

PUBLIC HEARING

RE: 3105 and 3115 Crescentview Drive




District of North Vancouver OCP Bylaw 7900, Amending Bylaw 8178

District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)


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AGENDA INFORMATION	
<input checked="" type="checkbox"/> Regular Meeting	Date: <u>OCT 24 2016</u>
<input type="checkbox"/> Other:	Date: _____


Dept.
Manager


GM/
Director


CAO

The District of North Vancouver REPORT TO COUNCIL

October 12, 2016
File: 08.3060.20/038.15

AUTHOR: Natasha Letchford, Planner

SUBJECT: Bylaws 8178, 8179 and 8186: OCP Amendment, Rezoning, and Housing Agreement Bylaw for 3105 and 3115 Crescentview - 22 unit apartment and single family house

RECOMMENDATION:

THAT the "District of North Vancouver Official Community Plan Bylaw 7900, 2011, Amendment Bylaw 8178, 2016 (Amendment 21)" to amend the Official Community Plan (OCP) from Residential Level 2 to Residential Level 5 be given FIRST reading;

AND THAT the "District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)" to rezone the subject site from Single Family Residential Edgemont (RSE) to Comprehensive Development Zone 95 (CD95) be given FIRST reading;

AND THAT "Housing Agreement Bylaw 8186, 2016 (3105 and 3115 Crescentview Dr.) be given FIRST reading;

AND THAT pursuant to Section 475 and Section 476 of the Local Government Act, additional consultation is not required beyond that already undertaken with respect to Bylaw 8178;

AND THAT in accordance with Section 477 of the Local Government Act, Council has considered Bylaw 8178 in conjunction with its Financial Plan and applicable Waste Management Plans;

AND THAT Bylaw 8178 and Bylaw 8179 be referred to a Public Hearing.



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SUMMARY

The applicant proposes to redevelop three residential lots located at 3105 and 3115 Crescentview Dr. to create a three storey 22 unit apartment and a two storey single family house all located over a shared underground parking structure. Implementation of the project requires an OCP amendment (Bylaw 8178), a rezoning (Bylaw 8179), and a Housing Agreement (Bylaw 8186). The OCP amendment would change the designation of the most southerly single family lot (3105 Crescentview Dr.) from RES2 to RES5 to allow for underground parking which will span the entire site and serve both the apartment and the single family house.



The OCP amendment and rezoning is generally consistent with the approved Edgemont Village Centre: Plan and Design Guidelines. A single family house will be constructed on the one single family lot (3105 Crescentview Dr.) which is outside of the Edgemont Village Centre plan area. The OCP amendment will allow for the underground parking to span that lot. A development permit will be forwarded to Council if the OCP amendment and rezoning are approved.

THE PROPOSAL

1. Site and Surrounding Areas

The development site is located at the corner of Crescentview Dr and Connaught Cr. Surrounding properties include the adjacent Edgemont Villa, a three story adult oriented (55+) condominium; residential single family homes to the south and west; and Edgemont Village general commercial across Connaught Cr. and Crescentview Dr.

2. Official Community Plan and Edgemont Village Centre: Plan and Design Guidelines

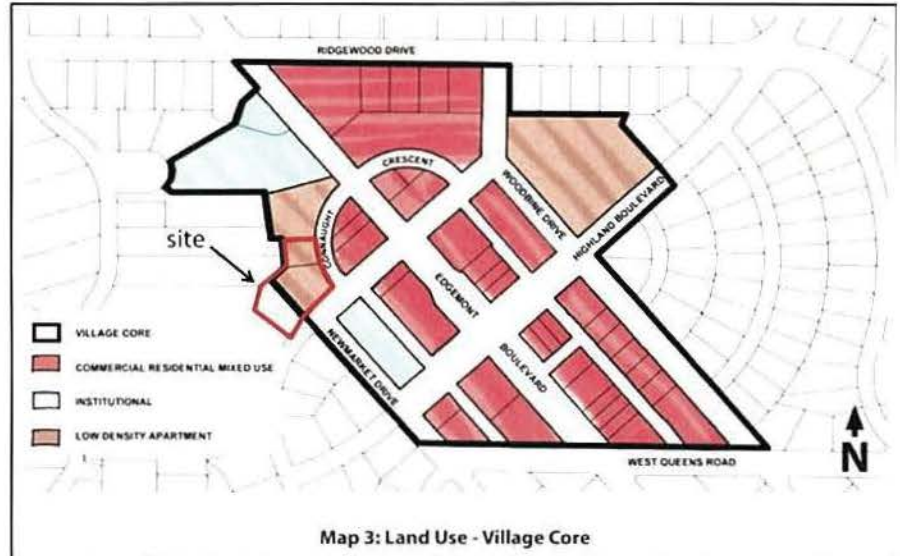
The Official Community Plan (OCP) designates two of the three lots as Residential Level 5: Low Density Apartment (RES5) and the most southerly lot is designated Residential Level 2:

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Detached Residential (RES2). The Edgemont Village Centre: Plan and Design Guidelines includes 3115 Crescentview Dr. in the Village Core and envisions the two lots as future low density apartment with an FSR of up to approximately 1.75. The single family lot at 3105 Crescentview Dr. was not included in the Edgemont Village Core or in the Residential Periphery of the Edgemont Village Plan and will be remaining as a single family house. OCP Amendment Bylaw 8178 will designate 3105 Crescentview Dr. as RES5 to allow for underground parking which will service both the single family house and the apartment.



The proposed apartment and single family house are consistent with the Edgemont Village Centre: Plan and Design Guidelines.

The proposed apartment units are primarily two and three bedroom floor plans, which are well suited for families, with a small number of one bedroom units, which will be attractive to a range of residents, responding to Goal #2 of the OCP to "encourage and enable a diverse



View looking west at corner of Crescentview Dr. and Connaught Cr. Dr. Note: not all trees shown

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mix of housing types....to accommodate the lifestyles and needs of people at all stages of life."

The proposed height of three storeys and the proposed FSR is consistent with the Edgemont Village Centre: Plan and Design Guidelines. The single family home is two storeys tall, which is permitted under the existing Single Family Residential: Edgemont Zone. A secondary suite will not be permitted in the single family house.

3. Zoning

The subject properties are currently zoned Single Family Edgemont (RSE). A new Comprehensive Development Zone 95 (CD95) is required to accommodate the project. The zoning will regulate density, height, setbacks, and parking requirements.

4. Community Amenity Contribution

The District's Community Amenity Contribution (CAC) Policy requires an amenity contribution for projects which result in an increase in residential density. A CAC of \$337,095 will be included in the proposed CD95 Zone. It is anticipated that the CACs from this development will be directed toward public art; park and trail improvements; the affordable housing fund; or, other public realm infrastructure improvements.

5. Site Plan/Building Description

The project includes 22 units in one 3 storey apartment building and one single family house. In order to meet zoning bylaw parking standards, the underground parking extends under

both the apartment and the single family house and is accessed off of Connaught Cr. All parking for the project, including for the single family house, is underground. The single family house has no surface parking and will not have a secondary suite.

Thirteen of the units are two bedroom or two bedroom plus den; there are three one bedroom units and six three bedroom units. The units range in size from 69.7 m² (750 sq. ft.) to 118 m²



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(1,739 sq. ft.). The single family home is four bedrooms and 337 m² (3,633 sq. ft.) in size.

The proposal includes a public plaza at the corner of Connaught Cr. and Crescentview Dr. secured with a right of way.

6. Development Permits

The two lots at 3115 Crescentview Dr. are currently in the following Development Permit Areas:

- Form and Character of Commercial, Industrial, and Multifamily Development
- Energy and Water Conservation and Greenhouse Gas Emission Reductions
- Streamside Protection
- Slope Hazard

The lot at 3105 Crescentview Dr. is currently in the following Development Permit Areas:

- Streamside Protection
- Slope Hazard

If the OCP amendment is approved, the lot at 3105 Crescentview Dr. would also be in the following Development Permit Areas:

- Form and Character of Commercial, Industrial, and Multifamily Development
- Energy and Water Conservation and Greenhouse Gas Emission Reductions

a) Protection of the Natural Environment – Streamside Protection

Since the site is within the streamside protection area for a ravine, a 10 m setback from the top of bank is required. The underground parking is restricted in size to respect the streamside setback. Despite the restriction in size, there remains an encroachment of 64 m² (688 sq. ft.) into the streamside setback area. The applicant will be providing 140 m² (1,507 sq. ft.) of restoration and compensation which exceeds the required ratio of 2:1. The Environment Department has reviewed the proposal and supports the restoration and compensation approach. The landscape plan includes a fence along the 10 m setback line to ensure no future encroachments into the streamside protection area.

b) Protection of Development From Hazardous Conditions – Slope Hazard

As the site is within the slope hazard DPA a geotechnical report was completed and concludes that the proposed redevelopment meets the District's requirements for risk tolerance and is safe for the use intended.

c) Form and Character of Commercial, Industrial, and Multifamily Development

The proposal is in keeping with the Official Community Design Guidelines for Multi-Family Housing as well as the Edgemont Village Centre: Plan and Design Guidelines. Further discussion outlining the project's compliance with the Form and Character Design Guidelines

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will be provided for Council's consideration at the Development Permit stage should the OCP amendment and rezoning be approved.

Advisory Design Panel

The application was considered by the Advisory Design Panel (ADP) on December 10, 2015; overall, the panel was pleased with the project. The Panel recommends approval of the project subject to resolution of the Panel comments. The applicant has addressed the Panel's comments by redesigning the bathrooms to improve accessibility; improving the north elevation by adding glazing; and, improving the use of brick.



d) Energy and Water Conservation and Greenhouse Gas Emission Reduction

Compliance with the Green Building Strategy is mandatory given the need for rezoning. The apartment building will achieve a building performance of BuiltGreen™ Gold equivalent and an energy performance at least 13% better than ASHRAE 90.1-2007. The single family house will be BuiltGreen™ Gold level equivalent and will achieve an energy performance level of at least Energuide 80. Details of green building features will be provided for Council review should the application proceed to the Development Permit stage.

A detailed development permit report, outlining the project's compliance with the applicable development permit guidelines outlined above will be provided for Council's consideration at the Development Permit stage should the OCP amendment and rezoning be approved.

7. Parking

Parking is provided on one level of underground with access from Connaught Dr. A total of 46 parking stalls are proposed which provides 2.0 parking stalls per unit, inclusive of six visitor stalls. The size of the underground parking area is restricted by the streamside setback area.

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Parking in the Edgemont Village area is a concern for many community members. By providing parking for the single family house underground, there will only be one curb cut for this development resulting in no net loss of on-street parking spaces. The applicant has addressed the community's concern about parking by reducing the number of units from the original proposal of 26 units to 23 units to provide 2.0 stalls per unit.

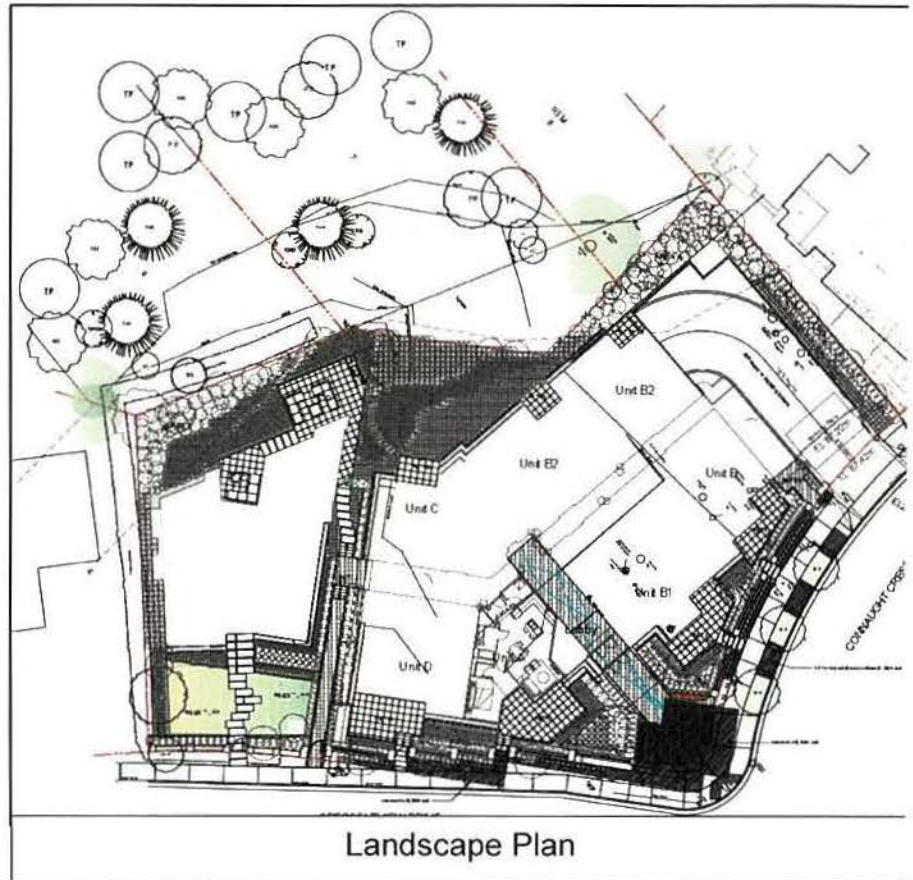
There is secure bike storage in the underground parkade with one secure bicycle parking stall per unit for a total of 23 Class 1 secure bicycle stalls. The project will have four Class 2 (short term) bicycle stalls.

8. Landscaping

The rear of the site abuts a wooded ravine and a portion of the site (146 m² or 1,571 sq. ft.) is within the streamside setback area. The landscape design includes addressing invasive species and the planting of multiple large conifers, native shrubs and ground cover vegetation. In addition, the applicant is providing off-site plantings on the lots to the west of the site, with the consent of the owners. Permanent fencing will be placed along the west edge of the buildings and patios to ensure the riparian area is not disturbed; this requirement will be secured by covenant.

The landscaping on site is designed to be low maintenance and feature native plantings. Street trees are proposed along Connaught Cr. and Crescentview Dr. and additional onsite trees and landscaping are provided. The project includes a public plaza at the corner of Connaught Dr. and Crescentview Dr.

Reduced copies of architectural and landscaping plans are included as Attachment A for Council's reference.



9. Off-site improvements

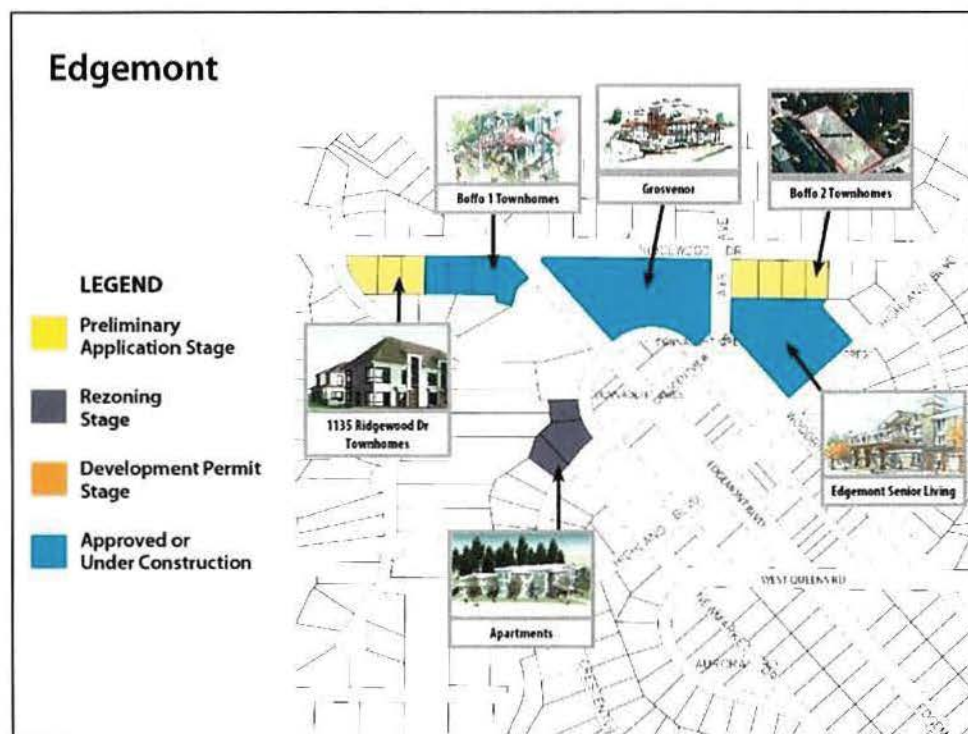
The application includes a statutory right of way to allow for an approximately 400 m² (1,300 sq. ft). public plaza; upgrades to sidewalks, street trees, curb, gutter, and lighting along the frontage of Connaught Cr. and Crescentview Dr.

10. Accessibility

The proposal fulfils the requirements of the Accessible Design Policy for Multifamily Housing as 100% of the apartment units meet the 'Basic Accessible Design' criteria and 5% of the apartment units (2 units) meet the 'Enhanced Accessible Design' criteria. The project includes an elevator from the underground parkade to the all floors of the apartment building. Accessible design features proposed include: wider entry doors to allow for clear openings of 34"; lever-style handles; and, slip resistant flooring in bathroom and kitchen. The two 'Enhanced Accessible Design' units include a larger master bedroom to provide a 60" turning space next to bed; a continuous counter between the sink and the stove; and, visual alarm wiring.

11. Construction Management Plan

The site is shown in relation to other residential construction projects and potential development projects in the image below, note that the Edgemont Seniors Living project is expected to be completed prior to construction commencing on this project:



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In order to reduce development's impact on pedestrian and vehicular movements, the applicant is required to provide a Construction Traffic Management Plan as a condition of a Development Permit. The Plan must outline how the applicant will coordinate with other projects in the area to minimize construction impacts on pedestrian and vehicle movement along Connaught Cr. and Crescentview Dr. Two-way traffic will be retained along Crescentview Dr. and one way traffic will be retained along Connaught Cr. The only road closures will be during the roadworks and during the sanitary main upgrades. The plan is required to be approved by the District prior to issuance of a building permit.

Construction is expected to take 15 months from the start of site clearing and demolition to occupancy.

In particular, the construction traffic management plan must:

1. Provide safe passage for pedestrians, cyclists, and vehicle traffic;
2. Outline roadway efficiencies (i.e. location of traffic management signs and flaggers);
3. Make provisions for trade vehicle parking which is acceptable to the District and minimizes impacts to neighbourhoods;
4. Provide a point of contact for all calls and concerns;
5. Provide a sequence and schedule of construction activities;
6. Identify methods of sharing construction schedule with other developments in the area;
7. Ascertain a location for truck marshalling;
8. Address silt/dust control and cleaning up from adjacent streets;
9. Provide a plan for litter clean-up and street sweeping adjacent to site; and,
10. Include a communication plan to notify surrounding businesses and residents.

12. Public Input:

The applicant held a facilitated Public Information Meeting (PIM) on November 26, 2015. The meeting was attended by approximately 40 members of the public. Comments made included concern over an increase in traffic and provision of sufficient on-site parking; a desire to maintain 3105 Crescentview Dr. as a single family house; support for the consistency of the proposal with the Edgemont Village: Plan and Design Guidelines; and, for the opportunity the project represents for young families to return to the North Shore.

A key issue for the neighbourhood was parking. The initial proposed parking ratio of 1.7 stalls per unit (including visitor parking) was a concern for many community members and the Edgemont Upper Capilano Community Association. In response to this concern, the applicant has reduced the number of units from 26 to 23 units so that there is now a 2.0 stall per unit parking ratio (including visitor parking).

Another concern cited by members of the public was the location of the underground parking access at the northeast corner of the site off of Connaught Cr. To ensure safe sightlines for vehicles exiting the driveway no vehicles will be permitted to park within 2 metres south of

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the driveway. The proposed driveway and parking restriction to ensure safe sightlines is balanced by the reduction of the number of driveways on the site from two to one, which results in no net loss of on-street parking overall.

It is anticipated that there will be a net increase of 12 vehicle trips in the morning peak hours and 15 vehicle trips in the afternoon peak hours. This level of increase in trips from the development is not expected to have a material effect on the operation of the intersections.

The Edgemont Upper Capilano Community Association acknowledged that the project meets the intent of the Edgemont Village Centre: Plan and Design Guidelines and have indicated they have no objections to the project proceeding to Council for consideration, in particular due to the applicant's response to their concerns regarding parking.

13. Concurrence:

The project has been reviewed by staff from the Environment, Building and Permits, Legal, Parks, Engineering, Policy Planning, Urban Design, Transportation, the Fire Department and the Arts Office.

14. Implementation

Implementation of this project will require an OCP amendment bylaw, a rezoning, and a Housing Agreement, as well as issuance of a development permit and registration of legal agreements.

Bylaw 8179 (Attachment C) rezones the subject site from Single Family Residential Edgemont (RSE) to a new Comprehensive Development Zone 95 (CD95) which:

- Establishes the multifamily residential use;
- Allows home occupations as an accessory use;
- Establishes a base density of 0.45 FSR and 6 units;
- Establishes a maximum density of 3,111m² (33,496 sq ft) and 23 units subject to payment of a \$337,095 Community Amenity Contribution;
- Requires registration of a housing agreement covenant prohibiting future strata rental restrictions;
- Allocates density between the apartment and the single family house;
- Requires all units to meet the basic accessible design criteria, two apartment units must also meet the enhanced accessible design criteria; and,
- Establishes parking and building regulations specific to this project.

Bylaw 8186, (Attachment D) authorizes the District to enter into a Housing Agreement to ensure that there will be no future restrictions on renting the units.

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In addition, the following legal agreements are required and will be secured via a development covenant prior to zoning bylaw adoption:

- Green building covenant;
- Stormwater management covenant;
- Housing agreement covenant;
- Engineering servicing agreement covenant;
- Building covenant to secure accessible design and any other applicable building measures;
- Streamside protection and permanent fence covenant ;
- A statutory right of way for the public plaza; and,
- A consolidation plan.

Conclusion

This project is consistent with the directions established in the OCP and the Edgemont Village Centre: Plan and Design Guidelines. The OCP amendment would change the designation of the single family lot from RES2 to RES5 to allow for underground parking which will span the entire site and serve both the apartment and the single family house. The project has addressed neighbourhood concerns regarding parking; it also addresses OCP housing policies related to the provision of a range of housing options. The project is now ready for Council's consideration.

Options

The following options are available for Council's consideration:

1. Introduce Bylaws 8178, 8179, and 8186 and refer Bylaw 8178 and 8179 to a Public Hearing (staff recommendation); or,
2. Defeat the bylaws at First Reading.

Respectfully submitted,


Natasha Letchford
Community Planner

Attachments:

- A. Architectural and Landscape Plans
- B. Bylaw 8178 – OCP Amendment
- C. Bylaw 8179 – Rezoning
- D. Bylaw 8186 – Housing Agreement

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REVIEWED WITH: <input type="checkbox"/> Sustainable Community Development <input type="checkbox"/> Development Services <input type="checkbox"/> Utilities <input type="checkbox"/> Engineering Operations <input type="checkbox"/> Parks & Environment <input type="checkbox"/> Economic Development	REVIEWED WITH: <input type="checkbox"/> Clerk's Office <input type="checkbox"/> Corporate Services <input type="checkbox"/> Communications <input type="checkbox"/> Finance <input type="checkbox"/> Fire Services <input type="checkbox"/> Human resources <input type="checkbox"/> ITS <input type="checkbox"/> Solicitor <input type="checkbox"/> GIS	REVIEWED WITH: External Agencies: <input type="checkbox"/> Library Board <input type="checkbox"/> NS Health <input type="checkbox"/> RCMP <input type="checkbox"/> Recreation Commission <input type="checkbox"/> Other: _____	REVIEWED WITH: Advisory Committees: <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
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3105/3115 CRESCENTVIEW

Edgemont Village, North Vancouver





FORMA DESIGN INC.
www.formadesign.ca

200-011 Redwood Dr
Suite 100
Burlington, ON
L7R 4K6
Tel: 905-609-9100
Fax: 905-609-7200

- 1. March 11, 2015 - issued for planning approval
- 2. Oct 15, 2015 - revised for planning approval
- 3. May 15, 2016 - revised for planning approval
- 4. July 27, 2016 - issued for planning approval

2166 2115 CRESCENTVIEW
Burlington, Ontario
N7L 6K6

LANDSCAPE PLAN
Site plan - 1/4\"/>

Scale:	1:100
North Arrow:	As shown
Project No.:	2166 2115
Client:	Forma Design Inc.
Designer:	Forma Design Inc.
Checker:	Forma Design Inc.
Project Manager:	Forma Design Inc.
Date:	11/08/16
Sheet No.:	1 of 8



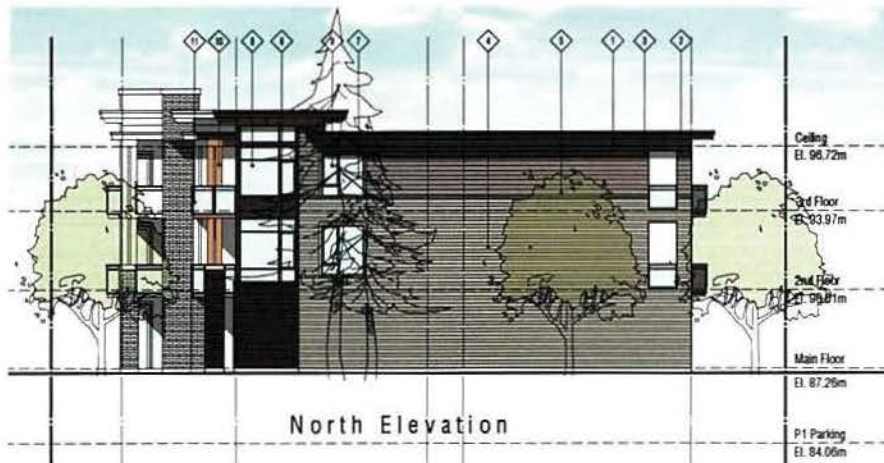
columnar tree concept



themed seating

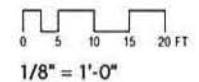


themed paving concept



Exterior Finish Legend

Roof	Asphalt roof shingles	Pabco Premier Pewter Gray	Bevel Siding	Hardplank Lap Siding Smooth, painted 8" exposure	Benjamin Moore HC-77 Alexandria Beige	Aluminum Windows	Pratinidish	Charcoal
Fascias	2 x 4 on 2 x 10 wood, painted	Benjamin Moore HC-155 Kendall Charcoal	Brick Siding	Norman Siding	Mutual Materials Red Vantage	Window Trim	2x4 wood	Match Adjacent Siding Color
Soffit	6" Cedar T&G Soffit with V-grooves, smooth, stained	Benjamin Moore HC-152 Bennington Grey	Windows	Vinyl frames, refer to schedule	Beige	Beams & Posts	Gulam, stained	079 Natural Slaters
Bevel Siding	Hardplank Lap Siding Smooth, painted 8" exposure					Guard Rail	Aluminum rails, posts & pickets w/ clear glazing	



Building Elevations

VP - 1/2"
July 26, 2016

SK-4.1

Revisions

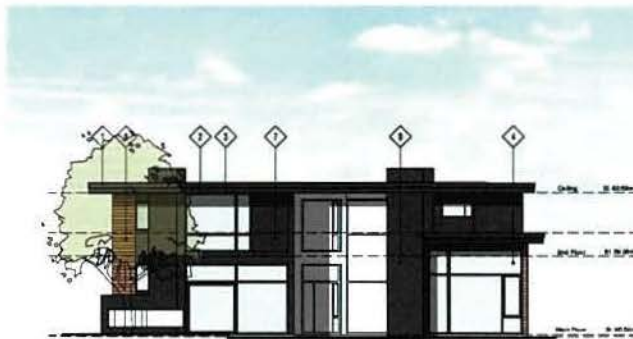
Issued for Permitting
October 16, 2015
Issued for Development Permit
October 16, 2015
Issued for ADP
December 10, 2015
Re-issued for Permitting
January 21, 2016
Re-issued for Permitting
March 15, 2016
Re-issued for Permitting
June 2, 2016
Re-issued for Permitting
June 22, 2016
Re-issued for Permitting
July 29, 2016



Front Elevation



Side Elevation



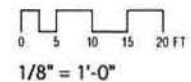
Rear Elevation



Side Elevation

Exterior Finish Legend

◇ Roof	Asphalt roof shingles	Placo Primer Pewter Gray	◇ Aluminum Windows	Polished Charcoal	◇ Fibre Cement Panel	HardPanel	Benjamin Moore
◇ Fascia	2 x 4 on 2 x 10 wood, painted	Benjamin Moore	◇ Beams & Posts	Guliani, stained	◇ Concrete	Board Formed	HC-166 Kendall Charcoal
◇ Soffit	1" Cedar T&G Soffit with V-grooves, smooth, stained	Benjamin Moore	◇ Siding	Douglas fir, 1" exposure smooth, stained	◇ Guardrail	Tempered glass	079 Natural Sikeens
		HC-166 Kendall Charcoal		079 Natural Sikeens			
		Broad Maple 202		079 Natural Sikeens			





Benjamin Moore HC-77 Alexandria Beige
Wall siding 1, window trims



Benjamin Moore HC-82 Bennington Grey
Wall siding 2, window trims



Mutual Materials, Red Varitone
Brick Siding



078 Natural Sikkens
Glulam beams and posts



Benjamin Moore HC-166 Kendall Charcoal
Fascias



Black
Aluminum Windows

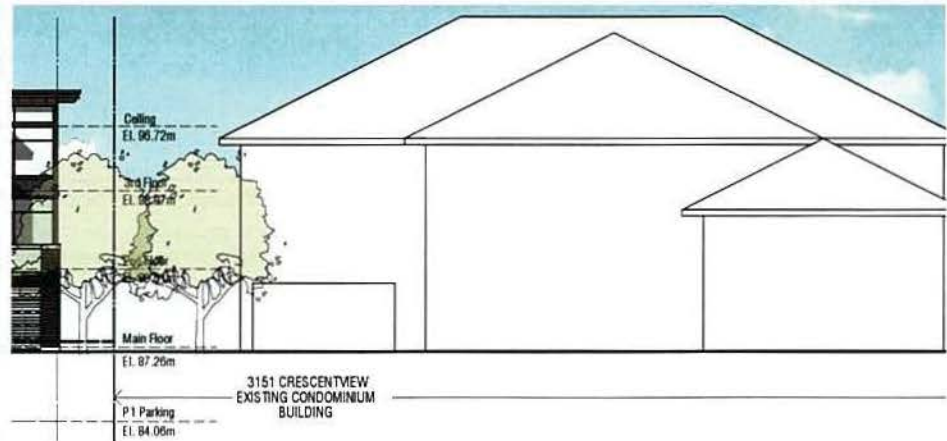


- Roof:** Flat roof
SBS membrane, Light Grey
- Fascias:** 2x4 on 2x10 wood, painted
Benjamin Moore HC-166 Kendall Charcoal
- Soffit:** 6" Cedar T&G Soffit with V grooves, Smooth, Stained
Broda Maple 209
- Wall Siding 1:** Hardiplank Lap Siding, Smooth, painted, 6" exposure
Benjamin Moore HC-77 Alexandria Beige
- Wall Siding 2:** Hardiplank Lap Siding, Smooth, painted, 6" exposure
Benjamin Moore HC-82 Bennington Grey
- Window:** Vinyl frames, Beige
Refer to windows schedule
- Window:** Aluminum, prefinished
Black
- Window Trims:** 2x4 wood, painted
Matched to Adjacent Siding Color
- Guard Rail:** Aluminum rails, posts & pickets
w/ glazing
Charcoal
- Beams & posts:** Glulam, Stained
078 Natural Sikkens
- Brick Siding:** Norman Size
Mutual Materials, Red Varitone



References

Re-issued for Planning
October 18, 2013
Re-issued for Development Permit
October 18, 2013
Re-issued for ADP
December 10, 2013
Re-issued for Planning
January 29, 2014
Re-issued for Planning
March 13, 2014
Re-issued for Planning
June 2, 2014
Re-issued for Planning
June 9, 2014
Re-issued for Planning
June 22, 2014
Re-issued for Planning
July 29, 2014

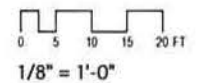


Roof	Asphalt roof shingles	Patio/Plower Pewter Gray	Beve Siding	Hardplank Lap Siding Smooth, painted 9" exposure	Benjamin Moore HC-17 Alexandria Beige	Aluminum Windows	Pratinased	Charcoal
Fascia	2 x 4 on 2 x 10 wood, painted	Benjamin Moore HC-196 Kendall Charcoal				Window Trims	2x4 wood	Match Adjacent Siding Color
Soft	8" Cedar 1x6 Soft with V-grooves, smooth, stained	Broda Maple 209	Block Siding	Normal Size	Mutual Materials Red Vantone	Beams & Posts	Gum, stained	070 Natural Slaters
Beve Siding	Hardplank Lap Siding Smooth, painted 9" exposure	Benjamin Moore HC-52 Birmingham Gray	Windows	Vinyl frames, refer to schedule	Beige	Guard Rail	Aluminum rails, posts & posts will wear glazing	Charcoal

EDGEMONT VILLAGE
3105/3115 Greenwood
North Vancouver, B.C.

Building Elevations

VF-107
July 25, 2015



SK-4.0

Revisions

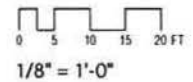
Issued for Planning
October 14, 2015
Issued for Development Permit
October 14, 2015
Issued for ADP
December 12, 2015
Revised for Planning
January 20, 2016
Revised for Planning
March 15, 2016
Revised for Planning
June 2, 2016
Revised for Planning
June 6, 2016
Revised for Planning
June 22, 2016
Revised for Planning
July 20, 2016



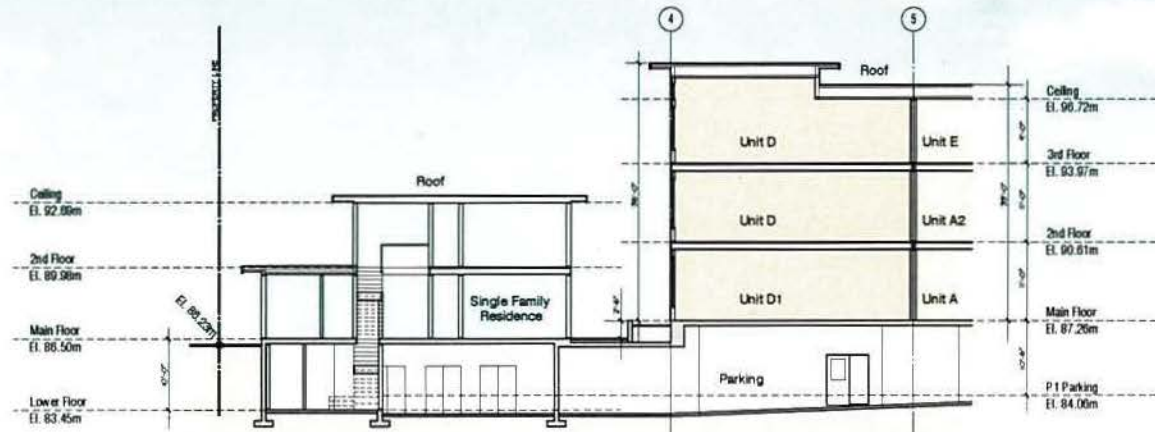
EDGEMONT VILLAGE
3105/2115 Crescentview
North Vancouver, B.C.

Streetscape Elevations

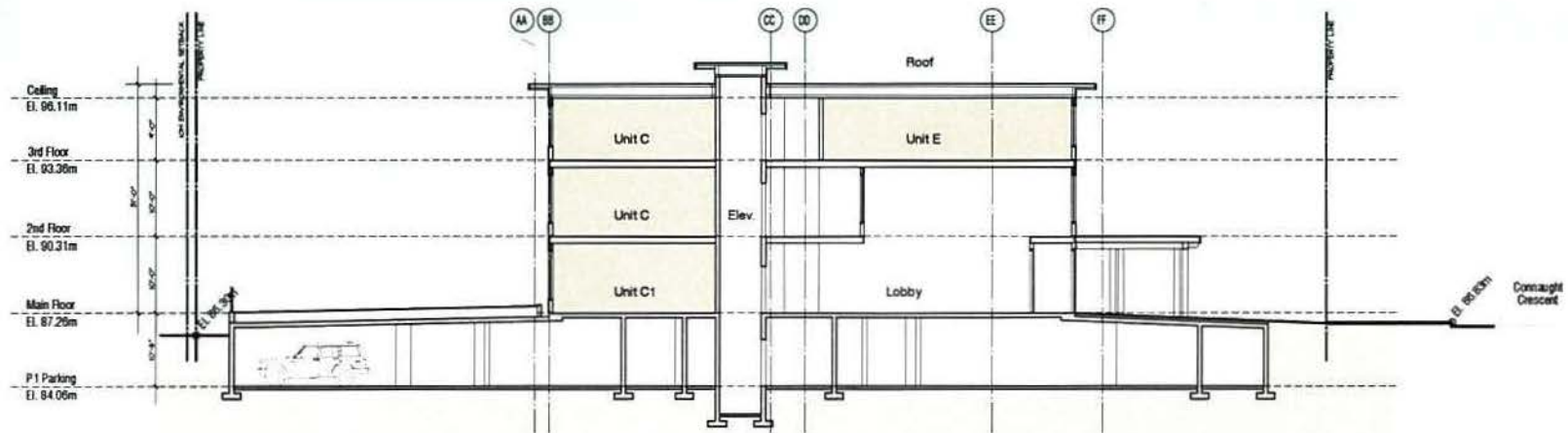
1/8" = 1'-0"
July 20, 2016



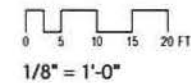
SK-4.3



Section C - C



Section D - D





March 21/September 21, 10am



June 21, 10am



March 21/September 21, 12pm



June 21, 12pm



March 21/September 21, 2pm



June 21, 2pm



March 21/September 21, 6pm



June 21, 6pm

The Corporation of the District of North Vancouver**Bylaw 8178**

A bylaw to amend District of North Vancouver Official Community Plan Bylaw 7900,
2011

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "District of North Vancouver Official Community Plan Bylaw 7900, 2011, Amendment Bylaw 8178, 2016 (Amendment 21)".

2. Amendments

2.1 District of North Vancouver Official Community Plan Bylaw 7900, 2011, is amended as follows:

- a) Map 2 Land Use: as illustrated on Schedule A, by changing the land use designation of the properties on Map 2 from Residential Level 2: Detached Residential to Residential Level 5: Low Density Apartment;
- b) Map 3.1 Form and character Development Permit Area: as illustrated on Schedule B, by adding the properties to Map 3.1, designating them as a Form and Character of Commercial, Industrial and Multifamily Development Development Permit Area; and,
- c) Map 4.1 Energy and Water Conservation and GHG Emission Reduction Development Permit Area: as illustrated on Schedule B, by adding the properties to Map 4.1, designating them as an Energy and Water Conservation and Greenhouse Gas Reduction Development Permit Area.

READ a first time by a majority of all Council members.

PUBLIC HEARING held

READ a second time by a majority of all Council members.

READ a third time by a majority of all Council members.

ADOPTED by a majority of all Council members.

Mayor

Certified a true copy

Municipal Clerk

Municipal Clerk

Bylaw 8178 Schedule A

BYLAW 8178

The District of North Vancouver Official Community Plan Bylaw 7900 (2011)
Amendment Bylaw 8178 (2016)



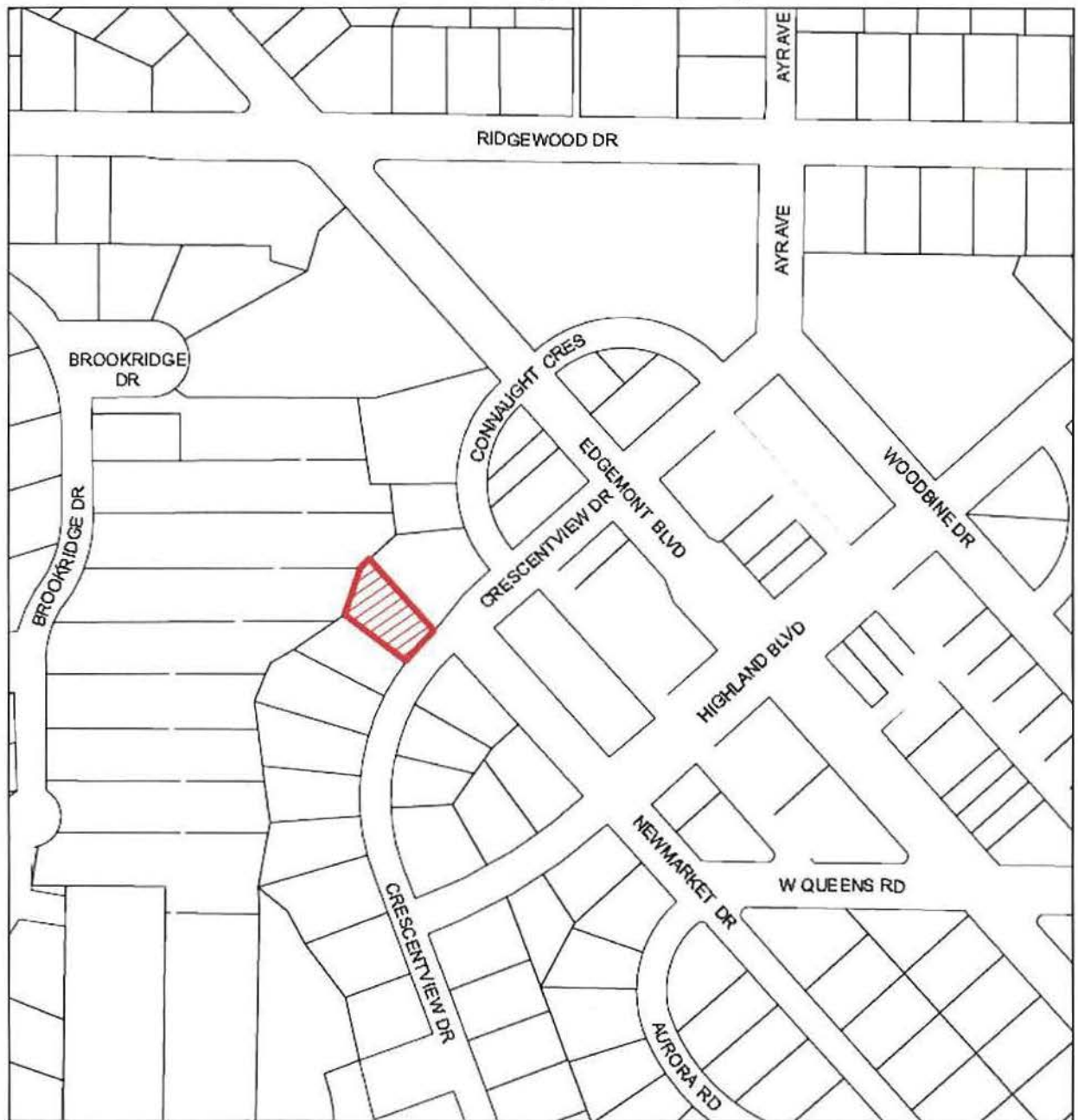
Map 2 Land Use: as illustrated on Schedule A, by changing the land use designation, on Map 2, of the properties from Residential Level 2: Detached Residential to Residential Level 5: Low Density Apartment



Bylaw 8178 Schedule B

BYLAW 8178

The District of North Vancouver Official Community Plan Bylaw 7900 (2011)
Amendment Bylaw 8178 (2016)



Map 3.1 Form and character Development Permit Area: as illustrated on Schedule A, by adding the properties to Map 3.1, designating them as a Form and Character of Commercial, Industrial and Multifamily Development Permit Area

Map 4.1 Energy and Water Conservation and GHG Emission Reduction Development Permit Area: as illustrated on Schedule A, by adding the properties to Map 4.1, designating them as an Energy and Water Conservation and Greenhouse Gas Reduction Development Permit Area



The Corporation of the District of North Vancouver**Bylaw 8179**

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "The District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)".

2. Amendments

2.1 District of North Vancouver Zoning Bylaw 3210, 1965 is amended as follows:

a) Section 301 (2) by inserting the following zoning designation:

"Comprehensive Development Zone 95 CD95"

b) Part 4B Comprehensive Development Zone Regulations by inserting the following:

"4B95 Comprehensive Development Zone 95 CD95

The CD95 Zone is applied to:

- a) Amended Lot 3 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-428;
- b) Amended Lot 4 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-444;
- c) Lot 5 Block 55 District Lots 598 to 601 Plan 6659, PID: 010-825-479

4B95-1) Intent:

The purpose of the CD95 Zone is to establish specific land use and development regulations for a 23 unit apartment and one single family house project.

4B95-2) Uses:

The following *principal uses* shall be permitted in the Comprehensive Development 95 Zone:

- a) Uses permitted without conditions:
 - i. Three storey residential building, low-rise apartment; and,
 - ii. Two storey residential building, single family house.
- b) Conditional uses:
 - i. Not applicable

4B95-3) Conditions of Use:

- a) Secondary suites are not permitted in the CD95 Zone

4B95-4) Accessory Uses:

- (a) *Accessory uses* are permitted and may include but are not necessarily limited to:
 - (i) Home occupations in accordance with the regulations in Section 405 of the Zoning Bylaw, 1965

4B95-5) Density:

- (a) The maximum permitted density in the CD95 Zone is limited to a floor space ratio (FSR) of 0.45 inclusive of any density bonus for energy performance and a maximum of 6 dwelling units;
- (b) For the purposes of calculating floor space ratio, the following areas are excluded:
 - i. Underground parking level

4B95-6) Amenities:

- (a) Despite subsection 4B95-5, density in the CD95 Zone is increased to a maximum floor space of 3,112m² (33,496 sq ft) inclusive of any density bonus for energy performance; and, a maximum of 22 units in a low-rise apartment and a maximum of one unit in a detached single family house, if the owner:
 - i. Enters into a Housing Agreement prohibiting any restrictions preventing the owners in the project from renting their units;
 - ii. Contributes \$337,095 to the municipality to be used for any of the following amenities (with allocation and timing of expenditure to be determined by the municipality in its sole discretion): public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation service facility, or facility improvements; and/or the affordable housing fund;

- iii. Ensures a minimum of 364 m² (3,918 sq. ft.) of the total permissible floor space occurs in Area A as noted in Schedule B.
- iv. Ensures a minimum of 2,748 m² (29,581 sq. ft.) of the total permissible floor space must occur in Area B as noted in Schedule B.

4B95-7) Setbacks:

- a) Buildings shall be set back from property lines to the closest building face, excluding any partially exposed underground parking structure, window wells, balcony columns, or projecting balconies, said projecting balconies not to exceed 0.9 m (3.0 ft) as established by development permit and in accordance with Figure 1:



Figure 1.

4B95-8) Coverage:

- (a) Maximum building coverage is 58%; not including underground parking or patios;

- (b) Maximum site coverage is 60%; not including underground parking or patios.

4B95-9) Height:

- (a) The maximum permitted height for any building in the CD95 Zone is as follows:
- i. Area A: 7.3 m (24.0 ft)
 - ii. Area B: 11.75 m (38.5 ft)

4B95-13) Landscaping:

- (a) All land areas not occupied by buildings, structures, parking spaces, loading spaces, driveways, manoeuvring aisles and sidewalks shall be landscaped or finished in accordance with an approved landscape plan; and,
- (b) All electrical kiosks, pad mounted transformers, and garbage and recycling container pads not located underground or within a building shall be screened with landscaping.

4B95-14) Parking and Loading Regulations:

- (a) A minimum of 46 parking spaces are required, inclusive of designated visitor parking and parking for persons with disabilities;
- (b) A minimum of 6 parking spaces are required for designated visitor parking;
- (c) A maximum of 15 parking spaces may be small car spaces;
- (d) All parking spaces shall meet the minimum width and length standards established in Part 10 of the Zoning Bylaw, exclusive of building support columns;
- (e) A minimum of 26 class 1 resident bicycle storage spaces must be provided;
- (f) A minimum of 5 class 2 visitor bicycle parking spaces must be provided."
- (g) The Zoning Map is amended in the case of the lands illustrated on the attached maps (Schedule A and Schedule B) by rezoning the land to Comprehensive Development Zone 95 (CD 95).

READ a first time

PUBLIC HEARING held

READ a second time

READ a third time

Certified a true copy of "Rezoning Bylaw 1341 (Bylaw 8179)" as at Third Reading

Municipal Clerk

APPROVED by the Ministry of Transportation and Infrastructure on

ADOPTED

Mayor

Municipal Clerk

Certified a true copy

Municipal Clerk

Bylaw 8179 Schedule A

BYLAW 8179

The District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)



REZONE THE LANDS
FROM SINGLE FAMILY RESIDENTIAL EDMONTON ZONE (RSE)
TO COMPREHENSIVE DEVELOPMENT ZONE 95 (CD95)



Bylaw 8179 Schedule B

BYLAW 8179

The District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)



AREA A

AREA B



The Corporation of the District of North Vancouver

Bylaw 8186

A bylaw to enter into a Housing Agreement (3105 and 3115 Crescentview Dr.)

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "Housing Agreement Bylaw 8186, 2016 (3105 and 3115 Crescentview Dr.)".

2. Authorization to Enter into Agreement

2.1 The Council hereby authorizes a housing agreement between The Corporation of the District of North Vancouver and Mike Fournugerakis substantially in the form attached to this Bylaw as Schedule "A" with respect to the following lands:

- a) Amended Lot 3 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-428;
- b) Amended Lot 4 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-444;
- c) Lot 5 Block 55 District Lots 598 to 601 Plan 6659, PID: 010-825-479

3. Execution of Documents

The Mayor and Municipal Clerk are authorized to execute any documents required to give effect to the Housing Agreement.

READ a first time

READ a second time

READ a third time

ADOPTED

Mayor

Municipal Clerk

Certified a true copy

Municipal Clerk

Schedule A to Bylaw 8186

SECTION 219 COVENANT – HOUSING AGREEMENT

This agreement is dated for reference the ____ day of _____, 20____

BETWEEN:

MIKE FOURNUGERAKIS, 3115 Crescentview Dr., North Vancouver, BC V7R 2V2

(the "Owner")

AND:

THE CORPORATION OF THE DISTRICT OF NORTH VANCOUVER, a municipality incorporated under the *Local Government Act*, RSBC 2015, c.1 and having its office at 355 West Queens Road, North Vancouver, BC V7N 4N5

(the "District")

WHEREAS:

1. The Owner is the registered owner of the Lands (as hereinafter defined);
2. The Owner wishes to obtain development permissions with respect to the Lands and wishes to create a condominium development which will contain residential strata units on the Lands;
3. Section 483 of the *Local Government Act* authorises the District, by bylaw, to enter into a housing agreement to provide for the prevention of rental restrictions on housing, and provides for the contents of the agreement; and
4. Section 219 of the *Land Title Act* (British Columbia) permits the registration in favour of the District of a covenant of a negative or positive nature relating to the use of land or a building thereon, or providing that land is to be built on in accordance with the covenant, or providing that land is not to be built on except in accordance with the covenant, or providing that land is not to be subdivided except in accordance with the covenant;

NOW THEREFORE in consideration of the mutual promises contained in it, and in consideration of the payment of \$1.00 by the District to the Owner (the receipt and sufficiency of which are hereby acknowledged by the Owner), the parties covenant and agree with each other as follows, as a housing agreement under Section 483 of the *Local Government Act*, as a contract and a deed under seal between the parties, and as a covenant under Section 219 of the *Land Title Act*, and the Owner hereby further covenants and agrees that neither the Lands nor any building constructed thereon shall be used or built on except in accordance with this Agreement:

1. DEFINITIONS

1.01 Definitions

In this agreement:

- (a) *"Development Permit"* means development permit No. _____ issued by the District;
- (b) *"Lands"* means land described in Item 2 of the *Land Title Act* Form C to which this agreement is attached;
- (c) *"Proposed Development"* means the proposed development containing not more than 23 units to be constructed on the Lands in accordance with the Development Permit;
- (d) *"Short Term Rentals"* means any rental of a Unit for any period less than 30 days;
- (e) *"Strata Corporation"* means the strata corporation formed upon the deposit of a plan to strata subdivide the Proposed Development pursuant to the *Strata Property Act*;
- (f) *"Unit"* means a residential dwelling strata unit in the Proposed Development; and
- (g) *"Unit Owner"* means the registered owner of a Dwelling Unit in the Proposed Development.

2. TERM

This Agreement will commence upon adoption by District Council of Bylaw 8186 and remain in effect until terminated by the District as set out in this Agreement.

3. RENTAL ACCOMODATION

3.01 Rental Disclosure Statement

No Unit in the Proposed Development may be occupied unless the Owner has:

- (a) before the first Unit is offered for sale, or conveyed to a purchaser without being offered for sale, filed with the Superintendent of Real Estate a Rental Disclosure Statement designating all of the Units as rental strata lots and imposing at least a ninety-nine (99) year rental period in relation to all of the Units pursuant to the *Strata Property Act* (or any successor or replacement legislation), except in relation to Short Term Rentals and, for greater certainty, stipulating specifically that the 99 year rental restriction does not apply to a Strata Corporation bylaw prohibiting or restricting Short Term Rentals; and
- (b) given a copy of the Rental Disclosure Statement to each prospective purchaser of any Unit before the prospective purchaser enters into an agreement to purchase in respect of the Unit.

3.02 Rental Accommodation

The Units constructed on the Lands from time to time may always be used to provide rental accommodation as the Owner or a Unit Owner may choose from time to time.

3.03 Binding on Strata Corporation

This agreement shall be binding upon all Strata Corporations created by the subdivision of the Lands or any part thereof (including the Units) pursuant to the *Strata Property Act*, and upon all Unit Owners.

3.04 Strata Bylaw Invalid

Any Strata Corporation bylaw which prevents, restricts or abridges the right to use any of the Units as rental accommodations shall have no force or effect.

3.05 No Bylaw

The Strata Corporation shall not pass any bylaws preventing, restricting or abridging the use of the Lands, the Proposed Development or the Units contained therein from time to time as rental accommodation.

3.06 Vote

No Unit Owner, nor any tenant or mortgagee thereof, shall vote for any Strata Corporation bylaw purporting to prevent, restrict or abridge the use of the Lands, the Proposed Development and the units contained therein from time to time as rental accommodation.

3.07 Notice

The Owner will provide notice of this Agreement to any person or persons intending to purchase a Unit prior to any such person entering into an agreement of purchase and sale, agreement for sale, or option or similar right to purchase as part of the Disclosure Statement for any part of the Proposed Development prepared by the Owner pursuant to the *Real Estate Development Marketing Act*.

3.08 Release of Covenant

The District agrees that if the District of North Vancouver Rezoning Bylaw 3210 (Bylaw 8179), is not adopted by the District's Council before December 31, 2016, the Owner is entitled to require the District to execute and deliver to the Owner a discharge, in registrable form, of this Agreement from title to the Land. The Owner is responsible for the preparation of the discharge under this section and for the cost of registration at the Land Title Office.

4. DEFAULT AND REMEDIES

4.01 Notice of Default

The District may, acting reasonably, give to the Owner written notice to cure a default under this Agreement within thirty (30) days of delivery of the notice. The notice must specify the nature of the default. The Owner must act with diligence to correct the default within the time specified.

4.02 Costs

The Owner will pay to the District upon demand all the District's costs of exercising its rights or remedies under this Agreement, on a full indemnity basis.

4.03 Damages an Inadequate Remedy

The Owner acknowledges and agrees that in the case of a breach of this Agreement which is not fully remediable by the mere payment of money and promptly so remedied, the harm sustained by the District and to the public interest will be irreparable and not susceptible of adequate monetary compensation.

4.04 Equitable Remedies

Each party to this Agreement, in addition to its rights under this Agreement or at law, will be entitled to all equitable remedies including specific performance, injunction and declaratory relief, or any of them, to enforce its rights under this Agreement.

4.05 No Penalty or Forfeiture

The Owner acknowledges and agrees that it is entering into this Agreement to benefit the public interest in providing rental accommodation, and that the District's rights and remedies under this Agreement are necessary to ensure that this purpose is carried out, and the District's rights and remedies under this Agreement are fair and reasonable and ought not to be construed as a penalty or forfeiture.

4.06 Cumulative Remedies

No reference to nor exercise of any specific right or remedy under this Agreement or at law or at equity by any party will prejudice, limit or preclude that party from exercising any other right or remedy. No right or remedy will be exclusive or dependent upon any other right to remedy, but any party, from time to time, may exercise any one or more of such rights or remedies independently, successively, or in combination. The Owner acknowledges that specific performance, injunctive relief (mandatory or otherwise) or other equitable relief may be the only adequate remedy for a default by the Owner under this Agreement.

5. LIABILITY

5.01 Indemnity

Except if arising directly from the negligence of the District or its employees, agents or contractors, the Owner will indemnify and save harmless each of the District and its board members, officers, directors, employees, agents, and elected or appointed officials,, and their heirs, executors, administrators, personal representatives, successors and assigns, from and against all claims, demands, actions, loss, damage, costs and liabilities that all or any of them will or may be liable for or suffer or incur or be put to any act or omission by the Owner or its officers, directors, employees, agents, contractors, or other persons for whom the Owner is at law responsible, or by reason of or arising out of the Owner's ownership, operation, management or financing of the Proposed Development or any part thereof.

5.02 Release

The Owner hereby releases and forever discharges the District, its elected officials, board members, officers, directors, employees and agents, and its and their heirs, executors, administrators, personal representatives, successors and assigns from and against all claims, demands, damages, actions or causes of action by reason of or arising out of advice or direction respecting the ownership, operation or management of the Proposed Development or any part thereof which has been or hereafter may be given to the Owner by all or any of them.

5.03 Survival

The covenants of the Owner set out in Sections 5.01 and 5.02 will survive termination of this Agreement and continue to apply to any breach of the Agreement or claim arising under this Agreement during the ownership by the Owner of the Lands or any Unit therein, as applicable.

6. GENERAL PROVISIONS

6.01 District's Power Unaffected

Nothing in this Agreement:

- (a) affects or limits any discretion, rights, powers, duties or obligations of the District under any enactment or at common law, including in relation to the use or subdivision of land;
- (b) affects or limits any enactment relating to the use of the Lands or any condition contained in any approval including any development permit concerning the development of the Lands; or
- (c) relieves the Owner from complying with any enactment, including the District's bylaws in relation to the use of the Lands.

6.02 Agreement for Benefit of District Only

The Owner and District agree that:

- (a) this Agreement is entered into only for the benefit of the District;
- (b) this Agreement is not intended to protect the interests of the Owner, any Unit Owner, any Occupant or any future owner, occupier or user of any part of the Proposed Development, including any Unit, or the interests of any third party, and the District has no obligation to anyone to enforce the terms of this Agreement; and
- (c) The District may at any time terminate this Agreement, in whole or in part, and execute a release and discharge of this Agreement in respect of the Proposed Development or any Unit therein, without liability to anyone for doing so.

6.03 Agreement Runs With the Lands

This Agreement burdens and runs with the Lands and any part into which any of them may be subdivided or consolidated, by strata plan or otherwise. All of the covenants and agreements contained in this Agreement are made by the Owner for itself, its successors and assigns, and all persons who acquire an interest in the Lands or in any Unit after the date of this Agreement.

6.04 Release

The covenants and agreements on the part of the Owner and any Unit Owner and herein set forth in this Agreement have been made by the Owner and any Unit Owner as contractual obligations as well as being made pursuant to Section 483 of the *Local Government Act* (British Columbia) and as such will be binding on the Owner and any Unit Owner, except that neither the Owner nor any Unit Owner shall be liable for any default in the performance or observance of this Agreement occurring after such party ceases to own the Lands or a Unit as the case may be.

6.05 Priority of This Agreement

The Owner will, at its expense, do or cause to be done all acts reasonably necessary to ensure this Agreement is registered against the title to each Unit in the Proposed Development, including any amendments to this Agreement as may be required by the Land Title Office or the District to effect such registration.

6.06 Agreement to Have Effect as Deed

The District and the Owner each intend by execution and delivery of this Agreement to create both a contract and a deed under seal.

6.07 Waiver

An alleged waiver by a party of any breach by another party of its obligations under this Agreement will be effective only if it is an express waiver of the breach in writing. No waiver of a

breach of this Agreement is deemed or construed to be a consent or waiver of any other breach of this Agreement.

6.08 Time

Time is of the essence in this Agreement. If any party waives this requirement, that party may reinstate it by delivering notice to another party.

6.09 Validity of Provisions

If a Court of competent jurisdiction finds that any part of this Agreement is invalid, illegal, or unenforceable, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.

6.10 Extent of Obligations and Costs

Every obligation of a party which is set out in this Agreement will extend throughout the Term and, to the extent that any obligation ought to have been observed or performed prior to or upon the expiry or earlier termination of the Term, such obligation will survive the expiry or earlier termination of the Term until it has been observed or performed.

6.11 Notices

All notices, demands, or requests of any kind, which a party may be required or permitted to serve on another in connection with this Agreement, must be in writing and may be served on the other parties by registered mail or by personal service, to the following address for each party:

If to the District:

District Municipal Hall
355 West Queens Road
North Vancouver, BC V7N 4N5

Attention: Planning Department

If to the Owner:

Mike Fournugerakis
3115 Crescentview Dr.
North Vancouver, BC V7R 2V2

If to the Unit Owner:

The address of the registered owner which appears on title to the Unit at the time of notice.

Service of any such notice, demand, or request will be deemed complete, if made by registered mail, 72 hours after the date and hour of mailing, except where there is a postal service disruption during such period, in which case service will be deemed to be complete only upon actual delivery of the notice, demand or request and if made by personal service, upon personal service being effected. Any party, from time to time, by notice in writing served upon the other parties, may designate a different address or different or additional persons to which all notices, demands, or requests are to be addressed.

6.12 Further Assurances

Upon request by the District, the Owner will promptly do such acts and execute such documents as may be reasonably necessary, in the opinion of the District, to give effect to this Agreement.

6.13 Enuring Effect

This Agreement will enure to the benefit of and be binding upon each of the parties and their successors and permitted assigns.

7. INTERPRETATION

7.01 References

Gender specific terms include both genders and include corporations. Words in the singular include the plural, and words in the plural include the singular.

7.02 Construction

The division of this Agreement into sections and the use of headings are for convenience of reference only and are not intended to govern, limit or aid in the construction of any provision. In all cases, the language in this Agreement is to be construed simply according to its fair meaning, and not strictly for or against either party.

7.03 No Limitation

The word "including" when following any general statement or term is not to be construed to limit the general statement or term to the specific items which immediately follow the general statement or term similar items whether or not words such as "without limitation" or "but not limited to" are used, but rather the general statement or term is to be construed to refer to all other items that could reasonably fall within the broadest possible scope of the general statement or term.

7.04 Terms Mandatory

The words "must" and "will" and "shall" are to be construed as imperative.

7.05 Statutes

Any reference in this Agreement to any statute or bylaw includes any subsequent amendment, re-enactment, or replacement of that statute or bylaw.

7.06 Entire Agreement

- (d) This is the entire agreement between the District and the Owner concerning its subject, and there are no warranties, representations, conditions or collateral agreements relating to this Agreement, except as included in this Agreement.
- (e) This Agreement may be amended only by a document executed by the parties to this Agreement and by bylaw, such amendment to be effective only upon adoption by District Council of a bylaw to amend Bylaw 8186.

7.07 Governing Law

This Agreement is to be governed by and construed and enforced in accordance with the laws of British Columbia.

As evidence of their agreement to be bound by the terms of this instrument, the parties hereto have executed the *Land Title Act* Form C that is attached hereto and forms part of this Agreement.

GRANT OF PRIORITY

WHEREAS _____ (the "Chargeholder") is the holder of the following charge which is registered in the Land Title Office:

(a) _____ (the "Charge");

AND WHEREAS the Chargeholder agrees to allow the Section 219 Covenant herein to have priority over the Charge;

THIS PRIORITY AGREEMENT is evidence that in consideration of the sum of \$1.00 paid by THE CORPORATION OF THE DISTRICT OF NORTH VANCOUVER (the "District") to the Chargeholder, the receipt and sufficiency of which are hereby acknowledged, the Chargeholder covenants and agrees to subordinate and postpone all its rights, title and interest in and to the lands described in the Form C to which this Agreement is attached (the "Lands") with the intent and with the effect that the interests of the District rank ahead of the Charge as though the Section 219 Covenant herein had been executed, delivered and registered against title to the Lands before registration of the Charge.

As evidence of its Agreement to be bound by the above terms, as a contract and as a deed executed and delivered under seal, the Chargeholder has executed the Form C to which this Agreement is attached and which forms part of this Agreement.

END OF DOCUMENT

The Corporation of the District of North Vancouver

Bylaw 8178

A bylaw to amend District of North Vancouver Official Community Plan Bylaw 7900, 2011

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

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- c) Map 4.1 Energy and Water Conservation and GHG Emission Reduction Development Permit Area: as illustrated on Schedule B, by adding the properties to Map 4.1, designating them as an Energy and Water Conservation and Greenhouse Gas Reduction Development Permit Area.

READ a first time October 24th, 2016 by a majority of all Council members.

PUBLIC HEARING held

READ a second time by a majority of all Council members.

READ a third time by a majority of all Council members.

ADOPTED by a majority of all Council members.

Mayor

Municipal Clerk

Certified a true copy

Municipal Clerk

Bylaw 8178 Schedule A

BYLAW 8178

The District of North Vancouver Official Community Plan Bylaw 7900 (2011)
Amendment Bylaw 8178 (2016)



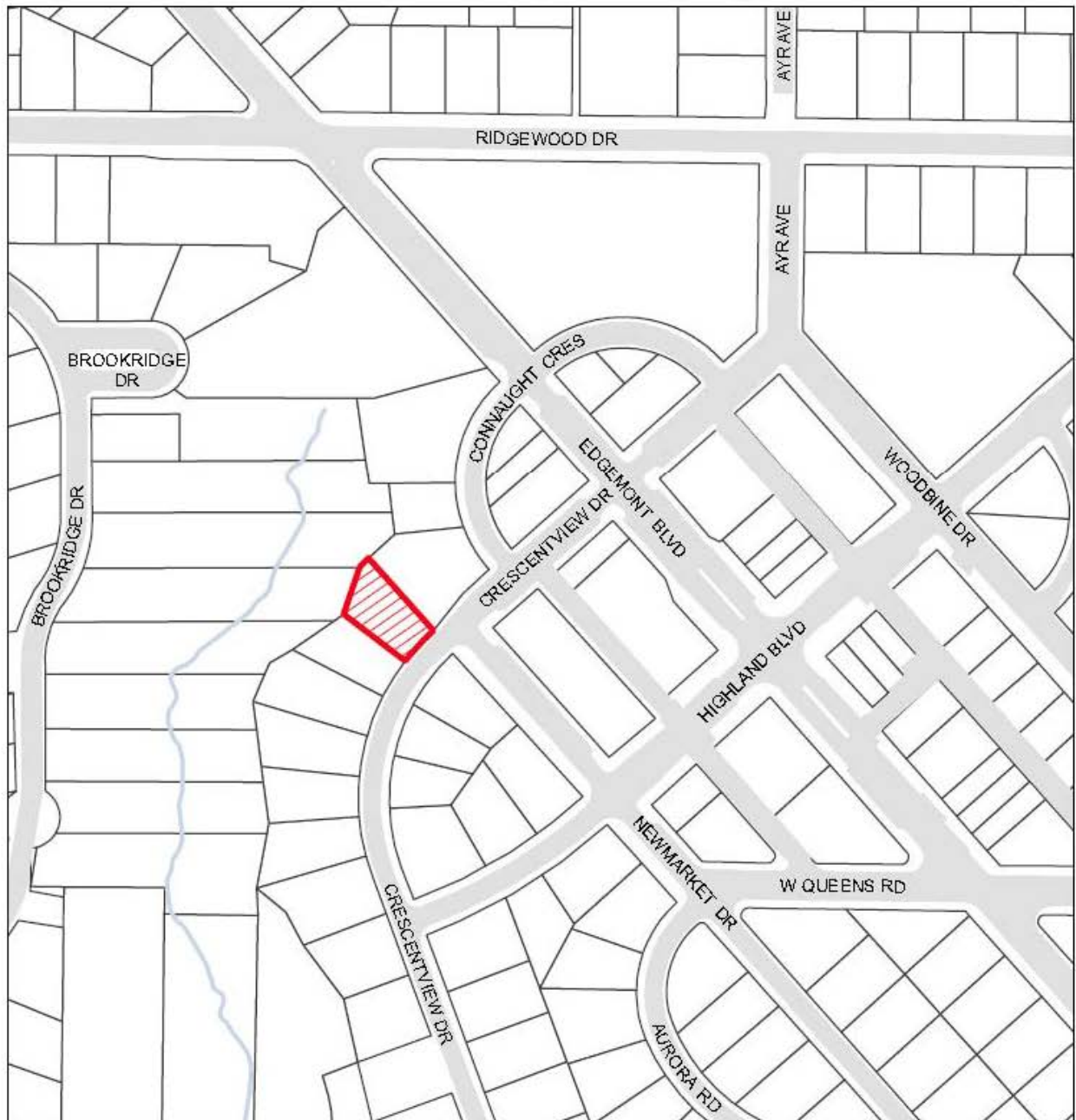
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Bylaw 8178 Schedule B

BYLAW 8178

The District of North Vancouver Official Community Plan Bylaw 7900 (2011)
Amendment Bylaw 8178 (2016)



Map 3.1 Form and character Development Permit Area: as illustrated on Schedule A, by adding the properties to Map 3.1, designating them as a Form and Character of Commercial, Industrial and Multifamily Development Permit Area

Map 4.1 Energy and Water Conservation and GHG Emission Reduction Development Permit Area: as illustrated on Schedule A, by adding the properties to Map 4.1, designating them as an Energy and Water Conservation and Greenhouse Gas Reduction Development Permit Area



The Corporation of the District of North Vancouver

Bylaw 8179

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

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"Comprehensive Development Zone 95 CD95"

b) Part 4B Comprehensive Development Zone Regulations by inserting the following:

“4B95 Comprehensive Development Zone 95 CD95

The CD95 Zone is applied to:

- a) Amended Lot 3 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-428;
- b) Amended Lot 4 (See 149056L) Block 55 District Lot 598 to 601 Plan 6659, PID: 010-825-444;
- c) Lot 5 Block 55 District Lots 598 to 601 Plan 6659, PID: 010-825-479

4B95-1) Intent:

The purpose of the CD95 Zone is to establish specific land use and development regulations for a 23 unit apartment and one single family house project.

4B95-2) Uses:

The following *principal uses* shall be permitted in the Comprehensive Development 95 Zone:

- a) Uses permitted without conditions:
 - i. Three storey residential building, low-rise apartment; and,
 - ii. Two storey residential building, single family house.
- b) Conditional uses:
 - i. Not applicable

4B95-3) Conditions of Use:

- a) Secondary suites are not permitted in the CD95 Zone

4B95-4) Accessory Uses:

- (a) *Accessory uses* are permitted and may include but are not necessarily limited to:
 - (i) Home occupations in accordance with the regulations in Section 405 of the Zoning Bylaw, 1965

4B95-5) Density:

- (a) The maximum permitted density in the CD95 Zone is limited to a floor space ratio (FSR) of 0.45 inclusive of any density bonus for energy performance and a maximum of 6 dwelling units;
- (b) For the purposes of calculating floor space ratio, the following areas are excluded:
 - i. Underground parking level

4B95-6) Amenities:

- (a) Despite subsection 4B95-5, density in the CD95 Zone is increased to a maximum floor space of 3,112m² (33,496 sq ft) inclusive of any density bonus for energy performance; and, a maximum of 22 units in a low-rise apartment and a maximum of one unit in a detached single family house, if the owner:
 - i. Enters into a Housing Agreement prohibiting any restrictions preventing the owners in the project from renting their units;
 - ii. Contributes \$337,095 to the municipality to be used for any of the following amenities (with allocation and timing of expenditure to be determined by the municipality in its sole discretion): public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation service facility, or facility improvements; and/or the affordable housing fund;

- (b) Maximum site coverage is 60%; not including underground parking or patios.

4B95-9) Height:

- (a) The maximum permitted height for any building in the CD95 Zone is as follows:
 - i. Area A: 7.3 m (24.0 ft)
 - ii. Area B: 11.75 m (38.5 ft)

4B95-13) Landscaping:

- (a) All land areas not occupied by buildings, structures, parking spaces, loading spaces, driveways, manoeuvring aisles and sidewalks shall be landscaped or finished in accordance with an approved landscape plan; and,
- (b) All electrical kiosks, pad mounted transformers, and garbage and recycling container pads not located underground or within a building shall be screened with landscaping.

4B95-14) Parking and Loading Regulations:

- (a) A minimum of 46 parking spaces are required, inclusive of designated visitor parking and parking for persons with disabilities;
- (b) A minimum of 6 parking spaces are required for designated visitor parking;
- (c) A maximum of 15 parking spaces may be small car spaces;
- (d) All parking spaces shall meet the minimum width and length standards established in Part 10 of the Zoning Bylaw, exclusive of building support columns;
- (e) A minimum of 26 class 1 resident bicycle storage spaces must be provided;
- (f) A minimum of 5 class 2 visitor bicycle parking spaces must be provided.”
- (g) The Zoning Map is amended in the case of the lands illustrated on the attached maps (Schedule A and Schedule B) by rezoning the land to Comprehensive Development Zone 95 (CD 95).

READ a first time October 24th, 2016

PUBLIC HEARING held

READ a second time

READ a third time

Certified a true copy of "Rezoning Bylaw 1341 (Bylaw 8179)" as at Third Reading

Municipal Clerk

APPROVED by the Ministry of Transportation and Infrastructure on

ADOPTED

Mayor

Municipal Clerk

Certified a true copy

Municipal Clerk

Bylaw 8179 Schedule A

BYLAW 8179

The District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)



REZONE THE LANDS
FROM SINGLE FAMILY RESIDENTIAL EDMONTON ZONE (RSE)
TO COMPREHENSIVE DEVELOPMENT ZONE 95 (CD95)



Bylaw 8179 Schedule B

BYLAW 8179

The District of North Vancouver Rezoning Bylaw 1341 (Bylaw 8179)



AREA A

AREA B





PUBLIC HEARING

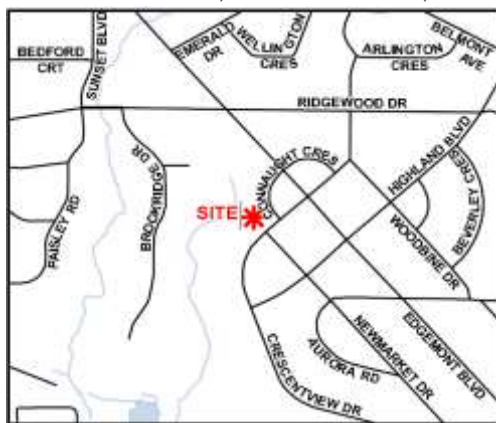
3105 & 3115 Crescentview Drive

Twenty-Two Unit Apartment & Single Family House

What: A Public Hearing for Bylaws 8178 and 8179, proposed amendments to the Official Community Plan and Zoning Bylaw, to permit the development of a twenty-two unit apartment and single family house at 3105 & 3115 Crescentview Drive.

When: 7 pm, Tuesday, November 22, 2016

Where: Council Chambers, District of North Vancouver Municipal Hall, 355 West Queens Road, North Vancouver, BC



Proposed*



*Provided by applicant for illustrative purposes only.
The actual development, if approved, may differ.

What changes?

Bylaw 8178 proposes to amend the OCP land use designation for the affected properties from Residential Level 2: Detached Residential to Residential Level 5: Low Density Apartment and to designate these properties as Development Permit Areas for Form and Character, Energy and Water Conservation and GHG Emission Reduction. Bylaw 8179 proposes to amend the District's Zoning Bylaw by creating a new Comprehensive Development Zone 95 (CD95) and rezone the subject site from Single Family Residential Edgemont (RSE) to CD95 to allow the development of a twenty-two unit apartment and single family house.

When can I speak?

We welcome your input Tuesday, November 22, 2016, at 7 pm. You can speak in person by signing up at the hearing, or you can provide a written submission to the Municipal Clerk at input@dnv.org or by mail to Municipal Clerk, District of North Vancouver, 355 West Queens Road, North Vancouver, BC, V7N 4N5, before the conclusion of the hearing.

Please note that Council may not receive further submissions from the public concerning this application after the conclusion of the public hearing.

Need more info?

Relevant background material and copies of the bylaws are available for review at the Municipal Clerk's Office or online at dnv.org/public_hearing from October 25 to November 22. Office hours are Monday to Friday 8 am to 4:30 pm, except statutory holidays.

Who can I speak to?

Natasha Letchford, Community Planner, at 604-990-2378 or letchfordn@dnv.org







EDGEMONT VILLAGE CENTRE: PLAN AND DESIGN GUIDELINES



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1.0 Introduction

1.1 Introduction

In 2011, District of North Vancouver Council adopted a new Official Community Plan (OCP). This OCP established a 'network of centres' to manage growth within a defined urban structure over the next 20 years. More detailed centres plans, including design guidelines, are being prepared to guide development in each designated centre. The Edgemont Village 'refresh' is part of this process, and has led to the preparation of this policy document.

The intent of the collaborative review of the Village plan has been to refresh a previous plan that is now 15 years old. Conditions in the community have changed since that time and the Village is experiencing ongoing development pressures. A refreshed plan enables the community to identify opportunities to enhance the Village environment, and to ensure development occurs in a coordinated way so that Edgemont continues to meet the needs of the community today and into the future.

Community consultation began with three "Ideas Forums" in February 2013, where the public were invited to identify issues and opportunities for the future of the Village as Phase 1 of the Edgemont 'refresh'. Based on feedback collected at these events, a "Foundation Report" was prepared outlining 15 planning and design principles to guide preparation of a new plan. These 15 principles were used to invite further feedback at three "Directions Forums" and through an online survey as Phase 2 in June 2013. Following general support for the 15 foundational principles, draft planning policies and design guidelines were prepared and presented to the public at two Open Houses in Phase 3 of the process in November 2013. Feedback on Phase 3 was generally very supportive and has been used in the preparation of the proposed Edgemont Village Centre Plan and Design Guidelines provided here. Phase 4 of this collaborative planning process included final public review and the presentation of this document for Council's consideration in early 2014.

Full documentation of every stage of the engagement process can be found online at:

www.identity.dnv.org

1.2 Purpose, Application and Intent

The purpose of this document is to guide development and regulate the design of buildings and public realm improvements in and around Edgemont Village Centre, in support of the vision, goals, objectives and principles outlined in the District's Official Community Plan.

Policies and guidelines contained in this document provide both qualitative and quantitative recommendations for future development in and around the Village. These policies and guidelines should be applied and referred to in designing, reviewing and approving new building developments (built form), and new public realm improvements (streetscape, public open space, etc.).

The overall intent of this document is to direct development in a way that strengthens the character of Edgemont Village by enhancing its urban design and public realm, while respecting its unique attributes and low-rise scale.

1.3 Users

This document is intended to be used by the community to understand the likely forms and locations of new development and public realm improvements that may occur over the following 10 to 20 years. Policies and guidelines are intended to be used by landowners, developers and their design consultants in submitting development applications, and District staff and Council in reviewing these applications. They are also intended to be referred to by the District itself when designing civic and public realm improvements, in particular all future streetscape enhancements in the Village. Importantly, this document is to be used to guide decisions. It does not represent final decisions in themselves. Decisions on specific development applications and civic improvements will be made by Council, with full public input, on a case-by-case basis. This guiding document is neither prescriptive nor exhaustive, but rather illustrates the anticipated key directions for the Village.

As part of the implementation of the 2011 OCP, this document should be used in conjunction with OCP (Bylaw 7900, as amended), including the Development Permit Areas as described in Schedule B.

1.4 Organization and Scope

This document is organized as follows:

2.0 General Planning and Design

Considerations

This section refers to the overall context and identity of the Village.

3.0 Land Use

This section refers to land use policies and their associated densities.

4.0 Built Form Guidelines

This section refers to the form and character of new buildings.

5.0 Public Realm and Streetscape Guidelines

This section refers to new public realm projects for streetscapes and open spaces.

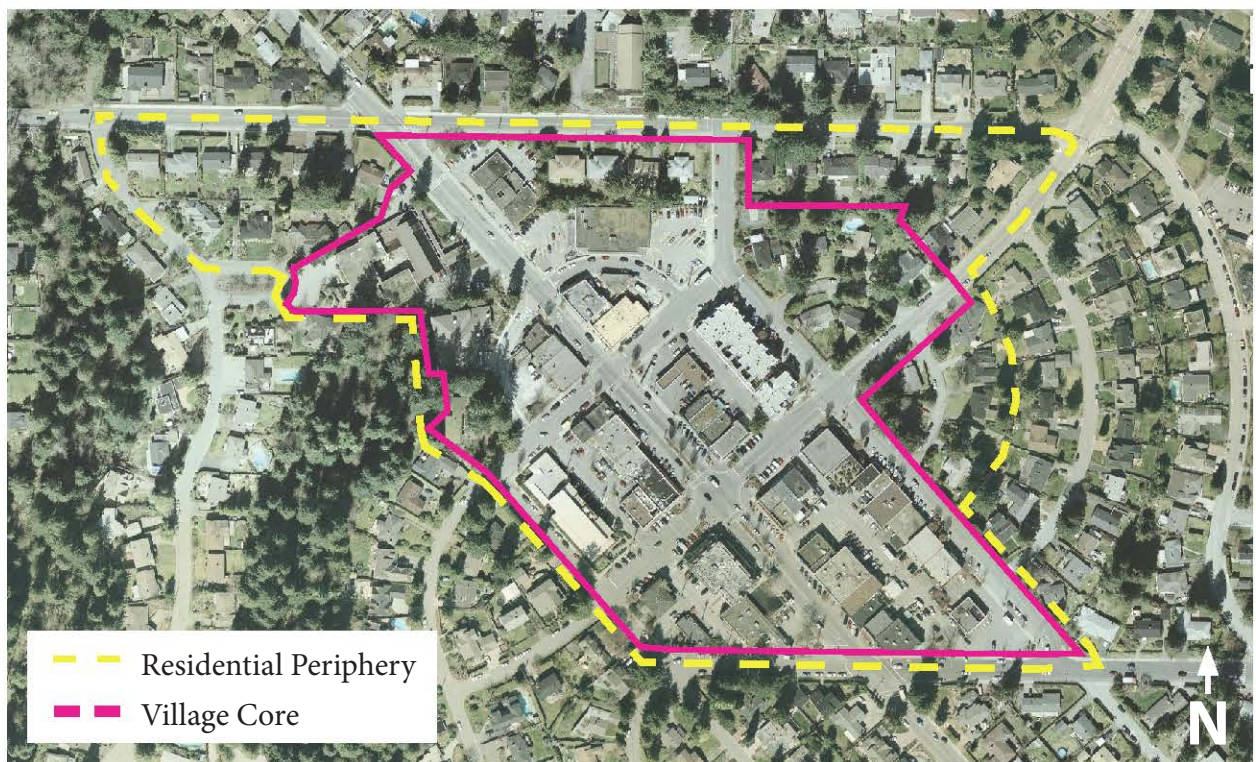
6.0 Transportation and Parking

This section refers to transportation policies and parking strategies.

7.0 Achieving the Vision

This section summarizes the general vision for the Village.

The scope of the policies and guidelines contained in this document is indicated on Map 1 below.



Map 1: Planning Area

2.0 General Planning and Design Considerations

2.1 Sense of Place

Edgemont Village is a distinctive commercial precinct serving the Upper Capilano neighbourhoods of North Vancouver. It has a unique sense of place with many characteristics that should be maintained and enhanced as it evolves over time. Some of the characteristics that help define Edgemont Village's identity relate to its physical context, such as:

- the Village's mountain setting and views
- its unique crescent-grid street pattern

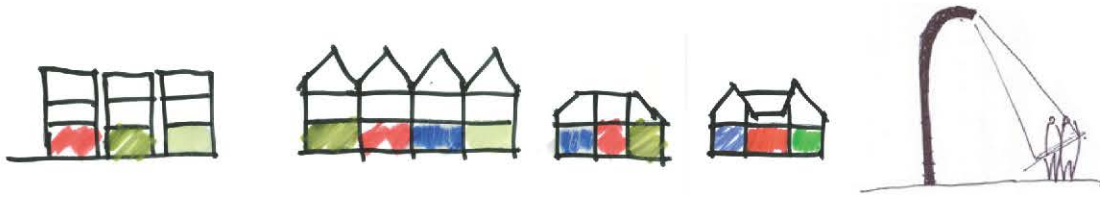
Other characteristics relate to the Village's existing built environment, such as:

- the eclectic diversity of its low-rise buildings
- the distinctive streetscape treatments (e.g. light standards, diagonal parking, etc.) that knit the Village together

In addition to these physical elements, a significant part of Edgemont's identity stems from less easily quantifiable social characteristics:

- the sense of neighbourliness and community between residents and store owners
- the presence of unique, locally owned/managed stores and services
- the feeling that the Village is an environment where all age groups are welcome and can thrive

Respecting these attributes that contribute to Edgemont's sense of place and community should be considered through careful land use planning and through the thoughtful design of any new buildings and public realm improvements. A diversity of housing types that respond to the needs of different demographics, and a diversity of commercial uses that maintain a distinctive mix of shops and services, should be encouraged. The design of public realm improvements should increase opportunities for community interaction and enhance the pedestrian-friendly character and walkability of the Village. New development should respond to the diversity of architectural styles with variation in built form, height and massing.



These two sketches illustrate conceptually one of the defining elements of Edgemont's physical character. On the one hand, a diverse mix of building styles, which house an equally diverse and vibrant range of stores and services. On the other, distinct public realm elements (such as the 'candy cane' light standards, or diagonal parking, or symmetrical corner bulges) that provide the unifying elements that bring the Village together into a cohesive whole.

2.2 Village Structure

Edgemont Village has a unique urban structure that responds to its physical location, topography and views. It was originally laid out as a unified plan, with a symmetrical street grid that includes a number of crescents. The street grid is oriented diagonally northwest-southeast, which optimizes views towards the North Shore mountains to the northwest and northeast.



The Village centre is defined by the intersection of its two main streets: Edgemont Boulevard and Highland Boulevard, which cross each other at the 'heart' of the Village.

Two transitional streets parallel Edgemont Boulevard, on each side (Woodbine Drive and Newmarket Drive), and a further two midblock lanes parallel these streets. The resulting blocks are relatively long and narrow, with double frontages on both a street and a lane. The diagonal street orientation presents an interesting geometry with oblique and acute angles at the northern and southern edges of the Village (West Queens Road and Ridgewood Drive).

This elegant plan, with its crescents, unique geometry, major intersecting streets, and supporting side streets and lanes, has resulted in a strong sense of place for the Village. These design guidelines respond to the Village's unique layout and urban structure.

2.3 Village Character and Scale



Edgemont Village has a low-rise built form character and scale, with buildings ranging from one to three storeys.



Commercial buildings are typically built out to the property line along Edgemont Boulevard, with no side yards, helping to create a well-defined traditional commercial 'Main Street' or 'High Street', with a largely continuous 'streetwall' of buildings that contain the street.



The fine-grained rhythm of narrow storefronts reflects the small size of individual properties, and also contributes to the strong sense of place and identity of the Village.



There is no one single dominant architectural character. Rather the Village reflects an eclectic range of architectural eras and styles. Varying building heights, rooflines and materials are typical, and contribute to the Village's unique character.

2.4 General Design Considerations

These design guidelines respond to the Village's sense of place, urban structure, character and sense of scale:

- New development should be sympathetic to the existing building scale, character and diversity.
- New buildings should not attempt to create a unified architectural design language, rather developments should promote the concept of eclectic diversity in the built environment.
- All new developments should take into account their immediate built form contexts and respond to this in a complementary way, in terms of building massing, height, build-to lines, setbacks, proportions, materials, colours, etc.
- New development should not seek to create a replication of older 'traditional' building styles and design. Rather the design of new developments should reflect contemporary architectural design and construction, and current urban design best practices in the context of the unique character of Edgemont Village.

2.5 Orientation and Siting Considerations

- Buildings should be oriented to the street grid, which is oriented diagonally northwest-southeast and optimizes views towards the North Shore mountains to the northwest and northeast.
- Buildings should be sited to optimize both public and private views of the mountains, and to optimize sunlight penetration into the public realm. This means that in general, buildings should be oriented with the longer dimension northwest-southeast (not northeast-southwest) parallel to the adjacent streets, to maintain northward views and maximize openings between adjacent buildings.
- New development fronting crescent streets should seek to respond to this unique geometry, where appropriate.



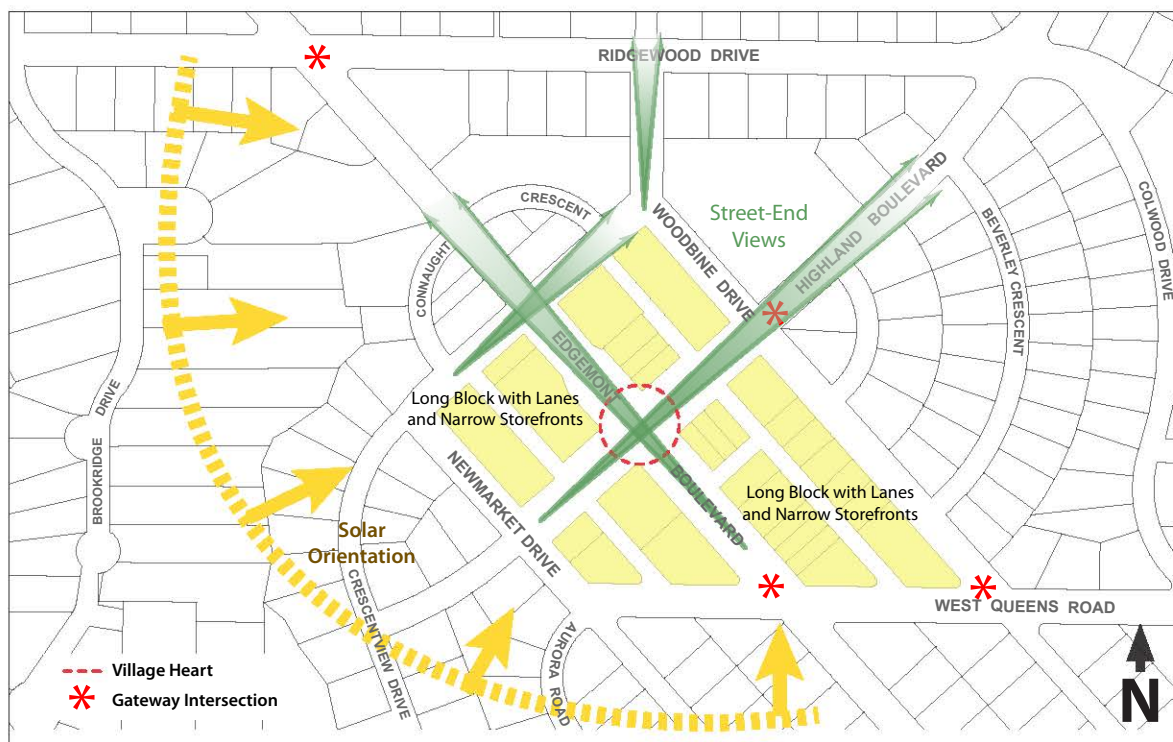
This corner building optimizes both its street orientation as well as its views, with a traditional mountain village design

2.6 Views Considerations

- Views towards the North Shore mountains are an important part of the Village's sense of place. New development and public realm design should take this into account.
- All public street-end views should be protected.
- Buildings should be designed and shaped to protect and optimize public views towards the mountains to the north, where practical. This means employing building setbacks, sloped rooflines, smaller upper level floor plates, stepped terracing, and other massing devices to maintain existing views from adjacent streets.



This photo shows building terracing with many windows, which optimize views as well as sunlight



Map 2: Planning and Design Considerations

2.7 Sunlight Considerations

- Sunlight penetration onto sidewalks and other public open spaces is an important attribute of the Village's amenity and comfort for pedestrians. New development should take this into account.
- Buildings should be designed to optimize sunlight penetration onto adjacent and opposite sidewalks and open spaces. This means employing building setbacks, sloped rooflines, smaller upper level floor plates, stepped terracing and other massing devices.
- This is especially important for buildings located on the southwestern side of the northwest-southeast streets, in terms of maintaining sunlight penetration onto the opposite (northeast) side of such streets.



This photo illustrates the importance of sunlight penetration onto sidewalks and public spaces to optimize enjoyment by users.

2.8 Safety and Accessibility Considerations

Public safety and accessibility for people of all ages and abilities are important attributes of the Village's amenity and comfort for residents and visitors:

- All changes and improvements to the public realm and transportation networks (e.g. sidewalks, crossings, intersections) should be designed with the safety and accessibility of all users (pedestrian, cyclists, motorists) and all ages and abilities in mind.
- New development should adhere to the District's policy requirements for Adaptable Design provisions, with an appropriate number of universal/accessible residential units. New commercial spaces at street level should ensure accessible entrances and layouts for all users (e.g. those with mobility devices).
- New development should take safety into account, employing accepted best practices in Crime Prevention through Environmental Design (CPTED).
- New buildings should be designed to minimize dead-end areas or recesses that are not visible from the street, and which could provide places for unmonitored anti-social or illegal activities.
- New buildings should be well lit, and offer bright, accessible, and inviting public spaces. Residential entrances should be clearly visible from the adjacent street. Underground parking areas in new buildings should be well lit and designed to optimize openness and visibility.

2.9 Sustainability Considerations

Sustainability (environmental, social, cultural, and economic) is an overarching value of the District's new OCP as expressed in the following Principle:

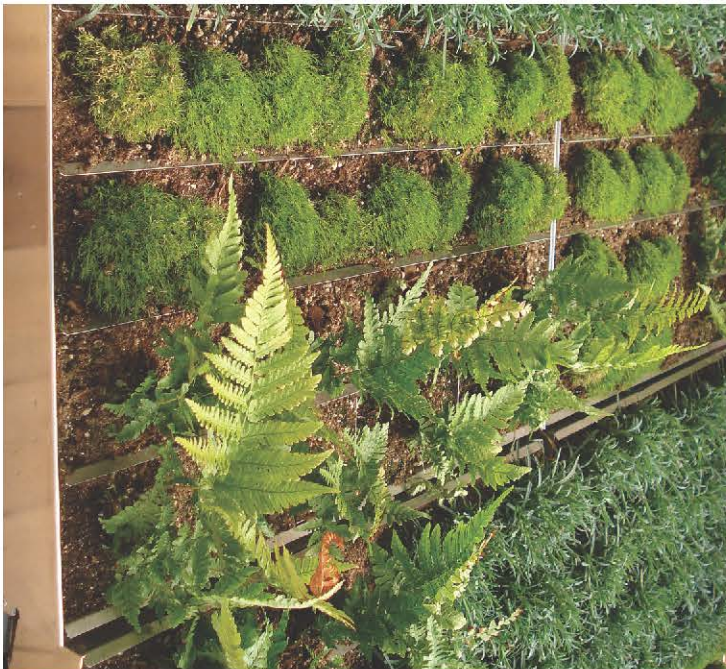
"The District balances the environmental, social, cultural and economic needs of the community and is committed to its role in the stewardship of all that is valued for future generations."

Numerous OCP objectives and policies reinforce this commitment to sustainability by:

- Protecting and improving the ecological health of our natural systems
- Fostering a safe, socially inclusive and supportive community
- Becoming an increasingly successful, economically viable and dynamic community

All new development in Edgemont Village, both public and private, should take into account these overarching objectives for sustainability, by encouraging projects that:

- Support more environmentally-friendly buildings and landscapes
- Enhance the social health and inclusivity of the community
- Contribute to the economic viability and vitality of the Village

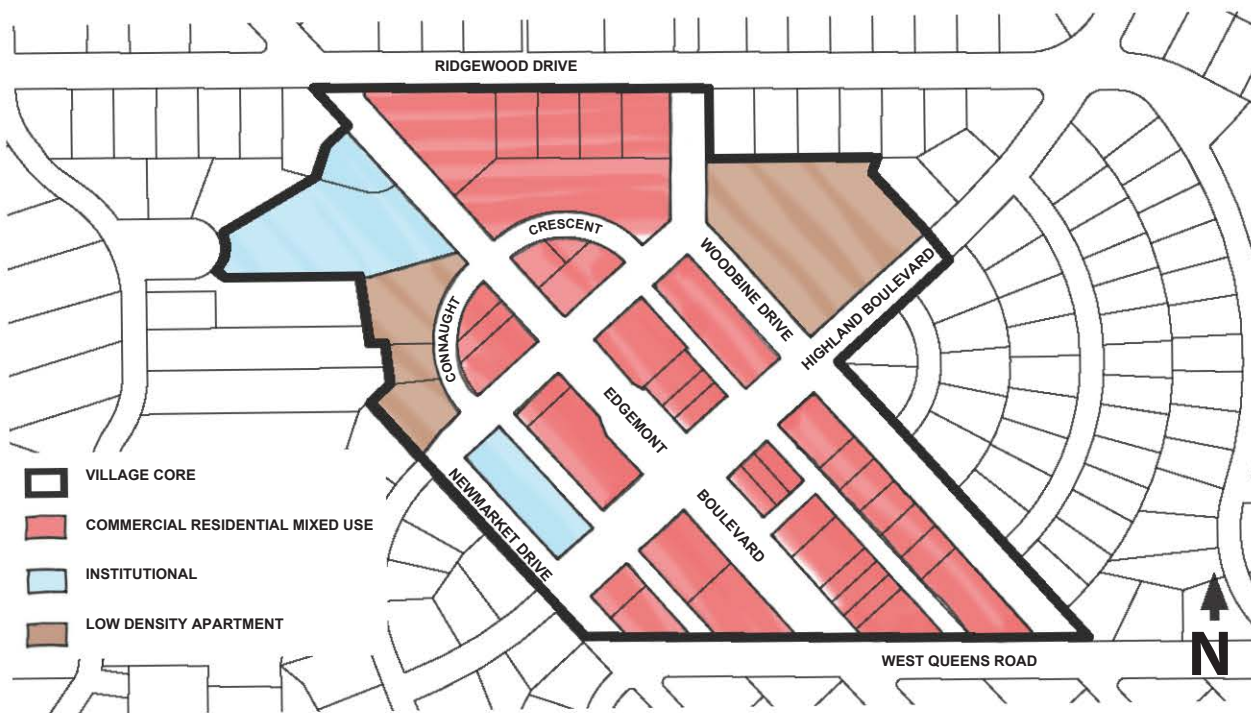


An example of a living wall.

3.0 Land Use

3.1 Village Core

The following map illustrates approved land uses for the core of Edgemont Village from the District's Official Community Plan (OCP). The core is being defined as properties with an existing commercial, institutional, or multifamily residential land use designation. No land use changes or increases to designated densities are suggested for this area. High quality urban design and significant public realm improvements are expected to accompany redevelopment within the core, as directed in Sections 4 and 5.



Map 3: Land Use - Village Core

3.1.1 Village Core Land Use Designations and Densities

Land use designations and associated densities in the Village core are as per the District's OCP and are cited below:



Commercial Residential Mixed-Use Level 1

Areas designated for commercial residential mixed-use level 1 are intended predominantly for general commercial purposes, such as retail, service and offices throughout the District. Residential uses above commercial uses at street level are generally encouraged. Development in this designation is permitted up to approximately 1.75 FSR.



Institutional

Areas designated for institutional are intended predominantly for a range of public assembly uses, such as schools, churches, recreation centres, and public buildings. Some commercial and accessory residential uses may be permitted.



Residential Level 5: Low Density Apartment

Areas designated for low density apartment are intended predominantly for multifamily housing in centres and corridors up to approximately 1.75 FSR. Development in this designation will typically be expressed in low rise apartments, but may include some townhouses. Some commercial use may be permitted at grade.

3.1.2 Village Core Land Use Policies

- the boundaries of the existing commercial core should be maintained to strengthen the commercial precinct
- existing institutional uses (Capilano Library, Highlands Church) and existing residential apartment sites should be included within the core boundary to ensure consistent streetscape and public realm treatments integrate these sites with the Village
- a diversity of retail and commercial uses should be encouraged to serve the Upper Capilano community
- commercial/mixed use developments should have active ground floor retail use frontages (stores, restaurants, coffee shops, etc.) which contribute towards pedestrian amenity and Village ambience
- non-retail service commercial uses (such as professional services, offices, etc.) should typically be located on upper floors
- local, small scale, and one-of-a-kind retail stores and businesses should be encouraged
- the provision of a supermarket should be encouraged, but other larger format retail should be restricted through floorplate or maximum retail unit size
- specific services, such as a hardware store, full-service pharmacy, dental/medical services, Village pub and/or restaurant, should be encouraged in new developments
- active retail frontages onto lanes may be enabled to diversify commercial activity as described in Section 5.2.4
- apartment units above retail should be encouraged in mixed-use developments in the commercial core



Active commercial uses animate the street-level.



An existing successful mixed-use building.

Commercial-Residential Mixed-Use Level 1

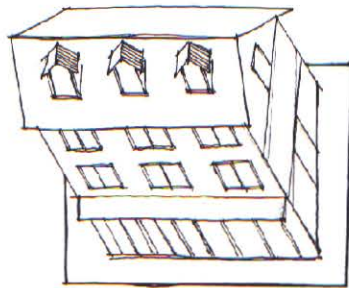
FSR: ~1.75

Height: 2.5 - 3.5 storeys

Elevation:



Axonomic:



Residential Level 5: Low Density Apartment

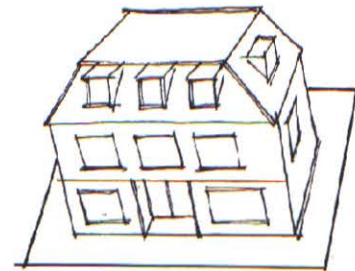
FSR: 1.50 - 1.75 (Less density than Village Core Mixed-Use)

Height: 3.0 storeys

Elevation:



Axonometric:



Existing Building Types in the Village Core

3.2 Residential Periphery

The following map illustrates locations for potential low density multifamily residential uses around the Village where more diverse housing options that transition outwards from the Village core could be sensitively introduced. Ground-oriented forms like duplexes and multiplexes (e.g. triplexes, fourplexes, small rowhouses, and townhouses) whose scale and design should respect existing neighbourhood character are envisioned.



Map 4: Land Use - Residential Periphery

3.2.1 Residential Periphery Land Use Policies, Descriptions and Densities

- a more diverse range of housing types and unit sizes should be sensitively introduced to provide wider options for different life stages and needs within the community
- the scale and design of housing projects should provide effective transitions between different adjacent uses and/or densities and respond to the built form design guidelines provided in Section 4
- consider Adaptable Design provisions for potential low density ground-oriented housing forms
- anticipated building forms and densities to accompany Map 4: Land Use - Residential Periphery are as illustrated on the next page:

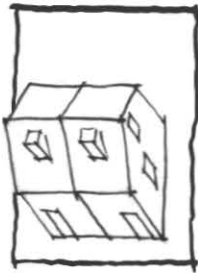
Duplex

FSR: 0.35 + 350 ft²
Height: 2.0 storeys

Elevation:



Axonometric:



Duplexes should be permitted on designated sites up to 2 storeys in height at the same density permitted for single family houses (i.e. 0.35 FSR + 350 square feet). Basement suites would not be permitted.

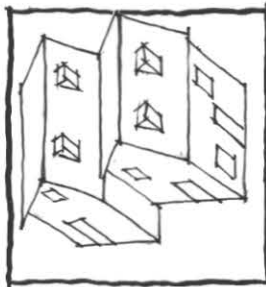
Multiplex

FSR: <0.8
Height: 2.0 - 2.5 storeys

Elevation:



Axonometric:



Multiplexes (e.g. triplexes, fourplexes or small rowhouses) should be permitted on designated sites up to 2.5 storeys in height at a density ranging from 0.6 FSR to 0.8 FSR.

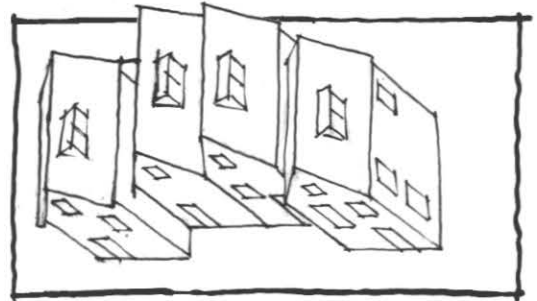
Townhouse

FSR: <1.2
Height: 3.0 storeys

Elevation:



Axonometric:



Townhouses should be permitted on designated sites up to 3 storeys in height at a density ranging from 1.0 FSR to 1.2 FSR.

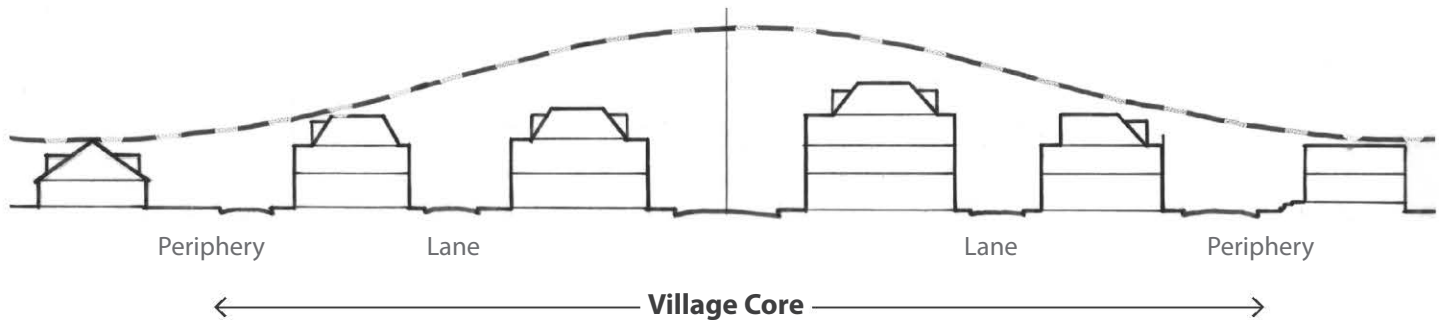
4.0 Built Form Guidelines

4.1 Building Heights

- Edgemont should remain a low-rise built environment, with heights generally restricted to a mix of 2 and 3 storey buildings as illustrated on Map 5: Building Heights in Storeys
- the top floor of buildings should typically be set back and/or integrated into rooflines as described in Section 4.2 of this document
- applications for additional height to a maximum of a partial 4th storey may be considered within the Village core on a case-by-case basis, where improved building design and provision of greater public amenity may be achieved, taking into account the following criteria:
 - public support for the proposed development
 - site conditions (such as size, topography, slope, etc.)
 - sensitivity to surrounding built context
 - economic viability of the project
 - the provision of public benefits such as (but not limited to):
 - view preservation/enhancement
 - sunlight preservation/enhancement
 - provision of public open space and/or pedestrian pathways and/or other amenities
 - enhanced lane treatment and active lane uses
 - provision of strategies/subsidies to retain local, small scale businesses/stores
 - exemplary design, subject to District staff and peer review



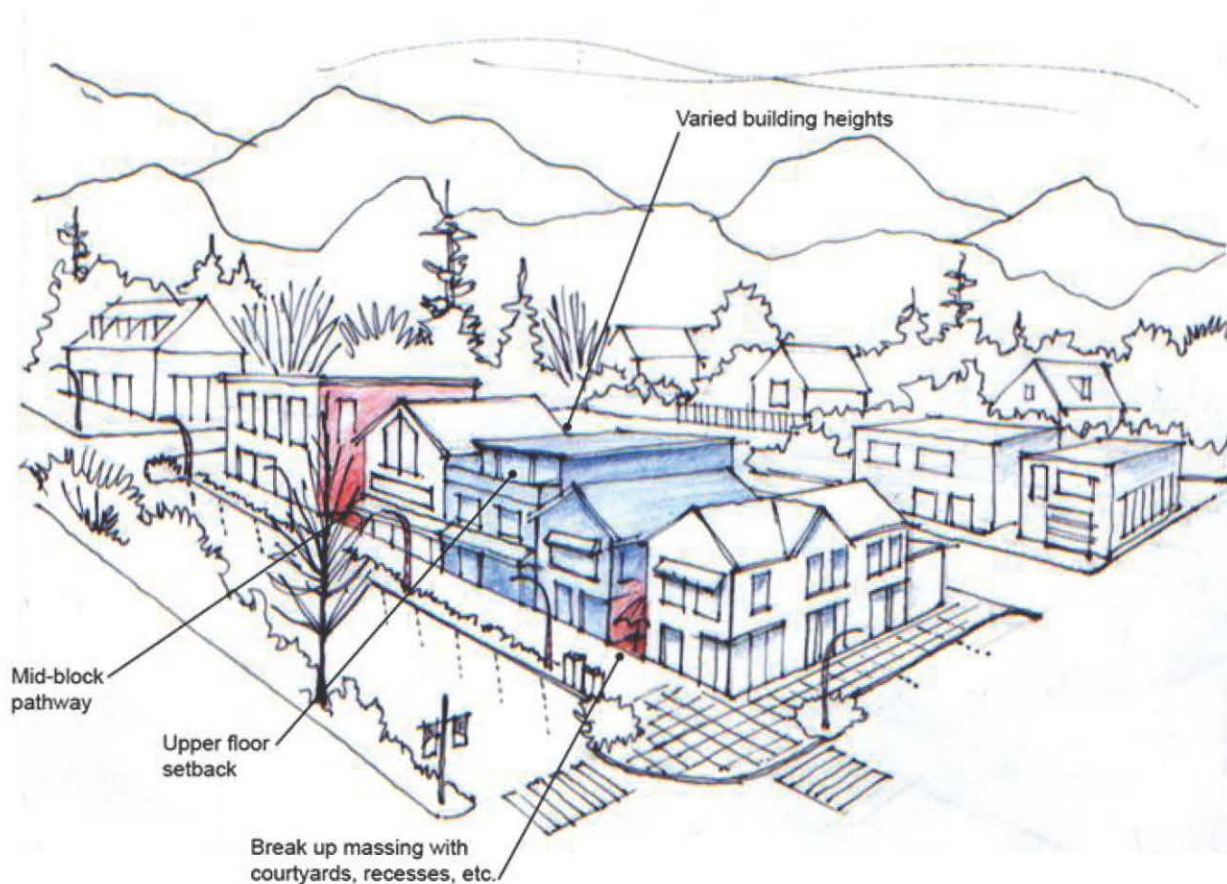
Map 5: Building Heights in Storeys



Schematic illustration of the principle of transitioning outwards from the Village core to the periphery. Exact heights and uses would vary and be subject to case-by-case approval.

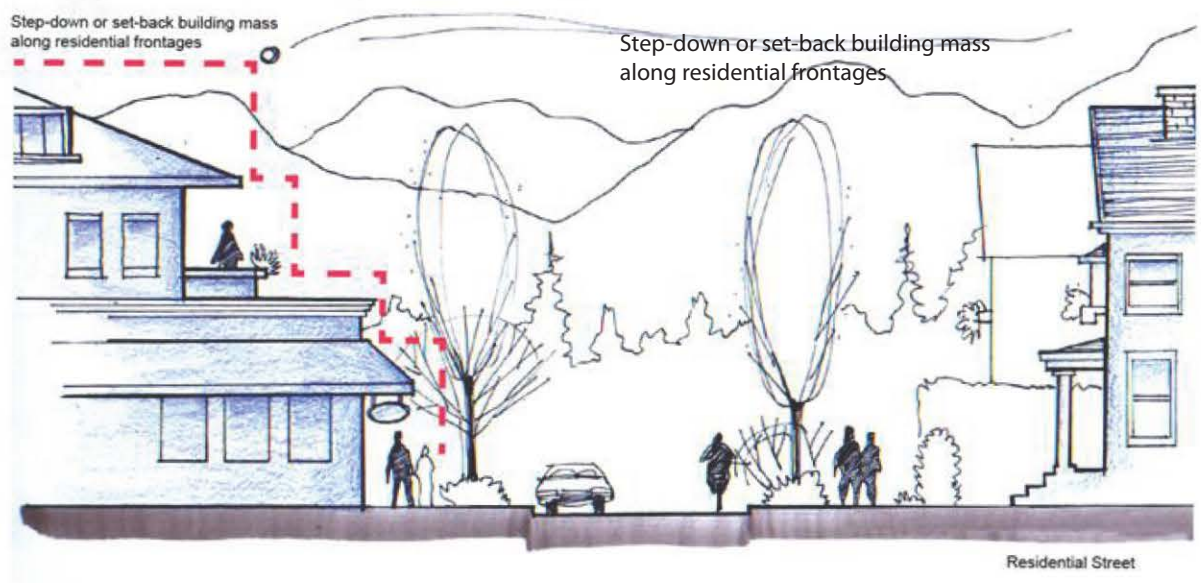
4.2 Building Massing

- massing should generally be oriented to the major frontage street
- massing should support a generally consistent streetwall in terms of height and build-to lines, with variation in step-backs or terraces on upper floors
- upper floors should be set back or integrated into sloped or angled rooflines to optimize views and sunlight penetration, accommodate residential balconies, and reduce massing impacts
- massing on long frontages should be broken up with the use of courtyards, recesses, midblock connections, varied rooflines, etc.
- new commercial buildings should generally be built to the property line at grade or set back to increase sidewalk width in accordance with the right-of-way conditions described in Section 5.2
- new development in residential neighbourhoods should generally relate to or transition from established setbacks
- massing of duplexes should be compatible with adjacent or nearby single family homes



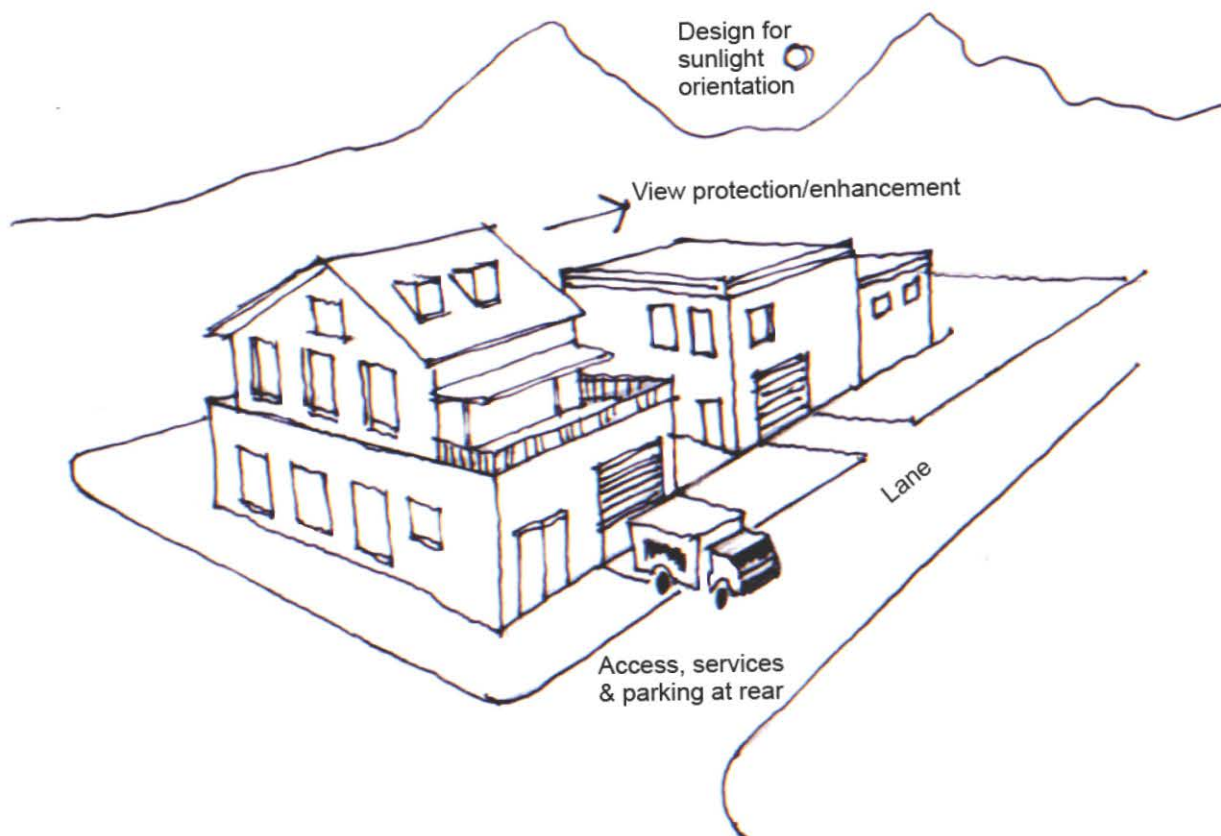
4.3 Built Form Transitions

- developments should be carefully massed to form a sensitive transition to neighbouring land uses
- developments along frontages adjacent to detached residential areas should present a 'soft edge' to neighbouring uses
- open space, building setbacks, stepping back of upper storeys (etc.) may be used to aid transitions between different development intensities

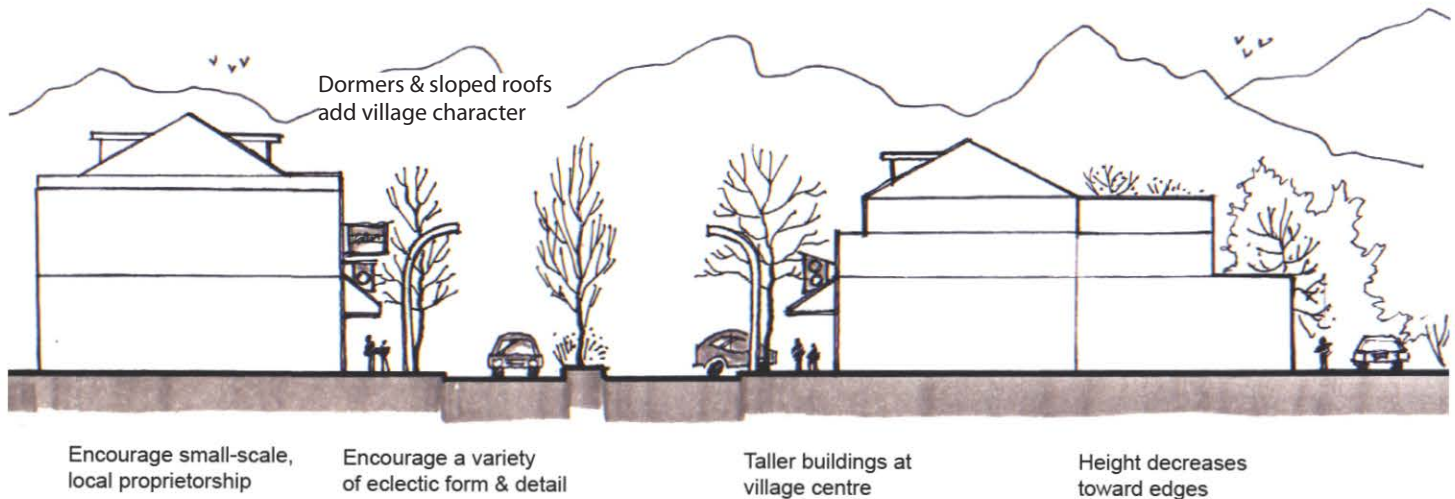


4.4 Site Planning

- site planning for new projects should take into consideration, and respond to, the following criteria:
 - immediate surrounding built form context
 - adjacent build-to lines
 - adjacent building heights
 - view protection/enhancement
 - sunlight orientation
 - streetwall contribution (on Edgemont Boulevard)
 - orientation of front and rear façades
- access, services and parking should generally be located from a side street or rear lane, where feasible



4.5 Architectural Character



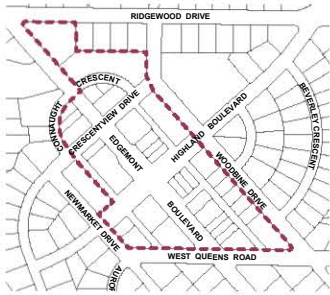
- new developments should preserve the eclectic character and mix of existing building styles
- variety of architectural form should provide visual interest and individuality
- the scale and character of shopfronts in the commercial core should retain a sense of small, local proprietorship
- new residential developments should be sympathetic and complementary in character to the existing neighbourhood
- new residential development should reference the design heritage of existing neighbourhoods (west coast modernism, 'post and beam', etc.)
- materials should be selected, used and detailed in a way that reflects quality-built features and elements
- the use of traditional materials (wood, stone, brick, etc.) should be encouraged, and materials such as vinyl siding, large areas of stucco, asphalt shingles, artificial stone (etc.) not allowed
- colours should be selected to integrate with or complement the surrounding built context, with brighter colours reserved for special accents or features within the commercial core

4.6 Views and Sunlight

- street-end views (primarily to the north, northwest and northeast) should be protected and enhanced
- focal points and the termination of visual axes should be celebrated (e.g. with public art and/or special architectural features)
- buildings should be oriented and massed to optimize sunlight penetration onto sidewalks and open spaces



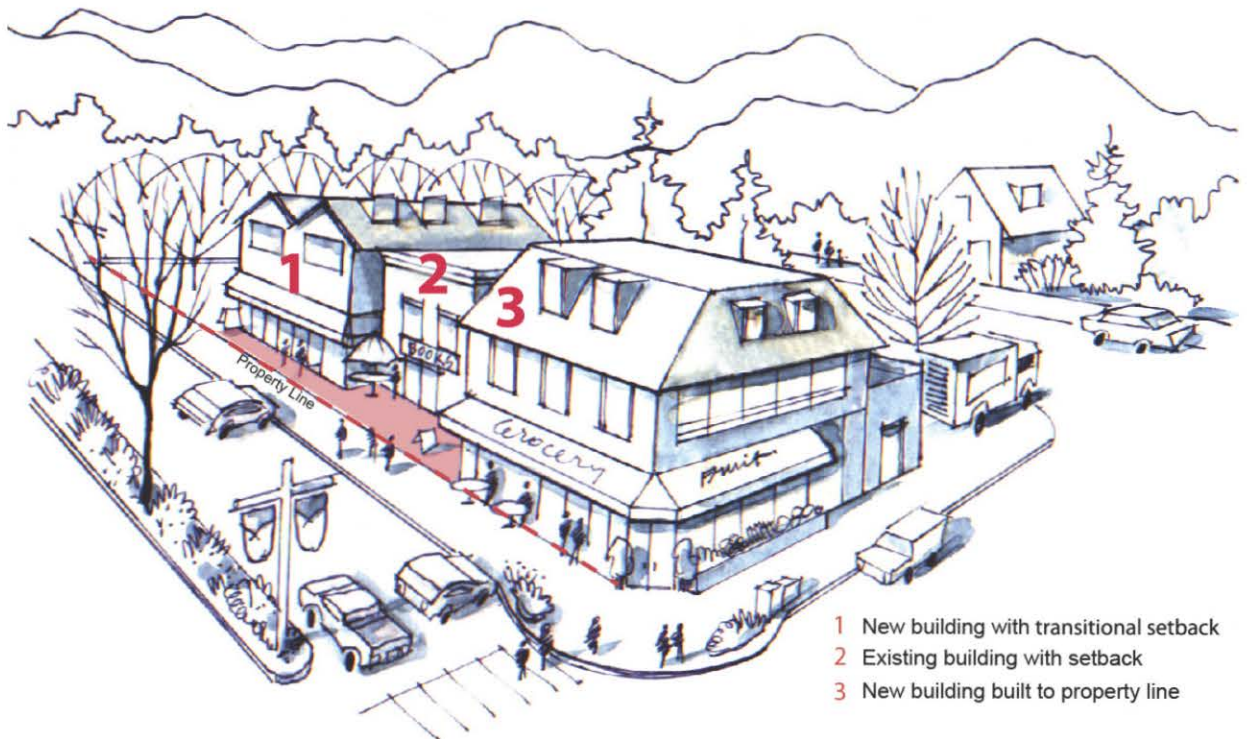
4.7 Commercial Precinct



In addition to Section 4.1 to 4.6, the following guidelines apply specifically to properties in the commercial core that are developed as commercial and/or mixed-use commercial/residential. Policies regarding the nature and type of commercial uses are provided in Section 3.0 of this document.

4.7.1 Streetwall

- a pedestrian-scaled streetwall building height should be achieved with a 1 or 2-storey streetwall on commercial streets
- breaks in the streetwall and build-to lines should be encouraged only where desirable (e.g. pedestrian pass-throughs, view corridors, public plazas, entry forecourts, etc.)
- consistent build-to lines should generally be encouraged in redevelopment, particularly on Edgemont Boulevard, in accordance with the right-of-way conditions described in Section 5.2
- transitional build-to lines may be appropriate where adjacent buildings have different setbacks, in which case the setback should be the same or similar

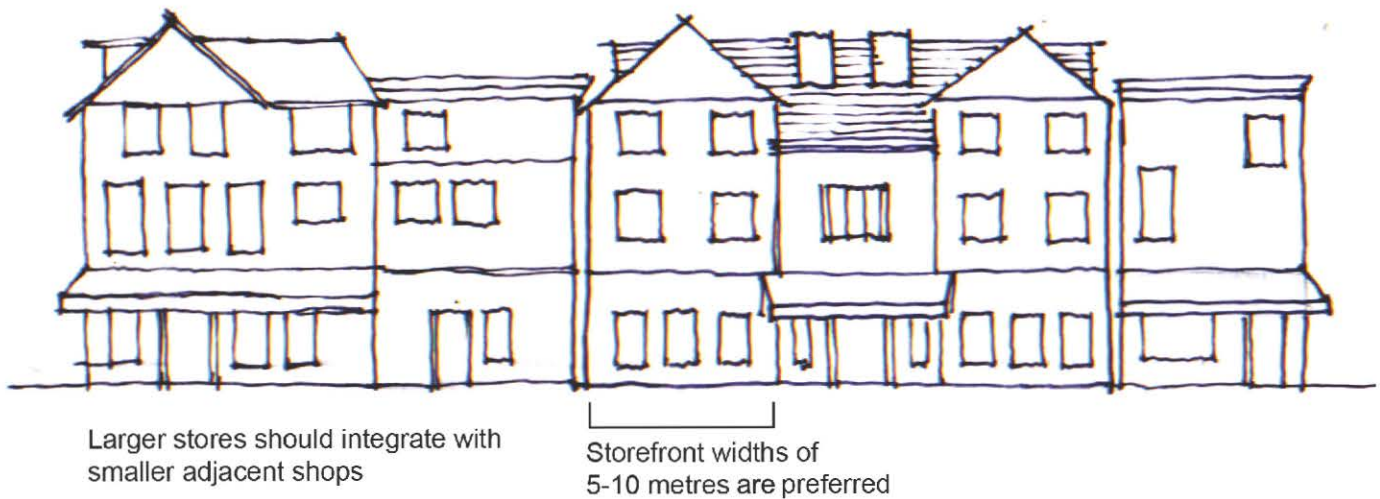


- 1 New building with transitional setback
- 2 Existing building with setback
- 3 New building built to property line

4.7.2 Commercial Façades and Frontage Widths

- retail façades should be highly transparent with the interiors largely visible from the street
- ground level commercial façades should be articulated with individual storefronts, and animated with signs, display windows, display lighting, etc.
- blank façades should be strongly discouraged, and in any event should be generally limited to a maximum of 10% of the building frontage width facing the shopping street
- commercial building façades should be designed with variations in materials, colour, fenestration and roof forms to express individual storefront identity
- larger stores with wider frontages should be lined at the sidewalk by smaller retail stores with their own entries and identity
- a rhythm of individual storefront widths of 5–10m (16–32 ft.) should be generally maintained

Range of architectural styles (e.g. flat and pitched roofs)



4.7.3 Commercial Signage and Lighting



Example of Successful Commercial Signal

- flexibility should be allowed in commercial signage, to allow signs to respond to the eclectic character of Village buildings
- signage and lighting should be carefully considered and integrated with the building so that it forms a unified design
- commercial signage should generally be limited to the main floor of buildings and not overwhelm the façade
- bright neon signs, backlit signs, and electronic moving signs are strongly discouraged

4.7.4 Weather Protection



Example of Weather Protection

- commercial and mixed-use buildings should provide weather protection along the entire street frontage
- the use of transparent, structural canopies or three or four-point fabric awnings is encouraged
- canopies and awnings should have a minimum horizontal projection of 2.0m from the building façade, and a vertical clearance over the sidewalk not exceeding 3.0m
- awning design (e.g. colours, materials) should be unique to each retail space

4.7.5 Commercial Sidewalk Use



Example of Commercial Use of Sidewalk

- active commercial use of sidewalks should be encouraged, provided such uses do not create obstacles to safe pedestrian movement, and maintain adequate sidewalk width consistent with section 5.3.2 and 5.3.3
- commercial displays, sandwich boards and signs on the first portion of the sidewalk immediately adjacent the building should be permitted, provided such uses do not create obstacles to safe pedestrian movement
- commercial developments may consider the use of arcades or the provision of additional sidewalk space on private property beyond the right-of-way conditions described in Section 5.2, to widen the space available for commercial uses (e.g. tables and chairs that animate the commercial precinct)

4.7.6 Building Corners



Example of a commercial storefront turning the corner

- on corner sites, commercial storefronts should turn the corner to address the adjacent street in a pedestrian-friendly way, with both frontages designed as building fronts
- buildings on corner sites are encouraged to 'celebrate' the corner with architectural massing and features, or alternatively a corner setback where a public open space is desired, without impeding vehicular intersection sightlines

4.7.7 Building Entrances

- building entrances should be designed to be universally accessible for wheelchairs, mobility devices, strollers (etc.)
- individual commercial store entrances should be recessed from the principal façade, to provide weather protection and space for orientation, preparing to enter/leave the store, and for shoppers to pass each other
- residential lobby entrances in mixed-use buildings should be clearly separated from commercial entrances and ideally be set back from adjacent retail façades, with a generous and visible entrance court area
- on sites fronting two streets, residential lobby entrances should preferably be located on the flanking street, away from the principal commercial entrances

4.7.8 Parking, Loading, Services

- all on-site parking, loading and service entries should be accessed from the rear lane where feasible, or from a flanking street where there is no rear lane access
- access to parking, loading and service entries should not typically be permitted directly from the principal shopping street
- parking, loading and service entries should be maintained in a way that supports the visual quality of the Village

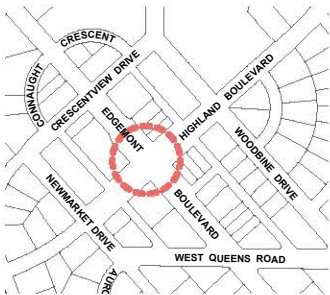
5.0 Public Realm and Streetscape Guidelines

5.1 Urban Structure: Village Gateways and Heart

5.1.1 Village Gateways

- Edgemont and Ridgewood, and Edgemont and Queens, should be considered primary gateways, with Highland and Woodbine, and Woodbine and Queens, considered secondary gateways (Map 2)
- as and when development at these intersections occurs, visual appeal and special character (a 'sense of arrival') should be emphasized through building massing and detailing, open space, plantings, larger scale trees, signage, and/or public art
- gateway features should be well integrated with improvements to pedestrian movement and comfort, and vehicular safety

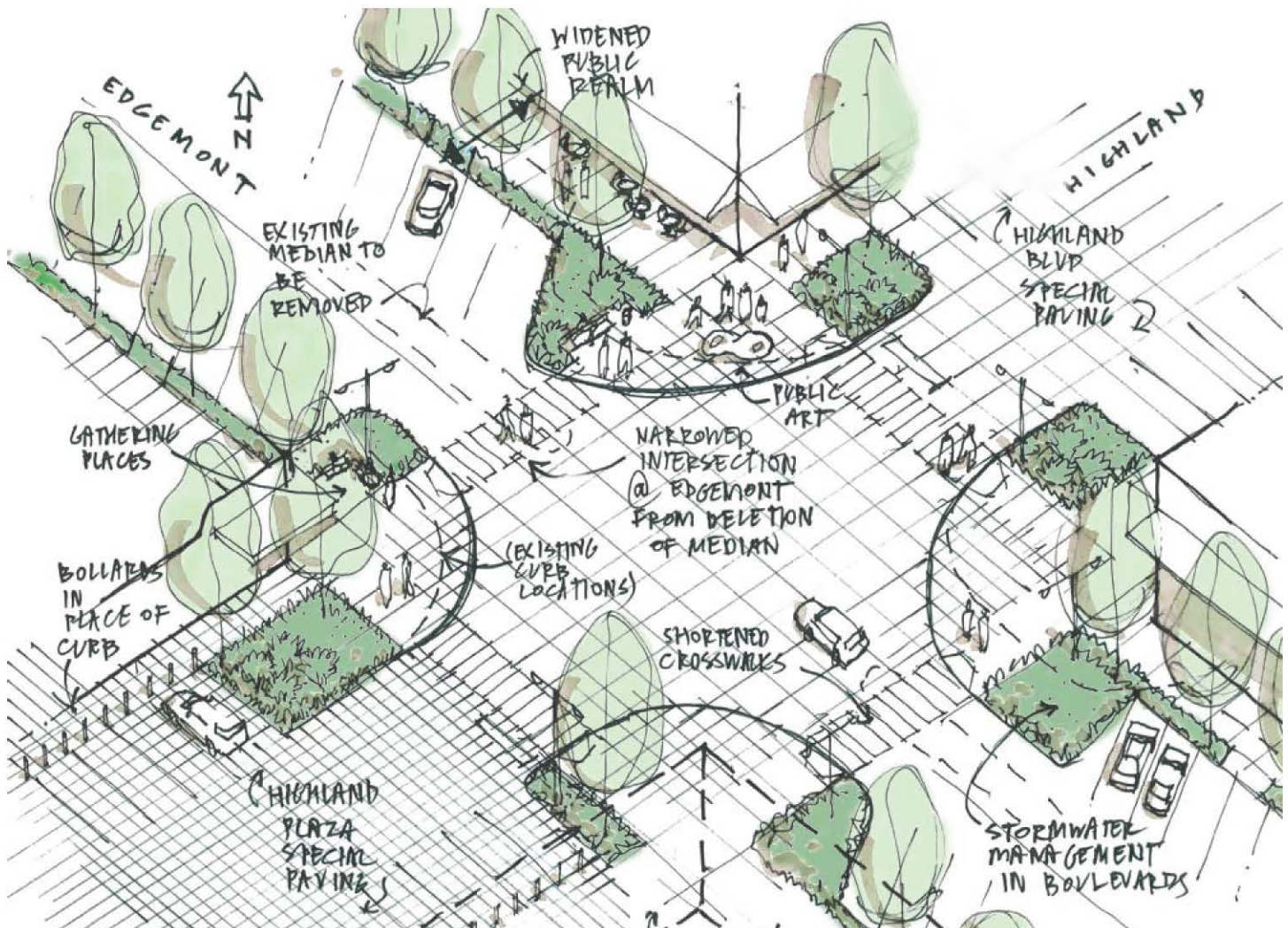
5.1.2 Village Heart



- the intersection of Highland and Edgemont Boulevards, and Highland Boulevard extending from Newmarket to Woodbine Drive, should be considered the Village Heart
- as and when development in the Heart occurs, this area should receive special treatment through site furnishings, paving materials/treatments, and consideration of public realm at building façades
- as and when development occurs, new open space should be achieved through the reorganization of the public realm outlined in Section 5.2.2 and 5.2.3, enabling the creation of a multipurpose 'Highland Plaza'



Example of animated plaza or courtyard space



Conceptual Illustration of the Village Heart

5.2 Rights-of-Way

5.2.1 General

- opportunities to improve street environments throughout the Village should be taken as and when development occurs, by reconfiguring elements within the street rights-of-way, and through requirements on abutting private property
- objectives for improvements should include increased sidewalk widths for circulation, gathering, site furnishings, and temporary commercial display or signage, as well as enhanced landscaping opportunity
- existing large trees should generally be retained in right-of-way improvements
- legibility, views, sightlines, safety, user appeal, clear path of travel (at least 2m), and CPTED (Crime Prevention through Environmental Design) principles should be considered in all improvements



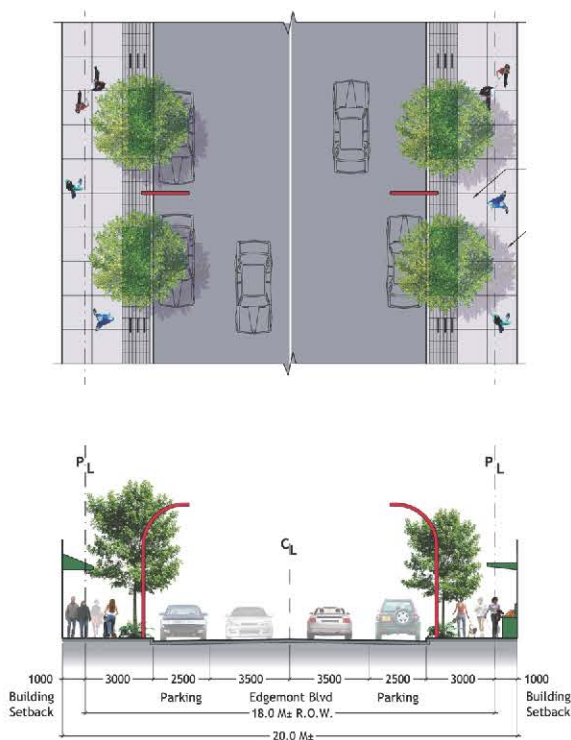
Example of angled parking adjacent to a wide sidewalk with landscaped boulevard



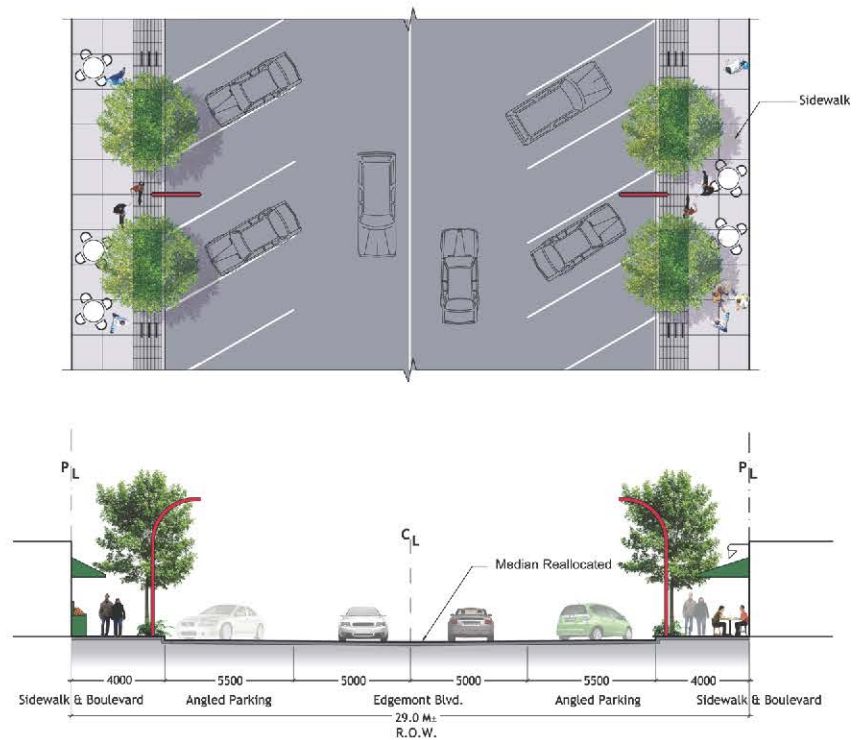
Example of special or textured paving to enhance the public realm

5.2.2 Edgemont Boulevard

- narrow condition: where the right-of-way is narrow, existing on-street parking is parallel, and there is no room available for changes to parking and traffic lanes, new private development should typically be set back to allow for additional sidewalk and boulevard width
- wide condition: where right-of-way is wider and existing parking is diagonal, consideration should be given to reallocate centre median in order to widen sidewalk, retain diagonal parking, and reduce traffic lane width (this is a long term consideration as and when development of adjacent blocks occur and will require further analysis and consultation)
- with adjusted boulevard, parking and sidewalk conditions, curb bulges at the intersection of Edgemont and Highland should be reconfigured to increase areas for gathering and landscape, and to shorten crossing distance for pedestrians



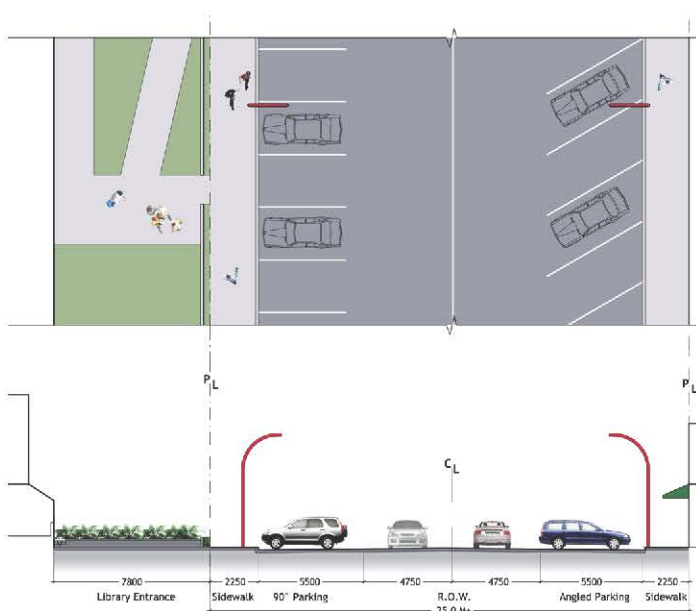
Edgemont Boulevard Typical Narrow Condition*



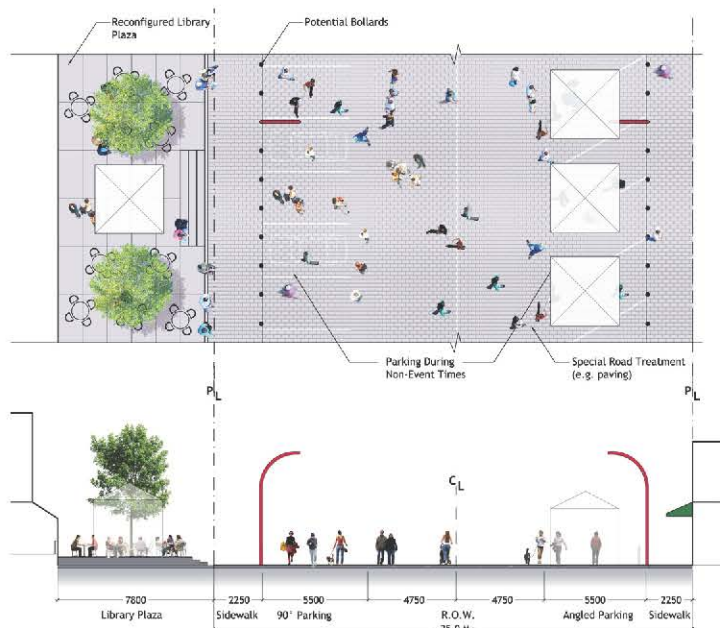
Edgemont Boulevard Typical Wide Condition*

5.2.3 Highland Boulevard: Library/Highland Plaza

- Highland Boulevard between Newmarket and Woodbine should receive special treatment (e.g. stamping, paving), which is drivable but fine-grained for pedestrian appeal as slower traffic makes a comfortable pedestrian environment
- Highland Boulevard between Newmarket and Edgemont should be enhanced to provide a square which can be closed to traffic for special events, through measures that may include raising the street to sidewalk level, replacing barrier curbs with bollards, use of special paving, lighting and site furnishings
- as and when redevelopment of the northwest corner of Edgemont and Highland occurs, development should be set back to the same extent as the adjacent library, to provide additional year-round multipurpose open space, site furnishings and feature paving that enhance the Village heart
- redevelopment of landscape between the road right-of-way and the library should be planned for better pedestrian access, use and connection to the street, particularly for special events



Highland Boulevard at Library Existing

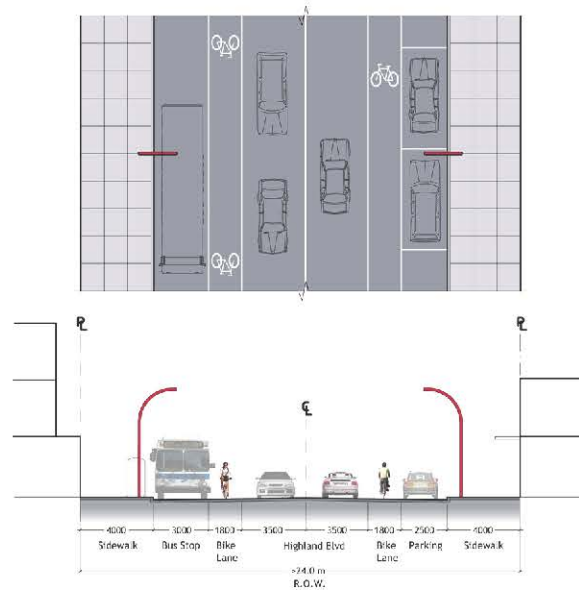


Highland Boulevard at Library Proposed (Event)*

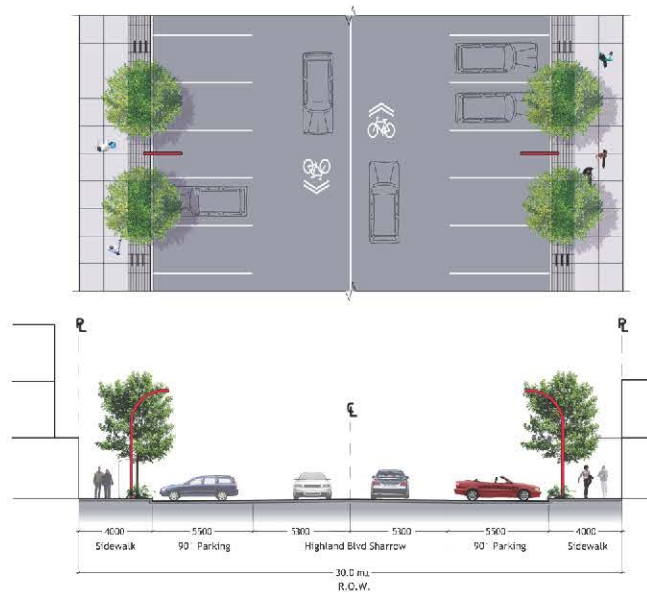
* Conceptual illustration of anticipated typical condition. Exact section and right-of-way configuration will vary and be subject to detailed design as/when redevelopment occurs.

5.2.4 Highland Boulevard: North

- narrow condition: where the right-of-way is narrow, existing on-street parallel parking and bus-stop should be retained, sidewalk enhanced, and travel lanes reconfigured to provide dedicated on-street cycling in both directions
- wide condition: where the right-of-way is wide, existing on-street right-angle parking should be retained, sidewalk enhanced, and travel lanes reconfigured to provide dedicated on-street cycling facility in both directions



Highland Blvd. Proposed (Narrow Condition)*

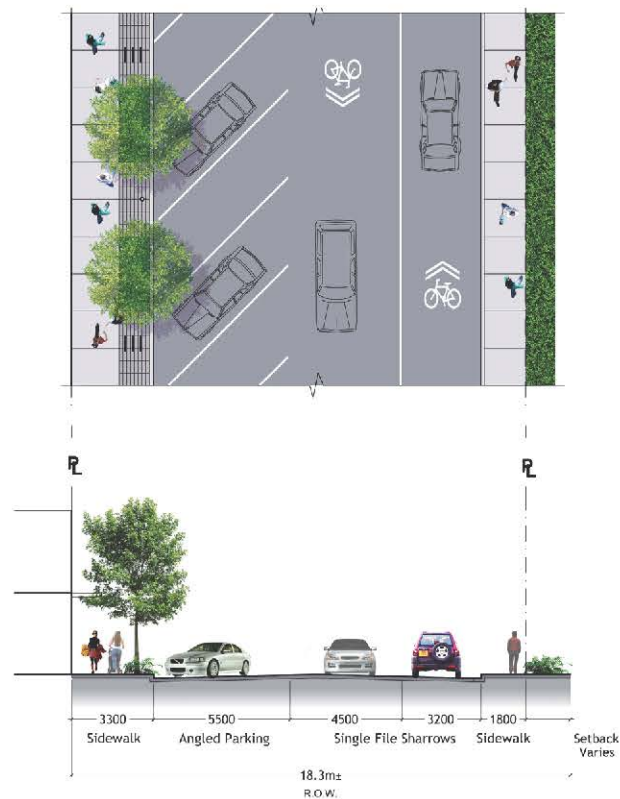


Highland Blvd. Proposed (Wide Condition)*

* Conceptual illustration of anticipated typical condition. Exact section and right-of-way configuration will vary and be subject to detailed design as/when redevelopment occurs.

5.2.5 Woodbine Drive

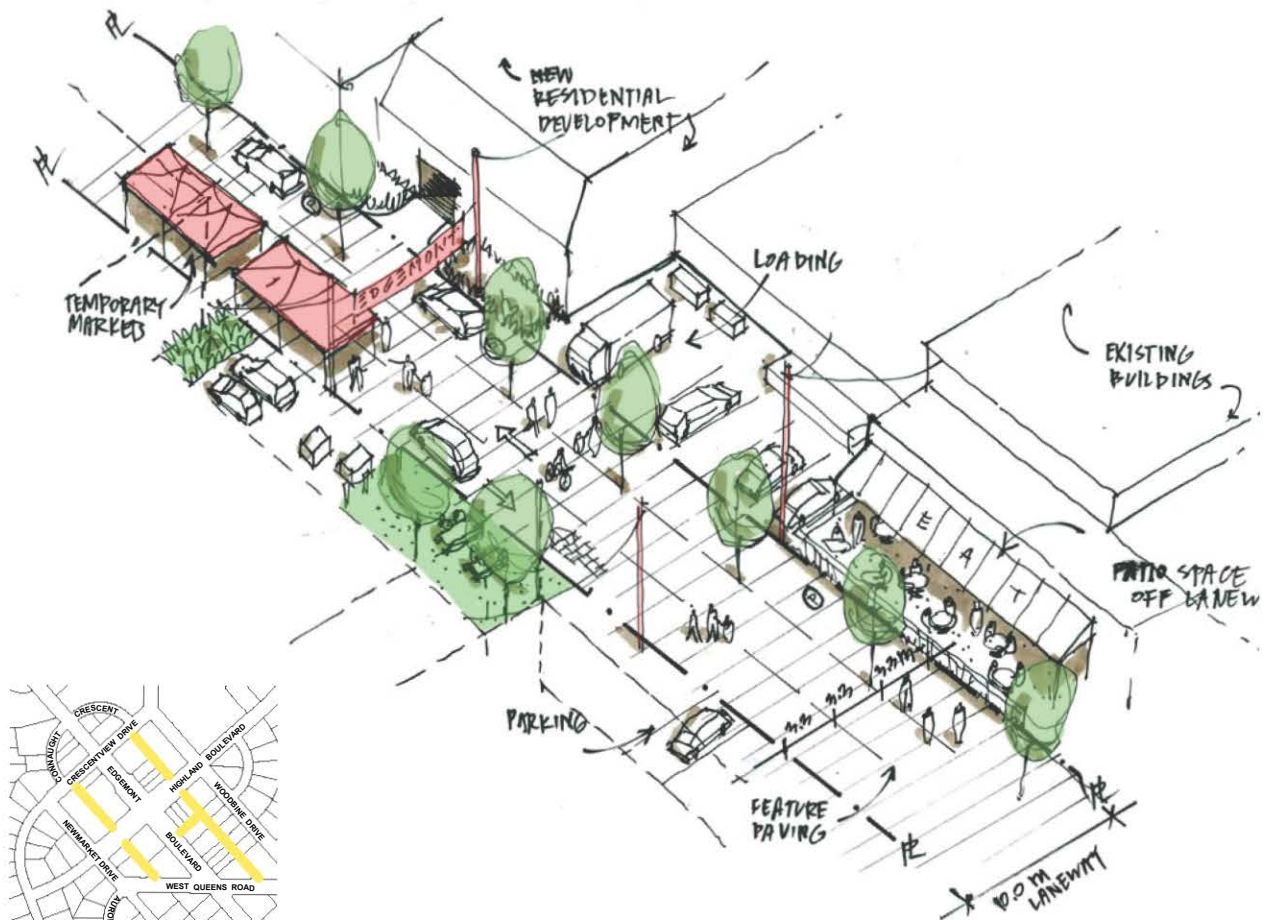
- diagonal parking should be retained, the west-side sidewalk enhanced, and travel lanes reconfigured to provide a cycling facility in both directions
- properties on the east side of Woodbine Drive should be set back where feasible as and when development to multifamily housing occurs to achieve a 1.8 metre sidewalk



Woodbine Drive Proposed*

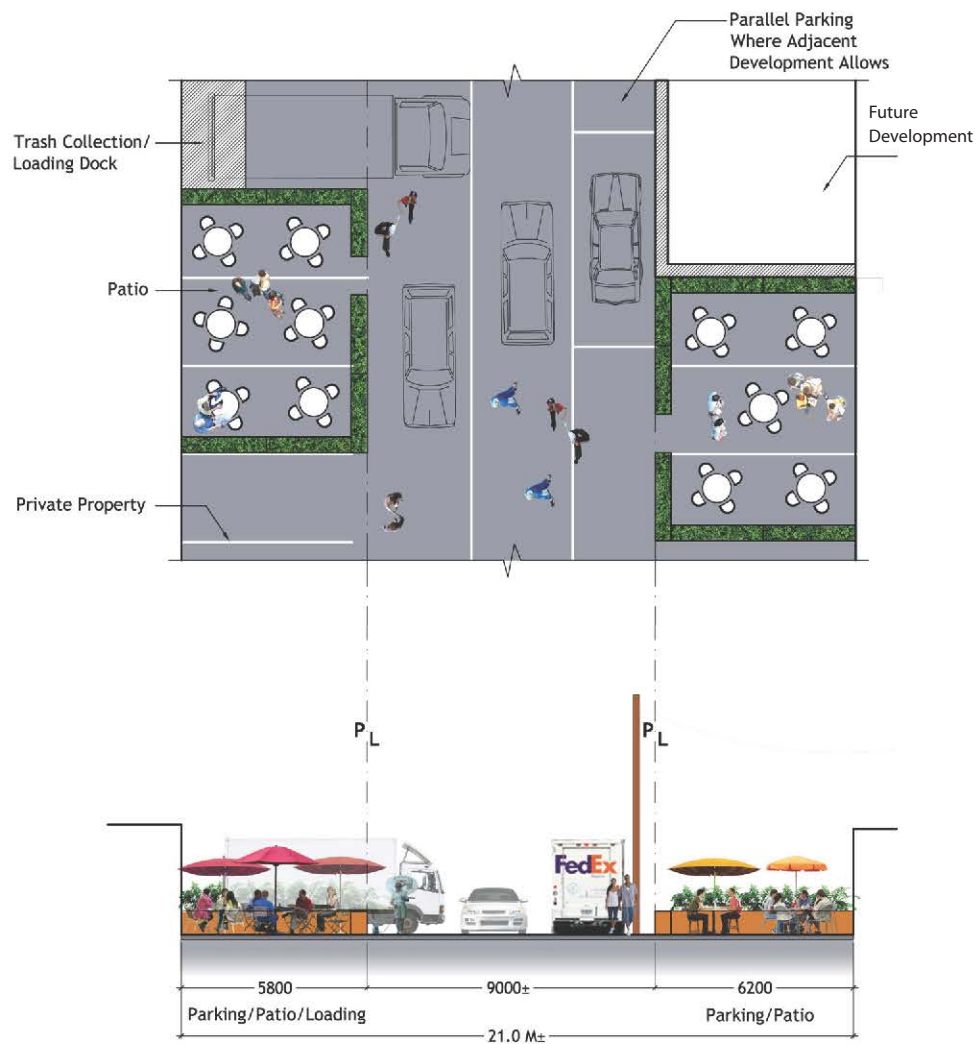
* Conceptual illustration of anticipated typical condition. Exact section and right-of-way configuration will vary and be subject to detailed design as/when redevelopment occurs.

5.2.6 Lanes

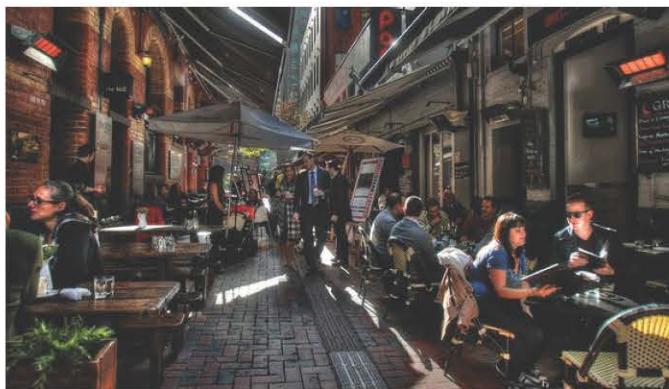


Conceptual Illustration of an Enhanced Laneway

- as and when redevelopment occurs, sites may be encouraged to provide active retail frontages onto lanes, increasing the diversity of commercial opportunities in the Village and enhancing the public realm
- lanes should receive special treatments (e.g. paving), which is textured to calm traffic and fine-grained for pedestrian appeal
- traffic may be moderated with measures such as speed humps, bollards and curb bulges and safety improved at the interface between lane and sidewalk through measures such as signage
- lane right-of-way space should be organized to include two opposing lanes of traffic and one lane parallel parking, to increase Village parking capacity
- private developments that do not feature zero-lot line buildings should be encouraged to mix perpendicular parking and loading/servicing areas with features such as small plaza spaces or small outdoor market spaces



Conceptual Section for an Enhanced Lane*



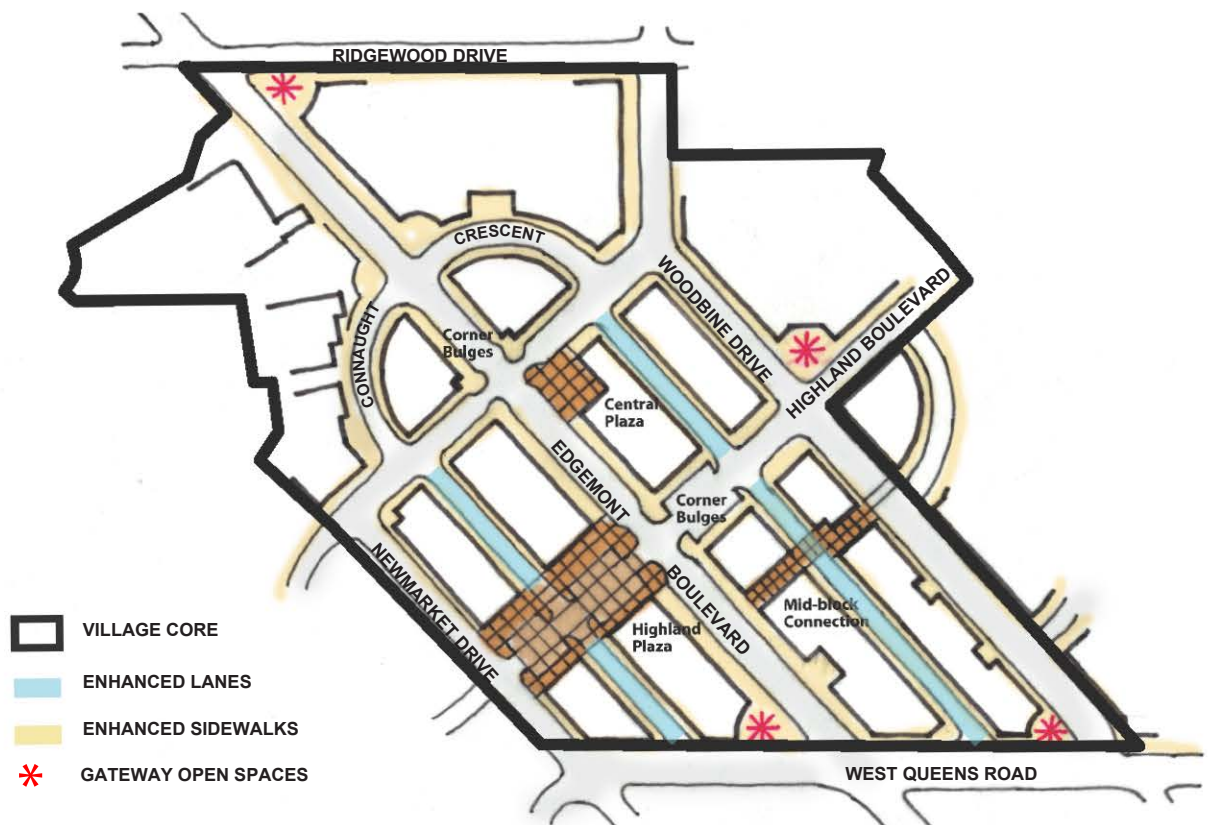
Example of an Enhanced Lane

* Conceptual illustration of anticipated typical condition. Exact section and right-of-way configuration will vary and be subject to detailed design as/when redevelopment occurs.

5.3 Open Spaces, Sidewalks, and Crosswalks

5.3.1 Open Spaces

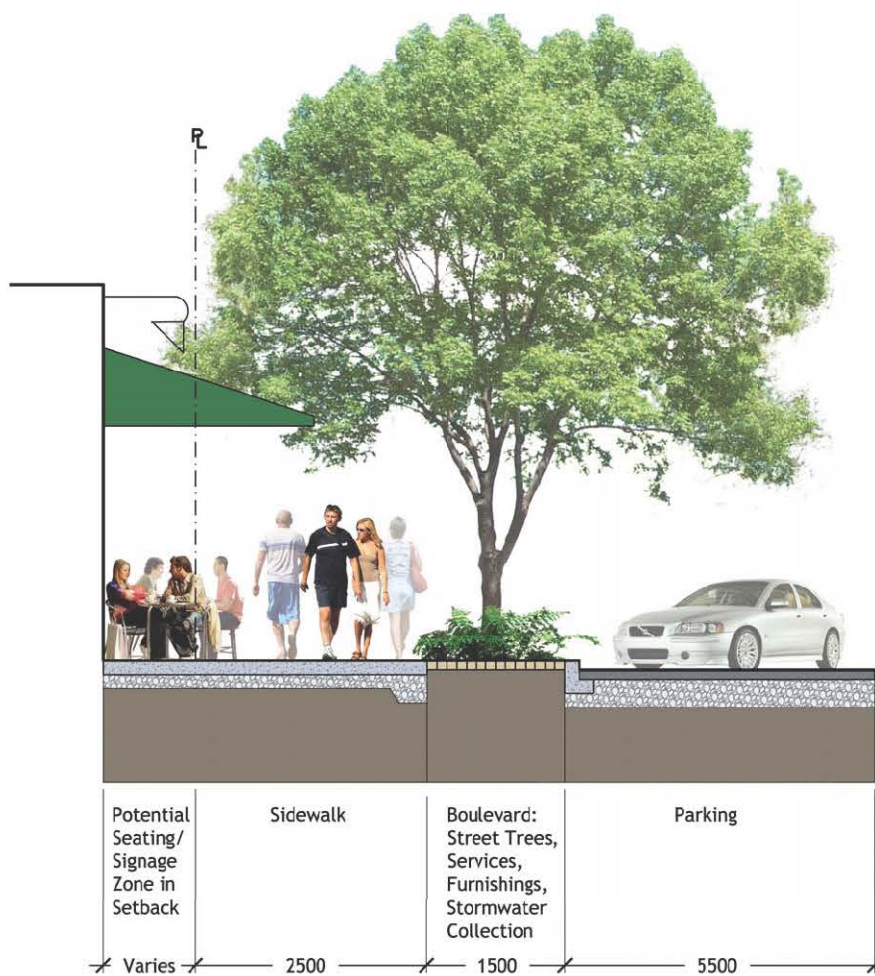
- public realm areas should be designed to encourage interaction, gathering and ease of pedestrian access and circulation
- open space and public realm improvements should contribute to the commercial success and visitor enjoyment of the Village, with the inclusion of site furnishings, special paving or treatments, informal play areas, public art, and landscaped areas as appropriate
- new open spaces should be well integrated with the street environment in new developments, both in the public realm and on private property as illustrated on Map 6
- the refreshing of existing open space may be required as a condition of new development
- the creation of multipurpose plazas at the southeast corner of Edgemont and Crescentview, and the northwest corner of Edgemont and Highland, should be encouraged when redevelopment occurs, as both these locations provide opportunities for sun exposure, enjoyment of views, and enhancement of Village ambience
- the creation of a mid-block connection to the laneway along Woodbine (south of Highland) should be encouraged through redevelopment as feasible



Map 6: Open Space Network

5.3.2 Edgemont Boulevard and Highland Boulevard Sidewalk Standards

- at least 2m clear width, free of any obstructions, for pedestrian traffic should typically be established on both sides of the street
- a 1.2m zone between the clear zone and building façade should typically be established for seating, tables, signage, retail displays, and other commercial “spill-out” uses
- a 1.5m zone between the clear zone and the curb should typically be established where boulevard landscaping, site furnishings and utilities are located
- a suite of high-quality paving materials, including stone, concrete unit paving, or sandblasted, sawcut cast-in-place concrete paving should be provided throughout



Typical Edgemont and Highland Sidewalk Configuration*

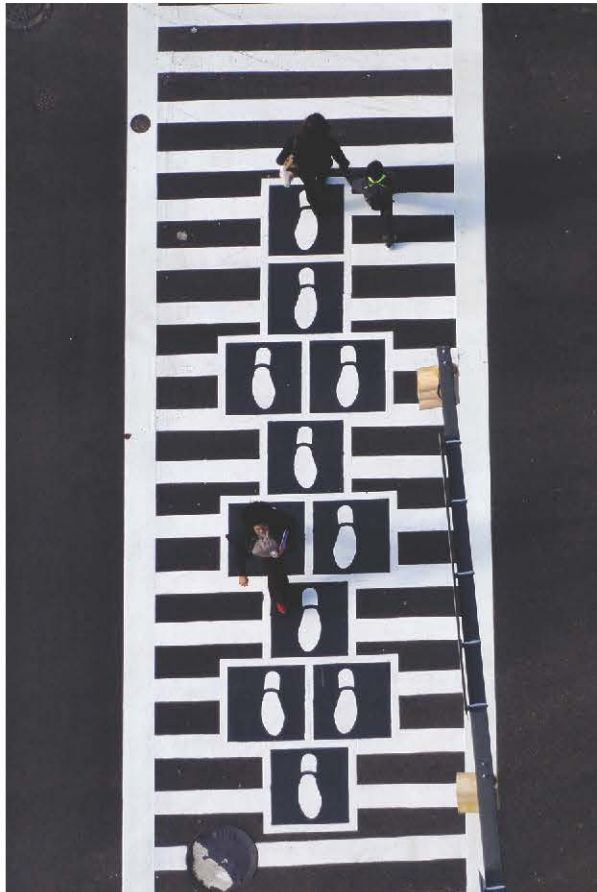
* Conceptual illustration of anticipated typical condition. Exact section and right-of-way configuration will vary and be subject to detailed design as/when redevelopment occurs.

5.3.3 Other Street Sidewalks Standards

- a minimum 1.8m width clear sidewalk should typically be implemented on all other streets within the Village, where space allows
- a minimum 1.5m landscaped boulevard with street trees should typically be implemented on all other streets within the Village, where space allows

5.3.4 Crosswalks

- crosswalk crossing distances should be shortened through changes to right-of-way configurations in accordance with Section 5.2
- durable, high-visibility crosswalk markings should be installed at crosswalks across Edgemont, Highland, Woodbine, Queens, and Ridgewood in consideration with Section 6.1
- consideration should be given to integrating public art or other beautification opportunities with crosswalk markings



Example of public art integrated into a crosswalk

Photo: Graham Coreil-Allen

5.4 Street Furnishings

- individual site furnishings should be placed at strategic locations relating to building use and high-use outdoor areas
- the signature red 'candy-cane' light standards should be retained as a key component of Edgemont's sense of place
- new furnishings, while refreshing the Village, should be sympathetic to the existing red 'candy-cane' light standards and should belong to a family of complementary forms, colours and materials
- a diversity of seating opportunities for all age groups should be arranged linearly along streetscape and in groupings at important areas and placed to take advantage of views, sun, and provide shelter from wind and rain
- power and telecommunications utilities should be undergrounded as redevelopment occurs
- utilities such as hydrants, kiosks, roadway and pedestrian lights, and roadway and pedestrian signage, should be located in boulevards
- functional furnishings, such as bollards and waste receptacles, should be within the same "family" and made of high-quality, powder-coated or stainless steel
- trench drains, catch basin covers, gutter drains, manhole covers and miscellaneous utility covers should be weathered steel, with a consistent visual and aesthetic appearance wherever possible



Example of decorative drainage grate



Example functional and Contemporary Bollards



Examples of custom site furnishings that could complement the signature red 'candy cane' lights

5.5 Public Art

- public art should celebrate the unique cultural and natural features of the Village and the District
- the design of Village gateway and other open space treatments and elements should take public art into consideration
- opportunities to integrate specific community-based public art interests, such as murals and sundials, should be considered and implemented where feasible
- art should be designed with durability, longevity, safety, interaction and whimsy in mind
- art terms of reference should stress integration with the streetscape, buildings and public realm



Examples of Public Art Integrated into the Streetscape

5.6 Soft Landscape and Environmental Sustainability



Example of Integrated Soft Landscape and Stormwater Treatment

- as and when redevelopment occurs, the Village should be refreshed along sustainable principles through discrete green urban design and landscape changes to the public realm
- improvements should highlight and celebrate the alpine natural environment of the Village and North Shore
- street trees should be planted at regular intervals along Edgemont and Highland Boulevards, and other streets where feasible, with spacing (approx. 8-10m on centre) depending on tree species, without impeding vehicular sightlines

- planted areas should be concentrated in boulevards on each side of a street, close to pedestrian areas, where they can offer environmental benefits such as shade, wind protection, as well as visual appeal
- attention should be paid in tree spacing and plant material selection to not over-tree the Village to the detriment of public views and sunlight exposure
- a native and near-native plant palette with North Shore character should be used for low maintenance, long plant life and habitat enhancement
- best practices for street tree plantings should be implemented, which may include continuous tree trenches in boulevards, minimum recommended soil volumes, and soil cells and/or structural soil
- planters should be appropriately scaled to their surroundings and use durable, permanent materials such as stone, smooth-finished concrete and metal, and avoid ceramic, plastic, wood and exposed aggregate concrete
- best practices for street, curb and gutter design should be implemented to integrate stormwater management, including water quality and quantity considerations, into landscape design

6.0 Transportation and Parking

As part of updating the Edgemont Village Centre Plan and Design Guidelines, a high level transportation analysis and strategy was prepared and discussed with the community.

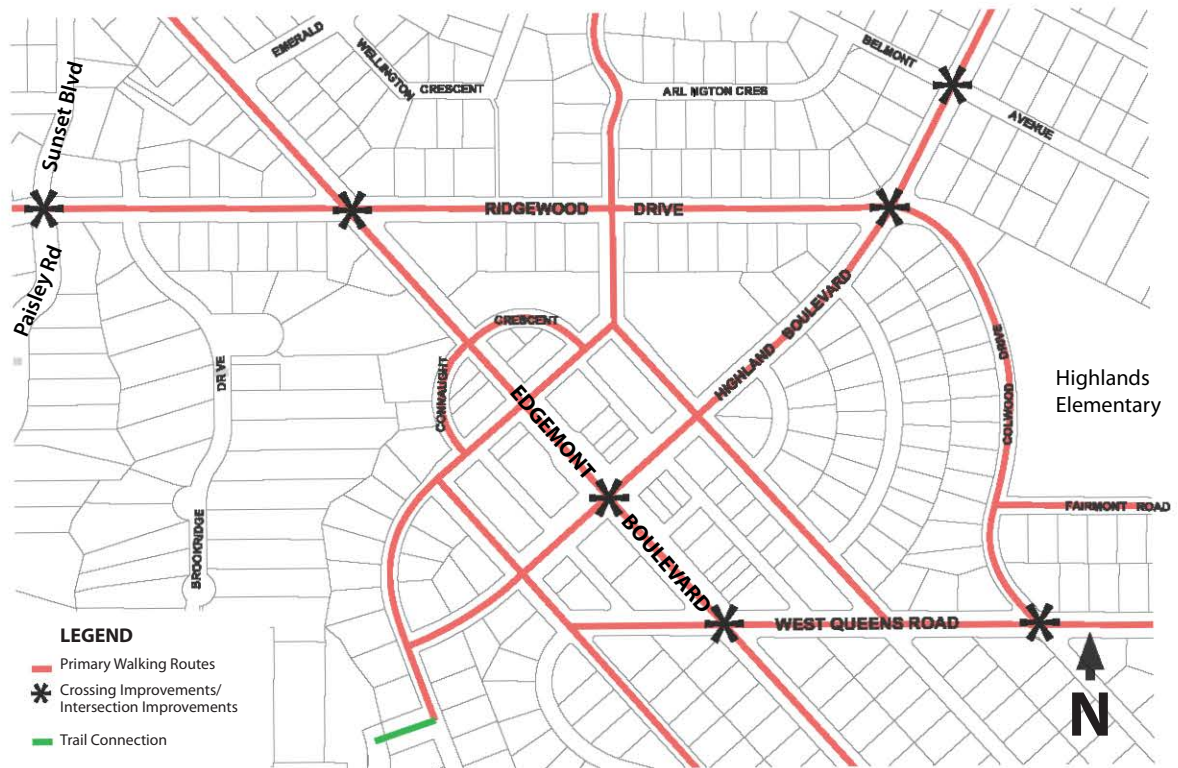
According to the District's Road Network Study (available at www.dnv.org), roads in Edgemont Village such as Highland Boulevard have excess vehicle capacity. In fact, the study's travel forecast of future travel demand expects 3 to 4 percent traffic growth on roads north of Highway 1 (the lowest in the District) from 2006 to 2021.

6.1 Streets and Intersections

- the continued integration and management of traffic circulation and access in the urban realm should be achieved through any redevelopment in the Village
- as/when development occurs, opportunities for transportation improvements (e.g. traffic operations, circulation, etc.) should be reviewed and more detailed planning and design undertaken to address transportation network improvements
- all street and intersection improvements should be designed with the safety and accessibility of all users (pedestrians, cyclists, motorists) and all ages in mind
- accessible pedestrian signals should be encouraged at busy/primary intersections
- driving lanes should be no larger than the standard width required for through traffic and street parking access, so that space within the street rights-of-way may be deployed for public realm improvements in accordance with Section 5
- building siting, street furnishings and plantings should accommodate sightlines for drivers
- intersection improvements should be implemented to support operational efficiency and safety, subject to detailed design, as described below and illustrated on Map 7

Intersection	Potential Improvement
Colwood Drive at West Queens Road	<p>Introduce pedestrian signal to address crossing safety for children accessing Highlands Elementary school.</p> <p>Restrict right-turn-on-red for traffic traveling from Queens Road onto Colwood Drive northbound to address cycling safety and reduce use of this road as a short-cut.</p>

Intersection	Potential Improvement
Edgemont Boulevard at Ridgewood Drive	<p>Address operational efficiency and safety with traffic control change (i.e. traffic signal or roundabout).</p> <p>Make this intersection more accessible for all pedestrians with curb let-downs and sidewalk improvements.</p>
Edgemont Boulevard at Highland Boulevard	<p>Address operational efficiency and safety with traffic control change (i.e. traffic signal or four-way stop).</p> <p>Mark the pedestrian heart of the Village using special intersection treatments, such as raised intersection, reducing the crossing distance with median removal, and/or special pavement colour or texture.</p>
Edgemont Boulevard at West Queens Road	<p>Address sight lines, turning paths, and alignment of southbound through lanes to improve safety.</p> <p>Implement markings through the intersection to identify the road turning path for eastbound to northbound vehicles.</p>
Highland Boulevard at Belmont Avenue	<p>Review crossing control for opportunities to improve safety for people of all ages and abilities.</p>
Ridgewood Drive at Highland Boulevard	<p>Review crossing control for opportunities to improve safety for people of all ages and abilities.</p>
Other area improvements	<p>Woodbine Drive at West Queens Road – Improve sightlines by trimming shrubbery.</p> <p>Ridgewood Drive at Paisley Road/Sunset Boulevard - Improve pedestrian comfort and safety by extending the concrete pad and adding curb let-down at the northwest corner of the intersection.</p> <p>Capilano Road at Paisley Road - Review crossing control for opportunities to improve safety for people of all ages and abilities.</p>



Map 7: Intersections, Walking and Safe Routes to School

6.2 Walking and Safe Routes to School

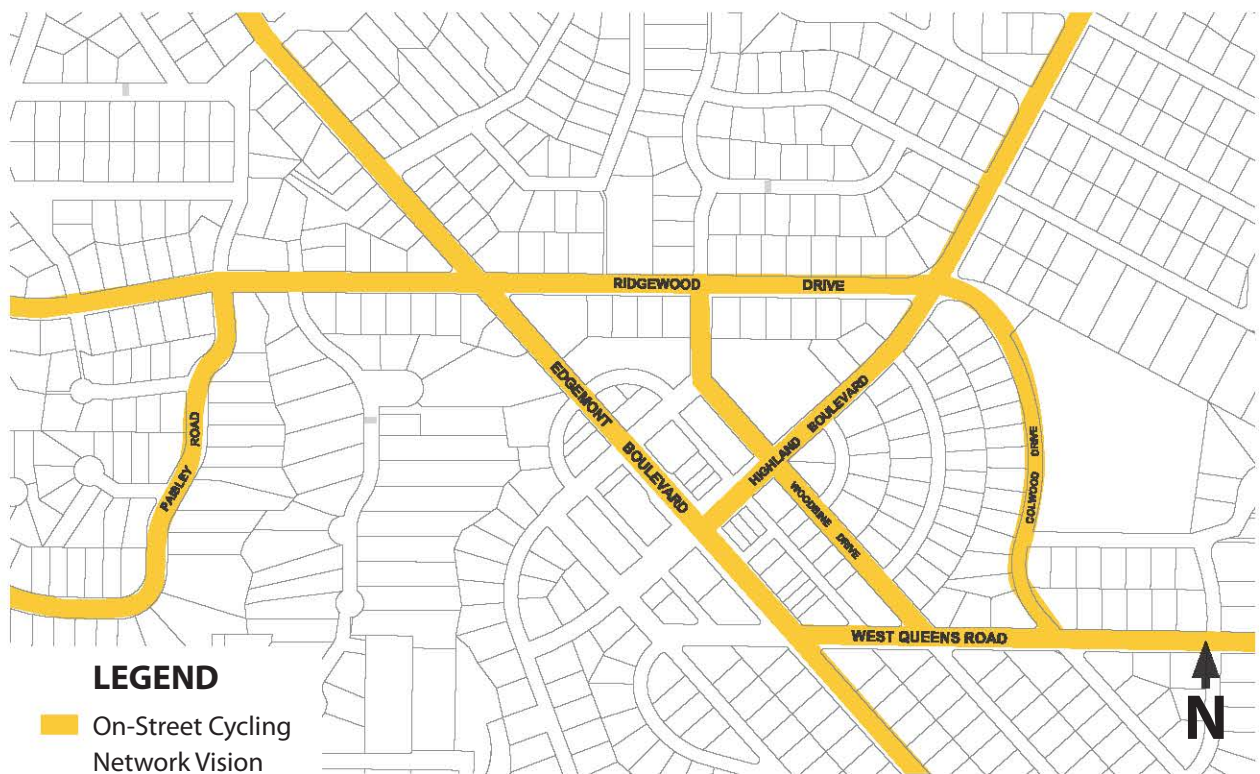
- the environment for walking should be made more comfortable, safe and attractive for pedestrians of all ages and levels of ability with improved streetscape and public realm treatments as described in Section 5 and intersection improvements as described in Section 6.1
- safe and active routes to school should be enhanced, in conjunction with North Vancouver School District 44, school administration and parents
- measures to increase pedestrian safety at crosswalks and support safe vehicle speeds should be employed where feasible and necessary
- the pedestrian network should be integrated with parks and urban trails where feasible to improve access and connections between neighbourhoods

6.3 Cycling

- cyclists of all skill levels should be accommodated with on and off-street cycling routes
- improvements to the cycling network in and around the Village should include enhanced connections and way-finding to local and regional destinations, the wider bicycle network, schools, and transit services
- ample and accessible bicycle racks should be located at prominent well-lit locations near doors, entries and public realm areas, but without being the primary visual feature
- major developments should include quality cycling support facilities, including on-street bicycle racks, accessible on-site secure bicycle storage, and other amenities as appropriate (e.g. electric bicycle charging, bicycle maintenance stations, etc.)
- bicycle routes should be provided through Edgemont Village, including improved connections to local trails with new curb letdowns and bike troughs, as described below

Potential Improvements to Cycling Network

On-Street Bicycle Routes	Colwood Drive (urban shared travel lanes)
	Edgemont Boulevard (urban shared travel lanes)
	Highland Boulevard (dedicated bike lanes)
	Paisley Road (urban shared travel lanes)
	Ridgewood Drive (dedicated bike lanes)
	West Queens Road (dedicated bike lanes)
	Woodbine Drive (urban shared travel lanes)
Curb letdowns	Edgemont Boulevard southeast of Hwy 1
	Forest Hills Drive cul-de-sac near Fairmont Road
	Forest Hills Drive at Kennedy Avenue
	Trail ending on Fairmont Road across from Fairmont Park
Bike Troughs (to bypass stairs)	Bridge over Mosquito Creek (near Evergreen Place at Glenview Crescent)
	Murdo Frazer Park stairs (near Crescentview Drive)



Map 8: On-Street Cycling Network Vision



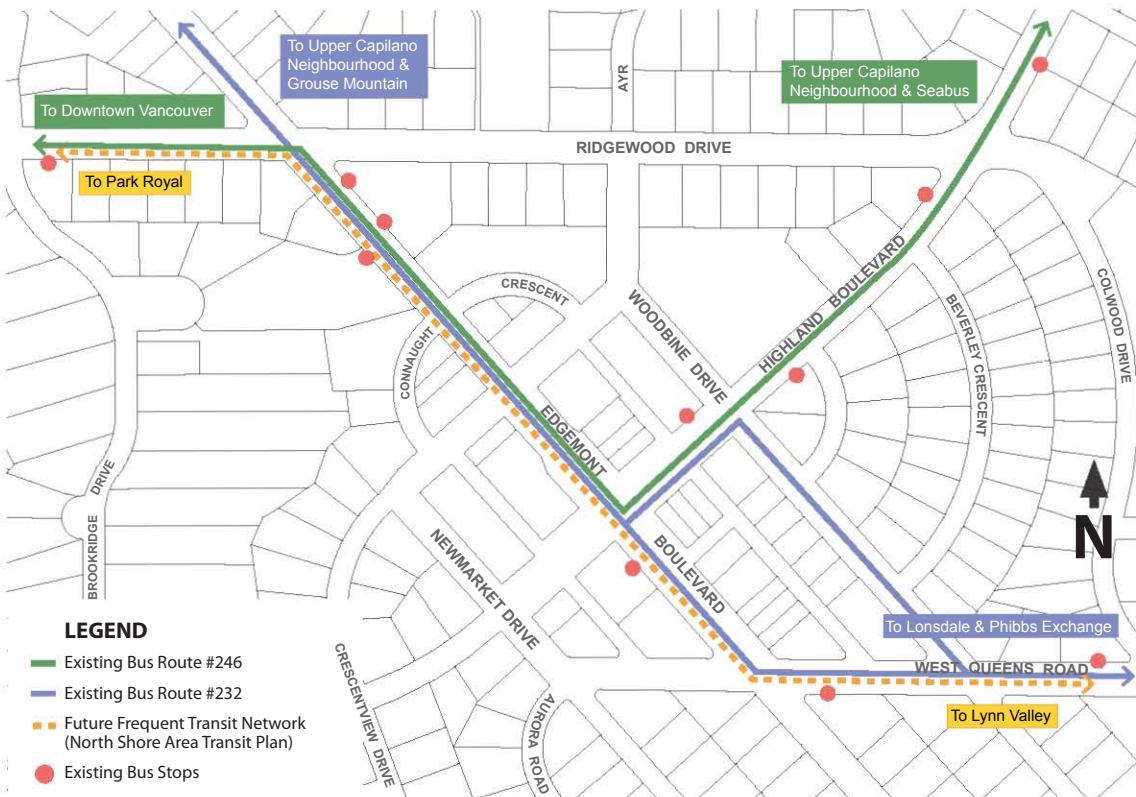
Cars and Bicycles
Share Village Streets



Example of Bicycle Racks Integrated
into a Streetscape

6.4 Transit

- public realm around bus stops should be of a high quality, including well-lit covered waiting space, feature paving, seating and waste receptacles
- transit riders should be supported with infrastructure such as weather protection, lighting, wheelchair pads, sidewalks, and curb ramps around bus stops, and include features contained in TransLink's Universal Accessible Bus Stop Design Guidelines
- walking and cycling connections to transit should be improved to provide a more integrated multi-modal network for people of all ages and abilities
- quality transit service to and from Edgemont Village, including future frequent transit service, should be maintained and enhanced in conjunction with TransLink as illustrated on Map 9



Map 9: Village Transit Access



Example of Weather-protected and Safe, Accessible Transit Stop

6.5 Parking

- adequate and accessible parking should be recognized as necessary for ensuring the Village's continued viability as a commercial and social hub: access is critical for retail success
- diagonal parking should generally be retained, to maintain existing parking availability, slow vehicular through-traffic, support local businesses and preserve Village character
- remnant space in street parking layouts should be re-purposed for public realm enhancements or alternative vehicle parking (e.g. bicycle racks, scooters, motorcycles, etc.)
- the provision of surface parking on private property within lanes should be designed in a manner that does not compromise loading, delivery, circulation and retail uses
- shared parking should be encouraged in commercial areas and where parking is shared by complementary land uses (i.e. parking spaces are shared by more than one business) to allow parking facilities to be used more efficiently
- best practices for underground parkade design should be achieved in new developments in the commercial core, summarized in the following box:

Principles for Underground Parkade Design

- parking should be shared between complimentary land uses, with careful design of features such as the location of security gates
- locations of parkade entries should have clear signs
- natural lighting, openness, and visual permeability should be introduced as much as possible
- art, colour, music, or other elements should be used to enhance user experience
- lighting should be uniformly distributed to avoid dark areas, with sufficient overlap of light distribution
- advanced technologies to provide information on availability of parking spaces should be considered
- exit routes should be well-marked
- the design of parking facility driveways should promote internal circulation and safety on the surrounding street network
- where possible, parking aisles should be oriented parallel to pedestrian desire lines, so that pedestrians of all ages and abilities are comfortable moving between their vehicle and the destination
- sight lines should provide a clear view of surroundings
- the availability of help should be clearly marked with signage
- security monitoring should be enhanced with active security measures, such as alarm buttons, video cameras and security patrols

- reductions to commercial parking requirements should not be considered
- reduced residential parking requirements may be considered for multifamily residential developments (to a minimum 1.5 stalls per unit) only when the District is satisfied there is ample evidence to support parking reduction
- new developments should include and/or allow for the future implementation of electric vehicle charging parking infrastructure
- on-street and off-street parking should be treated as a system, with consideration of the following:
 - provide information about on- and off-street parking availability
 - design the street network such that some on-street parking is available for retailers and traffic can easily circulate around the block
 - avoid resident-only on-street parking, instead use time-restrictions to encourage more efficient turnover in parking stalls
 - identify measures to address impacts of visitor and employee parking in adjacent residential streets where necessary
- shorter parking time limits in the heart of the Village should be considered to encourage higher turnover and availability of spaces in highest demand areas (>80% occupancy), while still providing parking opportunities for visitors who wish to stay longer, as illustrated on Map 10
- business to be consulted about revisions to parking restrictions



Map 10: Village Parking Strategy

7.0 Achieving the Vision

As stated in the Introduction, **the overall intent of this document is to direct development in a way that strengthens the character of Edgemont Village by enhancing its urban design and public realm, while respecting its unique attributes and low-rise scale.** Guidance is provided for both the kinds of development that are consistent with this objective, and the associated public realm improvements that are anticipated to accompany development. Improvements are expected to be paid for by development, through the implementation of off-site construction policies, Development Cost Charges, and potential Community Amenity Contributions. The degree of development will therefore relate to the degree of public realm improvements, and prioritization of public realm improvements may arise as and when development applications are received. Detailed design of both buildings and public realm improvements, including any enhancements to the transportation network, will occur at this stage.

Developments over 2-storeys in the core of the Village, as well as any multifamily development in the residential periphery, will require a rezoning process with public input opportunities, including a public hearing requirement. Consistent with District policy, development applicants are expected to engage the community with early and ongoing input opportunities and are encouraged to engage various stakeholder groups (such as the Edgemont and Upper Capilano Community Association, the Edgemont Village Business Association, Highlands Elementary Parent Advisory Committees, etc.) as part of their outreach to the local community. Information on the District's development application procedures, including rezoning and associated public input processes is available on the District's website www.dnv.org.

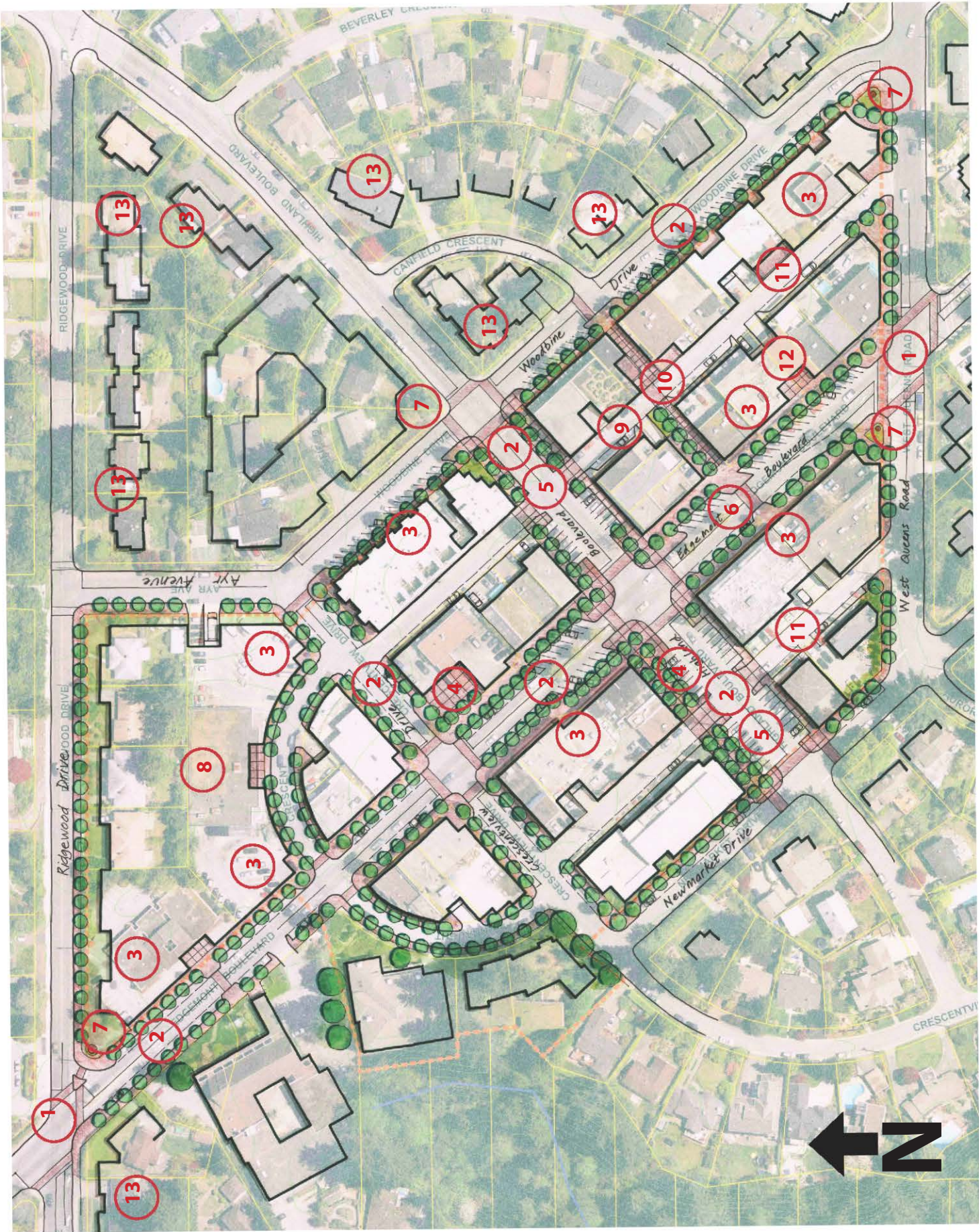
7.1 Illustrative Plan

The following annotated plan illustrates the general vision for Edgemont Village. It provides an overview illustration of the principal directions and enhancements described previously in this document.

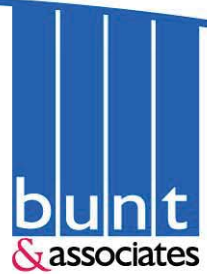
This Illustrative Plan provides a visual 'snapshot' of what the Village might look like at some point in the future, should it be developed generally in line with the policies and guidelines articulated in Sections 2 to 6. In other words, it is not prescriptive, exhaustive or definitive, but rather is intended to illustrate and summarize some of the key directions outlined in this document. Project specifics, such as exact building footprints, tree planting locations (etc.) will be determined through detailed design. Not everything illustrated will necessarily be developed exactly as shown.

Edgemont Village Illustrative Plan

- ① Enhanced road & pedestrian safety
- ② More street trees on all streets
- ③ Active streetfront retail with some residential or offices above
- ④ Potential plazas
- ⑤ "Heart of the Village" - enhanced public realm along Highland Blvd.
- ⑥ Edgemont Blvd:
 - widen sidewalks
 - remove median
 - reduce travel lane-width
 - enhance streetscape, lighting, signage, street furniture, etc.
- ⑦ Gateway feature
- ⑧ New supermarket
- ⑨ Increase & regularize lane parking
- ⑩ Mid-block pedestrian route
- ⑪ Active lane frontages
- ⑫ Courtyard to break up longer frontages
- ⑬ Opportunities for low density/low rise multifamily housing







April 6th, 2016
6100.01

Mike Rakis
Proponent for 3105-3115 Crescentview Drive

VIA Email: amrakis@shaw.ca

Dear Mike:

**Re: 3105-3115 Crescentview Drive – Transportation Review
Letter Report**

Bunt & Associates (Bunt) has completed a Transportation Review for the proposed residential multi-family development at 3105 and 3115 Crescentview Drive, North Vancouver, BC. The review is required by the District of North Vancouver in support of the development servicing agreement.

In addition to reviewing the existing conditions for pedestrians, cyclists, transit and vehicle access, a review of the site generated vehicle trips on the surrounding road network, a parking supply rationale, a site plan review and a sightline review are also covered.

We trust that this information will assist in supporting the application package to the District of North Vancouver. Please do not hesitate to contact us should you have any questions about this report.

Sincerely,
Bunt & Associates

A handwritten signature in black ink, appearing to read "Tyler Thomson".

Tyler Thomson, M.Urb, PTP
Transportation Planner

A handwritten signature in black ink, appearing to read "Lynn Machacek".

Lynn Machacek, EIT
Transportation Analyst

1. INTRODUCTION

1.1 Proposed Development

Mike Rakis (The Proponent) is proposing to redevelop 2 existing single family homes and construct a new single family home, and a 25 unit condo development at 3105-3115 Crescentview Drive in North Vancouver, BC. Parking for the development will be supplied in an underground parkade with 46 spaces (including a 2-space private garage for the single-family home) which will be accessed from Connaught Crescent, a one-way street.

Exhibit 1.1 shows the location of the development site, which is on the Northwest corner of the intersection of Crescentview Drive and Connaught Crescent. Edgemont Village and a mix of commercial and retail units are located immediately east of the site, with single family residential south of the site along Crescentview Drive and a portion of Murdo Frazer Park directly behind (west) of the site.

1.2 Study Purpose

The District of North Vancouver requires that a transportation study be undertaken for the proposed development. The following outlines the key aspects to be reviewed:

- **Existing Conditions** – highlights the study area and street network, presents the transportation data reviewed and summarizes the vehicle volumes at the study intersections. It also highlights the site in the context of the existing pedestrian / cycle routes, and transit network.
- **Development Plan Review** – the proposed parking and bicycle parking for the site as they relate to the District's Zoning Bylaw are reviewed. A parking supply rationale is provided in support of the proposed parking relaxation, and a review of site vehicle access and the internal parking layout is also provided.
- **Future Conditions** – Future vehicle trips generated by the site, calculated using sample trip generation data collected from the adjacent townhome developments, were reviewed to understand the net increase in traffic with the development over existing conditions.
- **Sight Line Review** – The sight lines and corner clearances for vehicles exiting from the site driveway onto Connaught Crescent were reviewed and discussed.

A construction traffic management plan will be prepared subsequently to this study as a separate report when required by the District.

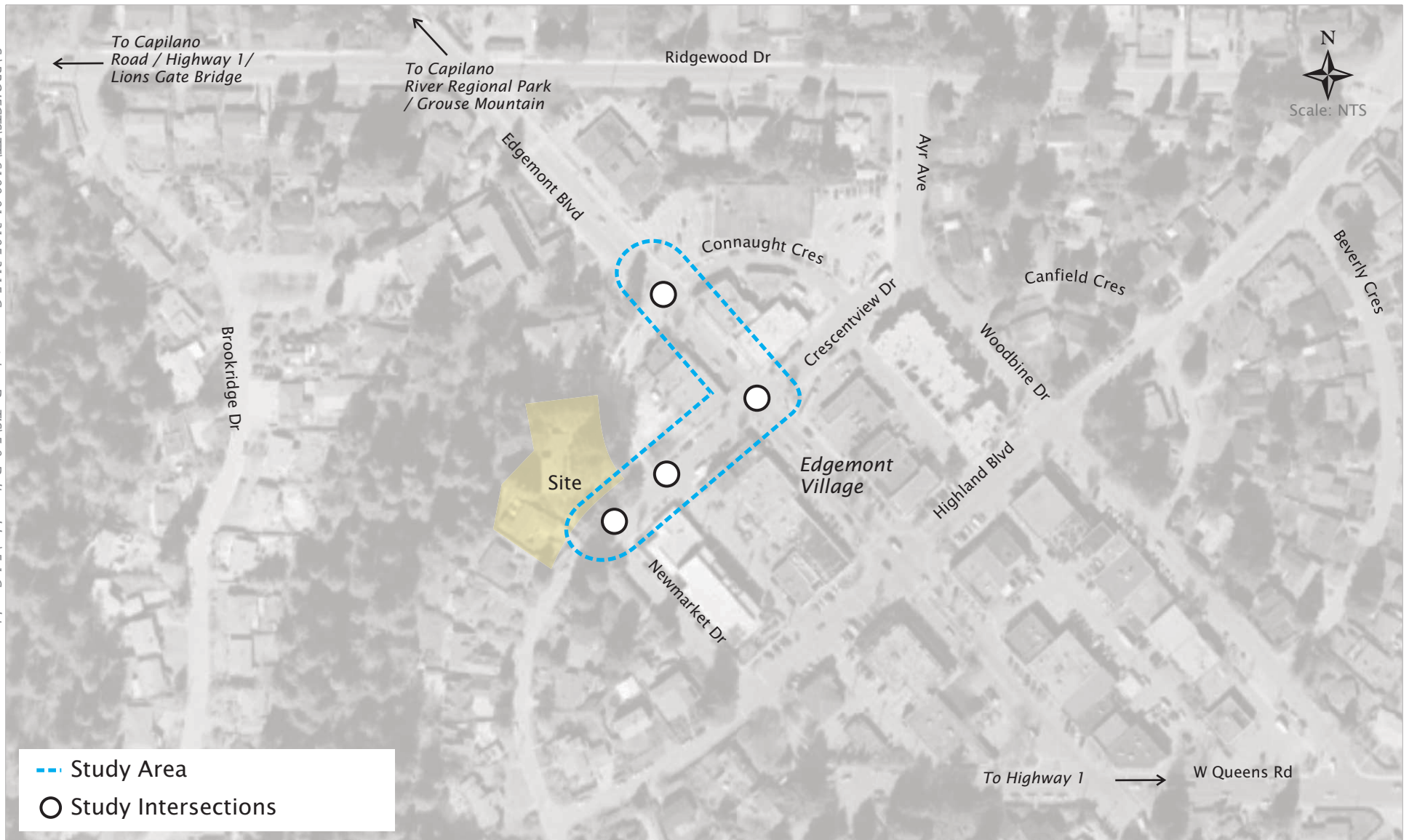


Exhibit 1.1 Site Context

Crescentview Drive TIS
February 2016

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2. EXISTING CONDITIONS

This section describes the existing transportation and land use context near the development site. Pedestrian, cyclist and transit networks are summarized, as well as the existing street network and vehicles volumes.

2.1 Study Area & Street Network

The proposed site is located at 3105 and 3115 Crescentview Drive on the northwest corner of the intersection of Connaught Crescent and Crescentview Drive. The single family portion of the site fronts onto Crescentview Drive while the condominium portion fronts onto Connaught Crescent. A mix of commercial and retail uses are located immediately east of the site in Edgemont Village, while single family residential and Murdo Frazer Park are located to the south and west respectively.

Exhibit 2.1 shows the surrounding transportation network and facilities near the site including road classifications and laning.

Edgemont Boulevard, Ridgewood Drive and Highland Boulevard are classified as arterial roads in the Districts' Transportation Plan (2014). However, due to the low speeds, frequent pedestrian crossings and on-street parking, Edgemont Boulevard functions more like a collector road near the site.

Crescentview Drive narrows near the development site, with on-street parking near the site and a recommended reduce speed of 30km/hr due to the curvature of the road. Crescentview, Woodbine and Newmarket Drive form a small network around Edgemont Village and provide connections to Ridgewood Drive via Ayr Avenue and West Queens Road.

Connaught Crescent is a one-way street (northbound permitted) with on-street parking on the west side and provides access to the commercial parking for the business which front onto Edgemont Drive and to the existing residential units on the west side of the street.

2.2 Existing Vehicle Flows

Bunt conducted a transportation spot count at the intersection of Connaught Crescent and Crescentview Drive from 16:45 – 17:45 on October 1st. This time was determined to be the peak hour for the area based on past bunt studies, and traffic volumes from a previous Bunt study were used for the remainder of the study intersections. The spot count was then adjusted to match the previously recorded volumes.

Exhibit 2.2 shows the existing vehicle volumes at the study intersections. Edgemont Boulevard has moderate through volumes during the PM peak, and the remainder of the movement volumes in the study network are well within the capacity of the current road network and intersection designs.

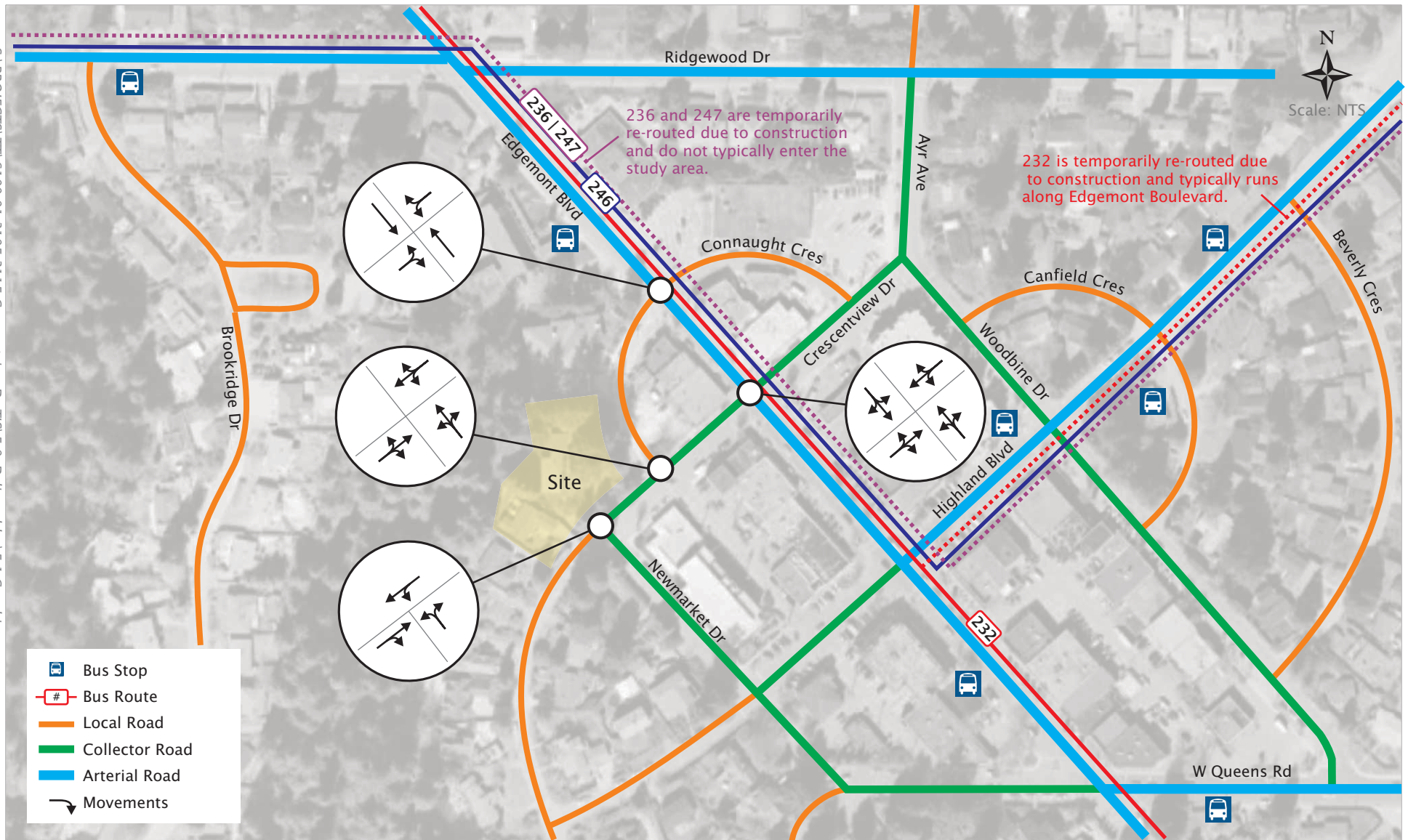


Exhibit 2.1 Existing Transportation Network

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Crescentview Drive TIS
February 2016



Exhibit 2.2 Existing Peak Hour Volumes

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Crescentview Drive TIS
February 2016

2.3 Pedestrian, Cyclist & Transit Connections

There are sidewalks along both sides of most streets in Edgemont Village; however there are no sidewalks on the sides of Connaught Crescent or Crescentview Drive that border the existing development. Crosswalks are located at most intersections on Edgemont Boulevard which facilitate pedestrian activity along the commercial and retail uses of Edgemont Village. There are no proposed pedestrian upgrades for the study area in the Transportation Plan; however the development plan proposes to place new sidewalks along the site frontages to connect with the existing sidewalk network.

Transit stops and routes are located nearby in the study area and were shown in Exhibit 2.1, with both north and southbound stops available within walking distance from the site. Due to the on-going Capilano Water Main Project, many of the current bus routes have been re-routed through the study area.

Route #246 provides connections to the Lonsdale Quay and downtown Vancouver via Capilano Road. Route #232 provides connections to the base of Grouse Mountain and to Phibbs Exchange, with connecting buses to Deep Cove, Vancouver and Burnaby. Both bus routes have 30-minute headways and provide a travel option to much of Metro Vancouver for people who don't have access to a car. Route #232 is currently re-routed and runs north along Highland Boulevard instead of north along Edgemont Boulevard.

Routes #236 and #247 do not typically operate in Edgemont Village, but have been re-routed and now run along Ridgewood Drive, Edgemont Boulevard and Highland Boulevard. Normal bus routing operations will be reintroduced upon the completion of the Capilano Water Main Project in early 2016 prior to the beginning of construction for the proposed site.

During construction of the Edgemont Mixed-Use (Grosvenor) site it is anticipated that bus stops on Edgemont Boulevard will have to be temporarily relocated.

There are currently no cycling routes in the study area, but future facilities planned by the District are presented in Section 4.2.

3. DEVELOPMENT PLAN REVIEW

This section presents the proposed development content and the related vehicle and bicycle parking requirements based on the District of North Vancouver Zoning Bylaw (*Bylaw 3210*).

3.1 Development Content

The proposed development will consist of 25 multi-family residential condo units, and one single family unit with underground parking for residents and visitors accessed from Connaught Crescent.

Exhibit 3.1 illustrates the site plan and site frontage on Connaught Crescent and Crescentview Drive. The exhibit also shows the underground parking access, pedestrian connections between the site and the surrounding area and the Class 2 bicycle parking location.

3.2 Parking Supply Requirements

Table 3.1 and 3.2 summarize the site's parking requirements based on the District of North Vancouver's Zoning Bylaw.

Table 3.1: District of North Vancouver Off-Street Parking Requirement

Use	Bylaw Parking Rate	Proposed Parking Supply	Bylaw Parking Requirement (Maximum)
Residential	1 space per unit plus 1 space per 100m ² of gross residential floor area (to a maximum of 2 spaces per unit inclusive of 0.25 per dwelling unit designated for visitor parking.)	46 (39 residential, 1 accessible residential, and 6 visitor)	52

As shown, a total of 52 spaces are required for the development (including visitor parking) based on the District's bylaw. The development is proposing to provide a total of 46 parking spaces, including 40 residential spaces (2 of which within an enclosed garage for the single family unit) and 6 visitor spaces located underground and accessed from a driveway ramp on Connaught Crescent. Therefore, the development plan is calling for a relaxation of 6 spaces, and this will be supported by a parking supply rationale in the next section.

The District also requires that 20% of the parking spaces must have Electric Vehicle (EV) charging infrastructure, and wired for level 1 charging, and that conduit be in place so that all of the parking spaces can later be wired for level 1 charging. Therefore, there will be 9 parking spaces that are EV-ready for residents with the development.

Table 3.2: District of North Vancouver Bicycle Parking Requirements

Use	Parking Rate		Proposed Bicycle Parking Supply	
	Class 1 (long-term)	Class 2 (short-term)	Class 1 (long-term)	Class 2 (short-term)
Bicycle	1 space per unit (DNV recommendation)	0.2 spaces per unit (Bylaw)	26	5

Table 3.2 indicates that a total of 26 Class 1 spaces and 5 Class 2 spaces should be provided for the development. While the District of North Vancouver does not have a required supply rate for Class 1 secure bicycle parking, the recommended rate noted by District staff is to provide a minimum of 1 secure bicycle parking space per unit.

The Class 1 spaces are to be located in a secure bicycle room in the underground parkade along with lockers and the Class 2 spaces are located near the building entrance on Connaught Crescent. Electrical outlets are to be provided for the Class 1 parking spaces in the secured bike parking room. The Class 2 spaces will be easily accessible from the sidewalk on either Crescentview Drive, or Connaught Crescent, and should also be well lit and covered from the elements.

As per the District's Electric Vehicle Requirements for New Developments, all secure bicycle storage must include level 1 (110v) electric outlets for electric bicycle charge.

Exhibit 3.1 Site Plan



bunt
& associates

3.3 Parking Supply Rationale

Given that the development is seeking a relaxation from the District's parking bylaw requirements (6 spaces), the following provides support for the proposed parking supply from a local context. First, vehicle registration data previously collected data for another study is presented demonstrating comparable parking demand rates that could be expected, and then data from the Metro Vancouver Apartment Parking Study is presented in the context of North Vancouver to help develop a projected parking demand for the site.

3.3.1 ICBC Vehicle Registration Data

Vehicle registration data was previously obtained from ICBC for similar multi-family residential developments in North Vancouver's Lynn Valley, and Maplewood/Seymour neighborhoods (i.e. a similar neighborhood context to Edgemont Village) to provide empirical observations of similar sites' compared to the bylaw requirement.

Vehicle registration data indicates the number of registered vehicles (including owned and leased vehicles), and is conservatively factored up by 10% to account for any vehicles that may be registered off-site to another address. **Table 3.3** summarizes the ICBC data, and the presents weighted average of the observed parking demand per unit across all of the sites.

Table 3.3: North Vancouver Multi-Family Residential Vehicle Registration Data – ICBC

Building / Address	# of Units	Registered Vehicles	Off-Site Vehicle Registration (10%)	Vehicles/Unit
Highgate – 1150 E 29 th St	59	77	8	1.44
Highgate – 1100 E 29 th St	54	67	7	1.36
The Laurels – 1133 E 29 th St; 1150 Lynn Valley Rd	39	53	5	1.49
The Waverly – 1155 Ross Rd	39	52	5	1.47
Branches – 1111 E 27 th St; and 2601 Whitely Crt	135	148	15	1.21
Evergreen House – 1169 E 27 th St	32	37	4	1.27
Maplewood Living – 2138 Old Dollarton Rd	16	21	2	1.31
Parkway Terrace I + II – 1000/1050 Bowron Crt	88	91	9	1.03
Roche Point Tower – 995 Roche Point Dr	72	66	7	0.92
Nature's Cove – 3732 Mt Seymour Pkwy	23	27	3	1.17
Parkgate Manor – 3670/3680/3690 Banff Crt	136	153	15	1.13
The Brook – 650 Evergreen Pl	24	29	3	1.21
Weighted Average		1.27		

On average, there is a parking demand rate of 1.27 vehicles per unit (including a factor of 10% for off-site vehicles) for the selected multi-family residential developments in North Vancouver. This figure does not include visitor parking demand. Visitor parking spaces are calculated based on 0.25 spaces per unit which is required by the DNV's bylaw. If the development were to provide parking based on the empirical rates (i.e. 1.52 spaces per unit inclusive of 0.25 spaces per unit for visitor parking) it would conservatively equate to about 40 spaces assuming all visitor parking spaces would be in use. This is 6 spaces less than the proposed 46 spaces with the development plan.

3.3.2 Metro Vancouver Apartment Parking Study

Metro Vancouver released *MVAPS-2012*¹ which outlines the results of a comprehensive survey program reviewing parking supply and demand for multi-family residential buildings. The study reviewed emerging trends, past studies, discussions with municipal staff and data from two regional surveys to develop parking guideline recommendations to improve current practices in the region.

North Shore surveys have shown an average parking supply rate (spaces per dwelling unit) of 1.38 vehicles per unit, and average parking demand rate (parked vehicles per dwelling unit) of 1.19 vehicles per unit. Based on these rates, the proposed development may expect parking demands of approximately 37 vehicles (including 0.25 spaces per unit for the visitor parking component), which is 15 spaces less than required in the bylaw.

3.3.3 Residential Parking Review Summary

With a combined average parking demand rate of 1.23 vehicles per unit (between the ICBC empirical data and *MVAPS-2012* results) this would reflect 32 spaces of residential specific parking for the proposed development. If 0.25 spaces per unit for visitor parking are added, a total of 39 spaces would be required to meet the demand for the proposed development conservatively assuming that all visitor spaces are used all of the time. Therefore, the proposed 46 spaces is considered more than sufficient to meet the needs of the development.

3.4 Vehicle Access

As illustrated in Exhibit 3.1, resident vehicle access to the underground parkade ramp is via a driveway on Connaught Crescent located on the northeast corner of the site. This parkade will

¹

http://www.metrovancouver.org/boards/Regional%20Planning%20and%20Agriculture/Regional_Planning_and_Agriculture-June_8_2012-Agenda.pdf

accommodate parking for the single family unit, and the multi-family units, as well as the visitor parking for the site.

3.5 Parking Design Review

Exhibit 3.2 shows the proposed underground parking layout that will serve the residential and visitor parking. **Exhibits 3.3** and **3.4** show inbound and out vehicles paths for the most constrained parking spaces within the parkade.

All of the stalls can be accessed with either one inbound motion or a simple back in movement; however some of outbound movements are more constrained. Vehicles exiting from spaces 26 – 27, and 38 – 39 have to conduct 4-point turns in order to turn around in the parking aisle. While the stalls can be exited with a 4-point turn, this maneuver is unlikely to be common. Drivers may learn to back into these spaces if there is an empty adjacent stall on their inbound path, or if they have driven straight into the stalls, back into an adjacent empty stall when they are exiting.

S:\PROJECTS\TT\6100-01 3105-3115 Crescentview Dr TIS\4.0 Analysis & Design\4.2 CAD



Exhibit 3.2 Parking Layout

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Crescentview Drive TIS
February 2016
Scale NTS





[Design Vehicle: 2010 Ford Taurus for standard spaces, 2015 Honda Civic for small car spaces]

Exhibit 3.3 Inbound Vehicle Paths

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Crescentview Drive TIS
Scale NTS



[Design Vehicle: 2010 Ford Taurus for standard spaces, 2015 Honda Civic for small car spaces]

Exhibit 3.4 Outbound Vehicle Paths

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February 2016

Crescentview Drive TIS
Scale NTS

4. FUTURE CONDITIONS

The proposed development is expected to generate new vehicles trips on the study area road network. The potential impact that these generated trips will have on the road network is reviewed in the section below.

4.1 Trip Generation

The District of North Vancouver has provided Bunt with recommended trip rates for multi-unit residential developments to use for this analysis. As shown in past Bunt reports, the District's trip rates are an accurate and conservative estimate for multi-unit developments in the Edgemont area. The District's supplied trips rates have been used for the remainder of the analysis.

The net trip generation was then calculated for the development, as the removal of the existing single family homes on the site will influence the total amount of trips generated with the development. This is shown in **Table 4.1** below.

Table 4.1: Net Trip Gain

Trip Rate Source	Units	Peak Hour	Trip Rate/ Unit			Trips		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Existing – Single Detached Housing	2	AM	0.19	0.56	0.75	0	1	2
		PM	0.63	0.37	1.00	1	1	2
Proposed Development – Multi Unit Residential	26	AM	0.16	0.39	0.55	4	10	14
		PM	0.41	0.26	0.67	10	7	17
Net Trip Gain	+24 Units	AM	-	-	-	4	8	12
		PM	-	-	-	9	6	15

As shown in Table 4.1, the site is anticipated to generate a net increase of 12 vehicle trips in the AM and 15 vehicle trips in the PM peak hour periods.

This net trip generation represents roughly one additional vehicle trip every four minutes during both peak periods, and is not likely to have a noticeable impact on the operation of the study intersections. As a result, the future and current performance of the study intersections has not been presented in this letter.

There is however significant development occurring in the Edgemont Village neighbourhood that should be noted. The Edgemont Seniors living complex is under construction, and this is expected to generate 22 PM peak hour trips as previously shown by BUNT. The Edgemont Village Mixed Use development will also be built in the near future, and the site is forecasted to generate 150 PM peak hour trips. There are also additional multi-unit residential developments proposed in the area.

4.2 Transportation Network Improvements

The *District of North Vancouver Transportation Plan (2014)* highlights planned improvements for all modes of transportation. The proposed pedestrian, cycling, transit and vehicle related improvements for the study area are illustrated in **Exhibit 4.1**.

The Walking Plan identifies Edgemont Boulevard north of Ridgewood Drive and Ridgewood Drive east of Edgemont Boulevard as areas for sidewalk improvement. There are no timelines provided indicating when sidewalk improvements would be undertaken, however the improvements would likely come with redevelopment projects and or public works projects in the area.

As stated earlier, sidewalks are planned to be placed along the site frontages of Connaught Crescent and Crescentview Drive with the proposed redevelopment of the site and would connect to existing sidewalk networks at adjacent sites.

As previously noted, there are currently no bicycle routes adjacent to the development site, which indicates that this area is deficient of basic bicycle provisions. However, the Transportation Plan recommends both Edgemont Boulevard and Ridgewood Drive for future on-street bike improvements. These future bicycle routes and development of a planned cycling network in the district will improve cycling accessibility to the site and provide another transportation option for future residents.

A future Frequent Transit Network section is also planned for Ridgewood Drive and Edgemont Boulevard. The Frequent Transit Network is the portion of the transit network bus run at least every 15-minutes for the majority of the day.

These walking and cycling infrastructure improvements, and future increase in service frequency for transit as well as the new services and amenities that will become available on the Edgemont Mixed Use site and other future development will further encourage a mode shift for the future residents from single occupant vehicles to cycling, walking and transit. This further emphasizes that placing the parking supply more in line with the expected demands is a prudent means of supporting these sustainable and active transportation improvements and helping facilitate the transformation of Edgemont Village into a more walkable mixed-use environment.

A temporary new traffic signal has recently been installed at the intersection of Edgemont Boulevard and Ridgewood Drive to coincide with the on-going Capilano Water Main replacement project. It was found to be warranted with existing levels of traffic according to previous Bunt and DNV reports, and its future necessity will be assessed by the District at a later date. A new northbound left turn lane has been added at the intersection, and the northbound channelized right turn lane will be removed. These new and proposed upgrades are expected to improve driving conditions along Edgemont Boulevard near the site. Lastly, the District is currently contemplating parking regulation changes in Edgemont Village to help better manage efficient utilization of on-street parking in the Village.



Exhibit 4.1 Future Transportation Network Improvements

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Crescentview Drive TIS
February 2016

5. SIGHTLINE REVIEW

The driveway to the underground parking for the proposed development is located on the west side of Connaught Crescent, approximately 30 metres north of Crescentview Drive. As Connaught Crescent is one-way in the northbound direction, the site access will permit left-in left-out movements only. On-street parking is currently permitted along the west side of Connaught Crescent.

Figure 1 and **Figure 2** show the views from the proposed driveway in looking south and north respectively.

Figure 1: South View from Proposed Site Access



Figure 2: North View from Proposed Site Access



The sight distances were not analyzed in depth for the access as Connaught Crescent is a short one-way street and the primary limiting aspects for the sight lines are the on-street parking and the driveway's proximity to Crescentview Drive. The primary sightline consideration for the access is between northbound vehicles approaching vehicles exiting from the driveway. In this situation, the sight lines are currently impeded by the on-street parking (the white vehicle in Figure 1).

In order to ensure that vehicles exiting the driveway can see northbound vehicles from Crescentview Drive (and vice-versa), we recommend restricting vehicles from parking within 2 metres south of the proposed driveway flare. Given the widening of the existing driveway from 4m to 6m, and with flares on each side this is expected to result in the loss of approximately one on-street parking space, but will help to ensure that sightlines are adequate for the site access.

Another important access parameter is the corner clearance between the site access and Crescentview Drive. The Transportation Association of Canada (TAC) provides guidelines for corner clearance and these are based on road classification and access location. The available corner clearance for the proposed driveway is shown in Exhibit 3.1. For the proposed access configuration and road classifications the minimum recommended TAC corner clearance is 15 metres. The proposed 30 metre corner clearance exceeds the TAC minimum value, and should provide oncoming drivers sufficient time to react to vehicles exiting from the parkade.

It is important to note that the speed of vehicles turning onto Connaught Crescent is likely to be much lower than the un-posted speed limit of 50 km/h due to the turning maneuver required the presence of on-street parking and the narrow road width. The increasingly urban characteristic of Edgemont Village also means that drivers will become more aware of residential accesses and will adjust their driving habits accordingly.

6. CONCLUSIONS

The development plan proposes to redevelop the site into one single-family unit, and a 25-unit multi-family residential complex, with underground parking for 46 vehicles (2 of which provided in an enclosed garage for the single family unit) including visitor parking for 6 vehicles. Bicycle parking will be accommodated in a 26 space secure bike room in the underground parking for Class 1 spaces and with 5 Class 2 parking spaces just off Connaught Crescent near the building entrance at ground level.

The development is seeking a parking relaxation of 6 spaces from the Bylaw requirement of 52 spaces. A review of parking demand based on vehicle registration data from ICBC, and local surveys from the Metro Vancouver Apartment Parking Study indicates that future parking demand for the development is around 39 spaces conservatively assuming that all of the visitor spaces would be in use all of the time. The proposed 46 parking spaces is therefore deemed more than sufficient to meet the expected demands of the development, and is in line with transportation goals of the District and Edgemont Village specifically to increase walking, cycling and transit mode shares while reducing automobile dependency and improving the overall walkability of Edgemont Village.

The proposed development will generate few additional vehicle trips over existing conditions (i.e. only 12 net new vehicle trips in the AM peak hour, and 15 net new vehicle trips in the PM peak hour), such that they will not have a noticeable impact on the existing operations of the intersections.

There are currently no bicycle routes adjacent to the development site, which indicates that this area is deficient of basic bicycle provisions. However on-street bike lanes are planned by the District for Edgemont Boulevard, and Ridgewood Drive, as well as further improvements to the bicycle network in the District.

Sidewalks are present along most blocks in the study area closer to the commercial centre on Edgemont; however there are currently no sidewalks on the site frontages. The development plan proposes new sidewalks on both Connaught Crescent and Crescentview Drive on the site frontages to connect with the existing adjacent sidewalk network.

Bus stops for the #232 and #246 are located close to the site and provide connections to Lonsdale Quay, downtown Vancouver, and other places in the region. While there is currently some rerouting in place for these routes, and other routes in the area due to the Capilano Water Main project, they are expected to return to normal operations before construction begins on the development site. These existing and proposed pedestrian, cyclist and transit amenities help to provide alternative access options to the site for non-automobile users.

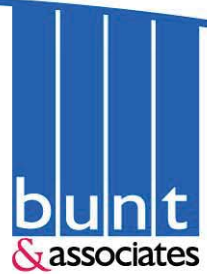
A temporary new traffic signal has recently been installed at the intersection of Edgemont Boulevard and Ridgewood Drive to coincide with the on-going Capilano Water Main replacement project, and

its future necessity will be assessed by the District at a later date. A new northbound left turn lane has been added at the intersection, and the northbound channelized right turn lane will be removed which all will combine to improve vehicle flow in the area.

The site's underground parking was assessed using AutoTURN and found to function sufficiently for the development, although there are a couple of spaces which have been identified that are challenging to exit from, and may need some further design review. Vehicles are able to travel inbound and outbound on the parking ramp and within the parkade independently without conflict.

A sightline review was carried out for the location of the proposed driveway. It is recommended that a slight setback (i.e. 2m) be implemented from the edge of the south driveway flare for parking on the west side of Connaught Crescent to allow for better visibility between approaching northbound vehicles and vehicles exiting the site driveway.

In summary, the additional site traffic expected to be generated by the proposed development is not anticipated to have a noticeable impact on the operational conditions of the surrounding road network, while the proposed reduced parking supply is expected to meet the demands of the development. The alternate transportation connections in the area will improve with the new pedestrian, and bicycle facilities and with the addition of a FTN route near the site. Finally, site's vehicle access and underground parking is anticipated to function sufficiently, as noted above.



October 15th, 2015
6100.01

Mike Rakis
Proponent for 3105-3115 Crescentview Drive

VIA Email: amrakis@shaw.ca

Dear Mike:

**Re: 3105-3115 Crescentview Drive – Transportation Review
Draft Letter Report**

Bunt & Associates (Bunt) has completed a Transportation Review for the proposed residential multi-family development at 3105 and 3115 Crescentview Drive, North Vancouver, BC. The review is required by the District of North Vancouver in support of the development servicing agreement.

In addition to reviewing the existing conditions for pedestrians, cyclists, transit and vehicle access, a review of the site generated vehicle trips on the surrounding road network, a parking supply rationale, a site plan review and a sightline review are also covered.

We trust that this information will assist in supporting the application package to the District of North Vancouver. Please do not hesitate to contact us should you have any questions about this report.

Sincerely,
Bunt & Associates

A handwritten signature in black ink, appearing to read "Tyler Thomson".

Tyler Thomson, M.Urb, PTP
Transportation Planner

A handwritten signature in black ink, appearing to read "Lynn Machacek".

Lynn Machacek, EIT
Transportation Analyst

1. INTRODUCTION

1.1 Proposed Development

Mike Rakis (The Proponent) is proposing to redevelop 2 existing single family homes and construct a new single family home, and a 25 unit condo development at 3105-3115 Crescentview Drive in North Vancouver, BC. Parking for the development will be supplied in an underground parkade with 44 spaces (including a 2-space private garage for the single-family home) which will be accessed from Connaught Crescent, a one-way street.

Exhibit 1.1 shows the location of the development site, which is on the Northwest corner of the intersection of Crescentview Drive and Connaught Crescent. Edgemont Village and a mix of commercial and retail units are located immediately east of the site, with single family residential south of the site along Crescentview Drive and a portion of Murdo Frazer Park directly behind (west) of the site.

1.2 Study Purpose

The District of North Vancouver requires that a transportation study be undertaken for the proposed development. The following outlines the key aspects to be reviewed:

- **Existing Conditions** – highlights the study area and street network, presents the transportation data reviewed and summarizes the vehicle volumes at the study intersections. It also highlights the site in the context of the existing pedestrian / cycle routes, and transit network.
- **Development Plan Review** – the proposed parking and bicycle parking for the site as they relate to the District's Zoning Bylaw are reviewed. A parking supply rationale is provided in support of the proposed parking relaxation, and a review of site vehicle access and the internal parking layout is also provided.
- **Future Conditions** – Future vehicle trips generated by the site, calculated using sample trip generation data collected from the adjacent townhome developments, were reviewed to understand the net increase in traffic with the development over existing conditions.
- **Sight Line Review** – The sight lines and corner clearances for vehicles exiting from the site driveway onto Connaught Crescent were reviewed and discussed.

A construction traffic management plan will be prepared subsequently to this study as a separate report when required by the District.

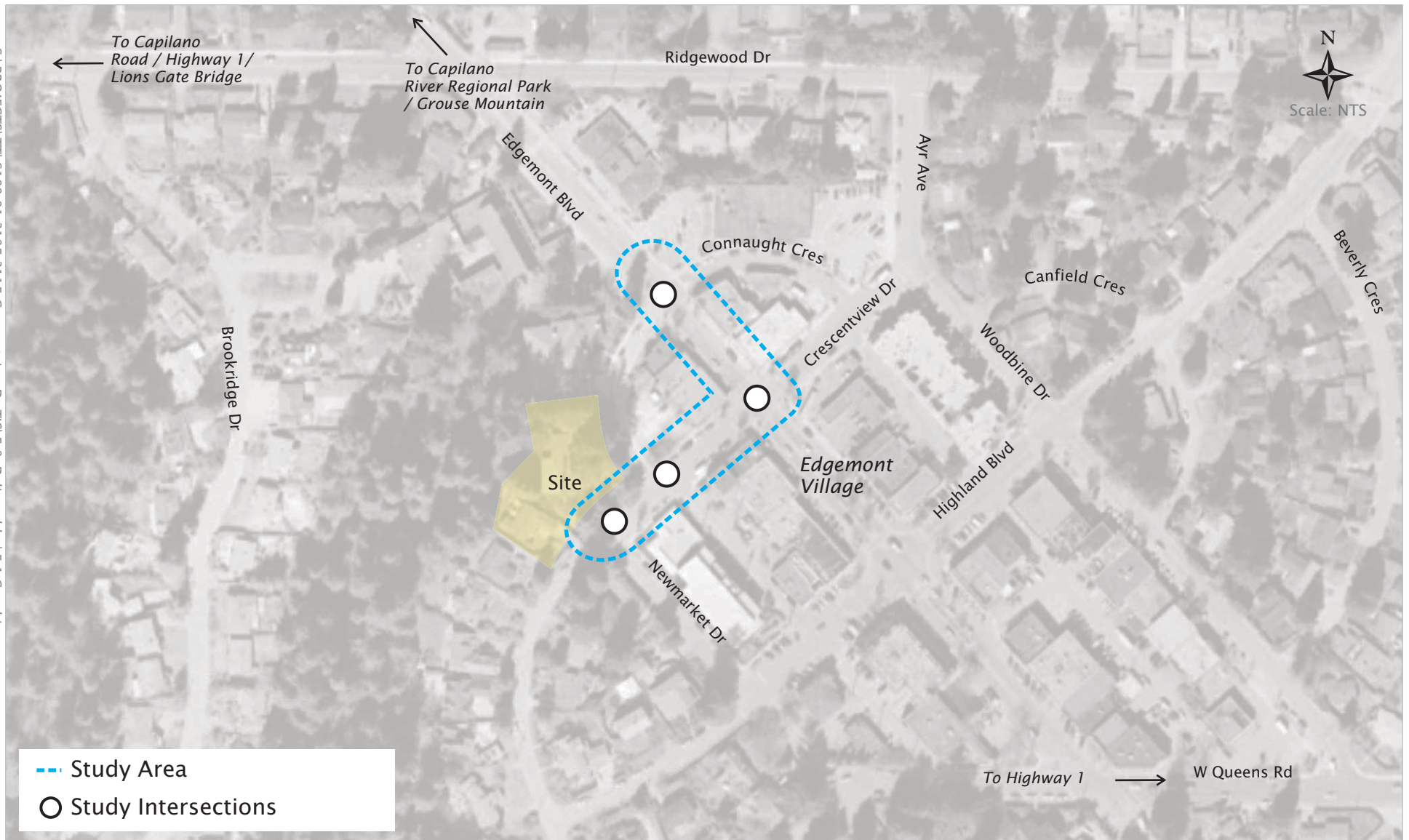


Exhibit 1.1 Site Context

Crescentview Drive TIS
October 2015

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2. EXISTING CONDITIONS

This section describes the existing transportation and land use context near the development site. Pedestrian, cyclist and transit networks are summarized, as well as the existing street network and vehicles volumes.

2.1 Study Area & Street Network

The proposed site is located at 3105 and 3115 Crescentview Drive on the northwest corner of the intersection of Connaught Crescent and Crescentview Drive. The single family portion of the site fronts onto Crescentview Drive while the condominium portion fronts onto Connaught Crescent. A mix of commercial and retail uses are located immediately east of the site in Edgemont Village, while single family residential and Murdo Frazer Park are located to the south and west respectively.

Exhibit 2.1 shows the surrounding transportation network and facilities near the site including road classifications and laning.

Edgemont Boulevard, Ridgewood Drive and Highland Boulevard are classified as arterial roads in the Districts' Transportation Plan (2014). However, due to the low speeds, frequent pedestrian crossings and on-street parking, Edgemont Boulevard functions more like a collector road near the site.

Crescentview Drive narrows near the development site, with on-street parking near the site and a recommended reduce speed of 30km/hr due to the curvature of the road. Crescentview, Woodbine and Newmarket Drive form a small network around Edgemont Village and provide connections to Ridgewood Drive via Ayr Avenue and West Queens Road.

Connaught Crescent is a one-way street (northbound permitted) with on-street parking on the west side and provides access to the commercial parking for the business which front onto Edgemont Drive and to the existing residential units on the west side of the street.

2.2 Existing Vehicle Flows

Bunt conducted a transportation spot count at the intersection of Connaught Crescent and Crescentview Drive from 16:45 – 17:45 on October 1st. This time was determined to be the peak hour for the area based on past bunt studies, and traffic volumes from a previous Bunt study were used for the remainder of the study intersections. The spot count was then adjusted to match the previously recorded volumes.

Exhibit 2.2 shows the existing vehicle volumes at the study intersections. Edgemont Boulevard has moderate through volumes during the PM peak, and the remainder of the movement volumes in the study network are well within the capacity of the current road network and intersection designs.

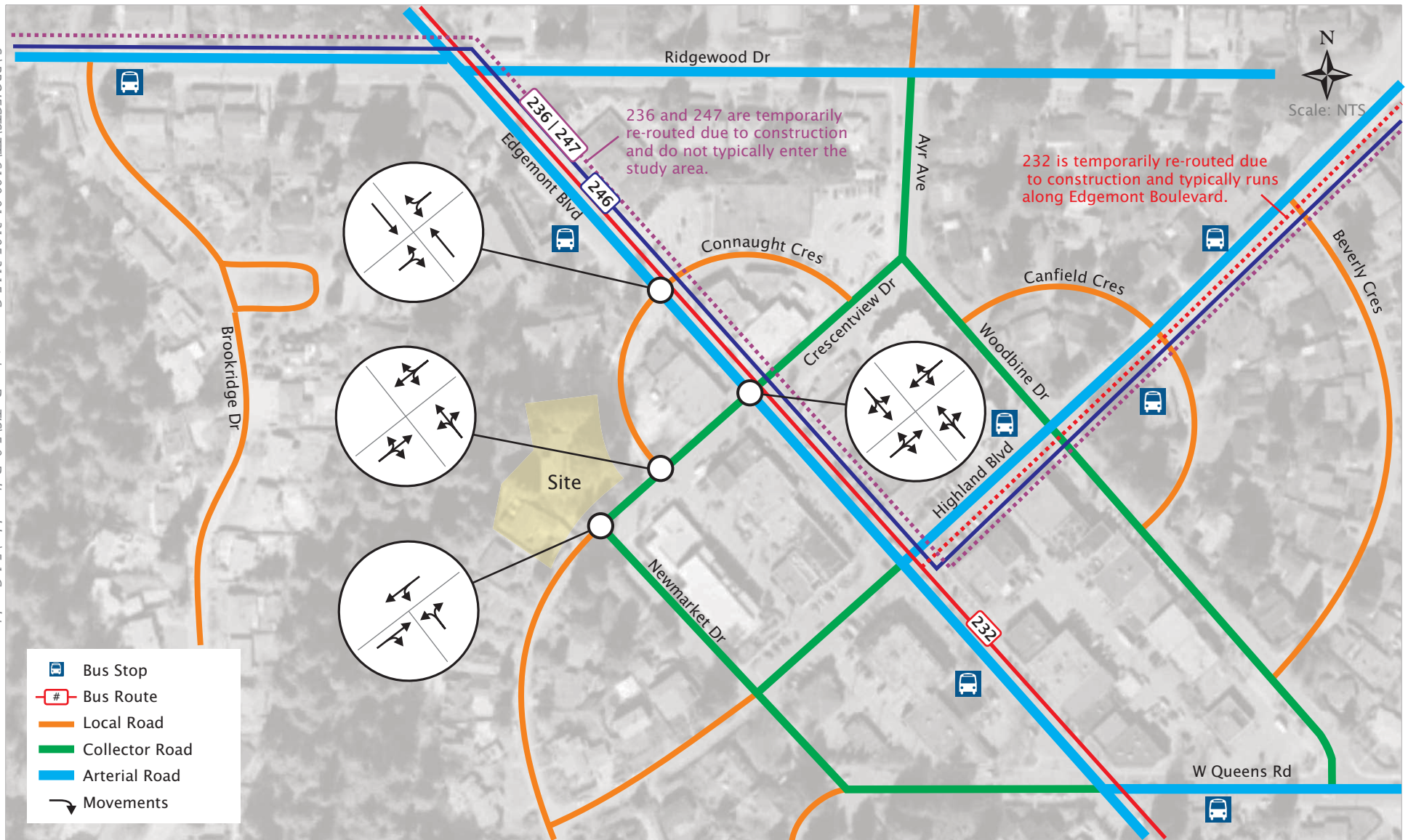


Exhibit 2.1 Existing Transportation Network

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Crescentview Drive TIS
October 2015



Exhibit 2.2 Existing Peak Hour Volumes

6100.01

Crescentview Drive TIS
October 2015

2.3 Pedestrian, Cyclist & Transit Connections

There are sidewalks along both sides of most streets in Edgemont Village; however there are no sidewalks on the sides of Connaught Crescent or Crescentview Drive that border the existing development. Crosswalks are located at most intersections on Edgemont Boulevard which facilitate pedestrian activity along the commercial and retail uses of Edgemont Village. There are no proposed pedestrian upgrades for the study area in the Transportation Plan; however the development plan proposes to place new sidewalks along the site frontages to connect with the existing sidewalk network.

Transit stops and routes are located nearby in the study area and were shown in Exhibit 2.1, with both north and southbound stops available within walking distance from the site. Due to the on-going Capilano Water Main Project, many of the current bus routes have been re-routed through the study area.

Route #246 provides connections to the Lonsdale Quay and downtown Vancouver via Capilano Road. Route #232 provides connections to the base of Grouse Mountain and to Phibbs Exchange, with connecting buses to Deep Cove, Vancouver and Burnaby. Both bus routes have 30-minute headways and provide a travel option to much of Metro Vancouver for people who don't have access to a car. Route #232 is currently re-routed and runs north along Highland Boulevard instead of north along Edgemont Boulevard.

Routes #236 and #247 do not typically operate in Edgemont Village, but have been re-routed and now run along Ridgewood Drive, Edgemont Boulevard and Highland Boulevard. Normal bus routing operations will be reintroduced upon the completion of the Capilano Water Main Project in early 2016 prior to the beginning of construction for the proposed site.

During construction of the Edgemont Mixed-Use (Grosvenor) site it is anticipated that bus stops on Edgemont Boulevard will have to be temporarily relocated.

There are currently no cycling routes in the study area, but future facilities planned by the District are presented in Section 4.2.

3. DEVELOPMENT PLAN REVIEW

This section presents the proposed development content and the related vehicle and bicycle parking requirements based on the District of North Vancouver Zoning Bylaw (*Bylaw 3210*).

3.1 Development Content

The proposed development will consist of 25 multi-family residential condo units, and one single family unit with underground parking for residents and visitors accessed from Connaught Crescent.

Exhibit 3.1 illustrates the site plan and site frontage on Connaught Crescent and Crescentview Drive. The exhibit also shows the underground parking access, pedestrian connections between the site and the surrounding area and the Class 2 bicycle parking location.

3.2 Parking Supply Requirements

Table 3.1 and 3.2 summarize the site's parking requirements based on the District of North Vancouver's Zoning Bylaw.

Table 3.1: District of North Vancouver Off-Street Parking Requirement

Use	Bylaw Parking Rate	Proposed Parking Supply	Bylaw Parking Requirement (Maximum)
Residential	1 space per unit plus 1 space per 100m ² of gross residential floor area (to a maximum of 2 spaces per unit inclusive of 0.25 per dwelling unit designated for visitor parking.)	44 (37 residential, 1 accessible residential, and 6 visitor)	52

As shown, a total of 52 spaces are required for the development (including visitor parking) based on the District's bylaw. The development is proposing to provide a total of 44 parking spaces, including 38 residential spaces (2 of which within an enclosed garage for the single family unit) and 6 visitor spaces located underground and accessed from a driveway ramp on Connaught Crescent. Therefore, the development plan is calling for a relaxation of 8 spaces, and this will be supported by a parking supply rationale in the next section.

The District also requires that 20% of the parking spaces must have Electric Vehicle (EV) charging infrastructure, and wired for level 1 charging, and that conduit be in place so that all of the parking spaces can later be wired for level 1 charging. Therefore, there will be 8 parking spaces that are EV-ready for residents with the development.


Table 3.2: District of North Vancouver Bicycle Parking Requirements

Use	Parking Rate		Proposed Bicycle Parking Supply	
	Class 1 (long-term)	Class 2 (short-term)	Class 1 (long-term)	Class 2 (short-term)
Bicycle	1 space per unit (DNV recommendation)	0.2 spaces per unit (Bylaw)	26	5

Table 3.2 indicates that a total of 26 Class 1 spaces and 5 Class 2 spaces should be provided for the development. While the District of North Vancouver does not have a required supply rate for Class 1 secure bicycle parking, the recommended rate noted by District staff is to provide a minimum of 1 secure bicycle parking space per unit.

The Class 1 spaces are to be located in a secure bicycle room in the underground parkade along with lockers and the Class 2 spaces are located near the building entrance on Connaught Crescent. Electrical outlets are to be provided for the Class 1 parking spaces in the secured bike parking room. The Class 2 spaces will be easily accessible from the sidewalk on either Crescentview Drive, or Connaught Crescent, and should also be well lit and covered from the elements.

As per the District's Electric Vehicle Requirements for New Developments, all secure bicycle storage must include level 1 (110v) electric outlets for electric bicycle charge.

 Parking Access


 Pedestrian Connection

Exhibit 3.1 Site Plan

Crescentview Drive TIS
October, 2015

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3.3 Parking Supply Rationale

Given that the development is seeking a relaxation from the District's parking bylaw requirements (8 spaces), the following provides support for the proposed parking supply from a local context. First, vehicle registration data previously collected data for another study is presented demonstrating comparable parking demand rates that could be expected, and then data from the Metro Vancouver Apartment Parking Study is presented in the context of North Vancouver to help develop a projected parking demand for the site.

3.3.1 ICBC Vehicle Registration Data

Vehicle registration data was previously obtained from ICBC for similar multi-family residential developments in North Vancouver's Lynn Valley, and Maplewood/Seymour neighborhoods (i.e. a similar neighborhood context to Edgemont Village) to provide empirical observations of similar sites' compared to the bylaw requirement.

Vehicle registration data indicates the number of registered vehicles (including owned and leased vehicles), and is conservatively factored up by 10% to account for any vehicles that may be registered off-site to another address. **Table 3.3** summarizes the ICBC data, and the presents weighted average of the observed parking demand per unit across all of the sites.

Table 3.3: North Vancouver Multi-Family Residential Vehicle Registration Data – ICBC

Building / Address	# of Units	Registered Vehicles	Off-Site Vehicle Registration (10%)	Vehicles/Unit
Highgate – 1150 E 29 th St	59	77	8	1.44
Highgate – 1100 E 29 th St	54	67	7	1.36
The Laurels – 1133 E 29 th St; 1150 Lynn Valley Rd	39	53	5	1.49
The Waverly – 1155 Ross Rd	39	52	5	1.47
Branches – 1111 E 27 th St; and 2601 Whitely Crt	135	148	15	1.21
Evergreen House – 1169 E 27 th St	32	37	4	1.27
Maplewood Living – 2138 Old Dollarton Rd	16	21	2	1.31
Parkway Terrace I + II – 1000/1050 Bowron Crt	88	91	9	1.03
Roche Point Tower – 995 Roche Point Dr	72	66	7	0.92
Nature's Cove – 3732 Mt Seymour Pkwy	23	27	3	1.17
Parkgate Manor – 3670/3680/3690 Banff Crt	136	153	15	1.13
The Brook – 650 Evergreen Pl	24	29	3	1.21
Weighted Average		1.27		

On average, there is a parking demand rate of 1.27 vehicles per unit (including a factor of 10% for off-site vehicles) for the selected multi-family residential developments in North Vancouver. This figure does not include visitor parking demand. Visitor parking spaces are calculated based on 0.25 spaces per unit which is required by the DNV's bylaw. If the development were to provide parking based on the empirical rates (i.e. 1.52 spaces per unit inclusive of 0.25 spaces per unit for visitor parking) it would conservatively equate to about 40 spaces assuming all visitor parking spaces would be in use. This is 4 spaces less than the proposed 44 spaces with the development plan.

3.3.2 Metro Vancouver Apartment Parking Study

Metro Vancouver released *MVAPS-2012*¹ which outlines the results of a comprehensive survey program reviewing parking supply and demand for multi-family residential buildings. The study reviewed emerging trends, past studies, discussions with municipal staff and data from two regional surveys to develop parking guideline recommendations to improve current practices in the region.

North Shore surveys have shown an average parking supply rate (spaces per dwelling unit) of 1.38 vehicles per unit, and average parking demand rate (parked vehicles per dwelling unit) of 1.19 vehicles per unit. Based on these rates, the proposed development may expect parking demands of approximately 37 vehicles (including 0.25 spaces per unit for the visitor parking component), which is 7 spaces less than required in the bylaw.

3.3.3 Residential Parking Review Summary

With a combined average parking demand rate of 1.23 vehicles per unit (between the ICBC empirical data and *MVAPS-2012* results) this would reflect 32 spaces of residential specific parking for the proposed development. If 0.25 spaces per unit for visitor parking are added, a total of 39 spaces would be required to meet the demand for the proposed development conservatively assuming that all visitor spaces are used all of the time. Therefore, the proposed 44 spaces is considered more than sufficient to meet the needs of the development.

3.4 Vehicle Access

As illustrated in Exhibit 3.1, resident vehicle access to the underground parkade ramp is via a driveway on Connaught Crescent located on the northeast corner of the site. This parkade will

¹

http://www.metrovancouver.org/boards/Regional%20Planning%20and%20Agriculture/Regional_Planning_and_Agriculture-June_8_2012-Agenda.pdf

accommodate parking for the single family unit, and the multi-family units, as well as the visitor parking for the site.

3.5 Parking Design Review

Exhibit 3.2 shows the proposed underground parking layout that will serve the residential and visitor parking. **Exhibits 3.3** and **3.4** show inbound and out vehicles paths for the most constrained parking spaces within the parkade.

All of the stalls can be accessed with either one inbound motion or a simple back in movement; however some of outbound movements are more constrained. Vehicles exiting from spaces 24 – 25, and 36 – 37 have to conduct 4-point turns in order to turn around in the parking aisle. While the stalls can be exited with a 4-point turn, this maneuver is unlikely to be common. Drivers may learn to back into these spaces if there is an empty adjacent stall on their inbound path, or if they have driven straight into the stalls, back into an adjacent empty stall when they are exiting.

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Exhibit 3.2 Parking Layout

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Crescentview Drive TIS
October 2015 Scale NTS



[Design Vehicle: 2010 Ford Taurus for standard spaces, 2015 Honda Civic for small car spaces]

Exhibit 3.3 Inbound Vehicle Paths

6100.01
October 2015
Crescentview Drive TIS
Scale NTS



[Design Vehicle: 2010 Ford Taurus for standard spaces, 2015 Honda Civic for small car spaces]

Exhibit 3.4 Outbound Vehicle Paths

6100.01

Crescentview Drive TIS
October 2015 Scale NTS

4. FUTURE CONDITIONS

The proposed development is expected to generate new vehicles trips on the study area road network. The potential impact that these generated trips will have on the road network is reviewed in the section below.

4.1 Trip Generation

The District of North Vancouver has provided Bunt with recommended trip rates for multi-unit residential developments to use for this analysis. As shown in past Bunt reports, the District's trip rates are an accurate and conservative estimate for multi-unit developments in the Edgemont area. The District's supplied trips rates have been used for the remainder of the analysis.

The net trip generation was then calculated for the development, as the removal of the existing single family homes on the site will influence the total amount of trips generated with the development. This is shown in **Table 4.1** below.

Table 4.1: Net Trip Gain

Trip Rate Source	Units	Peak Hour	Trip Rate/ Unit			Trips		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Existing – Single Detached Housing	2	AM	0.19	0.56	0.75	0	1	2
		PM	0.63	0.37	1.00	1	1	2
Proposed Development – Multi Unit Residential	26	AM	0.16	0.39	0.55	4	10	14
		PM	0.41	0.26	0.67	10	7	17
Net Trip Gain	+24 Units	AM	-	-	-	4	8	12
		PM	-	-	-	9	6	15

As shown in Table 4.1, the site is anticipated to generate a net increase of 12 vehicle trips in the AM and 15 vehicle trips in the PM peak hour periods.

This net trip generation represents roughly one additional vehicle trip every four minutes during both peak periods, and is not likely to have a noticeable impact on the operation of the study intersections. As a result, the future and current performance of the study intersections has not been presented in this letter.

There is however significant development occurring in the Edgemont Village neighbourhood that should be noted. The Edgemont Seniors living complex is under construction, and this is expected to generate 22 PM peak hour trips as previously shown by BUNT. The Edgemont Village Mixed Use development will also be built in the near future, and the site is forecasted to generate 150 PM peak hour trips. There are also additional multi-unit residential developments proposed in the area.

4.2 Transportation Network Improvements

The *District of North Vancouver Transportation Plan (2014)* highlights planned improvements for all modes of transportation. The proposed pedestrian, cycling, transit and vehicle related improvements for the study area are illustrated in **Exhibit 4.1**.

The Walking Plan identifies Edgemont Boulevard north of Ridgewood Drive and Ridgewood Drive east of Edgemont Boulevard as areas for sidewalk improvement. There are no timelines provided indicating when sidewalk improvements would be undertaken, however the improvements would likely come with redevelopment projects and or public works projects in the area.

As stated earlier, sidewalks are planned to be placed along the site frontages of Connaught Crescent and Crescentview Drive with the proposed redevelopment of the site and would connect to existing sidewalk networks at adjacent sites.

As previously noted, there are currently no bicycle routes adjacent to the development site, which indicates that this area is deficient of basic bicycle provisions. However, the Transportation Plan recommends both Edgemont Boulevard and Ridgewood Drive for future on-street bike improvements. These future bicycle routes and development of a planned cycling network in the district will improve cycling accessibility to the site and provide another transportation option for future residents.

A future Frequent Transit Network section is also planned for Ridgewood Drive and Edgemont Boulevard. The Frequent Transit Network is the portion of the transit network bus run at least every 15-minutes for the majority of the day.

These walking and cycling infrastructure improvements, and future increase in service frequency for transit as well as the new services and amenities that will become available on the Edgemont Mixed Use site and other future development will further encourage a mode shift for the future residents from single occupant vehicles to cycling, walking and transit. This further emphasizes that placing the parking supply more in line with the expected demands is a prudent means of supporting these sustainable and active transportation improvements and helping facilitate the transformation of Edgemont Village into a more walkable mixed-use environment.

A temporary new traffic signal has recently been installed at the intersection of Edgemont Boulevard and Ridgewood Drive to coincide with the on-going Capilano Water Main replacement project. It was found to be warranted with existing levels of traffic according to previous Bunt and DNV reports, and its future necessity will be assessed by the District at a later date. A new northbound left turn lane has been added at the intersection, and the northbound channelized right turn lane will be removed. These new and proposed upgrades are expected to improve driving conditions along Edgemont Boulevard near the site. Lastly, the District is currently contemplating parking regulation changes in Edgemont Village to help better manage efficient utilization of on-street parking in the Village.

S:\PROJECTS\TT\6100-01 3105-3115 Crescentview Dr TIS\5.0 Deliverables\5.1 Graphics

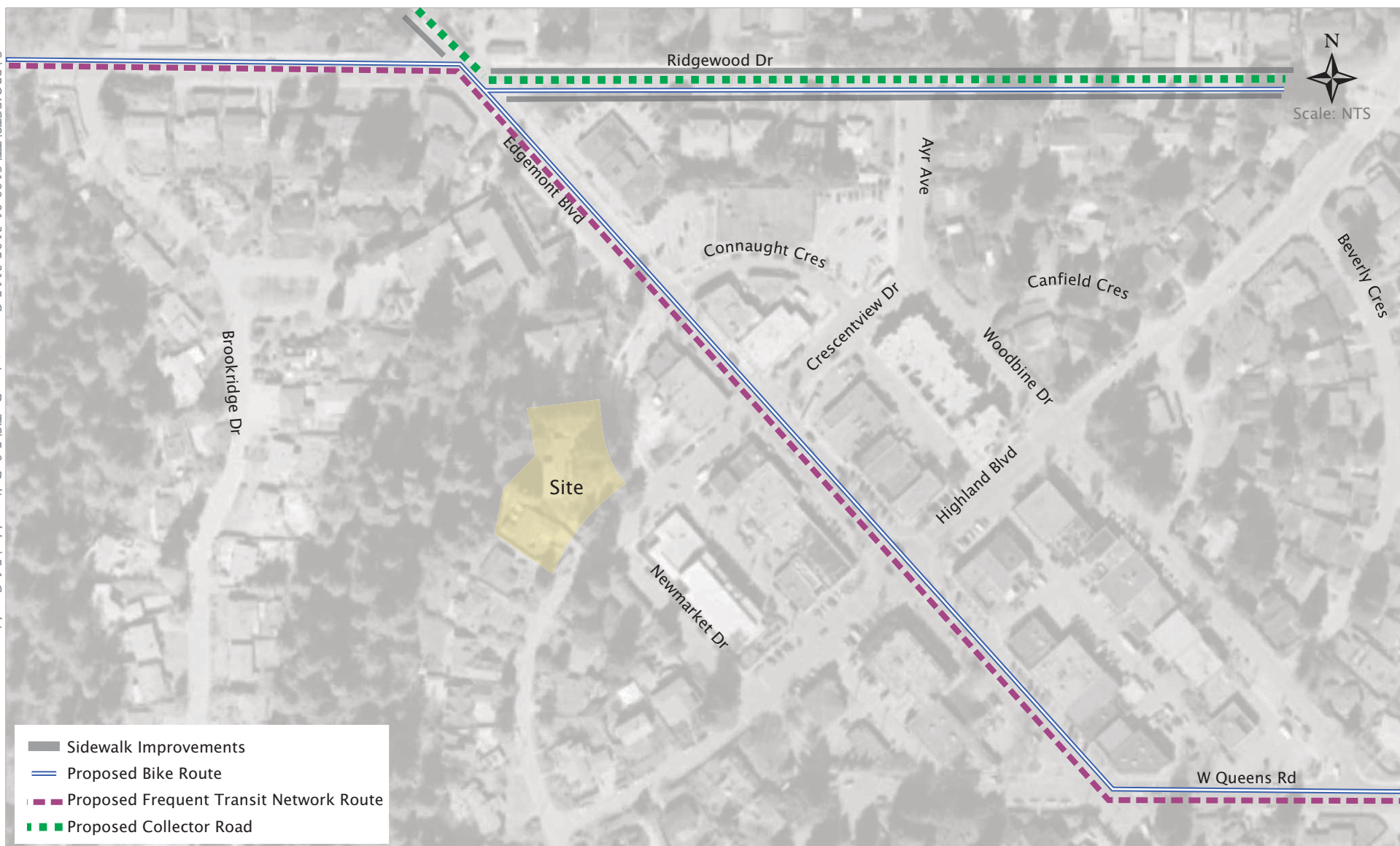


Exhibit 4.1 Future Transportation Network Improvements

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Crescentview Drive TIS
October, 2015



5. SIGHTLINE REVIEW

The driveway to the underground parking for the proposed development is located on the west side of Connaught Crescent, approximately 30 metres north of Crescentview Drive. As Connaught Crescent is one-way in the northbound direction, the site access will permit left-in left-out movements only. On-street parking is currently permitted along the west side of Connaught Crescent.

Figure 1 and **Figure 2** show the views from the proposed driveway in looking south and north respectively.

Figure 1: South View from Proposed Site Access



Figure 2: North View from Proposed Site Access



The sight distances were not analyzed in depth for the access as Connaught Crescent is a short one-way street and the primary limiting aspects for the sight lines are the on-street parking and the driveway's proximity to Crescentview Drive. The primary sightline consideration for the access is between northbound vehicles approaching vehicles exiting from the driveway. In this situation, the sight lines are currently impeded by the on-street parking (the white vehicle in Figure 1).

In order to ensure that vehicles exiting the driveway can see northbound vehicles from Crescentview Drive (and vice-versa), we recommend restricting vehicles from parking within 2 metres south of the proposed driveway flare. Given the widening of the existing driveway from 4m to 6m, and with flares on each side this is expected to result in the loss of approximately one on-street parking space, but will help to ensure that sightlines are adequate for the site access.

Another important access parameter is the corner clearance between the site access and Crescentview Drive. The Transportation Association of Canada (TAC) provides guidelines for corner clearance and these are based on road classification and access location. The available corner clearance for the proposed driveway is shown in Exhibit 3.1. For the proposed access configuration and road classifications the minimum recommended TAC corner clearance is 15 metres. The proposed 30 metre corner clearance exceeds the TAC minimum value, and should provide oncoming drivers sufficient time to react to vehicles exiting from the parkade.

It is important to note that the speed of vehicles turning onto Connaught Crescent is likely to be much lower than the un-posted speed limit of 50 km/h due to the turning maneuver required the presence of on-street parking and the narrow road width. The increasingly urban characteristic of Edgemont Village also means that drivers will become more aware of residential accesses and will adjust their driving habits accordingly.

6. CONCLUSIONS

The development plan proposes to redevelop the site into one single-family unit, and a 25-unit multi-family residential complex, with underground parking for 44 vehicles (2 of which provided in an enclosed garage for the single family unit) including visitor parking for 6 vehicles. Bicycle parking will be accommodated in a 26 space secure bike room in the underground parking for Class 1 spaces and with 5 Class 2 parking spaces just off Connaught Crescent near the building entrance at ground level.

The development is seeking a parking relaxation of 8 spaces from the Bylaw requirement of 52 spaces. A review of parking demand based on vehicle registration data from ICBC, and local surveys from the Metro Vancouver Apartment Parking Study indicates that future parking demand for the development is around 39 spaces conservatively assuming that all of the visitor spaces would be in use all of the time. The proposed 44 parking spaces is therefore deemed more than sufficient to meet the expected demands of the development, and is in line with transportation goals of the District and Edgemont Village specifically to increase walking, cycling and transit mode shares while reducing automobile dependency and improving the overall walkability of Edgemont Village.

The proposed development will generate few additional vehicle trips over existing conditions (i.e. only 12 net new vehicle trips in the AM peak hour, and 15 net new vehicle trips in the PM peak hour), such that they will not have a noticeable impact on the existing operations of the intersections.

There are currently no bicycle routes adjacent to the development site, which indicates that this area is deficient of basic bicycle provisions. However on-street bike lanes are planned by the District for Edgemont Boulevard, and Ridgewood Drive, as well as further improvements to the bicycle network in the District.

Sidewalks are present along most blocks in the study area closer to the commercial centre on Edgemont; however there are currently no sidewalks on the site frontages. The development plan proposes new sidewalks on both Connaught Crescent and Crescentview Drive on the site frontages to connect with the existing adjacent sidewalk network.

Bus stops for the #232 and #246 are located close to the site and provide connections to Lonsdale Quay, downtown Vancouver, and other places in the region. While there is currently some rerouting in place for these routes, and other routes in the area due to the Capilano Water Main project, they are expected to return to normal operations before construction begins on the development site. These existing and proposed pedestrian, cyclist and transit amenities help to provide alternative access options to the site for non-automobile users.

A temporary new traffic signal has recently been installed at the intersection of Edgemont Boulevard and Ridgewood Drive to coincide with the on-going Capilano Water Main replacement project, and

its future necessity will be assessed by the District at a later date. A new northbound left turn lane has been added at the intersection, and the northbound channelized right turn lane will be removed which all will combine to improve vehicle flow in the area.

The site's underground parking was assessed using AutoTURN and found to function sufficiently for the development, although there are a couple of spaces which have been identified that are challenging to exit from, and may need some further design review. Vehicles are able to travel inbound and outbound on the parking ramp and within the parkade independently without conflict.

A sightline review was carried out for the location of the proposed driveway. It is recommended that a slight setback (i.e. 2m) be implemented from the edge of the south driveway flare for parking on the west side of Connaught Crescent to allow for better visibility between approaching northbound vehicles and vehicles exiting the site driveway.

In summary, the additional site traffic expected to be generated by the proposed development is not anticipated to have a noticeable impact on the operational conditions of the surrounding road network, while the proposed reduced parking supply is expected to meet the demands of the development. The alternate transportation connections in the area will improve with the new pedestrian, and bicycle facilities and with the addition of a FTN route near the site. Finally, site's vehicle access and underground parking is anticipated to function sufficiently, as noted above.



EDGEMONT VILLAGE
CONSTRUCTION IMPACT MITIGATION STRATEGY
(CIMS)

3105 - 3115 Crescentview Drive
North Vancouver, British Columbia

Mr. Mike Rakis
5123 Redonda Drive, North Vancouver, BC
Phone: 604-209-1292 E-mail: amrakis@shaw.ca

Prepared by:



CONSTRUCTION IMPACT MITIGATION STRATEGY
MARCH 11, 2016

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1. Overview

This Construction Impact Mitigation Strategy (CIMS) has been prepared by Webster Engineering Ltd. for the proposed residential development at 3105-3115 Crescentview Drive, in the Edgemont Village neighbourhood of the District of North Vancouver. The purpose of this CIMS is to minimize the negative impact to the residents and visitors in the immediate vicinity of the construction zone. The project will soon be considered for Rezoning, and a more detailed submission of this report will be developed in more detail and approved by the CIM Team prior to a building permit being issued. For location map, see Appendix C '*Site Location Map & Neighbour Notification Area*'.

Project Description

3105-3115 Crescentview Drive in Edgemont Village (the project) is a strata development including a single family residence and a three (3) storey multi-family residential building with one (1) level of underground parking. The project will be built at the western edge of the Edgemont Village commercial district. The site has been planned for multiple family development in the old Official Community Plan as well as in the current Official Community Plan and is located adjacent to a similar building. The project has been processed through a rezoning application and development permit process over the past three years with community engagement and notification throughout.

It is understood that this site is at the interface of commercial and residential districts in and adjoining (Connaught-12 meter and Crescentview-15 meter) well established roads that carry business as well as local residential active and vehicular traffic. Connaught Crescent is a one way northbound street with curb-side parking and Crescentview has a usable pavement width as well. Pedestrian access along the road perimeter of the site will likely need to be curtailed during construction for safety reasons unless the District's Construction Impact Managers will allow lane closures.

Project Statistics

Site Area: 24,374 sq.ft.
Proposed maximum building height: 3 storeys/ 36'-0"
Number of single family residences: 1
Number of multi-family units: 25
Parking stalls: 46, including 6 visitor stalls
Bicycle stalls: 26
Construction Duration: 15 months

Trade Parking

Trade Parking will be located on a vacant lot at the northwest corner of the intersection of W. Queens Road and Woodbine Drive (Petro Canada Site). At no time will trades occupy Edgemont Village parking or street parking. For trade parking location, see Appendix B *'Traffic Management Plan & Work Schedules'*

Truck Routes and Volumes

Capilano Road via Crescentview, Edgemont and Ridgewood Drive, all Major Arterials in the District's Road Classification system, are the likely routings for trucks coming from and going to the site. From Capilano Road trucks will enter the Highway System at the interchange with Highway 1. For details see Appendix A *'Truck Routing Plan'*.

Truck volumes during site cleaning/ demolition, peak excavation and concrete pouring, the first two (2) months of the schedule, will be approximately 15-20 Standard Dump Trucks per day working within established DNV hours of operation requirements. Approximately the same volume of smaller truck and panel van access will be required throughout the building construction period.

Site Activity

During the construction there will be a pavement width of 3.5m retained on the one way traffic on Connaught Crescent, and 6.4m of two way traffic on Crescentview Drive. For details see Appendix B *'Construction Staging & Traffic Management Plan'*. The only road closures will be during the roadworks at the end of the construction phase, and during the sanitary main upgrades on Connaught Crescent and Crescentview Drive.

Project Team

Developer:	Mike Rakis
Architect:	Raymond Letkeman Architects Inc.
Landscape Architect:	Forma Design Inc.
Traffic/ Parking:	Bunt & Associates Ltd.
Civil Engineer:	Webster Engineering Ltd.
Environmental:	Arrowhead Environmental Consultants
Geotechnical:	Ward Philips Engineering
Energy/Green	
Building Strategy:	E3 Eco Group
Water Sys. Analysis:	GeoAdvice Inc.
Sanitary Sewer:	Aecom

Wildfire DPS Report: BA Blackwell
Arborist: Mike Fadum
Surveyor: Hobbs Winter MacDonald Land Surveys
Streetlighting: DMD and Associates Ltd.
Contractor: To be determined in future

2. Part A – Project Details

Description of Work and Sequencing

The project will consist of three (3) main stages of construction. Details will be provided by the Contractor at Building Permit. Trade parking will be accommodated offsite throughout construction. See Trade Parking above.

- Demolition 1-4 vehicles
- Excavation 4-6 vehicles
- Construction 10-15 vehicles
- Off-Site Works 3-4 vehicles

Off-Site Civil Works

The proposed development will require service connections for storm, sanitary, watermain, and underground hydro, telephone and gas utilities. Four (4) streetlights will be added to the development frontage. One (1) fire hydrant will be added to the western corner of the Connaught Crescent and Crescentview Drive intersection. The sanitary sewer in front of the development is to be replaced. Sidewalks and updated curb and gutter will be added along the front of the property. The scheduling of this work will be coordinated between the District of North Vancouver crews and the future Contractor at Building Permit.

3. Part B – Schedule

Estimated Schedule

Construction is anticipated to take 15 months from the start of site clearing and demolition to occupancy in three phases as follows:

Phase 1: Demolition and Excavation (2 months)

Two single family dwellings and overgrown on-site landscaping will be removed and a one level parking garage excavation on the edge of a required riparian setback and near the adjoining lots and fronting streets.

Phase 2: Building Construction (10 months)

Including on-site servicing and civil work, and landscaping plus riparian restoration, the apartment building is expected to be constructed over a ten month period with the bulk of the on-site activity concluded over this period.

Phase 3: Off-site Works (3 months)

In co-ordination with the District of North Vancouver and utility companies as required the agreed upon off-site works will be completed in a three month period. See above Off-Site Civil Works for overview.

Project Construction Hours

The project will be constructed within the time frames allowed by the District of North Vancouver through its Noise Regulation Bylaw (no. 7188) and any amendments thereto. No night work is expected at this time and any required for on-site construction will only occur after approval by the authorities having jurisdiction. Noise variance to be applied 1 month in advance.

Monday – Friday:	7am-8pm
Saturday:	9am-5pm
Sunday and statutory holiday:	No Work

4. Part C – Mobility Impact

Active and vehicular traffic will be impacted by this development. Only short low traffic streets immediately border the site, but these routes carry both residential and commercial traffic and have long formed part of the Edgemont circulation system. Because this site borders on private lots on the other three sides, the streets to the east will be required for all of the off-site construction activity required to build this long planned multiple family development. Vehicular circulation will have to be adjusted from time to time during the course of on-site and off-site work associated with this project. These traffic impacts will be staged to minimize public inconvenience in co-operation with the District's Construction Impact Mitigation Strategy (CIMS) team.

Similarly, pedestrian, mobility assist vehicle (scooters) and bicycle routes will require reconsideration during construction and in liaison with DNV Engineering staff. Neither Crescentview nor Connaught are identified as Routes in the District's Bicycle Master Plan. Edgemont is a very pedestrian, cycling and seniors friendly neighbourhood however and the pattern of local streets provides well established short cut routes to local and from local attractions like the library and local institutions. The owners are mindful of this and will work with District staff and the local Community Association and others who identify themselves in the detailed application process to establish a plan to minimize access for residents and others during construction.

A temporary paved building zone will be prepared within the District ROW along the Project frontage. Boulevard landscaping will be removed and boulevard lowered to road height. For details see Appendix B '*Construction Staging & Traffic Management Plan*'.

5. Part D – Community Impact

It is clear that demolition and construction activities on this property will create externalities, specifically for two immediately adjoining residential properties and to nearby residents, commercial businesses and their patrons. Working with the District CIMS team, the project Contractor, the Civil Engineer, the Traffic Consultant, and the owner will ensure a variety of mitigation measures (Best Management Practices) are in place to reduce the impact of construction activities on these neighbours:

- Fencing, hoarding, signage and notifications will be established to communicate the ongoing construction activity and to protect those off-site from on-site activities
- As required by the District CIMS Team, pedestrian and other permitted active transportation routes will be maintained
- Emergency vehicles will have priority access
- Traffic Management Plan will specify the access and egress for the site and enter/exit procedures to be followed

- The General Contractor will arrange to be able to communicate with truck operators to prohibit site access when it has been interrupted

Noise Control

Construction will be confined to from 7am to 5pm in order to reduce the noise impacts on the neighbouring residents, many of whom will be at work during these hours. Any work past these hours will be restricted to low noise activities. All work will be within the limits of the District Noise Regulation Bylaw (no. 7188)

Dust Control

On-site sediment control measures such as wheel washing, siltation control fencing, covering soils with poly and dry soil watering will be employed. Construction methods such as dust bags and filters will be used to reduce the dust produced by machinery.

Litter Control

Contractor to arrange for weekly garbage removal and will be responsible for overseeing the removal of garbage by subcontractors.

Storm Water Run-off

The Sediment and Erosion Control plan will be implemented by the Contractor and will be supervised by the Civil Engineer. The measures outlined on the plan will prevent any discharge of sediments into the storm water system.

6. Part E – Communication

Neighbourhood consultation and Community Group involvement has been underway for some time. There is broad community awareness of this proposal and an understanding of the impacts that will occur as construction proceeds. Additional communication will be undertaken through the detailed application process and a Plan for ongoing Contact and availability established before construction commences.

Contractor will distribute a letter to neighbours in surrounding properties with contact information and outlining anticipated construction impact. On site construction signage will communicate safety, traffic patterns and the Contractor's contact information. For neighbour notification area, see Appendix C *'Site Location Map & Neighbour Notification Area'*.

7. Part F – Monitoring

A Transportation Engineer will be retained as required to review and monitor traffic services during the course of the project.

8. Part G – Coordination

Because several projects may be underway leading up to this project's construction start, the Owner and Contractor will work with the District's CIMS team to ensure that work proceeds in a coordinated fashion to the satisfaction of the District of North Vancouver. Date of start of construction is unknown at this time, so coordination will be done prior to Building Permit.

9. Part H – Traffic Management Plan and Work Schedules

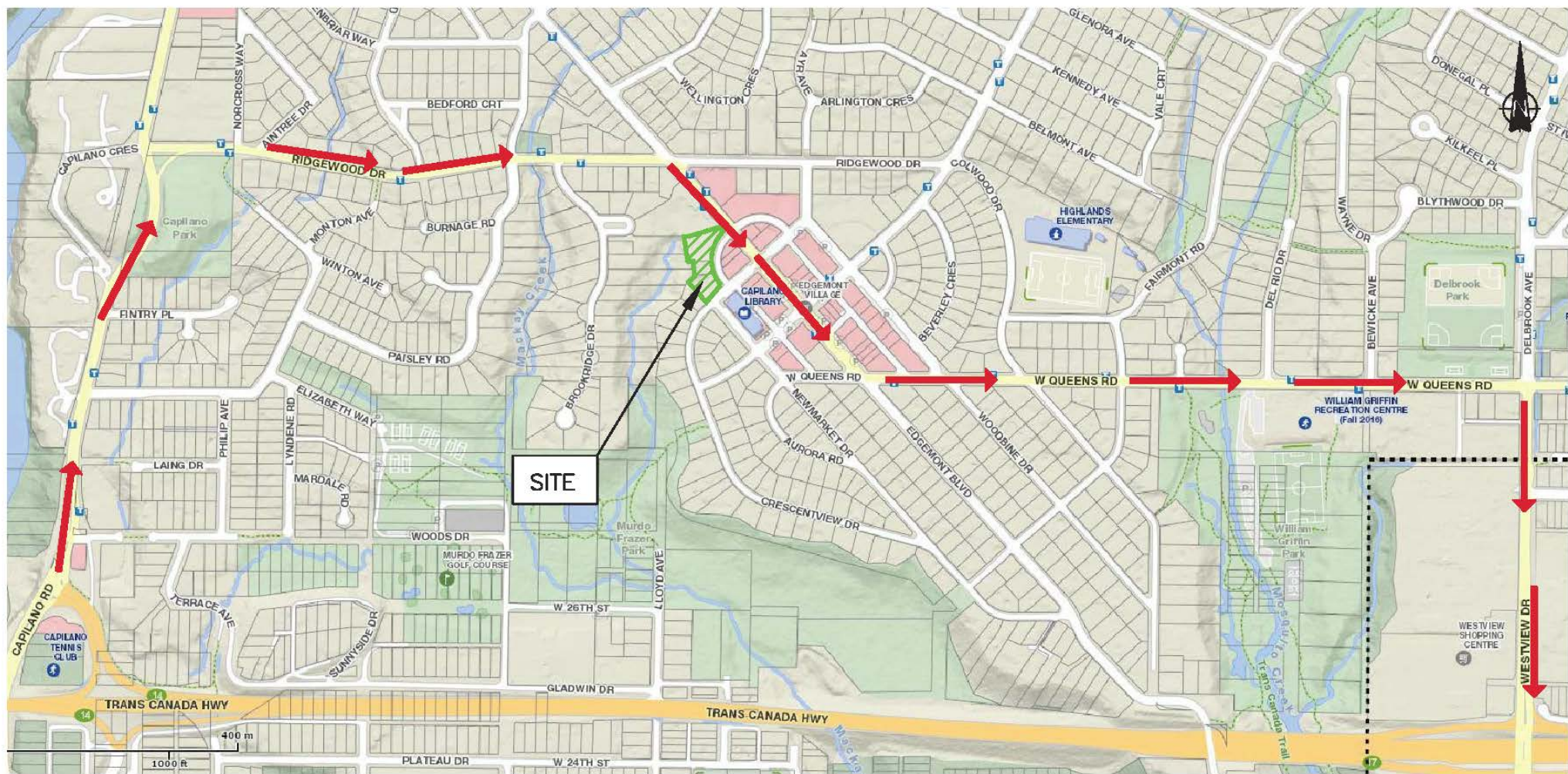
Webster Engineering will submit a detailed Traffic Management Plan at Building Permit outlining how Contractor will coordinate works with other developments that will be under construction at the same time as the subject property.

10. Appendices

- A. *Truck Routing Plan*
- B. *Construction Staging & Traffic Management Plan*
- C. *Site Location Map & Neighbour Notification Area*

APPENDIX A

TRUCK ROUTING PLAN



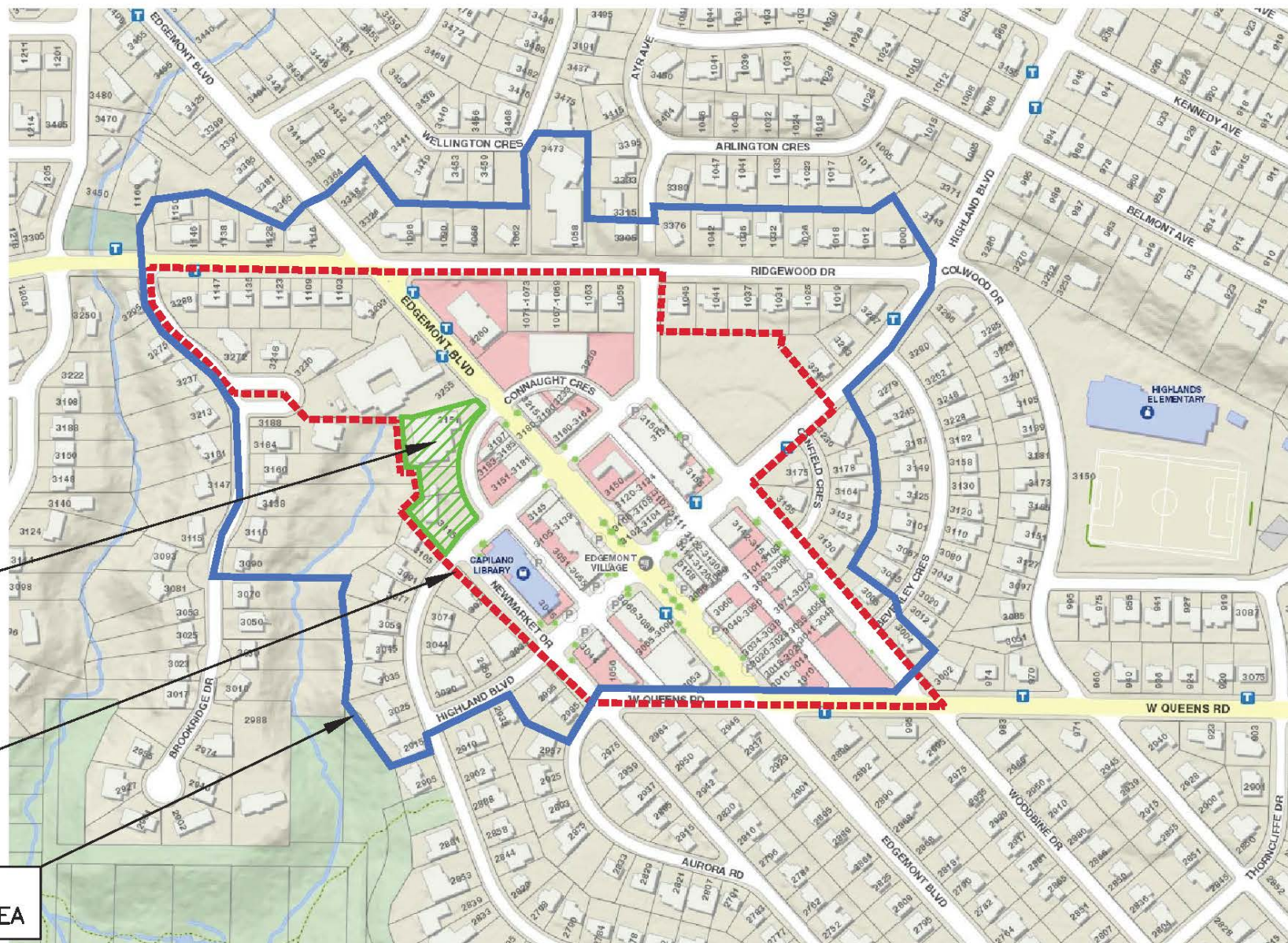
Truck Routing Plan

APPENDIX B

CONSTRUCTION STAGING & TRAFFIC MANAGEMENT PLAN

APPENDIX C

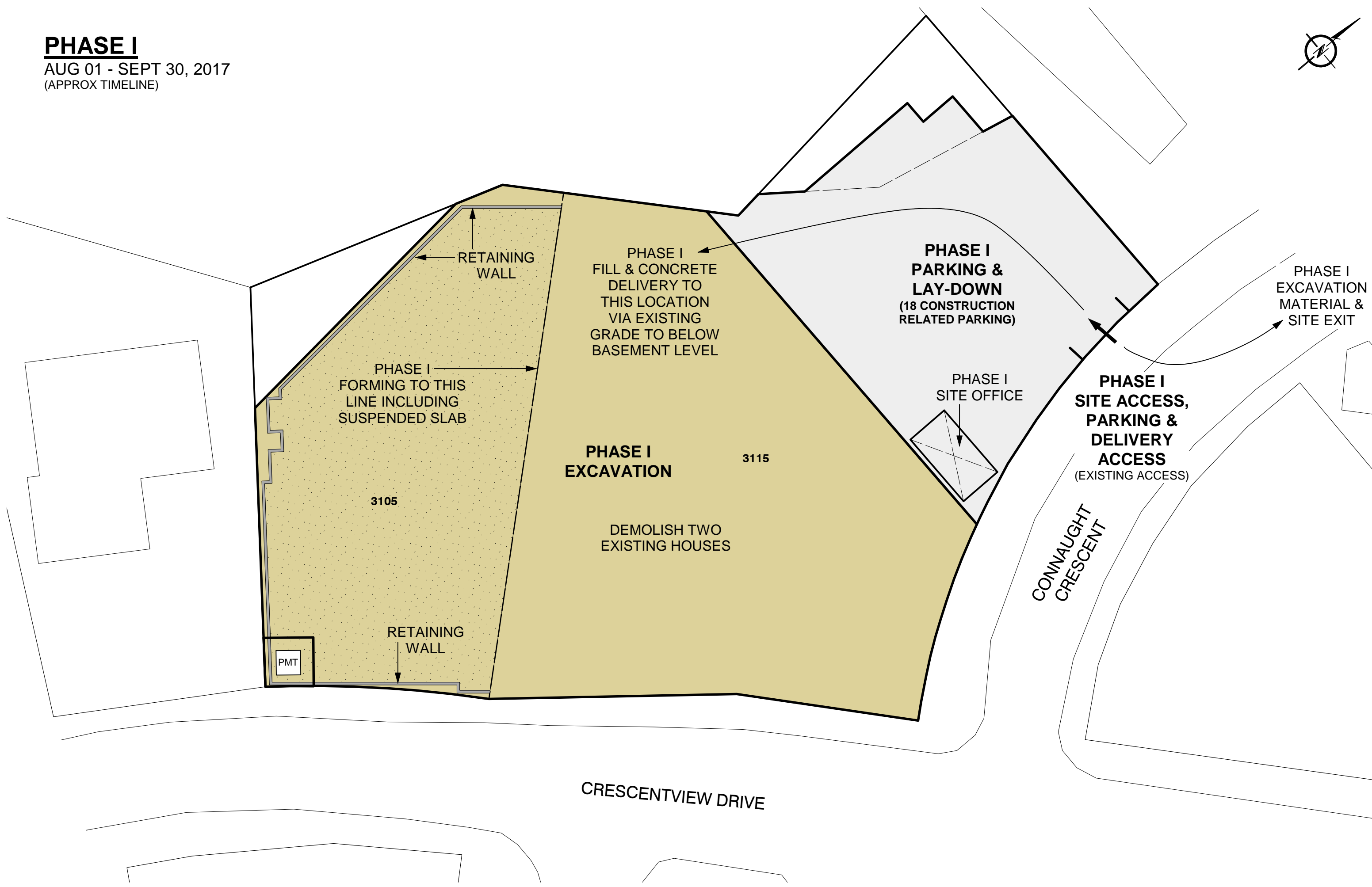
SITE LOCATION MAP & NEIGHBOUR NOTIFICATION AREA



Site Location Map &
Neighbour Notification Area

PHASE I

AUG 01 - SEPT 30, 2017
(APPROX TIMELINE)



PHASE I
FORMING TO THIS
LINE INCLUDING
SUSPENDED SLAB

3105

PMT

RETAINING
WALL

RETAINING
WALL

PHASE I
EXCAVATION

3115

DEMOLISH TWO
EXISTING HOUSES

PHASE I
FILL & CONCRETE
DELIVERY TO
THIS LOCATION
VIA EXISTING
GRADE TO BELOW
BASEMENT LEVEL

PHASE I
PARKING &
LAY-DOWN
(18 CONSTRUCTION
RELATED PARKING)

PHASE I
SITE OFFICE

PHASE I
SITE ACCESS,
PARKING &
DELIVERY
ACCESS
(EXISTING ACCESS)

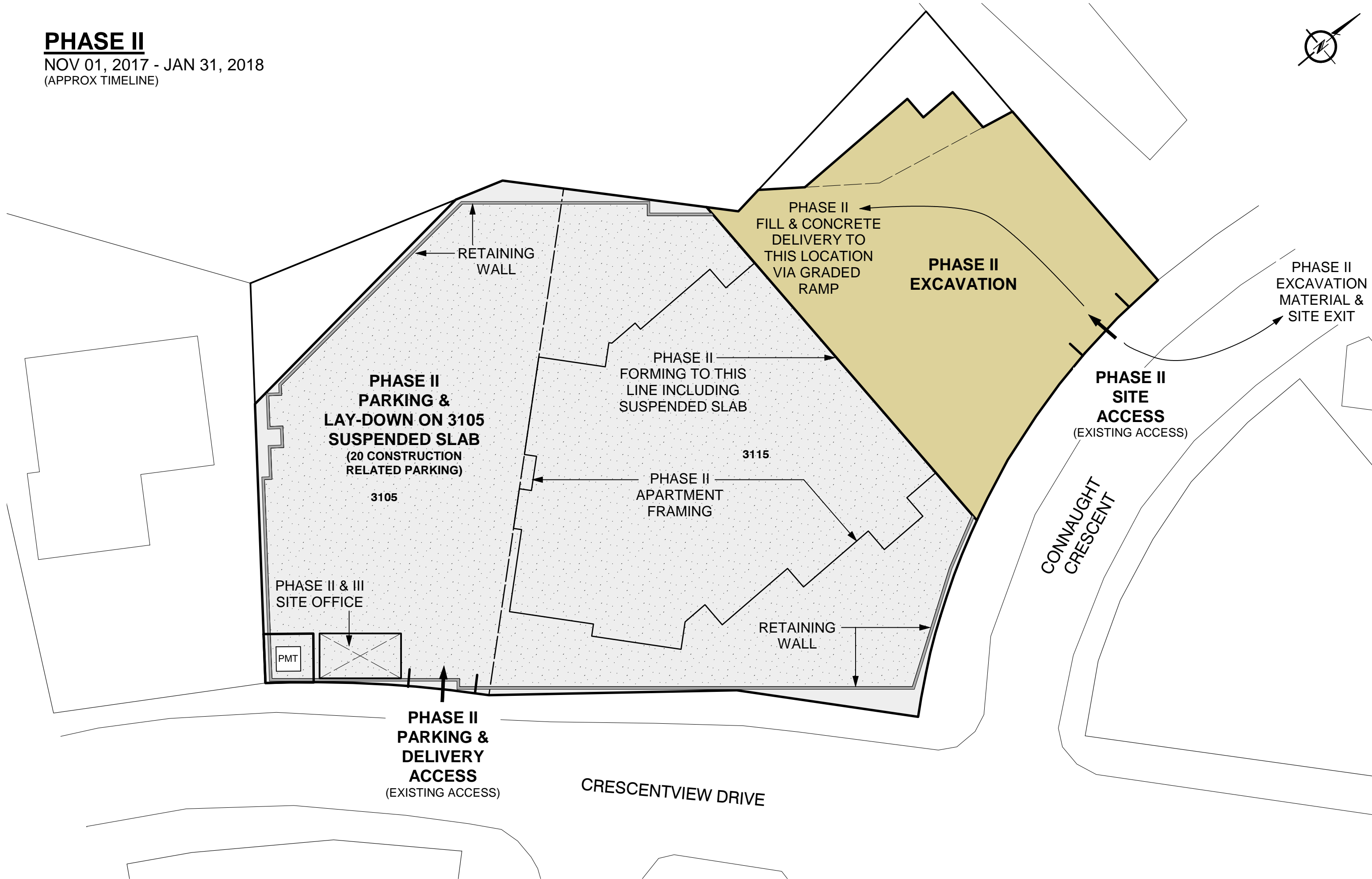
PHASE I
EXCAVATION
MATERIAL &
SITE EXIT

CONNAUGHT
CRESCENT

CRESCENTVIEW DRIVE

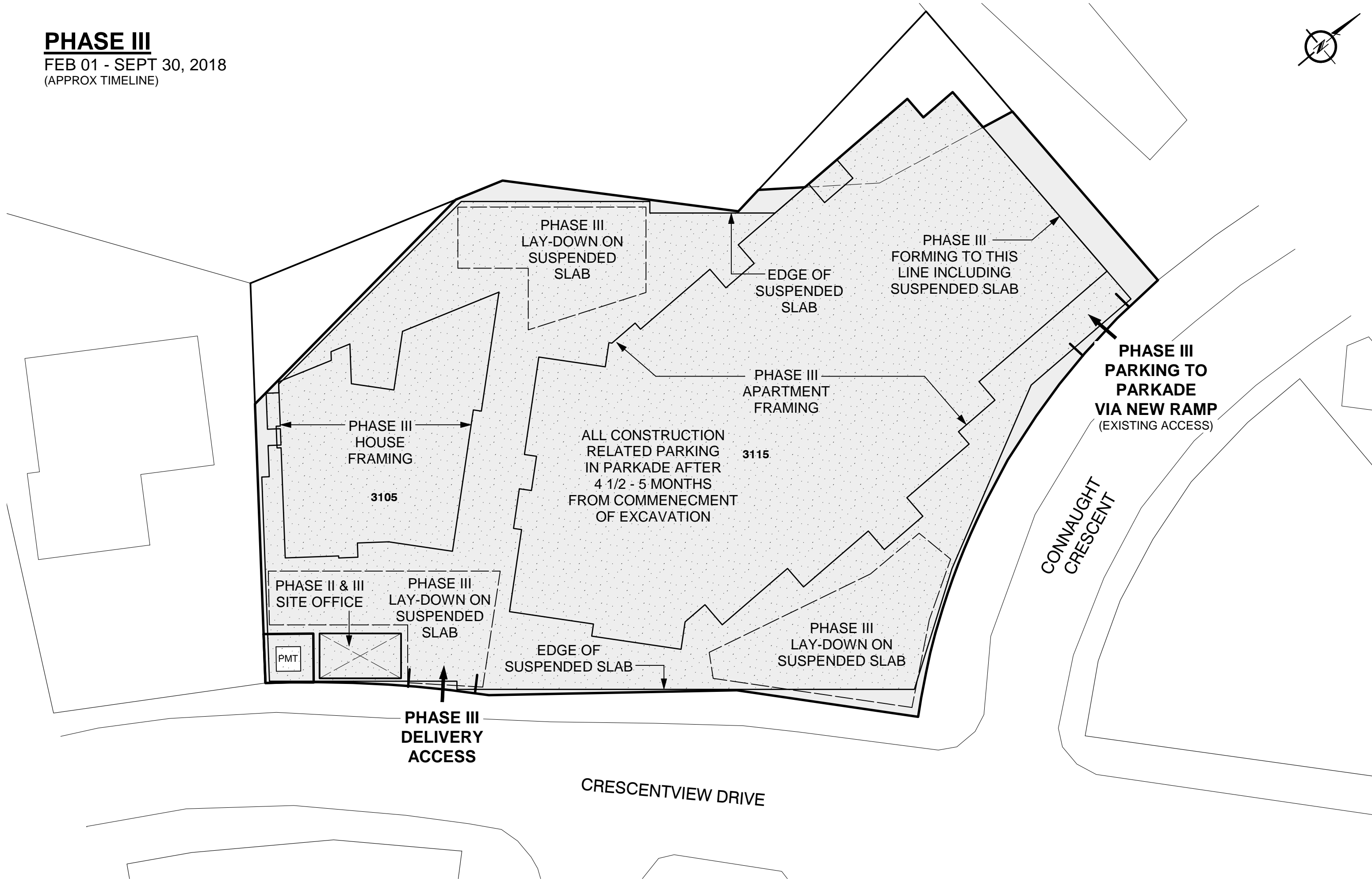
PHASE II

NOV 01, 2017 - JAN 31, 2018
(APPROX TIMELINE)



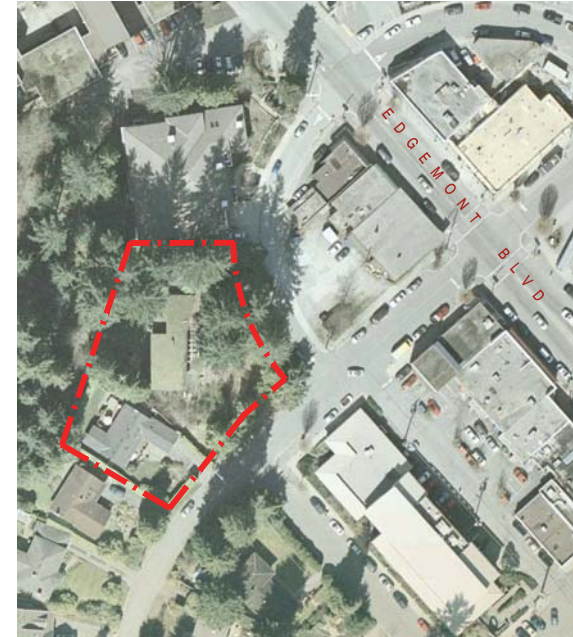
PHASE III

FEB 01 - SEPT 30, 2018
(APPROX TIMELINE)



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 July 29, 2016



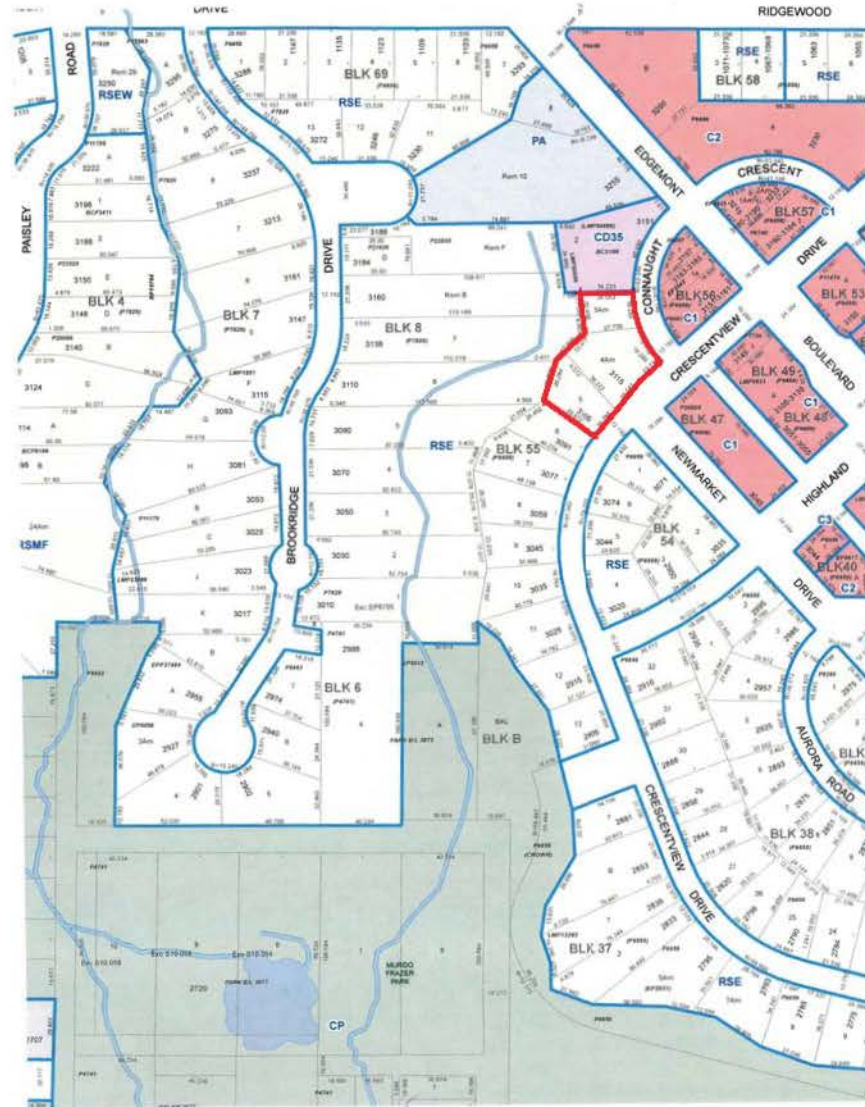
EDGEMONT VILLAGE
 3105/3115 Crescentview
 North Vancouver, BC

3105/3115 CRESCENTVIEW

Edgemont Village, North Vancouver

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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Zoning Map

July 29, 2016

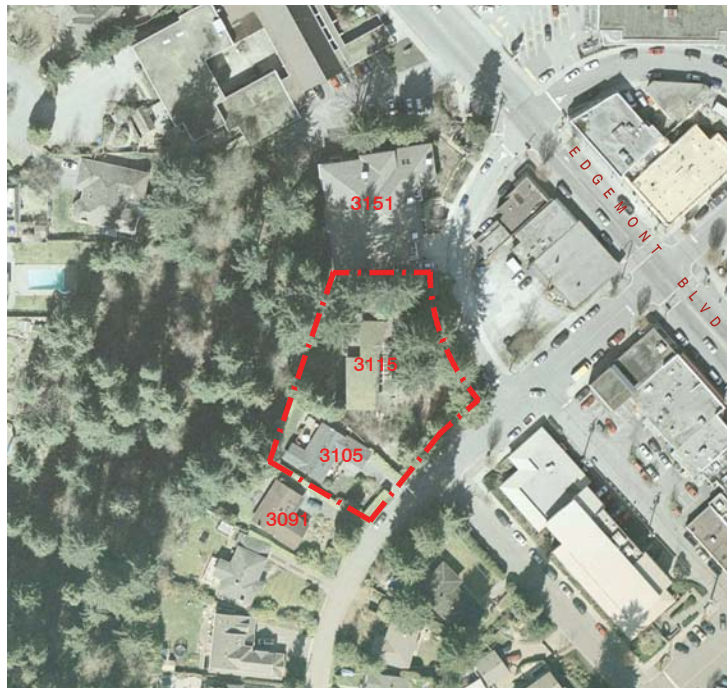
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Revisions

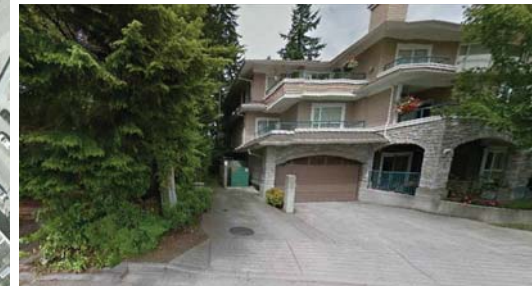
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**3105 CRESCENTVIEW
 DESIGNATION RES2
 (DETACHED RESIDENTIAL)**

**3115 CRESCENTVIEW
 DESIGNATION RES5
 (LOW DENSITY APARTMENT)**



**3091 CRESCENTVIEW
 ZONING CLASSIFICATION RSE**



**3151 CONNAUGHT
 ZONING CLASSIFICATION CD 35**

**EDGEMONT
 VILLAGE**
 3105/3115 Crescentview
 North Vancouver, BC

**Context and
 Aerial View**

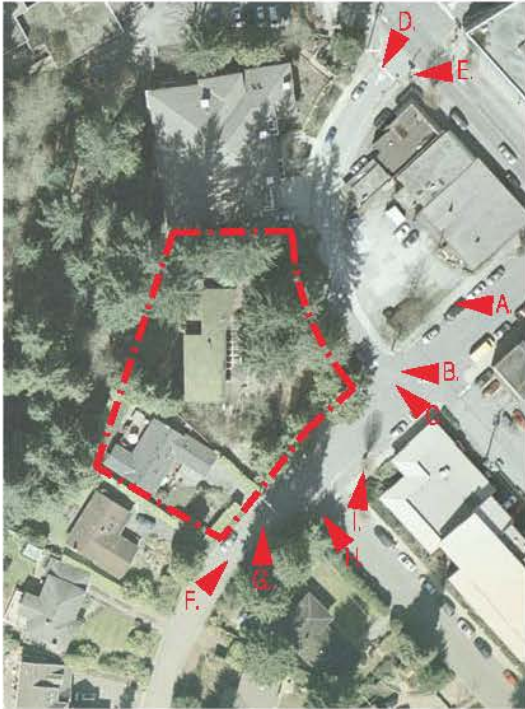
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July 29, 2016



A.



B.



C.



D.



E.



F.



G.



H.



I.



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EDGEMONT VILLAGE
 3105/3115 Crescentview
 North Vancouver, BC

Character Study

July 29, 2016

SK-0.5

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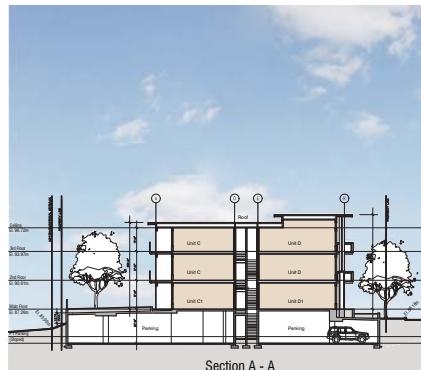
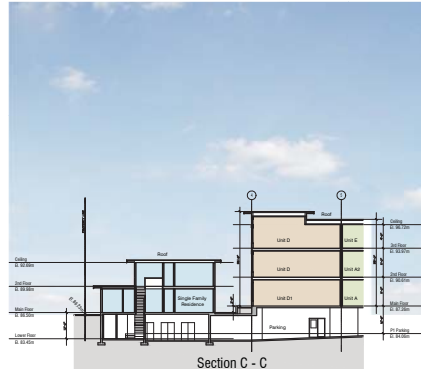


EDGEMONT VILLAGE
 3105/3115 Crescentview
 North Vancouver, BC

Model View

July 29, 2016

SK-0.6



RATIONALE FOR THE PROPOSAL

The revised application is located on two properties having an area of 24,374 square feet. They are strategically located within the heart of Edgemont Village and are currently occupied by older single family dwellings.

The proposal is to construct a low-rise multi-family development catering to a mix of households including empty nesters and seniors from surrounding neighborhoods and elsewhere in the District, who wish to downsize and be close to shopping, community facilities and transit. A somewhat similar development was constructed on the property immediately to the north a number of years ago.

The development comprises a total of 26 suites; 25 apartment suites in a three storey building and a separate detached single family residence. A total of 43 parking spaces are proposed; 37 resident parking spaces and 6 visitor parking spaces in a single level underground parking garage with access from Connaught Crescent near the northerly property line. The overall FAR is approximately 1.75 on the site designated for multi-family housing and 0.49 on the single family site. The site coverage is approximately 61% for the apartment building and 49% for the single family residence.

Careful attention has been given to the building design and materials to ensure a compatible fit with the adjacent apartment building and single family houses, in keeping with the desired character for Edgemont Village.

The unit designs are generally two bedrooms or larger to appeal to the households who will likely be moving from single family houses. While this is not proposed as a 'senior's development', the units will incorporate features that will make them accessible to an older population and allow aging in place.

BUILDING HEIGHTS AND SETBACKS

The apartment building is three storeys in height and the single family residence is 1 1/2 storeys.

The overall height to the top of the roof is approximately 35 feet, which is lower than the adjacent development which was approved at 47.9 feet. To further reduce the apparent height, the building has a strong, horizontal expression with changes in materials to relate to the adjacent two and three storey building forms.

The front setback is a minimum of 3.0 meters (9.8 feet) along Connaught Crescent and along Crescentview Drive and 7.6 meters (25.0 feet) setback to the single family residence. The side setback along the southerly property line is a minimum of 1.8 meters (6.0 feet), and the side setback along the northerly property line is a minimum of 2.4 meters (8.0 feet).

To the rear of the property is an inaccessible wooded ravine. For this reason, the rear setback is proposed at a minimum of 1.8 meters (6.0 feet) at the centre portion of the property, increasing to approximately 10.0 meters (32 feet).

PARKING RELAXATION

This application seeks a relaxation from the Zoning Bylaw standard. Since the subject site is located within immediate walking distance of many commercial and community facilities and two major bus routes, we believe a parking relaxation is appropriate, on the understanding that the relaxation would apply only to the resident parking. The full visitor parking requirement will be met or exceeded.

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RELATIONSHIP TO 3105 CRESCENTVIEW



CPTED OVERVIEW

Natural Surveillance.

Clearly defined public sidewalks and adjacent patio area designs encourage increased pedestrian traffic at this site, thus providing increased visual surveillance. Vehicular traffic circulation on the adjacent streets also provides further surveillance.

Hierarchy of Spaces.

Building facades immediately front the streets to provide overlook, or "eyes on the street". Adequate non-glare lighting will be provided along all walkways.

Planting design at the street will be generally restricted to the "3 and 7 rule": shrubs are less than 3 feet high and the tree canopies are above 7 feet to provide clear sightlines and limit hiding spots.

Activity Support.

The building entrance is clearly seen from the street and will have soffitt illumination. The adjacent patio areas will have a sense of separation from the entrance with retaining walls and planting edges. The proposed public plaza, located at the street intersection is considered an extension of the public environment.

With the use of extensive landscaping and wall edges, etc, access to site will be constricted, and will also be monitored by the overlook of the adjacent resident windows.



RELATIONSHIP TO 3151 CONNAUGHT CRESCENT

INCLUSION OF THE 3105 CRESCENTVIEW PROPERTY

As noted, the earlier application applied only to the 3115 Crescentview property. However, the 3105 Crescentview property was acquired to allow for an improved parking layout and for an appropriate transition to the existing single family dwelling.

Prior to purchasing the adjacent lot, the property owner had informal discussions with nearby property owners who generally indicated support for some change in designation from single family on this lot.

Initially consideration was given to a two storey apartment building on this site. However, to address any potential concerns and ensure a better relationship to the single family properties to the south, a separate structure is now proposed that will create a transition between the new apartment building and adjacent single family houses. A single family residence over a common parking structure is being proposed to better meet the needs of local residents wanting to downsize.

Both the apartment building and building on 3105 Crescentview will be included in the same strata development above the shared parking garage.

Given that the strata fees for the entire development will be allocated on a square foot basis, the smaller units will be more attractive to those wanting to downsize from a larger house but remain in the neighbourhood.

ENVIRONMENTAL CONSIDERATION AND COMMUNITY BENEFITS

A geotechnical study was prepared which confirms that soil conditions will permit the proposed form of development. An environmental study was also carried out to assess any potential impacts on a nearby stream. The revised plans have been prepared with input from the consultant and a relaxation is being sought for a minor intrusion into the required setback. To compensate for the rear yard and stream setback relaxations, the developer will provide offsetting compensation.

A feature of the earlier proposal was the addition of a sitting plaza area adjacent to the public sidewalk at the corner of Crescentview Drive and Connaught Crescent. This is again proposed if considered desirable for the community.

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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Design Rationale

July 29, 2016

SK-0.8



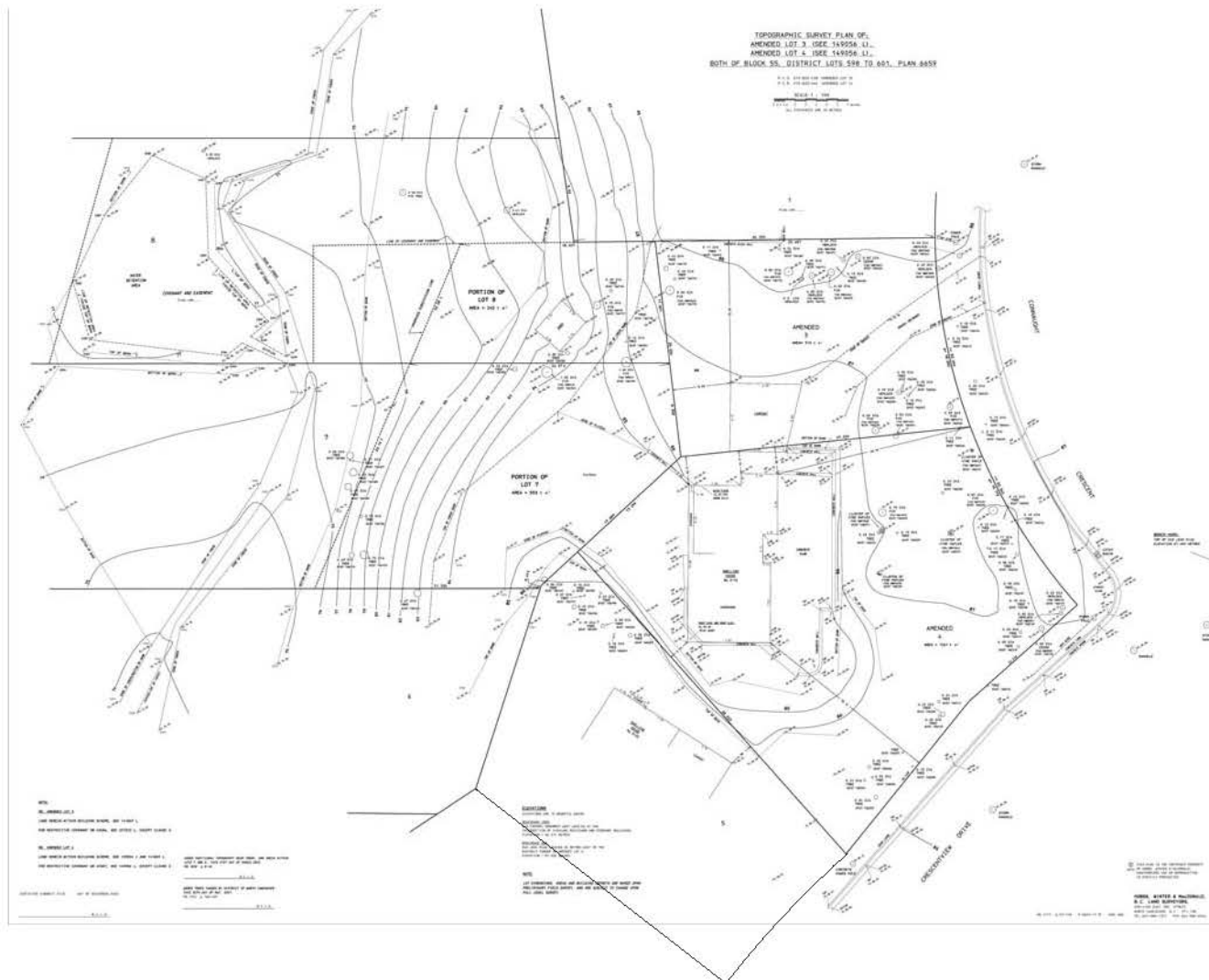
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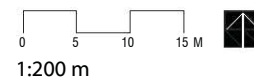
EDGEMONT
VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Context Survey Plan

July 29, 2016

SK-1.0





Development Summary

DEVELOPMENT SUMMARY
3105 - 3115 CRESCENTVIEW, NORTH VANCOUVER
RESIDENTIAL DEVELOPMENT
Revised June 30, 2016

LEGAL DESCRIPTION

AMENDED LOT 3, BLOCK 55, DISTRICT LOT 598 TO 601, PLAN 8658, PARCEL IDENTIFIER 010425-428
AMENDED LOT 4, BLOCK 55, DISTRICT LOT 598 TO 601, PLAN 8658, PARCEL IDENTIFIER 010425-444

3115 CRESCENTVIEW - 3 STOREY APARTMENT BUILDING

SITE AREA	Parcel Area	0.157 ha	0.389 acres	1,573 SM	16,932 SF
PERMITTED FAR		1.75 FAR		2,750 SM	29,631 SF
PROPOSED FAR		1.75 FAR		2,748 SM	29,581 SF

3105 CRESCENTVIEW - SINGLE FAMILY DETACHED RESIDENCE

SITE AREA	Parcel Area	0.069 ha	0.171 acres	662 SM	7,449 SF
PERMITTED FAR		0.55 FAR		361 SM	4,087 SF
PERMITTED FAR / FLOOR				217 SM	2,340 SF MAIN
				163 SM	1,755 SF UPPER

PROPOSED FAR				380 SM	4,095 SF
PARKING LEVEL AREA			EXCLUDED PARKING		
MAIN FLOOR LEVEL				2,276 SF	MAIN
UPPER FLOOR LEVEL				1,839 SF	UPPER
PROPOSED FAR		0.53 FAR		364 SM	3,915 SF

PARKING SUMMARY

REQUIRED VEHICLE SPACES	2 Space/Unit plus 0.25 Space/Unit for Visitors (included in above)	
	Total (Max. 2 spaces per unit)	46 spaces
PROPOSED VEHICLE SPACES	Resident Parking Visitor Parking Accessible Parking	39 spaces 6 spaces 1 space
	Total (2 Spaces/Unit)	46 spaces

APARTMENT BUILDING

Room Type	Parking	Main	2nd floor	3rd floor	Total Units	Net Area	Total Net Area	FAR Area	Total FAR Area	Unit Mix
A 1 Bedroom		1	0	0	1	773 SF	773 SF	773 SF	773 SF	6%
A1 1 Bedroom		0	1	0	1	750 SF	750 SF	750 SF	750 SF	3%
A2 1 Bedroom+Den		0	1	0	1	877 SF	877 SF	877 SF	877 SF	5%
B 2 Bedroom+Den		1	1	0	2	1,125 SF	2,250 SF	1,125 SF	2,250 SF	9%
B1 2 Bedroom+Den		1	1	0	2	1,155 SF	2,310 SF	1,155 SF	2,310 SF	9%
B2 2 Bedroom+Den		2	2	0	4	957 SF	3,828 SF	957 SF	3,828 SF	17%
B4 2 Bedroom		0	1	0	1	963 SF	963 SF	963 SF	963 SF	3%
C 2 Bedroom+Den		1	1	0	2	1,020 SF	2,040 SF	1,020 SF	2,040 SF	9%
D 2 Bedroom		1	1	0	2	1,016 SF	2,032 SF	1,016 SF	2,032 SF	9%
E 3 Bedroom		0	0	1	1	1,884 SF	1,884 SF	1,884 SF	1,884 SF	5%
F 3 Bedroom		0	0	1	1	1,600 SF	1,600 SF	1,600 SF	1,600 SF	5%
G 3 Bedroom		0	0	1	1	1,435 SF	1,435 SF	1,435 SF	1,435 SF	3%
H 3 Bedroom		0	0	1	1	1,487 SF	1,487 SF	1,487 SF	1,487 SF	5%
J 3 Bedroom		0	0	1	1	1,739 SF	1,739 SF	1,739 SF	1,739 SF	5%
K 3 Bedroom		0	0	1	1	1,384 SF	1,384 SF	1,384 SF	1,384 SF	5%
HUNT FLOOR		7	9	6	22					
UNIT AREA / FLOOR		7,803 SF	8,820 SF	8,238 SF			25,062 SF		25,062 SF	100%
Common Area										
Bike Storage Room		1,752 SF	1,588 SF	1,169 SF			4,519 SF		4,519 SF	excluded
Storage Locker	860 SF EXCL.									excluded
Garbage Recycling	485 SF EXCL.									excluded
Elevator Machine Room	222 SF EXCL.									excluded
Elevator Shaft	85 SF EXCL.									excluded
Lobby & Vestibule	287 SF EXCL.									excluded
Service Spaces	481 SF EXCL.									excluded
Stairs	338 SF EXCL.									excluded
GROSS FLOOR AREA		8,765 SF	10,408 SF	10,408 SF			29,581 SF	1.75 FAR	29,581 SF	
NET EFFICIENCY		79.9 %	84.7 %	88.8 %			84.7 %			

SINGLE FAMILY RESIDENCE

Room Type	Parking	Main	2nd floor	3rd floor	Total Units	Main Floor Net Area	Upper Floor Net Area	FAR Area	Total FAR Area	Unit Mix
Single Family	1	1	1	0	1	2,276 SF	1,839 SF	3,915 SF	3,915 SF	100%
HUNT FLOOR		1	1	0	1					
UNIT AREA / FLOOR	998 SF EXCL.	2,276 SF	1,839 SF	0 SF		2,276 SF	1,839 SF	0.53 FAR	3,915 SF	100%
GROSS FLOOR AREA									3,915 SF	

TOTAL SITE

Room Type	Parking	Main	2nd floor	3rd floor	Total Units	Net Area	Total Net Area	FAR Area	Total FAR Area	Unit Mix
A 1 Bedroom		1	0	0	1	773 SF	773 SF	773 SF	773 SF	4%
A1 1 Bedroom		0	1	0	1	750 SF	750 SF	750 SF	750 SF	4%
A2 1 Bedroom+Den		0	1	0	1	877 SF	877 SF	877 SF	877 SF	4%
B 2 Bedroom+Den		1	1	0	2	1,125 SF	2,250 SF	1,125 SF	2,250 SF	9%
B1 2 Bedroom+Den		1	1	0	2	1,155 SF	2,310 SF	1,155 SF	2,310 SF	8%
B2 2 Bedroom+Den		2	2	0	4	957 SF	3,828 SF	957 SF	3,828 SF	17%
B4 2 Bedroom		0	1	0	1	963 SF	963 SF	963 SF	963 SF	4%
C 2 Bedroom		1	1	0	2	1,020 SF	2,040 SF	1,020 SF	2,040 SF	9%
D 2 Bedroom		1	1	0	2	1,016 SF	2,032 SF	1,016 SF	2,032 SF	9%
E 3 Bedroom		0	0	1	1	1,884 SF	1,884 SF	1,884 SF	1,884 SF	4%
F 3 Bedroom		0	0	1	1	1,600 SF	1,600 SF	1,600 SF	1,600 SF	4%
G 3 Bedroom		0	0	1	1	1,435 SF	1,435 SF	1,435 SF	1,435 SF	4%
H 3 Bedroom		0	0	1	1	1,487 SF	1,487 SF	1,487 SF	1,487 SF	4%
J 3 Bedroom		0	0	1	1	1,739 SF	1,739 SF	1,739 SF	1,739 SF	4%
K 3 Bedroom		0	0	1	1	1,384 SF	1,384 SF	1,384 SF	1,384 SF	4%
Single Family		1	0	0	1	3,915 SF	3,915 SF	3,915 SF	3,915 SF	4%
HUNT FLOOR		8	9	6	23					
UNIT AREA / FLOOR		8,279 SF	10,439 SF	8,238 SF			26,977 SF		26,977 SF	100%
Common Area										
Bike Storage Room		1,752 SF	1,588 SF	1,169 SF			4,519 SF		4,519 SF	excluded
Storage Locker	860 SF EXCL.									excluded
Garbage Recycling	485 SF EXCL.									excluded
Elevator Machine Room	85 SF EXCL.									excluded
Elevator Shaft	82 SF EXCL.									excluded
Lobby	287 SF EXCL.									excluded
Service Spaces	481 SF EXCL.									excluded
Stairs	338 SF EXCL.									excluded
GROSS FLOOR AREA		11,041 SF	12,047 SF	10,408 SF			33,496 SF	1.37 FAR	33,496 SF	
NET EFFICIENCY		84.0 %	88.8 %	88.8 %			86.0 %			



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Revisions

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July 29, 2016

EDGEMONT
VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Development Summary

July 29, 2016

SK-1.2

Revisions

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July 23, 2016



EDGEMONT VILLAGE

3105/3115 Crescentview
North Vancouver, BC

Site Plan

1/16" = 1'-0"
July 29, 2016

SK-1.3

Revisions

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July 23, 2016

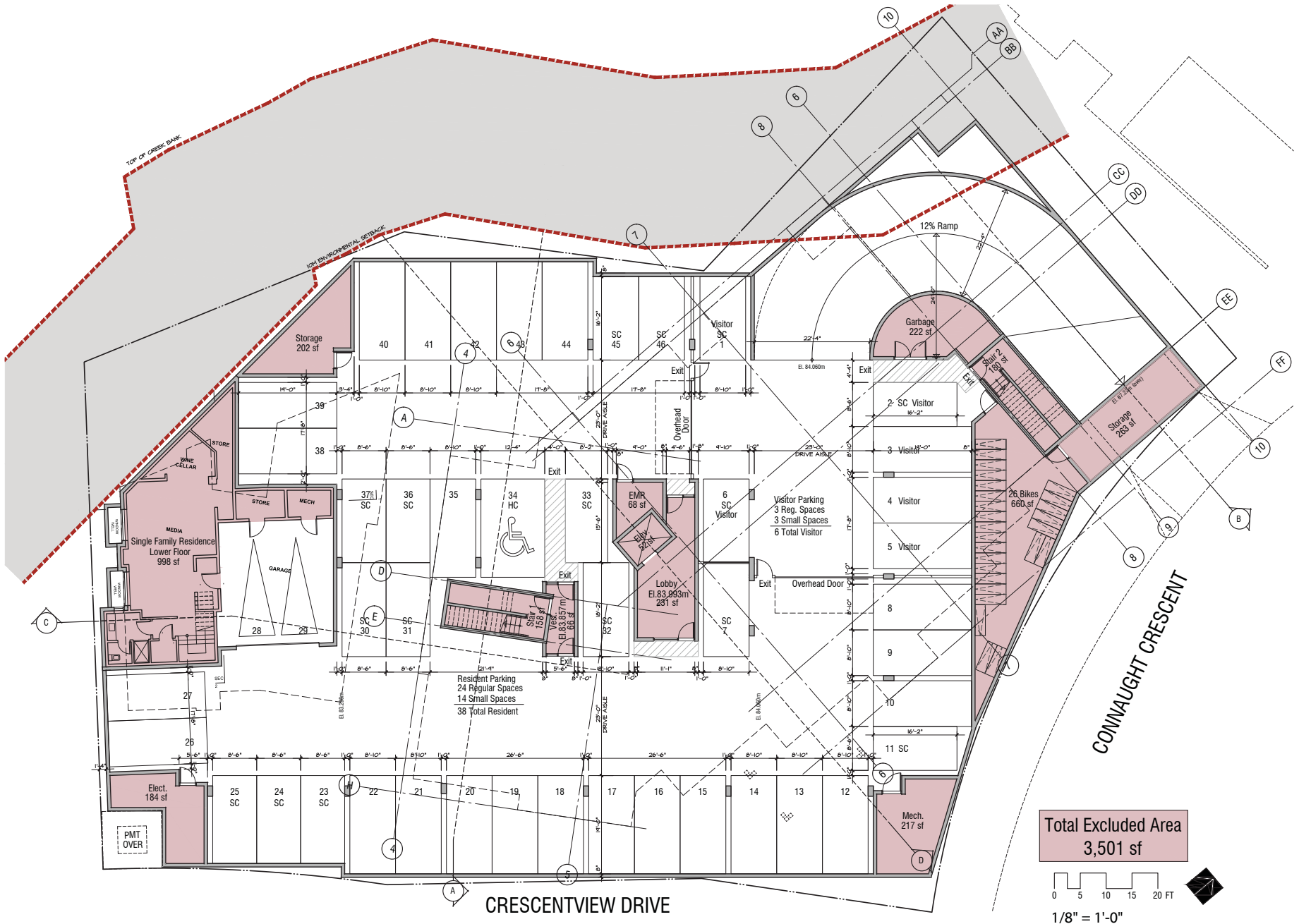
EDGEMONT VILLAGE

3105/3115 Crescentview
North Vancouver, BC

Parking Plan

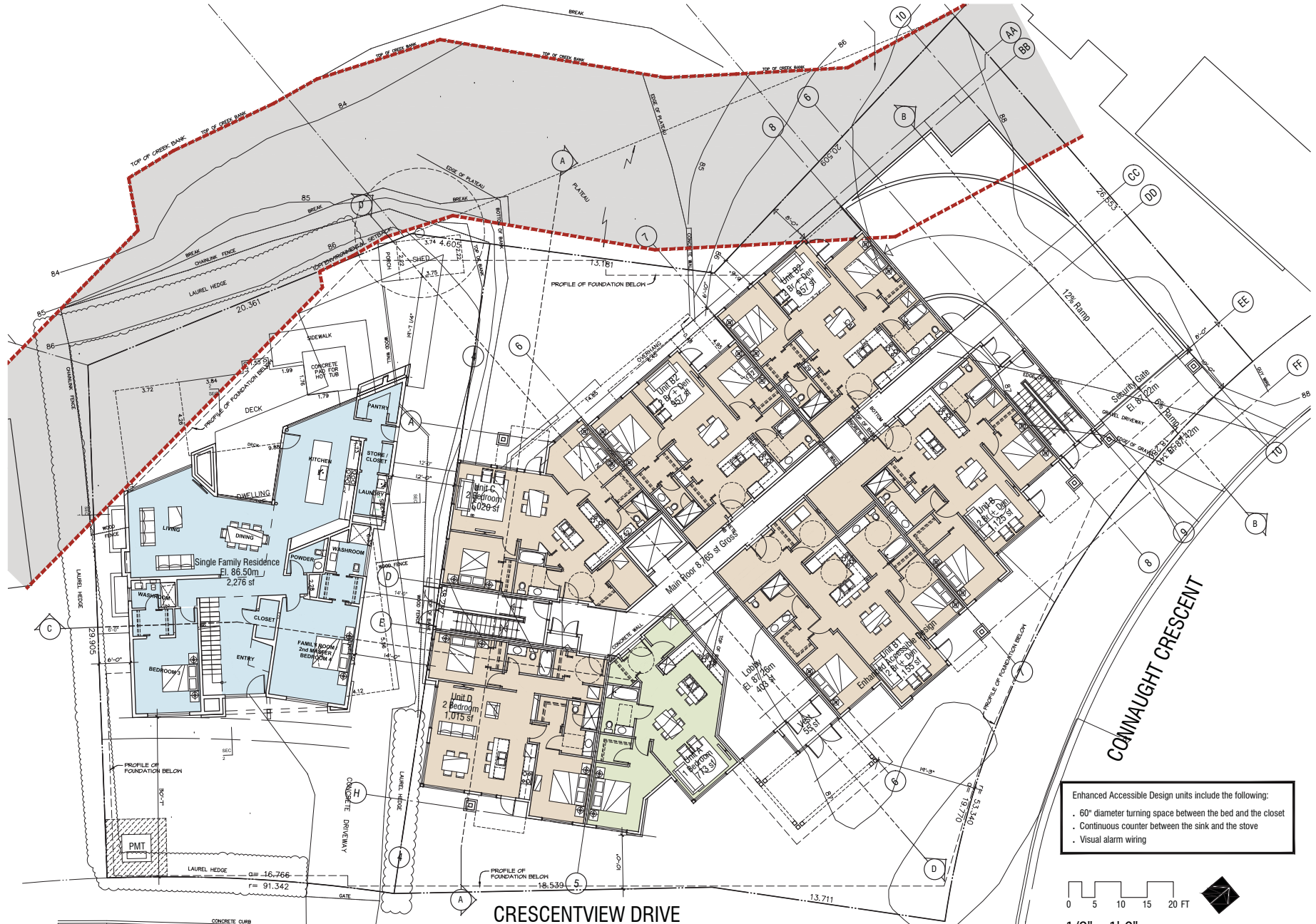
1/8" = 1'-0"
July 29, 2016

SK-2.0

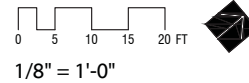


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June 6, 2016
Re-issued for Rezoncing
June 22, 2016
Re-issued for Rezoncing
July 25, 2016



- Enhanced Accessible Design units include the following:
- 60" diameter turning space between the bed and the closet
 - Continuous counter between the sink and the stove
 - Visual alarm wiring



EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Main Floor Plan

1/8" = 1'-0"
July 29, 2016

SK-2.1

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July 23, 2016



EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Second Floor Plan

Enhanced Accessible Design units include the following:

- 60" diameter turning space between the bed and the closet
- Continuous counter between the sink and the stove
- Visual alarm wiring



1/8" = 1'-0"

1/8" = 1'-0"
July 29, 2016

SK-2.2

Revisions

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3105/3115 Crescentview
North Vancouver, BC

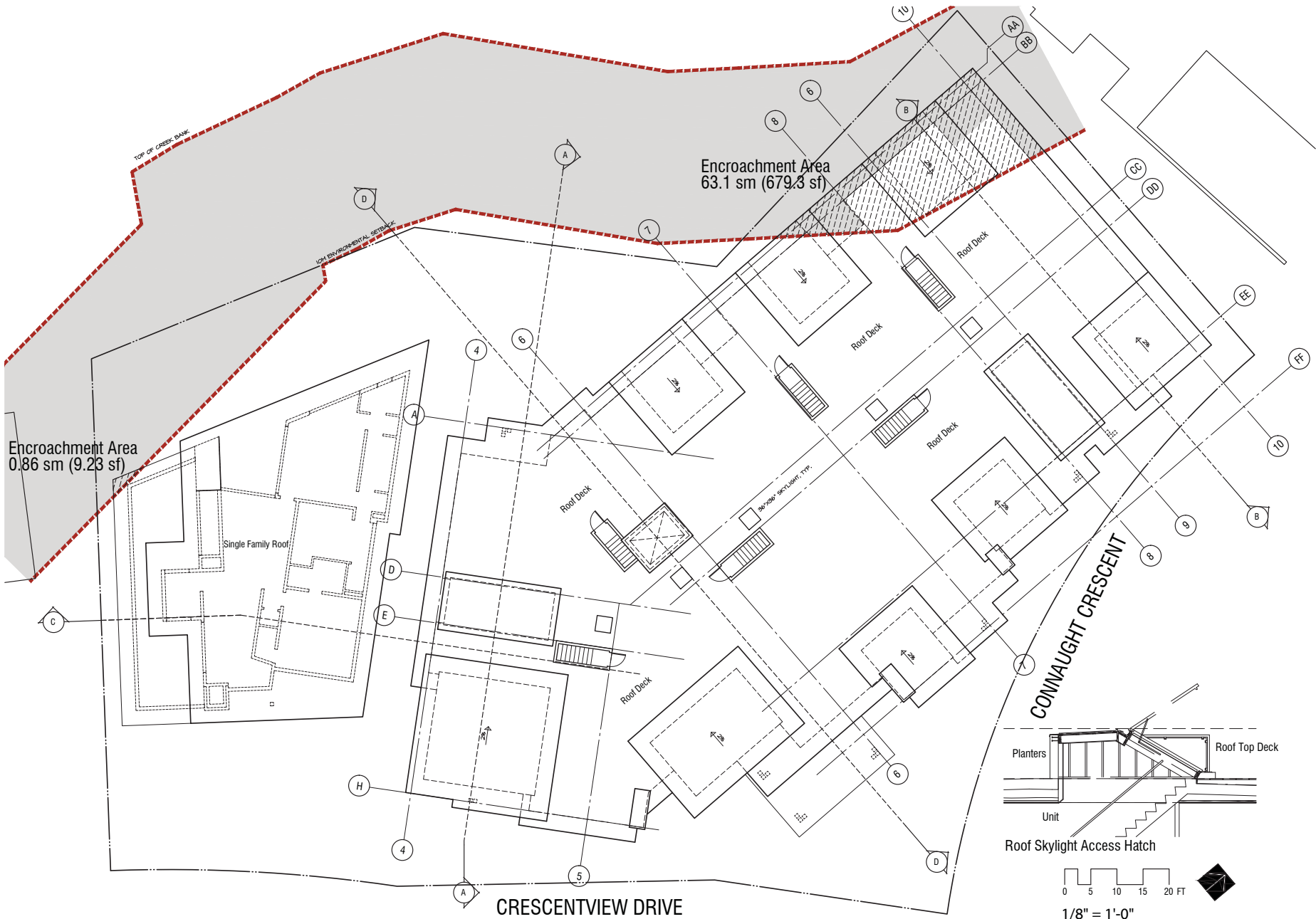
Third Floor Plan

1/8" = 1'-0"
July 29, 2016

SK-2.3

Revisions

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October 16, 2015
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July 29, 2016



EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Roof Plan

1/8" = 1'-0"
July 29, 2016

SK-2.4

Revisions

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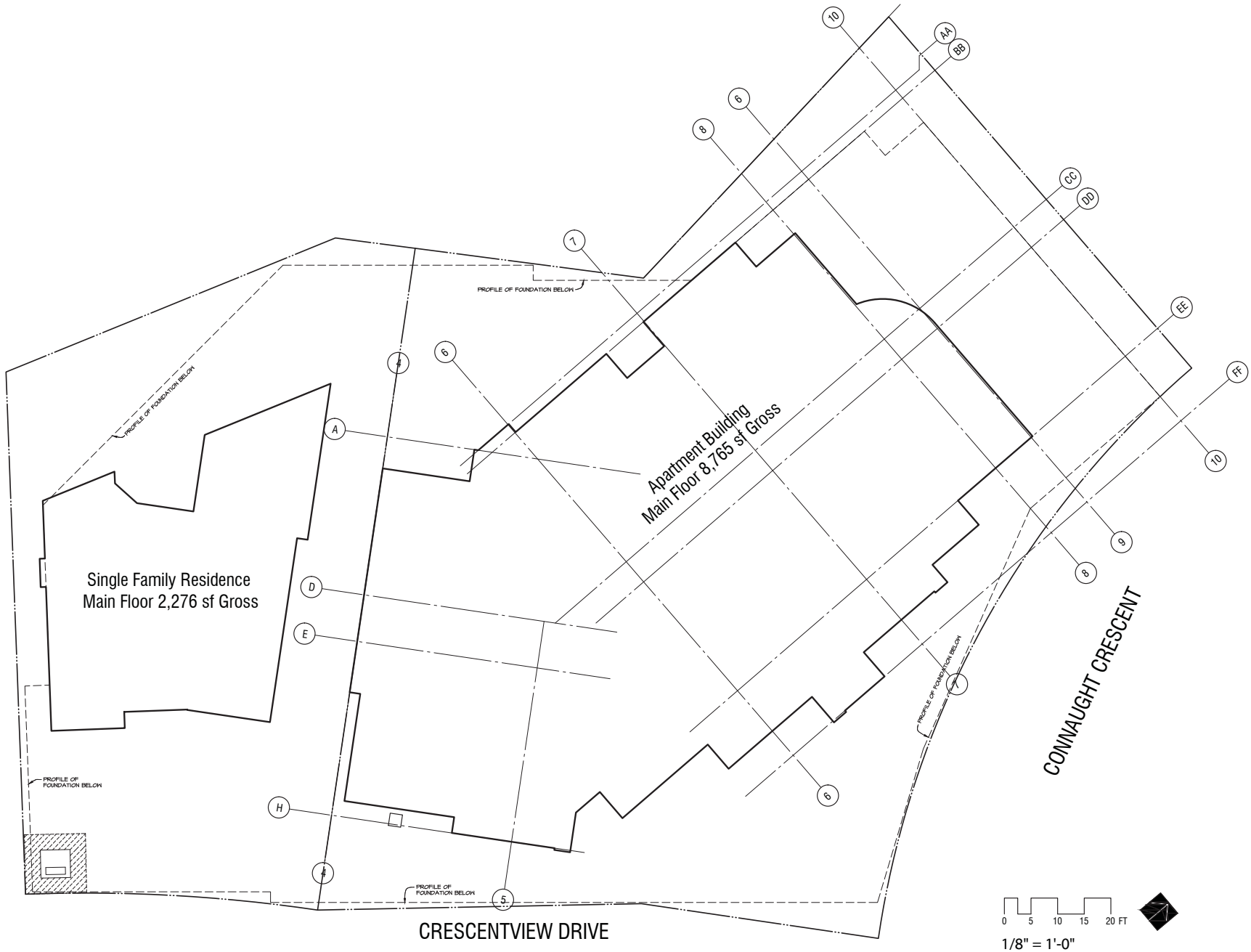
EDGEMONT VILLAGE

3105/3115 Crescentview
North Vancouver, BC

**Main Floor Plan
Gross Area**

1/8" = 1'-0"
July 29, 2016

SK-2.5



Revisions

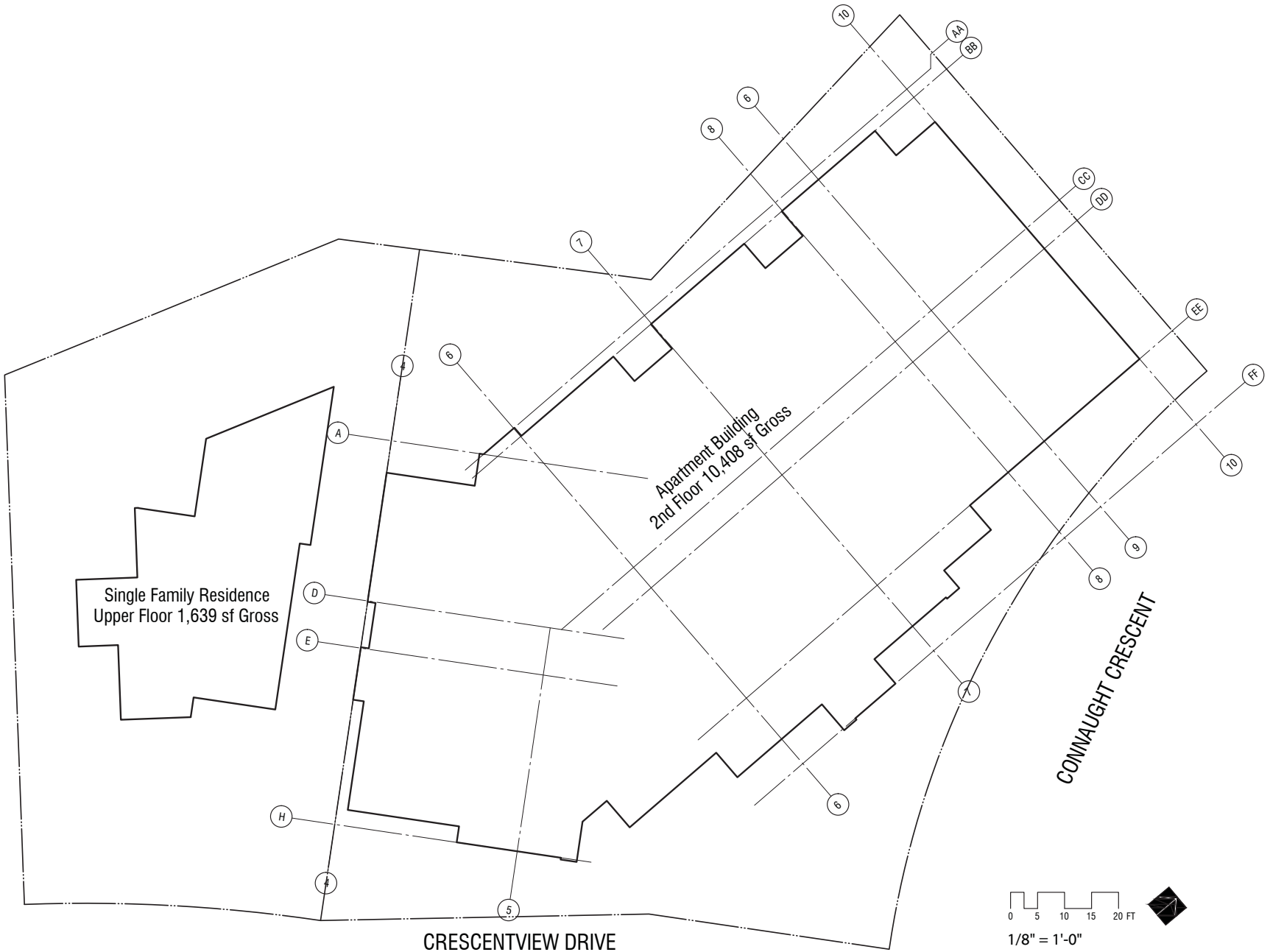
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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

**Second Floor Plan
Gross Area**

1/8" = 1'-0"
July 29, 2016

SK-2.6



Revisions

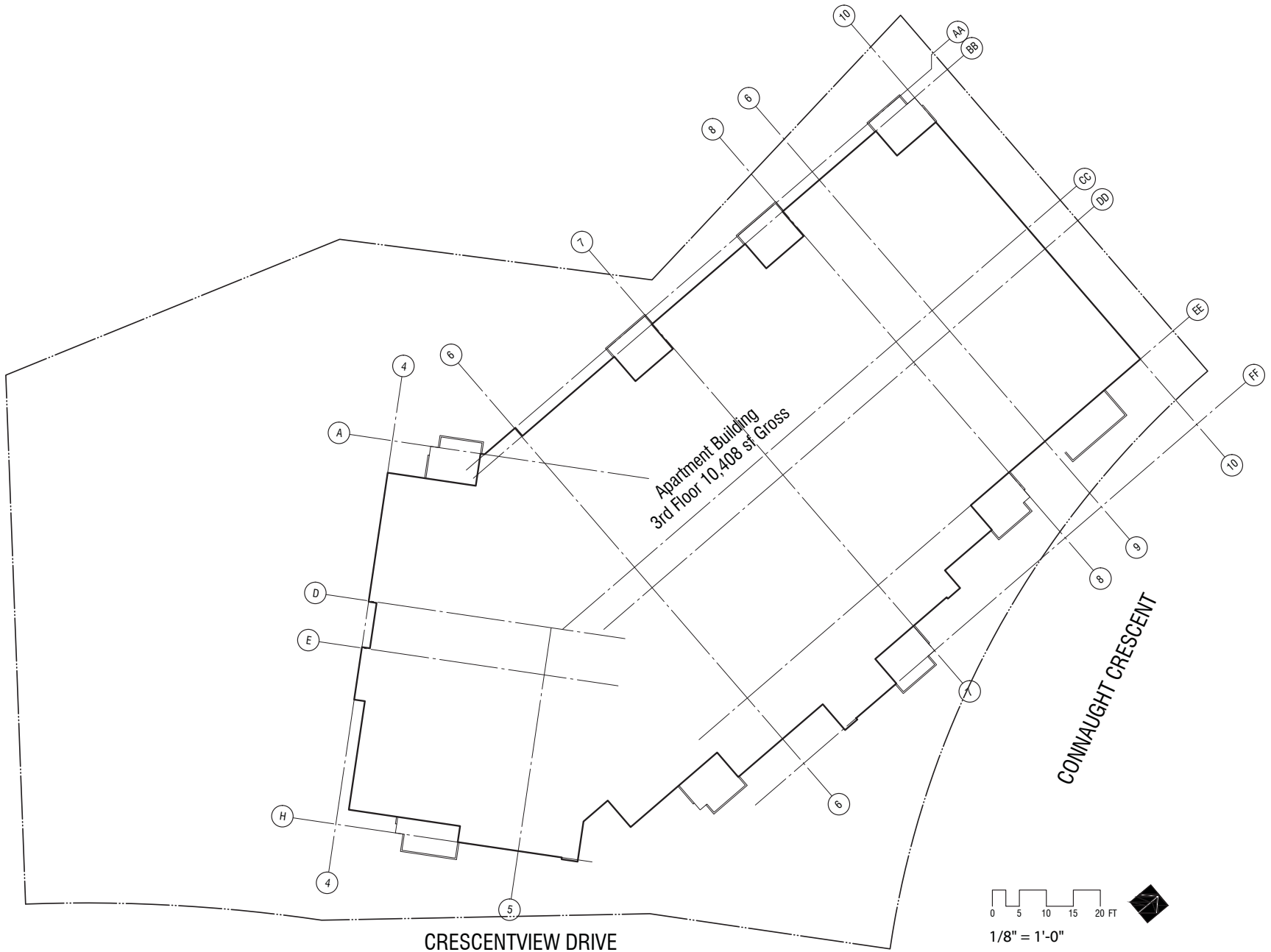
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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

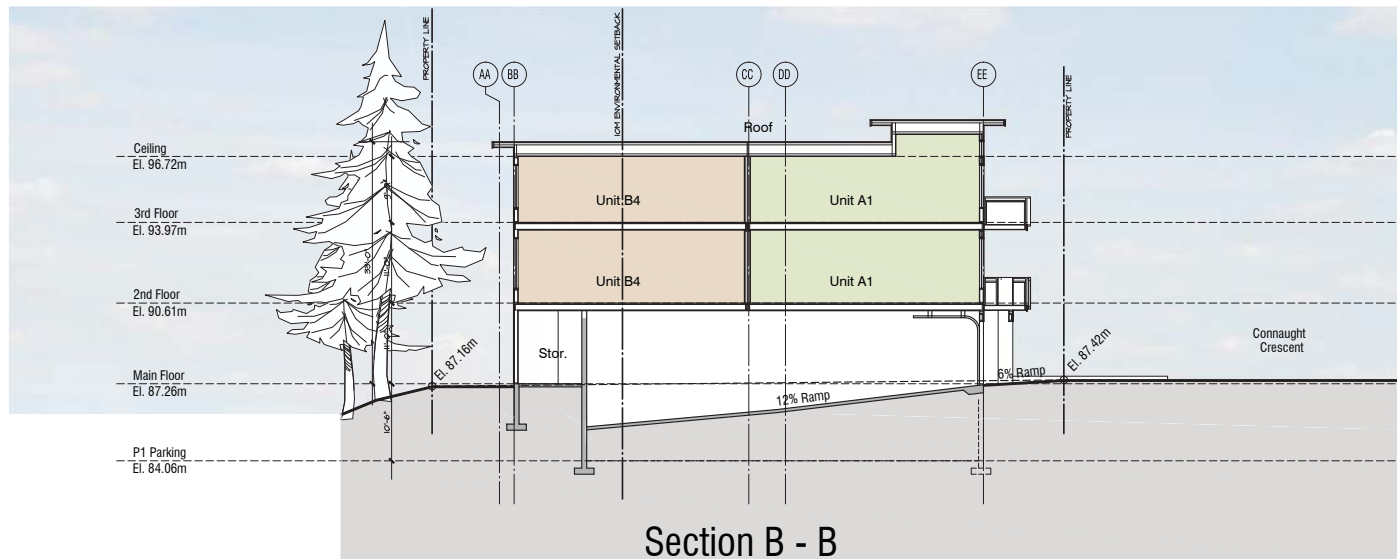
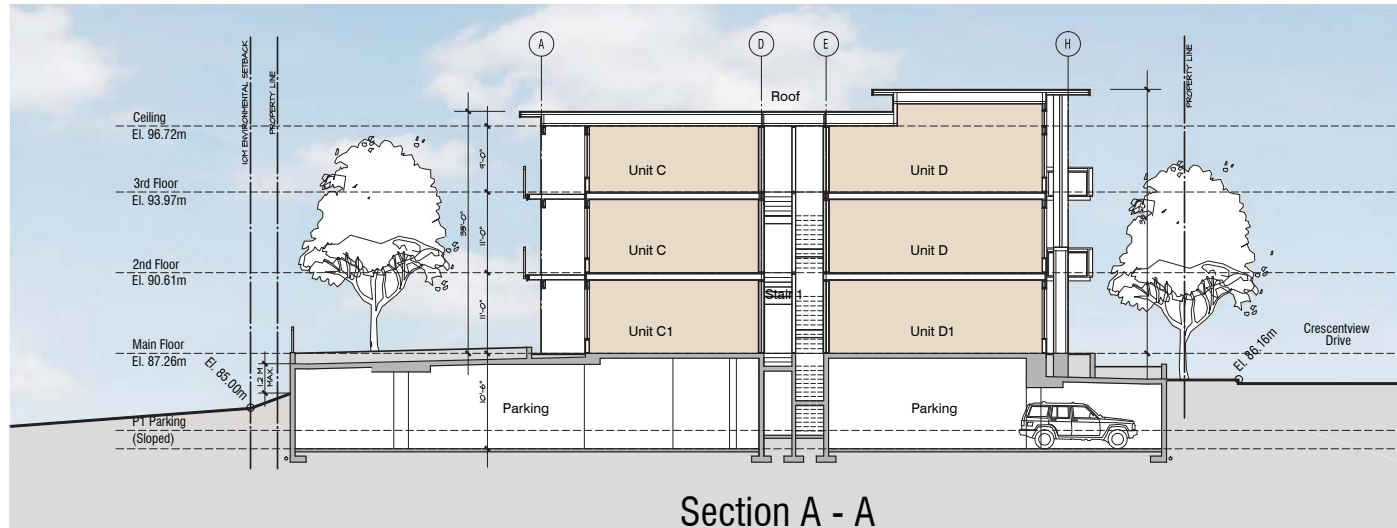
**Third Floor Plan
Gross Area**

1/8" = 1'-0"
July 29, 2016

SK-2.7



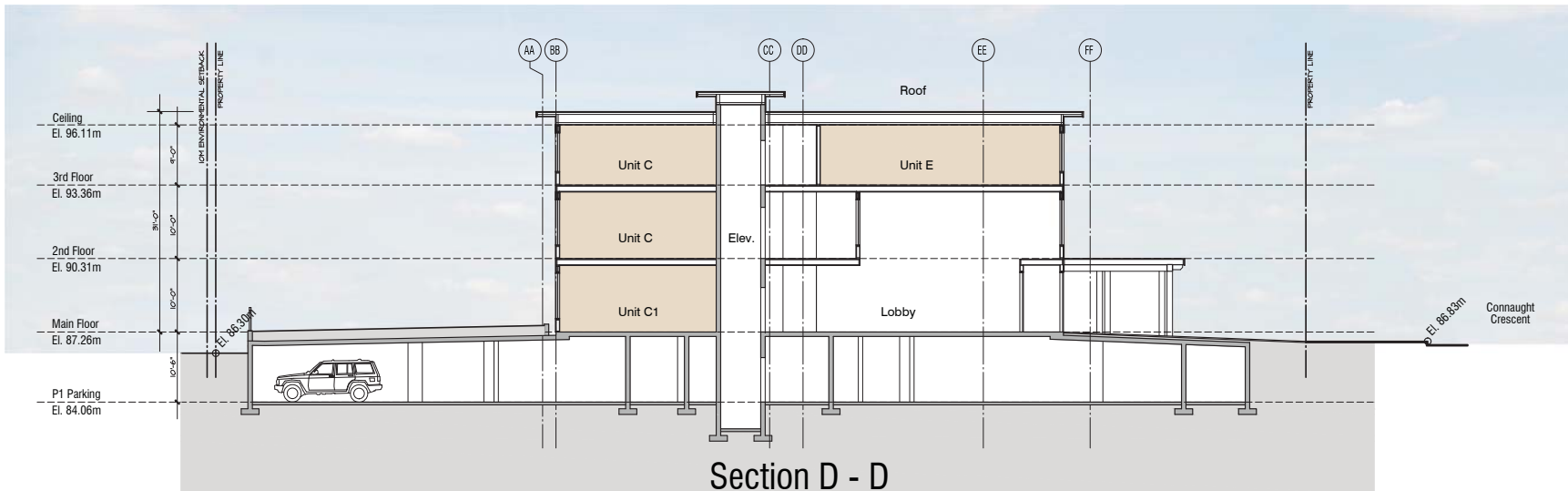
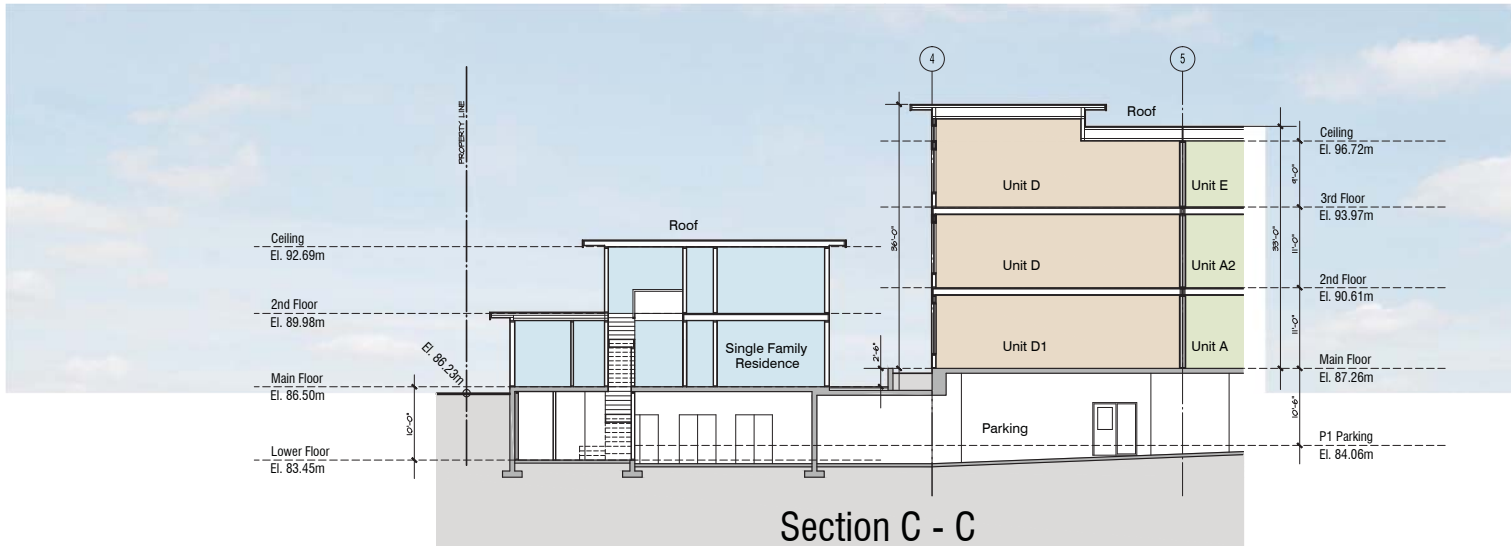
Note:
Maximum 4'-0" (1.2 M) height of the parking garage above the adjacent finish grade



0 5 10 15 20 FT
1/8" = 1'-0"

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EDGEMONT VILLAGE
 3105/3115 Crescentview
 North Vancouver, BC

Site Sections

1/8" = 1'-0"
 July 29, 2016

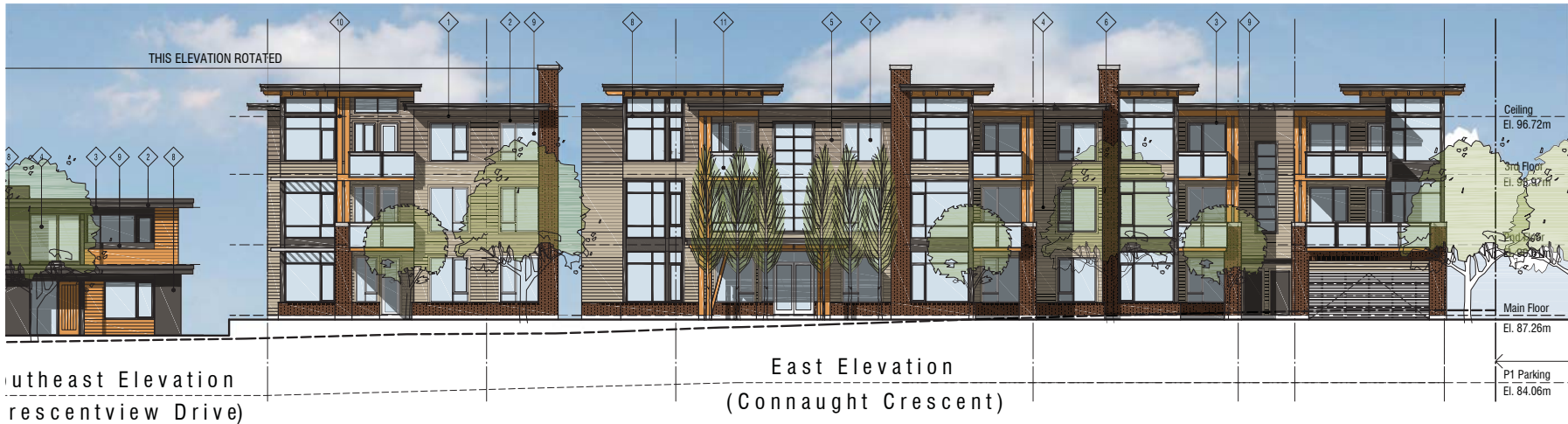
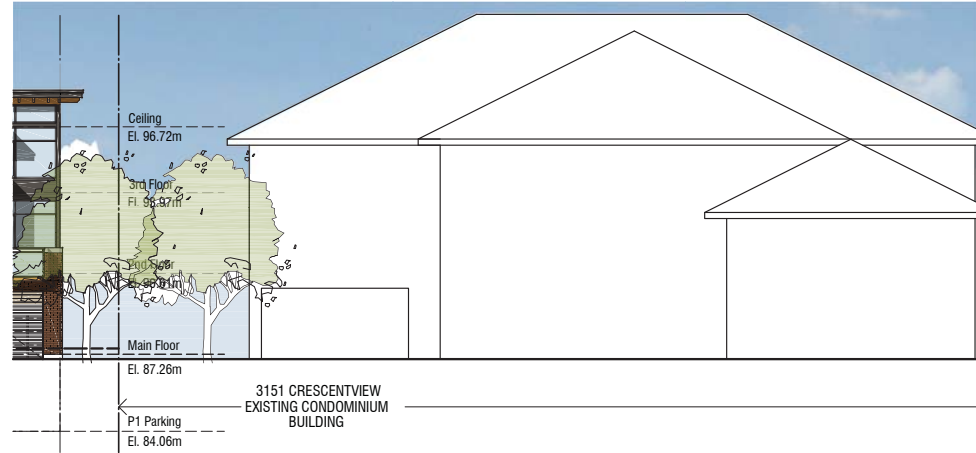
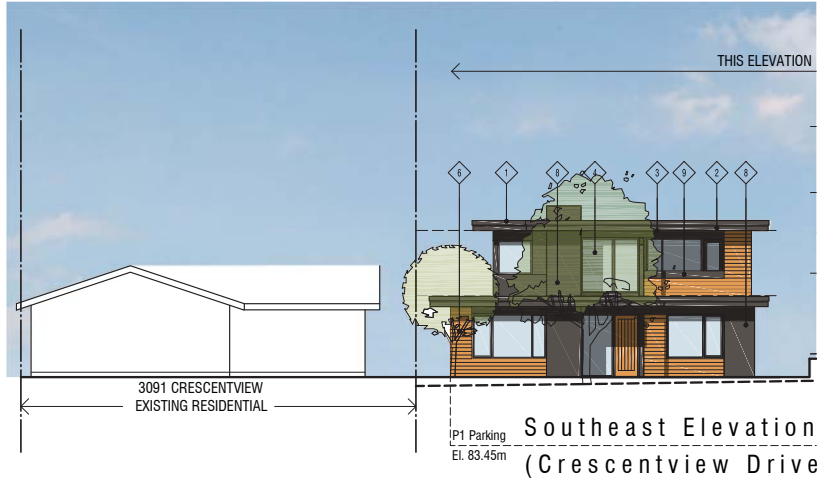


1/8" = 1'-0"

SK-3.1

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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Exterior Finish Legend

1 Roof	Asphalt roof shingles	Pabco Premier Pewter Gray	2 Bevel Siding	Hardiplank Lap Siding Smooth, painted 8" exposure	Benjamin Moore HC-77 Alexandria Beige	3 Aluminum Windows Prefinished	Charcoal
4 Fascias	2 x 4 on 2 x 10 wood, painted	Benjamin Moore HC-186 Kendall Charcoal	5 Brick Siding	Norman Size	Mutual Materials Red Vantone	6 Window Trims 2x4 wood	Match Adjacent Siding Color
7 Soffit	6" Cedar T&G Soffit with V-grooves, smooth, stained	Broda Maple 209	8 Windows	Vinyl frames, refer to schedule	Beige	9 Beams & Posts Glulam, stained	078 Natural Sikkens
10 Bevel Siding	Hardiplank Lap Siding Smooth, painted 6" exposure	Benjamin Moore HC-82 Bennington Grey				11 Guard Rail	Aluminum rails, posts & pickets w/ clear glazing



1/8" = 1'-0"

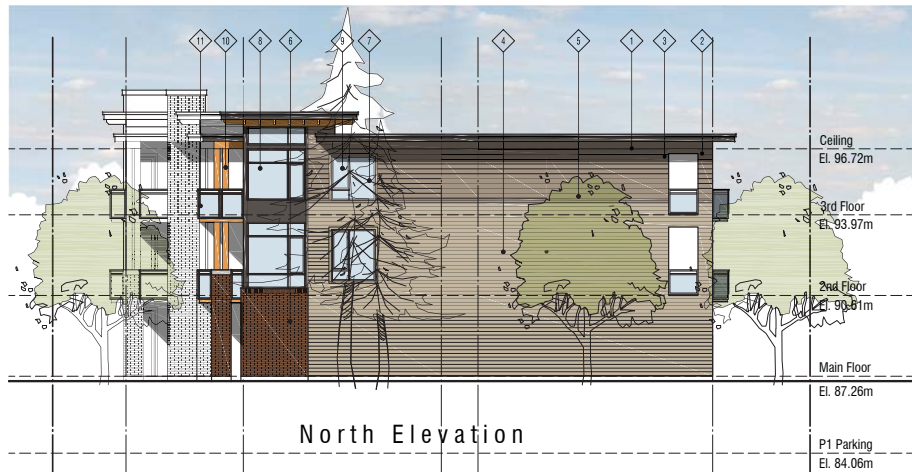
Building Elevations

1/8" = 1'-0"
July 29, 2016

SK-4.0

Revisions

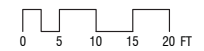
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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Exterior Finish Legend

Roof	Asphalt roof shingles	Pabco Premier Pewter Gray	Bevel Siding	Hardiplank Lap Siding Smooth, painted 8" exposure	Benjamin Moore HC-77 Alexandria Beige	Aluminum Windows Prefinished	Charcoal
Fascias	2 x 4 on 2 x 10 wood, painted	Benjamin Moore HC-166 Kendall Charcoal	Brick Siding	Norman Size	Mutual Materials Red Vantone	Window Trims	2x4 wood
Soffit	6" Cedar T&G Soffit with V-grooves, smooth, stained	Broda Maple 209	Windows	Vinyl frames, refer to schedule	Beige	Beams & Posts	Glulam, stained
Bevel Siding	Hardiplank Lap Siding Smooth, painted 6" exposure	Benjamin Moore HC-82 Bennington Grey				Guard Rail	Aluminum rails, posts & pickets w/ clear glazing
							Match Adjacent Siding Color
							078 Natural Sikkens
							Charcoal



1/8" = 1'-0"

Building Elevations

1/8" = 1'-0"
July 29, 2016

SK-4.1

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Front Elevation



Side Elevation



Rear Elevation



Side Elevation

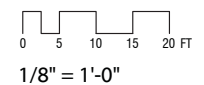
Exterior Finish Legend

1 Roof	Asphalt roof shingles	Pabco Premier Pewter Gray	4 Aluminum Windows	Prefinished	Charcoal	7 Fibre Cement Panel	HardiePanel	Benjamin Moore
2 Fascias	2 x 4 on 2 x 10 wood, painted	Benjamin Moore	5 Beams & Posts	Glulam, stained	078 Natural Sikkens	8 Concrete	Board Formed	HC-166 Kendall Charcoal
3 Soffit	6" Cedar T&G Soffit with V-grooves, smooth, stained	Broda Maple 209	6 Siding	Douglas fir, 6" exposure smooth, stained	078 Natural Sikkens	9 Guardrail	Tempered glass	078 Natural Sikkens

EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Single Family Residence Elevations

1/8" = 1'-0"
July 29, 2016



SK-4.2

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EDGEMONT VILLAGE
3105/3115 Crescentview
North Vancouver, BC

Streetscape Elevations

1/8" = 1'-0"
July 29, 2016

0 5 10 15 20 FT
1/8" = 1'-0"

SK-4.3

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**EDGEMONT
VILLAGE**

3105/3115 Crescentview
North Vancouver, BC

**Colour and Material
Schedule**

July 29, 2016

SK-4.4



Benjamin Moore HC-77 Alexandria Beige
Wall siding 1, window trims



Benjamin Moore HC-82 Bennington Grey
Wall siding 2, window trims



Mutual Materials, Red Varitone
Brick Siding



078 Natural Sikkens
Glulam beams and posts



Benjamin Moore HC-166 Kendall Charcoal
Fascias



Black
Aluminum Windows



- Roof:** Flat roof
SBS membrane, Light Grey
- Fascias:** 2x4 on 2x10 wood, painted
Benjamin Moore HC-166 Kendall Charcoal
- Soffit:** 6" Cedar T&G Soffit with V grooves, Smooth, Stained
Broda Maple 209
- Wall Siding 1:** Hardiplank Lap Siding, Smooth, painted, 6" exposure
Benjamin Moore HC-77 Alexandria Beige
- Wall Siding 2:** Hardiplank Lap Siding, Smooth, painted, 6" exposure
Benjamin Moore HC-82 Bennington Grey
- Window:** Vinyl frames, Beige
Refer to windows schedule
- Window:** Aluminum, prefinished
Black
- Window Trims:** 2x4 wood, painted
Matched to Adjacent Siding Color
- Guard Rail:** Aluminum rails, posts & pickets
w/ glazing
Charcoal
- Beams & posts:** Glulam, Stained
078 Natural Sikkens
- Brick Siding:** Norman Size
Mutual Materials, Red Varitone



March 21, 9am



June 21, 9am



September 21, 9am



March 21, 12pm



June 21, 12pm



September 21, 12pm



March 21, 3pm



June 21, 3pm



September 21, 3pm



March 21, 6pm



June 21, 6pm



September 21, 6pm

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EDGEMONT
VILLAGE

3105/3115 Crescentview
North Vancouver, BC

Shadow Studies

July 29, 2016

SK-5.0



bike loop
planting with 24" deep root UB 24-2 root barrier

edge of slab

native tree & shrub planting to blend with forest edge

edge of slab

12% Ramp

Security Gate

El. 87.22m

El. 87.42m

El. 287.0'

CONNAUGHT CRESCENT

concrete wall with columns

low planting

street trees

unit entry gate & column (typ.)

1.2m deep continuous planting trench

planting with 24" deep root UB 24-2 root barrier

hedge behind wall

CIP concrete sidewalk w/ sawcut joints

"Logging" Themed Seating

(4) bike loops, DNV approved smooth concrete w/ wave pattern(tile) inlay

tree grate w/ columnar trees

"logging" themed seating area

curb-cut - see civil dwgs for detail

entry plaza paving concept

columnar tree concept

entry plaza paving concept



1. March 11, 2015 - issued for recording application
2. Oct 16, 2015 - re-issued for recording DFP
3. Mar 15, 2016 - revised per DNV comments for DFP/Recording
4. July 27, 2016 - issued for Recording

3105-3115 CRESCENTVIEW
(Edgemont Village)
North Vancouver, BC

LANDSCAPE PLAN
grading / layout

DATE	2016	REVISION	REV 1
DATE	2016	REVISION	REV 2
DATE	2016	REVISION	REV 3
DATE	2016	REVISION	REV 4
DATE	2016	REVISION	REV 5
DATE	2016	REVISION	REV 6
DATE	2016	REVISION	REV 7
DATE	2016	REVISION	REV 8
DATE	2016	REVISION	REV 9
DATE	2016	REVISION	REV 10
DATE	2016	REVISION	REV 11
DATE	2016	REVISION	REV 12
DATE	2016	REVISION	REV 13
DATE	2016	REVISION	REV 14
DATE	2016	REVISION	REV 15
DATE	2016	REVISION	REV 16
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DATE	2016	REVISION	REV 18
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DATE	2016	REVISION	REV 20
DATE	2016	REVISION	REV 21
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DATE	2016	REVISION	REV 25
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DATE	2016	REVISION	REV 52
DATE	2016	REVISION	REV 53
DATE	2016	REVISION	REV 54
DATE	2016	REVISION	REV 55
DATE	2016	REVISION	REV 56
DATE	2016	REVISION	REV 57
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DATE	2016	REVISION	REV 67
DATE	2016	REVISION	REV 68
DATE	2016	REVISION	REV 69
DATE	2016	REVISION	REV 70
DATE	2016	REVISION	REV 71
DATE	2016	REVISION	REV 72
DATE	2016	REVISION	REV 73
DATE	2016	REVISION	REV 74
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DATE	2016	REVISION	REV 76
DATE	2016	REVISION	REV 77
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DATE	2016	REVISION	REV 79
DATE	2016	REVISION	REV 80
DATE	2016	REVISION	REV 81
DATE	2016	REVISION	REV 82
DATE	2016	REVISION	REV 83
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DATE	2016	REVISION	REV 85
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DATE	2016	REVISION	REV 87
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DATE	2016	REVISION	REV 89
DATE	2016	REVISION	REV 90
DATE	2016	REVISION	REV 91
DATE	2016	REVISION	REV 92
DATE	2016	REVISION	REV 93
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DATE	2016	REVISION	REV 95
DATE	2016	REVISION	REV 96
DATE	2016	REVISION	REV 97
DATE	2016	REVISION	REV 98
DATE	2016	REVISION	REV 99
DATE	2016	REVISION	REV 100



General Notes

1. All materials and execution of landscape works shall conform to the BCSLA/BCNTA Landscape standard.
2. Ensure positive drainage behind all walls and throughout site. All landscaped areas and pathways must maintain min. 2% positive drainage away from buildings.
3. Where soft landscape areas meet building foundation wall, min. 12-18" wide gravel drip strip to be installed at landscape grade.
4. Do not construct from these drawings unless marked "issued for construction".
5. All landscape works to be performed under this contract to meet the applicable provisions and recommendations set forth in the Master Municipal Specifications & Standards Details/BC Landscape Standards and respect all Municipal Bylaws.
6. The latest edition of the standards and codes referenced in these notes and on the landscape drawings shall apply.
7. The existing conditions were compiled from base plans of the site prepared by others. Although every effort has been made to accurately locate all conditions, actual conditions may vary from those shown. The contractor shall make a full review of all existing conditions of the site and shall report discrepancies to the landscape architect before starting work. The contractor shall assume responsibility for actual conditions as they exist on site.
8. The landscape contractor shall be responsible for visiting the site to determine the extent of demolition, preparation, and removals necessary (whether shown on the drawings or not) to construct the proposed site improvements. The landscape contractor shall report, in writing, any discrepancies between the existing and proposed work to the landscape architect prior to proceeding with construction. Failure to inspect, notice, or report these discrepancies prior to construction shall not relieve the landscape contractor from their responsibility to perform the necessary operation for the successful completion of the proposed improvements without any changes to fee.
9. The landscape contractor shall verify dimensions shown on the drawings and notify the landscape architect of any discrepancies prior to the start of the final layout prior to construction.
10. Contractor to repair any damage resulting from work on site.
11. The landscape contractor shall refer any questions on materials, finishes, labour and/or products specified herein to the landscape architect.

PLANT LIST - RIPARIAN AREA					
ID	Latin Name	Common Name	Quantity	Scheduled Size	Notes
TREES					
AC	Acer circinnatum	Vine Maple	7	2m ht.	
AM	Acer macrophyllum	Big leaf maple	1	6m cal.	
CRD	Crataegus douglasii	Black Hawthorn	2	3m ht.	
SS	Sorbus sitchensis	White ash	1	2.5m ht.	
SHRUBS					
Rus	Rubus parviflorus	Thimbleberry	14	#2 pot	
Rus	Rubus spectabilis	Salmonberry	50	#2 pot	
Vac	Vaccinium parviflorum	Red Huckleberry	16	#2 pot	
PERENNIALS & GROUNDCOVER					
pol	Polystichum munitum	Western sword fern	28	#2	
ORN. GRASSES & BAMBOO					

* NOTE:
THE DISTRICT OF NORTH VANCOUVER IS RESPONSIBLE FOR THE ON-GOING MAINTENANCE OF STREET TREES ON OFF-SITE AREAS. FUTURE ON-GOING MAINTENANCE OF SHRUBS/GROUNDCOVER ON OFF-SITE AREAS (I.E., BOULEVARDS) IS THE RESPONSIBILITY OF THE PROPERTY OWNER.

THE FINAL LOCATION AND SPECIES SELECTION ON DISTRICT ROW SHALL BE TO THE SATISFACTION OF THE DISTRICT.

ALL NEW CONIFER PLANTING TO BE OUTSIDE 10M WILDFIRE BUFFER, AS PER FIRESMART BC GUIDELINES. RECLAMATION PLANTING TO BE REVIEWED AND APPROVED BY WILDFIRE CONSULTANT AND IN COORDINATION WITH ENVIRONMENTAL CONSULTANT.

RECLAMATION PLANTING REFER TO HABITAT COMPENSATION PLAN BY ARROWHEAD ENVIRONMENTAL CONSULTANTS

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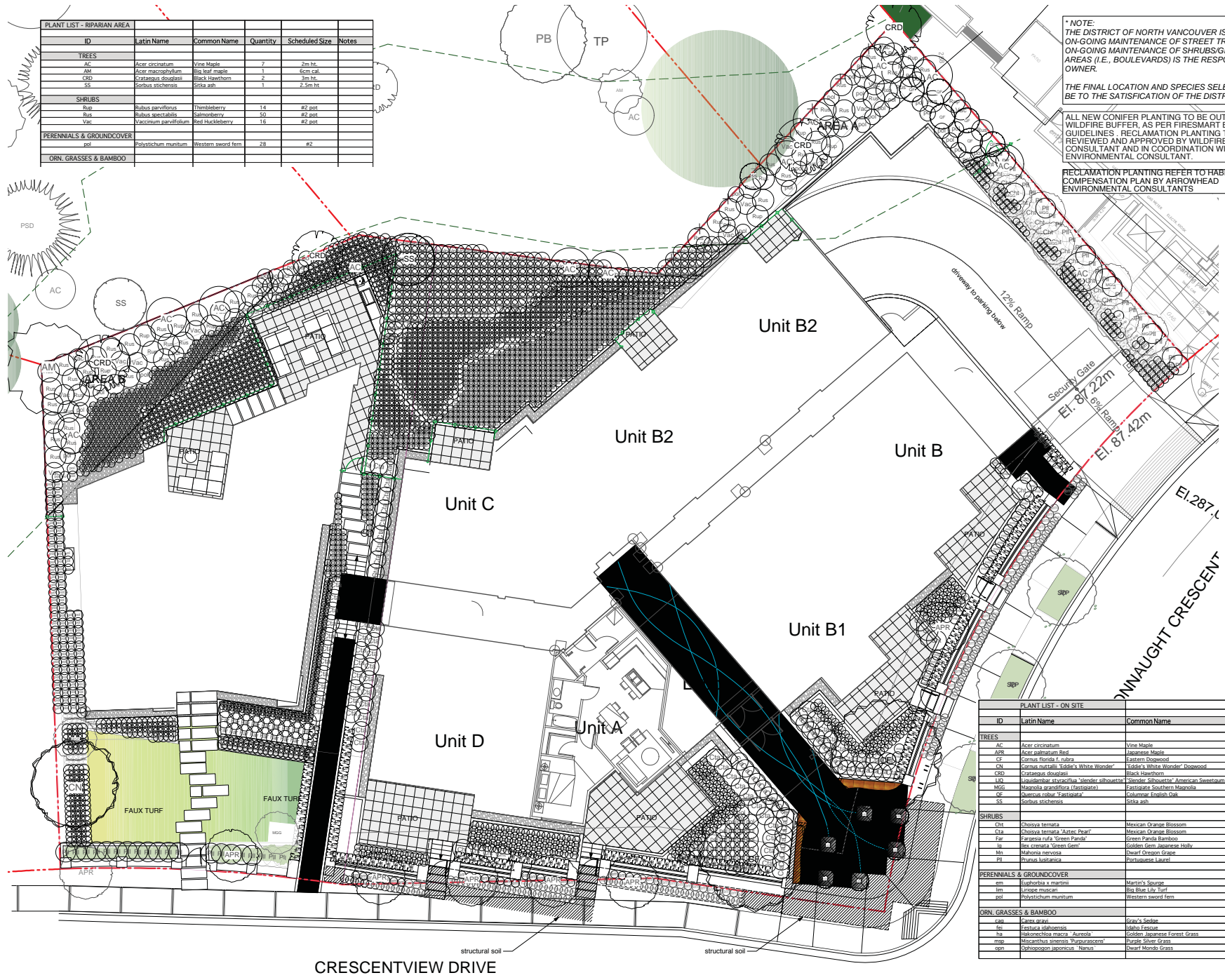
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5105-3115 CRESCENTVIEW
(Edgemont Village)
North Vancouver, BC

LANDSCAPE PLAN
on-site planting sheet

15.006 L3 of 6



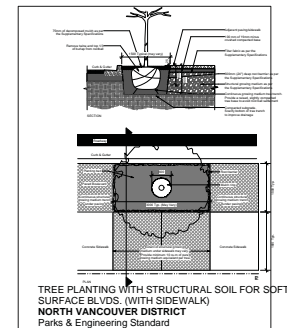
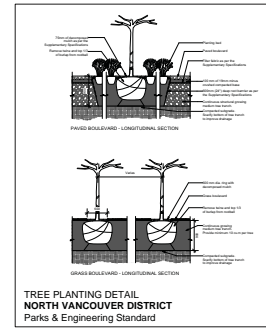
PLANT LIST - ON SITE					
ID	Latin Name	Common Name	Quantity	Scheduled Size	Notes
TREES					
AC	Acer circinnatum	Vine Maple	5	2.5m ht.	
APR	Acer palmatum Red	Japanese Maple	6	2m ht.	
CF	Coronilla florida L. - red	Eastern Dogwood	2	2.5m ht.	specimen
ON	Quercus nuttallii 'Eddie's White Wonder'	Eddie's White Wonder' Dogwood	1	3.0m ht.	
CRD	Crataegus douglasii	Black Hawthorn	2	3.0m ht.	
LU	Lonicera xylosteum 'Sander albocincta'	Sander's Shrub	6	3m cal.	
MGS	Maianthemum canadense	Canada Mayflower	8	2.5m	
CR	Quercus lobata 'Parviflora'	California Red Oak	6	3.0m cal.	
SS	Sorbus sitchensis	White ash	1	3.0m	
SHRUBS					
CH	Choisya ternata	Mexican Orange Blossom	23	5 gal.	15e / p/bb @ entry
CR	Choisya ternata 'Arista Pearl'	Mexican Orange Blossom	89	#5	
FR	Fraxinus viridis 'Green Fragoli'	Green Fraxinus	27	5 gal.	1.5m ht.
IR	Illex cornuta 'Nemesis Green'	Golden Gem Japanese Holly	128	5 gal.	
MR	Malva coccinea	Dwarf Oregon Grape	283	7.0-7.5m bulb/buried	
PR	Prunella laetevirens	Prunella Lavender	18	#5 pot	
PERENNIALS & GROUNDCOVER					
em	Erythronium albidum	Martin's Squeeze	60	#1 pot	
lm	Liriodendron tulipifera	Big Blue Lily	1204	#1 pot	
pol	Polystichum munitum	Western sword fern	336	#2	
ORN. GRASSES & BAMBOO					
can	Carex acutata	Gray's Sedge	328	#1 pot	
fr	Fraxinus viridis	Green Fraxinus	27	#1 pot	
ha	Hakonechloa macra 'Aureola'	Golden Japanese Forest Grass	5	#1 pot	
ms	Monarda didyma 'Purpurea'	Purple Silver Grass	49	#2	
sp	Stipa capensis	Dwarf Woods Grass	134	#1 pot	

ALL NEW CONIFER PLANTING TO BE OUTSIDE 10M WILDFIRE BUFFER, AS PER FIRESMART BC GUIDELINES. RECLAMATION PLANTING TO BE REVIEWED AND APPROVED BY WILDFIRE CONSULTANT AND IN COORDINATION WITH ENVIRONMENTAL CONSULTANT.

PLANTING WITHIN 10m WILDFIRE BUFFER TO BE REVIEWED AND APPROVED BY B.A. BLACKWELL

RECLAMATION PLANTING REFER TO HABITAT COMPENSATION PLAN BY ARROWHEAD ENVIRONMENTAL CONSULTANTS

PLANT LIST - OFF SITE					
ID	Latin Name	Common Name	Quantity	Scheduled Size	Notes
TREES					
AC	Acer circinnatum	Vine Maple	2	3m ht.	
AM	Acer macrophyllum	Bla leaf maple	4	3m ht.	
APB	Acer palmatum Red	Japanese Maple	3	2m ht.	
CRD	Crataegus douglasii	Black Hawthorn	3	3m ht.	
PSD	Pseudotsuga menziesii	Black Cutwillow	4	3m ht.	
SS	Sorbus sitchensis	Douglas Fir	1	3.0m	
STP	Thuja sitchensis	Sitka ash	1	3.0m	
TP	Thuya plicata	Japanese Sierwaria	1	3m ht.	
SHRUBS					
PERENNIALS & GROUND COVER					
em	Euphorbia x martinii	Martin's Spurge	52	#1 pot	
ORN. GRASSES & BAMBOO					
ha	Hakonechloa macro 'Aureola'	Golden Japanese Forest Grass	1.25	#1 pot	



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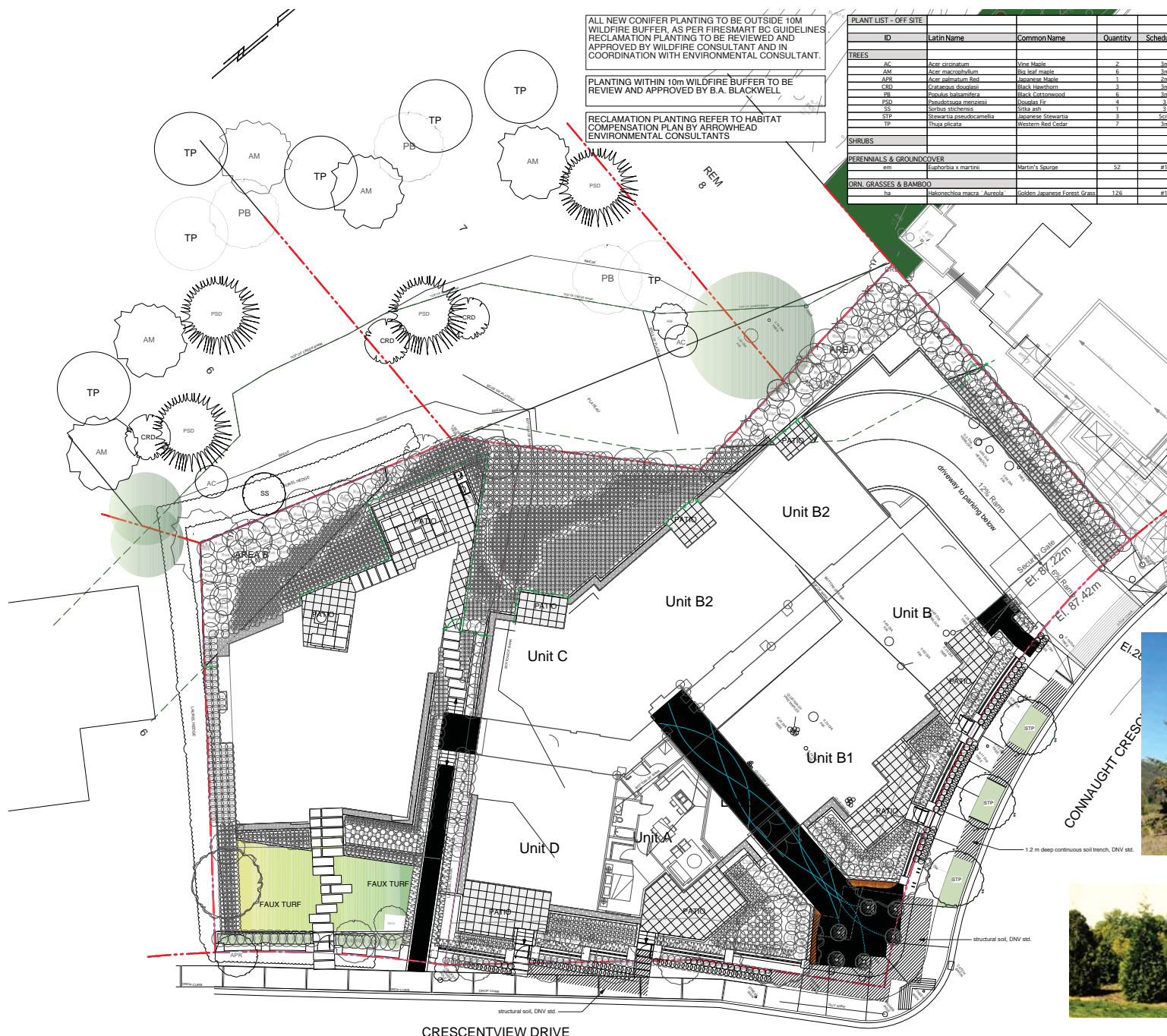
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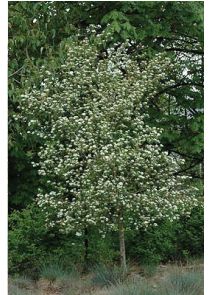
3105-3115 CRESCENTVIEW
(Edgemont Village)
North Vancouver, BC

LANDSCAPE PLAN
offsite planting sheet

15.006 L4 of 6



PSEUDOTSUGA MENZIESII



CRATAEGUS DOUGLASII



THUJA PLICATA



ACER CIRCINNATUM

ALL NEW CONIFER PLANTING TO BE OUTSIDE 10M WILDFIRE BUFFER, AS PER FIRESMART BC GUIDELINES. RECLAMATION PLANTING TO BE REVIEWED AND APPROVED BY WILDFIRE CONSULTANT AND IN COORDINATION WITH ENVIRONMENTAL CONSULTANT.

LEGEND

tree to be removed

trees to be retained

proposed replacement trees:

deciduous

coniferous

tree protection fence, DNV standard

environmental fence, DNV standard

environmental setback

10m wildfire buffer

ELEVATION

SECTION

ENVIRONMENTAL FENCE DETAIL

DISTRICT OF NORTH VANCOUVER
ENGINEERING DEPARTMENT

DATE: 11/03/2015
PROJECT: 3105-3115 CRESCENTVIEW
DRAWN BY: [Name]
CHECKED BY: [Name]
APPROVED BY: [Name]

*NOTE: DETAILS TO BE APPROVED BY DISTRICT OF NORTH VANCOUVER

Tree Protection Detail

Tree Diameter (mm)	Minimum Protection Required Around Tree (Distance from Trunk)
25	1.0 metres
30	1.2 metres
35	1.5 metres
40	1.8 metres
45	2.1 metres
50	2.4 metres
55	2.7 metres
60	3.0 metres
65	3.3 metres
70	3.6 metres
75	3.9 metres
80	4.2 metres
85	4.5 metres
90	4.8 metres
95	5.1 metres
100	5.4 metres

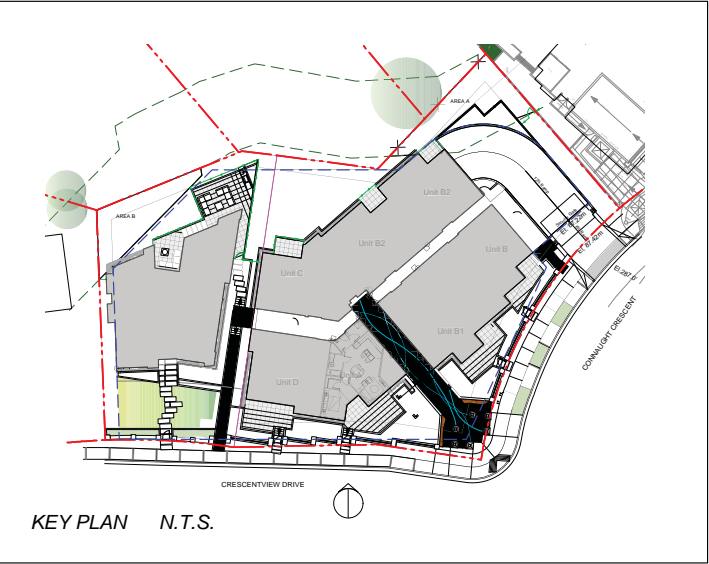
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4. July 27, 2016 - issued for Rezoning

3105-3115 CRESCENTVIEW
(Edgemont Village)
North Vancouver, BC

LANDSCAPE PLAN
tree retention

DATE: 11/03/2015
SCALE: 3/32" = 1'-0"



- DNV Notes**
1. All garbage receptacles maintenance, (on site) is the responsibility of the Property Management Company. DNV will not be responsible for servicing these receptacles at any time.
 2. Growing Medium Trees. Provide 15 cu metres of high quality growing medium per tree.
 3. **Maintenance of Boulevards:** It is recommended that landscape maintenance of the boulevards occur for a period of two years prior to being turned over to the District. After two years, the District will maintain off site street trees while the property owner will maintain all other offsite landscaping around the property.
- It is the responsibility of the adjacent landowner / strata to maintain the boulevards by:
- a. Watering the trees
 - b. Watering the boulevard plant material (i.e. shrubs, perennials and groundcovers)
 - c. Maintaining (e.g. weeding) plant material other than trees
- Any pruning, thinning, or maintenance required on the street trees must be completed only by the District of North Vancouver. Private property owners are responsible for their own trees and landscape unless subject to an agreement under 219 covenant.
4. The District of North Vancouver is responsible for the on-going maintenance of street trees on off-site areas **after an initial two year maintenance period by the owner.** Please ensure that the developer is aware that on-going maintenance of shrubs/groundcover on off-site areas (i.e., boulevards) after the two year owner maintenance period **is the responsibility of the future property owner.**
 5. The project landscape contractor, the project landscape architect and a District of North Vancouver Parks (DNV Parks) representative must be present at the project pre-construction meeting. **If this is not possible, the developer must make sure that all three groups meet before any landscape construction work takes place onsite.**
 6. **ALL plants/trees** used in this project must first be inspected by a representative of the District of North Vancouver parks department (DNV Parks) **before installation.** **The District of North Vancouver has the right to refuse any or all of the selected plant material if it does not meet current BCLNA guidelines.**
 7. Final approval/selection of any off-site street trees/site furniture will be made by DNV staff. The tree species/furniture types specified on this plan could be subject to change. Please contact DNV Park Designer Dimitri Samandis (samandis@dnv.org or 604-990-2495) to confirm tree and site furniture types prior to purchase.



STREET SCAPE ELEVATION
Scale: 3/32" = 1'-0"

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3105-3115 CRESCENTVIEW
(Edgemont Village)
North Vancouver, BC

ELEVATIONS AND DETAILS

DATE	BY	REVISION
2015.03.11	FORMA	ISSUED FOR REZONING
2015.10.16	FORMA	RE-ISSUED FOR REZONING DP
2016.03.15	FORMA	REVISED PER DNV COMMENTS FOR DP/REZONING
2016.07.27	FORMA	ISSUED FOR REZONING

15.006 L6 of 6

**MINUTES OF THE ADVISORY DESIGN PANEL MEETING HELD ON
DECEMBER 10, 2015 AT THE DISTRICT OF NORTH VANCOUVER**

ATTENDING: Mr. Kevin Harvey
Mr. Tieg Martin
Mr. Dan Parke
Mr. Greg Travers
Sgt. Kevin Bracewell
Ms. Annerieke Van Hoek

REGRETS: Ms. Amy Tsang
Mr. Samir Eidnani
Ms. Liane McKenna

STAFF: Mr. Michael Hartford
Ms. Natasha Letchford (Item 3 a.)
Ms. Ashley Rempel
Mr. Alfonso Tejada

The meeting came to order at 6:28 pm.

1. MINUTES

A motion was made and seconded to adopt the minutes of the Advisory Design Panel meeting of November 12, 2015. It was noted through discussion that minor corrections were required and amendments were suggested. A motion was passed to adopt the minutes as amended.

2. ANNOUNCEMENTS

None.

3. NEW BUSINESS

a. 3105 – 3115 Crescentview Drive – Detailed Application for OCP Amendment, Rezoning, and Development Permit for a 26 unit multi-family development.

Ms. Natasha Letchford, Community Planner, introduced the project and explained that the site is part of the Edgemont Village Centre, adjacent to an existing seniors' condominium building and single family homes. The site is zoned RSE, for single family uses, and the OCP designation for most of the site is "RES5: Low Density Apartment." The proposal would rezone the property to a CD Zone to allow for a 25 unit apartment building and one unit as a single family home, all over a shared underground parking garage. An OCP amendment is necessary for the westerly lot in the development, as it is currently designated for detached residential uses.

The Chair invited questions of clarification from the Panel and the following points were raised:

- Is a separate lot proposed for the single family home? The single family will be on the same lot as the apartment building - the particulars of the property configuration and whether this includes an airspace parcel are still being explored.
- Are any variances proposed? The necessary comprehensive development (CD) zone will be written to reflect the guidelines in the Edgemont Village "refresh" plan and the specifics of the development being proposed.

The Chair welcomed the applicant team and Mr. Ray Letkeman of Ray Letkeman Architects presented the project to the Panel. Mr. Letkeman made note of the following key points:

- The property assembly backs onto a ravine and is partly designated as a slope hazard and creek setback development permit area;
- The corner of Connaught Cres. and Crescentview Drive will be formatted as a small plaza area with public art and will serve as an entranceway to the shopping area;
- The northwest corner of the underground parking structure encroaches slightly into the creek setback area at the rear of the property. The parking garage, including the access ramp, has been positioned in a way to reduce impacts on the nearby single family residential uses, and no trees are proposed to be removed from the creek setback area;
- The geometry of the project layout reflects the street layout and property configuration and the project design attempts to highlight the angular context of the two portions of the apartment building;
- Raised roof features are proposed for each stack of units over the living room areas;
- Horizontal band features have been introduced to break up the 3 storey mass;
- Unit mix is primarily 2 bedroom units, with some 1 bedroom and 1 bedroom plus den units;
- Underground parking is on one level with 44 spaces proposed;
- Visitor parking is currently shown in an open area at the entrance to the garage, but could be secured with a security gate;
- Materials and colours include brick elements with two colours of "Hardi" panel, with wood elements to reflect the west coast setting;
- The single family home is set back 25 feet from Crescentview Drive to remain consistent with the zoning provisions for single family properties;
- The 1.5 storey single family home is proposed to utilize an airspace parcel for ownership, and an easement in the underground parking garage to provide for access.

Mr. Bill Harrison of Forma Design presented the landscape design with reference to the following key points:

- Gates are included from the street frontages to the ground level homes;
- Natural elements, including additional plantings along the rear of the property will provide a buffer for the ravine;
- The landscape design incorporates themes to reflect mountains, the forest, and rivers;
- A collection of trees in a grid pattern will provide a feature at the front entry, with seating on either side;
- The single family home will have its own street entrance with a "front yard" character;
- Street tree species remain to be decided with input from the District;
- Landscape design includes layered edges, but still provides for eyes on the street;
- Taller trees are proposed along the street frontages to provide for privacy.

The Chair thanked the applicant for their presentation and asked if there were any questions of clarification from the Panel. Questions were asked and answered on the following topics:

- Are the proposed large living room windows individual window units or "storefront-style" glazing? Living room windows are storefront glazing, all other windows are individual units;
- Is the corner post at the living room feature area integral to the window wall? Yes;
- Are additional details on the colour palette available? Black window frames in feature areas, cedar elements at entrance and balconies, two colours of Hardi-panel;
- Are there vertical break elements in the façade? Yes, on the Connaught Crescent side, but not around the corner on Crescentview.
- Why are the vertical breaks not consistent? There is a different unit type beyond the corner, which does not provide for the vertical break at a glazing edge;
- Why are there only two windows on the north side? Privacy concerns limited the number of windows on this elevation;
- Is access to underground visitor parking secured? This has not been resolved but could include a third gate at the top of the ramp;
- Why is the lawn area artificial turf? Artificial turf has been selected as there is no maintenance and it is considered environmentally friendly;
- What are the required setbacks for single family homes in the area? The required setbacks in the RSE Zoning are 25ft at the front and rear and 6ft from side lot lines. The proposed setbacks for the single family home are 30.5 ft. at the front, 25 ft. at the rear, 6 ft. to the adjacent existing house, and 12 ft. to the proposed apartment building;
- What are the undefined rooms in the floor plans? Dens, flex rooms, or storage.

Mr. Alfonso Tejada, District Urban Design Planner, provided the following comments:

- The project team has successfully responded to District input to date;
- The different roof elevations respond well to the context of the site and the surrounding buildings, with the building gradually scaling down to the single family homes to the east;
- Flat roofs can sometimes be repetitive and boring, but having the variations in the roof line help to make the building slimmer and less monotonous, breaking up the mass;
- Overall, the design, finishes, and colours of the project appear successful.

In their review, members of the Panel noted the following comments and items for consideration:

- The project is generally an attractive design, and represents an appropriate density for the location with successful transitions to adjacent properties;
- The floor plans include good accessibility on the second and third floors, with the exception of Unit D, which shows a 180 degree transfer in the bathrooms - this should be adjusted to provide for a 90 degree transfer;
- The location for the parking garage entrance works well on the site;
- The proposed single family home seems awkward - surface parking could be considered as an alternate option for this unit;
- Front yard setback for the detached dwelling seems too deep, and if reduced the dwelling could help to screen a portion of the adjacent apartment wall;
- Consideration should be given to the inclusion of an elevator for the single family home to allow for universal access to all floors, including the parking level;

- Third floor common corridors and individual "flex rooms" could benefit from daylighting either through windows or skylights, but if windows are used some attention should be paid to the appearance of the stairwells from the street;
- White vinyl windows seem harsh in contrast to the dark aluminum storefront glazing, and there may be merit in being more consistent with the colours of windows;
- The proposed storefront window walls work well with the brick pier elements and the brick elements on the building seem generally positive;
- There may be value in reconsidering the choice of the brick colour relative to the colour of the adjacent "Hardi" panel and the window walls. Another option to consider is deleting the brick piers.
- "Hardi" panel selections for the three storey elevations seem excessive - breaking this up with a variety of colour choices should be considered;
- Proposed elegant roofline is positive, but with the eaves interacting with the window walls - particularly along the south-west elevation - care will be needed in how these areas are detailed to ensure the elegance of the building is maintained;
- Floor plans show washrooms over the elevator machine room and this may need reconsideration as code requirements normally preclude services running through the machine room;
- North elevation seems plain, and could benefit from reconsideration;
- The approach to landscaping is generally positive;
- Given the relationship to the ravine and creek, there is a need to consider how to manage stormwater effectively;
- Bicycle room layout needs to be examined to ensure there is enough space to make it useable, and the potential for adding surface bicycle parking should be considered;
- Building layout generally provides good surveillance but the bicycle and visitor parking areas create some concern, and consideration should be given to securing these areas;

The Chair invited the project team to respond.

Mr. Letkeman thanked the Panel for their comments and noted the following points:

- Project team is committed to a thin eave to ensure an elegant roofline;
- Will explore adding an additional security gate at the top of the ramp;
- Regarding the material selections, the desire is that the glazing elements of the facades will predominate, but are willing to look at other options for the Hardi material selections to ensure a successful outcome;
- The approach to the bicycle storage can be revised to ensure a convenient format.

Mr. Harrison noted that the approach to stormwater management remains to be fully resolved, but the system will be designed to comply with District requirements, and the management of stormwater will take place on the site.

The Chair invited the Panel to compose a motion:

MOVED by Tieg Martin and **SECONDED** by Anneriek Van Hoek:

THAT the ADP has reviewed the application and recommends **APPROVAL** of the project **SUBJECT** to addressing the items noted in the Panel's consideration of the project.

CARRIED

Sgt. Kevin Bracewell departed the meeting at 7:29 pm.

b. Consideration of Design Excellence Awards

Michael Hartford, District Planner opened the floor for discussion about the six projects nominated for consideration of a Design Panel awards. Panel members summarized their reviews of the sites on the self-guided tour and shared their scores for the projects on a number of evaluation categories. Through discussion and review of the Panel members' scores it was concluded that two of the projects would be eligible to receive awards:

Award of Excellence: Kevington Building Corp. (Edgemont Commons) 3053 Edgemont Blvd.
Honourable Mention: Denna Homes (Beacon) 1550 Fern Street.

The Panel made the following comments about the award recipients:

"Edgemont Commons":

- "Successful, unique and innovative"
- "Building works well in this location"

"Beacon":

- "The level of execution and detail are well-managed"
- "Well-designed and well-built project in a challenging area"

OTHER BUSINESS

None.

4. ADJOURNMENT

The meeting was adjourned at 9:06 p.m.

5. NEXT MEETING

January 14, 2016

Chair



Date

FEB. 11, 2016

**Tree Evaluation Report:
Multifamily Residential Development
3105 and 3115 Crescentview Drive
North Vancouver, BC**

**Prepared by:
Mike Fadum and Associates Ltd.
#105, 8277-129 Street
Surrey, BC
V3W 0A6
Phone 778-593-0300
Fax 778-593-0302**



Date: October 27, 2014

1.0 INTRODUCTION

We attended the site on October 16, 2014 for the purpose of evaluating the tree resource and making recommendations for removal and preservation for the land development application proposed for 3105 and 3115 Crescentview Drive, North Vancouver, BC. The development site consists of 2 single family lots (~0.39acres / 0.16ha) on the west side of Crescentview Drive and east of a riparian zone. The application proposes consolidating the 2 lots for the purpose of constructing two multifamily residential buildings with underground parking below each. Plans showing the development site borders, lot lines, lanes, building envelopes, underground parking and topographical survey was provided for our use and used as a resource for making recommendations pertaining to tree removal and retention.



Figure 1. Aerial photograph of 3105 and 3115 Crescentview Drive, North Vancouver, BC (GEOweb).



2.0 FINDINGS

The dominant tree resource includes small groups of native coniferous species, primarily Douglas-fir (*Pseudotsuga menziesii*) and western redcedar (*Thuja plicata*). The trees are concentrated at the east and north ends of the site and a few trees inside the riparian zone were reviewed to the west. Tree health is typically good although a few standing dead trees were observed. Tree structure is moderate to poor as a result of past topping and hydro management.

Table 1 provides individual tree data. Specific information includes tree type, diameter at breast height (DBH), structure and health rating (poor (P), moderate (M), good (G) or a combination of two), live crown ratio (LCR) and structural observations. Health refers to the tree's overall health and vigor, while structure is a qualitative rating of a tree's shape and structure when compared to ideal trees of the same species and age class. Trees were evaluated for their preservation potential based on health, structure, location and species factors. Trees expected to be unsafe, conflicting with the proposed building plans, of poor health or of little long-term retentive value are recommended for removal and are shown on the attached Tree Preservation and Removal Plan. Photographs are provided in Appendix A.

3.0 TREE PRESERVATION SUMMARY

All of the trees identified for preservation, as shown on the plans attached, have been given this recommendation on a preliminary basis. Final recommendations shall be based on grading and construction details. Mechanical injuries caused to trees below or above ground cannot be repaired. All parties must be aware that long-term success in tree preservation efforts depends greatly on minimizing the impact caused during and post construction. Best efforts must be made to ensure that soils remain undisturbed within the tree protection zones. Ongoing monitoring and implementation of mitigating works, such as watering, mulching, etc., is essential for success.

4.0 TREE PROTECTION

Tree protection fencing is to be installed as per municipal standards prior to construction with no excavation, grade alterations or materials storage within the Tree Protection Zone (TPZ) unless pre-approved by the project arborist. The project arborist must be contacted prior to, and be onsite for, any construction near the recommended TPZ which is approximately 6x the tree diameter. Failure to comply with these recommendations may result in delays, stop work orders or fines imposed by the municipality.



5.0 LIMITATIONS

This Arboricultural field review report is based on site observations on the dates noted. Effort has been made to ensure that the opinions expressed are a reasonable and accurate representation of the condition of the trees reviewed. All trees or groups of trees have the potential to fail. No guarantees are offered or implied by Mike Fadum and Associates Ltd. or its employees that the trees are safe given all conditions. The inspection is limited to visual examination of accessible items without dissection, excavation, probing, coring or climbing. Trees can be managed, but they cannot be controlled. To live, work or play near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

The findings and opinions expressed in this report are representative of the conditions found on the day of the review only. Any trees retained should be reviewed on a regular basis. The root crowns, and overall structure, of all of the trees to be retained must be reviewed immediately following land clearing, grade disturbance, significant weather events and prior to site usage changes.

Please contact the undersigned if you have any questions or concerns regarding this report.

Mike Fadum and Associates Ltd.

Peter Mennel, BSc

ISA Certified Arborist: PN-5611A

Certified Tree Risk Assessor #489



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2721	Western Redcedar (<i>Thuja plicata</i>)	~100	MG	MG	95	Asymmetrical canopy weighted to the west. Tree conflicts with construction.	Remove to accommodate construction.
2722	Western Redcedar (<i>Thuja plicata</i>)	21	M	MG	90	Shade suppressed. Asymmetrical canopy weighted to the north. Tree conflicts with construction.	Remove to accommodate construction.
2723	Western Hemlock (<i>Tsuga heterophylla</i>)	28	M	M	80	Shade suppressed. Asymmetrical canopy weighted to the north. Tree conflicts with construction.	Remove to accommodate construction.
2724	Western Redcedar (<i>Thuja plicata</i>)	59	M	G	95	Within 1.4m of a 1m retaining wall. Tree conflicts with construction.	Remove to accommodate construction.
2725	Cherry (<i>Prunus sp</i>)	~20	P	MP	NA	Codominant attachment at mid stem. Grows at 45 degree angle before it corrects to vertical. Tree has failed previously. Grows downhill before it corrects to vertical. Extensive decay within the buttress flares. Tree conflicts with construction.	Remove to accommodate construction.
2726	Western Redcedar (<i>Thuja plicata</i>)	32	M	MG	95	Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2727	Western Hemlock (<i>Tsuga heterophylla</i>)	40	P	MG	75	Asymmetrical canopy weighted to the north. Self correcting phototropic sweep to the north. Extensive decay within the lower 6m. Rams horn callus around decay. Tree poses an increased risk of failure. Codominant at ½ its height. Likely codominant at point of past stem failure with decay that extends down to its base. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2728	Lawson Falsecypress (<i>Chamaecyparis lawsoniana</i>)	~65	MP	MG	100	Asymmetrical canopy weighted to the northeast. Tree grows at the top of a bank and may have suffered root plate failure or root loss. Significant phototropic sweep to the northeast. Tree conflicts with construction.	Remove to accommodate construction.
2729	Western Redcedar (<i>Thuja plicata</i>)	25	M	MG	100	Shade suppressed. Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option.	Remove.
2730	Western Hemlock (<i>Tsuga heterophylla</i>)	47	P	M	20	Topped at 8m with no regrowth and scaffolds assuming dominance. Tree conflicts with construction.	Remove to accommodate construction.
2731	Western Redcedar (<i>Thuja plicata</i>)	60	M	MG	95	Asymmetrical canopy weighted to the southeast. Phototropic sweep to the north. Tree conflicts with construction.	Remove to accommodate construction.
2732	Western Hemlock (<i>Tsuga heterophylla</i>)	47	M	MG	65	Asymmetrical canopy weighted to the west. Phototropic sweep to the northwest. Tree conflicts with construction.	Remove to accommodate construction.
2733	Douglas-fir (<i>Pseudotsuga menziesii</i>)	81	MG	MG	70	Asymmetrical canopy weighted to the northeast. Tree conflicts with construction.	Remove to accommodate construction.
2734	Western Hemlock (<i>Tsuga heterophylla</i>)	59	M	MG	85	Asymmetrical canopy weighted to the southeast. Tree conflicts with construction.	Remove to accommodate construction.
2735	Western Hemlock (<i>Tsuga heterophylla</i>)	40	M	MG	95	Asymmetrical canopy weighted to the southeast. Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2736	Douglas-fir (<i>Pseudotsuga menziesii</i>)	87	MG	MG	60	No observed defects. Tree conflicts with construction.	Remove to accommodate construction.
2737 - 2738	Douglas-fir (<i>Pseudotsuga menziesii</i>) Western Hemlock (<i>Tsuga heterophylla</i>) X2	28, 26, 22	MP	MG	30	Row of trees including many less than 20cm DBH. Limited trunk tapers. Aggressively pruned. 2738 is dead. Trees conflict with construction.	Remove to accommodate construction.
2739	Douglas-fir (<i>Pseudotsuga menziesii</i>)	89	MG	MG	80	Ivy over the lower 6m. Asymmetrical canopy weighted to the southeast. Tree will be significantly impacted by excavation.	Remove to accommodate construction. Leave stump intact.
2740	Western Hemlock (<i>Tsuga heterophylla</i>)	29	M	MG	90	Asymmetrical canopy weighted to the north. Limited trunk taper. Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2741	Western Hemlock (<i>Tsuga heterophylla</i>)	49	MP	MG	95	Asymmetrical canopy weighted to the northwest. Tree appears to be topped or suffered stem failure at ½ its height with codominant regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2742	Douglas-fir (<i>Pseudotsuga menziesii</i>)	28	MP	MG	50	Limited trunk taper and a high canopy. Spiraled around 2741. Tree conflicts with construction.	Remove to accommodate construction.
2743	Douglas-fir (<i>Pseudotsuga menziesii</i>)	78	M	MG	90	Topped or stem failure at ~14m with wide angle of regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2744	Douglas-fir (<i>Pseudotsuga menziesii</i>)	59	M	MG	80	Asymmetrical canopy weighted to the east. Limited trunk taper. Slight dogleg at 14m. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2745	Douglas-fir (<i>Pseudotsuga menziesii</i>)	94	M	MG	90	Asymmetrical canopy weighted to the west. Codominant attachment at ~20m. Three stem attachment with candelabra formation likely at point of past topping. Tree conflicts with construction.	Remove to accommodate construction.
2746	Western Hemlock (<i>Tsuga heterophylla</i>)	29	M	G	70	Asymmetrical canopy weighted to the south. Depression and possible decay pocket at 10m. Tree conflicts with construction.	Remove to accommodate construction.
2747	Douglas-fir (<i>Pseudotsuga menziesii</i>)	68	MG	MG	75	Asymmetrical canopy weighted to the east. Tree will be significantly impacted by excavation.	Remove to accommodate construction.
2748	Western Redcedar (<i>Thuja plicata</i>)	31	MG	MG	95	No observed defects. Tree conflicts with construction.	Remove to accommodate construction.
2749	Douglas-fir (<i>Pseudotsuga menziesii</i>)	90	MG	MG	90	Asymmetrical canopy weighted to the east. Tree will be significantly impacted by excavation.	Remove to accommodate construction.
2750	Western Redcedar (<i>Thuja plicata</i>)	23	MG	MG	100	Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2751	Western Redcedar (<i>Thuja plicata</i>)	46	M	MG	95	Asymmetrical canopy weighted to the east. Pruned on the east side for overhead utility line clearance. Tree conflicts with construction.	Remove to accommodate construction.
2752	Western Redcedar (<i>Thuja plicata</i>)	46	M	MG	95	Multi stemmed attachment at 8m. Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option.	Remove.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2753	Western Hemlock (<i>Tsuga heterophylla</i>)	44	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2754	Western Hemlock (<i>Tsuga heterophylla</i>)	40	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2755	Western Redcedar (<i>Thuja plicata</i>)	52	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2756	Western Redcedar (<i>Thuja plicata</i>)	38	M	MG	95	Self correcting phototropic sweep to the south. Topped previously with dogleg regrowth. Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option.	Remove.
2757	Western Redcedar (<i>Thuja plicata</i>)	35	MP	MG	95	Topped at 8m for overhead utility line clearance.	Remove poorly structured tree.
2758	Western Redcedar (<i>Thuja plicata</i>)	26	M	MG	95	Asymmetrical canopy weighted to the west. Limited trunk taper. Tree conflicts with construction.	Remove to accommodate construction.
2759	Western Redcedar (<i>Thuja plicata</i>)	42	MG	MG	100	Asymmetrical canopy weighted to the south. Ivy over the lower 10m. Tree conflicts with construction.	Remove to accommodate construction.
2760	Western Hemlock (<i>Tsuga heterophylla</i>)	28	MP	M	30	Topped at 8m for overhead utility line clearance with no regrowth. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2761	Western Redcedar (<i>Thuja plicata</i>)	54	MP	M	50	Topped at 8m for overhead utility line clearance. Tree conflicts with construction.	Remove to accommodate construction.
2762	Western Hemlock (<i>Tsuga heterophylla</i>)	31	P	M	60	Topped at 6m with no regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2763	Western Redcedar (<i>Thuja plicata</i>)	44	P	MG	60	Asymmetrical canopy weighted to the south. Topped at 8m with no regrowth. Extensive decay column originating from the topping cut down to the base. Tree conflicts with construction.	Remove to accommodate construction.
2764	Western Hemlock (<i>Tsuga heterophylla</i>)	28	P	M	10	Topped previously. Tree conflicts with construction.	Remove to accommodate construction.
2765	Western Redcedar (<i>Thuja plicata</i>)	~42	P	M	90	Topped previously. Tree conflicts with construction.	Remove to accommodate construction.
2766	Western Redcedar (<i>Thuja plicata</i>)	49	M	MG	95	Self correcting phototropic sweep to the northwest. Tree conflicts with construction.	Remove to accommodate construction.
OS1/ OS2	Western Redcedar (<i>Thuja plicata</i>) X2	~55	MG	MG	95	Not identified at the time of survey and their locations are approximate. Asymmetrical canopy weighted to the east.	Retain. 4.0m
OS3	Douglas-fir (<i>Pseudotsuga menziesii</i>)	~40	M	M	45	Heavy ivy infestation over the lower 60%.	Retain. 3.0m



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
OS4	Western Hemlock (<i>Tsuga heterophylla</i>)	24	M	MG	80	Significant dogleg at ½ its height.	Retain. 2.0m
OS5	Douglas-fir (<i>Pseudotsuga menziesii</i>)	113	MG	MG	50	No observed defects.	Retain. 7.0m Reassess in conjunction with excavation field staking. Removal may be warranted.
C1	Western Hemlock (<i>Tsuga heterophylla</i>)	~50	P	M	50	100% ivy infestation. Topped at 6m with no regrowth and scaffolds assuming dominance.	Remove poorly structured tree pending permission from North Vancouver.
C2	Western Hemlock (<i>Tsuga heterophylla</i>)	35	P	M	40	Topped at 6m with no regrowth.	Remove poorly structured tree pending permission from North Vancouver.
C3	Western Hemlock (<i>Tsuga heterophylla</i>)	~26	P	DEAD	0	Deadwood and decay throughout the stem.	Remove poorly structured tree pending permission from North Vancouver.
ADDITIONAL RECOMMENDATIONS							
<ul style="list-style-type: none"> In order to prevent root damage, which may adversely affect the health and or stability of the retained trees, any ground disturbance or grade alteration within the recommended Tree Protection Zone provided in the table above shall be under the direction of the project arborist. 							

Note: 'OS' refers to Offsite trees and due to restricted access their diameters are approximate. An assessment of offsite trees does not imply they are safe as the restricted access prevented a thorough review. 'C' refers to trees on City property.





Figure 1. Trees 2721-2728.





Figure 2. Interior of site looking west to riparian zone.





Figure 3. Crescentview Drive looking north.





Figure 4. East of site looking west.



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CLIENT

FILE NO.

PROJECT TITLE
TREE PRESERVATION AND PROTECTION PLAN

3105 3115 CRESCENTVIEW DR.,
NORTH VANCOUVER, B.C.

REVISIONS:

NO.	DATE	BY	REVISION

NOTE: TREE PROTECTION FENCING SHALL BE CONSTRUCTED TO CITY STANDARDS. REASSESS TREES WITH LOT GRADING PLANS.

SHEET TITLE

T1 - TREE PRESERVATION AND REMOVAL PLAN

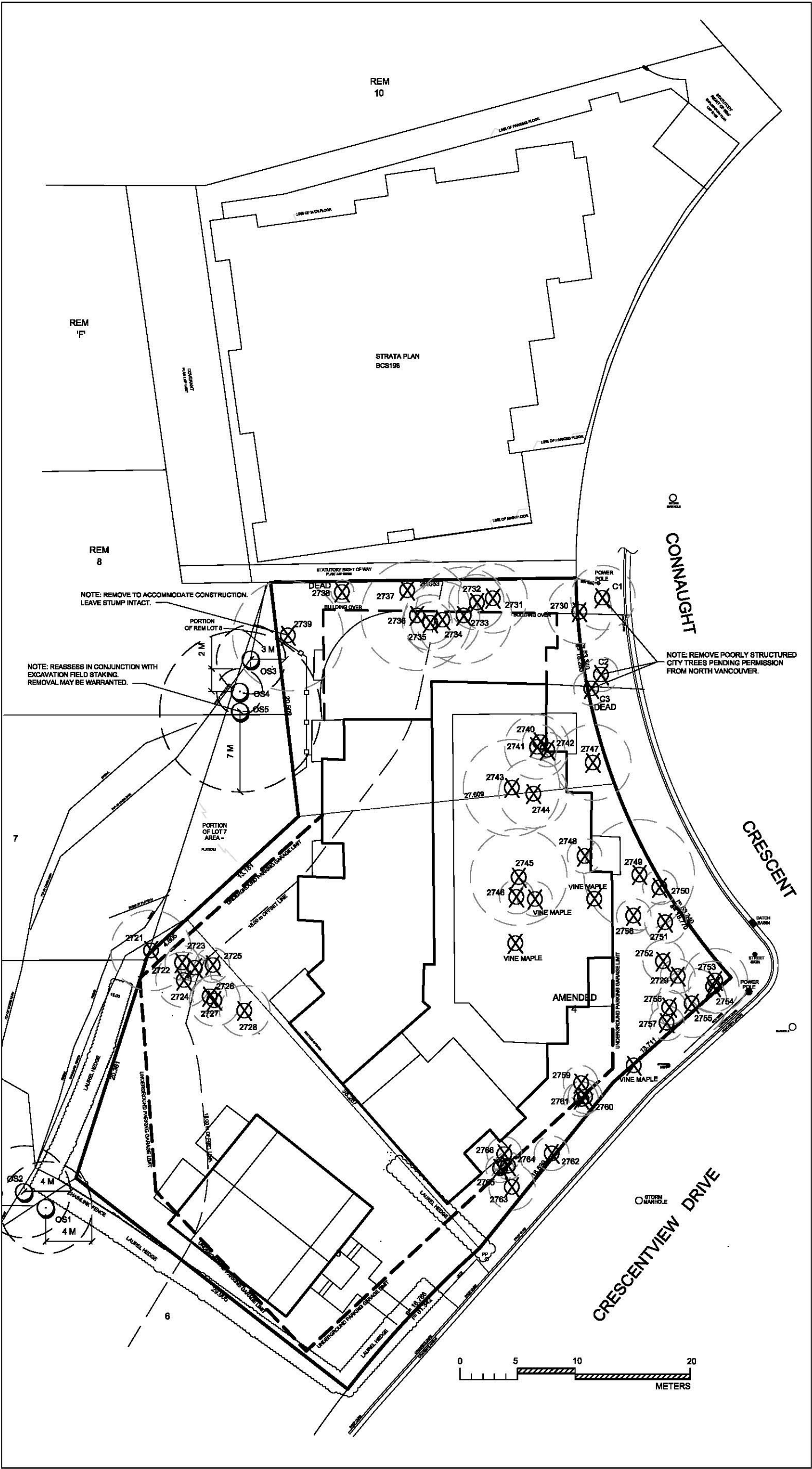
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DRAWN
SGL

SCALE
AS SHOWN

DATE
OCTOBER 6, 2014

T-1
SHEET 1 OF 2



LEGEND

TREE TO BE RETAINED

TREE TO BE REMOVED

MINIMUM NO DISTURBANCE ZONE (6X DIAMETER)

TREE PROTECTION FENCING



Preliminary Wildfire Hazard Assessment

3105 and 3115 Crescentview Drive

PID 010-825-479 and 010-825-444



Submitted By:

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October 15, 2015

B.A. BLACKWELL & ASSOCIATES LTD.





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1.0 Introduction

B.A. Blackwell and Associates Ltd. (Consultant) were retained by Mike Fournogerakis (Client) to provide a wildfire hazard assessment and tree retention report for 3105 and 3115 Crescentview Drive in the District of North Vancouver (DNV). The purpose of the fire hazard assessment is to determine wildfire risk associated with the residence and to ensure compliance with the DNV's Wildfire Hazard Development Permit Area (Wildfire Hazard DPA). The goal of this assessment is to ensure the proposed development falls within an acceptable range of risk from wildfire for the intended use as a residential property. This considers both a house fire spreading from the property to nearby forested District lands and a wildfire spreading from a forested area into the developed portion of this neighbourhood.

This report is an assessment of the state of the property, as existed, on the date of the field assessment. Furthermore, it is based, in part, upon information provided by the homeowners and their authorized representative regarding their plans, as of the date of signing. The Consultant cannot accept responsibility for any issues or events that have arisen since the date of the inspection and the date the report was written.

The legal description and PID number are:

3105 Crescentview Drive

Lot 5 Block 55 to 196 District Lots 598 to 601 Plan 6659

PID: 010-825-479

and 3115 Crescentview Drive

Amended Lot 4 (see 149056L) Block 55 District Lots 598 to 601 Plan 6659

PID: 010-825-444

1.1 Qualifications

Bruce Blackwell, MSc, RPF (#2073) has over 28 years experience in fire and forest ecology, and fire and fuels management. Judith Cowan, FIT (#5443) is an International Society of Arboriculture (ISA) Certified Arborist (PN-7413A) and has four years experience in arboriculture in the lower mainland. Bruce Blackwell, RPF meets the requirements of a 'Qualified Professional' (Section 1.2 below).

1.2 Fire Hazard Report Sign Off

At the completion of the development and before first occupancy, the DNV requires that a 'Qualified Professional' inspects and signs off that all prescribed mitigation measures have been satisfactorily undertaken pursuant to this Report, pertaining specifically to the wildfire hazard on the property. A qualified professional must be "*a Registered Professional Forester in good standing and qualified by training or with a minimum of two years' experience in fuel management prescription development and mitigation of wildfire hazards in British Columbia.*"¹

¹ Wildfire Hazard Report Master Requirement SPE115, District of North Vancouver, Version March 31, 2014



This Report should be shared with contractors, developers and landscapers, as relevant, to ensure that requirements are noted and recommendations are followed as part of compliance with the Wildfire Hazard DPA.

1.3 Documents Reviewed

The following documents were reviewed for the purpose of this assessment:

1. 3105/3115 Crescentview Community Association Presentation dated May 19, 2015
2. Topographic survey, completed by Hobbs, Winter & MacDonald.
3. Preliminary Submission Letter for 3105 and 3115 Crescentview Drive from the District of North Vancouver dated July 27, 2015.
4. Tree Evaluation Report: Multifamily Residential Development 3105 and 3115 Crescentview Drive prepared by Mike Fadum and Associates, dated October 27, 2014.
5. Re-zoning Application Drawing Package for 3105 / 3115 Crescentview, prepared by Ray Letkeman Architect, dated October 7, 2015 and received October 7, 2015.
6. Building drawing package for 3105 Crescentview, prepared by Rohestudio , dated October 13, 2015.

2.0 Property Description

The lots at 3105 and 3115 Crescentview Drive are located in the Highlands neighbourhood and are approximately 703 m² and 1,097 m² in size, respectively, in size for a combined total area of 1,800 m². The properties under review are currently occupied by one-storey, wood-framed residential buildings in areas zoned Residential Level 2: Detached Residential and Residential Level 5: Low Density Apartment, respectively. The initial application called for a consolidation of the two lots with the construction of a three storey apartment building and a separate duplex unit. At the time of the Wildfire Hazard Assessment field work (September 22 and 23, 2015) the entire site was in the process of being rezoned to Comprehensive Development (CD) in order to accommodate redevelopment to an apartment with attendant underground parking.

3.0 Methodology

All coniferous trees, shrubs and hedges within 5 m of the property of 3105 / 3115 Crescentview were assessed.

The vegetative portion of the fire hazard assessment included collection of the following data:

- diameter at breast height (dbh) measured to nearest 0.5 cm (trees only),
- form (hedge, shrub, tree, multi-stem tree),
- location (approximate location for shrubs/hedges not on the survey),
- crown radius,



- tree height measured to the nearest meter , and
- tree health, condition or defect.

Tree height was measured using a clinometer and digitally measured horizontal distance. For those trees where it was not possible to see tree base and top, ocular estimates were based on nearby trees that were able to be accurately measured. Diameter at breast height was measured according to the District of North Vancouver's tree measurement guidelines². Crown radii are ocular estimates to the nearest half meter using the most far-reaching branch tip as the basis for measurement. Tree health, condition or defect was assessed visually. No coring, drilling, or climbing was executed.

Shrub and hedge assessment included the collection of species, height, spread and condition only. All measurements (height and spread) for shrubs and hedges were ocular estimates.

All vegetation assessed was assigned a unique number, used consistently throughout the report in maps, text, and tables. The trees were tagged with round aluminum tags nailed to the stem at 1.4 – 1.6 m height. Trees off property (DNV and on adjacent private property) were not tagged in the field.

Photographs of the site and specimens were taken for documentation.

4.0 Fire Hazard Assessment

The fire hazard assessment included two site visits:

- Field assessment and vegetation inventory took place on September 22 and 23, 2015, by Judith Cowan, FIT and ISA Certified Arborist.

The purpose of the assessment is to identify wildfire hazards and the associated level of risk to the property and neighbourhood from a wildfire, and to recommend mitigation measures required to reduce the hazards and risk.

4.1 Site Description

The parcels are located 25m from the nearest hydrant on Newmarket Drive. Access to the properties for DNV Fire is available from the northeast via Crescentview and Highland Blvd Dr, and from the east via West Queens Rd. As a unit the properties conform to a dogleg shape fronting Crescentview Drive and the one-way portion of Connaught Crescent. The property frontages face commercial lots while the rear is open to the natural forested area of McKay Creek watershed and Murdo Frazer Park. 3115 Crescentview faces the one storey commercial development and associated parking area which is part of the Edgemont Neighbourhood Commercial Area. Neighbours directly adjacent to the properties under review include the multi-family 3 storey strata to the north and a single family residence to the southwest. The linear extent of the properties' exposure to the densely treed corridor of Mackay Creek is 60 metres. Horizontal distance from the creek top of bank (TOB) to the Property's western boundary is variable ranging from 10m by 3105 Crescentview Dr to 1 metre in the northwest corner of 3115 Crescentview Dr. Mackay Creek flows in a north / south direction where it connects to the Burrard Inlet. The

² District of North Vancouver Environment Department, *Tree Permit Information: How to measure a stem diameter*.



trail network through Murdo Frazer Park provides recreational access throughout the Park as well as increasing the possibility of fire ignitions by humans.

Crescentview Dr. gently rises at a minimal grade of 4% to the north. 3105 and 3115 Crescentview are level with the road alignment fronting Crescentview Dr. whereas the driveway of 3115 Crescentview Dr. slopes approximately 5% up to Connaught Crescent. The existing single family residential houses have large set backs from the eastern property lines but are much closer to the TOB of Mackay Creek. Grades within 3115 follow natural contours and the existing house has been constructed as a split level structure conforming to the low depression in the southwestern portion. There are no public sidewalks in front of the properties. There is a connected and continuous corridor of coniferous vegetation along the road frontage underneath utility lines which acts as dense screening to the interior of 3115.

The majority of the property has a relatively northwestern aspect. The parcel and topographic contours are displayed in Figure 1.

The parcels at 3105 and 3115 Crescentview Drive have primarily native coniferous vegetation at various age classes as the dominant flammable vegetation. Interspersed among large diameter veteran trees are specimens in the regeneration, sapling and pole size categories. There is significant flammable coniferous vegetation on the properties, as well as offsite in the Mackay Creek ravine and creek system. The fire hazard both on and off the property poses a hazard to the parcel itself, the neighbouring properties and to the densely treed coniferous corridor of Mackay Creek.

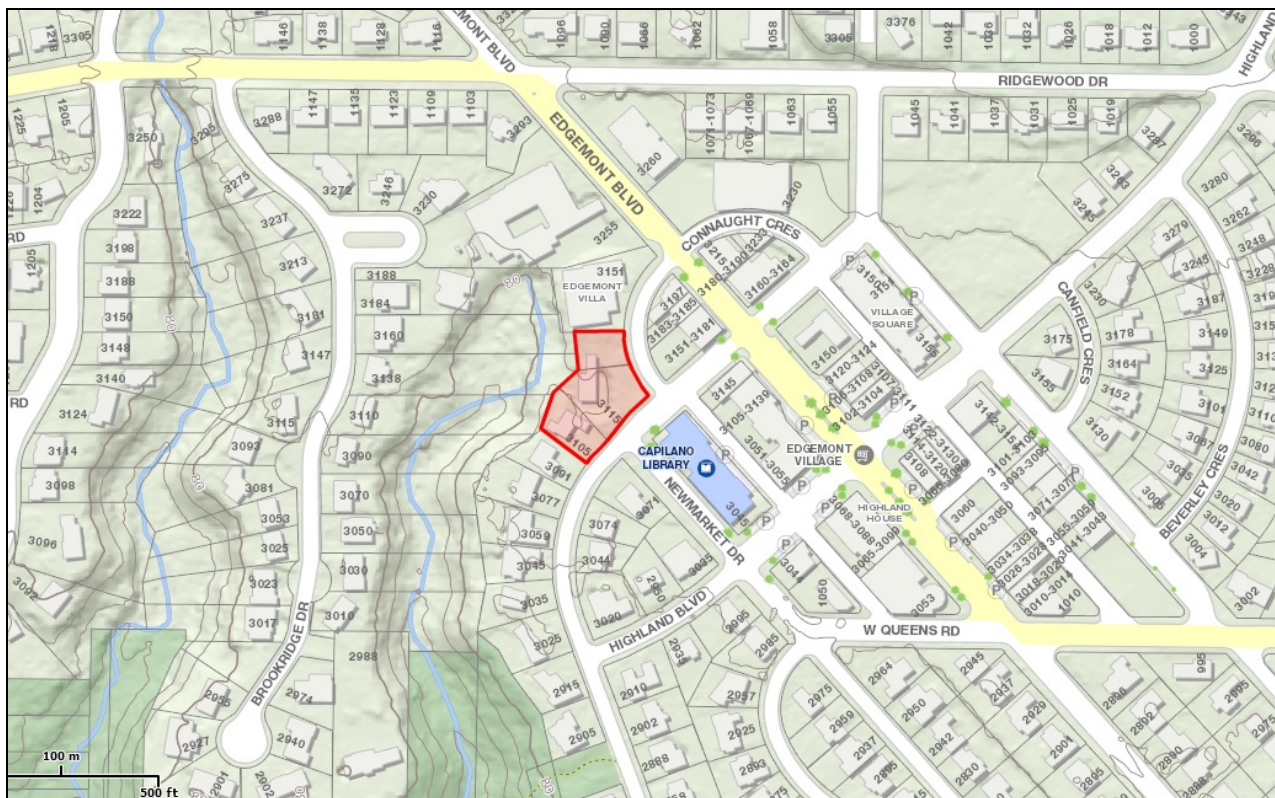


Figure 1. 3105 and 3115 Crescentview Drive highlighted in red. Figure from DNV Geoweb.



A fire originating in, or spreading from, Mackay Creek and Murdo Frazer Park, has the potential to spread uphill to 3105 and 3115 Crescentview Drive under high or extreme fire danger. A house fire originating from 3105 or 3115 Crescentview Drive has high potential to spread to the forested Mackay Creek by means of radiant or convective heat transfer or through spotting. Spotting is the process by which embers are carried aloft by thermal air currents from a fire front which then ignite flammable material beyond the advancing fire.

To lower the risk level and to help protect buildings in this neighbourhood, landscaping, building design and construction materials must be DPA compliant to reduce fire hazards to an acceptable level.

4.2 Fire Smart Structure and Hazard Assessment

To evaluate fire hazards, the **FireSmart** approach which employs the *FireSmart Structure and Hazard Assessment Form* and the concept of *FireSmart Priority Zones* was used. These can be found on the FireSmart Canada website at <https://www.firesmartcanada.ca/resources-library/protecting-your-community-from-wildfire> (Partners in Protection 2003) and are helpful tools for assisting in assessing risk and recommending mitigation options.

The FireSmart Structure and Hazard Assessment Form considers both building construction and vegetation related hazards. The overall rating for 3115 Crescentview Drive is 78, which falls into the Extreme (>35) category (Table 1). The extreme rating is attributable to the parcel's direct exposure to a continuous, closed-canopy, coniferous dominated forest with a shrubby and woody debris under-storey and abundant ladder fuels. Construction related hazards are discussed in detail in Section 6.0 Building Construction.



Table 1. FireSmart Structure and Hazard Assessment form for the planned development of 3105 and 3115 Crescentview Drive.

Structure and Site Hazard Assessment Form

Factor	Characteristics and Point Rating					Score
Roofing Material	Metal, tile, asphalt, ULC-rated shakes or non-combustible material	Unrated Wood Shakes				0
	0	30				
Roof cleanliness	No combustible material	Scattered combustible material, < 1 cm depth	Clogged gutter, combustible material > 1 cm in depth			0
	0	2	3			
Building exterior	Non-combustible material, stucco or timber	Log, heavy timbers	Wood or vinyl siding or wood shake			6
	0	1	6			
Eave, vents and openings	Closed Eaves, vents screened with 3 mm mesh, and accessible	Closed eaves, vents not screened with 3 mm mesh	Open eaves, vents not screened, debris accumulation			0
	0	1	6			
Balcony, deck, or porch	None, or fire-resistant material sheathed in	Combustible material, sheathed in	Combustible material, not sheathed in			0
	0	2	6			
Window and door glazing	Tempered	Double Pane		Single Pane		2
		Small/Medium	Large	Small/ Medium	Large	
	0	1	2	2	4	
Location of nearby combustibles	None or > 10 metres from structure	< 10 metres from structure				0
	0	6				
Setback from edge of slope	Adequate	Inadequate				0
	0	6				
Forested Vegetation (overstory)	Deciduous	Mixed wood	Coniferous		0	
			Separated	Continuous		
< 10 metres	0	30	30	30	0	
10-30 metres	0	10	10	30	30	
Surface Vegetation	Lawn or non-combustible material	Wild Grass or shrubs	Dead and down woody material		0	
			Separated	Continuous		
< 10 metres	0	30	30	30	0	
10-30 metres	0	5	5	30	30	
Ladder Fuels	Absent	Scattered	Abundant			10
10-30 metres	0	5	10			
Total Score					78	
Structure and Site Hazard Level						
Hazard Level	Low < 21	Moderate 21-29	High 30-35	Extreme > 35		



4.2.1 FireSmart Zones

FireSmart uses the concept of priority zones (PZ), or FireSmart zones, to determine where and how hazard assessment should be conducted and to determine appropriate mitigation measures. Priority Zones are defined by FireSmart as follows:

Priority Zone 1 (PZ 1) is a 10 m fuel free zone around structures (Figure 2 and Map 1) which ensures that direct flame contact with the building cannot occur and reduces the potential for radiative heat to ignite the building. Combustible materials such as firewood should not be stored in this zone. While creating this zone is not always possible, landscaping choices (including tree retention and replacement) should reflect the use of less flammable vegetation such as deciduous trees and shrubs, herbs and other species with low flammability. **Coniferous vegetation, such as juniper or cedar hedges, is restricted in this 10 m zone, as these are highly flammable. Any vegetation in this zone should be widely spaced and well setback from the house.**

Priority Zone 2 (PZ 2) extends from 10 m to 30 m from the structure. In this zone, trees should be widely spaced (5 to 10 m apart), depending on size and species (Map 1). Tree crowns should not touch or overlap. Deciduous trees have much lower volatility than coniferous trees, so where possible deciduous trees should be preferred for retention or planting. Trees in this area should be pruned as highly as possible (without compromising tree health), especially where long limbs extend toward buildings. This helps to prevent a fire on the ground from moving up into the crown of the tree or spreading to a structure. Any downed wood or other flammable material should also be cleaned up in this zone to reduce fire moving along the ground.

It is recognized that in urban and wildland urban interface settings, such as in the DNV, homeowners' and developers' have little or no influence or control over fuels and/or landscaping beyond their property boundaries (in PZ 2), but which may influence the fire hazard of their property.

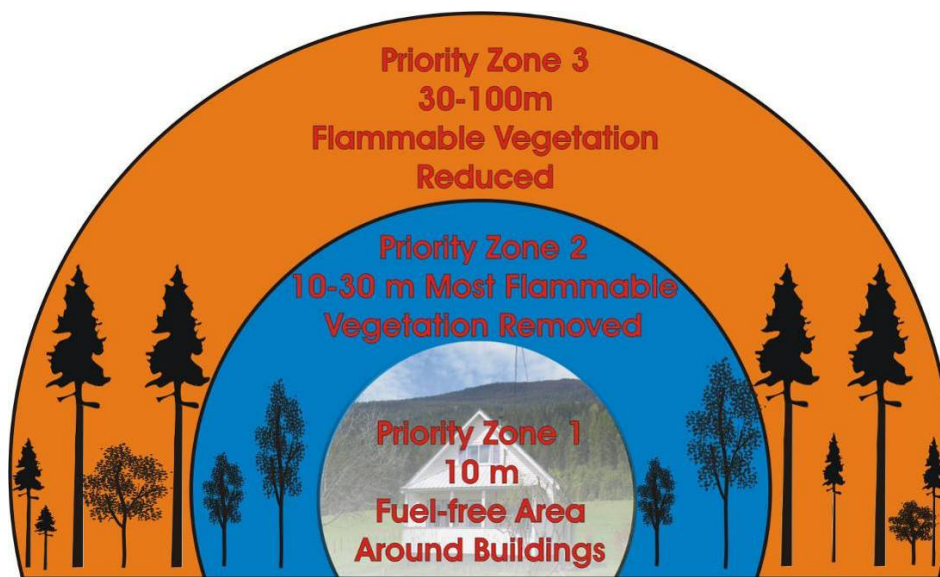


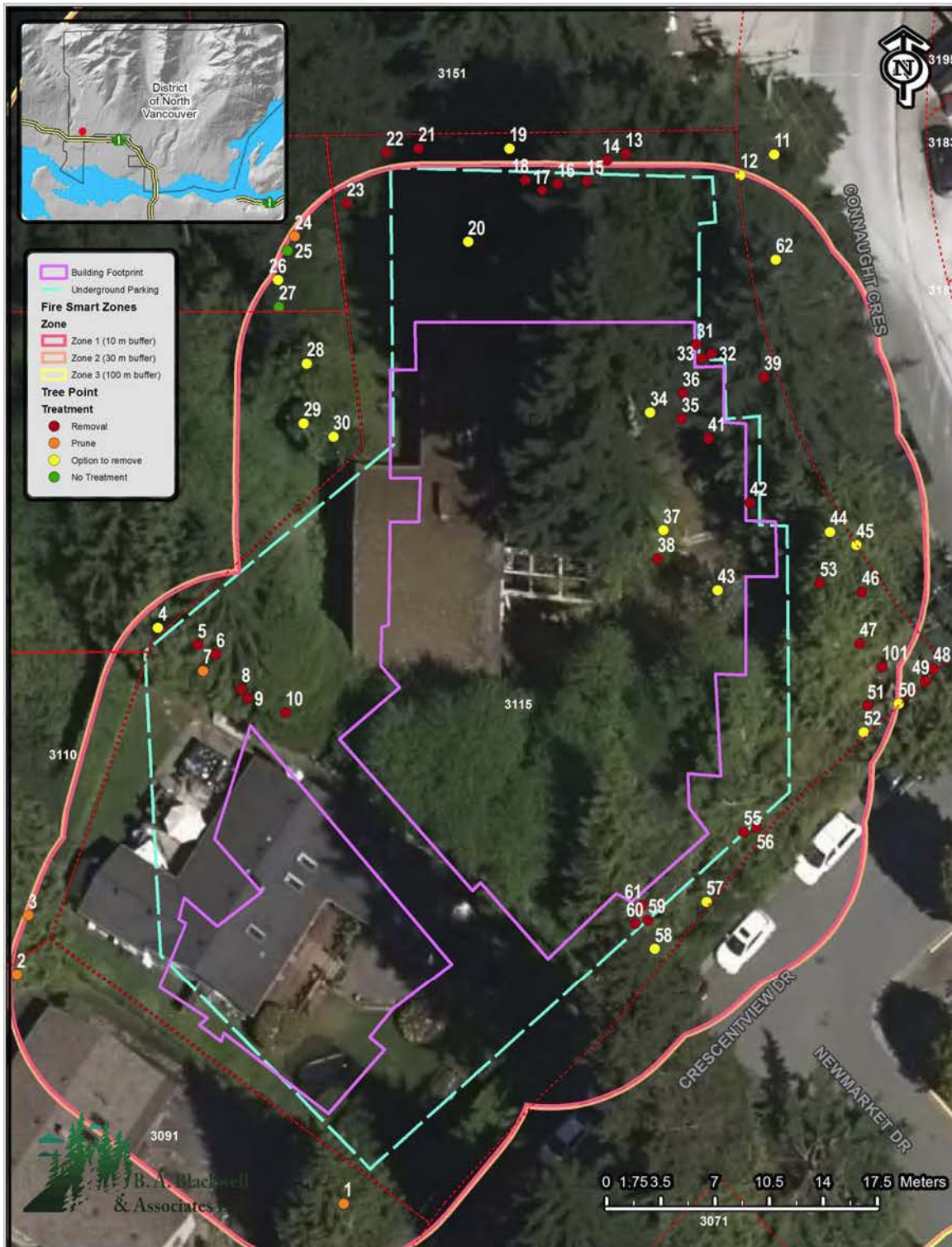
Figure 2. FireSmart Priority Zones.

Recommendations in this report are limited to actions that can be implemented on the subject parcel and within PZ 1. Within PZ 1, the recommendations are to reduce the potential fire hazard by removing flammable shrubs, hedges and trees in close proximity to the planned development (9.0 Landscaping). The execution of these recommendations will reduce the likelihood of fire spread.

With FireSmart building materials, FireSmart landscaping, and executing the recommendations in this report, the risk to the home from spotting and/or an ember shower should be sufficiently mitigated.

5.0 Building Setbacks

The properties at 3105 and 3115 Crescentview Drive are exposed to a forested edge; the proposed set-back from the top of bank and forested edge to the above ground building exterior is approximately 23m horizontal distance at the widest and 12m horizontal distance at the narrowest. However, the setback to the proposed underground parking structure is much too narrow, ranging between 5m to 10m. The presence of the underground parking presents significantly more disturbance to the site. It is recognized that setbacks from the top of bank are recommended to be a minimum of 10 m. In this case, retaining vegetation on the steep slope for slope stability, privacy, and for protecting streamside environment (erosion, water quality, stream temperature, riparian microclimate, etc.) are integral considerations which must factor into recommendations. Due to consideration of the above values, removal of all flammable coniferous vegetation within Priority Zone 1 is not a feasible option. Partial and strategic removal of flammable vegetation combined with the use of non-combustible building materials and design should place the property within an acceptable range of risk for use as a residence (FireSmart Wildfire Hazard Assessment System, Chapter 2 – 12). The proposed building will use DPA compliant construction materials, landscaping, and design (non-combustible, using FireSmart design principles).



Map 1. FireSmart Priority Zones 1 and 2 and the proposed footprint of the single family home, low-rise apartment building and the extent of the underground parking.



6.0 Building Construction

The building materials assessed were provided by architect by Ray Letkeman (Document 5, Section 1.3) on October 7, 2015 and additional information provided via email on October 9, 2015. For the proposed single family dwelling at 3105 Crescentview, drawings and a material list were provided by Rohestudio on October 13, 2015 (Document 6, Section 1.3). Although the development calls for two separate buildings, they are both included on the SHSS form. The material list for both structures is similar, except for the Douglas Fir siding for the single family home at 3105 Crescentview which will be sealed with a fire resistive coating. The fire hazard assessment rating is within the extreme category because both properties are adjacent to the connected, continuous forested of Mackay Creek along their western boundary. It is recognized that the construction materials assessed are considered preliminary design choices. B.A. Blackwell is to offer input in the final exterior materials and design choices to ensure that the home and property are compliant and will result in single and multi-family dwellings that are within an acceptable range of fire risk for its intended use.

It is at the risk of the Client to change the design or materials without input from Blackwell or another QP; post-development sign-off is required to complete the DP process.

6.1 Preliminary Design

Cladding

For 3115 Crescentview the exterior cladding will be a combination of 6" and 8" Hardiplank Lap Siding, Glulam beams and brick.

For 3105 Crescentview, wood siding and glazing predominate with minor components of Fiber cement board panels and poured in place concrete. As confirmed by Ronan form Rohestudio on October 13, 2015 all Douglas exterior finishing will be treated with a non-combustible, non-intumescent clear coating that will provide a '0' flame spread rating.

Roofing

The roofing will be asphalt roof shingles for both structures.

Soffits, Trim, and Windows

Soffits will be 6" cedar tongue and groove. Window will be aluminum with wood and vinyl trim.

Decking

At 3105 Crescentview there will be one at-grade rear deck with stone paving. An upper floor covered balcony is to be hardwood grooved material. The balconies for the apartment building at 3115 Crescentview will be frame with a deck membrane typical of apartment construction practices and techniques. Decking above grade must be sheathed-in (no exposed joists), or with all underside materials made from non-combustible materials, such as Trex Elevations framing system.



Outdoor Burning Devices

At 3105 Crescentview, an exterior, built-in exterior gas fireplace is proposed for the rear deck of the single family home. A stand alone exterior gas fireplace is also proposed adjacent to the dining room wall of the single family home.

6.2 General Requirements

Building materials and design must meet the following to be considered acceptable:

- Roofing must be tested and rated Class A in accordance with ASTM E 108, or equivalent. Non-combustible materials, such as asphalt shingles, torch on, and metal are acceptable.
- Balconies, decks and porches must be sheathed in (no exposed joists) and made of an ignition-resistant³ material (non-combustible or receiving a Class A fire rating). Acceptable materials include stone, tile, rated composites, and concrete.
- Soffits must be made of an ignition-resistant material. Eaves may not be open. Soffits must be closed.
- Vents must be accessible and screened with a metal 3 mm wire cloth or mesh.
- Other non-combustible or Class A fire rated exterior materials are acceptable, with sign-off confirmation from B.A. Blackwell and Associates or another QP.

Changes in building materials or design that increase susceptibility to fire are not permitted.

7.0 Environmental Considerations

7.1 Canopy Cover

The reduction in canopy cover⁴ on the property will be extensive as a result of both fire hazard mitigation recommendations and tree removal to allow for development. Current canopy cover at 3105 Crescentview is approximately 35% and at 3115 Crescentview it is approximately 75% for a combined average of 55% for the two lots. Recommended removals to meet fire hazard mitigation objectives and to allow for development of the property will decrease the overall canopy cover for both properties to 5%. Replacement trees will slowly contribute to increased canopy cover over time; though winter season canopy cover will only negligibly increase due to replacements recommended (deciduous trees do not have foliage during winter months).

Removals will lead to the loss of the ecosystem services associated with those trees removed. Ecosystem services include: storm water management, biomass services, air pollution abatement, microclimate moderation, noise reduction, slope stability, rainwater retention, and wildlife habitat (Carreiro et al, 2008). Retention and protection of those conifers furthest from the building footprints, including fuel hazard reduction treatments such as pruning, and especially those on DNV land will allow the stand in Mackay Creek to continue to provide many of

³ NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire. 2013 Edition.

⁴ Canopy cover is the area in canopy within a subject property boundary, when viewed from above in plan view, is covered by canopy. In this case, it is estimated in m² from DNV GEOweb aerial photos, with changes estimated due to current state of treed vegetation. <http://www.geoweb.dnv.org/>. Canopy is defined by the DNV Tree Protection Bylaw 7671 as 'the extent of the outer layers of leaves of needles of an individual or group of trees.'



these valuable ecosystem services, while reducing the flammable foliage, and thus the wildfire hazard, nearest to the home.

7.2 Proximity to Parkland

As noted previously, the western section of the parcels are forested and back onto the continuous forested corridor of Mackay Creek. In the landscaped portion of the redeveloped parcels, plant selections should be made carefully, incorporating non-invasive plants only. In the western, sloped, forested portion adjacent to the parcels, all plantings must be native and non-invasive. **Rapidly spreading, invasive plants should be avoided in all locations on the property.** Invasive plants to be avoided include, but are not limited to: bamboo, knotweed, English ivy, laurel, lamium, privet, holly, scotch broom, knapweed, Himalayan blackberry, and periwinkle.

It is recommended that any invasive plants existing on the property be removed, with careful off-site disposal at approved green-waste or incineration facilities to ensure that cuttings do not contribute to vegetative reproduction.

8.0 Vegetation Inventory and Proposed Mitigative Works

There were a total of 59 trees, excluding 2 groupings of suppressed Western hemlock trees and 1 shrub that required assessment. All coniferous vegetation was assessed along with the inclusion of 2 Arbutus trees. A complete inventory of all assessed trees can be found in Map 2 and. Of the 62 specimens assessed, 1 was on the property of 3091 Crescentwood Drive, 6 were on DNV land, 7 were shared because they straddled property lines, 7 were on 3105, and the remainder (41 specimens) were located on the property of 3115 Crescentview Dr.

In order to acceptably mitigate the fire hazard for 3105 and 3115 Crescentview Drive, management of existing vegetation through removal and pruning on the property is recommended (see Section 8.0). Recommendations considered wildfire hazard, design plans, slope stability, and stream side protection (microclimate, habitat, water quality, surface erosion).

8.1 Removals

Recommended removals include the majority of flammable coniferous trees and the one shrub specimen within Priority Zone 1 (within 10 m) of the planned building footprints. These are recommended to allow for defensible space between the buildings and the closed canopy, coniferous corridor to the west, as well as to allow for development.

8.1.1 Removal Guidelines

Trees removed within the 15m offset from the Mackay Creek TOB should remain as stumps with rooting system remaining intact. Although transpiration associated with the tree will be lost upon removal, their rooting system will provide a degree of slope stabilization and help to reduce surface erosion in the short term, until the roots begin to decay and there is a gradual loss of root reinforcement (Brown and Sheu, 1975). Additionally, retaining the rooting system will reduce the amount of soil disturbance associated with removals.



Work should be avoided during the breeding bird season. Breeding bird season is generally between March 31st and September 15th on the south coast of BC, but if there is bird activity detected in the tree, a biologist should be consulted prior to removal. All work activities must comply with the federal Migratory Birds Convention Act (1994) and the Migratory Birds Regulation (1994) that protects migratory birds, their eggs and nests.

8.1.2 Surface Fuels

Current surface fuels on the slope are low. To maintain the surface fuels in a low hazard state, the following actions are recommended.

Surface fuels must not be allowed to accumulate on the property or on the adjacent DNV property due to mitigation actions (removals). Coarse woody debris pieces may be left on site to provide biodiversity and habitat, but must meet the following specifications:

- Trees should be bucked in 5 m lengths. Up to 10 pieces, 5 m in length, with a diameter greater than 30 cm may remain on site (per parcel). Remaining pieces should be flush to the ground along the majority of the length. All limbs and woody pieces smaller than 30 cm in diameter must be removed from the site. All large diameter pieces in excess of the 10 pieces should be removed from the site.
- No dumping of yard waste may occur and must be disposed offsite at an approved recycling or green waste facility.

8.2 Protected Trees

A total of 26 of the trees assessed are protected under Tree Protection Bylaw 7671. Two are on a slope greater than 30% and with a vertical rise greater than 3 m; seven due to large diameter, two due to species, and fourteen due to their location on DNV land Figure 3. Seven of the trees recommended for removal are large diameter trees (> 75 cm dbh).

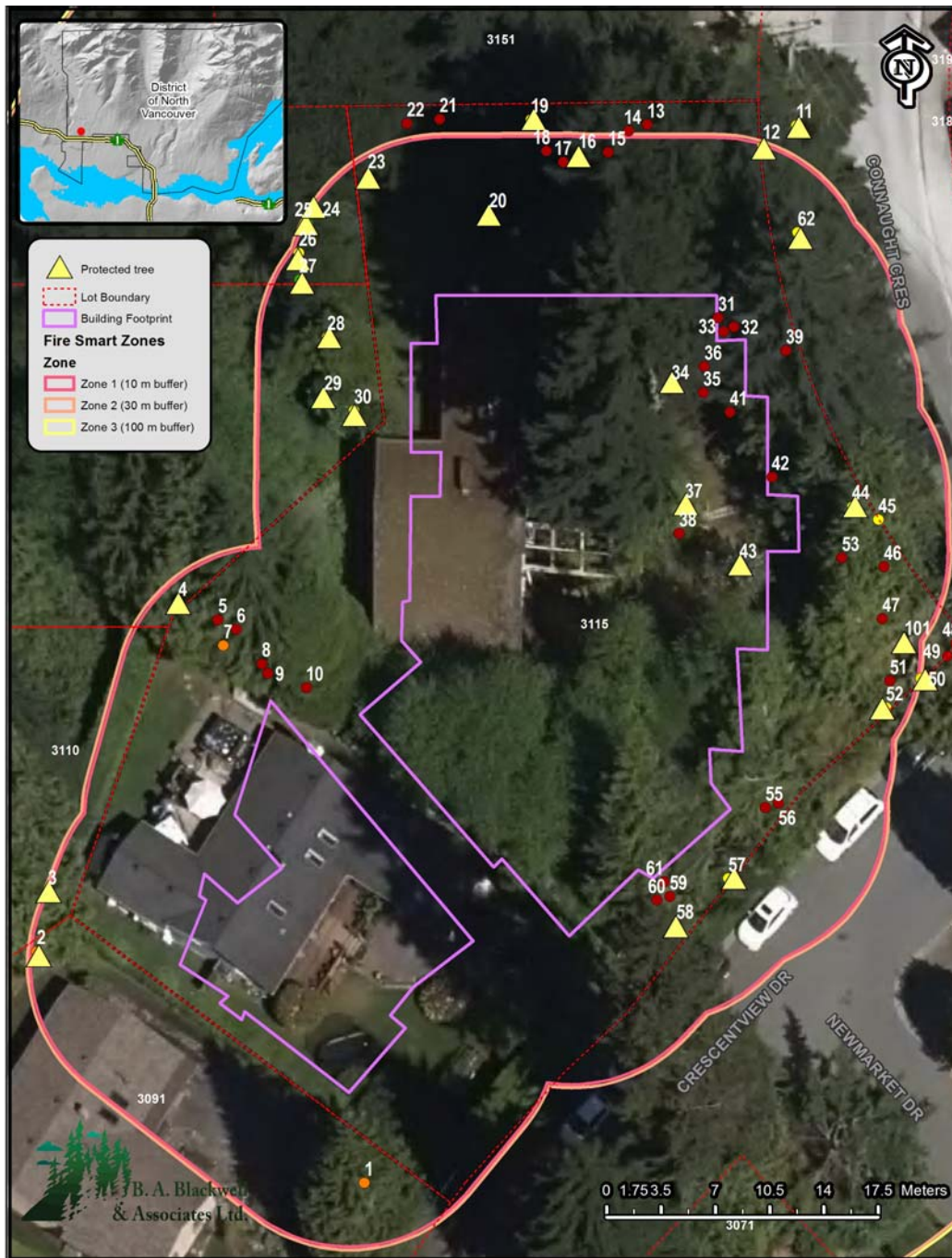


Figure 3. Location of Protected Trees as per DNV Tree Protection Bylaw 7671



Protected trees – Slope

Tree #'s 26 and 27 are protected trees due to their presence on a slope exceeding 30% grade which leads down to Mosquito Creek. They are located in Priority Zone 1 and the developer should enter into discussions with the DNV to discuss the removal of Tree #26 for fire hazard mitigation purposes and to create a canopy separation with other coniferous vegetation. All retained trees off the property of 3105 and 3115 Crescentview Drive which may be impacted by development must be protected during demolition and construction to avoid construction damage to the roots, crown, or stem. Tree protection zone (TPZ) recommendations can be found at www.dnv.org/bylaws/tree-protection-bylaw⁵. For the purposes of fire hazard risk mitigation, Tree #27 may remain as it has a high crown base height.

Table 2. Protected trees by slope gradient as per DNV Tree Bylaw 7671.

Tree #	Species	Height (m)	DBH	Condition	Recommendations
26	Western hemlock	15	NA	Normal	Discuss removal options with DNV to achieve balance of well-spaced trees
27	Douglas Fir	35	NA	good	Retain and protect. No fire mitigation treatment required.



Figure 4. Photograph of Tree # 27 (L) mature Douglas Fir with a high crown base, and Tree #26 (R) young Western Hemlock.

⁵ For further details on protected tree status, refer to the District of North Vancouver's Tree Protection Bylaw 7671, July 2012. <https://www.dnv.org/bylaws/tree-protection-bylaw>.



Protected trees – Large Diameter

Due to the footprint of the underground parking area and apartment building relative to the size of the lot at 3105 and 3115 Crescentview Drive, all seven of the large diameter trees require removal to allow for development (Table 3). A tree permit will be required to remove these large specimens. Compensation replacements will be required as a condition of the removal permit as determined by the DNV.

Table 3. Protected trees by size (DBH) as per DNV Tree Bylaw 7671.

Tree #	Species	Height (m)	DBH	Condition	Recommendations
4	Western redcedar	36	100	good	Remove to allow for development
16	Douglas Fir	29	83	good	Remove for fire hazard mitigation
19	Douglas Fir	25	88.5	good	Remove to allow for development
23	Douglas Fir	35	95	good	Remove for fire hazard mitigation
34	Douglas Fir	34	78.5	good	Remove to allow for development
37	Douglas Fir	33	96	good	Remove for fire hazard mitigation
44	Douglas Fir	31	94	good	Remove to allow for development



Figure 5. Tree #'s 37(L) and 19 (R) examples of Large Diameter Trees.



Protected trees – Species

Two Arbutus trees are located on the property and are protected by virtue of their species status. Two arbutus regeneration were found on site during the field assessment.

Table 4. Protected trees by species as per DNV Tree Bylaw 7671.

Tree #	Species	Height (m)	DBH	Condition	Recommendations
20	Arbutus	3	20	good	Discuss removal options with DNV
43	Arbutus	5	19	good	Discuss removal options with DNV

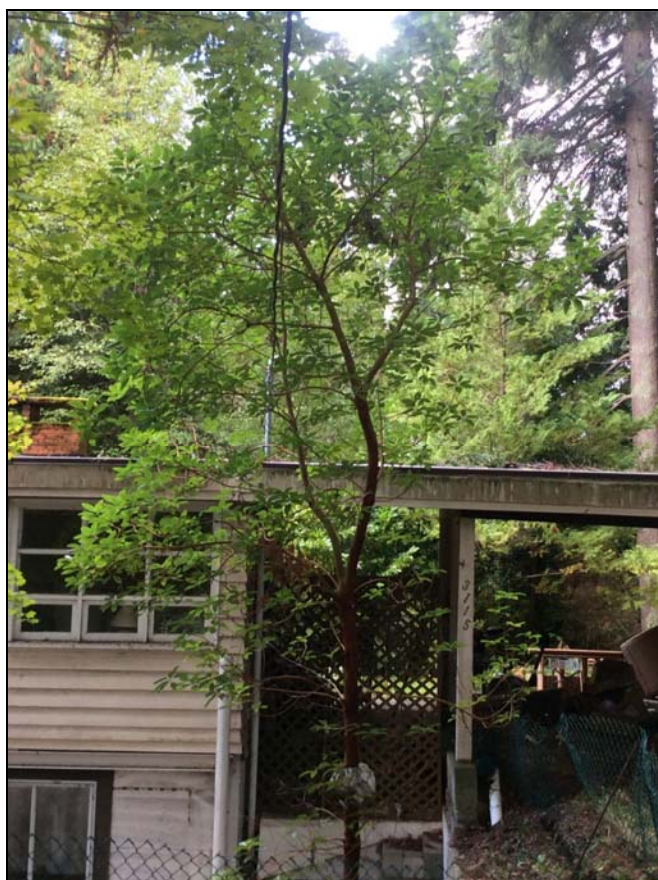


Figure 6. Trees # 20 and 43 are young Arbutus trees located on the property of 3115 Crescentview Dr. Tree #20 is contained within a concrete planting and retaining wall.

Protected trees – Location on DNV land

Trees located on DNV property which the developer is considering for removal to allow for development or fire hazard mitigation purposes require consultation with the DNV and may require a Tree Permit application (Table 5Table 5). Compensation replacements may be required as a condition of a tree removal permit as determined by the DNV.

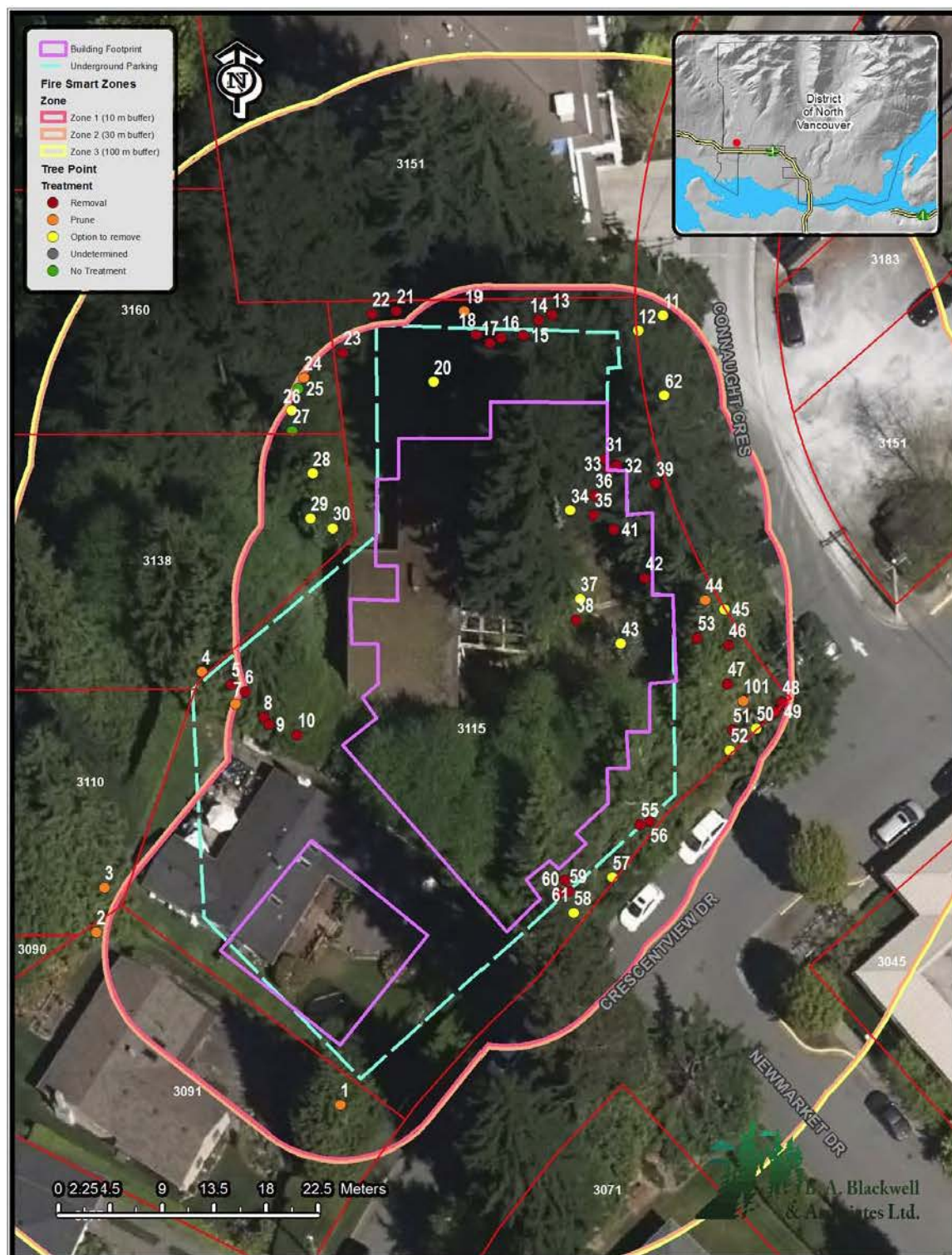


Table 5. Protected Trees located on DNV land or shared with adjacent property owners.

Tree #	Species	Height (m)	DBH	Condition	Recommendations
2	Western redcedar	16.5	NA	good	Discuss pruning options with DNV to a height of 3m
3	Western hemlock	NA	NA	good	Discuss pruning options with DNV to a height of 3m
11	Western hemlock	4	54	poor	Discuss removal options with DNV
12	Western hemlock	5	47.5	poor	Remove for fire hazard mitigation
24	Western hemlock	29	NA	normal	Discuss removal options with DNV
25	Western hemlock	17	NA	good	No fire mitigation treatment
28	Western redcedar	4	12	poor	Discuss removal options with DNV
29	Western redcedar	4	21.5	normal	Discuss removal options with DNV
30	Western redcedar	5	27.5	normal	Discuss removal options with DNV
50	Western redcedar	5	53.5	normal	Discuss removal options with DNV
52	Western redcedar	15	35.5	normal	Discuss removal options with DNV
57	Western hemlock	4	31	poor	Discuss removal options with DNV
58	Western redcedar	4	47.5	poor	Discuss removal options with DNV
62	Western redcedar	5	20-35	poor	Discuss removal options with DNV



Figure 7. Located on DNV land, Tree #'s 28 and 11 illustrate the varied crown base heights throughout the property.



Map 2. Building and Parking Garage footprint in relation to the location of existing trees for 3105 and 3115 Crescentview Drive in the District of North Vancouver.



9.0 Landscaping

9.1 FireSmart Landscaping

Future landscaping choices must be limited to plant species with low flammability within 10 m of the building (the entire Property). **Coniferous vegetation such as Juniper, Cypress, Yew or Cedar hedging or shrubs must not be planted within this 10 m zone as these species are considered highly flammable under extreme fire hazard conditions. We are unable to sign off on the recommendations in our report where these circumstances occur.**

There are a number of broadleaf deciduous and evergreen plants with low flammability which can be used for landscaping within FireSmart PZ 1 (within 10 m of structures). Landscaping should be selected for the appropriate Hardiness Zone (Zone 8b). Hedge and shrub examples which thrive in Zone 8 and are low flammability include, but are not limited to: cotoneaster, mock orange, oceanspray, red flowering currant, Saskatoon berry, snowberry, salal, California lilac, glossy abelia and boxwood. Tree examples include maples, magnolias, honey locusts, acacias, dogwoods and viburnums. It is best to discuss options with an experienced landscaper with horticultural training and knowledge, looking together for plants that not only suit the aesthetics of the landscape design, but are suitable for the climate and site, as well as have low flammability.

Plants that are fire resistant/ have low flammability generally have the following characteristics:

- Foliage with high moisture content (moist and supple),
- Little dead wood and do not tend to accumulate dry and dead foliage or woody materials, and
- Sap that is water-like and without a strong odour.³

For further assistance in creating a FireSmart landscape and to obtain a list of fire resistant plants, refer to the FireSmart Guide to Landscaping at <https://www.firesmartcanada.ca/resources-library/firesmart-guide-to-landscaping>.

Other helpful links for finding fire resistant landscaping options can be found at:

- <http://www.wadistricts.org/plant-materials-center.html>⁶
- http://www.firefree.org/images/uploads/FIR_FireResPlants_07.pdf⁷

Grass, shrubs, and herbs must be maintained in a state that reduces fire hazard by maintaining foliar moisture content (keeping plants watered and in good health). This can be accomplished by:

- Choosing plant species that are well-adapted to the site (microclimate and soil conditions of the parcel);

⁶ Washington Association of Conservation Districts

⁷ A Pacific Northwest Extension Publication: Oregon State University, Washington State University, University of Idaho. August 2006.



- Incorporating a landscape design where shrubs, herbs, and grasses are planted in discrete units manageable by hand watering; and/or,
- Installing irrigation.
- Ensuring dead material is removed annually and is not allowed to build up on site.

It should be recognized that dependence on irrigation systems to maintain landscaping in a healthy state may actually increase the fire hazard on the parcel, particularly in times of drought and watering restrictions, when only hand watering with a spring loaded nozzle is allowed. Lack of irrigation in times of watering restrictions may create a landscape which is unhealthy, unsightly, as well as dead, dry, and highly flammable.

Placement of combustible materials such as firewood or wooden structures (sheds, storage or other outbuildings) must be a minimum of 5 m from the primary building (including neighbouring houses). This will limit the potential for these materials to be ignited and spread fire to an adjacent building.

As per DNV Fire Bylaw 7481, no open air fires are permitted. Construction of fire pits or other outdoor burning devices fueled by materials other than propane, natural gas, or briquettes are not permitted.

10.0 Maintenance of Property in Low Fire Hazard State

To ensure that a low fire hazard rating is maintained on 3105 and 3115 Crescentview Drive, all landscaping must be properly maintained in low hazard conditions as described in Section 9.1 FireSmart Landscaping. This may require periodic maintenance including future pruning of limbs. Pruning of straddling coniferous tree branches, should occur periodically, as needed, to maintain defensible space surrounding the home.

The roof and gutters should be kept clean of debris from conifers to reduce the potential for spotting to ignite these materials during a wildfire event. Conifer foliage should not be allowed to accumulate in gutters.

Meeting the recommendations in this report and maintaining the property in the described manner will reduce the overall fire hazard risk for 3105 and 3115 Crescentview Drive. The implementation of these measures does not guarantee that the property or structures are safe from wildfire, only that the risk level of the property is within acceptable standards, and that fire hazards have been identified and appropriate mitigation measures outlined.

11.0 Limitations

This Fire Hazard Assessment is based on site observations noted on the dates specified only. Every effort has been made to ensure that the opinions expressed are an accurate assessment of the condition of the construction and landscaping information provided by the client. It is the owner's responsibility to maintain the home and the trees in a reasonable standard and to carry out the mitigation measures stated in this report.



Tree assessments represent the condition of the tree and site at the time of inspection. Tree inspections are limited to visual examination only without employing methods of coring, climbing or excavating. The inherent characteristics of trees are that they are unpredictable and can fail due to environmental or internal problems. It is not possible for the Consultant to detect every condition or defect that could result in failure of a tree, shrub or part thereof. Trees, as living organisms, are prone to attack by insects, disease, and other abiotic factors such as wind, snow, and frost. Given these factors, the consultant cannot guarantee that the tree will be safe and healthy under all situations or for a given amount of time. Any prescribed mitigation measures for tree health or safety cannot be assured.

Adjustments, assumptions, and the conclusions drawn in this report are based on the professional experience of Judith Cowan, ISA Certified Arborist, FIT and Bruce Blackwell, MSc, RPF of B.A. Blackwell and Associates Ltd (the 'Consultant'). The opinions expressed below are also based on written and verbal information supplied in part by other parties.

Tree treatments such as pruning, topping, protection or removal could potentially involve issues beyond the breadth of the Consultant's services including: improperly marked private land boundaries, ownership, neighbourly disputes and other considerations.

The Consultant cannot accept responsibility for any issues or events that have arisen since the date of the inspection and the date the report was written. The Consultant accepts that the report represents professional judgment and that the Consultant's responsibilities are limited to the content of this report.

12.0 References

Introduction: The Growth of Cities and Urban Forestry. Margaret M. Carreiro. In *Ecology, Planning and Management of Urban Forests*, pages 3-9, 2008.



13.0 Appendix A: Tree Inventory and Recommendations

Table 6. Full vegetation inventory and recommendations of trees assessed on or adjacent to 3105 and 3115 Crescentview Drive, District of North Vancouver.

Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
1	Western redcedar	3091 Crescentview	NA	16.5	NA	4.0	good	N	4	Discuss pruning to a height of 5m with neighbours	Inside 10m FPZ1
2	Western redcedar	DNV	NA	NA	NA	4	good	Y(DNV)	1.5	Discuss pruning with DNV to a height of 3m	Crown overlaps onto property
3	Western hemlock	DNV	NA	NA	NA	3	good	Y(DNV)	2	Discuss pruning with DNV to a height of 3m	Crown overlaps onto property
4	Western redcedar	3105 Crescentview	2721	36	100	3	good	Y(Lg.Dia)	1	Remove to allow for development.	Large diameter
5	Western redcedar	3105 Crescentview	2722	14	22	2	normal	N	2	Remove for fire hazard mitigation and to allow for development	Touching shed roof, slightly suppressed
6	Western hemlock	3105 Crescentview	2723	14	27.5	2	normal	N	3.5	Remove for fire hazard mitigation and to allow for development	Straight, no observed defects



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
7	Western redcedar	3105 Crescentview	2724	16	61	3	good	N	1	Retain and protect. Prune up to a height of 5m.	Minimal basal sweep to the north
8	Western redcedar	3105 Crescentview	2726	14	33	2	good	N	1	Remove for fire hazard mitigation and to allow for development	Low crown base height
9	Western hemlock	3105 Crescentview	2727	14	42.5	3	poor	N	5	Remove for fire hazard mitigation and to allow for development	5cm wide scar on S quadrant, response wood, forked top
10	Lawson Cypress	3105 Crescentview	2728	9	65	3	normal	N	.5	Remove for fire hazard mitigation and to allow for development	Exposed root system on eroding bank; slight lean to NW
101	Western redcedar	DNV	2729	15	28	2.5	good	N	0	Remove to allow for development	Abundant dead branching in lower crown
11	Western hemlock	shared DNV/3115 Crescentview		4	54	2.5	poor	Y (DNV)	1.5	Discuss removal options with DNV	Topped due to hydro lines, mistletoe, ivy
12	Western hemlock	DNV	2730	5	47.5	2.5	poor	Y (DNV)	1.5	Discuss removal options with DNV	Topped, ivy on trunk
13	Western redcedar	3115	2731	17	61	2	good	N	0.5	Remove for fire hazard mitigation and to allow for development	Low crown base, slight lean to N



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
14	Western hemlock	3115	2732	18	43.5	2	good	N	7	Remove for fire hazard mitigation	Lean to NW, terminal leader straightens
15	Western hemlock	3115	95	36	17	3	poor	N	4	Remove for fire hazard mitigation	Evidence of forked branching which may indicate mistletoe, broken top
16	Douglas Fir	3115	2733	29	83	4	good	Y(Lg.Diam.)	5	Retain and protect. Prune up to a height of 5m.	Large diameter
17	Western hemlock	3115	2734	18	59	4	good	N	4.5	Remove for fire hazard mitigation and to allow for development	Slight lean to east
18	Western hemlock	3115	2735	18	40	3	good	N	4	Remove for fire hazard mitigation and to allow for development	Slight lean to east
19	Douglas-fir	3115	2736	16	88.5	4	good	Y(Lg.Diam.)	7	Remove to allow for development	Large diameter, straight trunk
20	Arbutus	3115		5	19	1.5	good	Y(Species)	0	Discuss removal options with DNV	Young, contained within concrete planter
21	Douglas Fir	3115	2737	16	25.5	1.5	normal	N	3	Remove for fire hazard mitigation and to allow for development	Crook in trunk at 1.5m. dead lower branches – no self pruning.



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
22	Western hemlock	3115	2738	16	5-20	0.5-2	poor	N	1.5	Remove for fire hazard mitigation and to allow for development	Grouping. Mistletoe, bark blisters, suppressed and dying
23	Douglas Fir	3115	2739	35	95	5	good	Y(Lg.Diam.)	6	Retain and protect. Prune up to a height of 5m. Remove ivy	Ivy on trunk up to 4m, edge of TOB
24	Western hemlock	DNV		29		3	normal	Y(DNV)	4	Retain and protect. Prune up to a height of 5m. Remove ivy	Appears to have broken top, ivy up to 7m
25	Western hemlock	DNV		17		3	good	Y(DNV)	8	Retain and protect. No fire mitigation treatment required. Remove ivy.	Ivy on trunk to 6m
26	Western hemlock	DNV	OS3	15		4	Normal	Y(DNV/slope)	2	Discuss removal options with DNV to achieve balance of well-spaced trees	Fork at 3m
27	Douglas Fir	3115	OS4	35		6	good	Y(DNV / slope)	7	Retain and protect. No fire mitigation treatment required.	Large diameter, veteran tree
28	Western redcedar	3115	91	4	12	1	poor	Y(DNV)	0.5	Discuss removal options with DNV	Completely covered in ivy
29	Western redcedar	3115	92	4	21.5	2.5	normal	Y(DNV)	0.5	Discuss removal options with DNV	Co-dominant stems at 1m, completely covered in ivy
30	Western redcedar	3115	93	5	27.5	2.5	normal	Y(DNV)	0.5	Discuss removal options with DNV	Co-dominant stems at 1m, completely covered in ivy



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
31	Western hemlock	3115	2740	14	29.5	3	normal	N	3	Remove for fire hazard mitigation and to allow for development	Compressed against Tree 2741
32	Western hemlock	3115	2741	16	50	3	good	N	3	Remove for fire hazard mitigation and to allow for development	Trees 2740 + 2742 leaning and twisting around at 3m height
33	Douglas Fir	3115	2742	18	28	3	normal	N	6	Remove for fire hazard mitigation and to allow for development	Slight lean to SW, twisting and compressing against 2741
34	Douglas Fir	3115	2743	34	78.5	4	good	Y(Lg.Diam.)	6	Discuss removal options with DNV	Large diameter
35	Douglas Fir	3115	2744	34	59.5	4	good	N	6	Remove for fire hazard mitigation and to allow for development	Dominant tree
36	Western redcedar	3115	97	5	12	1.5	good	N	0	Remove for fire hazard mitigation and to allow for development	regeneration
37	Douglas Fir	3115	2745	33	96	5	good	Y(Lg.Diam.)	6	Discuss removal options with DNV	3 co-dominant stems at 10m.
38	Western hemlock	3115	2746	20	29	4	normal	N	5	Remove for fire hazard mitigation and to allow for development	Regeneration under canopy of Tree 2745
39	Douglas Fir	3115	2747	31	71	5	good	N	5	Remove for fire hazard mitigation and to allow for development	Large diameter branch (>20cm) at 8m acting as terminal



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
40	Western redcedar.	3115	98	18	20	3	good	N	0	Remove for fire hazard mitigation and to allow for development	Young, straight, vigorous growth
41	Arborvitae	3115		3	N/A	3	good	N	0	Remove for fire hazard mitigation and to allow for development	Understorey shrub
42	Western redcedar	3115	2748	17	33.5	3.5	good	N	2	Remove for fire hazard mitigation and to allow for development	Healthy understorey specimen
43	Arbutus	3115	94	5	19	1.5	good	Y(Species)	1	Discuss removal options with DNV.	Young, understorey in canopy gap
44	Douglas-fir	3115	2749	31	94	1	good	Y(Lg.Diam.)	5	Remove to allow for development	Large diameter
45	Western redcedar	Shared DNV/3115	2750	6	29.5	4	good	N	0	Discuss removal options with DNV	Co-dominant forked stem at 2m
46	Western redcedar	3115	2751	16	47.5	2.5	normal	N	0	Remove for fire hazard mitigation	>20cm diam.branch at 2m height in NW quadrant, tree lean to NE
47	Western redcedar	3115	2752	17	49.5	3	good	N	0	Remove for fire hazard mitigation	No self-pruning, very dense lower crown of dead branches
48	Western hemlock	3115	2753	6.5	43	5	normal	N	3	Remove for fire hazard mitigation	Topped to 4m, underneath power lines with vigorous resprouting



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
49	Western hemlock	3115	2754	7	40	5	normal	N	3	Remove for fire hazard mitigation	Topped to 4m, underneath power lines with vigorous resprouting
50	Western redcedar	Shared DNV/3115	2755	5	53.5	4	normal	Y(DNV)	0	Discuss removal options with DNV	Topped to 4m, underneath power lines with vigorous resprouting, NE lean
51	Western redcedar	3115	2756	14	39	3	good	N	0	Remove for fire hazard mitigation	Forked top at 4m, ivy on trunk
52	Western redcedar	Shared DNV/3115	2757	15	35.5	3	normal	Y(DNV)	0	Discuss removal options with DNV	Bend in stem at 2m
53	Western redcedar	3115	2758	18	27	3	good	N	1	Remove for fire hazard mitigation and to allow for development	Straight vigorous growth
54	Western redcedar	3115	2759	14	43.5	3	good	N	0	Remove for fire hazard mitigation and to allow for development	Ivy on trunk
55	Western hemlock	3115	2760	13	28.5	3	normal	N	2	Remove for fire hazard mitigation and to allow for development	Topped at 4.5m with multiple forks
56	Western redcedar	3115	2761	15	54.0	4	normal	N	0	Remove for fire hazard mitigation and to allow for development	Ivy, evidence of basal decay, lean to NE



Tree No	Species (common name)	Location	Tag	Ht (m)	DBH (cm)	Crown Radius (m)	Health/Condition	Protected Tree? (Y/N)	Crown base height	Recommendation	Comment
57	Western hemlock	Shared DNV/3115	2762	4	31	2	poor	Y(DNV)	0	Remove for fire hazard mitigation and to allow for development	Topped at 3.5m, bark blisters
58	Western redcedar	Shared DNV/3115	2763	4	47.5	2	poor	Y(DNV)	0	Remove for fire hazard mitigation and to allow for development	Topped at 3.5m, lean to NE, 4cm wide scar to upper stem
59	Western hemlock	3115	2764	14	28	2.5	normal	N	5	Remove for fire hazard mitigation and to allow for development	Topped at 5.5m
60	Western redcedar	3115	2765	15	39.5	3	normal	N	6.5	Remove for fire hazard mitigation and to allow for development	Knotty stem wood, tangly dense lower canopy of dead branches
61	Western hemlock	3115	2766	17	50	4	normal	N	0	Remove for fire hazard mitigation and to allow for development	Knotty stem wood, tangly dense lower canopy of dead branches
62	Western redcedar	DNV	99	5	20-35	0-2	poor	Y(DNV)	2	Remove for fire hazard mitigation and to allow for development	Group of 8 Hw, topped, dying or dead, with excessive pruning under power lines



14.0 Signatures

Project Arborist

Judith Cowan PN-7314-A
B.A. Blackwell & Associates Ltd

October 15, 2015

Reviewing Professional

Bruce Blackwell, MSc, RPF, RPBio
B.A. Blackwell & Associates Ltd

October 15, 2015

Natasha Letchford
North Vancouver District,
355 West Queens Road,
North Vancouver, B.C.
V7N 4N5

**RE: 3105, 3115 Crescentview Drive, North Vancouver
Habitat Compensation Plan and Temporary Working Encroachment Proposal**

On behalf of the proponent, Mike Fournogerakis, Arrowhead Environmental Consultants Ltd. (Arrowhead) respectfully submits the following Habitat Compensation Plan, in support of the proposed and modified streamside protection area boundary put forward by Envirowest Consultants Inc. (Envirowest drawing No: 2014-01-01).

In addition, a request for temporary working encroachment within the streamside protection area is included. Restoration and compensation plan details are included with Attachment C (Arrowhead drawing 215-102-01, Habitat Compensation Plan). Associated cost estimates are also included (Attachment B).

Encroachment

A modified and proposed streamside development permit area (DPA) boundary determined by Envirowest Consultants Inc. (Envirowest drawing No: 2014-01-01), illustrates the development footprint where an approximate 40m² permanent encroachment into the streamside protection area is required to facilitate design requirements of underground parking space.

Further, temporary working encroachment within the streamside protection area is required to provide access for construction crews, structural excavations and existing building removal and are highlighted as Areas A and B (Arrowhead drawing 215-102-1, Habitat Compensation Plan).

Roof Extension

Subsequent to the proposed environmental DPA boundary put forward by Envirowest, a roof plan designed by Ray Letkeman Architects Inc. (Attachment A), illustrates the roof of the permanent structure to extend beyond the proposed DPA boundary. The total extension beyond the proposed boundary encompasses 23.96 m².

The Riparian Areas Regulation (RAR), enacted under Section 12 of the Provincial Fish Protection Act, utilizes three 'Zones of Sensitivity' for consideration during riparian assessment when determining a Streamside Protection and Enhancement Area (SPEA). The influence of shade on vegetation and site potential vegetation type within the riparian area is one 'Zone of Sensitivity'. Methodology in calculating

the 'shade' zone is based upon solar impacts with protection areas measured due south from the stream high water mark.

The streamside protection area is located entirely west of the subject property (Envirowest drawing 2014-01-01). Utilizing assessments methods prescribed under RAR, Arrowhead has determined that the proposed roof extensions into the setback boundary are highly unlikely to cause significant impact to the riparian area.

Existing Vegetation

Existing vegetation within the streamside protection area is characterized by Western redcedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), invasive English Ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*) and native grasses.

Restoration and Compensation

To compensate for the permanent structural encroachment within the north-west extent of the property and for granting temporary working access within Areas A and B, a compensation plan which utilizes all available land within the streamside protection area on the subject property and encompasses approximately 146 m² is proposed (Arrowhead drawing 215-102-01, Habitat Compensation Plan).

Specifications as detailed, would replace the riparian habitat functions to be lost within the streamside protection area at a ratio of 3.65:1 (habitat function gained: habitat function lost). The design utilizes canopy, shrub and ground layer native vegetation, at a relatively high density to reduce recruitment success of invasive species from the adjacent riparian areas.

Due to the ecology of plants to be used and specifically their adaptation to and common abundance within shaded environments, Arrowhead has determined that the close proximity of Areas A and B in relation to the proposed building structures are unlikely to have negative impacts on species survivorship. A requirement of the Habitat Compensation Plan as specified in Arrowhead drawing 215-102-01, is species survivorship of 100% where plant replacement is to be undertaken if this requirement is not fulfilled during the monitoring period.

Please contact the undersigned at 604-499-4067 or at alan@arrowheadenvironmental.ca should you have any questions regarding this correspondence.

Sincerely,



Alan Dallas - B.Sc., ASCT, QEP, BC-CESCL
Senior Project Manager
Arrowhead Environmental Consultants Ltd.

Attachment A

Roof Plan



1/8" = 1'-0"

0 4 8 16 24 FEET

CRESCENTVIEW DRIVE

3105/3115 CRESCENTVIEW

Roof Plan

Edgemont Village, North Vancouver

October 7, 2015

Sk-2.4

Attachment B

Habitat Compensation Plan Cost Estimates

Mike Fournogerakis
5123 Redonda Drive,
North Vancouver, V7R 3K1, B.C.
September 21, 2015

Dear Mr. Fournogerakis,

RE: 3105 – 3115 Crescentview Drive – Habitat Compensation Plan Cost Estimate

Costs have been estimated regarding a habitat compensation plan for 3105 – 3115 Crescentview Drive, North Vancouver, based upon an area of approximately 146 m². Reference is made to Arrowhead drawing 215-102-1, Habitat Compensation Plan.

<u>Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Design	10 hrs	70.00	700.00
Western redcedar	10	25.00	250.00
Salmonberry	50	8.50	425.00
Sword fern	22	5.00	110.00
Huckleberry	16	8.50	136.00
Thimbleberry	14	8.50	119.00
Labour (hrs)	16	70.00	1120.00
Monitoring	2 years	200.00	400.00
Maintenance	2 years	200.00	400.00
Total			\$3,660.00

I trust this information meets your needs. Please call me at 604-499-4067 should you have any questions.

Sincerely,



Alan Dallas - B.Sc., ASCT, QEP, BC-CESCL
Senior Project Manager
Arrowhead Environmental Consultants

Attachment C

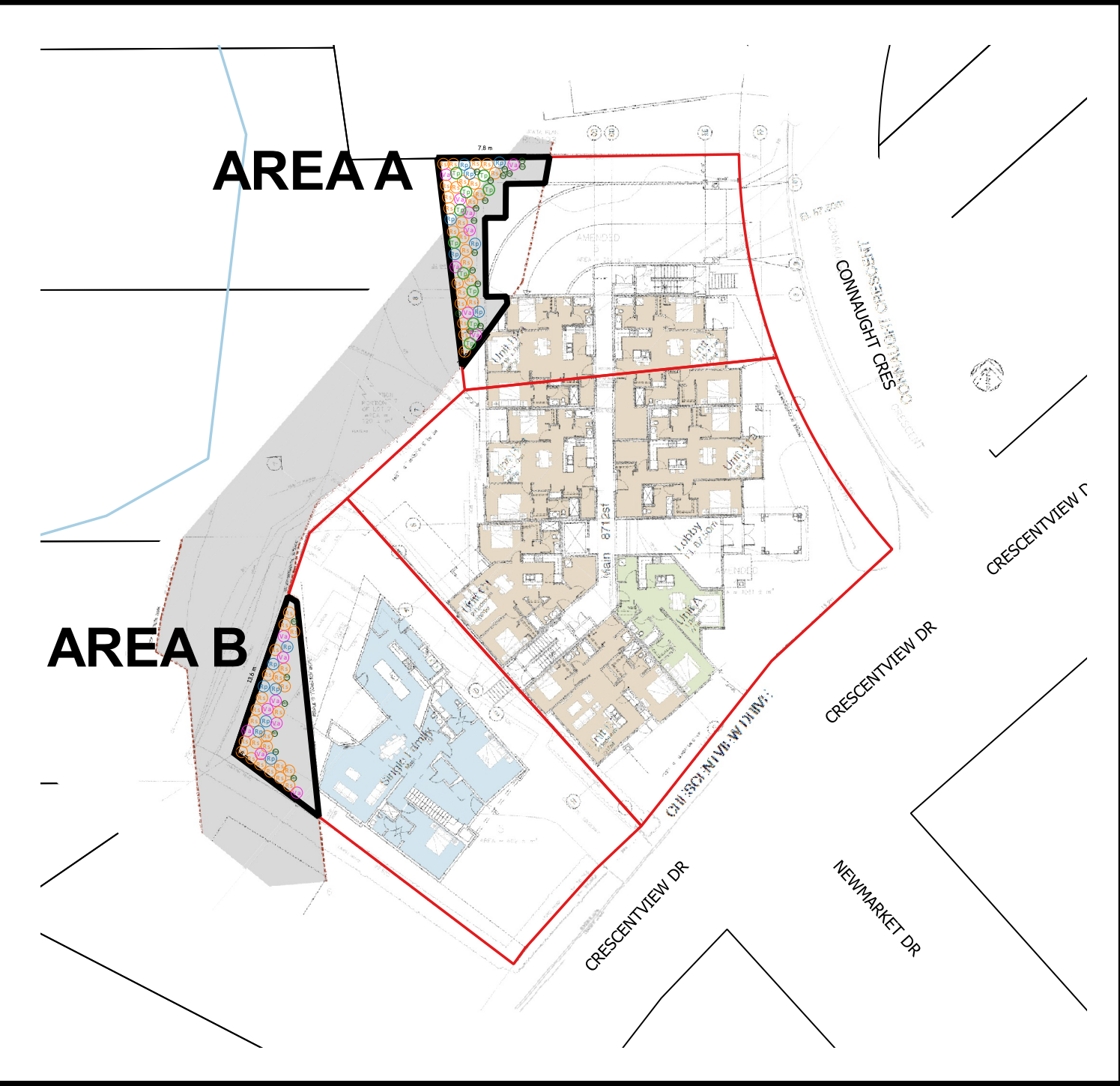
Habitat Compensation Plan Drawing

215-102-01

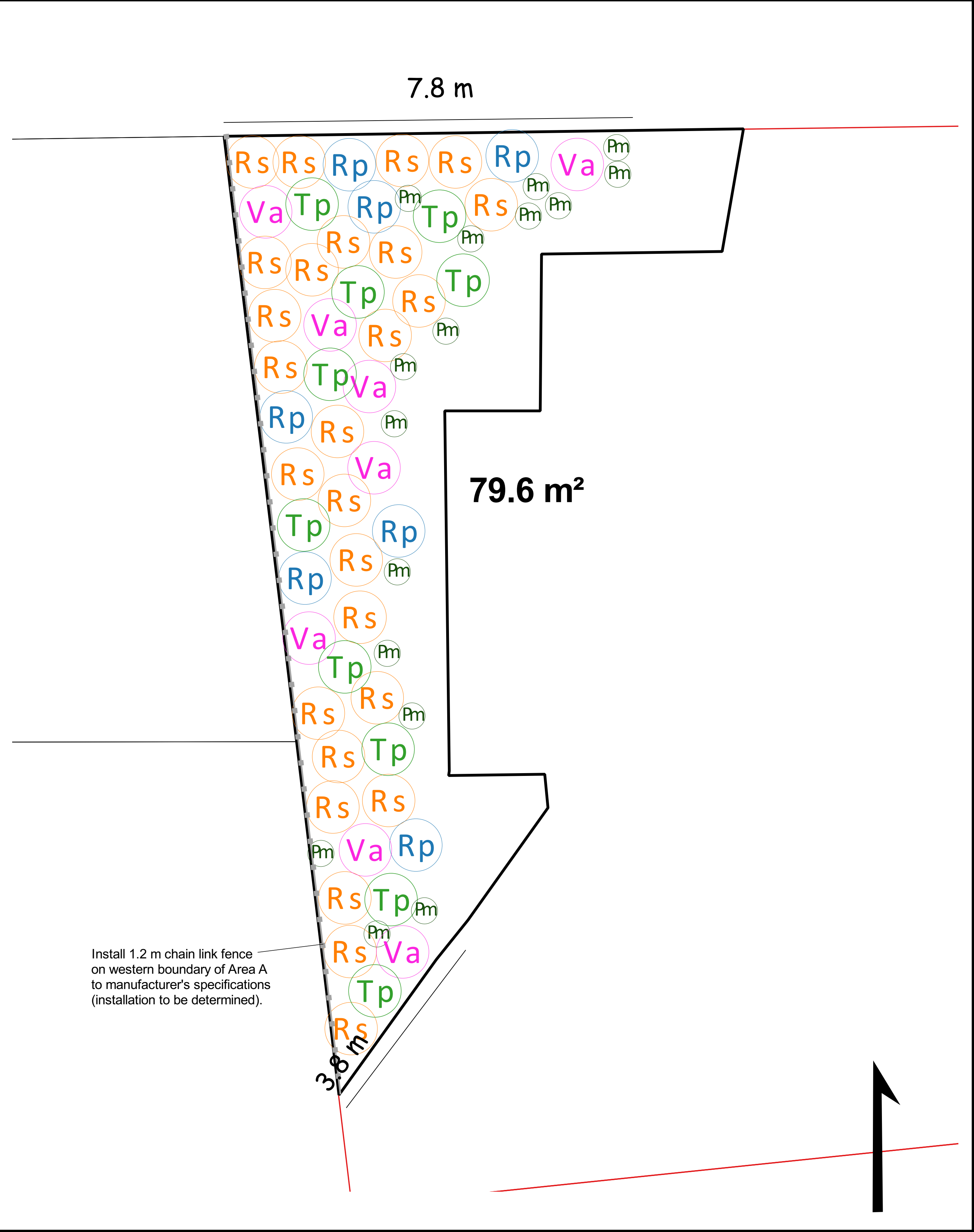
PLANT LIST

Symbol	Species	Number	Specifications
<div><div>Tp</div></div>	<i>Thuja plicata</i> Western redcedar	10	2.0m – 2.5m ball & burlap 1m spacing Densely branched Well established
<div><div>Rs</div></div>	<i>Rubus spectabilis</i> Salmonberry	50	No. 2 Pot 1m spacing Densely branched Well established
<div><div>Va</div></div>	<i>Vaccinium spp.</i> Huckleberry	16	No. 2 Pot 1m spacing Densely branched Well established
<div><div>Rp</div></div>	<i>Rubus parviflorus</i> Thimbleberry	14	No. 2 Pot 1m spacing Densely branched Well established
<div><div>Pm</div></div>	<i>Polystichum munitum</i> Sword fern	22	No. 1 Pot 0.5m spacing Well established

SITE OVERVIEW



AREA A



CIVIC ADDRESS AND PROPERTY DESCRIPTION:

3105/3115 Crescentview Drive, North Vancouver

SCALE:



REFERENCE DRAWINGS:

- 1. District of North Vancouver. 2015. 2013 Orthophotograph and cadastral boundaries geodatabase.
- 2. RLA. 2015. Site Plan. Sk-2.1 issued September 24, 2015

SEAL



DATE ISSUED	REVISION	DESCRIPTION
-------------	----------	-------------

PROJECT:

3105/3115
CRESCENTVIEW DRIVE,
NORTH VANCOUVER

CLIENT:

MIKE
FOURNOGERAKIS



SCALE:

1:50
1:500 (overview)

DATE ISSUED:

2015/10/15

SHEET TITLE:

HABITAT
COMPENSATION PLAN

DRAWING No.:

215-102-1

REV.

1

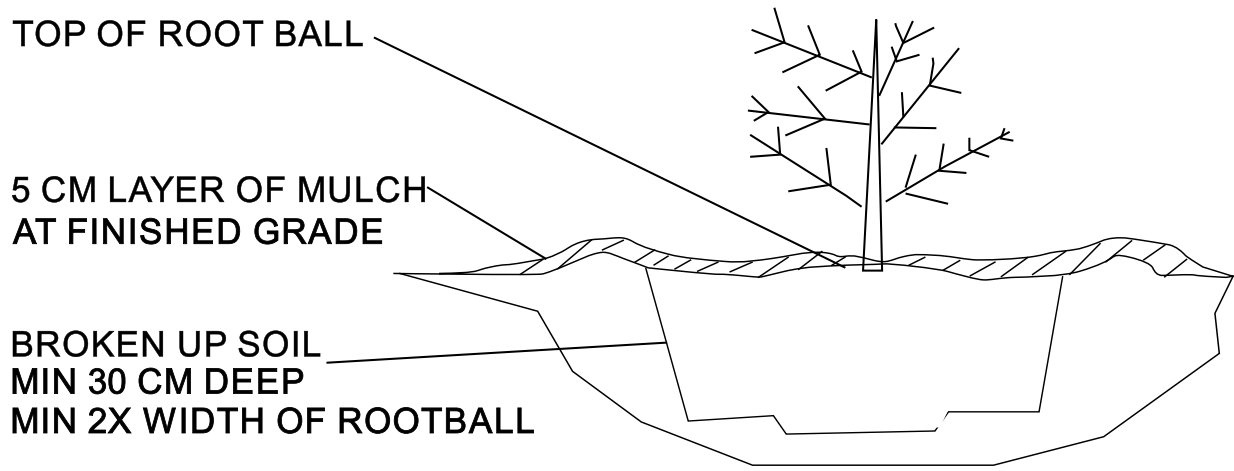
AEC PROJECT No. 215-102

SHEET 1 OF 2

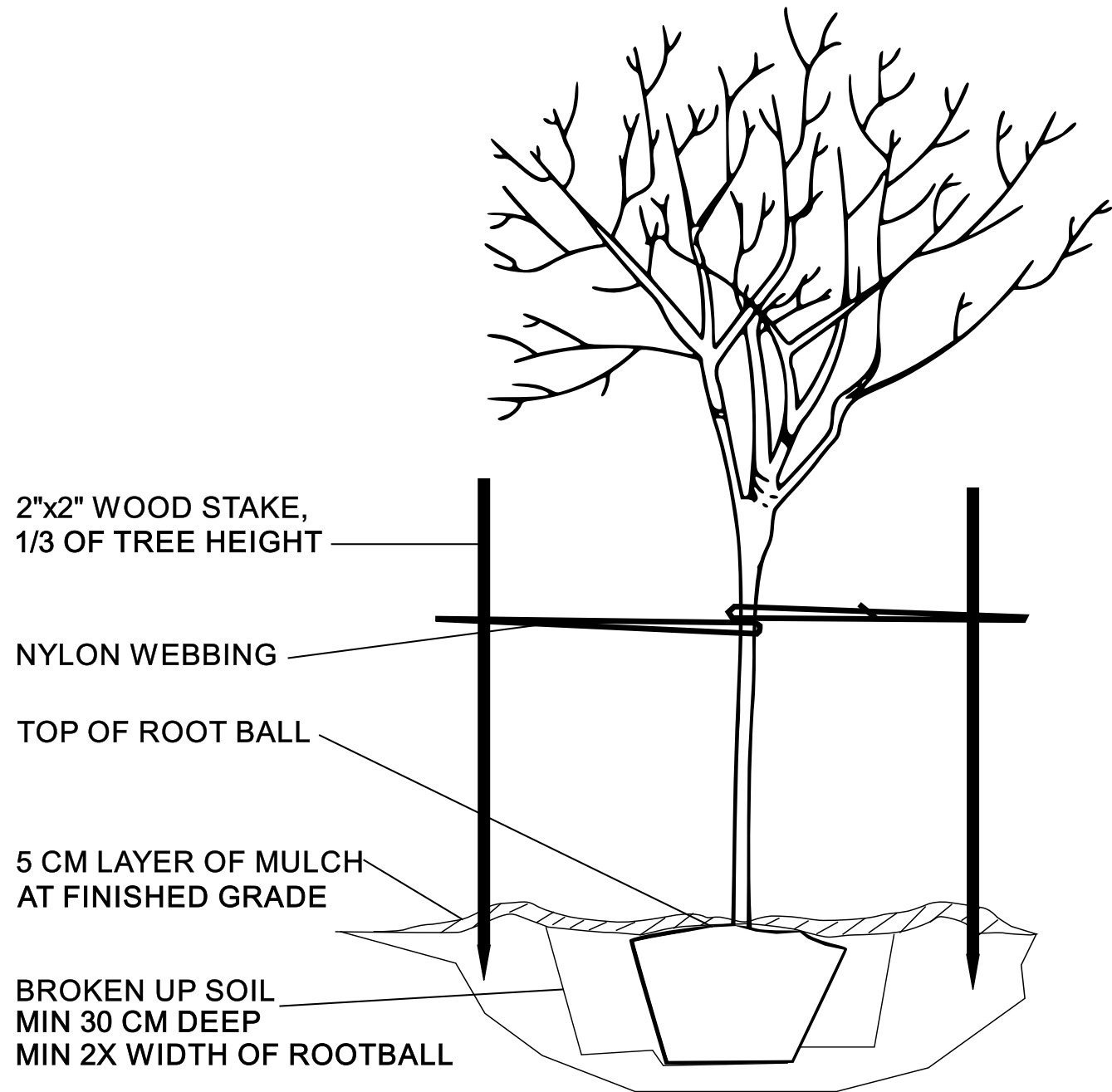
GENERAL PLAN SPECIFICATIONS

- 1. Plant materials, treatments, soils and installation are to be in accordance with the British Columbia Landscape Nursery Association (BCLNA) Landscape Standard, current edition and the Canadian System of Soil Classification.
- 2. All works are to be conducted in accordance with ‘Land Development Guidelines for the Protection of Aquatic Habitat’,
- 3. All works are to be conducted in accordance with the sediment and erosion control requirements of the District of North Vancouver Environmental Protection and Preservation Bylaw – 6515.
- 4. All invasive plant species - Himalayan blackberry (Rubus armeniacus) and English Ivy (Hedera helix) - are to be cleared and grubbed from within the Streamside Protection Area on the development property.
- 5. Plant material (plants and growing medium) are to be inspected by Arrowhead prior to installation.
- 6. Plant material will be free of disease, defects and structurally sound.
- 7. All disturbed areas are to be seeded with the suppliers standard mix of native grasses.
- 8. Plant monitoring and maintenance will be provided by the developer for a period of two years and will include watering, selective pruning and removal of invasive plant species. Species survivorship of 100% is required and plant replacement will be undertaken if not fulfilled during the monitoring period.

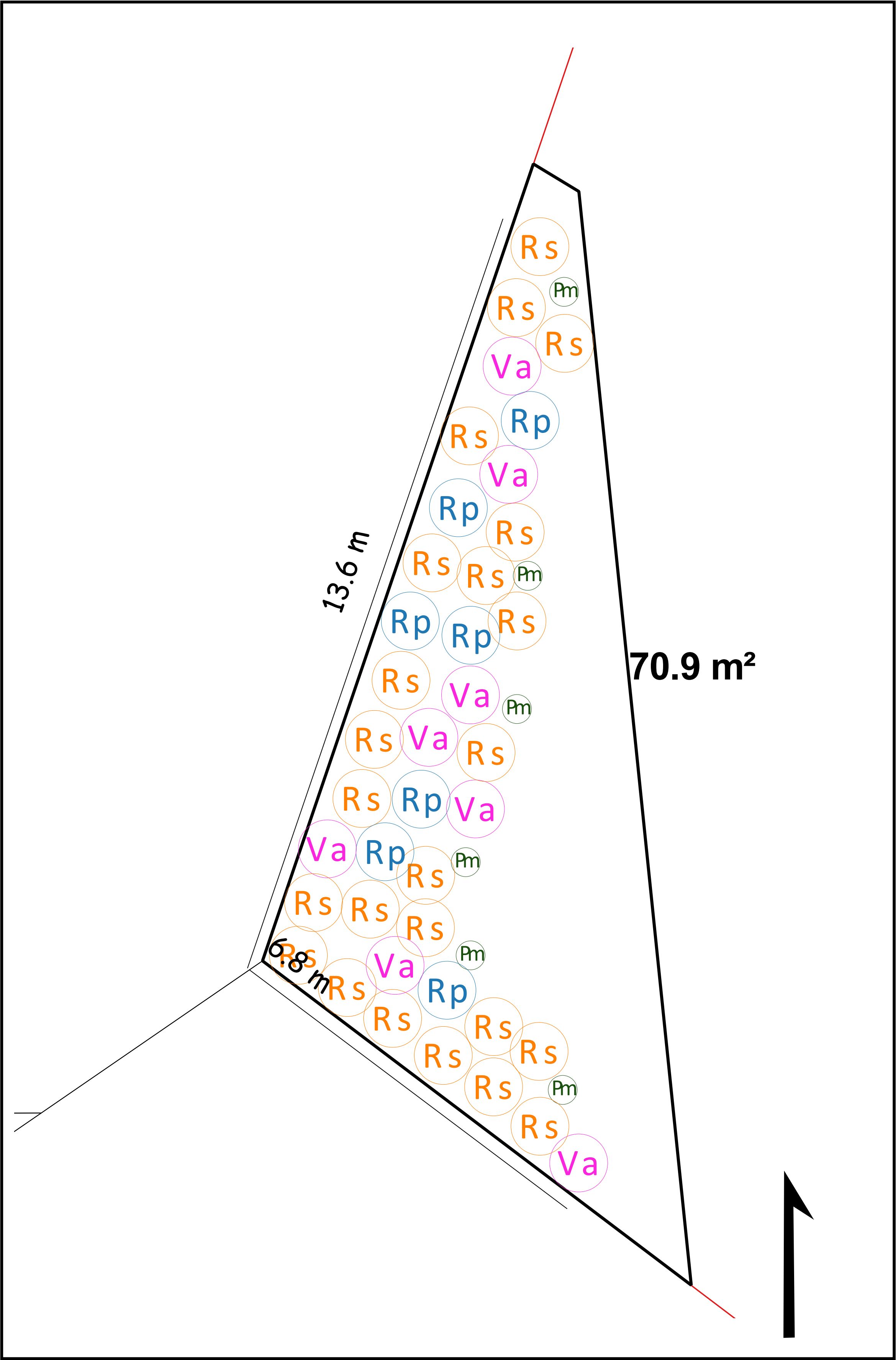
TYPICAL NO. 1, 2 & 3 POT
NOT TO SCALE



TYPICAL TREE PLANTING
NOT TO SCALE



AREA B



CIVIC ADDRESS AND PROPERTY DESCRIPTION:

3105/3115 Crescentview Drive, North Vancouver

SCALE:



REFERENCE DRAWINGS:

- 1. District of North Vancouver. 2015. 2013 Orthophotograph and cadastral boundaries geodatabase.
- 2. RLA. 2015. Site Plan. Sk-2.1 issued September 24, 2015

SEAL



DATE ISSUED	REVISION	DESCRIPTION
-------------	----------	-------------

PROJECT:

3105/3115
CRESCENTVIEW DRIVE,
NORTH VANCOUVER

CLIENT:

MIKE
FOURNOGERAKIS



SCALE:

1:50

DATE ISSUED:

2015/10/15

SHEET TITLE:

HABITAT
COMPENSATION PLAN

DRAWING No.:

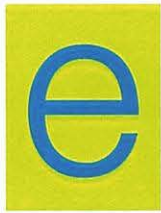
215-102-1

REV.

1

AEC PROJECT No. 215-102

SHEET 2 OF 2



envirowest consultants inc.

Suite 101 - 1515 Broadway Street
Port Coquitlam, British Columbia
Canada V3C 6M2
604-944-0502

February 25, 2015

Richard Bowes
North Vancouver District
355 West Queens Rd.
North Vancouver, B.C.
V7N 4N5

**RE: MULTI-FAMILY RESIDENTIAL DEVELOPMENT,
3105, 3115 CRESCENTVIEW DRIVE, NORTH VANCOUVER
PID: 010 – 825 – 479, PID: 010 – 825 - 444
Development Setback Proposal**

On behalf of the proponent, Mike Fournogerakis, Envirowest Consultants Inc. (Envirowest) respectfully submits the following environmental assessment and proposed streamside development permit area (DPA) boundary for the construction of a multi-residential complex at 3105 and 3115 Crescentview Drive, within the District of North Vancouver.

The neighbouring subject properties, located at the Crescentview Drive and Connaught Crescent intersection within the District of North Vancouver, encompass a combined area of approximately 2311 square metres (m²) and are single residential lots.

An ungazetted stream, approximately 575 metres (m) in length, flows through a ravine in a southerly direction beyond the west extent of the property boundaries, before merging with MacKay Creek, immediately north of the Lloyd Avenue and West 26th Street intersection. MacKay Creek continues south approximately 2000 m before discharging into Burrard Inlet.

Coho salmon (*Oncorhynchus kisutch*), chum salmon (*O. keta*), rainbow trout (*O. mykiss*) and cutthroat trout (*O. clarkii*) are documented to occur within Mackay Creek (Ministry of Environment – Fisheries Information Summary System (FISS)).

Assessed on September 10, 2014, the ungazetted stream comprises an average bankfull width of 1.1 m and an average bankfull depth of 0.4 m with a cascade-pool morphology.

In-stream substrates are dominated by cobble and sub-dominated by gravel and fines. Representative stream photographs are presented in Attachment C.

The riparian canopy is predominated by large diameter Douglas fir (*Pseudotsuga menziesii*). Western redcedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*) are also present. A cluster of Himalayan blackberry (*Rubus armeniacus*) dominates a plateau immediately west of the subject properties. The ravine slope is dominated by an understory of salmonberry (*Rubus spectabilis*), with sword fern (*Polystichum munitum*) prevalent in ground cover.

Low flow rates during site assessment with average channel wetted widths of 0.5 m and average channel wetted depths of 0.05 m determined minnow trapping not conducive in establishing fish presence. No fish were visually observed during site assessment. Fish are not likely to occur within the riparian assessment area. The channel however, provides nutrients to downstream habitat within MacKay Creek.

The applicant is proposing a 10 m development setback from the top of ravine in compliance with the District of North Vancouver's Streamside DPA. However, an encroachment of approximately 42 m² within the northwest extent of the development is required to provide underground parking access.

In support of this request, Envirowest has determined a modified and proposed Streamside DPA boundary (Attachment D), where the following environmental issues were considered and mitigation measures prescribed:-

- Danger Trees and Windthrow –

The attached arborist report addresses concerns related to danger trees and windthrow throughout the development.

Attachment A, Mike Fadum and Associates (Arborist Consultants)

- Slope Stability and Geotechnical Analysis –

The proposed encroachment is located outside of the District of North Vancouver's defined DPA Slope Hazard zone. Other areas of the project fall within the DPA Slope Hazard Area.

The attached geotechnical review summary outlines professional opinion on slope hazard concerns within the development.

Subsequently, a comprehensive geotechnical analysis report will be presented to the District of North Vancouver defining material and design recommendations, specific to the project.

Attachment B, Ward Phillips, Phillips Engineering Ltd.

- Protection of Trees and Encroachment -

Vegetation located within the Streamside DPA boundary is to be protected during the construction phase of the project by a high visibility fence extending along the Streamside DPA boundary and the temporary encroachment area, erected prior to construction activities.

The temporary encroachment area will be restored and seeded before project completion.

- Sediment and Erosion Control –

The proponent of the development is to comply with the District of North Vancouver's Environmental Protection and Preservation Bylaw 6515, to ensure that no sediment or sediment laden waters enter into any watercourses during the construction phase.

Regular site inspections will be conducted by a Qualified Environmental Professional (QEP), retained by the developer to review efficiency and effectiveness of erosion and sediment control measures and to provide additional direction as required.

- Stormwater Management -

Stormwater management plans would be developed prior to project developments.

- Floodplain Concerns –

The project footprint is located beyond the top of bank. The assessed watercourse conveys seasonal low flows through a ravine and is not a highly mobile channel.

- Environmental Monitoring –

The developer will retain a QEP to inspect construction activities and undertake the following duties:

- establish the Streamside DPA boundary in the field, in conjunction with a professional land surveyor prior to the commencement of soil removal activities;
- review sediment and erosion control requirements and plans with the design engineer, the developer, the general contractor and all sub-contractors prior to and during site visits;
- provide direction during construction to the site foreman and or subcontractors to ensure that deficiencies noted in sediment and erosion control are rectified immediately;
- collect samples of waters discharged from the site for total suspended solid analysis as required;
- prepare summary reports for submission to and review by the developer and the District of North Vancouver

With consideration of the arborist recommendations, professional geotechnical opinion and adherence to mitigation measures prescribed above, Envirowest has determined that developments, contained within the proposed Streamside DPA boundary, are unlikely to significantly impact fish or wildlife habitat.

If you have any questions regarding this proposal, please contact me on 604-944-0502.

Sincerely,

ENVIROWEST CONSULTANTS INC.



Alan Dallas
Environmental Technician

ATTACHMENT A
Arborist Report

**Tree Evaluation Report:
Multifamily Residential Development
3105 and 3115 Crescentview Drive
North Vancouver, BC**

**Prepared by:
Mike Fadum and Associates Ltd.
#105, 8277-129 Street
Surrey, BC
V3W 0A6
Phone 778-593-0300
Fax 778-593-0302**



Date: October 27, 2014

1.0 INTRODUCTION

We attended the site on October 16, 2014 for the purpose of evaluating the tree resource and making recommendations for removal and preservation for the land development application proposed for 3105 and 3115 Crescentview Drive, North Vancouver, BC. The development site consists of 2 single family lots (~0.39acres / 0.16ha) on the west side of Crescentview Drive and east of a riparian zone. The application proposes consolidating the 2 lots for the purpose of constructing two multifamily residential buildings with underground parking below each. Plans showing the development site borders, lot lines, lanes, building envelopes, underground parking and topographical survey was provided for our use and used as a resource for making recommendations pertaining to tree removal and retention.



Figure 1. Aerial photograph of 3105 and 3115 Crescentview Drive, North Vancouver, BC (GEOweb).



2.0 FINDINGS

The dominant tree resource includes small groups of native coniferous species, primarily Douglas-fir (*Pseudotsuga menziesii*) and western redcedar (*Thuja plicata*). The trees are concentrated at the east and north ends of the site and a few trees inside the riparian zone were reviewed to the west. Tree health is typically good although a few standing dead trees were observed. Tree structure is moderate to poor as a result of past topping and hydro management.

Table 1 provides individual tree data. Specific information includes tree type, diameter at breast height (DBH), structure and health rating (poor (P), moderate (M), good (G) or a combination of two), live crown ratio (LCR) and structural observations. Health refers to the tree's overall health and vigor, while structure is a qualitative rating of a tree's shape and structure when compared to ideal trees of the same species and age class. Trees were evaluated for their preservation potential based on health, structure, location and species factors. Trees expected to be unsafe, conflicting with the proposed building plans, of poor health or of little long-term retentive value are recommended for removal and are shown on the attached Tree Preservation and Removal Plan. Photographs are provided in Appendix A.

3.0 TREE PRESERVATION SUMMARY

All of the trees identified for preservation, as shown on the plans attached, have been given this recommendation on a preliminary basis. Final recommendations shall be based on grading and construction details. Mechanical injuries caused to trees below or above ground cannot be repaired. All parties must be aware that long-term success in tree preservation efforts depends greatly on minimizing the impact caused during and post construction. Best efforts must be made to ensure that soils remain undisturbed within the tree protection zones. Ongoing monitoring and implementation of mitigating works, such as watering, mulching, etc., is essential for success.

4.0 TREE PROTECTION

Tree protection fencing is to be installed as per municipal standards prior to construction with no excavation, grade alterations or materials storage within the Tree Protection Zone (TPZ) unless pre-approved by the project arborist. The project arborist must be contacted prior to, and be onsite for, any construction near the recommended TPZ which is approximately 6x the tree diameter. Failure to comply with these recommendations may result in delays, stop work orders or fines imposed by the municipality.



5.0 LIMITATIONS

This Arboricultural field review report is based on site observations on the dates noted. Effort has been made to ensure that the opinions expressed are a reasonable and accurate representation of the condition of the trees reviewed. All trees or groups of trees have the potential to fail. No guarantees are offered or implied by Mike Fadum and Associates Ltd. or its employees that the trees are safe given all conditions. The inspection is limited to visual examination of accessible items without dissection, excavation, probing, coring or climbing. Trees can be managed, but they cannot be controlled. To live, work or play near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

The findings and opinions expressed in this report are representative of the conditions found on the day of the review only. Any trees retained should be reviewed on a regular basis. The root crowns, and overall structure, of all of the trees to be retained must be reviewed immediately following land clearing, grade disturbance, significant weather events and prior to site usage changes.

Please contact the undersigned if you have any questions or concerns regarding this report.

Mike Fadum and Associates Ltd.

Peter Mennel, BSc

ISA Certified Arborist: PN-5611A

Certified Tree Risk Assessor #489



Date: October 27, 2014

Page 1 of 7

Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2721	Western Redcedar (<i>Thuja plicata</i>)	~100	MG	MG	95	Asymmetrical canopy weighted to the west. Tree conflicts with construction.	Remove to accommodate construction.
2722	Western Redcedar (<i>Thuja plicata</i>)	21	M	MG	90	Shade suppressed. Asymmetrical canopy weighted to the north. Tree conflicts with construction.	Remove to accommodate construction.
2723	Western Hemlock (<i>Tsuga heterophylla</i>)	28	M	M	80	Shade suppressed. Asymmetrical canopy weighted to the north. Tree conflicts with construction.	Remove to accommodate construction.
2724	Western Redcedar (<i>Thuja plicata</i>)	59	M	G	95	Within 1.4m of a 1m retaining wall. Tree conflicts with construction.	Remove to accommodate construction.
2725	Cherry (<i>Prunus sp</i>)	~20	P	MP	NA	Codominant attachment at mid stem. Grows at 45 degree angle before it corrects to vertical. Tree has failed previously. Grows downhill before it corrects to vertical. Extensive decay within the buttress flares. Tree conflicts with construction.	Remove to accommodate construction.
2726	Western Redcedar (<i>Thuja plicata</i>)	32	M	MG	95	Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2727	Western Hemlock (<i>Tsuga heterophylla</i>)	40	P	MG	75	Asymmetrical canopy weighted to the north. Self correcting phototropic sweep to the north. Extensive decay within the lower 6m. Rams horn callus around decay. Tree poses an increased risk of failure. Codominant at ½ its height. Likely codominant at point of past stem failure with decay that extends down to its base. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2728	Lawson Falsecypress (<i>Chamaecyparis lawsoniana</i>)	~65	MP	MG	100	Asymmetrical canopy weighted to the northeast. Tree grows at the top of a bank and may have suffered root plate failure or root loss. Significant phototropic sweep to the northeast. Tree conflicts with construction. Shade suppressed.	Remove to accommodate construction.
2729	Western Redcedar (<i>Thuja plicata</i>)	25	M	MG	100	Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option. Topped at 8m with no regrowth and scaffolds assuming dominance.	Remove.
2730	Western Hemlock (<i>Tsuga heterophylla</i>)	47	P	M	20	Tree conflicts with construction.	Remove to accommodate construction.
2731	Western Redcedar (<i>Thuja plicata</i>)	60	M	MG	95	Asymmetrical canopy weighted to the southeast. Phototropic sweep to the north. Tree conflicts with construction.	Remove to accommodate construction.
2732	Western Hemlock (<i>Tsuga heterophylla</i>)	47	M	MG	65	Asymmetrical canopy weighted to the west. Phototropic sweep to the northwest. Tree conflicts with construction.	Remove to accommodate construction.
2733	Douglas-fir (<i>Pseudotsuga menziesii</i>)	81	MG	MG	70	Asymmetrical canopy weighted to the northeast. Tree conflicts with construction.	Remove to accommodate construction.
2734	Western Hemlock (<i>Tsuga heterophylla</i>)	59	M	MG	85	Asymmetrical canopy weighted to the southeast. Tree conflicts with construction.	Remove to accommodate construction.
2735	Western Hemlock (<i>Tsuga heterophylla</i>)	40	M	MG	95	Asymmetrical canopy weighted to the southeast. Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2736	Douglas-fir (<i>Pseudotsuga menziesii</i>)	87	MG	MG	60	No observed defects. Tree conflicts with construction.	Remove to accommodate construction.
2737 - 2738	Douglas-fir (<i>Pseudotsuga menziesii</i>)	28,26, 22	MP	MG	30	Row of trees including many less than 20cm DBH. Limited trunk tapers. Aggressively pruned. 2738 is dead.	Remove to accommodate construction.
	Western Hemlock (<i>Tsuga heterophylla</i>) X2					Trees conflict with construction.	
2739	Douglas-fir (<i>Pseudotsuga menziesii</i>)	89	MG	MG	80	Ivy over the lower 6m. Asymmetrical canopy weighted to the southeast. Tree will be significantly impacted by excavation.	Remove to accommodate construction. Leave stump intact.
2740	Western Hemlock (<i>Tsuga heterophylla</i>)	29	M	MG	90	Asymmetrical canopy weighted to the north. Limited trunk taper. Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2741	Western Hemlock (<i>Tsuga heterophylla</i>)	49	MP	MG	95	Asymmetrical canopy weighted to the northwest. Tree appears to be topped or suffered stem failure at ½ its height with codominant regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2742	Douglas-fir (<i>Pseudotsuga menziesii</i>)	28	MP	MG	50	Limited trunk taper and a high canopy. Spiraled around 2741. Tree conflicts with construction.	Remove to accommodate construction.
2743	Douglas-fir (<i>Pseudotsuga menziesii</i>)	78	M	MG	90	Topped or stem failure at ~14m with wide angle of regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2744	Douglas-fir (<i>Pseudotsuga menziesii</i>)	59	M	MG	80	Asymmetrical canopy weighted to the east. Limited trunk taper. Slight dogleg at 14m. Tree conflicts with construction.	Remove to accommodate construction.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2745	Douglas-fir (<i>Pseudotsuga menziesii</i>)	94	M	MG	90	Asymmetrical canopy weighted to the west. Codominant attachment at ~20m. Three stem attachment with candelabra formation likely at point of past topping. Tree conflicts with construction.	Remove to accommodate construction.
2746	Western Hemlock (<i>Tsuga heterophylla</i>)	29	M	G	70	Asymmetrical canopy weighted to the south. Depression and possible decay pocket at 10m. Tree conflicts with construction.	Remove to accommodate construction.
2747	Douglas-fir (<i>Pseudotsuga menziesii</i>)	68	MG	MG	75	Asymmetrical canopy weighted to the east. Tree will be significantly impacted by excavation.	Remove to accommodate construction.
2748	Western Redcedar (<i>Thuja plicata</i>)	31	MG	MG	95	No observed defects. Tree conflicts with construction.	Remove to accommodate construction.
2749	Douglas-fir (<i>Pseudotsuga menziesii</i>)	90	MG	MG	90	Asymmetrical canopy weighted to the east. Tree will be significantly impacted by excavation.	Remove to accommodate construction.
2750	Western Redcedar (<i>Thuja plicata</i>)	23	MG	MG	100	Shade suppressed. Tree conflicts with construction.	Remove to accommodate construction.
2751	Western Redcedar (<i>Thuja plicata</i>)	46	M	MG	95	Asymmetrical canopy weighted to the east. Pruned on the east side for overhead utility line clearance. Tree conflicts with construction.	Remove to accommodate construction.
2752	Western Redcedar (<i>Thuja plicata</i>)	46	M	MG	95	Multi stemmed attachment at 8m. Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option.	Remove.



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2753	Western Hemlock (<i>Tsuga heterophylla</i>)	44	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2754	Western Hemlock (<i>Tsuga heterophylla</i>)	40	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2755	Western Redcedar (<i>Thuja plicata</i>)	52	P	MG	40	Topped at 8m for overhead utility line clearance with no regrowth.	Remove poorly structured tree.
2756	Western Redcedar (<i>Thuja plicata</i>)	38	M	MG	95	Self correcting phototropic sweep to the south. Topped previously with dogleg regrowth. Species is not tolerant of the hydrological changes that are anticipated with excavation immediate to the west. Replacement is the better long term option.	Remove.
2757	Western Redcedar (<i>Thuja plicata</i>)	35	MP	MG	95	Topped at 8m for overhead utility line clearance.	Remove poorly structured tree.
2758	Western Redcedar (<i>Thuja plicata</i>)	26	M	MG	95	Asymmetrical canopy weighted to the west. Limited trunk taper. Tree conflicts with construction.	Remove to accommodate construction.
2759	Western Redcedar (<i>Thuja plicata</i>)	42	MG	MG	100	Asymmetrical canopy weighted to the south. Ivy over the lower 10m. Tree conflicts with construction.	Remove to accommodate construction.
2760	Western Hemlock (<i>Tsuga heterophylla</i>)	28	MP	M	30	Topped at 8m for overhead utility line clearance with no regrowth. Tree conflicts with construction.	Remove to accommodate construction.



Date: October 27, 2014

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Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
2761	Western Redcedar (<i>Thuja plicata</i>)	54	MP	M	50	Topped at 8m for overhead utility line clearance. Tree conflicts with construction.	Remove to accommodate construction.
2762	Western Hemlock (<i>Tsuga heterophylla</i>)	31	P	M	60	Topped at 6m with no regrowth. Tree conflicts with construction.	Remove to accommodate construction.
2763	Western Redcedar (<i>Thuja plicata</i>)	44	P	MG	60	Asymmetrical canopy weighted to the south. Topped at 8m with no regrowth. Extensive decay column originating from the topping cut down to the base. Tree conflicts with construction.	Remove to accommodate construction.
2764	Western Hemlock (<i>Tsuga heterophylla</i>)	28	P	M	10	Topped previously. Tree conflicts with construction.	Remove to accommodate construction.
2765	Western Redcedar (<i>Thuja plicata</i>)	~42	P	M	90	Topped previously. Tree conflicts with construction.	Remove to accommodate construction.
2766	Western Redcedar (<i>Thuja plicata</i>)	49	M	MG	95	Self correcting phototropic sweep to the northwest. Tree conflicts with construction.	Remove to accommodate construction.
OS1/ OS2	Western Redcedar (<i>Thuja plicata</i>) X2	~55	MG	MG	95	Not identified at the time of survey and their locations are approximate. Asymmetrical canopy weighted to the east.	Retain. 4.0m
OS3	Douglas-fir (<i>Pseudotsuga menziesii</i>)	~40	M	M	45	Heavy ivy infestation over the lower 60%.	Retain. 3.0m



Table 1 - Tree Evaluation: 3105 Crescentview Drive, North Vancouver, BC

Tree #	Type	DBH (cm)	Structure	Health	LCR (%)	Observations	Recommendation / Tree Protection Zone Radii
OS4	Western Hemlock (<i>Tsuga heterophylla</i>)	24	M	MG	80	Significant dogleg at ½ its height.	Retain. 2.0m
OS5	Douglas-fir (<i>Pseudotsuga menziesii</i>)	113	MG	MG	50	No observed defects.	Retain. 7.0m Reassess in conjunction with excavation field staking. Removal may be warranted.
C1	Western Hemlock (<i>Tsuga heterophylla</i>)	~50	P	M	50	100% ivy infestation. Topped at 6m with no regrowth and scaffolds assuming dominance.	Remove poorly structured tree pending permission from North Vancouver.
C2	Western Hemlock (<i>Tsuga heterophylla</i>)	35	P	M	40	Topped at 6m with no regrowth.	Remove poorly structured tree pending permission from North Vancouver.
C3	Western Hemlock (<i>Tsuga heterophylla</i>)	~26	P	DEAD	0	Deadwood and decay throughout the stem.	Remove poorly structured tree pending permission from North Vancouver.
ADDITIONAL RECOMMENDATIONS							
<ul style="list-style-type: none"> In order to prevent root damage, which may adversely affect the health and or stability of the retained trees, any ground disturbance or grade alteration within the recommended Tree Protection Zone provided in the table above shall be under the direction of the project arborist. 							

Note: 'OS' refers to Offsite trees and due to restricted access their diameters are approximate. An assessment of offsite trees does not imply they are safe as the restricted access prevented a thorough review. 'C' refers to trees on City property.





Figure 1. Trees 2721-2728.





Figure 2. Interior of site looking west to riparian zone.





Figure 3. Crescentview Drive looking north.





Figure 4. East of site looking west.



**MIKE FADUM AND
ASSOCIATES LTD.
VEGETATION
CONSULTANTS**

#105, 8277 129 St.
Surrey, British Columbia
V3W 0A6
Ph: (778) 593-0300
Fax: (778) 593-0302
Mobile: (604) 240-0309
Email: mfadum@fadum.ca

CLIENT

FILE NO.

PROJECT TITLE
**TREE PRESERVATION
AND PROTECTION PLAN**

3105 3115 CRESCENTVIEW DR.,
NORTH VANCOUVER, B.C.

REVISIONS:

NO.	DATE	BY	REVISION

NOTE: TREE PROTECTION FENCING SHALL
BE CONSTRUCTED TO CITY STANDARDS.
REASSESS TREES WITH LOT GRADING
PLANS.

SHEET TITLE

**T1 - TREE PRESERVATION
AND REMOVAL PLAN**

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and may not be reproduced or
used for other projects without their
permission.

DRAWN

SGL

SCALE

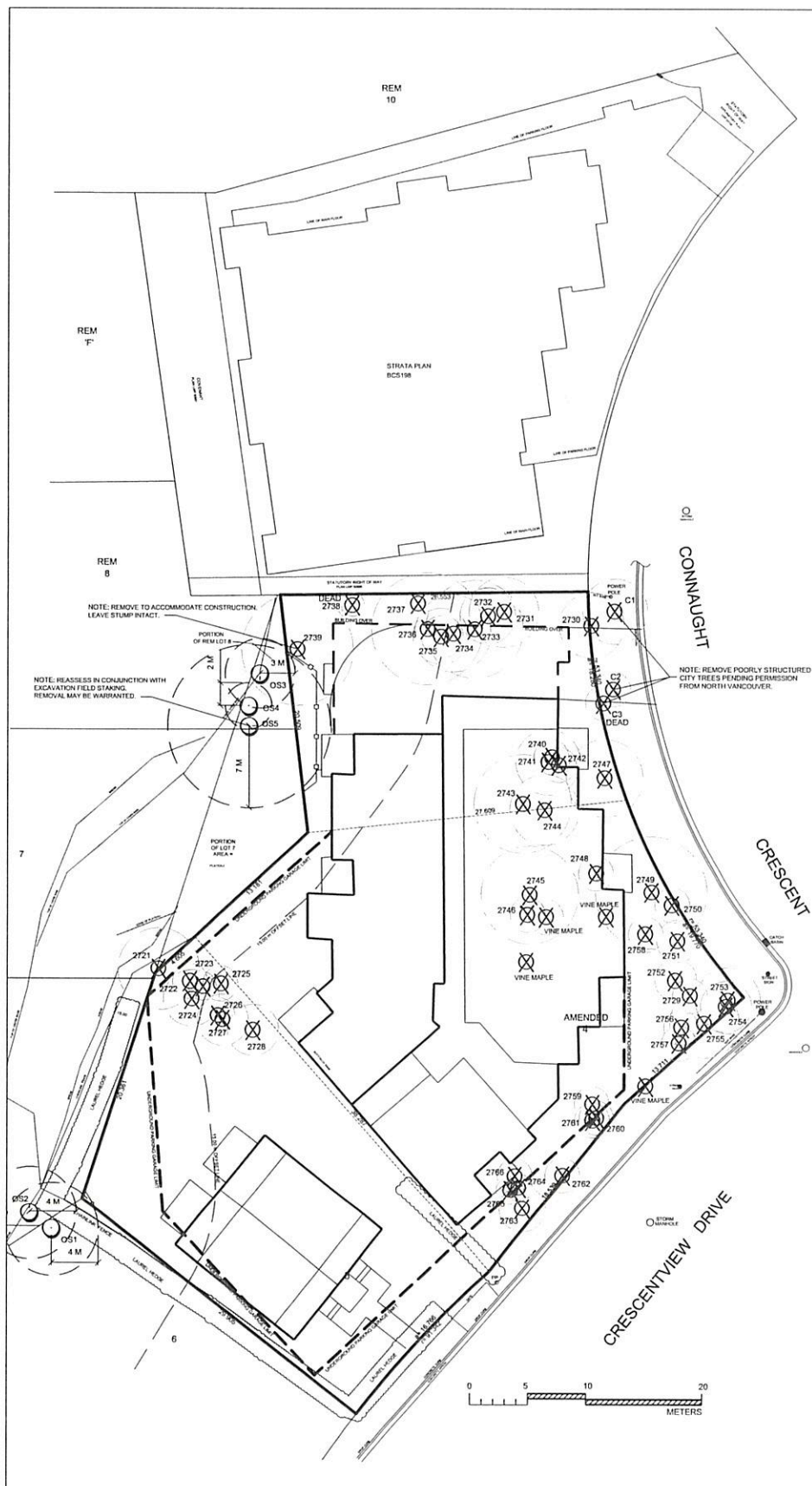
AS SHOWN

DATE

OCTOBER 6, 2014

T-1

SHEET 1 OF 2



LEGEND

- TREE TO BE RETAINED
- TREE TO BE REMOVED
- MINIMUM NO DISTURBANCE ZONE (6X DIAMETER)
- TREE PROTECTION FENCING



ATTACHMENT B
Geotechnical Review

Phillips Engineering Ltd

3641 Blenheim Street, Vancouver, BC, V6L 2Y1
Phone (604) 716-8881 / Fax (604) 739-6782
info@phillipsengineering.ca

Mr. Michael Rakis
5123 Redonda Drive
North Vancouver, B.C.
V7R 3K1

October 15, 2014
Our File: 929

Attention: Mr. Michael Rakis;

Re: Preliminary Geotechnical Reveiw for Proposed Development of Property Located at 3105 and 3115 Crescentview Drive, North Vancouver, BC

As requested, Phillips Engineering Ltd. has been retained to conduct a geotechnical investigation and provide a report for the proposed residential development of 3105 and 3115 Crescentview Drive in North Vancouver, BC. The purpose of the report will be to provide subsoil information and recommendations pertaining to site preparation, foundation design, subdrainage and backfill and to review the slope stability of the proposed development. We will base the report on our general knowledge of expected conditions in the area of the proposed residence and on a field investigation.

Following our review and analysis, we are of the opinion that the proposed development will be feasible and will be safe for the intended usage as pertaining to natural hazards with a probability of occurrence no greater than 1 : 2475.

We note that the site 3105 Crescentview Drive is located adjacent to a DPA Slope Hazard area and is within the 20 metre reference line measured from the top of a steep slope. This reference line bisects the existing residence located on 3105 Crescentview Drive. We understand that the proposed development will be set back an appropriate distance from the top of slope in order to minimize the risk to people and property from slope hazard and to develop the lands safely.

Following the geotechnical investigation, geotechnical field reviews will be required to satisfy the Letters of Assurance requirements and confirm that the recommendations of the geotechnical report are followed.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

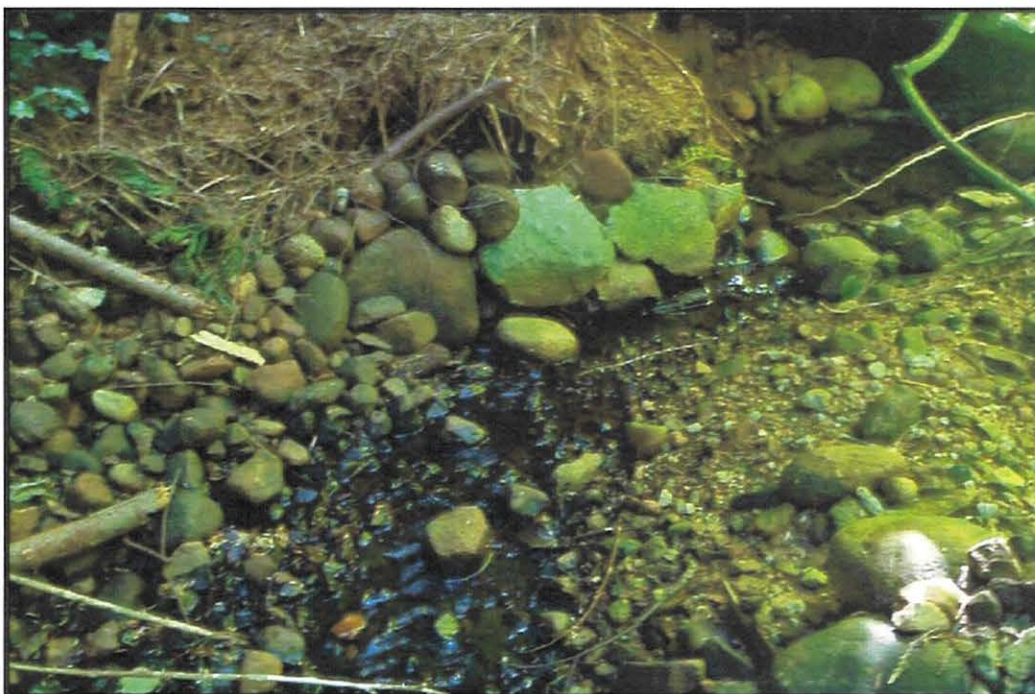
For:
Phillips Engineering Ltd.

Ward Phillips, P.Eng.
Principal

ATTACHMENT C
Site Photographs



Photograph C1. Upstream view of assessed watercourse (September 11, 2014).



Photograph C2. Downstream view of assessed watercourse (September 11, 2014).



Photograph C3. Location of proposed DPA boundary encroachment within the northwest extent of the property (September 11, 2014).

ATTACHMENT D
Development Setbacks



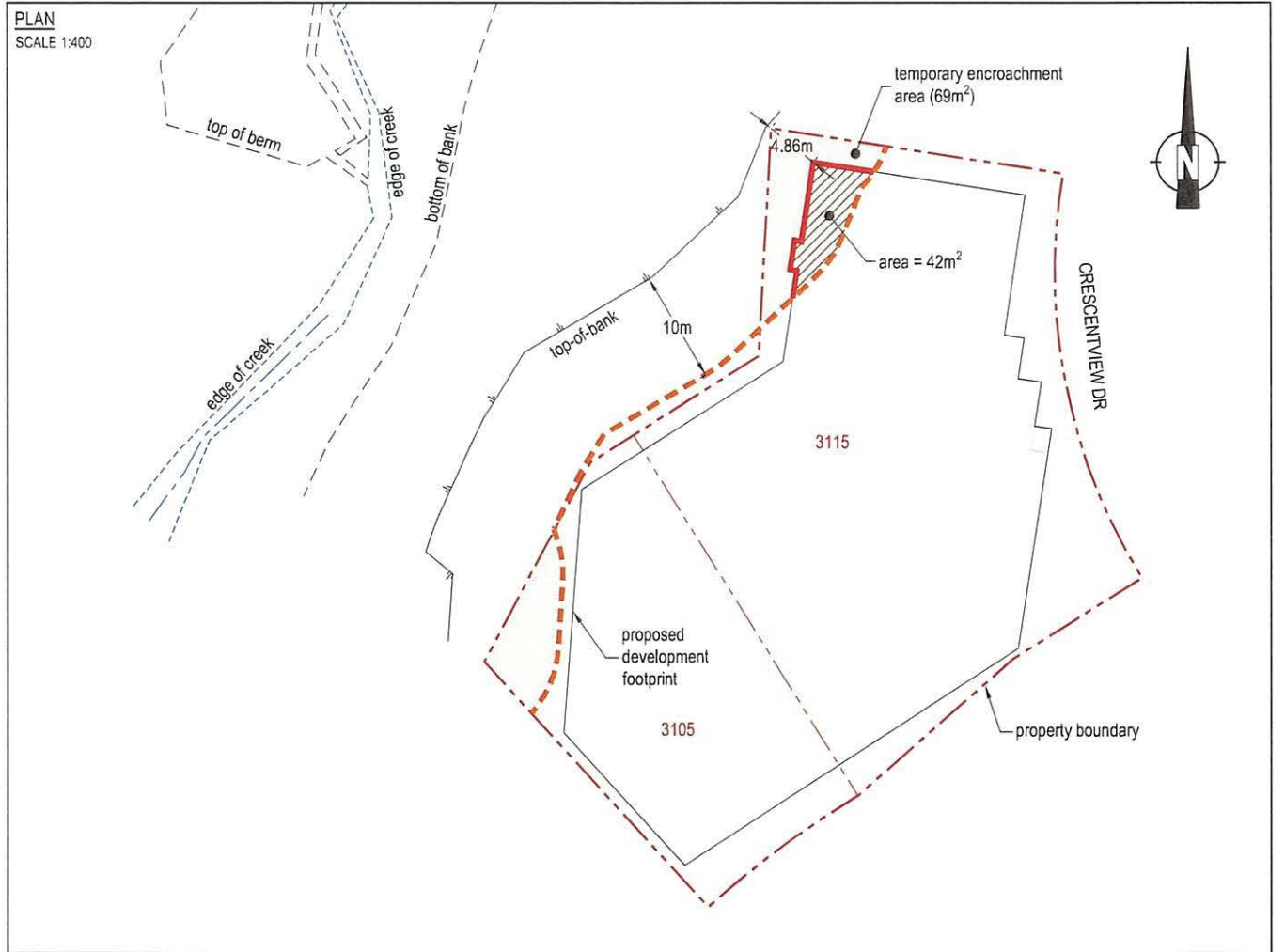
LEGEND

	Streamside DPA Boundary (DNV)
	Modified Proposed Streamside DPA Boundary

REFERENCE DRAWINGS

1. "Context Plan", August 29, 2014, Raymond Letkeman Architects Inc.
2. "Parking Floor Plan", August 29, 2014, Raymond Letkeman Architects Inc.
3. 2013 Ortho Photograph From District of North Vancouver.

PLAN
SCALE 1:400



MIKE FOURNOGERAKIS

3105, 3115 CRESCENTVIEW DRIVE
North Vancouver, BC



envirowest consultants inc.

Suite 101 - 1515 Broadway Street
Port Coquitlam, British Columbia
Canada V3C 6M2
office: 604-944-0502
facsimile: 604-944-0507

www.envirowest.ca

DEVELOPMENT SETBACKS

DESIGN	DRAWN	CHECKED	REVISION	REVISION DATE
AD	SCM	RWS	00	
SCALE: As Shown				DRAWING NUMBER
DATE: February 25, 2015				2014-01-01



BUILT GREEN™ CHECKLIST 2011

Effective January 1, 2011

To select points, click on boxes and select point value from drop-down list

Builder: Centreview Drive Duplex House Address:

Section 1: 22 Section 2: 15 Section 3: 14 Section 4: 19 Section 5: 6 Section 6: 10 Section 7: 12 Section 8: 7 = TOTAL POINTS: 105

I. OPERATIONAL SYSTEMS

This section awards points for construction methods and types of products that contribute toward lower energy consumption, as well as alternative heating and electrical systems.

Minimum 10 Points Required

- | | | |
|-----|---|--|
| 1-1 | Install a zoned heating system. Either, from a single HVAC source utilizing two or more, programable, thermostatically controlled zones or zoning separate systems through separate programable thermostats. (2 Zones = 2 points, 3 = points, 4 = points) | <div style="border: 1px solid black; width: 30px; height: 30px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 10px; height: 10px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 5px; height: 5px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 2px; height: 2px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 1px; height: 1px; background-color: #f4a460; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; 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1-10	Install drain water heat recovery units on the main drainage stack. 3 foot stack (1 point), 6 foot stack (2 points) Drain water heat recovery units transfer the heat from waste water to incoming water. This reduces the amount of energy needed for the DHW system.		1 or 2
1-11	Sealed combustion fireplace with electronic ignition if gas fueled. Sealed combustion fireplaces involve a double-walled special vent supplied by the manufacturer that normally vents through a sidewall in a horizontal position. The unit must be Sealed Combustion, meaning that combustion gasses can not enter the home even if the home becomes depressurized.		2
1-12	Install an EPA or CSA certified high-efficiency wood stove or pellet stove with a minimum efficiency of 72% (1 point) or 85% (2 points). State-of-the-art wood and pellet stoves are among the cleanest burning heating appliances and deliver a high overall efficiency. EPA and CSA certified stoves ensure reduced emissions.		1 or 2
1-13	Install fireplace fan kit to circulate warm air into room (1 point per fan, maximum 2 points). A fan kit allows the heat generated by a fireplace to be transferred into the home more effectively.		1 or 2
1-14	All windows in home are ENERGY STAR labeled or equivalent for the climatic zone of home. ENERGY STAR labeled windows save energy by insulating better than standard windows, making the home more comfortable all year round, reducing outside noise and can result in less condensation forming on the window in cold weather.		2
1-15	Electric range is self cleaning and/or Convection based Ranges that self clean or have convection are better insulated and sealed, performing at or less than 500 kwh (520 kwh for convection) when rated by EnerGuide.		1
1-16	Refrigerator is an ENERGY STAR labeled product. An ENERGY STAR label for refrigerator indicates the product has met strict requirements to reduce energy consumption.		2
1-17	Dishwasher is an ENERGY STAR labeled product. An ENERGY STAR label for a dishwasher indicates the product has met strict requirements to reduce energy consumption.		1
1-18	Clothes washer or combo washer dryer is an ENERGY STAR labeled product. An ENERGY STAR label for a clothes washer indicates the product has met strict requirements to reduce energy consumption.		1
1-19	Clothes dryer has an energy performance "auto sense" dry setting which utilizes a humidity sensor for energy efficiency.		1
1-20	Home is built "Solar Ready" following Canadian Solar Industries Association (CANSIA) guidelines. Designing a home to be solar ready will make the addition of panels in the future much easier. Contact the Canadian Solar Industries Association for more info: www.cansia.ca .		2
1-21	Install active solar hot water heating system. Sized for 30% of DHW load (4 points), 50% (6 points), 80% (8 Points) System capacity must be verified by professional installer or engineer using modeling software such as RETScreen or better, data provided to Built Green Energy Advisor at time of modeling		4, 6, 8
1-22	Install photovoltaic electrical generation system. Sized for 30% of electric load (4 points), 50% (6 points), 80% (8 points). A photovoltaic system will greatly reduce the reliance on fossil fuel energy and reduce greenhouse gas emissions. System capacity must be verified by professional installer or engineer.		4, 6, 8
1-23	50% (2 points) or 100% (4 points) of electricity used during construction of home is generated by wind power or equivalent green power certificate.		2 or 4
1-24	50% (2 points) or 100% (4 points) of electricity used by homeowner during first year of occupancy is generated by wind power or equivalent green power certificate. (prepaid by builder)		2 or 4
1-25	A properly supported and wired ceiling fan and a wall mounted switch roughed in for future installation. Intended to allow for future temperature equalization.		1
1-26	Install interior motion sensor light switches. 1 point per switch to a maximum of 3 points. Motion sensor switches prevent lights from remaining on in rooms that are unoccupied. This helps reduce electricity consumption. Switches on closet doors and pantries are also acceptable.		1 to 3
1-27	Install central, computerized control systems capable of unified automation control of lighting loads. Lighting and automation control systems prevent lights from remaining on in rooms without occupants, thereby reducing electricity consumption.		4
1-28	Minimum 25% (1 point), 50% (2 points), 75% (3 points) or 100% (4 points) of interior and exterior light fixtures are fluorescent, compact fluorescent light bulbs or LEDs. Fluorescent, compact fluorescent and LED lamps use 50% less energy than standard lamps and last up to ten times longer.		1 to 4

1-29	Minimum 50% of recessed lights use halogen bulbs. Halogen bulbs are slightly more energy efficient, last longer and provide a more effective task light than conventional bulbs.	1	1
1-30	Air tight, insulation contact-rated recessed lights are used in all insulated ceilings, or insulated ceilings have no recessed lights. Prevents heated air from exhausting through ceiling. Air tight light fixtures lead to a more airtight, energy efficient home.	1	1

TOTAL SECTION POINTS









22






II. BUILDING MATERIALS

This section deals with building components that make up the structure of the home. Items involve alternatives to using large dimensional lumber, products with a recycled component, utilizing wood products that come from sustainably managed forests and reducing the overall amount of lumber used. Many Building Material items also improve thermal performance and EnerGuide scores

Minimum 15 Points Required

2-1	Insulated Concrete Form (ICF) system used for foundation walls. Insulating Concrete Forms (ICF) are hollow building elements made of plastic foam that are assembled, often like building blocks, into the shape of a buildings exterior walls. The ICFs are filled with reinforced concrete to create structural walls. Unlike traditional forms, the ICFs are left in place to provide insulation and a surface for finishes.		2
2-2	Insulated Concrete Form (ICF) system used for 75% of above grade house walls. See description in 2.1. Use of modest amount of stick framing is allowable, i.e. at bay windows, pony walls and walk out walls.		3
2-3	Non-solvent based damp proofing (seasonal application). Water based damp proofing products use water as a thinner. Oil based damp proofing gives off a number of volatile organic compounds (VOCs) as the solvent evaporates after application. These VOCs can be a strong irritant and can add to air pollution.	1	1
2-4	Exterior and interior wall stud spacing at 19.2" on-center (1 point) or 24" on-center (2 points) . Increasing stud spacing reduced the thermal performance of homes while saving materials.		1 or 2
2-5	Use of insulated headers / lintels (either manufactured or site built insulated headers) with minimum insulation value of R10. Headers can either be insulated on site or can be a pre-manufactured product (often insulated with a foamed plastic).	1	1
2-6	Install manufactured insulated rim/band joist, or build on-site built header wrap detail for continuous air barrier. Rim and band joists can either be insulated on site or can be pre-manufactured (often insulated with a foamed insulation).		1
2-7	Elimination of headers at non-bearing interior and exterior walls. It is not necessary to use the additional wood involved in header construction if the opening is less than 4' wide and is non-load bearing. For more details on Optimum Value Engineering framing principles see www.buildingscience.com .	1	1
2-8	Use of header hangers instead of jack studs. Using metal header hangers instead of jack studs allows for savings in wood use. For more details on Optimum Value Engineering framing principles see www.buildingscience.com .		1
2-9	Elimination of cripples on hung windows. For hung window openings, cripples are only necessary for siding or gypsum board attachment. For more details on Optimum Value Engineering framing principles see www.buildingscience.com .		1
2-10	Elimination of double plates, using single plates with connectors by lining up roof framing with wall and floor framing. Stack framing principles will allow for reduced wood usage. For more details on Optimum Value Engineering framing principles see www.buildingscience.com .		1
2-11	Use of two stud corner framing with drywall clips or scrap lumber for drywall backing instead of studs. Drywall clips can be used instead of a third corner stud allowing for reduced wood usage. For more details on Optimum Value Engineering framing principles see www.buildingscience.com .		1
2-12	Deck or veranda surfaces (1 point) and/or structure (1 point) made from a third-party certified sustainably harvested wood source. Wood must come from a sustainably harvested source with certification from Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), or Canadian Standards Association's Sustainable Forest Management Standard (CAN/CSA-Z809-02).	1	1 or 2
2-13	Deck or veranda surfaces (1 point) and/or structure (1 point) made from a third-party certified sustainable concrete. Concrete produced from aggregates derived from a pit or quarry with a valid reclamation plan approved by Materials and Resources Canada or the governing provincial body.		1 or 2
2-14	Structural insulated panel system used for at least 75% of roof/ceiling (4 points), 75% of walls (6 points), exposed floors (2 points) and/or Foundation (2 points). Factory built Stressed-skin Insulating Panels (SIPS) can reduce thermal migration and control air leakage – keeps heating and cooling costs to a minimum and can use less framing material compared to a conventionally framed wall.		2 to 14
2-15	Dimensional lumber from a third-party certified sustainably harvested source used for floor framing. See 2-12		1
















2-16	Dimensional lumber from a third-party certified sustainably harvested source used for wall framing. See 2-12		2
2-17	Dimensional lumber from a third-party certified sustainably harvested source used for roof framing. See 2-12		1
2-18	Use manufactured wood products for floor systems instead of dimensional lumber (1 point), from third party certified sustainably harvested sources (2 points). Engineered wood floor systems saves old growth forests by using components from second generation forests and the use of recycled materials. See 2-12		1 or 2
2-19	Reduce dimensional lumber use by using engineered product for all load bearing beams & columns (1 point), from third party certified sustainable sources (2 points). Engineered products include wood products, concrete and recycled steel.		1 or 2
2-20	Reduce dimensional lumber use by using engineered products for all exterior window and door headers. Engineered products include wood products, concrete and recycled steel.		1
2-21	Finger-jointed plate material and/or engineered plate material used for all framing plates. Use of recycled materials saves old growth forests.		1
2-22	Reduce dimensional lumber use by using engineered stud material for 10% of structural stud wall framing. Use of engineered lumber products saves old growth forests by using components from second generation forests and the use of recycled materials.		1
2-23	Finger-jointed studs for 90% of non-structural (1 point) and/or 90% of structural (1 point) wall framing. Use of recycled materials saves old growth forests.		1 or 2
2-24	Recycled and/or recovered content gypsum wallboard, minimum of 15% recycled content.		1
2-25	Recycled content exterior wall sheathing (minimum 50% pre- or post-consumer).		2
2-26	Use rain screen system separating cladding from the wall sheathing with a drainage plane (2 point), 60% or more recycled content (additional 1 point). Use of recycled content polypropylene, steel or aluminum rain screen strapping may replace the traditional use of wood strapping on rain screen systems.		1 or 3
2-27	Advanced sealing package, non HCFC expanding foam around window and door openings and all exterior wall penetrations. Controls air leakage and keeps heating and cooling costs to a minimum.		2
2-28	All sill plates sealed with foam sill gaskets or a continuous sandwiched bead of acoustical sealant. Controls air leakage and keeps heating and cooling costs to a minimum.		1
2-29	All insulation used in home is certified by a third-party to contain a minimum recycled content: 40% (1 point) or 50% (2 points).		1 or 2
2-30	Install site applied spray foam to insulate entire rim joist area (1 point), Exposed floors (2 points) and/or house walls (4 points) and/or entire roof (3 points). Spray insulations provide excellent air sealing and insulation value. Spray foam must be fire protected and some types cannot come in contact with heating ducts or lines. Some foams meet requirements for vapour barriers. Consult supplier or installer for further information.		1 to 10
2-31	Replace exterior wood sheathing with insulating sheathing and structurally required metal bracing. Using less materials when possible saves the forest reserves, reduces thermal migration and controls air leakage and keeps heating and cooling costs to a minimum compared to a conventional wall.		2
2-32	Install R5 (1 point), R8 (2 points) or R12 (3 points) above building code required under entire basement slab. Insulation installed under the basement slab will reduce the downward heat transfer into the ground below the slab, especially when hydronic in-slab heating is installed. Insulation under the slab can reduce temperature swings in the heated space and respond quicker to new changes in thermostat settings.		1,2 or 3
2-33	Install additional rigid insulation on exterior of above grade walls, above code required framing cavity insulation. Exterior insulation can greatly reduce thermal bridging, improving thermal performance. Care must be taken to ensure the wall cavity remains permeable to the outside and foam must be fully protected from UV damage during and after construction. Refer to CHBA Builder Manual or Local Code Officials for additional information.	1.5" (1 )	1 or 3
2-34	Install additional exterior insulations system on exterior of foundation, R Value of 7.5 (1 point), R10 (2 points), or R15 (3 points), above code required interior insulation level Insulation on the outside of a foundation system reduced energy loss		1, 2 or 3
2-35	Overhead garage door is made of 75% or greater recycled material.		1
2-36	Attached garage overhead door is insulated with R8 to R12 (1 point) or greater than R12 (2 points).		1 or 2
2-37	Attached garage is fully insulated. A fully insulated garage serves an additional insulating capacity for any walls encapsulated by it, further slowing heat loss through those walls.		1

2-38	Builder uses passive solar design shading devices for home. Permanent horizontal and/or vertical exterior shading devices for glazing (2 points), computer controlled devices (additional 1 point). Excludes interior blinds.		2 or 3
2-39	Install 100% recycled content carpet underlayment.		1
2-40	Install finished concrete interior floors instead of other types of finished floors (tile, carpet, hardwood, etc). For 300-500 ft² (1 point), 501-1000 ft² (2 points), 1001-1500 ft² (3 points), 1501+ ft² (4 points). Not applicable in unfinished basement areas. Using the concrete itself as a finished floor where concrete is being used regardless (for in floor heat or basement slabs) provides a durable floor with less material usage.		1 to 4
2-41	Install weather-stripped and insulated (R15 minimum) manufactured interior attic hatch (1 point), or no interior attic access (1 point)		1
TOTAL SECTION POINTS			

III. EXTERIOR and INTERIOR FINISHES

This section focuses on the finish materials used both inside and outside of the home. The items listed include using longer lasting products, products with recycled content and products that are harvested from third-party certified sustainably managed forests.

Minimum 10 Points Required


















3-1	Exterior doors with a minimum of 15% recycled and/or recovered content. Recycled or recovered content ensures we keep our landfill use to a minimum. Not including overhead garage doors (see 2-33).		1
3-2	Interior doors with a minimum of 15% recycled and/or recovered content.		1
3-3	Interior doors made from third-party certified sustainably harvested wood. Uses trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		2
3-4	All exterior doors manufactured from fiberglass. Fiberglass doors insulate better than steel skinned or wood doors, have a longer lifespan, do not warp, twist or crack, and therefore reduce landfill use.		1
3-5	Exterior window frames contain a minimum of 10% recycled content. Reusing materials such as plastics that may not be biodegradable reduces landfill usage.		1
3-6	Exterior window frames made from third-party certified sustainably harvested wood. Uses trees from responsible sources and forests certified to an independent third party forest certification program.		2
3-7	Natural cementitious stone/stucco/brick or fiber cement siding – complete or combination thereof for 100% of exterior cladding. Strong, long lasting, fireproof material.		4
3-8	Recycled or reclaimed exterior cladding material. 1/3 of exterior (1 point), 2/3 or more of home (2 points). Use of reclaimed bricks, recycled content siding, etc. Intent is to replace siding materials, primarily exterior finish materials.		1 or 2
3-9	Fiber cement fascia and soffit. Fiber cement fascia and soffit, made with recycled content from sawmill waste and Portland cement, is a strong, long lasting and fireproof material.		2
3-10	Recycled and/or recovered-content fascia and soffit (minimum 50% pre- or post-consumer). Recycled and/or recovered-content fascia and soffit reduces the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		1
3-11	Recycled and/or recovered-content siding (minimum 50% pre- or post-consumer). Recycled and/or recovered-content siding reduces the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		4
3-12	Exterior trim materials are made from alternatives to solid lumber. Trim materials manufactured from OSB uses a laminating process to make larger pieces from smaller pieces or strands of wood. The process saves old growth forests by using trees from forests managed sustainably, that prevent clear cutting and replant trees in areas from which they've been harvested.		1
3-13	Exterior trim materials have recycled and/or recovered-content (minimum 50%). Recycled and/or recovered-content trim materials reduce the amount of new material used in production by gluing up mill scraps into large pieces, which conserves natural resources and reduces landfill usage.		3
3-14	All exterior trim is clad with pre-finished metal (1 point over wood backings, 2 points without wood backings). Trim clad with pre-finished metal is a durable long lasting product that requires no maintenance and reduces waste in landfills due to long life of product.		1 or 2
3-15	Deck or veranda surfaces made from low maintenance materials - deck surfaces do not need maintenance of any kind, including painting, for a minimum of 5 years. Materials that last longer reduce landfill usage and tend to require little to no maintenance, saving replacement costs and reducing energy use.		2

3-16	Minimum 25-year manufacturer warranty roofing material (2 points plus 1 point for each additional 5 years). A 25-year roof system saves homeowners money in replacement costs, and reduces the use of landfills due to the longevity of the product.	<div>3</div>	2 or more
3-17	Minimum 25% recycled-content roofing system (1 point underlay and 2 points roofing finish). Recycled content roofing material reduces the use of new resources and waste in landfills.	<div></div>	1 to 3
3-18	Domestic wood from reused/recovered or re-milled sources, 500 ft² minimum for flooring or all cabinets or all millwork. Reused, recovered or re-milled sources eliminate the need for new resources, saving energy, transportation costs, and forestry from depletion.	<div></div>	6
3-19	Natural or recycled-content carpet pad made from textile, carpet cushion or tire waste (rebond still qualifies). Natural or recycled-content carpet pad is a good use of reusable resources.	<div>2</div>	2
3-20	Install carpet that has a minimum of 50% recycled content. Recycled-content carpet is a good use of renewable resources, lessens off-gassing and improves air quality.	<div></div>	2
3-21	Install a minimum of 300 ft² of laminate flooring.	<div></div>	2
3-22	Bamboo, cork or hardwood flooring used in home, minimum of 300 ft² installed. Products must be third-party certified from sustainably managed forests or certified sustainable sources. Cork flooring comes from stripping the bark off cork oak, which regenerates itself. The cork tiles are moisture, rot and mould resistant, providing a floor that can last over 30 years. Bamboo flooring is a good use of natural resources because it is fast growing, durable and flexible. All hard floorings promote better indoor air quality by not trapping contaminants.	<div></div>	3
3-23	All ceramic tile installed in home has a minimum of 25% recycled-content. Reduces landfill usage.	<div></div>	2
3-24	MDF and/or finger jointed casing and baseboard used throughout home (1 point), and all jambs (1 point) Medium Density Fiberboard (MDF) casing is created from sawdust and glues, utilizing all wood waste to create usable product.	<div>2</div>	1 to 2
3-25	Solid hardwood trim from third-party certified sustainably harvested sources approved for millwork and/or cabinets (2 points per application – maximum of 4 points). Uses trees from responsible sources and forests certified to an independent third party forest certification program.	<div></div>	2 or 4
3-26	Paints or finishes with minimum of 20% recycled content. Paints or finishes made from recycled content are environmentally friendly because recycling paint reduces the hazardous waste in landfills.	<div></div>	1
3-27	Local natural stone or recycled content (30% of content) solid countertops for all kitchen counters (2 points), all other counter tops (1 point). Solid counter top product is more durable, easy to clean and maintain, resistant to heat and scoring. By quarrying and sourcing in Canada, the environmental cost of shipping is greatly reduced. Foreign stone cut or polished in Canada is not acceptable, quarry must be located within 800km of project, see item 8-1 for additional point.	<div></div>	1 or 2
3-28	100% agricultural waste or 100% recycled wood particle board used for shelving. Products such as wheat board are made from agricultural waste.	<div></div>	2
3-29	PVD finish on all door hardware. Physical Vapour Disposition provides a more durable product. No toxic wastes are produced making it.	<div></div>	1
3-30	PVD finish on all faucets. Physical Vapour Disposition provides a more durable product. No toxic wastes are produced making it.	<div></div>	1
3-31	Install only Type 1 or 2 grade door hardware with lifetime mechanical and coating warranty. High quality, durable Type 1 and 2 hardware will not require replacing for life of home.	<div></div>	2
TOTAL SECTION POINTS		<div>14</div>	

IV. INDOOR AIR QUALITY

This section focuses on the quality of the air within the finished home. Products listed here include materials that are low in VOC's, products made from all natural materials as well as various air cleaning and ventilation systems. **Minimum 15 Points Required**

4-1	Install pleated media filter on HVAC system with minimum MERV 7 rating. MERV rating system specifies allowable amounts and practical sizes that a filter must catch. The higher the MERV rating, the smaller and greater number of particulates are caught, providing better indoor air quality.	<div></div>	1
4-2	Install electrostatic air cleaner on HVAC system. Permanent washable air filter that traps and removes airborne particles from the air before being circulated through the furnace and into the home.	<div></div>	2
4-3	Install air filter on all fresh air inlets. A filter installed on the fresh air inlet will reduce the particulate that can be transferred from outside into the home. All air intakes must be easily accessible for maintenance. Bug screens are not considered a "filter". Check with furnace or HRV manufacture prior to	<div></div>	1

4-4	Install electronic air cleaner on HVAC system.		3
	An electronic air cleaner offers a superior level of filtration by using advanced, 3-stage filtration technology to trap and filter airborne particles like dust, cat dander and smoke. It works by placing an electric charge on airborne particles, and then collecting the charged pollutants like a magnet. The air cleaner cells can be washed in your dishwasher or sink.		
4-5	Install HEPA filtration system in conjunction with an HVAC system.		6
	HEPA stands for High-Efficiency Particle Arresting. HEPA filtration offers the highest particulate removal available - 99.97% of particles that pass through the system including dust, cat dander, certain bacteria, pollens and more. The system is connected to the cold air return of the forced air heating/cooling system which provides a whole house filtration system.		
4-6	Install thermostat that indicates the need for the air filter to be changed or cleaned.		1
	This feature displays filter maintenance reminders on the thermostat. Regular furnace maintenance is required to keep your mechanical equipment running efficiently and problem free as well as ensuring a healthy indoor air environment.		
4-7	Power vacuum all HVAC ducting prior to occupancy by homeowner.		2
	This process helps eliminate pollutants that drop into the HVAC ducting during the construction process from being circulated into the home.		
4-8	Central vacuum system vented to exterior as recommended by the Carpet and Rug Institute.		1
	A central vacuum system collects dust centrally, while exhausting to the exterior so that dust mites and bacteria do not have the opportunity to re-circulate. The result is cleaner, healthier air. Note: install far enough from air intake areas. See manufacturer's installation guidelines.		
4-9	All insulation in the home is third-party certified or certified with low or zero formaldehyde.		2
	Formaldehyde is colorless gaseous organic compound, water soluble, with a characteristic pungent and stifling smell. Products with low formaldehyde emission levels will improve indoor air quality of homes and long term owner health.		
4-10	Low formaldehyde sub floor sheathing (less than 0.18 ppm).		3
	Formaldehyde is colorless gaseous organic compound, water soluble, with a characteristic pungent and stifling smell. Products with low formaldehyde emission levels will improve indoor air quality of homes and long term owner health. Industry Standard ANSI A208.1-1999 sets a 0.20 ppm limit. Built Green™ requires a 10% better level of performance at 0.18 ppm. Products using Phenol Formaldehyde, or PMDI or MDI will meet this standard without testing.		
4-11	Low formaldehyde underlayment is used in home (less than 0.18 ppm).		1
	Low formaldehyde (phenol) and formaldehyde-free binders (PMDI) are available and becoming more common. FSC certified OSB is becoming more common, reducing environmental impacts on air, water, social quality.		
4-12	Low formaldehyde particle board/MDF (less than 0.18 ppm) = 1 point, or zero formaldehyde particle board/MDF (2 points) used for cabinets.		1 or 2
	Urea formaldehyde-free fiberboard can be used in the same way as conventional fiberboard, but with the added caution of greater potential for water damage.		
4-13	Low formaldehyde particle board/MDF (less than 0.18 ppm) = 1 point, or zero formaldehyde particle board/MDF (2 points) for shelving.		1 or 2
	Urea formaldehyde-free fiberboard can be used in the same way as conventional fiberboard, but with the added caution of greater potential for water damage.		
4-14	All interior wire shelving is factory coated with low VOC / no off gassing coatings		2
	Vinyl coating on conventional shelving units and site built MDF shelving off gas VOCs.		
4-15	Water-based urethane finishes used on all site-finished wood floors.		2
	Water-based epoxy finish (generally referred to as epoxy-modified finish) differs from its solvent-based counterpart in that the epoxy resin is itself the catalyst for an acrylic or urethane resin.		
4-16	All wood or laminate flooring in home is factory finished.		2
	Installing a pre-finished floor eliminates the time, the dust and the odours associated with the on-site sanding and finishing of an unfinished product.		
4-17	Water-based lacquer or paints are used on all site built and installed millwork, including doors, casing and baseboards. (less than 200 grams/litre of VOC's)		3
	Using water based interior finish products reduces VOC off-gassing which improves indoor air quality.		
4-18	Interior paints used have low VOC content (less than 200 grams/litre of VOCs).		2
	Volatile Organic Compounds (VOCs) are a class of chemical compounds that can cause short or long-term health problems. A high level of VOCs in paints/finishes off-gas and can have detrimental effects to a buildings indoor air quality and occupant health.		
4-19	Interior paints used have no VOC's in base paint prior to tint.		3
	Volatile Organic Compounds (VOCs) are a class of chemical compounds that can cause short or long-term health problems. A high level of VOCs in paints/finishes off-gas and can have detrimental effects to a buildings indoor air quality and occupant health.		
4-20	All ceramic tiles are installed with low VOC adhesives and plasticizer-free grout (low VOC standard is less than 150 grams per litre).		1
	Most adhesives are still based on SB latex which releases large quantities of VOCs. The volatile solvents are used to emulsify (or liquefy) the resin that acts as the bonding agent. However, water-based adhesives emit far less VOCs than their conventional solvent based counterparts. There are three types of low-VOC formulas: water-based (latex and acrylics); reactive (silicone and polyurethane); and exempt solvent-based (VOC-compliant solvents). While all three technologies yield low- or zero-VOC caulks, sealants, and adhesives, their performance is slightly different.		

4-21	All Vinyl flooring is replaced with natural linoleum installed with low VOC adhesives or other hard surface flooring (low VOC standard is less than 150 grams per litre). Hard surface flooring is generally more durable and improves the Indoor Air Quality within a building. Vinyl flooring typically releases VOC's as it ages and uses toxic glues in its application.	2	2
4-22	Carpet and Rug Institute (CRI) IAQ label on all carpet used in home. To identify carpet products that are truly low-VOC, CRI has established a labeling program. The CRI Indoor Air Quality Carpet Testing Program green and white logo displayed on carpet samples in showrooms informs the consumer that the product type has been tested by an independent laboratory and has met the criteria for very low emissions.	2	2
4-23	Carpet and Rug Institute (CRI) IAQ label on all underlay used in home. The adhesives used to install carpets and the latex rubber by some manufacturers to adhere face fibers to backing materials generate volatile organic compounds (VOCs). Carpets also cover large surfaces within an interior environment and can provide "sinks" for the absorption of VOCs from other sources.	1	1
4-24	Natural material based carpet in all living areas. Natural wool carpets are durable and use less secondary backing materials and chemicals. Off-gassing is typically caused by the secondary backings and chemical additives in synthetic carpets, for controlling mildew, fungus, fire and rot.	2	2
4-25	All carpet in home is replaced by hard surface flooring. Hard surface flooring is generally more durable and improves the Indoor Air Quality within a building. Carpets collect dust, dust mites and other allergens which when disturbed become airborne particulates- directly affecting the health of the occupants.	4	4

TOTAL SECTION POINTS

19

V. VENTILATION

This section covers the mechanical ventilation systems in the home, including filtrations and heat recovery.

Minimum 6 Points Required

*** Platinum Level Note* Platinum level homes must use item 5-7 " Ventilation system is installed according to CSA Standard F326, as recommended by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)." as well as 6 additional points from this section.**

5-1	All ductwork joints and penetrations sealed with low toxic mastic or aerosolized sealant system. Duct mastic is a preferred flexible sealant that can move with the expansion, contraction, and vibration of the duct system components. A high quality duct system greatly minimizes energy loss from ductwork. The system should be airtight, sized and designed to deliver the correct airflow to each room.	2	3
5-2	Install motorized damper on fresh air inlet (must be interlocked with furnace system). A constantly open fresh air supply (passive air) wastes energy. Positive control of this air will assure building comfort, safety and energy efficiency.	1	1
5-3	Install all ventilation fans (bath or in-line type) to meet or exceed the Energy Star requirements Energy Star fans have to meet standards for efficiency, and sound transmission, providing quiet and effective ventilation fans. www.oeenrcan.gc.ca/energystar/english	2	2
5-4	Install a programmable timer or humidistat controlled ventilation fan meeting the Energy Star requirements for efficiency and sound level A programmable timer ensures necessary, regular, automatic mechanical ventilation of the home.	2	2
5-5	Install passive Heat Recovery Ventilator (HRV) and verify balanced installation. A Heat Recovery Ventilator (HRV) is an air exchanger that exhausts humid, stale, polluted air out of the home and draws in fresh, clean outdoor air into the home. Invisible pollutants produced by common household substances, plus dust and excess humidity that get trapped in today's houses, can increase your risk of chronic respiratory illness and your homes risk of serious structural damage. A passive HRV unit does not have its own internal fan and is 100% furnace assisted. It works by tying the exhaust side of the unit to the supply air plenum which forces air to exhaust from the home and at the same time fresh air enters from outside through the unit and into the cold air return duct work.	2	2
5-6	Install an active Heat Recovery Ventilator or Energy Recovery Ventilator (HRV or ERV) and verify balanced installation. A Heat Recovery Ventilator (HRV) is an air exchanger that exhausts humid, stale, polluted air out of the home and draws in fresh, clean outdoor air into the home. Invisible pollutants produced by common household substances, plus dust and excess humidity that get trapped in today's houses, can increase your risk of chronic respiratory illness and your homes risk of serious structural damage. Much like the HRV, the ERV recovers heat; however, it also recuperates the energy trapped in moisture, which greatly improves the overall recovery efficiency. In dry climates and humidified homes the ERV limits the amount of moisture expelled from the home. In humid climates and air conditioned homes, when it is more humid outside than inside, the ERV limits the amount of moisture coming into the home.	4	4
5-7	Ventilation system is installed according to CSA Standard F326, as recommended by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI). www.hrai.ca	5	5

5-8	All bath fans used throughout home have a noise level of 1 sone or less Installing quiet fans will encourage use for home ventilation.	2	2
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TOTAL SECTION POINTS 6

VI. WASTE MANAGEMENT

This section deals with the handling of waste materials on the construction site and encourages recycling.

Minimum 7 Points Required

6-1	Comprehensive recycling program for building site including education, site signage and bins. A comprehensive recycling program that is strictly followed significantly reduces the amount of waste ending up in landfills. Currently it is estimated that up to 50% of landfill waste is construction related.	2	2
6-2	Collection of waste materials from site by a waste management company that is a current member of a provincial recycling council or equivalent association and verifies that a minimum of 10% of the materials collected from the construction site have been recycled. Not only does this reduce overall waste of product, it ensures that as much product as possible is being utilized for the production of future resources.		4
6-3	Suppliers and trades recycle their own waste, including leftover material and packaging (1 point per trade - maximum 4 points). Trades being responsible for recycling and removal of waste not only reduces landfill waste, but also promotes a cleaner and safer working environment.	2	1 to 4
6-4	Minimum 15% (1 point) 25% (2 points) or 50% (6 points) by weight of waste materials collected from construction site is diverted from waste stream. Trades being responsible for recycling and removal of waste not only reduces landfill waste, but also promotes a cleaner and safer working environment.	2	1, 2 or 6
6-5	Use of recycled materials derived from local construction sites (1 point for each different product used, to max. of 3). Products recycled from the construction site, such as mulched clean dimensional lumber free of metals, or mulched paperless gypsum are often useable as either clay/soil water retention additives.		1 to 3
6-6	Trees and natural features on site protected during construction. The protection of existing trees and other natural features such as streams, ponds and other vegetation reduces environmental and ecosystem impact. Many of these features can be protected simply by following good waste management procedures.	1	1
6-7	Metal or engineered durable form systems used for concrete foundation walls. The use of metal forming systems reduces the requirement of lumber, a limited resource.		1
6-8	Concrete used in home has a minimum supplementary cementing material of 25% (1 point) or 40% (2 points) within the scope of proper engineering practices. For every one ton of Portland cement generated, eighth tenths of a ton of carbon dioxide is produced. Supplementary cementations products include fly ash, blast furnace slag as well as metakaolin.		1 or 2
6-9	Install recycling center with two or more bins. By installing built in recycling centers, which can be as simple as labeled containers (paper, cardboard, cans, plastics, etc), homeowners are more likely to utilize the pre-existing facilities and thus contribute to the reduction in landfill waste.	3	3
6-10	Provide composter to homeowner. Providing a composter promotes a reduction in wastes heading to the landfill by giving homeowners an option for organic waste such as food leftovers.		2
6-11	Existing dwellings onsite are recycled or moved instead of demolished (recycled 2 points, moved 4 points).		2 or 4
















TOTAL SECTION POINTS 10

VII. WATER CONSERVATION

This section encourages a reduction in the amount of water used in the home or in individual units within multi-story buildings.

Minimum 7 Points Required


7-1	Install a dual flush or pressure assisted toilet in one or more bathrooms (3 points for first, 1 additional point for each after) Dual flush toilets offer a choice between two water levels for every flush; at minimum should use, 1.6 GPF (6 LPF) or 0.8 GPF (3 LPF).	4	3 or more
7-2	Install a 1.28 GPF toilet in one or more bathrooms (2 points for first, 1 additional point for each after) 1.28 GPF (Gallon per Flush) is general considered the new standard in water efficiency		2 or more

7-3	Install manufactured non-electric composting toilet (3 points each, max of 6 points). A composting toilet uses no water and is odourless. It uses a biological processes to break down the waste into organic compost material.		3 or 6
7-4	Insulate the hot water lines with flexible pipe insulation, first three feet from hot water tank (1 point) or all hot water lines (2 points). Minimizing the heat loss in the water line will decrease the initial water wasted by delivering hot water faster.		1 or 2
7-5	Install hot water recirculation system with all hot water lines insulated (4 points), or point-of-use instant DHW system (1 point each, max. 4) Having the hot water re-circulated from the hot water source to the fixture points will decrease the initial water wasted by delivery the hot water faster. Pump must be on program or timer to reduce stand-by losses. Kitchen counter top "boiling water taps" are not credited.		1 to 4
7-6	Install low flow faucets for all kitchen faucets and lavatories (2 points), all showers & tub/showers (additional 1 point). Reduces water consumption by lowering the flow rate. Showers must use 9.8 L/min (2.2 imp. Gal/min) or less. Faucets, both kitchen and bath, must use 8.3 L/min (1.8 imp. Gal./min) or less.		2 or 3
7-7	Install hands free lavatory faucets. 1 point per faucet/unit. Battery powered electronic sensor minimizes the spread of germs and saves water.		1 per unit
7-8	Provide front loading clothes washer (3 points), or Condensing Combination wash/dry unit (4 points) Front loading clothes washers conserve water by design, as they are only required to fill up the washing compartment 1/3 full to effectively wash clothing. Additionally they use up to 75% less environmentally damaging laundry detergent, AND they also conserve electrical or gas energy by significantly reducing drying time for clothes with a more thorough spin cycle.		3 or 4
7-9	Install water saving dishwasher that uses less than 20.0 L/water per load. Water saving dishwasher use technology to reduce both the amount of water required as well as electrical energy requirements. The EnerGuide appliance directory put out by Natural Resources Canada has a comprehensive listing of all manufacturers and models of dishwashers and other appliances with water usage and energy efficiency ratings.		1
7-10	Install efficient irrigation technology that utilizes automatic soil moisture-based sensor technology at minimum Show storm water management plan & design; water efficient irrigation systems, sensors, regulators, micro drip feed systems etc.		3
7-11	Install permeable paving materials for all driveways and walkways. Permeable paving allows for storm water to flow back into the ground rather than into the storm sewers.		3
7-12	Provide a list of drought tolerant plants and a copy of the local municipality water usage guide to homebuyers with closing package. Most municipalities provide a guide that gives the water requirements of various plants and grasses. When properly designed, landscaping choices can significantly contribute to water conservation.		1
7-13	Builder supplies a minimum of 8" of topsoil or composted yard waste, as finish grading throughout site. Compared to subsoil materials, topsoil usually has higher aggregate stability, lower bulk density, and more favorable pore size distributions which leads to higher hydraulic conductivity, water holding capacity, and aeration porosity.		2
7-14	Builder incorporates water wise landscaping or xeriscaping in show home or customer home (customers 50% of lawn 2 points, 100% 4 points). Xeriscaping (or drought resistant landscaping) plans and options can be obtained from professional landscaping contractors, and once a xeriscaping landscape is in place, it requires no manual watering. (Rain barrel usage, astro turf ineligible.)		2 or 4
7-15	Builder attaches water barrel with insect screen to downspout. Water barrel should also have a drain spout and overflow spout (1 point per barrel - maximum of 3 barrels). Supplying a water barrel encourages homeowners to use rainwater for landscaping needs and therefore save on potable water.		1, 2 or 3
7-16	Install grey water system collecting waste from sinks, shower and/or kitchen to capture and treat for use in toilets or irrigation (6 pts), rough-in for future grey water system (3 points) By reusing waste water, consumption can be drastically reduced. Rough-in must include clearly identified grey water drain stack, separated from sewer line.		3 or 6
TOTAL SECTION POINTS			

VIII. BUSINESS PRACTICE

This section deals more with manufacturers and builders office and business practices.

Minimum 6 Points Required

8-1	Products used for home are manufactured within 800 km (1 point for each product - maximum of 5). Transportation of building materials is a substantial energy use, local manufacture reduces this embodied energy. Distances are calculated by road, not as the crow flies. Manufacturing or assembly must take place in a plant or factory, not on-site. Distance to raw material source is not included.		1 to 5
-----	---	---	--------

8-2	Builder provides Built Green™ homeowner manual, completed Built Green™ checklist and educational walkthrough with sale or possession.		3
8-3	Builders office and show homes purchase a minimum of 50% (1 point) or 100% (2 points) solar, wind or renewable energy. Wind energy is a cleaner way to provide energy. Lower CO2 emissions will benefit the environment.		1 or 2
8-4	Manufacturers and/or suppliers purchase 50% or more solar, wind or renewable electricity. Wind energy is a cleaner way to provide energy. Lower CO2 emissions will benefit the environment.		1
8-5	Builder has written an environmental policy which defines their commitment (must include an office recycling program and energy efficient lighting). A statement of commitment helps to emphasize priority and ultimately define a corporate culture.		1
8-6	Manufacturer and/or supplier has written an environmental policy which defines their commitment (must include an office recycling program and energy efficient lighting). (1 point per supplier/manufacturer - maximum of 2 points).	2	1 or 2
8-7	Builder has written an environmental policy which prioritizes milestones for future net zero housing developments.		1
8-8	Builders' company vehicles are hybrid or bio-diesel vehicles (1 point per vehicle - maximum of 3 points). A commitment to the environment shouldn't stop at construction. Using a hybrid vehicle produces lower harmful emissions. Diesel construction vehicles converted to bio-diesel reduce fuel consumption by up to 75%.		1 to 3
8-9	Environmental certification for builders place of business (building, office, etc). Many commercial buildings have been rated with various energy efficiency standards. Does your company work within an ENERGY STAR, EnerGuide for Houses (ERS), EnerGuide for New Houses (EGNH), REAP or LEED (or other certification standard) certified office building?		3
8-10	Builder agrees to construct and label a minimum of 50% of all homes to the Built Green™ standard per calendar year. (3 points for 50%, 5 points for 100%).		3 or 5
8-11	Contracted trades and/or suppliers have successfully taken and maintained Built Green™ Builder Training status (1 point per trade organization, Max 5).		1 to 5
TOTAL SECTION POINTS		7	
TOTAL CHECKLIST POINTS			105



2nd Floor

705 West 15th Street

North Vancouver, BC

V7M 1T2

T: 604-874-3715

F: 1-866-563-8021

E:info@e3ecogroup.com

Date: 13 October 2015

To: District of North Vancouver

Re: 3105/3115 Crescentview Drive Development to meet District of North Vancouver's Green Building Strategy

Mr. Mike Rakis has retained E3 Eco Group consultants to help ensure the 3105/3115 Crescentview Drive development will meet the District of North Vancouver's Green Building Strategy requirements.

The project intends to meet the requirements by:

- 1) constructing the apartment building in a manner equivalent to the 2011 BuiltGreen MS+RT checklist "Gold" level, and
- 2) constructing the apartment building to an energy performance level at least 35% better than the 1997 MNECB (or 13% better than ASHRAE 90.1-2007)
- 3) constructing the single family house in a manner equivalent to the 2011 BuiltGreen single family checklist "Gold" level, and
- 4) constructing the single family house to an energy performance level at least Energuide 80
- 5) verifying the presence of items claimed on the Built Green checklists during construction

E3 Eco Group intends to provide both considerable experience in working with the Built Green program as well as documentation services which will provide verification that the Checklist items and the energy modeling were implemented.

We look forward to being involved in this project.

Please address any questions to the undersigned.

Kind Regards,

Einar Halbig
CEO, E3 Eco Group Inc.

Cc: Mr. Mike Rakis

Phillips Engineering Ltd

3641 Blenheim Street, Vancouver, BC, V6L 2Y1
Phone (604) 716-8881 / Fax (604) 739-6782

RECEIVED

OCT 15 2015

October 15, 2015

Our File: 929

RAYMOND LETKEMAN
ARCHITECTS INC.

Mr. Michael Rakis
5123 Redonda Drive
North Vancouver, B.C.
V7R 3K1

Attention: Mr. Michael Rakis;

Re: Geotechnical Investigation Report for Proposed Development of Property Located at 3105/3115 Crescentview Drive, North Vancouver, BC

1.0 INTRODUCTION

Phillips Engineering Ltd. completed a geotechnical report for the proposed residential development of the lots consisting of 3105/3115 Crescentview Drive in North Vancouver, BC. The purpose of the report was to provide subsoil information and recommendations pertaining to site preparation, foundation design, subdrainage and backfill. We based the following report on our general knowledge of the expected conditions in the area of the proposed apartment complex and on our geotechnical field investigation.

We understand that it is intended to construct an apartment complex on the north property and a single family residence at 3105 Crescentview drive to the south. Based on the architectural design drawings prepared by Raymond Letkeman Architects Inc. the development is understood to consist of three levels of superstructure constructed over one level of below grade parking. We expect the below grade and ground floor development to be reinforced concrete whereas the upper three levels will be load bearing wood frame construction. The existing buildings on both lots currently occupying the sites will be demolished.

This report has been prepared exclusively for our client, for their use and the use of others on their design team, and the District of North Vancouver for use in the development and permitting process. The soil classification used herein is based on the "Unified Soil Classification System", except as otherwise noted.

Following our review and analysis, we are of the opinion that the proposed development is feasible and can be achieved is safe for the intended usage as pertaining to natural hazards with a probability of occurrence no greater than 1 : 2475 provided all of the recommendations provided herein are incorporated into the design and construction.

2.0 SITE DESCRIPTION AND OBSERVATIONS

The site, made up of 3 lots, is located on the west side of Crescentview Drive and Connaught Crescent in North Vancouver. The site is shaped as a polygon (Please see Drawing AH-1) with the rear of the properties, to the west, about 177 feet in length, the frontage of the properties, along Crescentview Drive and Connaught Crescent, about 250 feet in length. The north side is about 85 feet wide and the south side is about 100 feet wide. The site is bordered by private residences to the north and south and west. The lot sites are essentially level however the land slopes down to the west beyond the property lines, towards a creek that eventually

connects to MacKay Creek. The slope from the street down to the west is at an approximate overall 11 degree slope or 19 % grade.

We are unaware of any prior slope instabilities at this property and there was no evidence, such as tension cracks, that could be attributed to any recent slope movement.

Based on the existing site conditions, the slope of the lower half of the property appears stable in our opinion.

3.0 FIELD INVESTIGATION

The site was investigated on September 21, 2015, at which time a total of 2 auger test holes and one Dynamic Cone Penetration Tests (DCPT) near the proposed buildings were conducted on areas of the properties that were accessible for the truck mounted drill rig. All drill holes activities were conducted by Uniwide Drilling Ltd., of Burnaby, B.C. using a truck mounted auger drill rig. The auger holes were drilled to depths of up to 11 metres (35 ft) below current local grades. The DCPT was terminated at depths of up to 2.4 meters below existing grades. The test hole logs are presented on Drawing No. AH-1 and AH-2 following the text of this report.

The test holes were located and logged by a geotechnical engineer from our office and the holes backfilled immediately after drilling. The location of the auger holes relative to the development property are shown on Sketch 1.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

The soil profile noted at Auger Hole 1 consists of up to 1.5 m of dry sand silt fill that is compact. This overlies compact to dense sand to with a trace of silt, a trace of gravel and a trace of cobbles material up to 8 metres below grade. This layer overlies a dense grey till like material that continued to the end of the test hole at 10.6 metres below grade and is expected to continue beyond the scope of our investigation. The soil profile of Auger Hole 2 is similar to Auger Hole 1.

The general geology of the region under investigation is described as Capilano Sediments consisting of raised deltaic and channel fill medium sand to cobble gravel deposited by proglacial streams underlain by silty to silty clay loam according to the Geological Survey of Canada map 1486A.

For details regarding the soil conditions at each test hole location please refer to the attached test hole logs.

4.2 Groundwater Conditions

Observations made during our site investigation indicate that the water table is located approximately at 4 metres below current local grades at Auger Hole-1. Groundwater seepage may be expected for the depth of excavations contemplated for this project. Some perched groundwater may also be encountered during the excavation for footings. The foundation subgrade should be slightly graded to avoid the ponding of water. It is anticipated that conventional sumps and pumps can be used to rid water from the excavation area.

5.0 DISCUSSION

5.1 General Comments

The proposed development is to consist of three stories of above grade construction over up to one level of below grade parking which daylights to the east. We expect reinforced concrete construction and building loads to be relatively moderate with column loads and wall loads of up to 40 kips (178 kN) and 7 kips per lineal foot (102 kN/m) respectively. For temporary excavations, we would expect that slopes cut at 2V to 1H can be constructed in the compact to dense soils underlying this site. Temporary cut slopes in excess of 1.2 metres in height require inspection by a professional engineer in accordance with the Worker's Compensation Board (WCB) guidelines.

The soils are generally well suited for the construction of new foundations and floor slabs. We expect that new foundations will consist of conventional strip and pad foundations bearing upon the dense sand with trace of gravel and some silt as described in Section 4.1 above, or engineered fill as required.

The subsurface soils are not expected to be prone to liquefaction or other forms of ground softening under the design earthquake defined under the 2012 BC Building Code.

Following our review, we are of the opinion that the proposed development is feasible from a geotechnical standpoint provided that our recommendations are adhered to.

5.2 Seismic Analysis

The subsurface soils were noted to be dense during our site investigation and therefore are not subject to liquefaction under the BCBC design earthquake. According to Natural Resources Canada, peak ground accelerations are expected to be in the range of 0.427 g in the vicinity of the site during the NBCC design earthquake.

The site is considered to be generally underlain by dense soils to the depth of our test holes. Although not encountered in our test holes, geological mapping and our experience in the immediate area suggests that the dense sand are underlain by dense till at a relatively shallow depth below grade. Thus, the site is considered to be Site Class C, in accordance with Table 4.1.8.4.A. of the 2012 BC Building Code. Peak ground accelerations on firm ground for the approximate site location is 0.427 g (National Resource Canada, Site Coordinates: 49.33768 degrees North, -123.10407 degrees West).

The subsurface soils beyond the depth of foundations are not considered prone to ground liquefaction or other forms of ground softening caused by earthquake induced ground motions.

6.0 SLOPE STABILITY

Provincial guidelines for seismic slope assessments are found in "*Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in British Columbia*" (Revised May 2010). The requirements under the new provincial guidelines consider using an earthquake having ground motions for seismic design with a probability of exceedance of 2% in 50 years or a 1 in 2475 probability of occurrence.

We carried out a static limited equilibrium analysis of the slope using the computer program XSTABL. The subsoil was divided in to two layers; sand and till. Their properties were modeled using an internal angle of friction of 38 degrees and 50 kPa for cohesion for both the static/seismic pseudo-static modeling. These values are justified by the angle of repose of the slope and the high shear strength of subsoils encountered

during the site investigation. Numerous iterations were completed with varying input parameters as part of our sensitivity analysis of interpreted input values. Review of the results indicates that the defined slope has a factor of safety in excess of 1.3, for deep seated movements, indicating that the slope is stable under static conditions. We varied the surcharge loading, which represents the loading from the apartment/house, in our analysis. We found that varying the level of the surcharge up to maximum design levels, the location, radius and factor of safety of the failure plain remained essentially unchanged. The analysis identified the failure surface as a shallow plain along the face of the slope.

The slope is at an average slope angle of about 11 degrees and the slope maybe prone to erosion and/or sloughing. The bottom slope, in areas, is currently heavily overgrown with brush and blackberry bushes and some mature trees. The vegetative cover is helpful in reducing erosion.

The results indicate that there is less than a 1:2475 probability of failure for the site, surrounding lands and roadways under static and dynamic conditions. There is no net decrease in overall slope stability resulting from the proposed development.

7.0 RECOMMENDATIONS

7.1 Slope Recommendations

7.1.1 Following our review of the ground conditions, slope geometry and existing vegetative cover we are of the opinion that under the current grading and groundwater regime the slope is statically stable, with a FS >1.3 for deep seated movements. Provided the slope is not disturbed, there is adequate resistance to sloughing.

7.1.2 Vegetative ground cover should always be enhanced.

7.1.3 Any storm water collected from the proposed structure or hard landscaping should be collected and disposed of through the storm water system. Discharge onto the slope should not be permitted.

7.1.4 Any site water should be collected in lawn basins and disposed of through the storm water system.

8.0 RECOMMENDATIONS

8.1 Site Preparation

Prior to construction of foundations any topsoil, organic material, debris, existing concrete, and loose or otherwise disturbed soils must be removed from the construction areas to expose a subgrade of compact to dense sand and gravel or glacial till.

8.2 Building Foundations

Based on our investigation, we expect the building to be founded on the glacial till or pre-glacial sand can be designed on the basis of a serviceability limit state (SLS) bearing pressures of 168 kPa and ultimate limit state (ULS) bearing pressures of 252 kPa.

We estimate for foundations designed as recommended settlements will not exceed 8 mm total. Differential settlement between proposed foundations is estimated to be less than 4 mm.

Some areas may require over-excavation of poor bearing materials and filling to meet proposed foundations elevations. Grade reinstatement in these areas should be done with engineered fill. In the context of this report, engineered fill beneath building foundations is defined as clean sand or sand and gravel fill, compacted in 300 mm loose lifts to a minimum of 95% of its Modified Proctor maximum dry density (ASTM D698), at a moisture content that is within 2% of optimum for compaction or concrete fill (5 MPa or greater).

Fill placement beneath foundations must reviewed by the geotechnical engineer.

Irrespective of the recommended bearing pressures given, pad footings should not be less than 1200 mm by 1200 mm (4 ft x 4 ft) and strip footings should not be less than 450 mm (1.5 ft x 1.5 ft) in width. Footings should also be buried a minimum of 450 mm below the surface for frost protection.

Foundation subgrades must be inspected by a geotechnical engineer prior to footing construction.

8.3 Grade Supported Slabs

Following the recommended site preparation provided in Section 8.1, grade supported concrete slabs should be constructed directly on a prepared subgrade consisting of a minimum 100 mm of clear gravel fill compacted using a vibrating plate compactor. We further recommend that the prepared subgrade be overlain by a polyethylene moisture barrier to inhibit any upward migration of moisture beneath the concrete slab on grade.

Fill materials and compaction beneath grade supported slabs must be reviewed by the geotechnical engineer.

8.4 Replacement of Asphalt Pavements

Grade should be raised to underside of sub-base course using compacted sand or sand and gravel fill. This general grading fill should be compacted to 100 percent of ASTM D698 (Standard Proctor) maximum dry density.

Pavement structure should consist of 75 mm of asphalt wearing course over 100 mm of 19 mm crushed sand and gravel base course over 200 mm of sand and gravel sub-base course. Base and sub-base courses should be compacted to 100 percent of ASTM D698 Standard Proctor maximum dry density.

8.5 Foundation Drainage

A perimeter drainage system is required for any portion of the building slab at or below exterior grades. Perimeter drainage systems are intended to prevent water build-up beneath slabs-on-grade. Groundwater flows are expected and actual groundwater flow should be confirmed during construction at the end of excavation by the mechanical designer.

8.6 Earth Pressure on Foundation Walls and Retaining Walls

We recommend that foundation walls should be designed for static and seismic earth pressures. Earth pressures depend on many factors including the rigidity of the wall, excavation procedure, type of backfill and the level of compaction.

We recommend that for level backfill conditions, fully **restrained** foundation walls are designed for **static** earth pressures of **4.3H kPa** triangular (where **H** is the height of the retained soil in metres) and **seismic** earth pressures of **3.5H kPa** inverted triangular.

The earth pressures given assume that the **wall has been backfilled with clean, free draining sand or sand and gravel**, the backfill is level behind the wall, and the wall is frictionless and is hydraulically connected to a perimeter drainage system to create a fully drained cavity around the below grade portion of the development.

All earth pressures are based upon unfactored soil parameters and are assumed to be unfactored loads.

8.7 Temporary Excavations

In accordance with Worksafe BC guidelines, any excavation in excess of 1.2 metres must be shored or sloped at a maximum slope of 1:1 (Horizontal:Vertical) or excavated under the advice and supervision of a geotechnical engineer.

8.8 Re-Use of Excavated Materials as Fill

Due to fines content of the upper 10 feet of the subsoils at the site, usage of this material as backfill is not recommended due to sensitivity to moisture and subsequent difficulty to compact. However, the native sand and gravel materials observed at AH-1 may be re-used. All material will be examined during excavation.

9.0 DESIGN REVIEWS AND CONSTRUCTION INSPECTIONS

As required by BC Building Code (2006) "Letters of Assurance", Phillips Engineering Ltd will carry out sufficient field reviews during construction to ensure that the Geotechnical design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors, therefore they do not in any way effect the contractor's obligations to construct the works in accordance with the design.

It is the contractors' responsibility to advise Phillips Engineering Ltd (a minimum of 24 hours in advance) that a field review is required. Geotechnical field reviews are normally required at the time of the activities:

- | | | |
|----|-----------------|---|
| 1. | Excavation | Review of temporary slopes and soil conditions. |
| 2. | Structural Fill | Review placement of structural backfill. |
| 3. | Foundation | Foundation subgrade. |
| 4. | Slab-on Grade | Subgrade and under slab fill. |
| 5. | Backfill | Placement of backfill along foundation walls. |
| 6. | Drainage | Review of subdrainage system. |
| 7. | Landscaping | Review of erosion protection |

10.0 CLOSURE

Phillips Engineering Ltd. has completed this report based on the preliminary information provided and our understanding of the project as described in this report. If during construction, the subsurface conditions are

noted to differ from those expected, we should be notified immediately and recommendations regarding the geotechnical aspects of the development should be reviewed and modified, as appropriate.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

For:

Phillips Engineering Ltd.

A handwritten signature in blue ink is written over a circular professional engineer stamp. The stamp contains the text: "PROFESSIONAL ENGINEER", "PROVINCE OF BRITISH COLUMBIA", "W. S. PHILLIPS", and "#40003".

Ward Phillips, P.Eng.
Principal



REFERENCE:
ARCHITECT:
PROJ. NO.:
DR. NO.:
DATE:

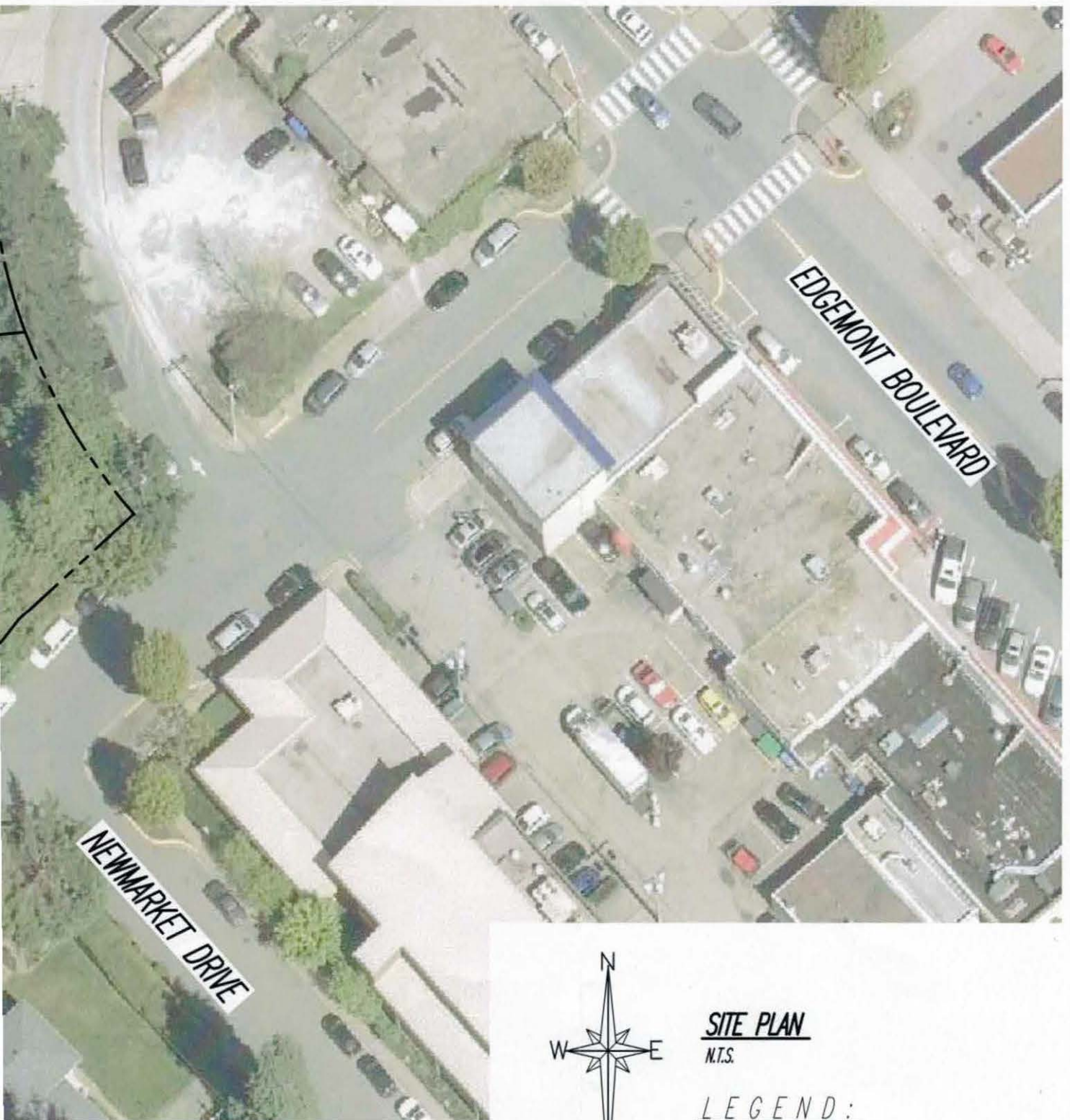
3641 Blenheim St.
Vancouver, B.C.
Canada V6L 2Y1
Ph. (604) 716-8881
Fax (604) 739-6782

PHILLIPS ENGINEERING LTD.

DATE: OCTOBER 13, 2015

DRN. BY: MERJDD APP'D. W.P.

SCALE: AS SHOWN



SITE PLAN
N.T.S.

LEGEND:

⊙ AH-# (LOCATION OF AUGER HOLE - 2015)

PROPOSED NEW APARTMENTS
5 CRESCENTVIEW DRIVE, NORTH VANCOUVER, BC
AUGER HOLE LOCATION PLAN

FILE NO.: **929**

DWG. NO.: **AH-1**

REVISIONS:

A.

B.

C.

Test Hole Log: AH-1

PHILLIPS ENGINEERING LTD.

File: 929

Project: Proposed Mixed Use

Client: Mike Rakis

Location: 3105/3115 Crescentview Dr., North Vancouver, BC

3641 Blenheim Street
Vancouver, BC V6L 2Y1
Tel: 604 716-8881

Fax: 604 739-6782

Depth ft m	Symbol	Sample	Soil Description	Sample #	Water Cont.	DCPT (blows per foot)	Remarks
						10 20 30 40 50 60 70 80	
0 0			Topsoil and Brown Sandy Silt Fill, loose to compact			● 3	
						● 4	
1			Light Brown Silty sand/sandy silt, compact			● 18	
						● 22	
5						● 29	
2			Silty sand, light brown, trace of cobbles and trace of gravel, compact			● 69	
						● 87	
10			Grey Sand, trace of silt & trace of gravel and trace of cobbles, compact				
4							
15							Water noted @ 13 ft below grade
5							
20			Grey Sand, trace of gravel and trace of cobbles, compact to dense, crunchy drilling				
6							
7							
25							
8			Grey Till material, trace of sand, dense				
30			Grey Till material, trace of gravel and cobbles with depth				
9							
10							
35			End of Test Hole @ 35ft on dense till				
11							

Equipment: Truck Mounted Drill Rig
Sampling Method: Lump Sample
Hammer Type: N/A

Datum: Existing Grade
Surface Elevation: SEE PLAN
Water Depth:

Logged By: WP
Drilling Date: Sept 21, 2015
Dwg No.: AH-1
Page: 1 of 1

Test Hole Log: AH-2

PHILLIPS ENGINEERING LTD.

File: 929

Project: Proposed Mixed Use

Client: Mike Rakis

Location: 3105/3115 Crescentview Dr., North Vancouver, BC

3641 Blenheim Street
Vancouver, BC V6L 2Y1
Tel: 604 716-8881

Fax: 604 739-6782

Depth ft m	Symbol	Sample	Soil Description	Sample #	Water Cont.	DCPT (blows per foot)	Remarks
						10 20 30 40 50 60 70 80	
0 0			Topsoil and Light Brown Sandy Silt Fill, loose to compact				
1 5			Sand and Gravel, compact to dense				
2 10			Till, Grey, some coarse Sand, trace of gravel and trace of cobbles, compact to dense				
3 15			Till, Grey, some coarse Sand, trace of silt, trace of gravel and trace of cobbles, compact to dense				
4 20							
5 25							
6 30							
7 35			End of Test Hole @ 33ft on dense till				
8 11							

Equipment: Truck Mounted Drill Rig
Sampling Method: Lump Sample
Hammer Type: N/A

Datum: Existing Grade
Surface Elevation: SEE PLAN
Water Depth:

Logged By: WP
Drilling Date: Sept 21, 2015
Dwg No.: AH-2
Page: 1 of 1

SCHEDULE B

Forming Part of Subsection 2.2.7, Div. C of the
British Columbia Building Code

Building Permit No. _____
(for authority having jurisdiction's use)

ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW

- Notes: (i) This letter must be submitted prior to the commencement of construction activities of the components identified below. A separate letter must be submitted by each *registered professional of record*.
- (ii) This letter is endorsed by: Architectural Institute of B.C., Association of Professional Engineers and Geoscientists of B.C., Building Officials' Association of B.C., and Union of B.C. Municipalities.
- (iii) In this letter the words in italics have the same meaning as in the British Columbia Building Code.

To: The *authority having jurisdiction*

District of North Vancouver

Name of Jurisdiction (Print)

Re: The Rakis Apartment Development

Name of Project (Print)

3105/3115 Crescentview Drive, North Vancouver, BC

Address of Project (Print)

The undersigned hereby gives assurance that the design of the
(Initial those of the items listed below that apply to this *registered professional of record*. All the disciplines will not necessarily be employed on every project.)

_____ ARCHITECTURAL

_____ STRUCTURAL

_____ MECHANICAL

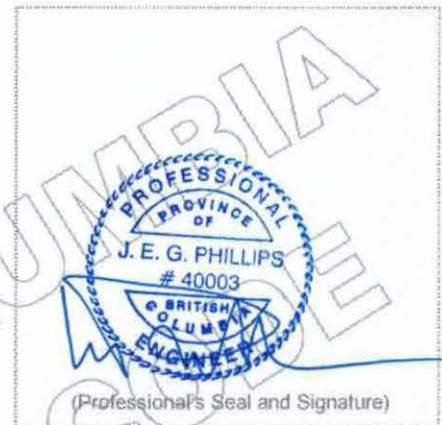
_____ PLUMBING

_____ FIRE SUPPRESSION SYSTEMS

_____ ELECTRICAL

WJ _____ GEOTECHNICAL — temporary

WJ _____ GEOTECHNICAL — permanent



(Professional's Seal and Signature)

October 14, 2015

Date

components of the plans and supporting documents prepared by this *registered professional of record* in support of the application for the *building* permit as outlined below substantially comply with the B.C. Building Code and other applicable enactments respecting safety except for construction safety aspects.

The undersigned hereby undertakes to be responsible for *field reviews* of the above referenced components during construction, as indicated on the "SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS" below.

CRP's Initials

BRITISH COLUMBIA BUILDING CODE 2012

Schedule B - Continued

Building Permit No.
(for authority having jurisdiction's use)

3105/3115 Crescentview Drive, North Vancouver, BC

Project Address

Geotechnical

Discipline

The undersigned also undertakes to notify the *authority having jurisdiction* in writing as soon as possible if the undersigned's contract for *field review* is terminated at any time during construction.

I certify that I am a *registered professional* as defined in the British Columbia Building Code.

Ward Phillips, P.Eng.

Registered Professional of Record's Name (Print)

3641 Blenheim Street

Address (Print)

Vancouver, BC V6L 2Y1

604 716-8881

Phone No.



(Professional's Seal and Signature)

October 14, 2015

Date

(If the Registered Professional of Record is a member of a firm, complete the following.)

I am a member of the firm Phillips Engineering Ltd.

and I sign this letter on behalf of the firm.

(Print name of firm)

Note: The above letter must be signed by a *registered professional of record*, who is a *registered professional*. The British Columbia Building Code defines a *registered professional* to mean

- (a) a person who is registered or licensed to practise as an architect under the Architects Act, or
- (b) a person who is registered or licensed to practise as a professional engineer under the Engineers and Geoscientists Act.

CRP's Initials

Schedule B - *Continued*

Building Permit No.
(for authority having jurisdiction's use)

3105/3115 Crescentview Drive, North Vancouver, BC

Project Address

Geotechnical

Discipline

SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS

(Initial applicable discipline below and cross out and initial only those items not applicable to the project.)

ARCHITECTURAL

- 1.1 Fire resisting assemblies
- 1.2 *Fire separations* and their continuity
- 1.3 *Closures*, including tightness and operation
- 1.4 Egress systems, including *access to exit* within *suites* and *floor areas*
- 1.5 Performance and physical safety features (guardrails, handrails, etc.)
- 1.6 Structural capacity of architectural components, including anchorage and seismic restraint
- 1.7 Sound control
- 1.8 Landscaping, screening and site grading
- 1.9 Provisions for fire fighting access
- 1.10 Access requirements for *persons with disabilities*
- 1.11 Elevating devices
- 1.12 Functional testing of architecturally related fire emergency systems and devices
- 1.13 Development Permit and conditions therein
- 1.14 Interior signage, including acceptable materials, dimensions and locations
- 1.15 Review of all applicable shop drawings
- 1.16 Interior and exterior finishes
- 1.17 Dampproofing and/or waterproofing of walls and slabs below *grade*
- 1.18 Roofing and flashings
- 1.19 Wall cladding systems
- 1.20 Condensation control and cavity ventilation
- 1.21 Exterior glazing
- 1.22 Integration of building envelope components
- 1.23 Environmental separation requirements (Part 5)
- 1.24 Building Envelope, Part 10/ASHRAE or NECB Requirements



(Professional's Seal and Signature)

October 14, 2015

Date

STRUCTURAL

- 2.1 Structural capacity of structural components of the *building*, including anchorage and seismic restraint
- 2.2 Structural aspects of *deep foundations*
- 2.3 Review of all applicable shop drawings
- 2.4 Structural aspects of unbonded post-tensioned concrete design and construction

MECHANICAL

- 3.1 HVAC systems and devices, including high *building* requirements where applicable
- 3.2 *Fire dampers* at required *fire separations*
- 3.3 Continuity of *fire separations* at HVAC penetrations
- 3.4 Functional testing of mechanically related fire emergency systems and devices
- 3.5 Maintenance manuals for mechanical systems
- 3.6 Structural capacity of mechanical components, including anchorage and seismic restraint
- 3.7 Review of all applicable shop drawings
- 3.8 Mechanical Systems, Part 10/ASHRAE or NECB Requirements

CRP's Initials

BRITISH COLUMBIA BUILDING CODE 2012

Schedule B - Continued

Building Permit No.
(for authority having jurisdiction's use)

3105/3115 Crescentview Drive, North Vancouver, BC

Project Address

Geotechnical

Discipline

PLUMBING

- 4.1 Roof drainage systems
- 4.2 Site and foundation drainage systems
- 4.3 Plumbing systems and devices
- 4.4 Continuity of fire separations at plumbing penetrations
- 4.5 Functional testing of plumbing related fire emergency systems and devices
- 4.6 Maintenance manuals for plumbing systems
- 4.7 Structural capacity of plumbing components, including anchorage and seismic restraint
- 4.8 Review of all applicable shop drawings
- 4.9 Plumbing Systems, Part 10/ASHRAE or NECB Requirements

FIRE SUPPRESSION SYSTEMS

- 5.1 Suppression system classification for type of occupancy
- 5.2 Design coverage, including concealed or special areas
- 5.3 Compatibility and location of electrical supervision, ancillary alarm and control devices
- 5.4 Evaluation of the capacity of city (municipal) water supply versus system demands and domestic demand, including pumping devices where necessary
- 5.5 Qualification of welder, quality of welds and material
- 5.6 Review of all applicable shop drawings
- 5.7 Acceptance testing for "Contractor's Material and Test Certificate" as per NFPA Standards
- 5.8 Maintenance program and manual for suppression systems
- 5.9 Structural capacity of sprinkler components, including anchorage and seismic restraint
- 5.10 For partial systems — confirm sprinklers are installed in all areas where required
- 5.11 Fire Department connections and hydrant locations
- 5.12 Fire hose standpipes
- 5.13 Freeze protection measures for fire suppression systems
- 5.14 Functional testing of fire suppression systems and devices

ELECTRICAL

- 6.1 Electrical systems and devices, including high building requirements where applicable
- 6.2 Continuity of fire separations at electrical penetrations
- 6.3 Functional testing of electrical related fire emergency systems and devices
- 6.4 Electrical systems and devices maintenance manuals
- 6.5 Structural capacity of electrical components, including anchorage and seismic restraint
- 6.6 Clearances from buildings of all electrical utility equipment
- 6.7 Fire protection of wiring for emergency systems
- 6.8 Review of all applicable shop drawings
- 6.9 Electrical Systems, Part 10/ASHRAE or NECB requirements

GEOTECHNICAL — Temporary

- 7.1 Excavation
- 7.2 Shoring
- 7.3 Underpinning
- 7.4 Temporary construction dewatering

GEOTECHNICAL — Permanent

- 8.1 Bearing capacity of the soil
- 8.2 Geotechnical aspects of deep foundations
- 8.3 Compaction of engineered fill
- 8.4 Structural considerations of soil, including slope stability and seismic loading
- 8.5 Backfill
- 8.6 Permanent dewatering
- 8.7 Permanent underpinning



(Professional's Seal and Signature)

October 14, 2015

Date

CRP's Initials



District of North Vancouver
355 West Queens Rd
North Vancouver, BC V7N 4N5
Tel 604-990-2480 Fax 604-984-9683 email building@dnv.org

**Schedule F
Confirmation of
Professional Liability
Insurance**

Building Permit Number

- Note: 1. This letter must be submitted along with each British Columbia Building Code Schedule A, B1 and B2 before issuance of a **building permit**. A separate letter must be submitted for each **registered professional**.
2. Only an original Schedule printed by the **District of North Vancouver** or an unaltered photocopy of this Schedule is to be completed and submitted.

District of North Vancouver
355 W Queens Rd
North Vancouver, BC V7N 4N5

Attention: Chief Building Official

Dear Sir/Madame:

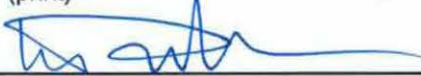
Re: Address of Project (print) 3105/3115 CRESCENTVIEW DRIVE, NORTH VANCOUVER, BC
Legal Description of Project (print) _____

The undersigned hereby gives assurance that

- (a) I have fulfilled my obligation for insurance coverage as outlined in the District of North Vancouver Building Regulation Bylaw 2003,
- (b) I have enclosed a copy of my certificate of insurance coverage indicating the particulars of such coverage,
- (c) I am a **registered professional** as defined in the Building Regulation Bylaw 2003, and
- (d) I will notify the building inspector in writing immediately if the undersigned's insurance coverage is reduced or terminated at any time during construction.

WARD PHILLIPS, P.ENG.

Name (print)



(Signed)

Date

OCT 15 / 15

3641 GLENHEIM STREET

Address (print)

VANCOUVER, BC V6N 2Y1

604 716-8881

Phone

(Affix professional seal here)



(If the **registered professional** is a member of a firm, complete the following.)

I am a member of this firm:

PHILLIPS ENGINEERING LTD.

Name of Firm (print)

3641 GLENHEIM STREET

Address (print)

VANCOUVER BC V6N 2Y1

City

I sign this letter on behalf of myself and the firm.

Note: The above letter must be signed by a **registered professional**. The District of North Vancouver Building Regulation Bylaw defines a **registered professional** to mean a person who is registered or licensed to practice:

- (a) as an architect under the Architects Act, or
- (b) as a professional engineer under the Engineers and Geoscientists Act.

No.: **PHIL-2015-2**Dated: **September 01, 2015**

This document supersedes any certificate previously issued under this number

This is to certify that the Policy(ies) of insurance listed below ("Policy" or "Policies") have been issued to the Named Insured identified below for the policy period(s) indicated. This certificate is issued as a matter of information only and confers no rights upon the Certificate Holder named below other than those provided by the Policy(ies).

Notwithstanding any requirement, term, or condition of any contract or any other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the Policy(ies) is subject to all the terms, conditions, and exclusions of such Policy(ies). This certificate does not amend, extend, or alter the coverage afforded by the Policy(ies). Limits shown are intended to address contractual obligations of the Named Insured.

Limits may have been reduced since Policy effective date(s) as a result of a claim or claims.

Certificate Holder:

Evidence of Insurance

Named Insured and Address:

Phillips Engineering Ltd.
3641 Blenheim Street
Vancouver, BC V6L2Y1
Ward Phillips

Evidence of Insurance

Type(s) of Insurance	Insurer(s)	Policy Number(s)	Effective/ Expiry Dates	Sums Insured Or Limits of Liability	
PROFESSIONAL LIABILITY • Claims Made Policy	Berkley Insurance Company	BC15000181	Aug 28, 2015 to Aug 28, 2016	Each Claim	\$ 1,000,000
				Aggregate	\$ 2,000,000

Notice of cancellation:

The insurer(s) affording coverage under the policies described herein will not notify the certificate holder named herein of the cancellation of such coverage.

Marsh Canada Limited

800 - 550 Burrard Street
Vancouver, BC V6C 2K1
Telephone: -
Fax: -
benjamin.kent@marsh.com

Marsh Canada Limited

By: 

Benjamin Kent

APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("APEGBC Guidelines") and the "2006 BC Building Code (BCBC 2006)" and is to be provided for landslide assessments (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The Approving Authority

Date: OCTOBER 15 / 15

Jurisdiction and address

With reference to (check one):

- ☐ Land Title Act (Section 86) – Subdivision Approval
- ☐ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption
- ☐ British Columbia Building Code 2006 sentences 4.1.8.16 (8) and 9.4 4.4.(2) (Refer to BC Building and Safety Policy Branch Information Bulletin B10-01 issued January 18, 2010)

For the Property:

Legal description and civic address of the Property

The undersigned hereby gives assurance that he/she is a Qualified Professional and is a Professional Engineer or Professional Geoscientist.

I have signed, sealed and dated, and thereby certified, the attached landslide assessment report on the Property in accordance with the APEGBC Guidelines. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

- ☒ 1. Collected and reviewed appropriate background information
- ☒ 2. Reviewed the proposed residential development on the Property
- ☒ 3. Conducted field work on and, if required, beyond the Property
- ☒ 4. Reported on the results of the field work on and, if required, beyond the Property
- ☒ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a landslide hazard analysis or landslide risk analysis I have:
 - ☒ 6.1 reviewed and characterized, if appropriate, any landslide that may affect the Property
 - ☒ 6.2 estimated the landslide hazard
 - ☒ 6.3 identified existing and anticipated future elements at risk on and, if required, beyond the Property
 - ☒ 6.4 estimated the potential consequences to those elements at risk
- 7. Where the Approving Authority has adopted a level of landslide safety I have:
 - ☒ 7.1 compared the level of landslide safety adopted by the Approving Authority with the findings of my investigation
 - ☒ 7.2 made a finding on the level of landslide safety on the Property based on the comparison
 - ☒ 7.3 made recommendations to reduce landslide hazards and/or landslide risks
- 8. Where the Approving Authority has not adopted a level of landslide safety I have:

- ☐ 8.1 described the method of landslide hazard analysis or landslide risk analysis used
- ☐ 8.2 referred to an appropriate and identified provincial, national or international guideline for level of landslide safety
- ☐ 8.3 compared this guideline with the findings of my investigation
- ☐ 8.4 made a finding on the level of landslide safety on the Property based on the comparison
- ☐ 8.5 made recommendations to reduce landslide hazards and/or landslide risks
- ☐ 9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

Check one

- ☒ the findings from the investigation and the adopted level of landslide safety (item 7.2 above)
- ☐ the appropriate and identified provincial, national or international guideline for level of landslide safety (item 8.4 above)

I hereby give my assurance that, based on the conditions^[1] contained in the attached landslide assessment report,

Check one

- ☐ for subdivision approval, as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☐ without any registered covenant.

- ☐ for a development permit, as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".

- ☒ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☒ without any registered covenant.

- ☐ for flood plain bylaw variance, as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely".

- ☐ for flood plain bylaw exemption, as required by the Local Government Act (Section 910), "the land may be used safely for the use intended".

WARD PHILLIPS, P.ENG.

Name (print)

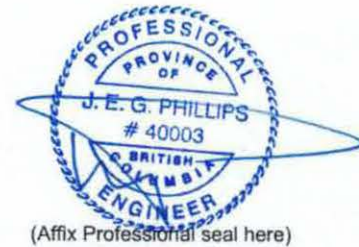
Date

Signature

^[1] When seismic slope stability assessments are involved, level of landslide safety is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005), Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division B. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".

3641 BLENNET STREET
Address
VANCOUVER B.C. V6N 2Y1
604 716 3831
Telephone



If the Qualified Professional is a member of a firm, complete the following.

I am a member of the firm PHILLIPS ENGINEERING LTD.
and I sign this letter on behalf of the firm. (Print name of firm)

The District of North Vancouver INFORMATION REPORT TO COUNCIL

November 12, 2015
File: 08.3060.20/038.15

AUTHOR: Natasha Letchford, Planner

SUBJECT: PUBLIC INFORMATION MEETING - 25 unit apartment and a single family home at 3105/3115 Crescentview Dr.

REASON FOR REPORT:

The purpose of this report is to inform Council of an upcoming Public Information Meeting.

SUMMARY:

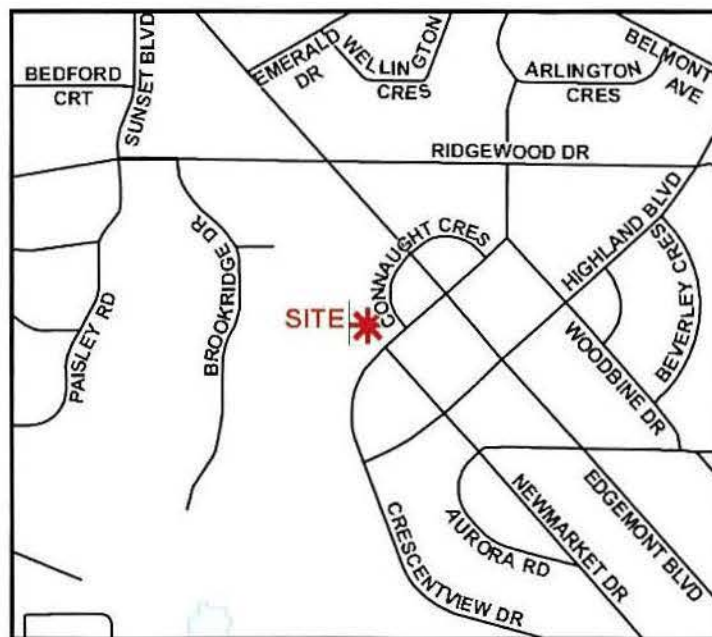
Raymond Letkeman Architects Inc. is holding the required facilitated Public Information Meeting for an Official Community Plan (OCP) amendment, rezoning, and development permit application for a 25 unit apartment building and a single family house located at 3105 and 3115 Crescentview Dr. The staff report on the detailed application will include a summary of the input received at and after the Public Information Meeting.

PUBLIC INFORMATION MEETING DETAILS:

Date: Thursday November 26, 2015

Time: 6pm – 8pm

Location: Welcoming Room, Highlands United Church, 3255 Edgemont Blvd.



SITE AND SURROUNDING AREA:

The development site consists of three lots located at the corner of Crescentview Dr. and Connaught Cr. There are currently two single family homes on the site. The northern two lots, 3115 Crescentview Dr. and the vacant lot, are designated RES5: Low Density Apartment. The southern lot, 3105 Crescentview Dr. is designated RES 2: Detached Residential.

The Edgemont Village Centre: Plan and Design Guidelines includes 3115 Crescentview Dr. in the Village Core and envisions the two lots as future low density apartment with an FSR of up to approximately 1.75. The single family lot at 3105 Crescentview Dr. was not included in the Edgemont Village Core or in the Residential Periphery of the Edgemont Village Plan.

Surrounding properties include the adjacent Edgemont Villa, a three story adult oriented (55+) condominium, to the north; residential single family homes to the south and west; and Edgemont Village general commercial across Connaught Cr. and Crescentview Dr.



PROJECT DESCRIPTION:

The project includes 25 units in a 3 storey apartment building and one single family house. In order to provide the most efficient parking layout, the underground parking extends under both the apartment and the single family house. All parking for the project, including for the single family home, is underground. The single family home has no surface parking and will not have a secondary suite. The project includes 44 parking spaces and access to the underground parking is off of Connaught Cr.

The units are primarily two bedroom or two bedroom plus den; there are four one bedroom units. The units range in size from 71.6 m² (771 sq. ft.) to 118 m² (1,270 sq. ft.). The single family home is 337 m² (3,633 sq. ft.) in size.

PUBLIC INPUT:

An independent facilitator will oversee the scheduled Public Information Meeting. Public input and a summary of the facilitated public information meeting will be forwarded to Council in the staff report at the introduction of the detailed application. A copy of the notification package is attached.

Natasha Letchford
Planner

1. Information Package
2. Newspaper Ad

REVIEWED WITH:		
<input type="checkbox"/> Sustainable Community Dev. _____	<input type="checkbox"/> Clerk's Office _____	External Agencies:
<input type="checkbox"/> Development Services _____	<input type="checkbox"/> Communications _____	<input type="checkbox"/> Library Board _____
<input type="checkbox"/> Utilities _____	<input type="checkbox"/> Finance _____	<input type="checkbox"/> NS Health _____
<input type="checkbox"/> Engineering Operations _____	<input type="checkbox"/> Fire Services _____	<input type="checkbox"/> RCMP _____
<input type="checkbox"/> Parks _____	<input type="checkbox"/> ITS _____	<input type="checkbox"/> NVRC _____
<input type="checkbox"/> Environment _____	<input type="checkbox"/> Solicitor _____	<input type="checkbox"/> Museum & Arch. _____
<input type="checkbox"/> Facilities _____	<input type="checkbox"/> GIS _____	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Human Resources _____	<input type="checkbox"/> Real Estate _____	



COMMUNITY PLANNING

FACT SHEET

APPLICANT: Raymond Letkeman Architects Inc.

SITE: 3105 and 3115 Crescentview Drive – Three storey apartment and one detached unit in a single family house form

PROPOSAL: An Official Community Plan (OCP) amendment and zoning amendment application has been submitted by Raymond Letkeman Architects Inc. The proposal is to develop a 25 unit apartment building and a detached single family home.

The recently approved Edgemont Village Centre Plan envisions a low rise apartment on a portion of the site, up to three storeys in height, with a density of up to 1.75 FSR. The site requires an OCP amendment and a rezoning.

	CURRENT	PROPOSED
Official Community Plan	RES2: Detached Residential RES5: Low Density Apartment	RES5: Low Density Apartment
Zoning	RSE: Single Family Edgemont	Comprehensive Development
FSR	0.35 +350 sq. ft.	Approximately 1.4

There are twenty-five units in a three storey apartment building and one single family home. There will be 44 parking stalls in the underground parkade, which includes six visitor stalls. The underground parkade extends under both the apartment building and the single family home; the entire site is required in order to provide sufficient parking for the project. There is no surface parking for the single family home and a secondary suite will not be permitted. There will also be 26 bicycle stalls.

The proposal includes a mix of one and two bedroom apartment units ranging in size from 71.6m² to 118m² (771 sq. ft – 21,270 sq ft.). The single family house is 337 m² (3,633 sq. ft.) in size.

MUNICIPAL REVIEW: As part of the development review process, various municipal departments are reviewing the application to ensure compliance with municipal regulations.

PROCESS: The application process is designed to ensure that local residents who may be affected by a development are informed early in the process so that their comments, and the comments of the local Community Association, may be considered and incorporated into the proposal. Following the Public Information Meeting, the project may be revised to reflect comments and concerns identified. There will be an additional opportunity for public comment when Council considers the project. For information on when this project will be considered by Council please phone the Community Planning Department at 604-990-2387.

If you would like more information, or would like to comment on this proposal, you are invited to email Natasha Letchford, Planner with the District of North Vancouver at letchfordn@dnv.org, or you may call 604-990-2378.

COMMENT SHEET

The District of North Vancouver

PROPOSAL: **3105 and 3115 Crescentview Drive – Three storey apartment and one detached single family house**

To help us determine neighbourhood opinions, please provide us with any input you have on this project (feel free to attach additional sheets):

Your Name _____ Street Address _____

The personal information collected on this form is done so pursuant to the *Community Charter* and/or the *Local Government Act* and in accordance with the *Freedom of Information and Protection of Privacy Act*. The personal information collected herein will be used only for the purpose of this public consultation process unless its release is authorized by its owner or is compelled by a Court or an agent duly authorized under another Act. Further information may be obtained by speaking with The District of North Vancouver's Manager of Administrative Services at 604-990-2207.

Please return by mail or email by November 26, 2015 to:

Natasha Letchford

Tel: 604 990-2378

District of North Vancouver - Community Planning Department

355 West Queens Road, North Vancouver, BC V7N 4N5

letchfordn@dnv.org

Proposed Development
3105 - 3115 Crescentview Drive

Meeting Adgenda

Doors Open: 6:00pm
Open House Discussion: 6:00-6:30pm
Presentation: 6:30-7:00pm
Q & A: 7:00-8:00pm

For Further Information Please Contact:

Mike Rakis
Developer
604 209 1292

Natasha Letchford
Community Planning Department
District of North Vancouver
604 990 2378

**Notice of Public Information
Meeting in Your Neighbourhood**

Mike Rakis is hosting a Public Information Meeting to present the development proposal for a 3 storey apartment building & single family home at 3105 - 3115 Crescentview Drive, at the corner of Crescentview Drive and Connaught Crescent.

This information package is being distributed to the owners and occupants within 75 meters of the proposed development site in accordance with District of North Vancouver policy.

MEETING TIME & LOCATION

Thursday November 26th, 2015
6:00-8:00pm
Welcoming Room - Highlands United Church
3255 Edgemont Blvd., North Vancouver

Proposed Development 3105 - 3115 Crescentview Drive

The Proposal

Mike Rakis proposes to construct a 3 storey apartment building and single family home at 3105 - 3115 Crescentview Drive, at the corner of Crescentview Drive and Connaught Crescent.

The proposal is for 25 residential units which will include 3 one bedroom units and 22 two bedroom units. In addition there will be one single family home.

The site will be accessed from Connaught Crescent with a ramp leading to an underground parking garage. 38 parking spaces are provided for the residents of the 3 storey apartment building along with 6 visitor parking spaces. In addition there will be 2 independent parking spaces provided for the single family home.

The proposal also includes a publically accessible pedestrian plaza at the street intersection for both residents and community.



Rendering



Context

Advert to appear in the North Shore News publication on Wednesday 18, November

PUBLIC INFORMATION MEETING

A development is being proposed for 3105 - 3115 Crescentview Drive, Edgemont Village, to construct a 3 Storey Apartment Building & Single Family Home.

You are invited to a meeting to discuss the project.

Date: Thursday, November 26, 2015
Doors Open: 6:00pm
Presentation Start Time: 6:30pm
Meeting Location: Welcoming Room - Highlands United Church
3255 Edgemont Blvd., North Vancouver

The applicant proposes to rezone and redevelop the above site from 2 single-family zoned lots to a comprehensive development zoning. The proposal is for 25 residential units which will include 3 one bedroom units of between 751-877sqft and 22 two bedroom units of between 963-1270sqft with an underground parking garage providing 42 spaces. In addition there will be one single family home of 3633sqft with a two-car garage.



Information packages are being distributed to residents within a 75 meter radius of the site. If you would like to receive a copy or if you would like more information about the proposed development, contact Natasha Letchford of the Community Planning Department, DNV at 604 990 2378, or the developer Mike Rakis at 604 209 1292, or bring your questions and comments to the meeting.

Note: This is not a Public Hearing. DNV Council will receive a report from staff on issues raised at the meeting and will formally consider the proposal at a later date.

ROCKANDEL&ASSOCIATES

*Building Success Through Process Facilitation
Organizational & Community Engagement
Partnership Planning*

PUBLIC INFORMATION MEETING REPORT

To: Richard White, RWPAS E: rhwhite55@gmail.com
Natasha Letchford, District of North Vancouver E: letchfordn@dnv.org

From: Catherine Rockandel, IAF Certified Professional Facilitator, Rockandel & Associates
Tel: 1-604-898-4614 E: cat@growpartnerships.com

Re: 3105-3115 Crescentview Drive Public Information Meeting Summary

Date: December 1, 2015

Event Date: Thursday, November 26, 2015
Time: 6:00 PM – 8:00 PM
Location: Highlands United Church, 3255 Edgemont Boulevard, North Vancouver
Attendees: Forty (40) members of the public

NotificationFlyer Invitation

Invitation packages were distributed to residents within a 75-metre radius of the site.

Site Signs

There were two standard white PIM signs erected on the site during the week of November 16, 2015, notifying the community of the meeting as per District of North Vancouver requirements.

Newspaper Advertisement

One (1) advertisement was placed in the North Shore News, on November 18, 2015

Attendees: (40) people attended the Public Information Meeting.

In addition, the following project team members, and District of North Vancouver staff were in attendance.

District of North Vancouver

Natasha Letchford, Community Planning, District of North Vancouver

Project Team

Developer: Mike Rakis

Project Consultants

Development Planner: Richard White, RWPAS

Architecture: Ray Letkeman, Ray Letkeman Architecture

Landscape Architecture: Bill Harrison, Forma Designs

Transportation Engineers: Peter Joyce, Bunt & Associates

Design & Development Consultant: Ronan Hegarty

Facilitator

Catherine Rockandel, Rockandel & Associates

PRESENTATION SUMMARY

A presentation by Ray Letkeman, Ray Letkeman Architecture, with additional comments by Peter Joyce of Bunt Engineering, and Bill Harrison, Forma Designs provided an overview of the project proposal to construct a three-storey apartment building and single family home at 3105 - 3115 Crescentview Drive, at the corner of Crescentview Drive and Connaught Crescent. The proposal is for 25 residential units, which will include three one-bedroom units and 22 two-bedroom units. In addition there will be one single family home. The site will be accessed from Connaught Crescent with a ramp leading to an underground parking garage. 38 parking spaces are provided for the residents of the three-storey apartment building along with six visitor parking spaces. In addition there will be two independent parking spaces provided for the single-family home. The proposal also includes a publically accessible pedestrian plaza at the street intersection for both residents and community.

PUBLIC COMMENT: Q & A (Index: Q: Questions C: Comment A: Answers)

The overall tone of the meeting was positive and supportive, with neighbours from the community attending and asking questions about the project. The main issue was parking.

Q1 Did your statistics include how many cars are parked there all day along Connaught?

A1 The information I referred to would not have addressed the parking along Connaught. This was associated with these other buildings that I referred to. Some of those building are over in the Lynn Valley town centre area, some are here in the Edgemont area but not specifically the Connaught parking, that is an existing street parking condition. I know there have been different parking studies done by other firms, the Village, over week days and Saturdays and parking patterns. We looked at that as well when we were doing the project across the way, so a lot of people have looked at that.

C2 There are about eight and its filled all day and that has an impact on how much space there is to drive up along Connaught to get out so you only have one lane. I just want you to keep that in your mind when you are talking about cars going out. If you are going to go left on Edgemont, you may not be able to pop out right away because you have to wait for everybody that you can't see there because of parked cars and anybody that is coming in a hurry the other way. So it is not quite as simple.

Q3 All you proponents are asking that this lot be taken out of single family home rezoning. What's in it for the community? You are going to increase traffic, you are going to take away the green space that is there and increase foot traffic everywhere. There is parking problems combined with everything else that is going on in the Village. So what's in it for the community and why should the District allow it? What is everybody going to get out of it?

A3 The District's plan for this type of development here is about 25 years old and was refreshed a couple of years ago, the idea is to have a wider range of housing types in the Edgemont Village area to provide for different types of households. Single-family housing in Edgemont, as people know, is very expensive. Lots of people would like to

stay in Edgemont and maybe not maintain a large house and this would provide an alternative. So right there you could argue from your perspective that this isn't the case but from my perspective as a professional planner, most villages if you look anywhere in the world, have a complete community. A village, if this is Edgemont village, is meant to provide for young folks with families, young folks without kids, a place for people as they age. It is increasingly difficult because of the cost of single-family housing for people at both ends of the spectrum either young or old. So that is a fundamental reason and one of the main reasons the district encourages in the vicinity of town to house multiple family housing. In my view, that is a big community benefit and a very important one. There would be other gifts to the community as well. This development will provide a completely updated infrastructure, new sidewalks, driveways, new street trees, there will be a community amenity contribution. Cash is given to the municipality that can be reinvested. The developer doesn't control that cash, it gets delivered to the municipality and it maybe goes towards a new community centre that is under construction a kilometer away from here. That is another fundamental benefit. The developer would also have to pay a greater Vancouver sewage and drainage charge.

C4 I personally think you are not adding much. The focus on maybe returning some of the space, if you are asking for development, some of the space you turn back into green space. For people that are going to be living here, there is a lack of benches everywhere. The benches that were at the entrance to the park are gone. I think that if this were to go, some of the space needs to be turned into green space because there is just not enough of it around here.

Q5 I have lived on Crescentview Drive for 22 years and I am glad we got in then because there is not a remote chance that we could afford to get in now. During the 22 years every single house that has sold on that street, with one exception, has been knocked down and three or four thousand square foot houses have been built. The reality is that my children have no realistic possibility of living in the neighbourhood they grew up in because of the giant single-family houses. I was on the committee that drafted the new Edgemont Village plan and guidelines and we had that very much in mind. We wanted to get some more variety in the residential construction so that it would be possible in the immediate area of the village to have working people living here who could afford to live here or our kids might have a chance of living here. This lot specifically is one of the lots that we put down as being for that kind of development. The idea of this is high quality, low-density multi family. It is coming, we know it is coming so we wanted to control it, keep the heights down, so we put three floor limits in the village and partial fourth on exceptional cases, that kind of thing, we went through all of that. This place falls squarely within what we were looking at. The issue of parking to me is with the 1 ½ spaces per unit - that may be statistically correct. I wonder if it becomes essential to make this thing go, to get more parking into it, would it be possible to consider the single family residents next door that is part of the proposal, to have a garage on ground level. Have two parking spots at that house on ground level and thereby buy yourself two more underground spaces for the use of the apartment building. I know ideally

everybody, including myself, would like things not to change. But if we could control it and get quality, in my opinion this is a good quality proposal.

- A5 I think one of the issues would be that if you had a surface level garage in the driveway, you are going to lose street parking spaces out in front and those may be more valuable to some than having two spaces underground. I know from our other work that there was high value put on street parking. This project takes away the driveway on the street.
- C6 I know that we have people working in the village parking on our street every day, it is not a big deal but it is used
- Q7 I was also on the Refresh working group and it was always in the plan to have a multi family dwelling here. My question is in regards to the parking. How does the 1 ½ stalls per unit work? You can't sell somebody 1 ½ stalls, so do you sell some people 2 stalls and others 1 stall? What if you wanted 2 stalls and bought them and then later on you didn't want 2 stalls?
- A7 There are a lot of different ways this has been handled in the past. This will be a condo development so the units will be sold. Typically you can buy a parking stall or two and people are offered that. Typically parking stalls go for less value than the cost to build them so it is not a bad investment. You could then let someone else use your parking stall or you could sell it back. I don't know if people could sell their individual parking stall but there are lots of ways of dealing with that. So nobody gets ½ a stall.
- Q8 How do you get around the fact that the first ten people that buy units gets two stalls and then there are not two stalls left for the next ten customers?
- A8 Typically the developer offers two spaces with the larger units. Smaller units typically have less but that doesn't mean that if you buy a small unit you couldn't make a pitch for 3 parking stalls. The developer has to be careful about selling all the parking if there are still units to sell. It is very rare that someone would sell all their parking spots with units still available.
- C9 The default with this is that if someone has two cars and only one parking spot, that other car is going to end up parked on the street. We have real issues with parking in the village for commercial establishments. The vitality of the businesses really rely on the parking. Today when you go to the village, you will have to drive around two or three times to find a spot. Eventually people get tired of doing that so will go to the mall on Marine Drive instead or over to Park Royal to do their shopping.
- A9 I personally try to walk to shopping and this will be very popular in this area with this development. I have never had a problem trying to find somewhere to park in Edgemont village but I am sure everybody has a different story.

We are finding across the region that we are breaking through the one car per unit threshold. There are a lot of buildings that are going in that have less than one car per unit, this is not the circumstance here but that speaks to how some people say: "how do you sell a unit without a parking stall?" It will probably be part of the decision making when people are thinking about buying a unit here. If they have two cars and they can't

get two parking spots, they may chose to buy somewhere else. People are very anxious about the traffic and in the next breath say there isn't enough parking and the two go together. So by controlling the amount of parking, you are controlling the amount of traffic. I know this is a sensitive issue here.

- C10** I congratulate you and the design team, I think it is beautiful. I do have issues with the parking. Let's be realistic, we are an urban community and need our cars. We need parking and that was the whole point in doing the study and guidelines with Refresh. I really like the project but I think we have to be realistic about how we concede to these types of projects. It is insulting for the District to spend the money and time to do the planning and get community input and then say, we aren't really going to do that because we have statistics that say people are only going to own one car
- Q11** I was also involved in the Refresh as well as the original upper Capilano plan that identified that kind of development. I would like to hear what would be involved in meeting the parking criteria that was accepted during the Refresh and was accepted during the upper Capilano plan? I would hate to see a default that started to see signs for resident only parking on the streets, which is a massive irritation to me.
- A11** The solution would be to put another level of parking in, this is a very expensive alternative. If there are six or eight parking spots on the second level, they would cost \$60,000 or \$80,000 each because you would have to put another ramp in to get access to them. You would also need two sets of stairs and an elevator.
- C12** From my experience I have never had a problem with parking in Edgemont Village. I am off on Friday, Saturday and Sundays and always find parking. I have rarely had to circle because none of the stalls are taken for very long. People are constantly coming and going and that is why I love shopping in Edgemont. I do have problems finding parking in West Vancouver and on Lonsdale.
- C13** Parking is the big topic of the evening. When people vote and adopt a plan, and we did adopt the plan through public hearings, we agreed to a certain parking ratio. So when someone comes and says we are only going to give 1 ½ stalls you are in violation of the spirit of the OCP and all the planning that took place before it. From that point of view, I don't think that is very fair. What will happen because people will still buy cars? There should be two parking spots per unit.
- Q14** I live in the building next door and there are two items we are concerned about, the first being parking. People park on our street and take the bus to work. There are also a lot of delivery trucks that come and deliver to businesses. When cars are parked on Connaught Crescent there is only one lane for cars to drive in. We are also concerned about all the traffic coming out of this new building and having to turn left in front of our building to try to get onto Edgemont Boulevard. I am telling you that it is wicked now, especially at busy times. Our other concern is to look at this property and see the beautiful forest and now of course a lot of those trees have to come down and we understand that. We are surrounded by trees and evergreens that have been there for years between us and the church. The closest trees on that side of the church that are

on our property are exactly seven feet from our foundation wall. So when they say they have to take down the trees between our two properties, we don't understand how we could save the old trees on our property but they can't. Did you say there would be evergreens planted between the buildings? You know I think those trees have been there since before the Lions Gate Bridge was built, they are big trees. Why do they all have to come out?

A14 It is always an issue with urban development as we move forward. One of the biggest concerns is the water table and cutting into the root zone of those trees. Of those trees that are between the properties, there are six hemlocks. Hemlocks are not necessarily the most valuable conifers even though they are big and green absolutely but they grow in a family. There is a fir and a cedar, which is unfortunate I agree. As far as an appropriate conifer between more densification and bigger buildings, what we are proposing right now is evergreen magnolias with a pruned hedge, which will get very big, granted they are not native conifers. Eventually the hedge can grow up to 30 or 40 feet. That is just a proposal at this point, other conifers could be put there that are more appropriate. There will be plantings there and we understand that there has to be some buffering between your building and the new one. Part of the problem is just the excavation of the getting down in that area. The trees that were kept by your building were kept because they were able to very carefully cut the roots and there was no wind through threat and no threat of trees falling on buildings. This is pretty tight between but maybe there is a possibility to save the trees but I am not an arborist. I can tell you though that the trees you are talking about are also in the planned driveway.

Q15 I would like to know how big this little park would be in the front there?

A15 Let's call it a plaza. It is bigger than the one out front here. It would have significant seating on both edges. It is quite large actually and we really wanted to open up that area

Q16 Is there parking for service vehicles? How are people going to move in and out? There should be a specific parking spot for service vehicles or will they have to park on the street?

A16 The most convenient place for moving trucks would be on Crescentview, on the corner next to the lot. For service vehicles, they could park in visitor parking and larger trucks would have to park on the street. It is the districts decision how street parking works, not ours. We have absolutely no control over what happens on the street.

C17 I would like to see maybe sacrificing a single family dwelling and maybe putting another smaller unit and then more parking there.

Q18 I didn't hear anything in the plan about storage lockers for each of these apartments. Where are the lockers?

A18 We are expected to have some storage room within each of the units that could be used and we do have some locker storage that could be used in the parking garage. It will be a combination of both.

Q19 The two-bedroom plus den on the main ground floor you said would have a street level entry on Crescentview and Connaught. Is that the only entry or do you have another entry that goes into the centre hall of the building as well?

A19 Yes we do. I would think that the majority of the time a homeowner on the ground floor would park in the underground, take the elevator up and then go down the hallway to enter. They would have the ability to go right out onto the street when you are not using your car.

Q20 Are the balconies set in so that they are weather protected and approximately what are the size of them? Are they actually a postage stamp or could you put a table and chairs for two on it?

A20 Yes. I believe they are 10 x 5 or 6 feet, so the apartment balconies are 60 square feet and they are covered. The patios at ground level are larger and variously sized.

Q21 How far from the front of the building is that little seating area? If I am going to spend over 1 million or 1.5 whatever it will be, am I going to be listening to someone out there talking at 10 pm on a hot summer night that doesn't even live here?

A21 It is about 20 feet away and there is landscaping between the building and the little plaza. So there would be screening and hedging and planting between.

Q22 Why was the driveway itself put on Connaught instead of Crescentview? It seems like such a complicated street with lots of parking.

A22 (Natasha Letchford) We have heard from quite a few people throughout the night that there are concerns about the driveway. I am asking the transportation department to look at the proposed driveway and other possible locations. The other location that people are telling me is off of Crescentview Drive, closer to the single-family residence. It is definitely something the District's traffic engineers will review.

C23 Somebody earlier said the city wouldn't let us in reference to putting the driveway on Crescentview. I am really hoping that somebody will think about giving up some of the single-family residence parking and give us a drive there.

C24 Would the district consider reversing the flow of traffic on Connaught? It is so hard to get out onto Edgemont and would be so much easier to get out the other way.

C25 I like the driveway set up now, that way you have the driveway for that building right next to the driveway for this building instead of breaking up Crescentview. It seems better to have two driveways side by side. If the district would reverse the traffic flow, it would not be an issue at all.