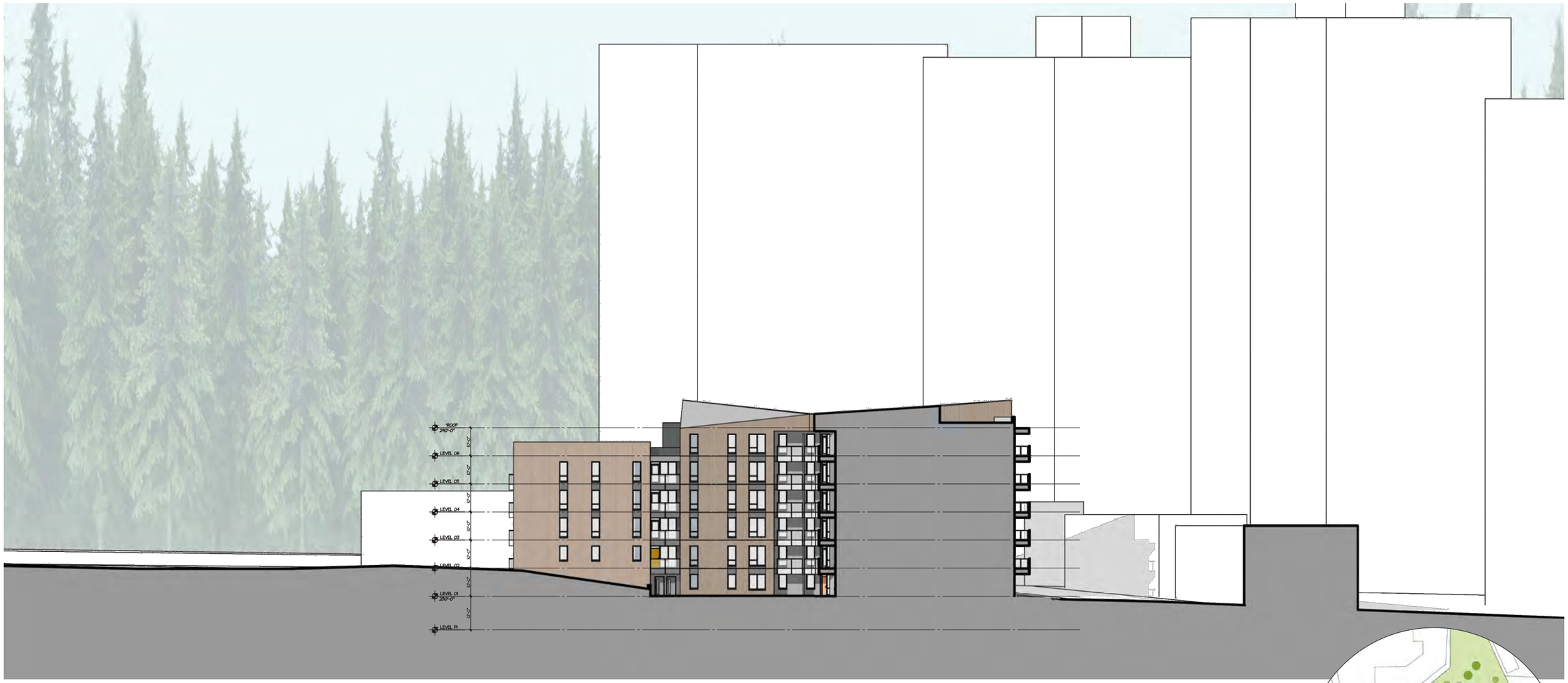
0 10' 20' 50'

BUILDING C - WEST

0 10' 20' 50'

BUILDING C - COURTYARD NORTH

0 10' 20' 50'



BUILDING C - COURTYARD SOUTH

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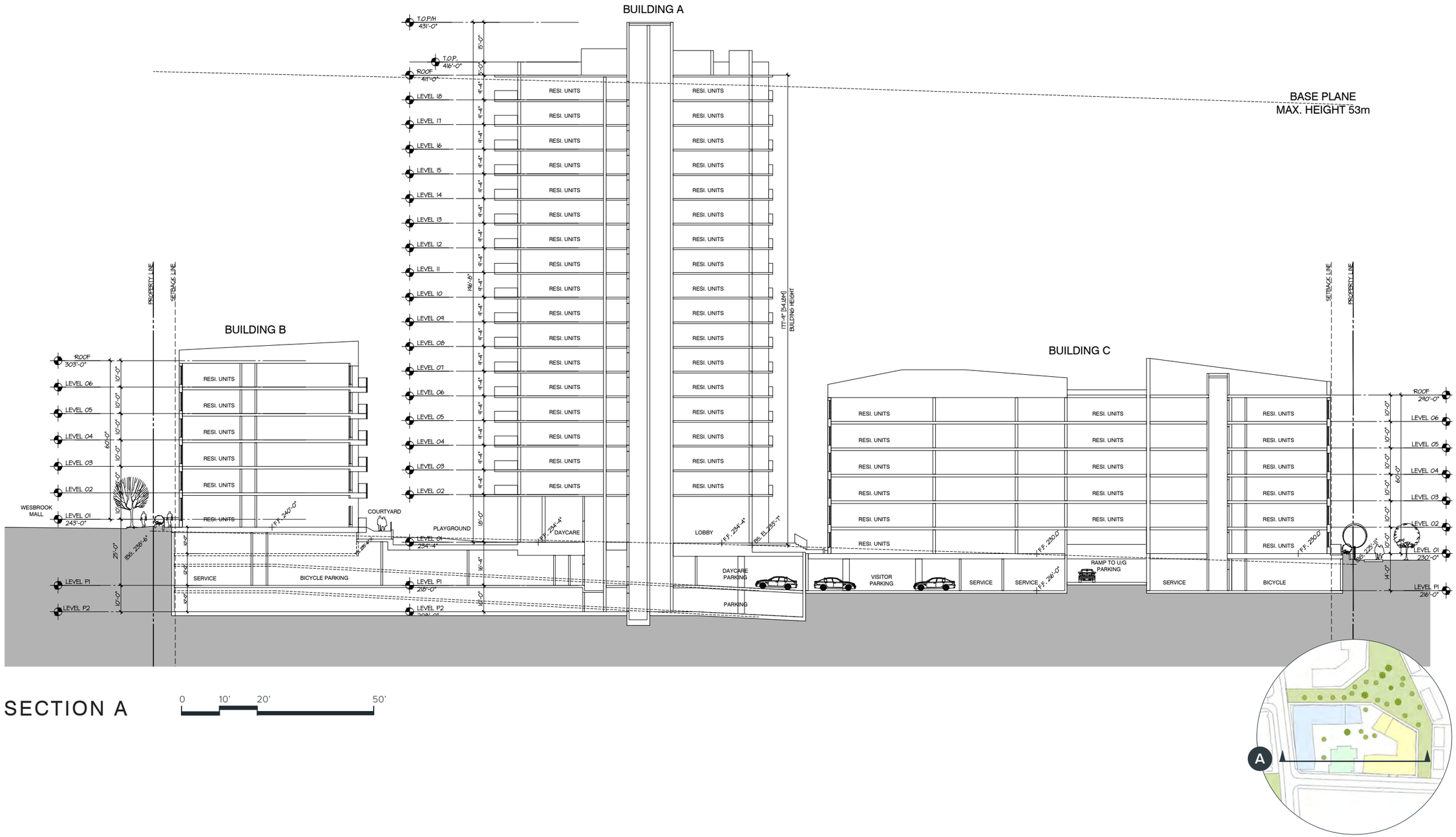

SECTION A

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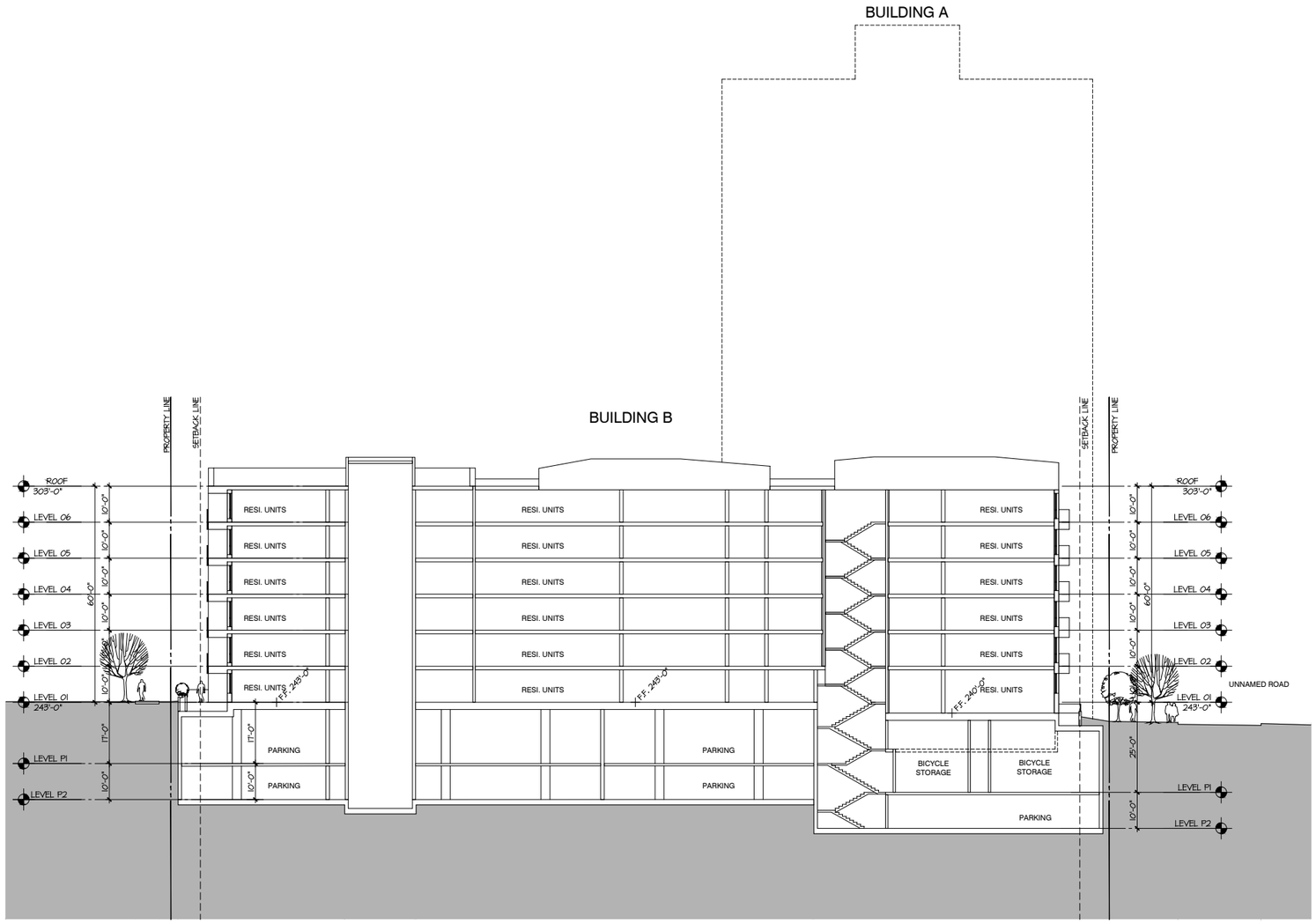

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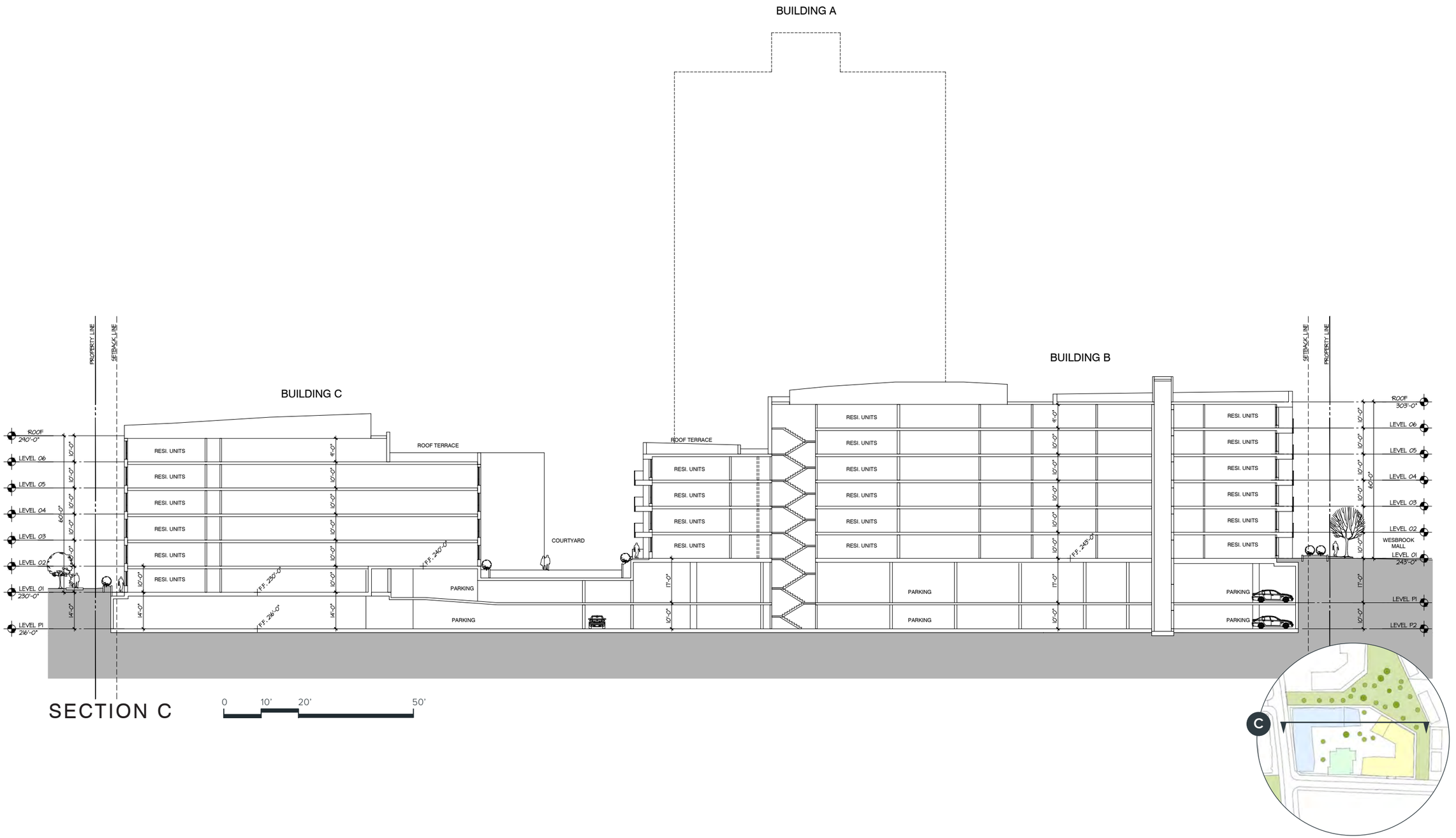

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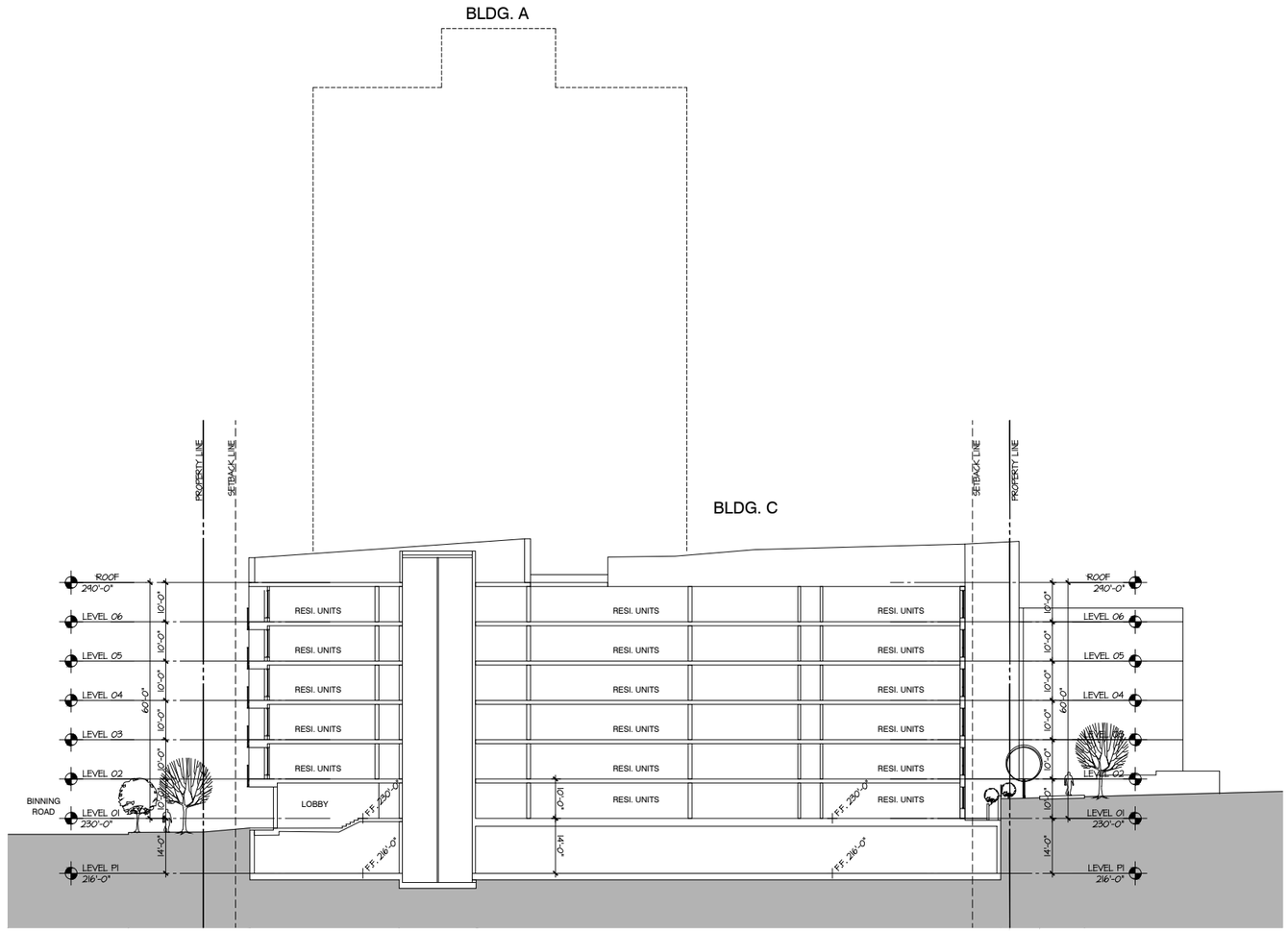

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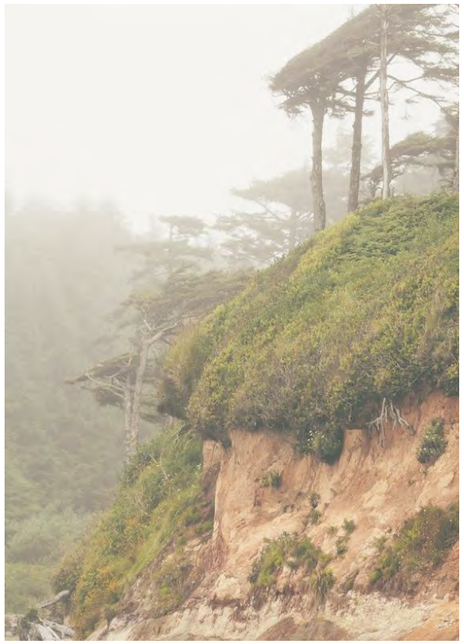
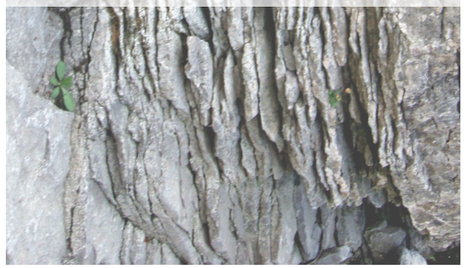


5.0 RENDERINGS



VIEW 01

VIEW 02

VIEW 03

VIEW 04

VIEW 05

VIEW 06

VIEW 07

VIEW 08

WESBROOK

LOT 5+6

LANDSCAPE ARCHITECTURAL DRAWING SET
ISSUED FOR DP

22.03.29

INSPIRATION

"Health is an attitude, a philosophy – an affirmation of life, really.
At Wesbrook Village, healthy living comes naturally.
And that is very much by design.

1 IMMERSE
BREATH

Get a breath of fresh air away from campus in a peaceful, contemporary landscape connected to the surrounding forest, riparian and wildlife habitats.
A place to reconnect with nature.

2 EXPERIENCE
UNIVERSITY & RESIDENTIAL LIFE

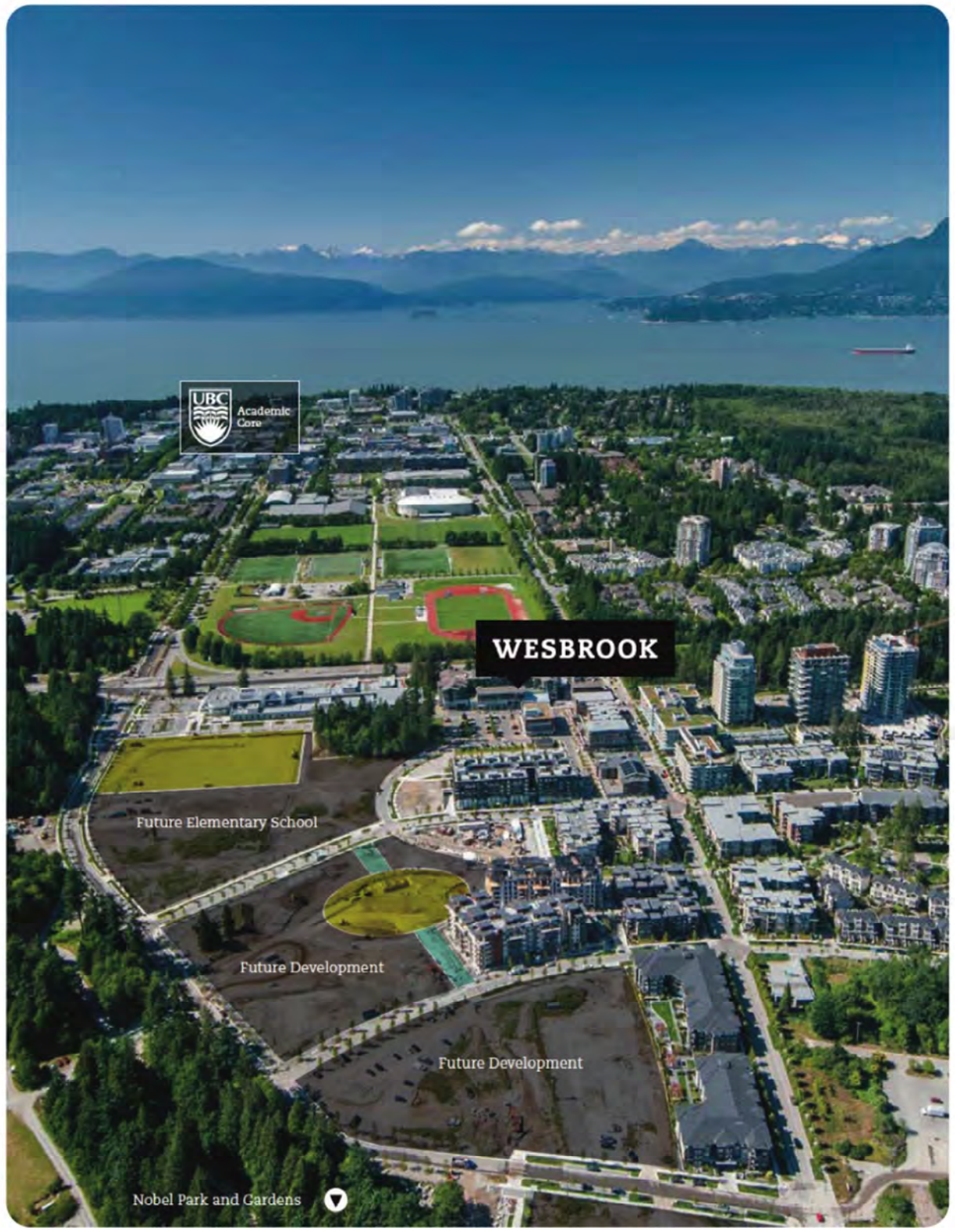
Create, work, play, reflect, and rest the mind. Contemplation, activity, and places of learning for residents, students, and faculty.

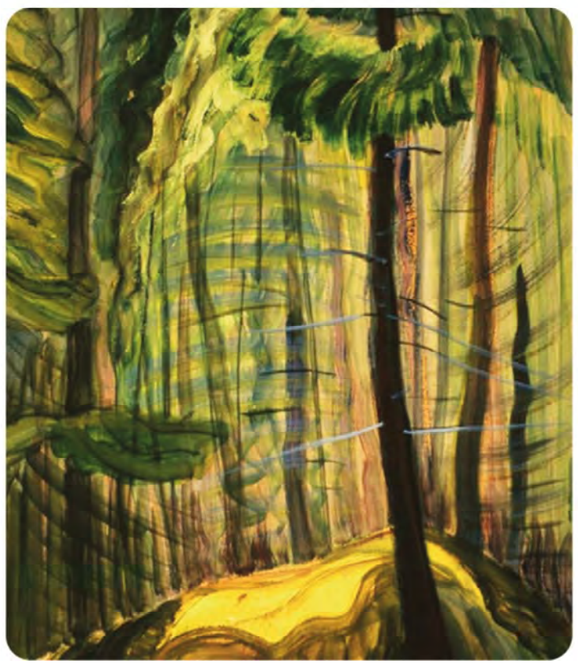
3 GATHER
SOCIAL INTERACTION

Spontaneous and planned social and communal places encourage interaction with classmates, neighbors, families and friends. Flexible outdoor spaces with daylight and shade to enhance residential and university life.

CONTEXT


xʷəṅiwən ce:p kʷθəθ nəẇeyəɬ
ʔəmi ce:p kʷətxʷiləm ʔi ʔə tə ṅa sxʷməθkʷəyəmaʔɬ
təməxʷ, tə sxʷʔaməts tə shənqəmiṅəmqən.
Remember your teachings
Welcome to the ancestral homeland of the
hən̓q̓əmiṅəm speaking Musqueam people.


UBC
Academic
Core
WESBROOK
Future Elementary School
Future Development
Future Development
Nobel Park and Gardens



STATS

Extract from:

Wesbrook Life, Volume One
Summer issue, 2021

WESBROOK PLACE
A case study in sustainable neighbourhood design
2015

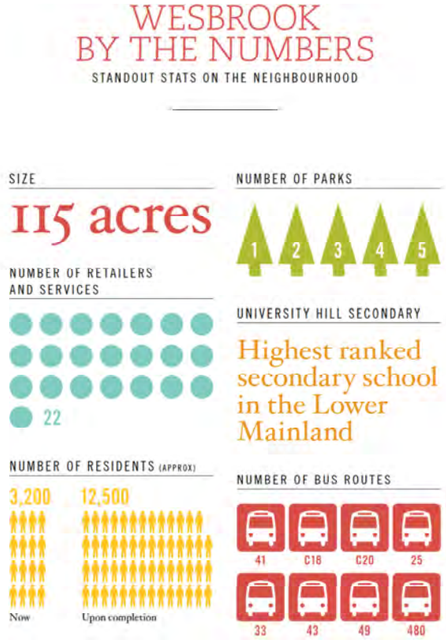


Figure 3.7 5- and 10-minute walking distances to village plaza

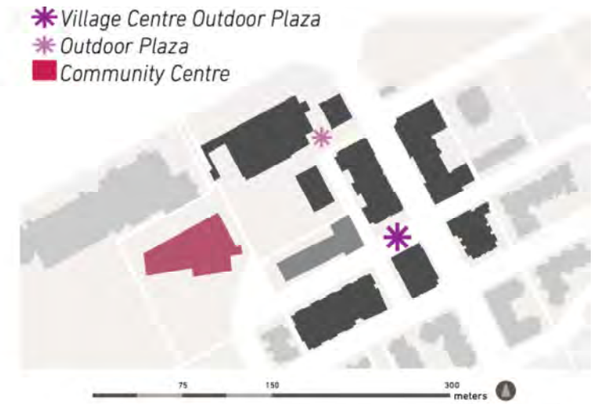


Figure 2.7 Wesbrook Commercial Centre Plaza

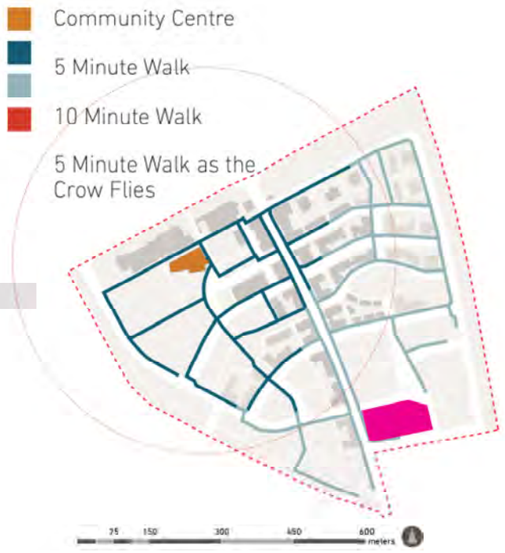


Figure 2.12 Open Space Diagram

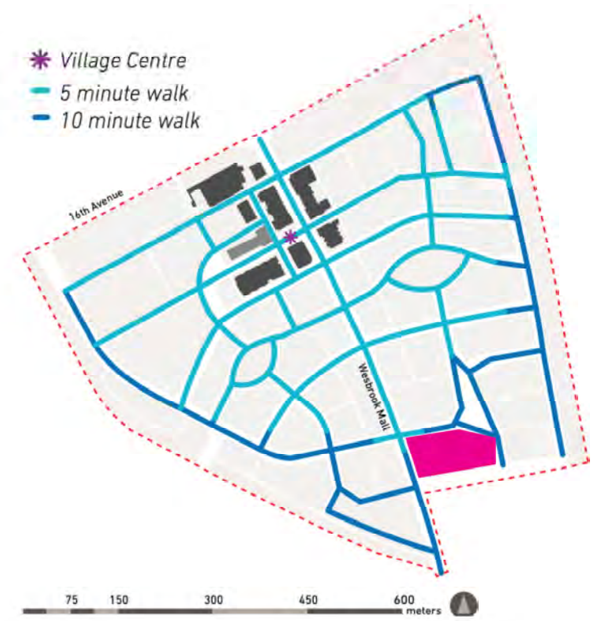
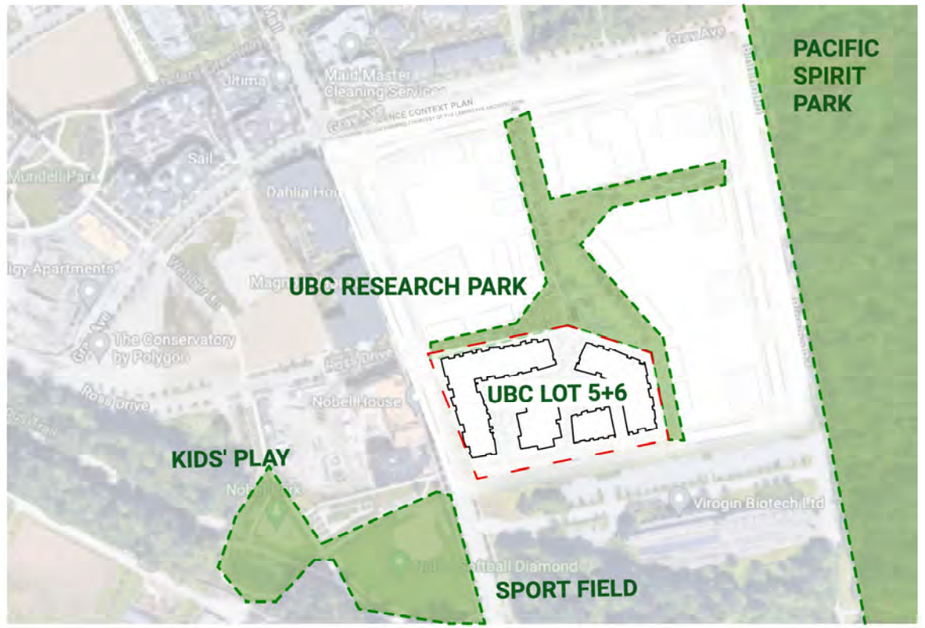


Figure 2.8 Walking distances from the Village Centre to residences

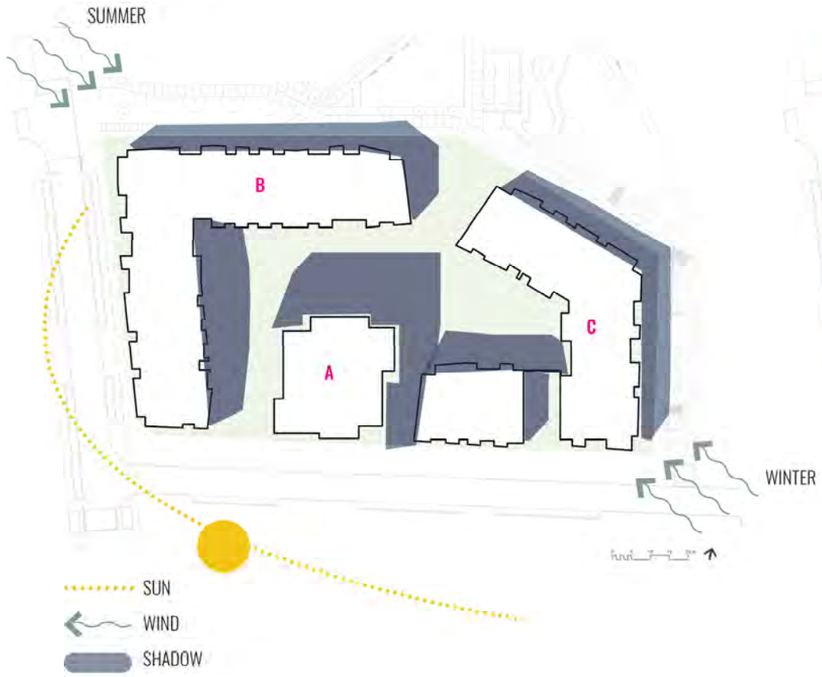
ANALYSIS

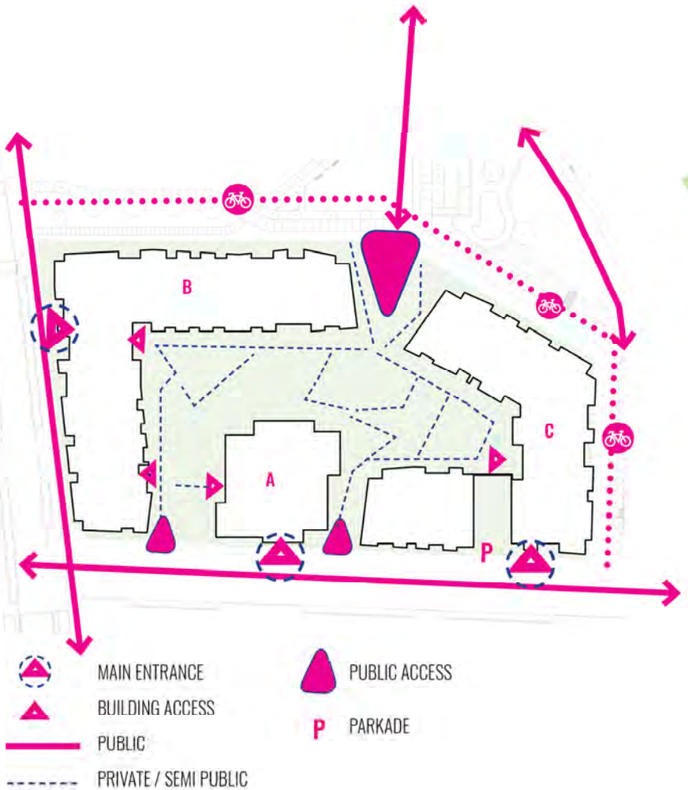
ADJACENT PARKS

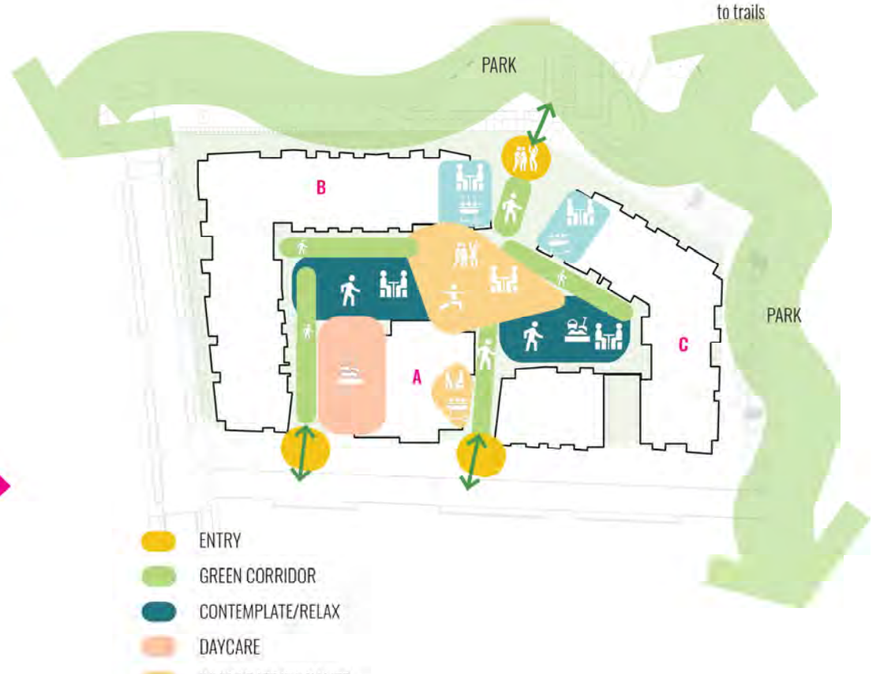


UBC RESEARCH PARK DESIGN DRAWING COURTESY OF P+A LANDSCAPE ARCHITECTURE

SITE







MICROCLIMATE

COMFORT & RESILIENCE

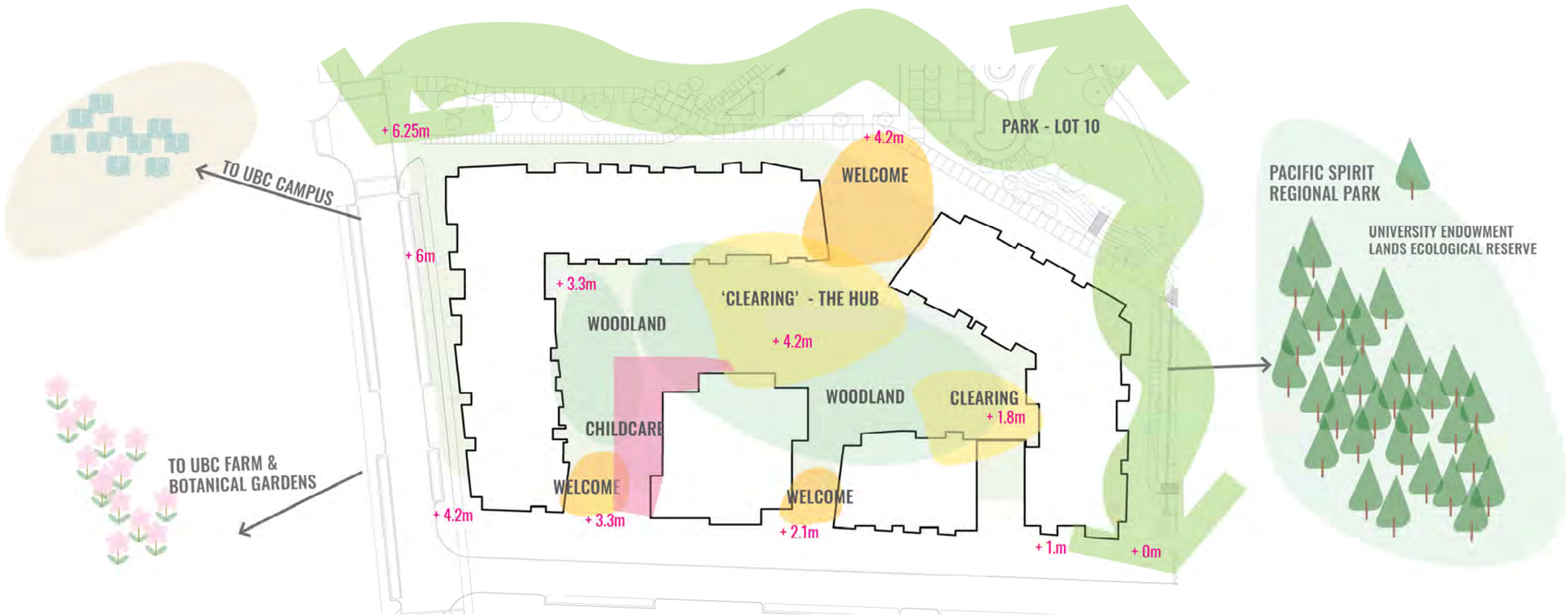
EQUITY

ACCESS & CONNECTIVITY

HEALTH

SOCIAL WELLBEING

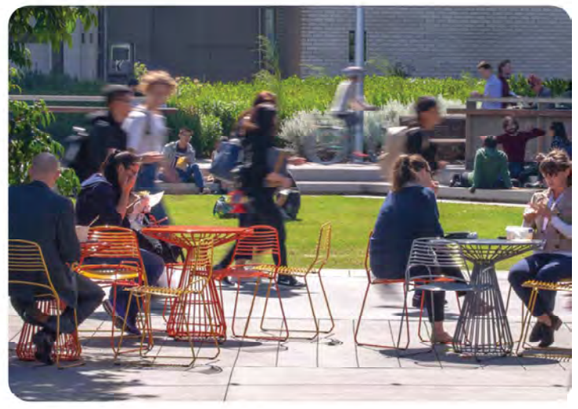
CONCEPT



1 WELCOME

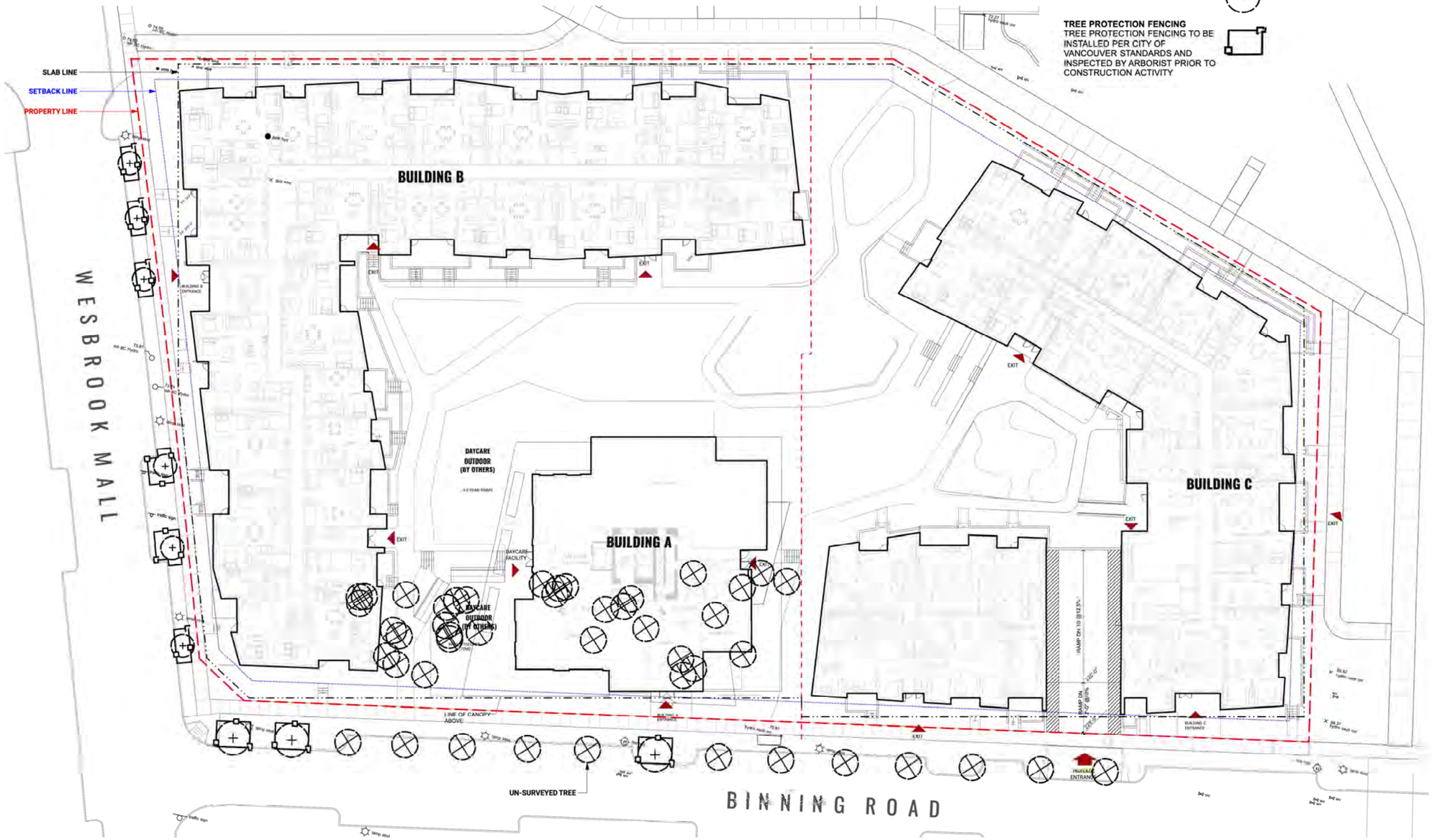
2 WOODLAND GARDENS

3 "CLEARING" - SOCIAL HUBS



TREE MANAGEMENT PLAN

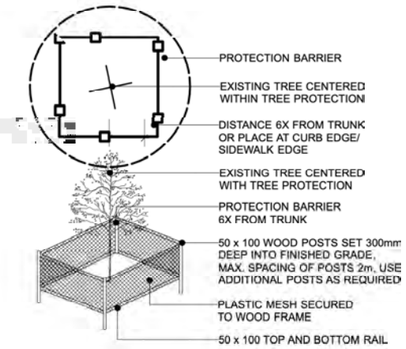
FOR TREE SPECIES, COMMON NAME, BOTANICAL NAMES, SIZE AND OTHER INFORMATION, REFER TO ARBORIST REPORT.



0 5 10 15 20 m

TREE RETENTION / REMOVAL LEGEND

DESCRIPTION	SYMBOL
EXISTING TREE TO BE REMOVED TO BE CONFIRMED PER ARBORIST ON-SITE WITH CITY OF VANCOUVER ARBORIST PRIOR TO REMOVAL	
EXISTING TREE TO BE RETAINED	
TREE PROTECTION FENCING TREE PROTECTION FENCING TO BE INSTALLED PER CITY OF VANCOUVER STANDARDS AND INSPECTED BY ARBORIST PRIOR TO CONSTRUCTION ACTIVITY	



TREE PROTECTION NOTES

1. REFER TO CERTIFIED ARBORIST REPORT TO VERIFY INFORMATION REGARDING EXISTING TREES TO BE RETAINED/REMOVED AND TREE RETENTION VIABILITY

2. INSTALL TREE PROTECTION BARRIER AROUND ALL TREES TO BE PRESERVED TO UBC STANDARDS AND SPECIFICATIONS, SUBJECT TO REVIEW BY PROJECT ARBORIST AND LANDSCAPE ARCHITECT.

3. INFORM ARBORIST WHEN ALL TREE BARRIERS HAVE BEEN INSTALLED. ARBORIST TO PROVIDE WRITTEN INSPECTION AND APPROVAL OF ALL BARRIERS AND SUBMIT INSPECTION REPORT TO UBC STAFF FOR REVIEW AND APPROVAL PRIOR TO DEMOLITION / MOBILIZATION CONSTRUCTION ACTIVITY.

4. DO NOT REMOVE OR RELOCATE ANY TREE, EXCEPT AS INDICATED ON PLANS.

5. DO NOT ALTER EXISTING GRADE OR STORE MATERIALS UNDER THE DRIP LINE OR WITHIN TREE PROTECTION ZONE. EXCAVATION WITHIN DRIP LINES OF TREES ONLY WHERE INDICATED ON PLANS.

6. ALL RETAINED TREES ARE TO BE PRUNED AND PROTECTED BY CITY OF VANCOUVER TREE PROTECTION BY-LAWS AND UBC STANDARDS.

7. FOR CARE AND PROTECTION OF EXPOSED ROOTS AND ROOT CURTAIN SYSTEM CONSULT PROJECT ARBORIST.

8. TUNNEL UNDER AND AROUND ALL SIGNIFICANT ROOTS BY HAND DIGGING OR AIR SPADE. DO NOT CUT MAIN LATERAL ROOTS.

9. TRENCHING FOR UTILITY CONNECTIONS TO BE COORDINATED WITH ENGINEERS TO ENSURE SAFE ROOT ZONES OF RETAINED TREES.

10. CONTRACTOR TO CONTACT PROJECT ARBORIST, UBC ARBORIST AND/OR LANDSCAPE ARCHITECT 48 HOURS PRIOR TO ANY CONSTRUCTION WORK AFFECTING THE DRIP LINE OF TREES.

11. MITIGATE ANY HAZARDS IDENTIFIED ON EXISTING TREES PRIOR TO ANY WORK ACTIVITY ON SITE. ANY MITIGATION IS TO BE PERFORMED BY AN EXPERIENCED ISA CERTIFIED ARBORIST.

NOTE: ANY TREES WITHIN TREE PROTECTION BARRIERS MUST BE ADEQUATELY CARED FOR DURING THE CONSTRUCTION PROCESS. WATER TREES ADEQUATELY DURING DRY WEATHER. USE ONLY CLEAN, SHARP TOOLS TO CUT ROOTS. ANY DAMAGE TO EXISTING TREES DURING CONSTRUCTION MUST BE IMMEDIATELY REPORTED AND DAMAGE ASSESSED BY AN ISA CERTIFIED ARBORIST.

SITE PLAN

PROGRAM LEGEND

1. WELCOME
2. CENTRAL LAWN
3. NATURAL PLAY
4. OUTDOOR GATHERING

LAYOUT & MATERIALS LEGEND

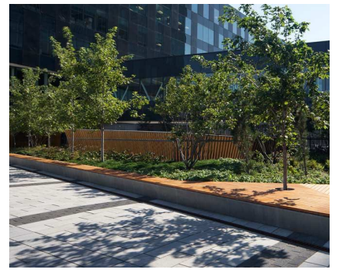
- CIP CONCRETE W/ SAW CUTS
- UNIT PAVER TYPE 1 NATURAL GREY
- UNIT PAVER TYPE 2 CHARCOAL
- LINEAR PAVER TYPE 3
- 2'X2' PATIO PAVERS
- FLAGSTONE
- GRAVEL
- PLANTING
- SOD LAWN
- FIBER SURFACING
- METAL GUARDRAIL/FENCE AND GATE
- 1.2M HT METAL FENCE WITH GATE
- TABLE AND CHAIRS
- LOUNGE CHAIR
- TIMBER BENCH
- CUSTOM CONCRETE SEAT WALL W/TIMBER SEAT
- SHELTER (COVER)
- TIMBER DECK
- BIKE RACK (2 CLASS B EA)
- TIMBER SEATING
- 8" CONCRETE RETAINING WALL
- UNIT BLOCK RETAINING WALL
- PICNIC TABLE
- BOULDER
- LOG
- STUMP

0 5 10 15 20 m

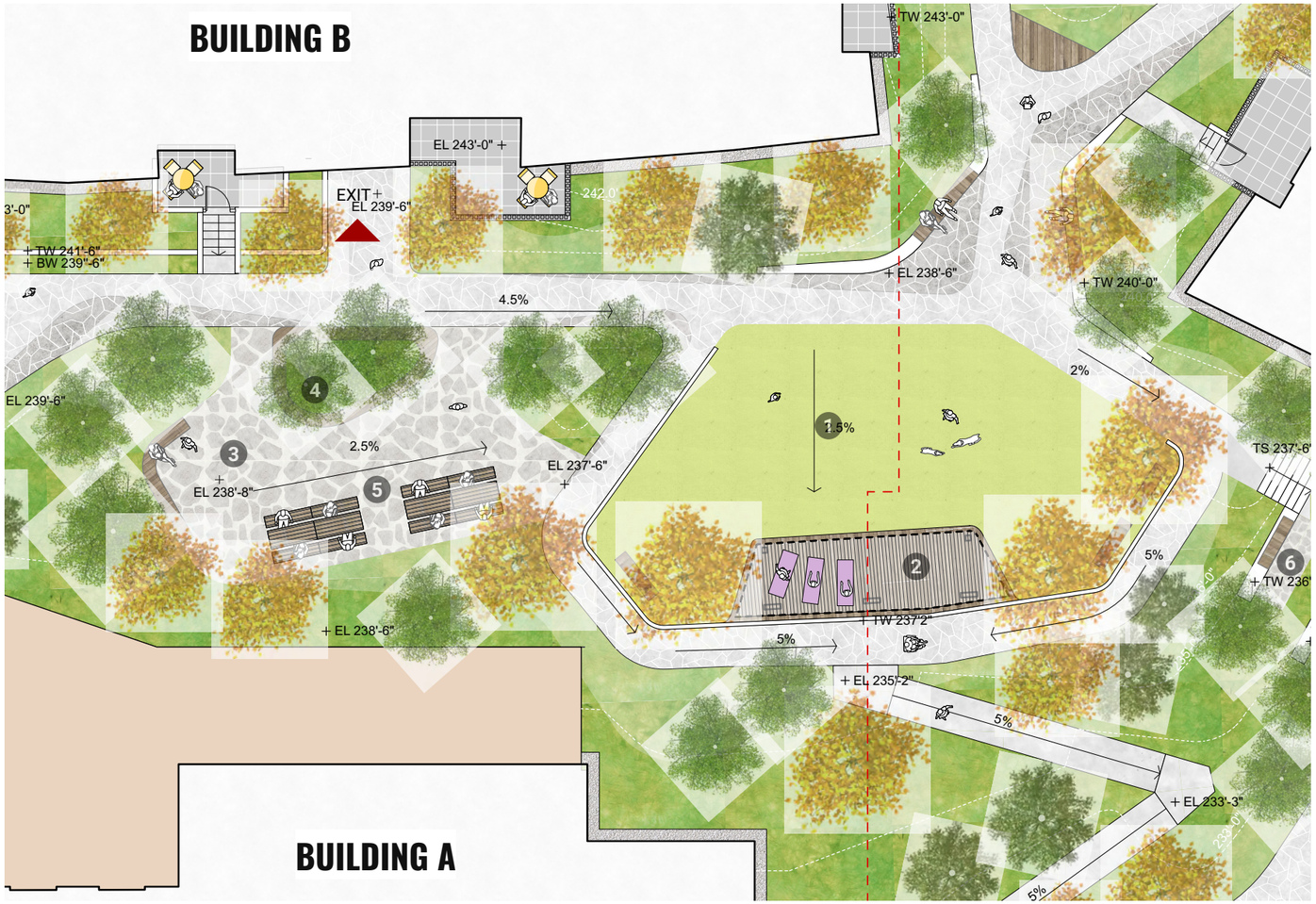
ENLARGEMENT

PROGRAM LEGEND

1. LAWN & SEAT WALL
2. TERRACED PLANTING
3. WOOD DECK
4. SEAT WALL



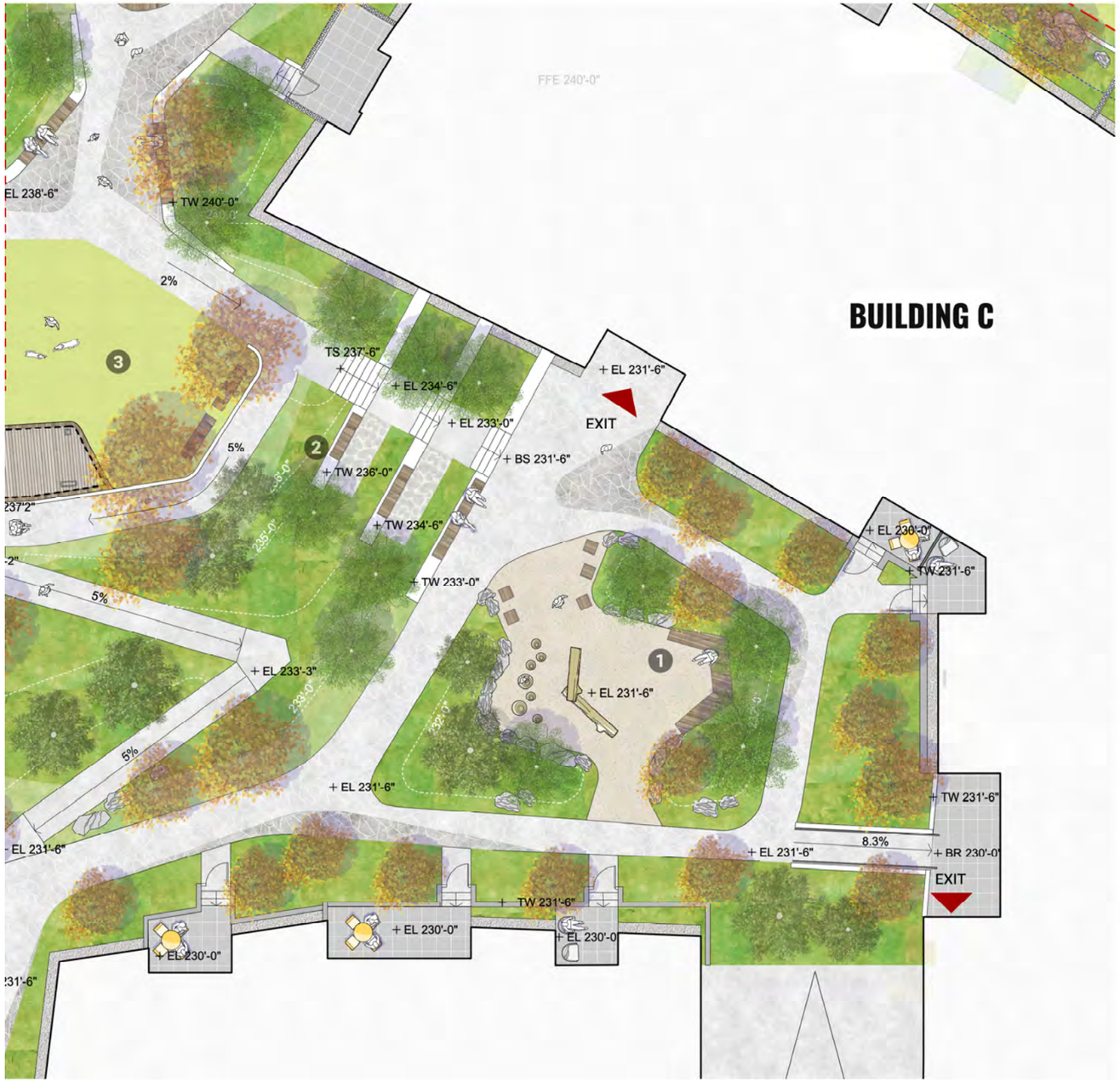
ENLARGEMENT



PROGRAM LEGEND

1. CENTRAL LAWN
2. WOOD DECK W/ COVER
3. FLAGSTONE PAVING
4. PLANTER BENCH
5. PICNIC TABLE
6. TERRACE

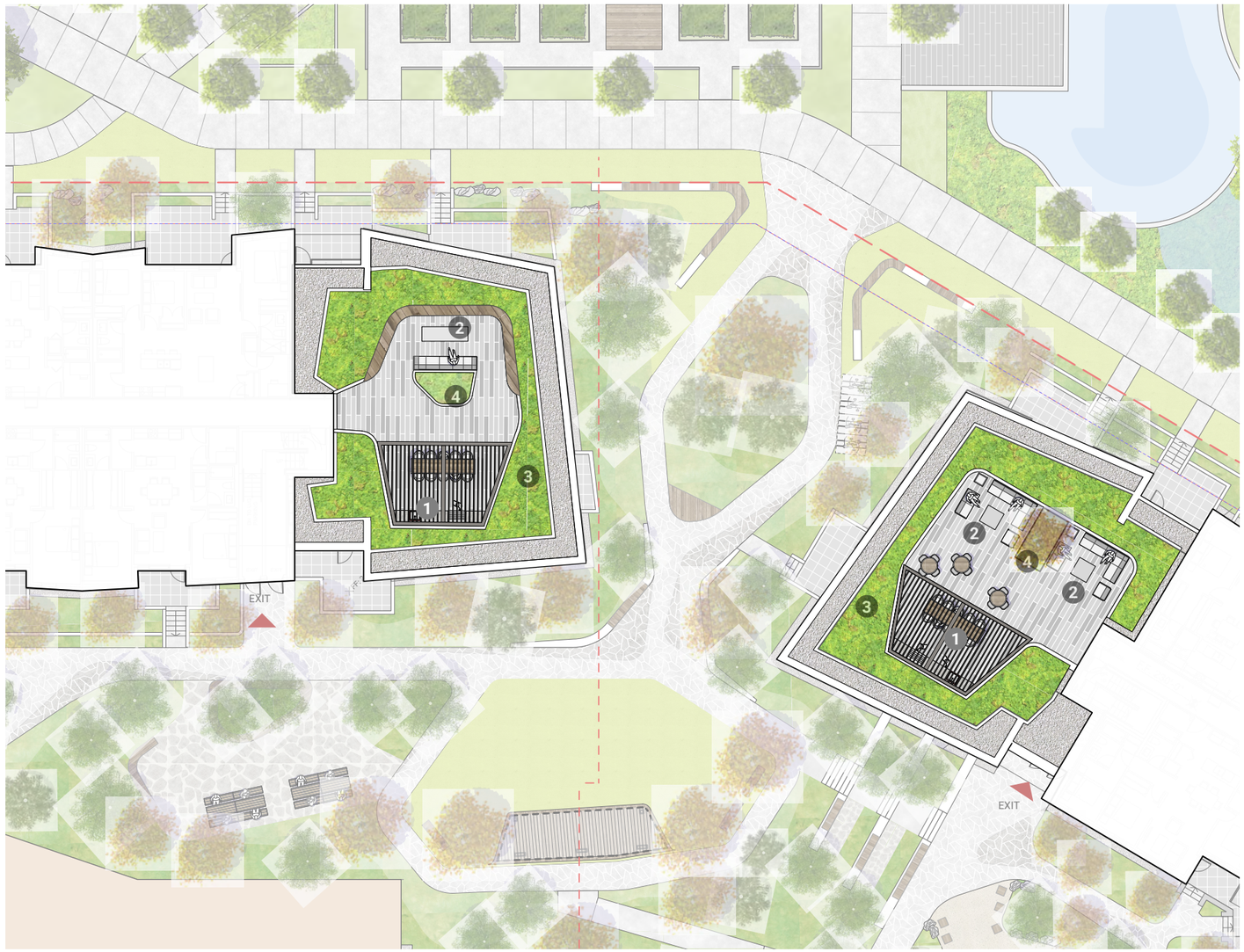
ENLARGEMENT



PROGRAM LEGEND

1. NATURE PLAY
2. TERRACE
3. CENTRAL LAWN

ROOF PLAN



1 **ROOF PLAN LEVEL 5&6 ROOF DECKS**
Scale: 1:150

0 5 10 m

PROGRAM LEGEND

1. OUTDOOR KITCHEN AND DINING
2. LOUNGE AREA WITH FIRE TABLE
3. EXTENSIVE GREEN ROOF
4. RAISED PLANTERS

LAYOUT & MATERIALS LEGEND - ROOF

- PORCELAIN TILE PAVING
- 2'X2' PATIO PAVERS
- GRAVEL
- EXTENSIVE GREEN ROOF PLANTING
- SHRUB PLANTING
- 6" CONCRETE PLANTER
- BBQ WITH COUNTER AND SINK
- SEAT WALL WITH WOOD TOP
- HARVEST TABLE
- TABLE AND CHAIRS
- LOUNGE AREA
- METAL TRELLIS

PLANT MATERIAL

CORRIDOOR

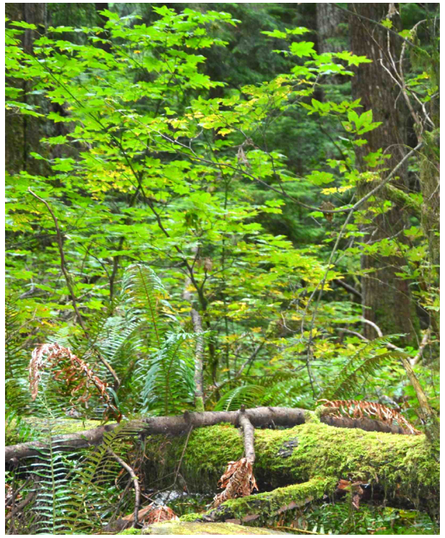






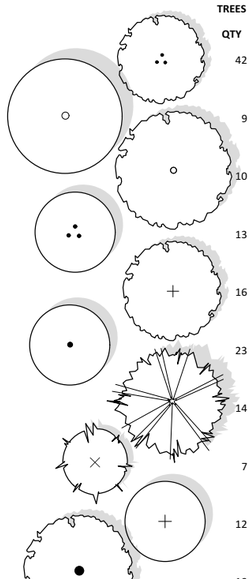
WOODLAND



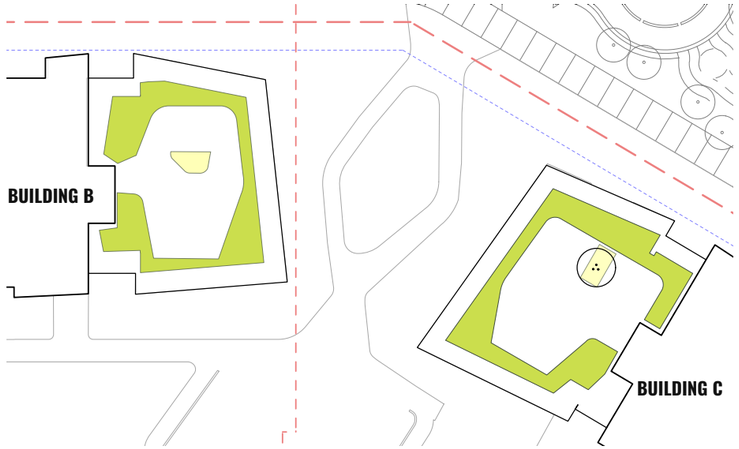



PLANT LIST



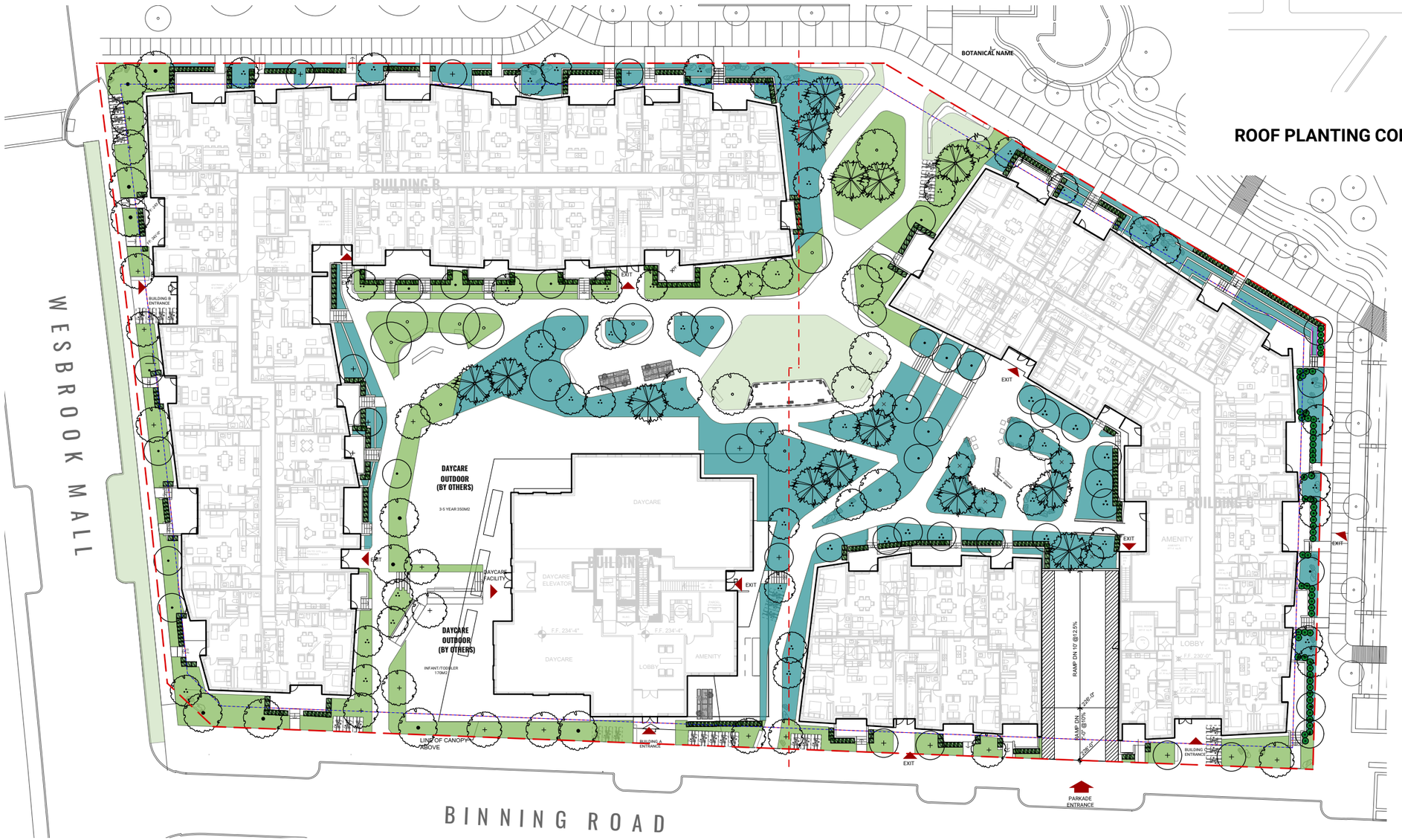
	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NOTES
TREES					
QTY					
42	Acer circinatum	Vine Maple	2.5m-3m Ht.	per plan	Multi-Stem Specimen
9	Acer griseum	Paperbark Maple	6-7cm Cal.	per plan	B&B
10	Acer rubrum 'Redpointe'	Redpointe Maple	7cm Cal.	per plan	B&B
13	Acer palmatum 'Sangukaku'	Coralbark Japanese Maple	2.5m-3m Ht.	per plan	Multi-Stem Specimen
16	Cercis canadensis	Eastern Redbud	6cm Cal.	per plan	B&B
23	Cornus kousa x nuttallii 'Starlight'	Starlight Dogwood	2.5m-3m Ht.	per plan	Multi-Stem Specimen
14	Pseudotsuga menziesii	Douglas-fir	3-4m Ht.	per plan	B&B
7	Picea omorika	Serbian Spruce	2.5-3m Ht.	per plan	B&B
12	Stewartia pseudocamellia	Japanese Stewartia	3m Ht.	per plan	Multi-Stem Specimen
10	Styrax japonicus	Japanese Snowbell tree	6cm Cal.	per plan	B&B
WOODLAND PLANTING (SHADE)					
1241	Asarum canadense	Wild Ginger	#1 POT	250mm o.c.	
547	Blechnum spicant	Deer Fern	#2 POT	450mm o.c.	
1277	Cornus canadensis	Bunchberry	#1 POT	250mm o.c.	
886	Cornus sericea 'Kelseyi'	Kelsey Dwarf Red Osier Dogwood	#2 POT	600mm o.c.	
547	Epimedium grandiflorum	Barrenwort	#1 POT	450mm o.c.	
310	Gaultheria shallon	Salal	#1 POT	300mm o.c.	
665	Polystichum munitum	Western Sword Fern	#2 POT	600mm o.c.	
1241	Polygonatum biflorum	Solomon's Seal	#1 POT	300mm o.c.	
283	Rhododendron 'Ken Janek'	Ken Janek Rhododendron	#3 POT	750mm o.c.	
310	Sarcococca hookeriana humilis	Sweet Box	#2 POT	600mm o.c.	
283	Vaccinium ovatum	Evergreen Huckleberry	#3POT	750mm o.c.	
310	Vaccinium parvifolium	Red Huckleberry	#1 POT	600mm o.c.	
532	Tellima grandiflora	Fringecup	#1 POT	300mm o.c.	
532	Trillium ovatum	Pacific Trillium	#1 POT	300mm o.c.	
CORRIDOR PLANTING (SUN- PART SHADE)					
194	Arbutus unedo 'Compacta'	Dwarf Strawberry tree	#5 POT	900mm o.c.	
281	Achillea millefolium	White yarrow	#1 POT	380mm o.c.	
1126	Arctostaphylos uva-ursi	Kinnikinnick	#1 POT	380mm o.c.	
330	Cornus sericea 'Kelseyi'	Kelsey Dwarf Red Osier Dogwood	#2 POT	600mm o.c.	
220	Mahonia nervosa	Low Oregon Grape	#2 POT	600mm o.c.	
220	Mahonia repens	Creeping Oregon Grape	#2 POT	600mm o.c.	
141	Philadelphus lewisii	Mock orange	#2 POT	750mm o.c.	
141	Ribes sanguineum	Red-flowering Currant	#2 POT	750mm o.c.	
220	Rosa nutkana	Nootka Rose	#2 POT	600mm o.c.	
330	Rhododendron occidentale	Western azalea	#2 POT	600mm o.c.	
220	Symphoricarpus albus	Snowberry	#2 POT	600mm o.c.	
SCREEN PLANTING					
496	Taxus x media 'Hicksii'	Hicks Yew	4' Ht.	450mm o.c.	Bushy and fully established
64	Osmanthus burwoodii	Burwood Osmanthus	#5 POT	750mm o.c.	Bushy and fully established
EXTENSIVE GREEN ROOF					
158m2	Sedum and Grass Sun Mix	6" Liveroof Trays			
ROOF PLANTER SUN SHRUBS, GRASSES & PERENNIALS					
9	Achillea millefolium 'Terra Cotta'	Terra Cotta yarrow	#1 POT	380mm o.c.	
22	Arctostaphylos uva-ursi	Kinnikinnick	#1 POT	380mm o.c.	
8	Carex testacea 'Prairy Fire'	Prairy Fire Carex sedge	#1 POT	450mm o.c.	
8	Gaillardia grandiflora Arizona Red	Blanket Flower	#1 POT	450mm o.c.	
9	Ilex glabra Gembox	Gembox Inkberry	#2 POT	600mm o.c.	

PLANTING CONCEPT



ROOF PLANTING CONCEPT L5&6 ROOF DECKS

0 5 10 m



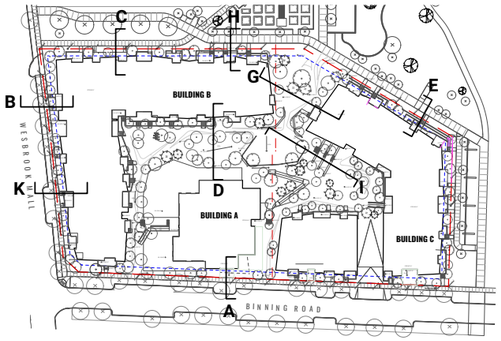
0 5 10 15 20 m

PLANTING CONCEPT PLAN (GROUND LEVEL)

PATIO CONDITION

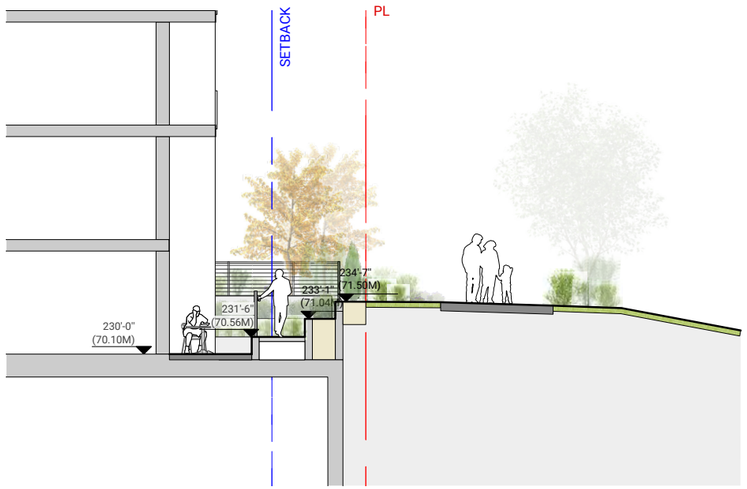
BUILDING C PARK EDGE

	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
TREES				
	Acer circinatum	Vine Maple	2.5m-3m Ht.	per plan
	Cornus kousa x nuttallii 'Starlight'	Starlight Dogwood	2.5m-3m Ht.	per plan
SHRUB PLANTING				
	Arctostaphylos uva-ursi	Kinnikinnick	#1 POT	380mm o.c.
	Gaultheria shallon	Salal	#1 POT	300mm o.c.
	Polystichum munitum	Western Sword Fern	#2 POT	600mm o.c.
	Rhododendron 'Ken Janek'	Ken Janek Rhododendron	#3 POT	750mm o.c.
	Sarcococca hookeriana humilis	Sweet Box	#2 POT	600mm o.c.
	Vaccinium ovatum	Evergreen Hucklebery	#3POT	750mm o.c.
	Mahonia nervosa	Low Oregon Grape	#2 POT	600mm o.c.
	Philadelphus lewisii	Mock orange	#2 POT	750mm o.c.
SCREEN PLANTING				
	Taxus x media 'Hicksii'	Hicks Yew	4' Ht.	450mm o.c.
	Osmanthus burwoodii	Burwood Osmanthus	#5 POT	750mm o.c.



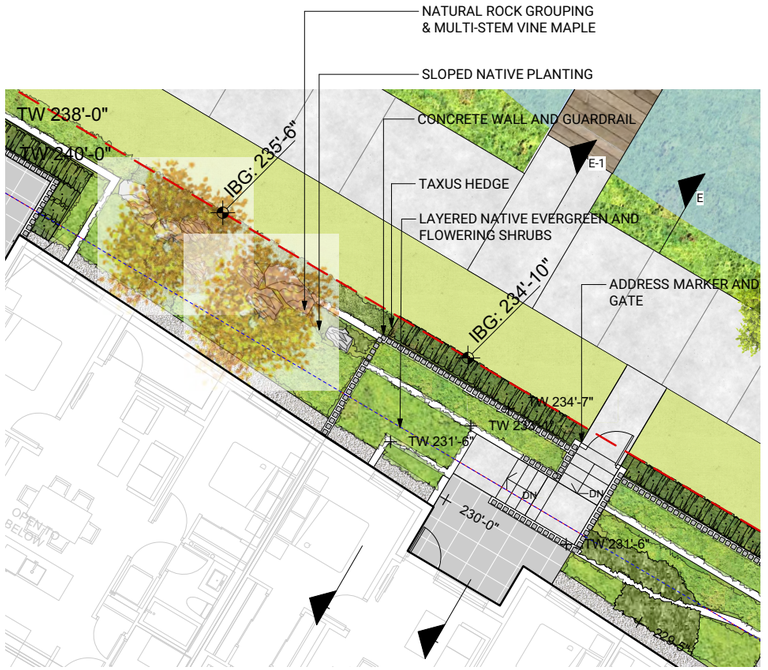
KEY PLAN

0 10 30 m



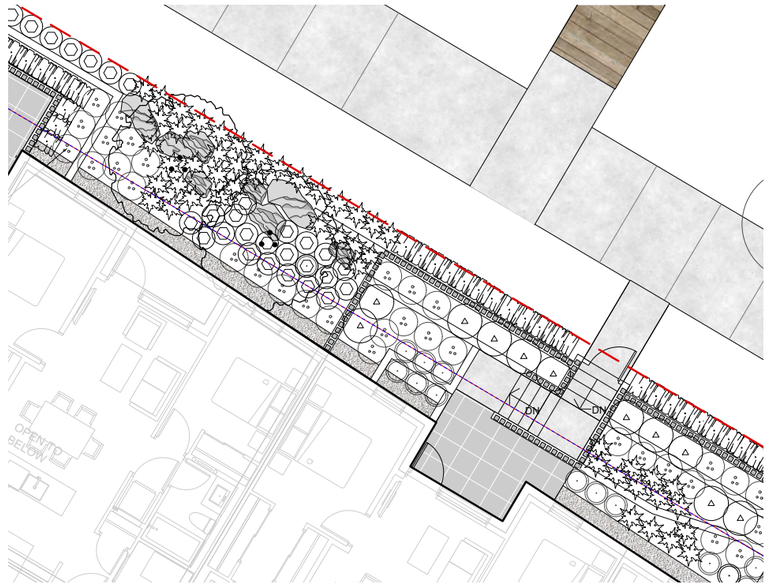
SECTION E

0 5 m



PLAN VIEW

0 5 m



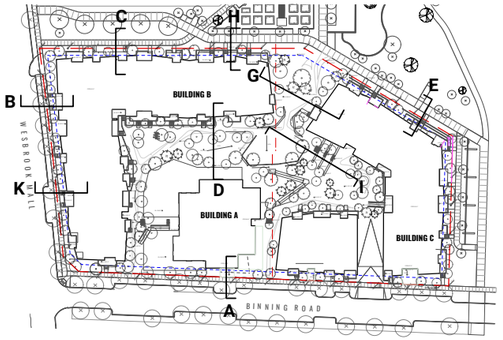
PLANTING PLAN

0 5 m

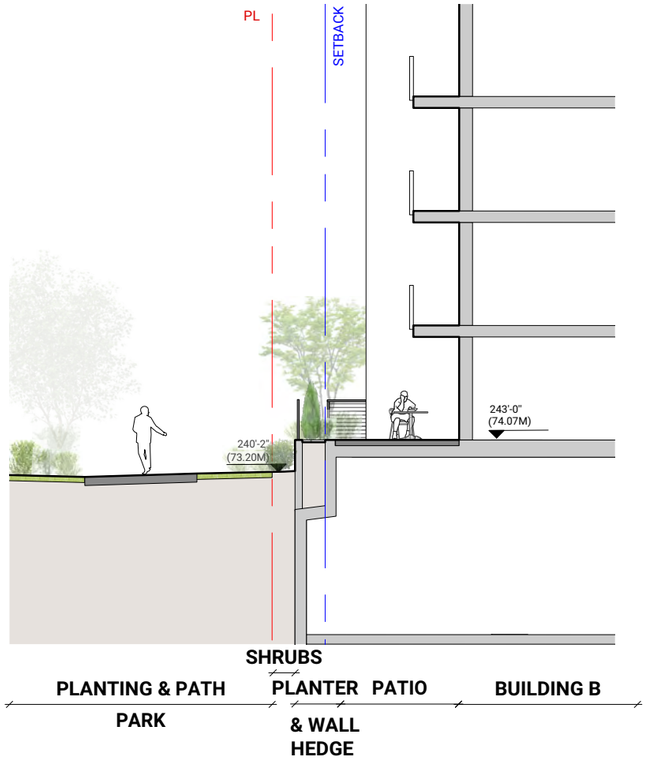
PATIO CONDITION

BUILDING B PARK EDGE

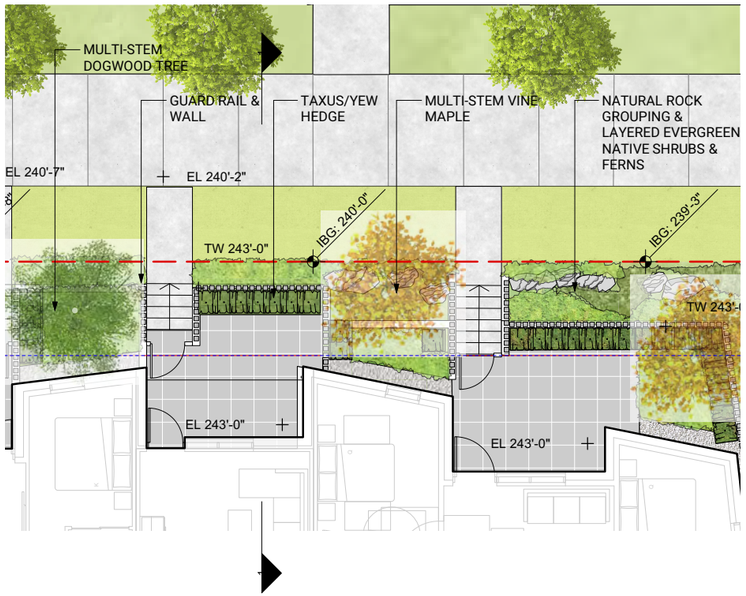
	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
TREES				
	Acer circinatum	Vine Maple	2.5m-3m Ht.	per plan
	Cornus kousa x nuttallii 'Starlight'	Starlight Dogwood	2.5m-3m Ht.	per plan
SHRUB PLANTING				
	Arctostaphylos uva-ursi	Kinnikinnick	#1 POT	380mm o.c.
	Gaultheria shallon	Salal	#1 POT	300mm o.c.
	Polystichum munitum	Western Sword Fern	#2 POT	600mm o.c.
	Rhododendron 'Ken Janek'	Ken Janek Rhododendron	#3 POT	750mm o.c.
	Sarcococca hookeriana humilis	Sweet Box	#2 POT	600mm o.c.
	Vaccinium ovatum	Evergreen Hucklebery	#3POT	750mm o.c.
	Mahonia nervosa	Low Oregon Grape	#2 POT	600mm o.c.
	Philadelphus lewisii	Mock orange	#2 POT	750mm o.c.
SCREEN PLANTING				
	Taxus x media 'Hicksii'	Hicks Yew	4' Ht.	450mm o.c.
	Osmanthus burwoodii	Burwood Osmanthus	#5 POT	750mm o.c.



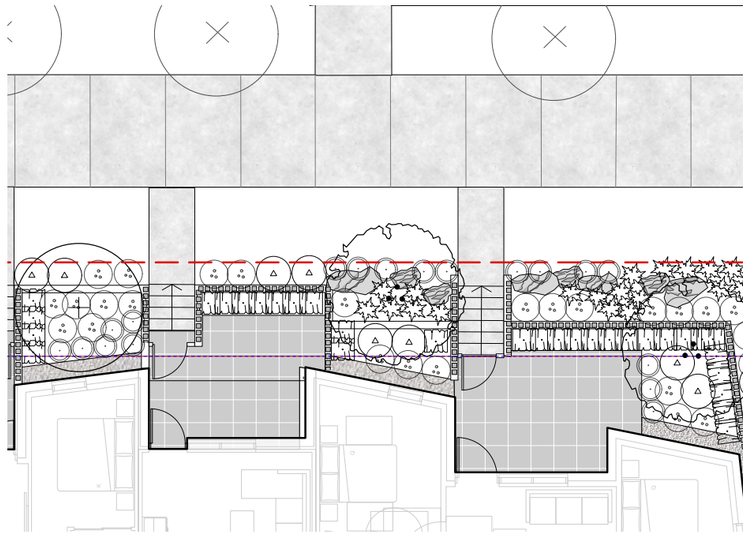
KEY PLAN 0 10 30 m



SECTION H 0 5 m



PLAN VIEW 0 5 m

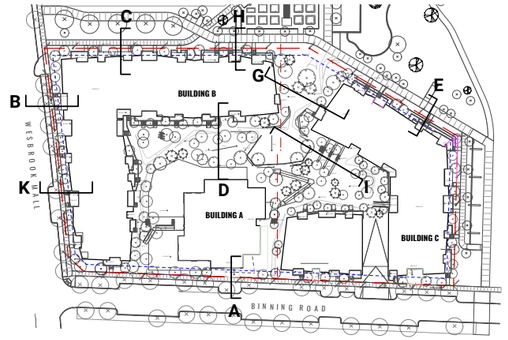


PLANTING PLAN 0 5 m

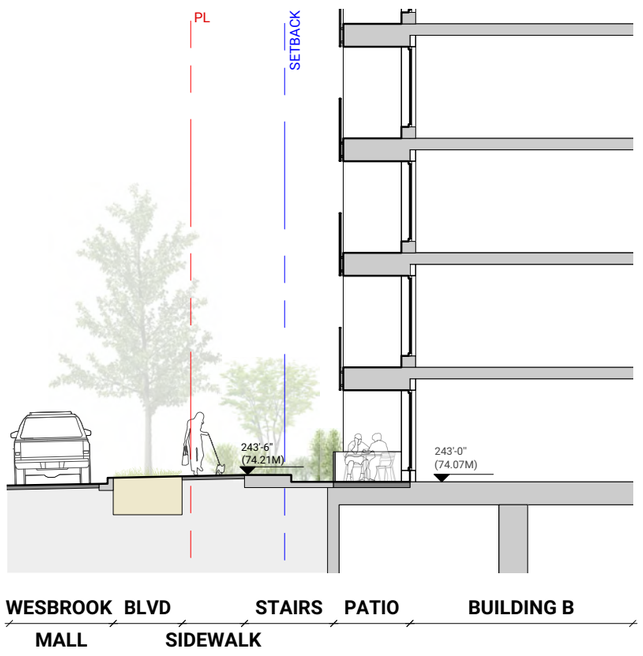
PATIO CONDITION

BUILDING B WESBROOK EDGE

	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
TREES				
	Acer circinatum	Vine Maple	2.5m-3m Ht.	per plan
	Cornus kousa x nuttallii 'Starlight'	Starlight Dogwood	2.5m-3m Ht.	per plan
SHRUB PLANTING				
	Arctostaphylos uva-ursi	Kinnikinnick	#1 POT	380mm o.c.
	Gaultheria shallon	Salal	#1 POT	300mm o.c.
	Polystichum munitum	Western Sword Fern	#2 POT	600mm o.c.
	Rhododendron 'Ken Janek'	Ken Janek Rhododendron	#3 POT	750mm o.c.
	Sarcococca hookeriana humilis	Sweet Box	#2 POT	600mm o.c.
	Vaccinium ovatum	Evergreen Hucklebery	#3POT	750mm o.c.
	Mahonia nervosa	Low Oregon Grape	#2 POT	600mm o.c.
	Philadelphus lewisii	Mock orange	#2 POT	750mm o.c.
SCREEN PLANTING				
	Taxus x media 'Hicksii'	Hicks Yew	4' Ht.	450mm o.c.
	Osmanthus burwoodii	Burwood Osmanthus	#5 POT	750mm o.c.



KEY PLAN 0 10 30 m

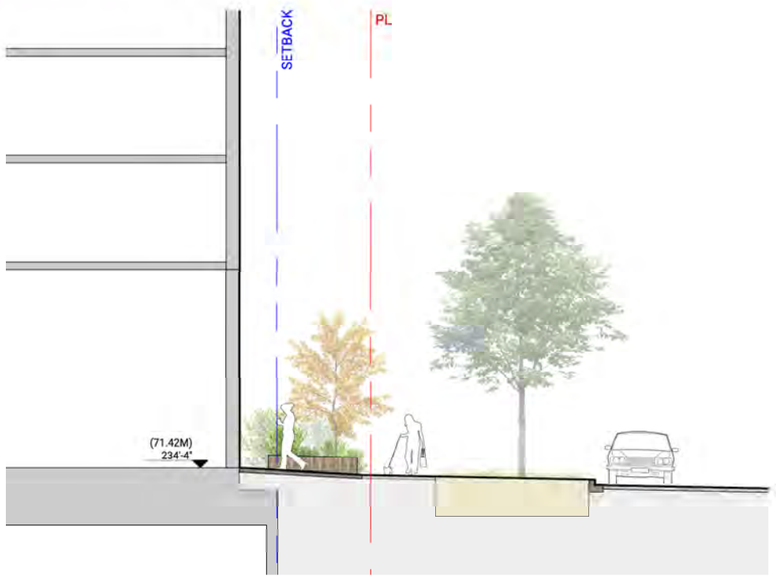


SECTION B (WESBROOK MALL) 0 5 m

PLAN VIEW 0 5 m

PLANTING PLAN 0 5 m

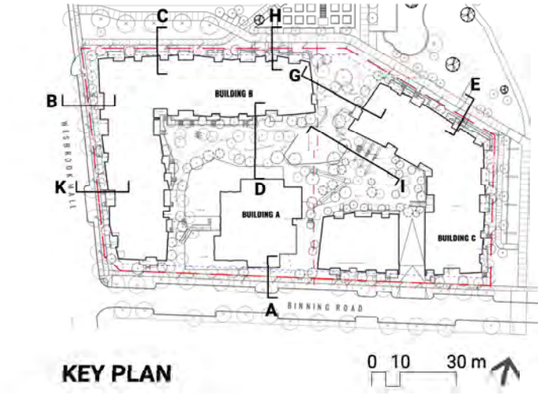
SECTION



BUILDING A | ENTRANCE | SIDEWALK | BOULEVARD | BINNING ROAD

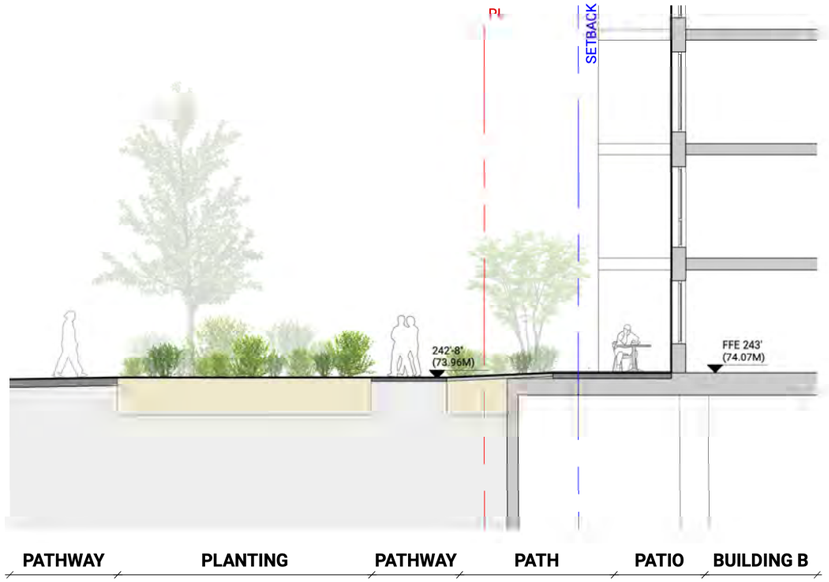
0 5 m

SECTION A



KEY PLAN

0 10 30 m



PATHWAY | PLANTING | PATHWAY | PATH | PATIO | BUILDING B

SECTION C

0 5 m

BUILDING B | PATIO | STAIRS | PATH | OUTDOOR GATHERING | DAYCARE | BUILDING A

PLANTER & SEATING | BY OTHERS

SECTION D

0 5 m

LIGHTING PLAN

0 5 10 15 20 m

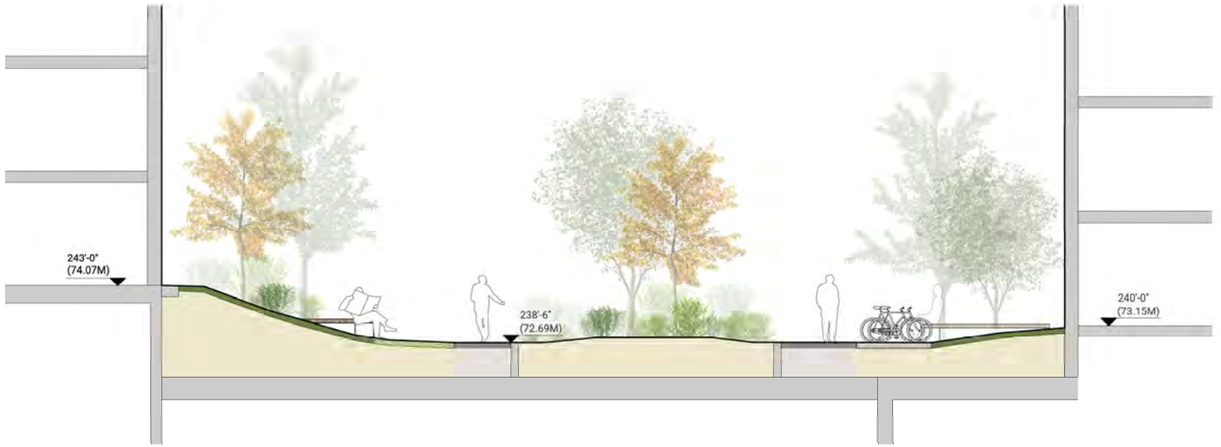
LIGHTING LEGEND

- WALL/STEP
- LIGHT
- BOLLARD LIGHT
- ENTRY ADDRESS LIGHT
- STRIP LIGHT
- ARCHITECTURAL BUILDING LIGHT
- STREET LIGHT

LIGHTING NOTES

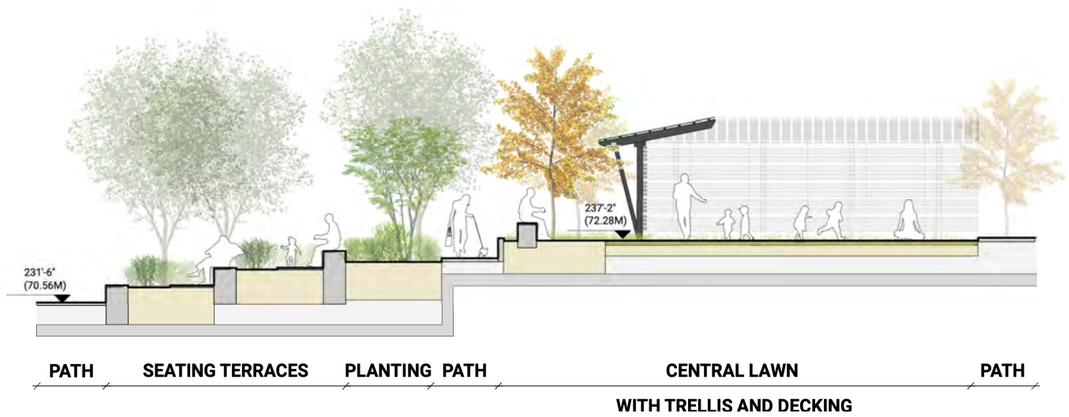
LIGHTING PLAN PROVIDED FOR INFORMATION ONLY. ELECTRICAL ENGINEER TO DESIGN SITE LIGHTING AND PROVIDE SPECS AND QUANTITIES DURING BUILDING PERMIT APPLICATION.

SECTION



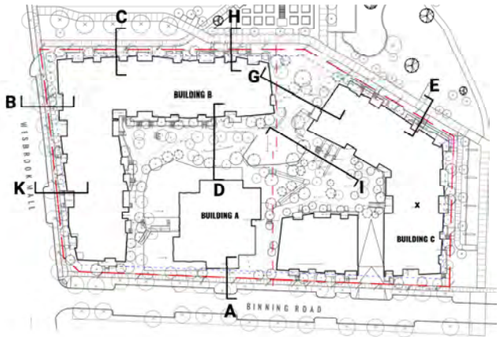
SECTION G

0 5 m



SECTION I

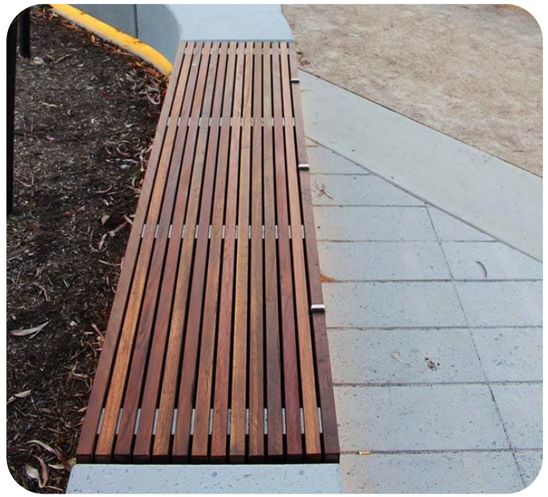
0 5 m



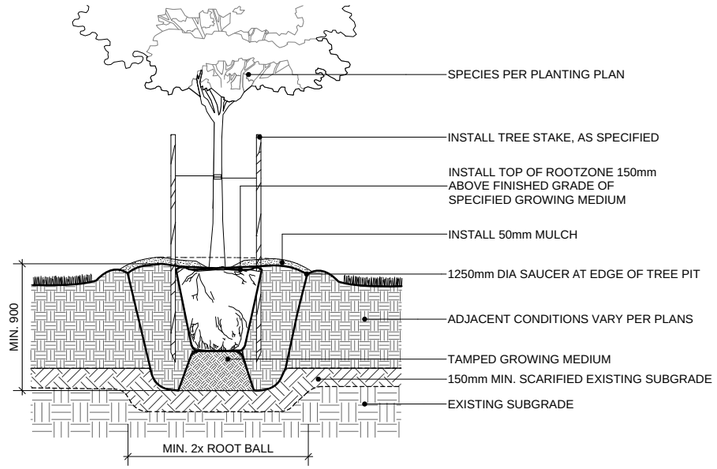
KEY PLAN

0 10 30 m

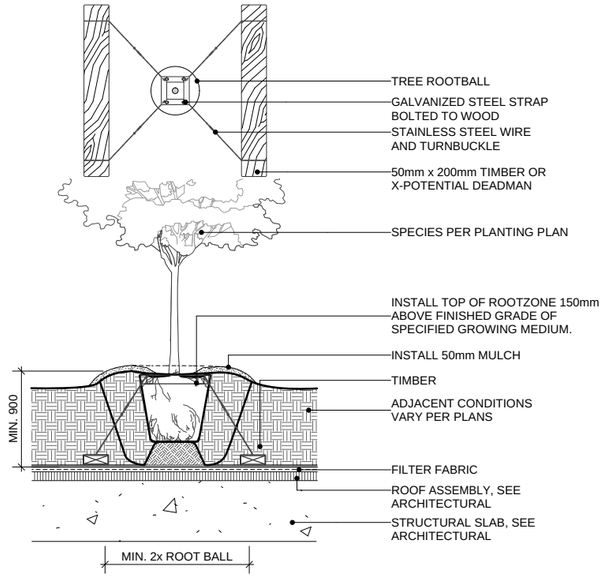
MATERIAL PALETTE



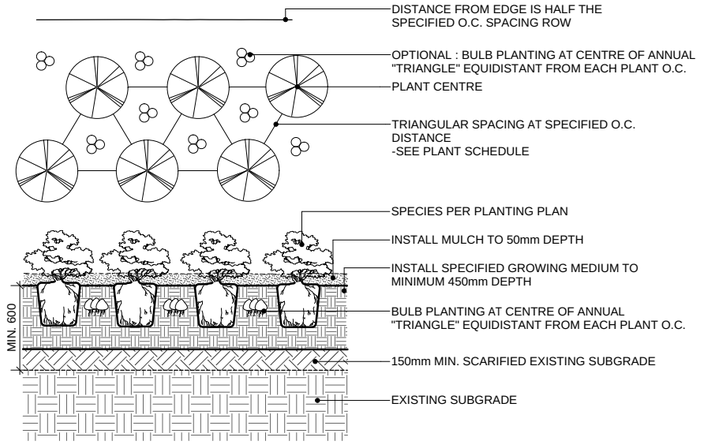
DETAILS



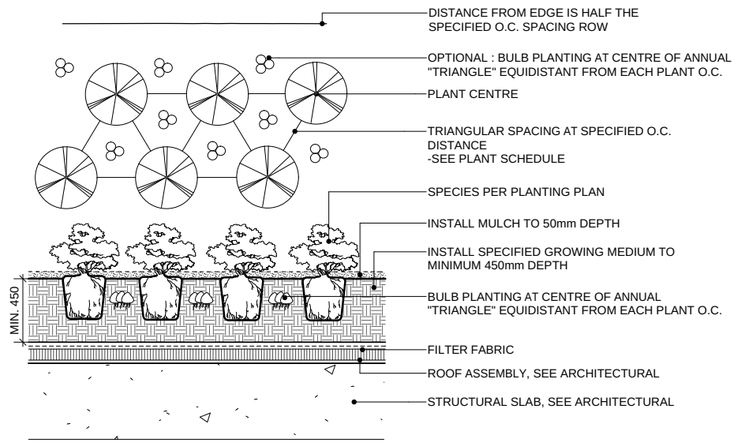
1 DECIDUOUS TREE PLANTING ON GRADE (TYPICAL)
Scale: 1:20



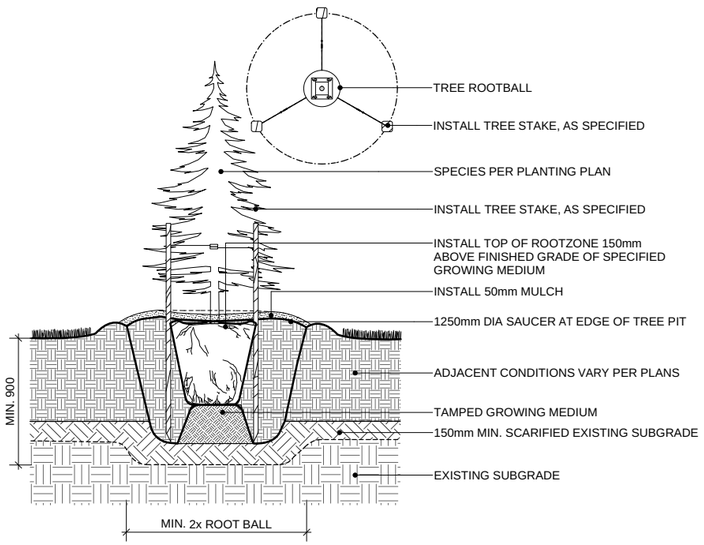
3 DECIDUOUS TREE PLANTING ON SLAB (TYPICAL)
Scale: 1:25



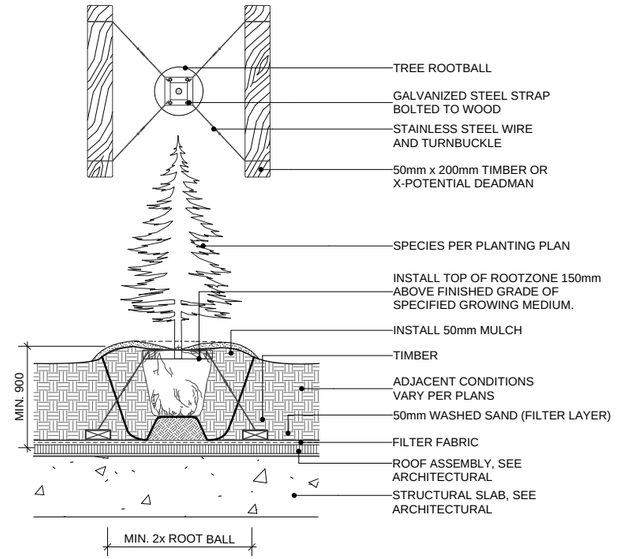
5 PLANTING ON GRADE (TYPICAL)
Scale: 1:20



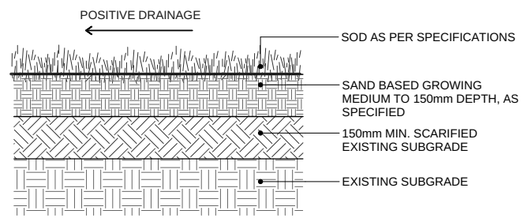
6 PLANTING ON SLAB (TYPICAL)
Scale: 1:20



2 CONIFEROUS TREE PLANTING ON GRADE (TYPICAL)
Scale: 1:20

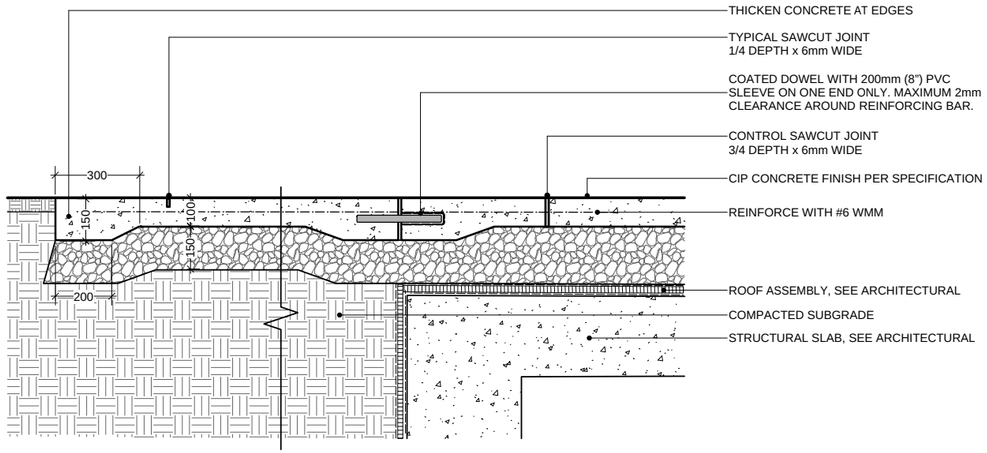


4 CONIFEROUS TREE PLANTING ON SLAB (TYPICAL)
Scale: 1:25

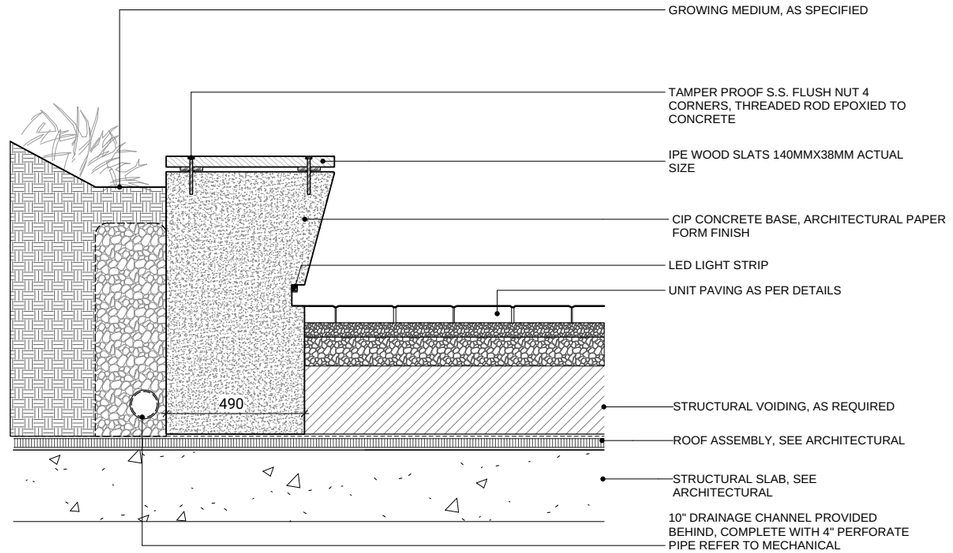


7 SOD LAWN (TYPICAL)
Scale: 1:10

DETAILS



1 CIP CONCRETE ON GRADE / ON SLAB, TYP.
Scale: 1:10

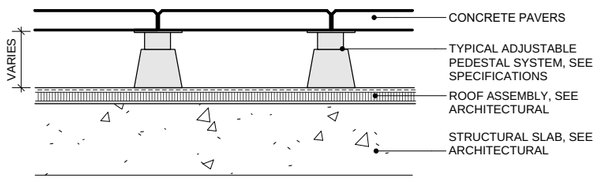


NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION
2. REFER TO ELECTRICAL FOR LED LIGHTING

0 1 M

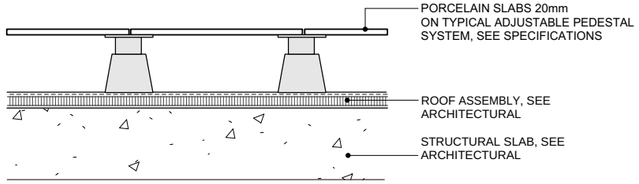
2 CUSTOM SEAT WALL WITH WOOD
Scale: 1:10

TEXADA SERIES
SIZE: 610mm x 610mm x 50mm
COLOUR: NATURAL
BY: ABBOTSFORD CONCRETE PRODUCTS
(1.800.663.4091)

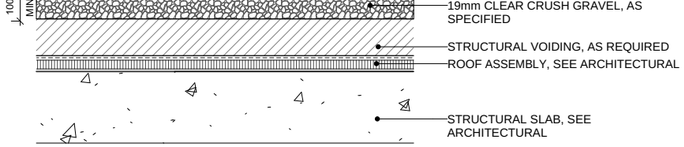


3 HYDRAPRESSED CONCRETE PAVERS ON PEDESTALS
Scale: 1:10

ARISTOCRAT SERIES
SIZE: 598mm x 598mm x 20mm
COLOUR: DOVER GREY
BY: ABBOTSFORD CONCRETE PRODUCTS
(1.800.663.4091)

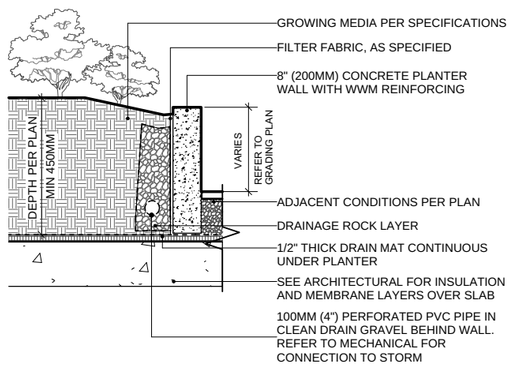


4 PORCELAIN SLABS ON PEDESTALS
Scale: 1:10

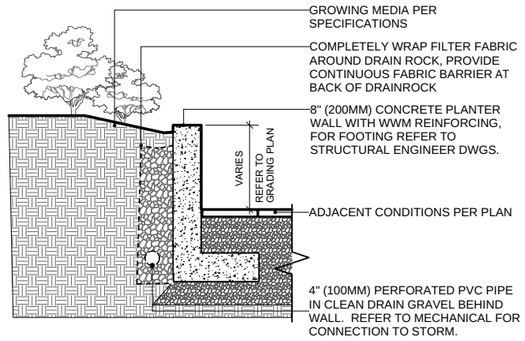


NOTE:
USE CONCRETE HIDDEN EDGE RESTRAINT WHEN PAVERS ARE NOT ADJACENT TO A SOLID EDGE CONDITION.

5 PEDESTRIAN UNIT PAVERS ON SLAB (TYPICAL)
Scale: 1:10



6 TYPICAL CIP CONCRETE RETAINING ON SLAB
Scale: 1:20



0 1 2 M

7 TYPICAL CIP CONCRETE RETAINING ON GRADE
Scale: 1:20

7.0 REAP CHECKLIST

UBC REAP 3.2 - Draft Scorecard for BCR 5+6

Y	?	N	Energy & Emissions (E&E)		16/35
precondition			P1	Energy Step Code Compliance (Step 2)	-
precondition			P2	Greenhouse Gas Intensity Reporting	-
precondition			P3	Building Level Energy Metering and Reporting	-
precondition			P4	Domestic Hot Water Energy Use Sub-metering and Reporting	-
precondition			P5	Overall R-Value	-
precondition			P6	Energy Star Appliances	-
precondition			P7	Electric Vehicle Charging Infrastructure	-
precondition			P8	Commissioning	-
precondition			P9	Energy Modeling Workshop	-
precondition			P10	Contribution to Low Carbon Transportation	-
precondition			P11	Refrigerant Emission Reporting	-
precondition			P12	Programmable Thermostats	-
8		13	1.1	Optimized Energy Performance (Step Code 3/4/PH)	21
0		6	2.1	Renewable Energy	6
5		0	3.1	Enhanced Energy Submetering and Reporting	5
3		0	4.1	Electric Vehicle Charging Stations	3

Y	?	N	Water (W)		10/15
precondition			P1	Low-Flow Plumbing Fixtures	-
precondition			P2	Outdoor Water Use Reduction	-
precondition			P3	Water Efficient Appliances	-
precondition			P4	Rainwater Management	-
2		5	1.1	Total Water Use Reduction	7
4		0	2.1	On-Site Rainwater Management	4
4		0	3.1	Domestic Hot Water Metering	4

Y	?	N	Biodiversity (B)		5/8
precondition			P1	Ecological Planting	-
precondition			P2	Light Pollution Reduction	-
precondition			P3	Bird Friendly Design - Basic	-
3		0	1.1	Planting for Biodiversity and Ecosystem Health	3
1		0	2.1	Site Green Space	1
0		3	3.1	Bird Friendly Design - Enhanced	3
1		0	4.1	Food Growing Opportunity	1

Y	?	N	Materials & Resources (M&R)		4/8
precondition			P1	Zero Waste Ready	-
precondition			P2	Embodied Carbon Reporting	-
precondition			P3	Construction and Demolition Waste	-
2		2.0	1.1	Environmentally Responsible Materials	4.0
2		0	1.2	Local Materials	2
0		1	1.3	Mass Timber Superstructure	1
0		1	1.4	Healthy Building Materials	1

Y	?	N	Climate Adaptation (CA)		6/13
precondition			P1	2050 Climate Ready Thermal Comfort Modelling	-
3		4	1.1	2050 Climate Ready Energy Efficient Design	7
0		3	1.2	Enhanced Resiliency	3
3		0	1.3	On Site Backup Power	3

Y	?	N	Place & Experience (P&E)		5/5
precondition			P1	Project Community Amenity Spaces	-
5		0	1.1	Project Exemplary Community Amenity Spaces	5

Y	?	N	Health & Wellbeing (H&W)		7/8
precondition			P1	Bicycle Parking & Storage Room(s)	-
precondition			P2	Low-Emitting Products	-
precondition			P3	Construction Indoor Air Quality Management	-
1		0	1.1	IAQ Assessment	1
2		0	2.1	Additional Bicycle Facilities	2
2		0	3.1	Low-Emitting Products	2
1		0	4.1	Connection to Nature	1
1		0	5.1	Daylight Access	1
0		1	6.1	Active Living	1

Y	?	N	Quality (Q)		6/8
precondition			P1	Sustainability Statement	-
precondition			P2	Educate the Homeowner	-
precondition			P3	Educate the Sales & Leasing Staff	-
precondition			P4	Green Building Specialist	-
precondition			P5	Design for Security and Crime Prevention	-
4		0	1.1	Integrated Design	4
0		2	2.1	Durable Building	2
2		0	3.1	Education and Awareness	2

Y	?	N	Innovation & Research (I&R)		2/10
2		0	1.1	Exemplary Performance	2
0		3	1.2	Innovation or Pilot	3
0		5	2.1	Research	5

Total				61 /100+10
Y	?	N		
59	0	41.0	Total Credits	100
2	0	8	Additional Innovation & Research Credits	10
Gold				50
Gold Plus				60
Platinum				70
Platinum Plus				80

ENERGY & EMISSIONS

Green Building Action Plan Goals

UBC buildings will advance the campus towards net-positive energy use and greenhouse gas neutrality by reducing energy demand and focusing on site-specific
UBC buildings will have indoor thermal environments that are comfortable and enhance health and wellbeing
UBC will integrate lessons learned to improve building energy performance.

E&E	Precondition	Submission BP	Submission OP	Comments
P1	**Energy Step Code Compliance (Step 2)** Design and construct buildings to conform to the following performance requirements: Energy Step Code, Step 2: 130 kWh/m2-yr (TEUI) and 45 kWh/ m2-yr (TEDI). Complete an airtightness test meeting the ASTM E779 or USACE Version 3 standard as specified by the Energy Step Code Regulation.	Required	Required	
P2	**Greenhouse Gas Intensity Reporting** Report building greenhouse gas intensity (GHGI) of emissions.	Required	Required	
P3	**Building Level Energy Metering and Reporting** Support UBC in establishing an ENERGY STAR Portfolio Manager (ESPM) account and reporting building utility consumption by: • Providing completed auto upload permission forms where required; or • Sharing ESPM account(s) with UBC Sustainability and Engineering that have been established by a qualified service provider. For mixed-use developments, establish utility metering for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse).	Required	Required	
P4	**Domestic Hot Water Energy Use Sub-metering and Reporting** Install energy metering for domestic hot water energy use for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse) and report energy use to UBC Sustainability and Engineering.	Required		
P5	**Overall R-Value** Achieve an overall R-value target for each major building typology in a project (e.g., high rise, low rise or townhouse): 5.4 hr-ft2-f/BTU for high rise or 6.9 hr-ft2-f/BTU for low rise. This precondition credit is not required for projects that achieve the E&E 1.1: Optimized Energy Performance credit.	Required	Required	
P6	**Energy Star Appliances** Specify and install Energy Star-labelled, or equivalent performance, driers and refrigerators in each unit		Required	
P7	**Electric Vehicle Charging Infrastructure** 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 kWh 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.	Required	Required	
P8	**Commissioning** Contract a third party Commissioning Authority to develop and implement a commissioning plan for all major building energy systems, in accordance with CSA Z5000-18, and verify that they are installed, calibrated, and perform according to design intent.	Required	Required	
P9	**Energy Modeling Workshop** Model the energy performance of the building and hold a workshop with the design team, a representative from UBC Sustainability and Engineering, and contractor to evaluate the results and optimize the design of the building.	Required		
P10	**Contribution to Low Carbon Transportation** Contribute to the development of low-carbon transportation options or infrastructure by funding the equivalent of one community vehicle per 100 residential units.		Required	
P11	**Refrigerant Emission Reporting** Determine and report the life cycle equivalent annual carbon dioxide emissions of refrigerants in buildings in kgCO2.	Required	Required	
P12	**Programmable Thermostats** Specify and install programmable thermostats for at least the largest heating zone in each unit.	Required		

E&E	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Optimized Energy Performance (Step Code 3/4/PH)** Design and construct the buildings to meet the following Energy Step Code Regulation performance requirements: • **Step 3**: 120 kWh/m2-yr (TEUI) and 30 kWh/ m2-yr (TEDI). **– 8 points** • **Step 4**: 100 kWh/m2-yr (TEUI) and 15 kWh/ m2-yr (TEDI). **– 8 points** • **Passive House Performance**: Design and construct the building to conform to the Passive House Planning Package, version 9 or newer, meeting the requirements of Section 10.2.3.3 (3) of the Energy Step Code Regulation. **– 5 points**	8	21	Required	Required	
1.2	**Renewable Energy** Use on site renewable energy systems to offset all or a portion of the building's annual electricity consumption as follows: • 4% **– 2 points** • 8% **– 4 points** • 12% **– 6 points**		6	Required		
3.1	**Enhanced Energy Submetering and Reporting** Install energy metering for the following: All major energy end uses (representing 10% or more of total energy consumption) for each major use class (e.g., residential, commercial or retail) and building typology (e.g., high rise or townhouse) and/or suite level thermal energy consumption. • Major end and space use submetering. **– 2 points** • Suite level thermal energy submetering. **– 3 points**	5	5	Required	Required	
4.1	**Electric Vehicle Charging Stations** Install Level 2 charging stations for visitor or shared use and/or the following percentage of owners'/residents' parking. • 1 visitor and/or shared station per 100 units. **– 1 point** • 5% of owners'/residents' parking. **– 1 point** • 10% of owners'/residents' parking. **– 1 point**	3	3	Required		
	Total Optimization Points	16	35			

WATER

Green Building Action Plan Goals

UBC will practice responsible water management and use at the building and site scale by: advancing water conservation and efficiency, exploring alternative water supply and treatment solutions, and building water supply resiliency.

UBC will use a low-impact development approach to rainwater management at the site scale to mitigate risk and respect the natural hydrology of the campus.

W	Precondition	Submission BP	Submission OP	Comments
P1	**Low-flow Plumbing Fixtures** Specify and install: • Water-saving showerheads with a maximum flow rate of 5.7 L per minute in each shower. • Low flow faucets with aerators in all bathroom sinks with a maximum flow of 3.8 L per minute. • Low flow faucets with aerators in all kitchen sinks with a maximum flow of 6.8 L per minute.	Required		
P2	**Outdoor Water Use Reduction** **Option 1:** Design and install a water-efficient irrigation system that includes an automated controller, rain or soil sensors and pressure regulator; for non-grass areas, use a micro- or drip-feed irrigation. Reduce the project's landscape water use by at least 30% from the site's calculated baseline of the peak watering month through plant selection and irrigation efficiency. **Option 2:** Install a temporary irrigation system.	Required		
P3	**Water Efficient Appliances** Specify and install: • Energy Star labelled, or equivalent performance, clothes washers; if washers are available only as an option, specify and offer only models complying to this standard. • Energy Star labelled dishwashers,or equivalent performance; if dishwashers are available only as an option, specify and offer only models complying with this credit.		Required	
P4	**Rainwater Management** 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 central facility using low-impact development and green infrastructure as far as possible.	Required		

W	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Total Water Use Reduction** Reduce the total indoor and outdoor potable water use from the calculated code baseline using efficient fixtures, efficient landscaping practices and/or alternative water sources. • 35% reduction from baseline. **– 1 points** • 40% reduction from baseline. **– 2 points** • 45% reduction from baseline. **– 3 points** • 50% reduction from baseline. **– 4 points** • 55% reduction from baseline. **– 7 points**	2	7		Required	
2.1	**On-Site Rainwater Management** **Part 1:** Provide permeable surfaces for low impact rainwater management for a percentage of areas of the site. The following surfaces are eligible: grass with 12" topsoil, planting areas with 24" topsoil, rain gardens, extensive vegetated roofs, swale, and pervious paving. • Permeable surfaces on 30% of the site. **– 1 point** • Permeable surfaces on 50% of the site. **– 1 point** **Part 2:** Detain the 10-year, 24-hour storm volume and discharge at the 1-year, 40-hour pre-development rate on site using low impact development techniques (scoring at least 1 point in part 1) and detention facility. **– 2 points**	4	4	Required	Required	
3.1	**Domestic Hot Water Metering** In units with central domestic hot water consumption, provide building level or individual suite hot water submetering. • Provide submetering of hot water consumption at the building level. **– 1 point** • Provide submetering of hot water consumption at the suite level. **– 3 points**	4	4	Required		
	Total Optimization Points	**10**	**15**			

BIODIVERSITY

Green Building Action Plan Goals

UBC will develop highly functioning landscapes at the building and site scale to contribute to biodiversity and natural ecosystem processes.

UBC will engage campus teaching and research opportunities to enhance biodiversity management capacity.

B	Precondition	Submission BP	Submission OP	Comments
P1	**Ecological Planting** Select native or adaptive plant species that are appropriate for the ecoregion, suitable for the site conditions and climate (including changing conditions); and fulfill the design intent. Mature plant height, spread and form must be considered in plant selection as a means to reduce maintenance. Select plants that are suited to the sun and shade conditions of the site and are drought tolerant. Include plants that are pollinators and provide a food source for birds.	Required		
P2	**Light Pollution Reduction** Do not exceed the current Illuminating Engineering Society (IES) illuminance requirements as stated in Lighting for Exterior Environments.	Required		
P3	**Bird Friendly Design - Basic** In compliance with the UBC Bird Friendly Design Guidelines for Buildings and CSA A460:19 Bird-friendly Building Design Standards, -identify the bird collision risks in building and landscape design and apply the identified strategies to create bird friendly environments. -Apply appropriate strategies to treat and/or avoid the construction of: glass corners without mullions, parallel glass (spaced 5m apart or less), transparent skywalks, glass guards or guardrails, and glass parapets.	Required		

B	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Planting for Biodiversity and Ecosystem Health** Enhance biodiversity and ecosystem health by achieving the following: **Develop a Landscape Maintenance Plan — 1 point** Develop a landscape maintenance plan that instructs maintenance contractors on the sustainable care of plants over the lifetime of the building and landscape. **Maximize Native Planting — 1 point** Provide a plant list that demonstrates that 70% of the plantings (by number of plants) are native. **Pollinator Gardens — 1 point** Provide a plant list that demonstrates that 20% of planting choices (by number of plants) and landscape design support pollinators such as hummingbirds, native bees, butterflies, moths, and bats.	3	3	Required		
2.1	**Site Green Space** Dedicate 30% of the total site area (including the building footprint) to green space. Eligible spaces include: grass, areas with plants, vegetated roofs, living walls, balcony greenery, areas dedicated to food production (excluding paving).	1	1	Required		
3.1	In compliance with the UBC Bird Friendly Design Guidelines for Buildings and CSA A460:19 Bird-friendly Building Design Standards, identify the bird collision risks in building and landscape design and apply appropriate strategies to create bird friendly environments. **Part 1 — 2 point** Apply strategies from the UBC Bird Friendly Design Guidelines for Buildings to treat a minimum of 55% of all glazed surfaces of the building up to the height specified. Surfaces posing the highest risk, including courtyards, glass guardrails, windbreaks, glass adjacent to water features or vegetation, should be prioritized. **Part 2 — 3 point** In accordance with CSA A460:19, apply strategies from the UBC Bird Friendly Design Guidelines for Buildings to treat 90% of all glazed surfaces and surrounding glass structures (e.g., glass guardrails and windbreaks) of the building up to the 4th floor or mature tree height, whichever is taller. Surfaces posing the highest risk, including courtyards, glass guardrails, windbreaks, glass adjacent to water features or vegetation, should be prioritized.					
4.1	**Food Growing Opportunity** Provide food gardening spaces of at least 2.4 m2 for 30% of residential units which do not have access to a private outdoor space of more than 9.3 m2. Food gardens can be provided in raised common area garden plots on grade and/or on rooftops in planters or communal gardens.	1	1	Required		
	Total Optimization Points	**5**	**8**			

MATERIAL AND RESOURCES

Green Building Action Plan Goals

UBC will prioritize the use of building materials that have net positive environmental impacts
UBC will support marketplace transformation by designing buildings with materials that are not harmful to human and ecological healtl
UBC will support the development of the circular economy by promoting the adaptation, reuse and recycling of materials and products during a building's lifetime.

M&R	Precondition	Submission BP	Submission OP	Comments
P1	**Zero Waste Ready** 1. Design buildings to be zero waste ready by providing dedicated areas for the collection and storage of recyclable materials and organics from the entire building. Areas must be accessible to waste haulers and conveniently located for building occupants. • Recycling storage space shall be designed to promote recycling in accordance with the current version of the Metro Vancouver Technical Specifications of Recycling and Garbage Amenities in Multi-family and Commercial Developments. • Co-locate organics, recycling and garbage at collection points to provide equal convenience. • Provide clear visual cues and signage for recycling and organics. 2. Provide convenient and accessible recycling and organics collection locations to residents: where appropriate, this may include dedicated in-unit storage and/or multiple collection points within the building. 3. Provide a recycling and organics collection guide in the homeowners guide and in the storage area. **AND** 4. Provide for the adequate collection of the following by contracting with a waste management company for the service: • Mixed paper, cardboard, mixed containers and glass. • Food scraps. • Optional collection: soft plastics, styrofoam and other specialty items.	Required	Required	
P2	**Embodied Carbon Reporting** Perform a LCA (life cycle assessment) of the project's foundation, structure and enclosure and report the embodied carbon. Use Athena Impact Estimator or an approved LCA software and include all envelope and structural elements including the parking structure. Assume a 60-year lifetime for the building and include cradle-to-grave impacts using a bill of materials methodology and building permit or issued for construction drawings. Operational impacts should not be included.		Required	
P3	**Construction and Demolition Waste** Prepare and implement a Waste Management Plan that diverts 85% (by weight) of construction and demolition waste from landfill.		Required	

M&R	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Environmentally Responsible Materials** Specify and use environmentally responsible materials for at least 90% of a building component*, by weight or volume. Materials must meet one of the following requirements: • Contain at least 25% reclaimed material • Contain at least 25% post-consumer or 50% pre-consumer recycled content • Wood products that are certified Forest Stewardship Council, (FSC) or CSA Z809 • Bio-based material • Concrete mixes optimized to an average of 20% reduction in embodied carbon • Manufacturer participates in an extended producer responsibility program • No finish material used (eg. concrete floor) ***Building components for 1 point:** Floor covering, insulation, sheathing, framing, drywall (interior), concrete cement or concrete aggregate, roofing, siding. **Building components for 0.5 point**: Pedestrian doors, cabinets, counters, interior trim, deck material, windows.	2	4.0		Required	
1.2	**Local Materials** Specify and use products that were extracted, processed, and manufactured locally within 200km from project site for the following building components: • Minimum 50% of aggregate for concrete by value. **— 1 point** • Minmum 50% of drywall or interior sheathing by value.**— 1 point**	2	2		Required	
1.3	**Mass Timber Superstructure** Specify and install a building superstructure consisting of at least 50% mass timber manufactured in BC (by value of the total superstructure). — 1 point		1			
1.4	**Healthy Building Materials** Install ten different building products from at least three different manufacturers which meet the ingredient transparency criteria of a program specified below. The chemical inventory of the products must be disclosed to an accuracy of 0.1% (1000 ppm). • Declare Label (International Living Future Institute): Red List Free, Declared; or LBC Compliant if at least 99.9% of the ingredients are disclosed; **or** • Health Product Declaration (HPD); **or** • Manufacturers Inventory of all ingredients by Chemical Abstract Service Registry Number (CASRN).		1		Required	
	Total Optimization Points	**4**	**8.0**			

CLIMATE ADAPTATION

Green Building Action Plan Goals

UBC buildings and landscapes will have the resilience to respond to both anticipated and unpredictable changes in climate.
UBC will engage with researchers in a meaningful and ongoing way to inform building policy and guidelines around climate adaptability.

CA	Precondition	Submission BP	Submission OP	Comments
P1	**2050 Climate Ready Thermal Comfort Modelling** Perform thermal comfort modelling for buildings using PCIC future climate files for the 2020's and 2050's (RCP 8.5 scenario) with attention to the warmest spaces in the building for the months of May to September inclusive. The building design should meet thermal comfort requirements for 2020s and have a design strategy to meet 2050 requirements. Passively cooled buildings must meet City of Vancouver Energy Modelling Guideline requirements for passively cooled buildings using 2020s weather files and have design strategies for meeting these requirements using 2050 weather files.	Required	Required	

CA	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**2050 Climate Ready Energy Efficient Design** Using 2050 RCP 8.5 weather files, achieve a reduction in Cooling Energy Demand Intensity (CEDI) over a base case 2050 ready design that meets REAP EE and CA preconditions, with passive design measures (e.g., fixed or operable shading, reduced SHGC windows or reduced window to wall ratio). Passive measures must be established at building occupancy. • 5% reduction. **– 3 points** • 10% reduction. **– 5 points** • 15% reduction. **– 7 points**	3	7	Required	Required	
1.2	**Enhanced Resiliency** Achieve appropriate design strategies from the Mobilizing Building Adaptation and Resilience (MBAR) discussion papers on "Air Quality", "Fire", "Heat waves" and "Power outages and emergencies". • 10 different design strategies with at least 1 from each paper. **— 1 point** • 15 different design strategies with at least 1 from each paper. **— 2 points** • 20 different design strategies with at least 2 from each paper. **— 3 points**		3	Required		
1.3	**On Site Backup Power** Design for protection from power outages from the grid, through strategies including permanent back-up power, switching gear and/or power hook-ups, and infrastructure for temporary generators to provide power for critical utilities such as HVAC and the electrical component of heating systems, potable water supply and security. Back up power must be provided for a duration of four consecutive days, 24 hours a day.	3	3	Required		
	Total Optimization Points	**6**	**13**			

PLACE AND EXPERIENCE

Green Building Action Plan Goals

UBC buildings and landscapes will provide opportunities for collaboration, innovation and community development to reflect the social and environmental sustainability aspirations of the University.

P&E	Precondition	Submission BP	Submission OP	Comments
P1	**Project Community Amenity Spaces** Provide community amenity spaces for residents including: • Outdoor spaces for residents which allow for opportunities for both quiet and social gathering activities, minimum one area for each activity; **AND** • A multi-purpose indoor space designed to support community activities and meeting the following requirements: located on the ground floor with direct access to the outdoors; includes an accessible washroom;and has a minimum floor area of 37.16 m² (400 sq ft).	Required		

P&E	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Project Exemplary Community Amenity Spaces**	5	5	Required		
	Install indoor and outdoor community amenities from the list below. Each listed amenity is awarded 1 or 2 points, for up to 5 points in total. If more than 2 points are targeted, a minimum of one indoor amenity and one outdoor amenity is required.					
	Indoor Amenities					
	Family friendly community spaces (additional to PE P1) within or adjacent to enhanced lobbies or multi-purpose rooms such as a community play area or youth friendly space. The total area should be minimum 91.44 m² (300 sq ft).		2	0 or 2		
	A shared utilitarian multi-purpose space for messy or noisy activities such as a workshop space, pet wash, community mudroom, or small kitchen area etc.		1			
	A secure community storage area on the ground floor for baby strollers with a minimum of one storage space per ten units. Strollers are used by young families on a daily basis and are often bulky to keep in the home.		1			
	Small-scale gathering spaces within circulation routes or the end of corridors on different floors to increase opportunities for relaxing, studying, and meetings or social activities. The total area should be minimum 91.44 m² (300 sq ft).		2			
	Designate a bookable guest suite within the building near the lobby.		1			
	A community space for secure package delivery (in response to online shopping and food delivery services)		1			
	A new innovative community indoor amenity (additional to PE P1) that supports a range of intergenerational social and recreational opportunities.		1			
	Pet friendly washable flooring finishes installed for indoor common spaces.		1			
	Outdoor amenities					
	One accessible outdoor wash station for bikes and pets with a concrete pad, water source and good drainage.		1			
	A variety of outdoor spaces for small quiet gatherings to increase recreational choices and activities such as a BBQ area, fireplace, and comfortable seating and picnic tables etc. There must be a minimum of two defined spaces.		1			
	Roof top social spaces outfitted with comfortable seating and planters. The space would be able to comfortably accommodate a minimum of 10 people.		2			
	A small child friendly play area with complementary seating for adults.		1			
	A new innovative community outdoor amenity that supports a range of intergenerational social and recreational opportunities.		1			
	Total Optimization Points	5	5			

HEALTH & WELLBEING

Green Building Action Plan Goals

UBC will enhance the mental, physical and social dimensions of wellbeing by making them integral to building and landscape design decision
UBC researchers, community stakeholders and building occupants will be engaged in a meaningful and ongoing way to inform building design decisions around health and wellbeir
UBC will become a leader in enhancing wellbeing through the built environment within the context of higher education in Canada.

H&W	Precondition	Submission BP	Submission OP	Comments
P1	**Bicycle Parking & Storage Room(s)** Provide the bicycle storage and facilities below: • Provide Class 1 bicycle storage facilities at a rate of: 1.5 spaces per studio or one bedroom unit; 2.5 spaces per 2 bedroom unit; and 3 spaces per 3 or 4 bedroom units. (Requirements include 10% oversize spaces, and one electrical outlet per two spaces); **and** • An in building bicycle repair station; **and** • 0.5 Class 2 bicycle storage spaces per dwelling unit; **and** • A 2 x 3 m concrete pad outside the building, close to the building entrance, with a standard outlet or condui for electrified bike share. All bicycle parking and storage to be provided in accordance with the UBC Development Handbook.	Required		
P2	**Low-Emitting Products** Specify and use: • Adhesives, sealants and sealant primers that have been tested and found compliant with the California Department of Public Health Standard Method V1.1–2010, using CA Section 01350, Appendix B, New Single Family Residence Scenario, for emissions testing guidance. • Paints and coatings rated at a minimum GPS-2 by the Master Painter's Institute on the interior of the building. • Carpet and carpet cushion that are certified by the Carpet and Rug Institute Green Label Plus, or use products that have been tested and demonstrate compliance with the California Department of Public Health (CDPH) Standard Method v1.2–2017 and comply with the VOC limits in Table 4-1 of the method.		Required	
P3	**Construction Indoor Air Quality Management** Prepare and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building. During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapte 3.		Required	

H&W	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**IAQ Assessment** After construction has ended and the building has been completely cleaned, prior to occupancy, complete one of the following: • Install new filtration media and flush out the building by supplying an outside air volume of 4,267,14 litres per square metre of gross floor area; **or** • Conduct a Baseline Indoor Air Quality Test.	1	1		Required	
2.1	**Additional Bicycle Facilities** In addition to the requirements for bicycle parking in HW P1, provide one of the following: • Provide an additional 0.25 Class I bicycle storage per bedroom; **or** • Provide an at grade, Class I bicycle storage room for at least 50% of the Class I spaces with a bike specific entrance; **or** • Provide points for giving each unit an on-campus bike share membership for the duration of their stay in the building.	2	2	Required		
3.1	**Low-Emitting Products** Specify and install products that meet the following requirements: • Carpets and carpet cushions: Carpet and Rug Institute Green Label Plus or has been tested according to California Department of Public Health (CDPH) Standard Method v1.2–2017 and can demonstrate compliance with the VOC limits in Table 4-1 of the method.**— 1 point** • Interior composite wood products, such as cabinetry doors and boxes, flooring, doors, trim, etc.: CARB ultra low emitting or have no added urea formaldehyde.**— 1 point**	2	2		Required	
4.1	**Connection to Nature** Demonstrate connections to nature through direct visual connections to plants, sunlight, and views of nature and/or, indirect connections to nature through the use of natural materials, patterns, colours, or images. Ensure connections to nature in: • 95% of units, with nature visible from the living room and at least one bedroom. • All occupied amenity spaces and lobbies; and 90% of building corridors.	1	1	Required		
5.1	**Daylight Access** Ensure adequate levels of daylight within each unit by achieving the following requirements: • Transparent envelope glazing area is a minimum of 7% of the unit floor area. • Visible light transmittance (VLT) of envelope glazing is greater than 40%. • 30% of the area is within 6 m (20 ft) of transparent envelope glazing.	1	1	Required		
6.1	**Active Living** Design a secondary staircase that is safe, visually appealing, and invites regular use through the following strategies: • Ensure the staircase services all floors of the project, excluding the parking garage, and can be accessed by all regular building occupants. • Locate the staircase so that it is visible from the building entrance. • Install transparent fire-rated glazing to each floor level of the staircase. The area of glazing must span at least 0.93 square meters (10 square feet) in order to increase visibility of the staircase and provide views to the interior, from inside the staircase. • Use appealing materials and finishes. • Install visible signage at elevators and the entrance to the staircase to encourage stair use.		1	Required		
	Total Optimization Points	7	8			

QUALITY

Green Building Action Plan Goals

UBC buildings and landscapes will be durable, reliable and resilient.

Q	Precondition	Submission DP	Submission BP	Submission OP	Comments
P1	**Sustainability Statement** Submit a "Sustainability Statement" that describes how the development will be designed to achieve high environmental standards related to UBC's Green building Action Plan and the university's sustainability policies in the eight component areas.	Required			
P2	**Educate the Homeowner** Provide a homeowners' manual to educate homeowners on the features of the building as well as the proper use and maintenance of facilities and equipment. Include the following details in the homeowners' manual: • A completed checklist of REAP credits, including product manufacturers' manuals for all equipment, fixtures, and appliances with Energy Star details; **and** • Guidance on how to minimize energy, water, and resource use in everyday activities and choices throughout the home to promote sustainable behavior; **and** • Information on sorting and recycling in the building; **And** • Ensure the manual is incorporated into record drawings or some form that will be accessible beyond the first generation of owners/residents; **and** • Conduct a one-hour walkthrough with the occupants and building manager(s) to educate them on all sustainable equipment and features.			Required	
P3	**Educate the Sales & Leasing Staff** Develop marketing materials based on the environmental performance of the project and ensure the sales or leasing staff is knowledgeable about the green building features.			Required	
P4	**Green Building Specialist** Engage a Green Building Specialist who is an expert in green buildings and sustainable construction practices to provide advice on effective green building strategies to the design team.		Required		
P5	**Design for Security and Crime Prevention** Demonstrate that the design has been reviewed by an expert in Crime Prevention Through Environmental Design (CPTED) and that recommendations have been followed.		Required		

Q	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Integrated Design** Beginning in pre-design and continuing throughout the design phases: • Identify and use opportunities to achieve synergies across disciplines and building systems; **and** • Hold a preliminary energy and water workshop during schematic design. Use the analyses described below to inform the design. ***See the reference guide for full wording on energy and water workshop requirements.**	4	**4**			
2.1	**Durable Building** Develop and implement a Building Durability Plan in accordance with the principles in CSA S478:19 - Durability in Buildings. Include: Structure, building cladding assemblies, glazing assemblies and roofing assemblies. • Design service life is 60 years. • Where component and assembly design service lives are shorter than the design service life, design so they can be readily replaced. • Develop and manage a quality management program in accordance with CSA S478. • Categories of failure are 6,7, or in table 3 use a design service life equal to the design service life. • Categories of failure 4 or 5 in table 3 use a design service life quality to at least half of the design service life of the building. • Qualified building science professional to develop and deliver the Building Durability Plan.		2	Required		
3.1	**Education and Awareness** Develop the following programs to educate occupants and visitors about the benefits of the green building and the sustainable features of the project: • A script for a guided tour of the building describing the sustainable features of the project; **and** • A case-study highlighting the sustainable features of the project to inform the UBC community and future buildings of the successes of the project.	2	**2**			
	Total Optimization Points	**6**	**8**			

INNOVATION & RESEARCH

GREEN BUILDING ACTION PLAN GOALS

UBC buildings and landscapes will be durable, reliable and resilient.

I&R	Optimization	Attempted Points	Total Points	Submission BP	Submission OP	Comments
1.1	**Exemplary Performance** Demonstrate exceptional performance above the requirements set by an existing credit, to reach the next performance level.	**2**	2		Required	
1.2	**Innovation or Pilot** Achieve significant, measurable sustainable building performance using a strategy not addressed in REAP; **or** Pilot specific a significant, measurable strategy or strategies from UBC's Green Building Action Plan.		3	Required	Required	
2.1	**Research** Collaborate with UBC SEEDs or the CLL program in a research project. Project topic must be either: • Based on the Green Building Action Plan's residential section or current priority area for the university; **or** • A current topic relevant to the project which has been submitted for prior approval.	**5**	5	Required	Required	
	Total Optimization Points	**7**	**10**			