

AGENDA

REGULAR MEETING OF COUNCIL

Monday, June 22, 2026

7:00 p.m.

Council Chambers, Municipal Hall

355 West Queens Road

North Vancouver, BC

Watch at <https://dnvorg.zoom.us/j/64484156494>

Council Members:

Mayor Mike Little

Councillor Jordan Back

Councillor Betty Forbes

Councillor Jim Hanson

Councillor Herman Mah

Councillor Lisa Muri

Councillor Catherine Pope



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AGENDA

We respectfully acknowledge the original peoples of these lands and waters, specifically the səlilwətał (Tsleil-Waututh), Skwxwú7mesh Úxwumixw (Squamish), and xʷməθkʷəy̓əm (Musqueam), on whose unceded ancestral lands the District of North Vancouver is located. We value the opportunity to learn, share, and serve our community on these unceded lands.

CLOSED PUBLIC HEARING ITEMS NOT AVAILABLE FOR DISCUSSION

- Bylaw 8650 – OCP Amendment 1900-1950 Sandown Place
- Bylaw 8651 – Rezoning 1900-1950 Sandown Place
- Bylaw 8739 – OCP Amendment 520 Mountain Highway
- Bylaw 8738 – Rezoning 520 Mountain Highway
- Bylaw 8779 – OCP Amendment 1246-1268 Lynn Valley Road and 3050-3174 Baird Road
- Bylaw 8780 – Rezoning 1246-1268 Lynn Valley Road and 3050-3174 Baird Road

1. ADOPTION OF THE AGENDA

1.1. June 22, 2026 Regular Meeting Agenda

Recommendation:

THAT the agenda for the June 22, 2026 Regular Meeting of Council for the District of North Vancouver is adopted as circulated, including the addition of any items listed in the agenda addendum.

2. ADOPTION OF MINUTES

2.1. May 25, 2026 Public Meeting

p.9-14

Recommendation:

THAT the minutes of the May 25, 2026 Public Meeting are received.

3. PUBLIC INPUT

(limit of three minutes per speaker to a maximum of thirty minutes total)

4. RECOGNITIONS

5. DELEGATIONS

5.1. TransLink

p.17-30

Re: Metrotown to North Shore Bus Rapid Transit Update

Application Form

PowerPoint Presentation

6. RELEASE OF CLOSED MEETING DECISIONS

7. COMMITTEE OF THE WHOLE REPORT

8. REPORTS FROM COUNCIL OR STAFF

With the consent of Council, any member may request an item be added to the Consent Agenda to be approved without debate.

If a member of the public signs up to speak to an item, it shall be excluded from the Consent Agenda.

Recommendation:

THAT items _____ are included in the Consent Agenda and are approved without debate.

- 8.1. District-wide Landslide Risk Assessment** **p.33-130**
File No. ENGES 1988111058-113349
- Report: Senior Project Manager, Public Safety, June 10, 2026
Attachment 1: Landslide Risk Assessment – 2026 Update, BGC Engineering
- Recommendation:*
THAT Council receive the Landslide Risk Assessment – 2026 Update (BGC, 2026) report for information, and as an update to the District’s knowledge of the community’s overall landslide risk.
- 8.2. Bylaw 8784: Zoning Text Amendment for 2131-2171 Old Dollarton Road, 229-291 Riverside Drive & 2102-2128 Front Street (“Maplewood Gardens”)** **p.131-170**
File No. 08.3060.20/048.25
- Report: Development Planner, May 25, 2026
Attachment 1: Bylaw 8784
Attachment 2: CD 152 zone (blacklined version)
Attachment 3: Redline Architectural pages showing proposed changes
- Recommendation:*
THAT the “District of North Vancouver Rezoning Bylaw 1464 (Bylaw 8784)” is given FIRST, SECOND, and THIRD readings.
- 8.3. Bylaws 8802 and 8803: Heritage Revitalization Agreement and Heritage Designation - 3526 Everglade Place** **p.171-329**
File No. 08.3060.20/006.26
- Report: Development Planner, June 2, 2026
Attachment 1: Bylaw 8803
Attachment 2: Bylaw 8802
Attachment 3: Statement of Significance
Attachment 4: Heritage Conservation and Maintenance Plan
Attachment 5: Architectural and Landscape Plans
- Recommendation:*
THAT “Heritage Revitalization Agreement Authorization Bylaw 8803, 2026 (3526 Everglade Place – Perry Residence)” is given FIRST reading;
- AND THAT “Heritage Designation Bylaw 8802, 2026 (3526 Everglade Place – Perry Residence)” is given FIRST reading;
- AND THAT Bylaws 8802 and 8803 are referred to a Public Hearing.

8.4. Bylaw 8788: Business License Bylaw Housekeeping Amendment to Reflect Updated Non-Medical Retail Cannabis Policy
File No. 09.3900.20/000.000

p.331-340

Report: Deputy Corporate Officer, Legislative Services, June 10, 2026

Attachment 1: Bylaw 8788

Attachment 2: Public Meeting Report

Recommendation:

THAT “Business License Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)” is given SECOND and THIRD Readings.

9. REPORTS

9.1. Mayor

9.2. Chief Administrative Officer

9.3. Councillors

9.4. Metro Vancouver Committee Appointees

10. ADJOURNMENT

Recommendation:

THAT the June 22, 2026 Regular Meeting of Council for the District of North Vancouver is adjourned.

MINUTES

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**DISTRICT OF NORTH VANCOUVER
PUBLIC MEETING**

**Cannabis Retail Store Hours of Operation
Business Licence Bylaw Amendment**

REPORT of the Public Meeting held on Monday, May 25, 2026 commencing at 6:04 p.m. in the Council Chambers of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

Present: Mayor Mike Little
Councillor Jordan Back
Councillor Betty Forbes
Councillor Jim Hanson
Councillor Herman Mah
Councillor Lisa Muri
Councillor Catherine Pope

Staff: Dan Milburn, Acting Chief Administrative Officer
Genevieve Lanz, Director – Legislative Services and Corporate Officer
Neonila Lilova, Manager – Business and Economic Development
Mina Sami, Development Planner
Cheryl Archer, Confidential Council Clerk
Jillian Holden, Administration Clerk

1. OPENING BY THE MAYOR

Mayor Little welcomed everyone and advised that the purpose of the Public Meeting was to receive input from the community on the proposed bylaw amendments as outlined in the Notice of Public Meeting.

He further noted that the Public Meeting was convened pursuant to Section 59 of the *Community Charter*. Members of Council, staff, and the public participated in person and via Zoom and the meeting was being streamed live over the internet and recorded in accordance with the *Freedom of Information and Protection of Privacy Act*.

Mayor Little stated that:

- Following the staff presentation, speakers would be called from the established speakers list. At the end of the speakers list, the Chair would call on speakers from the audience;
- Each speaker would have five minutes to address Council for a first time and should begin remarks to Council by stating their name;
- After everyone who wished to speak had spoken once, speakers would then be allowed one additional five-minute presentation;
- Any additional presentations would be allowed at the discretion of the Chair;

- Speakers were reminded to refrain from repeating information from their previous presentations and to ensure all comments remained focused on the bylaw under consideration;
- If a written submission was provided, speakers were asked not to read the entire submission, noting that they could provide a summary or briefly reiterate the highlights;
- All members of the audience were asked to be respectful of one another as diverse opinions are expressed, noting that the meeting was an open and impartial forum for Council to hear everyone's views;
- Council's role at Public Meetings is to listen to the public, not to debate the merits of the bylaw;
- Council may ask clarifying questions during Public Meetings;
- A binder containing documents and submissions related to the bylaw is available for review in hard copy and online;
- Speaking opportunities would be provided for everyone who wished to provide input and the meeting would be continued on a second night, if required;
- At the conclusion of the public input Council may request further information from staff, which may or may not require an extension of the meeting, or Council may close the meeting, after which Council should not receive further new information from the public.

2. INTRODUCTION OF BYLAW BY CORPORATE OFFICER

Genevieve Lanz, Corporate Officer, introduced the proposed bylaw, stating that Bylaw 8788 proposes to amend the Business Licence Bylaw to update cannabis retail store operating hours from 9:00 a.m. to 9:00 p.m. to 9:00 a.m. to 11:00 p.m. to align with the District's Non-medical Cannabis Policy.

3. PRESENTATION BY STAFF

Neonila Lilova, Manager – Business and Economic Development provided an overview of the proposal elaborating on the introduction by the Corporate Officer. Ms. Lilova advised that:

- The proposed bylaw is a housekeeping amendment to align the District's Business Licence Bylaw with its Non-Medical Retail Cannabis Policy;
- Updates to the Non-Medical Retail Cannabis Policy were approved by Council to align the operating hours of cannabis retailers in the District with the Province's cannabis retail licensing standards of 9:00 a.m. to 11:00 p.m. on October 20, 2025;
- Staff identified the inconsistency between the bylaw and policy and brought forward the amendment to the Business Licence Bylaw to address the inconsistency.

4. REPRESENTATIONS FROM THE PUBLIC

4.1. Marcia Stephenson:

- Spoke in opposition to the proposal;
- Stated she opposes the extension of operating hours for Imagine Cannabis as it would only benefit one business owner and customers who are not able to organize their time to make their purchases in the 12 hours they are currently open;
- Opined that longer opening hours at this location would cause issues for more than 400 people;
- Stated that she would not like to see conditions that encourage late meetups;
- Stated that people smoke in public and the smoke comes into residences through ventilation systems;
- Stated that Imagine Cannabis would be the only store open later on that side of the mall;
- Questioned why cannabis stores need later opening hours;
- Stated that people want quiet after 9:00 p.m., including families and seniors;
- Stated that she did not want destination vehicle traffic roaring down her street; and,
- Stated that other businesses that stay open late are on the other side of the mall and do not disturb residents.

4.2. Andrew Prietel:

- Spoke in support of the proposal, noting he is the owner of North Shore Cannabis;
- Opined that their store does not have the same issues as identified by the previous speaker due to their location and proximity to other businesses that are open late;
- Noted that the liquor store adjacent to North Shore Cannabis is open until 11:00 p.m. and it would be helpful to have both stores open until the same time for security and their business model;
- Stated that later opening hours make a significant difference;
- Opined that the cannabis stores in Lynn Valley and Deep Cove will not open later because it is not a viable option for those locations;
- Noted there are cannabis stores in the City of North Vancouver that stay open later;
- Noted that the cannabis store in Lynn Valley closes at 6:00 pm. and is allowed to stay open later;
- Stated that the top cannabis suppliers to the North Shore on the internet operate 24 hours a day and hours are not enforced by police; and,
- Stated that online sales take business away from legal operators who pay taxes.

4.3. Corrie Kost:

- Suggested custom hours based on neighbourhoods;
- Opined that the proposed bylaw and existing policy are too broad and the extended hours are not necessary; and,
- Noted that businesses in Edgemont Village close at 9:00 p.m.

4.4. Andrew Prietel SPEAKING FOR A SECOND TIME:

- Stated that there are few problems with cannabis stores;
- Opined that most customers buy products and leave;
- Noted that cannabis stores do not have places to consume products on the premises;
- Advised that he had owned the Lynnwood Inn and stated that there were many more issues with people who consumed alcohol.

4.5. Marcia Stephenson SPEAKING FOR A SECOND TIME:

- Stated that her comments were based on her experience and that of her neighbours;
- Opined that the District established Town Centres and neighbourhoods for liveability;
- Noted Town Centres have been densified;
- Stated that she wants to be in a family-friendly community; and,
- Stated that consistency between the bylaw and policy should not be as important as the people living near cannabis stores.

4.6. Joao Pedro:

- Advised that he works for the BC Cannabis Store on Marine Drive;
- Questioned if information on changes to operating hours would be provided to their union;
- Expressed concern regarding the safety of employees if working alone with extended hours; and,
- Noted that the store manager chose to have 9:00 p.m. as the store's closing time.

4.7. Hana Watanabe:

- Spoke in opposition to the proposal;
- Stated that she does not use cannabis;
- Noted that Vancouver has issues with addiction and the Downtown East Side is in crisis;
- Stated she supports limiting access to cannabis by youth;
- Stated that 19-year-olds do not have fully developed brains; and,
- Opined that extended hours would enable youth to have easier access to cannabis.

5. QUESTIONS FROM COUNCIL

In response to a question from Council, staff advised that if the bylaw is adopted, the five cannabis stores in the District, both private and public, would be allowed to stay open until 11 p.m., noting this aligns with the provincial standard. Staff further noted that the decision to stay open until 11 p.m. or to continue to close earlier would be at the discretion of individual operators.

In response to a question from Council, staff advised that if the bylaw is not adopted, the District would need to change the Non-medical Retail Cannabis Policy to allow stores to operate until 9:00 p.m.

In response to a question from Council, staff advised the Business Licence Bylaw is not variable, meaning that variances to the Business Licence Bylaw are not possible. Staff noted that Council can modify operating hours in any business licence if there are issues. Staff further noted that the five cannabis stores in the District have had no compliance issues and no significant issues with the RCMP.

In response to a question from Council, staff advised that some District stores changed their operating hours when the policy was updated in October 2025 and that they have all been notified that they may only remain open until 9:00 p.m. unless the bylaw is amended to allow opening later.

In response to a question from Council, staff advised that cannabis stores in the City of North Vancouver are permitted to open from 9:00 a.m. to 11:00 p.m. but it is up to individual operators how late to remain open.

In response to a question from Council, staff advised that when the bylaw returns to Council for further consideration, staff will provide options, both of which will align the policy with the bylaw.

6. COUNCIL RESOLUTION

MOVED by Councillor MURI

SECONDED by Councillor HANSON

THAT the May 25, 2026 Public Meeting regarding Bylaw 8788 is closed;

AND THAT “Business Licence Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)” is returned to Council for further consideration.

CARRIED
(6:35 p.m.)

CERTIFIED CORRECT:

Confidential Council Clerk

DELEGATIONS

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5.1 Delegation to Council Request Form

District of North Vancouver
Corporate Officer

355 West Queens Rd, North Vancouver, BC V7N 4N5

Phone: 604-990-2311

Email: signup@dnv.org

COMPLETION: To ensure legibility, please complete (type) online then print. Sign the printed copy and submit via mail or email to the department and address indicated above. If you have any questions about this form, please call the number indicated above.

Delegations have five minutes to make their presentation. Questions from Council may follow.

Name of group wishing to appear before Council: TransLink

Title of Presentation: Metrotown to North Shore Bus Rapid Transit Update

Name of person(s) to make presentation: Sarah Ross, Klassen Mok, Aaron Leung

Purpose of Presentation:

- ☒ Information only
☐ Requesting a letter of support
☐ Other – please describe below:

Attach separate sheet if additional space is required

The purpose of the presentation is to provide a brief, for information update on the Metrotown to North Shore Bus Rapid Transit corridor including progress on the R2 RapidBus Extension, an update on BRT design including public engagement results and timeline for concept design.

Note: Delegation requests will not be accepted if they are requesting financial assistance of any kind or are in relation to any potential or current development application with the District.

Contact person (if different than above): Aaron Leung

Daytime telephone number: 604-306-0689

Email address: Aaron.Leung@translink.ca

Will you be providing supporting documentation? ☒ Yes ☐ No

If yes: ☐ Handout ☐ Digital Format ☒ PowerPoint Presentation

Note: All supporting documentation must be provided 14 days prior to your appearance date.
This form and any background material provided will be published in the public agenda.

Arrangements can be made upon request for you to familiarize yourself with the Council Chambers equipment on or before your presentation date.

Please note:

- Council Chambers operates in a Windows environment.
- Videos and audio clips are not supported except by special accommodation.
- Disturbing or graphic images are not permitted to be displayed at any time.

Delegation to Council Request Form

Rules for Delegations:

1. Delegations must submit a Delegation to Council Request Form to the Corporate Officer. Submission of a request does not constitute approval nor guarantee a date. The request must first be reviewed by the Corporate Officer.
2. The Corporate Officer will review the request and, if approved, arrange a mutually agreeable date with you. You will receive a signed and approved copy of your request form as confirmation.
3. Only one delegation will be permitted at any Regular Meeting of Council.
4. Delegations must represent an organized group, society, institution, corporation, etc. Individuals may not appear as delegations.
5. Delegations are scheduled on a first-come, first-served basis, subject to direction from the Mayor, Council, or Chief Administrative Officer.
6. The Mayor or Chief Administrative Officer may reject a delegation request if it regards an offensive subject, has already been substantially presented to council in one form or another, deals with a pending matter following the close of a public hearing, or is, or has been, dealt with in a public participation process.
7. Supporting submissions for the delegation should be provided to the Corporate Officer by noon 14 days preceding the scheduled appearance.
8. Delegations will be allowed a maximum of five minutes to make their presentation.
9. Any questions to delegations by members of Council will seek only to clarify a material aspect of a delegate's presentation.
10. Persons invited to speak at the Council meeting may not speak disrespectfully of any other person or use any rude or offensive language or make a statement or allegation which impugns the character of any person.
11. Delegations may not display or include disturbing or graphic images as part of their presentation.
12. Please note the District does not provide grants or donations through the delegation process.
13. Delegation requests that are non-jurisdictional or of a financial nature may not be accepted.

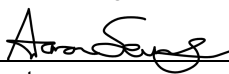
Helpful Suggestions:

- have a purpose
- get right to your point and make it
- be concise
- be prepared
- state your request, if any
- do not expect an immediate response to a request
- multiple-person presentations are still five minutes maximum
- be courteous, polite, and respectful
- it is a presentation, not a debate
- the Confidential Council Clerk may ask for any relevant notes (if not handed out or published in the agenda) to assist with the accuracy of minutes

I understand and agree to these rules for delegations

Aaron Leung

Name of Delegate or Representative of Group


Signature

May 20, 2026

Date

For Office Use Only

Approved by:

Corporate Officer



Deputy Corporate Officer

Appearance date:

June 22, 2026

Receipt emailed on:

May 21, 2026

Rejected by:

Mayor

CAO

Applicant informed on:

Applicant informed by:

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 for the purpose of processing this application or request and for no other purpose unless its release is authorized by its owner, the information is part of a record series commonly available to the public, 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 Corporate Officer by telephone at 604-990-2207 or in person at 355 W Queens Road, North Vancouver.

District of North Vancouver Council Bus Rapid Transit Update

Sarah Ross, VP – Transportation Planning & Policy, TransLink
Klassen Mok, Senior Manager, BRT Program, TransLink

June 22, 2026



Today's Meeting

Agenda

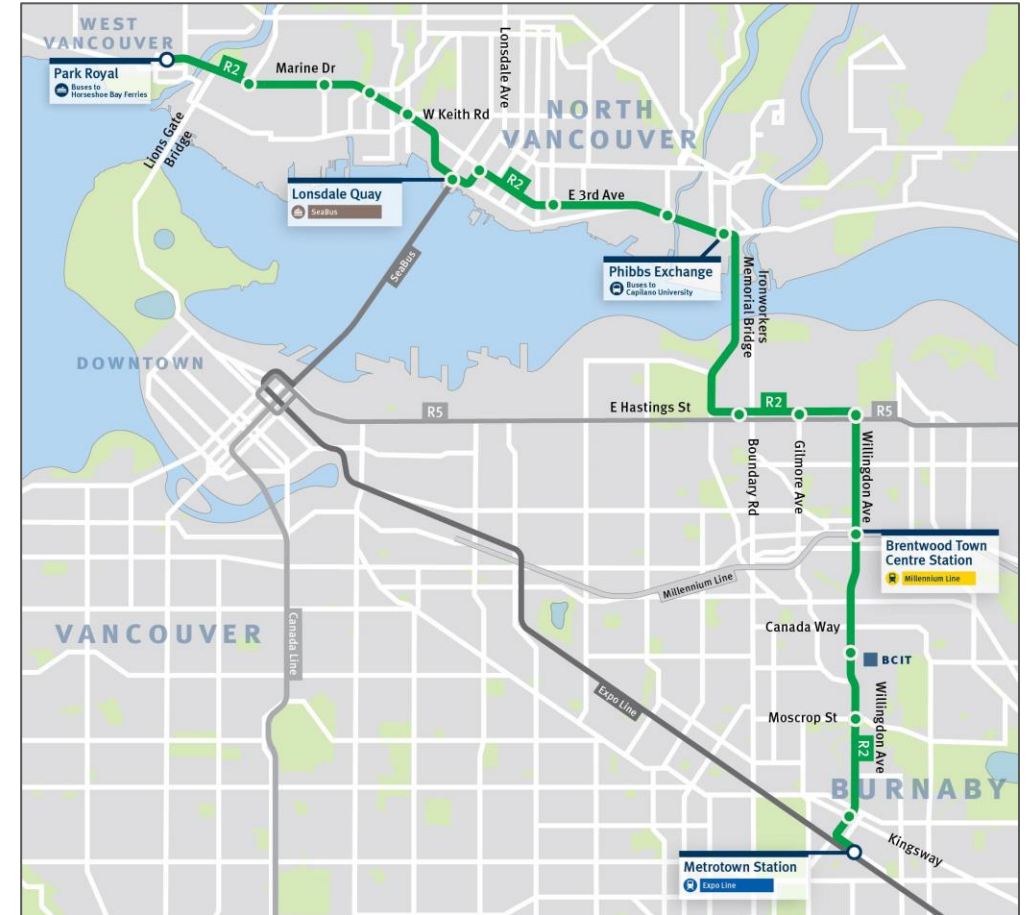
1. R2 RapidBus Extension
2. Metrotown to North Shore (MNS) Bus Rapid Transit (BRT):
 - a) September 2025 Public Engagement Results
 - b) BRT Progress Update
3. Next Steps



The R2 RapidBus Extension is set to begin service in September

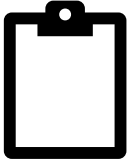
Known as the 'Marine–Willingdon' RapidBus, the R2 Extension will:

- Create a new direct connection between Park Royal and Metrotown, eliminating the need to transfer at Phibbs Exchange
- Reduce wait times, with service every 6-7 minutes during peak periods
- Use 60-foot buses across the corridor to add capacity and improve comfort
- Strengthen connections to the Expo and Millennium SkyTrain lines
- Expediting construction in West Vancouver, City of Vancouver, and City of Burnaby



September 2025 Public Engagement Results: Key Findings

Key Metrics



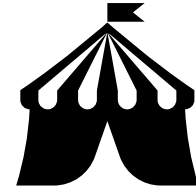
12,551

Survey Responses



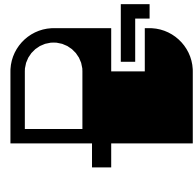
1670

In-person Interactions



17

Events



56,000

Postcards to Residences and
Businesses



~40,000

Digital Ad Click Throughs

Demographics

89%

Live in a corridor municipality

36%

From North Shore municipalities

334

Respondents in the
District of West Vancouver

1332

Respondents in the
City of North Vancouver

1455

Respondents in the
District of North Vancouver

Six Core Themes

- Theme 1:** High level of support for Metrotown to North Shore BRT
- Theme 2:** Improving service frequency and reliability on this corridor is a key service priority
- Theme 3:** Respondents support prioritizing transit improvements over maintaining existing vehicle access across the corridor
- Theme 4:** Weather protection and improved lighting are key station features
- Theme 5:** Regionally, Hastings/Willingdon is the preferred route option
- Theme 6:** Support for route options and direct connections depends on age, mode, municipality and neighbourhood



The MNS BRT will deliver...



Up to **60,000** average **daily boardings**



Significant **improvements** in **speed** and **reliability**



An **alternative** to being stuck in **congestion**



Service frequency up to **every 5 minutes**

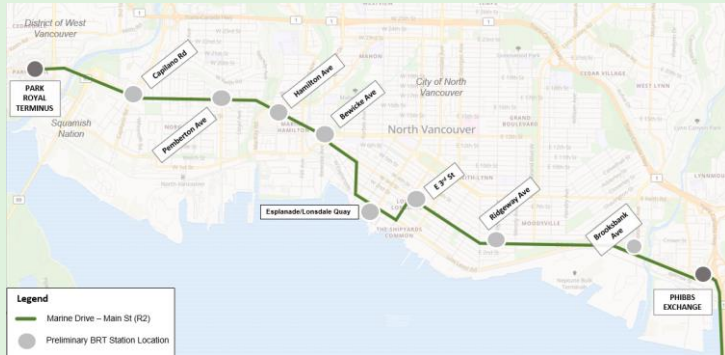


Access to **98,000 jobs** within 800m of the corridor



MNS BRT is nearing the 10% Design Stage Gate

5% Design



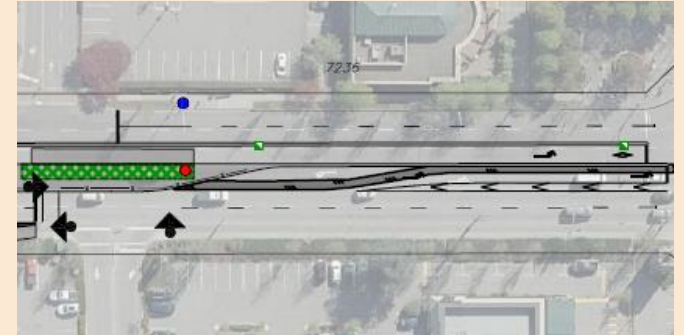
- Confirm **route alignment & station** locations

10% Design



- Identify **lane configuration options** to provide **more bus priority** along the corridor

30% Design



- **Refine lane configuration options**

Centre and Side-Running BRT

Centre-Running BRT (bus lanes in the middle of the road)



Benefits

- Less affected by traffic
- More reliable travel times
- Faster trips

Tradeoffs

- Requires more changes to the road
- May require some property
- More impact to how the street functions overall

Side-Running BRT (bus lanes along the curb)



Benefits

- Fits more easily within existing streets
- Lower impacts to property
- Changes are mostly limited to stations

Tradeoffs

- BRT buses can be affected by traffic (ex. turning vehicles, local buses)
- May be less reliable in some locations

Different configurations are used depending on corridor constraints and local context

Building Toward a High-Performance BRT Corridor

Design Progress

- 10% design nearing completion
- Significant new transit priority opportunities identified
- Station and lane configuration work underway
- Municipal coordination advancing

Major Service Improvement

- Significant improvement over today's extended R2 RapidBus service
- Faster and more reliable transit trips
- Expanded bus priority in key delay areas

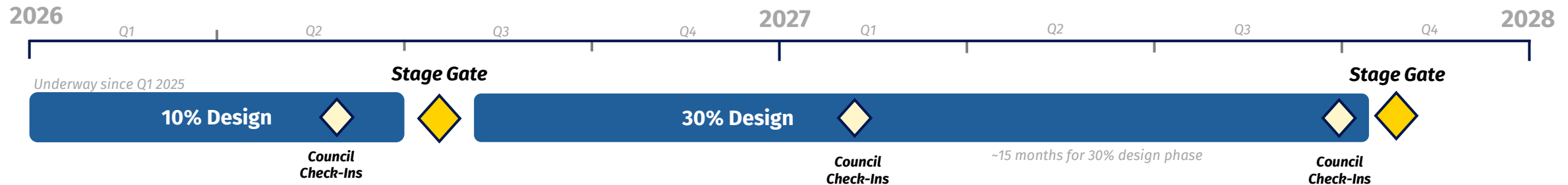
Future Flexibility in Design

- Additional transit priority can be added over time
- Corridor performance improves as priority expands even further



Next Steps & Timeline

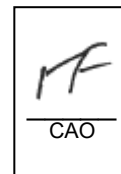
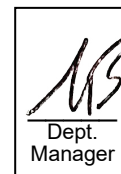
- **10% Design** will be completed this summer
- **30% Design** will begin in Q3/Q4
- **We will return to Councils in 2027 for an update**



REPORTS

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AGENDA INFORMATION	
☐ Regular Meeting	Date: _____
☐ Other:	Date: _____



The District of North Vancouver REPORT TO COUNCIL

June 10, 2026

File: ENGES 1988111058-113349

AUTHOR: Fiona Dercole, Senior Project Manager, Public Safety

SUBJECT: District-wide Landslide Risk Assessment

RECOMMENDATION:

THAT Council receive the *Landslide Risk Assessment – 2026 Update (BGC, 2026)* report for information, and as an update to the District's knowledge of the community's overall landslide risk.

REASON FOR REPORT:

To provide an update to the *2010 Landslide Risk Summary*, based on advances in risk assessment methodologies and changes to subject properties, to understand the current landslide risk profile for select escarpment areas of the District.

SUMMARY:

Since the last District-wide assessment, *Landslide Risk Summary* (2010), there have been advances in risk assessment modelling, storm drainage system improvements, and changes resulting from redevelopment and landscaping. To better understand how these factors may have changed the community's landslide risk profile over an approximate 15-year time period, the District retained BGC Engineering Inc (BGC) to prepare the *Landslide Risk Assessment – 2026 Update*. BGC assessed landslide risk at 273 properties – 149 at the base and 124 at the crest of escarpment slopes. The 2026 assessment found that, overall, landslide risks in the District of North Vancouver are reduced when compared to previous studies. The report recommends that property owners at the crest of slopes continue to manage stormwater and yard waste and inspect/repair retaining walls and swimming pools. BGC also recommends that the District consider a monitoring program for slope conditions, continue to implement existing policies to manage risk to new development and redevelopment, and continue to provide information to residents about reducing landslide risk near steep slopes. The *Landslide Risk Assessment - 2026 Update* is intended to be publicly accessible via GeoWeb Property Viewer, under Hazard Reports. Letters will be mailed to all property owners within the study area inviting them to view the report and direct questions to staff.

BACKGROUND:

The District is exposed to a variety of natural hazards, including landslides, given it is located on steep forested terrain and subject to a wet coastal climate. Previous landslides have occurred in 1972, 1979, 1999 and 2005. Following the fatal Berkley landslide in 2005, the District retained qualified professionals to assess landslide risk along the Berkley escarpment and make recommendations for risk reduction. Recommended actions were implemented in 2005-2006, including fill removal, slope reshaping and requirements for each property to connect to a new stormwater main (via an area-specific bylaw). After the mitigation works were complete, residual risk was assessed and ongoing recommendations to manage stormwater, yard waste and retaining walls were communicated to property owners.

The District follows the Canadian Standards Association (CSA) *Risk Management: Guidelines for Decision-makers*. The Risk Evaluation phase of the CSA guidelines steer the decision-maker to “compare estimated risk against stakeholder acceptance criteria”. In October 2007, the District formed the Natural Hazards Task Force, comprised of eight volunteer District residents with the mandate to recommend to Council the tolerable level of risk to life from natural hazards for development. The task force received education from subject matter experts in the topics of natural hazards, risk assessment modelling, mitigation methods, municipal budget process and legal considerations. They also sought public input through an open house, a public meeting and an online survey. In November 2009, Council endorsed a policy for risk tolerance criteria, based on recommendations from the task force. The adoption of a community-based risk tolerance criteria has been widely referenced by other jurisdictions and geotechnical professionals and received international recognition when the District received the 2011 United Nations Sasakawa Award for Disaster Risk Reduction.

Landslide risks can be categorized into one of three categories:

Category	Description	Risk of Loss of Life (per annum)
Broadly Acceptable	Incremental risks from a hazard are within the range that society accepts and do not require mitigation.	<1:100,000
Tolerable	Risk is not negligible, but can be tolerated, given that effort is taken to reduce risk and is kept under review.	1:10,000 to 1:100,000
Unacceptable	Generally considered unacceptable by society and require mitigation.	>1:10,000

The ‘As Low as Reasonably Practicable’ (ALARP) principle can be applied to risks within the Tolerable range. For a risk to be considered ALARP, costs involved in reducing the risk further would be grossly disproportionate to the benefit gained. The District’s risk tolerance policy requires that new development meet a more stringent risk tolerance criteria and be considered Broadly Acceptable, while existing development may be considered Tolerable if the proposed renovations/additions meet the ALARP principle.

In addition to the Berkley escarpment, seven other escarpment areas in the District are identified to have the potential for landslide risk. These areas were assessed as part of the Landslide Risk Summary (2010, BGC). All reports are publicly available via GeoWeb and in District libraries.

In 2012, a new Slope Hazard Development Permit Area (DPA) was added to the District's Official Community Plan, as Schedule B. The aim of the Slope Hazard DPA is to reduce slope hazards and landslide risk to people and property by carefully managing development and construction practices on or near steeply sloped lands.

EXISTING POLICY:

1. *District of North Vancouver Natural Hazards Risk Tolerance Criteria* (2009). Applicants for subdivisions, development approvals and building permits may be required to meet the following conditions:

Type of Application	Risk of Loss of Life (per annum)		Factor of Safety (static)	
	1:10,000 + ALARP	1:100,000	FOS>1.3	FOS>1.5
Building Permit (<25% increase to gross floor area)	X		X	
Building Permit (>25% increase to gross floor area and/or retaining walls >1.2m)		X		X
Re-zoning		X		X
Sub-division		X		X
New Development		X		X

2. *District of North Vancouver Official Community Plan; Schedule B; Part 4 Protection of Development from Hazardous Conditions; Slope Hazard Development Permit Area* (2012).

3. *Emergency and Disaster Management Act (2023); Part 4 Mitigation & Preparedness; Division 3 Plans, Programs & Other Measures.*

51 (3): A risk assessment must identify all reasonably foreseeable hazards and assess:

- (a) the extent of the risk that each hazard presents, including
 - (i) the likelihood that an emergency may occur, and
 - (ii) the potential scale and scope of each emergency identified under subparagraph (i)

4. *Sendai Framework for Disaster Risk Reduction, United Nations (2015-2030).*
Canada and British Columbia endorsed the United Nations' Sendai Framework for Disaster Risk Reduction. Disaster Risk Reduction is defined as a systematic, whole-of-society approach to identifying, assessing and analysing the causal effects of disasters and reducing the risks and impacts of disaster based on risk assessments.

ANALYSIS:

BGC assessed landslide risk at 149 properties at the base and 124 properties at the crest of escarpment slopes across the District (273 in total). They found that, overall, landslide risks are reduced when compared to previous studies, including:

- All assessed properties at the crest of slopes have broadly acceptable landslide risk.
- All but two of the properties assessed at the base of slopes have either broadly acceptable or tolerable risk.

Due to the presence of a deteriorating retaining wall at a specific location on the crest of a slope, two properties at the base of the Berkley escarpment are assessed to have unacceptable risk. Staff have communicated this to the owners of the retaining wall to make them aware of the situation and work is currently underway to remove the wall (and the fill that it retains) and reshape the slope. This work is being carried out under the direction of a qualified professional and relevant permits have been issued by the District. Therefore, the outcomes of this updated landslide assessment, along with the work already underway regarding the specific matter identified above, resolves the unacceptable risks identified in the report.

In addition to conducting the updated risk assessment, BGC also makes the following recommendations as part of a continued proactive approach to landslide resilience:

1. Recommendations for property owners at the crest of slopes
 - a. manage runoff from hard surface areas, such as roofs and driveways, by collecting and diverting to the municipal stormwater system, or alternative stormwater management systems approved by the Municipal Engineer that direct stormwater away from slopes.
 - b. remove and refrain from placing yard waste over the crest of the slope.
 - c. monitor the condition of retaining walls, swimming pools, structures and trees and where changes occur retain a qualified professional to assess related slope stability risks and mitigation options.
2. Recommendations for the District
 - a. continue to implement the Slope Hazard DPA to manage risks associated with new development and redevelopment of land.
 - b. based on updated landslide runout modelling, BGC suggests a minor increase to the geographic area of the Slope Hazard DPA.
 - c. update risk assessment at individual properties as conditions change sufficiently to adjust risk level and repeat the District-wide assessment approximately every 10 years.
 - d. continue to provide information and education to residents on how to reduce landslide risk near steep slopes.
 - e. consider a monitoring program for slope conditions, including regular lidar collection and change detection analysis.

Staff will incorporate changes to Slope Hazard DPAs into future OCP updates; continue to educate residents on slope hazards through the District's website and seasonal awareness messaging; and review the possibility of additional monitoring programs and related costs for Council's future consideration.

Timing/Approval Process:

Following past practice, hazard and risk assessments are to be made available to the public as soon as possible.

Financial Impacts:

No additional financial resources are required to release the report. Staff will review the possibility of additional programs and costs and will report back to Council for further consideration.

Liability/Risk:

Releasing the District-wide Landslide Risk Assessment does not expose the District to additional liability or risk.

Climate and Environment Implications:

Climate change is increasing the frequency and intensity of extreme rainfall events. By proactively assessing landslide risk, implementing development policies to reduce future risk, investing in targeted risk reduction measures and increasing community awareness, the District continues to build resilience to landslides in a changing climate.

Social Policy Implications:

The content and recommendations of this report follow the District's practices to disclose information about hazards and risks and provide public education about risk reduction and resilience.

The report will be publicly available to download on GeoWeb Property Viewer at geoweb.dnv.org. Users can enter a property address, scroll down to Hazard Reports and select the report that they wish to download and view. Letters will be mailed to each property mentioned in the report, inviting residents to view the report on GeoWeb and direct questions to staff.

Educational materials about landslide risk are being updated and will be available on dnv.org and nsem.ca.

Conclusion:

Based on a strong foundation of proactive risk management, the District continues to actively work towards resilience to landslides and other hazards. The *Landslide Risk Assessment - 2026 Update* documents an overall reduction in landslide risk compared to the *2010 Landslide Risk Summary* and makes recommendations for both property owners and the District for ongoing risk management.

Respectfully submitted,



Fiona Dercole
Senior Project Manager, Public Safety

Attachment 1: Landslide Risk Assessment - 2026 Update, BGC Engineering Inc

REVIEWED WITH:			
☐ Business and Economic	___	☒ Finance	<u>RD</u>
☐ Bylaw Services	___	☐ Fire Services	___
☐ Clerk's Office	___	☐ GIS	___
☒ Climate and Biodiversity	<u>CJ</u>	☐ Human Resources	___
☒ Communications	<u>SS</u>	☐ Integrated Planning	___
☐ Community Planning	___	☐ ITS	___
☐ Development Engineering	___	☐ Parks	___
☒ Development Planning	<u>DM</u>	☐ Real Estate	___
☐ Engineering Operations	___	☐ Review and Compliance	___
☐ Environment	___	☐ Solicitor	___
☐ Facilities	___	☐ Utilities	___
		External Agencies:	
		☐ Library Board	___
		☐ Museum and Archives	___
		☐ NSEM	___
		☐ NS Health	___
		☐ NVRC	___
		☐ RCMP	___
		☐ Other:	___



Landslide Risk Assessment 2026 Update

Prepared by **BGC Engineering Inc.** for:



February 20, 2026

Project 0404103
Document Rev 0



February 20, 2026

Project 0404103

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

Attention: Fiona Dercole, Senior Project Manager, Public Safety

Landslide Risk Assessment – 2026 Update

Please find the Landslide Risk Assessment Update report attached. We appreciate the opportunity to collaborate with you on this challenging and interesting project.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours sincerely,

BGC Engineering Inc.
per:

A handwritten signature in black ink, appearing to read 'LH', followed by a horizontal flourish line.

Lauren Hutchinson, M.Sc., P.Eng.
Senior Geotechnical Engineer

SUMMARY

The District of North Vancouver (the District, DNV) is characterized by forested terrain with steep river valleys, escarpment slopes, and mountains subject to a range of natural hazards including landslide, steep creek, flood, coastal, and wildfire hazards. Following the landslide along the Berkley Escarpment on January 19, 2005, the DNV initiated proactive risk management of natural hazards across the District. Between 2005 and 2010, BGC Engineering Inc. (BGC) was retained to complete quantitative risk assessments (QRA) along priority escarpment slopes and known debris-flow hazard areas.

This report presents an update to the life-loss risk assessment from landslides on escarpment slopes in the District. The update is completed at a district-wide scale and integrates updated topographic information, advances in risk assessment methodologies, and reflects mitigation works completed since 2010. It is intended to provide the DNV with an updated understanding of life-loss risk associated with landslides as a basis for ongoing, proactive landslide risk management. It does not account for economic damages that can result from landslide hazards within the District.

In the District, the types of landslides with the greatest potential to cause loss of life involve rapid to extremely rapid earth flows (referred to as flow slides), debris flows, and rockfall (BGC, January 4, 2010). There have been seven, known flow slides originating from escarpment slopes in the District since 1972 and additional shallow debris slides, including debris slides associated with water main ruptures. Two of the historical landslides (1979, 2005) caused structural damage to houses located at the bottom of the escarpment. In this report, BGC updated life-loss risk estimates for flow slides originating on the following escarpments:

- Berkley
- Pemberton Heights
- Westlynn
- Riverside West
- Mosquito Creek
- West Hastings
- Capilano River East.

The assessment was informed by a review of changed slope conditions based on fieldwork at representative sites and district-wide lidar change detection between 2013 and 2022. BGC also updated the risk assessment methodology developed following the January 2005 Berkley Escarpment landslide. Some landslide hazards involve different geological conditions, failure mechanisms, or urban development scenarios than were present along the Berkley Escarpment. Estimates of life-loss risk for properties affected by such hazards, for example in Deep Cove/Cove Cliff, Mount Fromme East, and for alluvial fan areas affected by steep creek hazards were provided by BGC (November 12, 2010; May 31, 2017) and have not been updated as part of this assessment. Moreover, BGC has not updated risk for steep slopes outside those escarpments listed above.

Observed changes in the District over the period of 2013 to 2022 from the lidar change detection results are associated with a combination of local, urban changes where buildings or specific properties have been modified and construction/modification of roads. There is also evidence of landslide (e.g., Seymour River rock slide), creek activity, and construction of steep creek mitigations works. Limited evidence of slope movement on escarpment slopes was observed which is consistent with the historical record of having only three landslides recorded between 2005 and 2024 and is an indication of the efficacy of slope mitigation works implemented since 2005. Lidar change detection results are available in Cambio (cambio.bgcengineering.ca/DNV/vNext).

BGC identified two properties that exceed the DNV's risk tolerance threshold for existing development (1:10,000 annual Probability of Death of an Individual (PDI)):

- 2050 Rivergrove Place
- 2064 Rivergrove Place

Life-loss risk at these properties is elevated due to the proximity to the slope, slope height and angle, and the presence of a deteriorating retaining wall at an upslope property (2454 Hayseed Close). BGC also identified properties downslope of 2360 Carman Place (1788, 1802 Riverside Drive) which are near the risk tolerance threshold and within the range of uncertainty of the analysis. BGC recommends that the DNV work with the property owners at these locations to inform them of the risk levels and to develop risk management approaches. At 2454 Hayseed Close, BGC recommends that the retaining wall is replaced with an appropriately designed structure reviewed by a Qualified Professional to ensure the design will achieve the required level of risk reduction and appropriate factor of safety. At the time of writing, BGC understands that work is underway to replace the retaining wall.

Overall, apart from the properties downslope of 2454 Hayseed Close and 2360 Carman Place, life-loss risk estimates are lower than previous district-wide assessments due to the:

- Mitigation works completed across the District since 2005
- Extended historical record with limited additional slides that support a reduced estimate of District-wide landslide frequency
- Updated consequence estimation method that accounts for decreasing landslide impact pressure with distance from the escarpment base and the shielding effect of upslope buildings.

Eighty-five percent of properties (127 of 149 properties) at the base of the escarpment have lower risk than previously estimated. Of these, 41 properties decreased from 'tolerable' to 'broadly acceptable' risk. For the properties at the base of the escarpment where estimated risk is higher than previously assessed, the risk estimates are within the same risk level. All 124 properties at the crest of escarpment slopes that BGC assessed were 'broadly acceptable'. Risk estimates at individual properties are summarized in tables within this report, shown in the Cambio webmap, and provided to the DNV as a geospatial package.

BGC also interpreted risk levels for properties within the DNV Slope Hazard DPA but outside of previously assessed escarpments. The interpreted risk levels provide a screening tool to identify

any properties that may exceed the DNV's risk tolerance criteria for existing development and may warrant further assessment. BGC estimated interpreted risk levels for 183 properties at the base of slopes and an additional 355 properties at the crest of slopes within the DPA. Of these, BGC did not identify any properties with an interpreted risk level that exceeds DNV's risk tolerance criteria for existing development.

As part of the DNV's proactive approach to natural hazard risk management, BGC recommends the DNV continue to provide updated information and education to the public on how to reduce landslide risk when living near steep slopes and develop regular inspection programs related to management of stormwater, fill and yard waste, retaining walls, and slope conditions. As part of field work completed in this study, BGC observed sites where lawn cuttings, garden debris, and saturated fill have been placed at the escarpment crest. Placement of these materials should be avoided as it may contribute to slope instability through slope oversteepening and by introducing materials with lower strength than native soils. BGC also observed one retaining wall whose condition had deteriorated since the last inspection in 2005. Similar deterioration may be present at other sites across the District, in particular for timber/log crib structures, that were not observed as part of this assessment. BGC recommends the DNV consider developing an inspection/asset management program for retaining walls, if such a program is not already operational.

In addition to the above, BGC recommends the DNV plan to update the district-wide landslide risk assessment at regular future intervals, for example at 10-year intervals, to create a mechanism to reinspect slopes and retaining walls and update the associated landslide risk estimates, as required.

Finally, at the request of the DNV, BGC prepared a guidance memo for developers, property owners, and Qualified Professionals completing slope hazard assessments, provided in Appendix E. BGC recommends that following internal review, the DNV make this document, or relevant content from it, available to the DNV building permit department and post publicly for reference.

TABLE OF REVISIONS

Date	Revision	Remarks
March 7, 2025	A	Draft issue for review by DNV
February 20, 2026	0	Final issue integrating DNV comments

CREDITS AND ACKNOWLEDGEMENTS

This analysis and report were developed through the contributions of many individuals (Table CA-1).

Table CA-1 Project study team. Professional designations are for practice in British Columbia.

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	Corporate Review	Michael Porter, M.Eng., P.Eng., LEG
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Geomatics and Data Science	Geomatics	Celeste Melliship, B.A., ADP Joseph Champagne, B.Sc., Adv Dipl
	Lidar Change Detection	Vicky Hsaio, M.A.Sc., M.Sc. Susan Winters, B.Sc.

BGC's study team comprises individuals from BGC's offices in:

- **Vancouver, British Columbia** – situated on the unceded traditional territories of the xʷməθkʷəy̓əm (Musqueam Indian Band), Skwxwú7mesh (Squamish Nation), and səliłwətał (Tsleil-Waututh Nation).
- **Calgary, Alberta** – located on the traditional territories of the people of the Treaty 7 region in Southern Alberta. This includes the Blackfoot Confederacy, made up of the Siksika, Piikani, and Kainai First Nations; the Stoney Nakoda comprised of the Chiniki, Bearspaw, and Wesley First Nations; and the Tsuut'ina First Nation. Calgary is also homeland to Métis Nation of Alberta, Region 3.

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¹ References in these Limitations to the “document” include the document to which these Limitations are attached, any content contained in this document, and any content referenced in this document but located in one of BGC’s proprietary software applications (e.g., Cambio).

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1.0 INTRODUCTION

1.1 Background

The District of North Vancouver (the District, DNV²) is characterized by forested terrain with steep river valleys, escarpment slopes, and mountains, bounded to the south and east the Vancouver harbour and Indian Arm (Drawing 01). The District is subject to a range of natural hazards including landslide, steep creek, flood, coastal, and wildfire hazards.

Following the landslide along the Berkley Escarpment on January 19, 2005, the DNV initiated proactive risk management of natural hazards across the District. Since 2005, BGC Engineering Inc. (BGC) has been retained to complete quantitative risk assessments (QRA) along priority escarpment slopes and known debris-flow hazard areas:

- Berkley Escarpment
- Pemberton Heights Escarpment
- Westlynn Escarpment
- Deep Cove/Cove Cliff
- Riverside West
- Mosquito Creek
- Capilano River East
- Mount Fromme East
- Debris-flow fans along Indian Arm.

BGC (November 12, 2010) provided an overview of the landslide risk management process and summarized all available QRAs completed within the District between the 2005 Berkley Landslide and 2009. For each of the escarpments, maps and tabular summaries of life safety risk to individuals in buildings, expressed as annual Probability of Death of an Individual (PDI) were presented. The landslide risk assessments informed DNV's current slope Development Permit Area (DPA) and Natural Hazards Risk Tolerance Criteria (DNV, November 10, 2009).

Following the 2010 assessment, BGC assessed an additional escarpment slope, Virginia Crescent due to concerns from a property owner regarding ground deformation observations on the slope (BGC, April 6, 2016).

In the years since BGC's landslide risk summary document (BGC, November 12, 2010) and the formal adoption of risk tolerance policy (DNV, November 10, 2009), there have been advances in scientific knowledge, future climate change projections, changes in land use, and lessons learned from the application of existing DNV policy and procedures. For these reasons, DNV is seeking an update to the landslide risk assessment. The DNV requested that BGC update the landslide risk assessment across the District to reflect these advances.

² In this document, DNV is used to refer to the administrative authority and the District is used to refer to the geographic area.

1.2 Scope of Work

This report contributes to the DNV's proactive approach to natural hazard risk management. It is intended to provide the DNV with an updated understanding of life-loss risk associated with landslides originating from escarpment slopes as a basis for landslide risk management. It does not account for economic damages that can result from landslide hazards within the District.

The objectives of the assessment, as outlined in BGC's proposed workplan (BGC, July 12, 2023), are to:

1. Identify landslide hazard areas with the potential to pose life-loss risk, including those previously identified in the Landslide Risk Assessment Summary (BGC, November 12, 2010) and Debris Geohazard Risk and Risk Control Assessment (BGC, May 31, 2017).
2. Update existing landslide risk estimates, including climate-change impacts to landslide risk, where applicable.
3. Communicate study findings to DNV staff and affected property owners.

BGC understands that the DNV intends to utilize the results of this assessment to:

- Consider locations where additional investigation or mitigation may be required to manage slope hazards.
- Prioritize future landslide risk-reduction efforts, including installation of sewer drainage systems.
- Clarify technical requirements for Qualified Professional (QP) slope hazard assessments completed in support of proposed development in the Slope Hazard DPA.

BGC further understands that the DNV is considering reviewing the existing Natural Hazards Risk Tolerance Criteria (DNV, November 10, 2009) to integrate learnings from implementation over the past 15 years. The risk tolerance criteria update is outside of the scope of the present assessment; however, the results of this assessment may inform any associated policy updates.

Work was carried out under Purchase Order 99163-OS-125 and dated July 19, 2023.

1.3 Related Documents and Studies

As part of the present assessment, BGC reviewed previous studies of slope hazards and risks across the District, summarized in Appendix A. These studies do not include services BGC provided for Geotech-on-Demand hazard assessments, except where risk was assessed, or mitigation works were completed that changed the assessed risk.

2.0 BACKGROUND

2.1 Landslide Risk Management

Geohazard risk management encompasses risk identification, risk estimation, risk evaluation, risk control implementation, and monitoring. Effective geohazard risk management balances all these components to understand risks and identify practical solutions given site characteristics and community needs. As part of risk identification and estimation, landslide risk can be estimated and communicated for individual and societal (group) risk:

- **Individual risk:** the probability that the person who spends the greatest proportion of time at specific location (referred to as “individual most at risk”) is killed by a hazard. It is expressed as the annual probability of death of an individual (PDI).
- **Societal (group) risk:** the number of people that could be killed by a hazard, considering all who could be exposed.

Landslides and other natural hazards in the District are managed through a comprehensive Natural Hazards Management Program. Landslide risk management strategies include engineered (structural) measures as well as land use planning, policy, and communication approaches that address components of risk. Following the January 2005 Berkley Landslide, the DNV has worked with property owners to identify and remove excess fill from the crests of slopes, complete drainage improvements, and implement additional mitigative works.

Land use planning and permitting processes in the community integrate risk tolerance criteria for subdivisions, development approvals, and building permits within DPAs (Table 2-1, DNV, November 10, 2009).

Table 2-1 DNV risk tolerance criteria (DNV, November 10, 2009).

Type of Application	Risk of Loss of Life (per annum)		Factor of Safety (static)	
	1:10,000 + ALARP ⁽¹⁾	1:100,000	FOS > 1.3	FOS > 1.5
Building permit (<25% increase to gross floor area)	X		X	
Building permit (>25% increase to gross floor area and/or retaining walls >1.2 m)		X		X
Re-zoning		X		X
Sub-division		X		X
New development		X		X

Note:

1. As Low As Reasonably Practicable (ALARP) is used to indicate that risks should be reduced to the point where the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained

The DNV Slope Hazard DPA applies to properties that are within 20 metres of the top or bottom of a steep slope. A steep slope is defined as a slope with an angle greater than 20 degrees (36%) and greater than 10 metres in height (DNV Document: 5756356). In practice, BGC understands that the DNV has been using a horizontal distance of 20 m from the bottom of a steep slope, and a horizontal distance of 10 m from the top of the slope. Consistent with DNV risk tolerance criteria, landslide risk can be categorized as broadly acceptable, tolerable, or unacceptable (Table 2-2).

Table 2-2 Risk tolerance categories.

Category	Description	Risk of Loss of Life (per annum)
Broadly Acceptable	Incremental risks from a hazard are within the range that society accepts and do not require mitigation.	<1:100,000
Tolerable	Risk is not negligible, but can be tolerated for benefit, given that effort is taken to reduce risk and is kept under review.	1:10,000 to 1:100,000
Unacceptable	Generally considered unacceptable by society and require mitigation.	>1:10,000

2.2 Previous Landslide Risk Assessments

Landslide hazards and risks in the District have been studied extensively from approximately 1980 (following the 1979 landslides on the Berkley Escarpment) to present. BGC's district-wide Landslide Risk Summary (BGC, November 12, 2010) provides the most up-to-date and comprehensive summary of landslide risk across eight escarpments and reflects the risk reduction achieved from mitigations implemented between 2006 and 2010. In total, BGC (November 12, 2010) estimated life-loss risk at 546 properties. Of these:

- One (1) property was identified as having unacceptable risk (2871-2873 Capilano Road) which was noted to be undergoing mitigation design by others at the time of the report. At this site, a tie-back retaining wall was designed by Davies Geotechnical Inc. (Davies, July 12, 2010) to meet the DNV factor of safety criteria (Table 2-1). Independent, third-party review was completed by Horizon Engineering Inc. (Horizon, October 15, 2010) and BGC understands that the permitted retaining wall was constructed in 2012 (personal communication, F. Dercole, February 6, 2026).
- 110 properties were identified as having tolerable risk (annual risk between 1:100,000 and 1:10,000 PDI).
- 435 properties were identified as having broadly acceptable risk (annual risk less than 1:100,000 PDI).

Full details on the risk assessment background, methodology, and limitations are provided in BGC's previous risk assessment reports (BGC, January 13, 2006; May 11, 2006; January 15, 2007; November 29, 2007; November 27, 2008; April 30, 2009a, 2009b, 2009c, 2009d; 2009e;

June 17, 2009; January 4, 2010) and summarized by Porter et al. (2007). A list of additional past studies reviewed is available in Appendix A

3.0 LANDSLIDE RISK ASSESSMENT UPDATE

3.1 Introduction

In the District, the types of landslides with the greatest potential to cause loss of life involve rapid to extremely rapid earth flows (referred to as flow slides) originating from escarpment slopes, debris flows, and rockfall (BGC, January 4, 2010). In this assessment, BGC updated life-loss risk estimates for landslides originating on escarpment slopes across the District and within the DNV Slope Hazard DPA. This update builds on previous assessments completed by BGC (Section 2.2) and integrates:

- Refined landslide hazard understanding based on extended historic record of landslides from 2005 to 2024, District-wide lidar change detection, and additional landslide path mapping using lidar.
- Updated risk assessment methods, including consequence estimation techniques aligned with recent research and best practices, field verification at select properties at the Berkley and West Hastings escarpments, and numerical modelling at select properties where additional analysis was required to support landslide risk estimation.
- Screening-level review of life-loss risk for properties in the DNV Slope Hazard DPA not previously assessed.

3.2 Surficial Geology

Escarpment slopes are steep, natural slopes that separate two relatively level land surfaces. In the District, these slopes range from several meters to approximately 85 m high with slopes angles ranging from approximately 25 to 45°. The surficial geology of escarpment slopes in the District is typically characterized by till and fill and colluvium derived from glaciomarine sediments overlying Capilano glaciomarine sediments, Vashon Drift lodgement till, Coquitlam Drift, and Quadra Sand (Figure 3-1). The fill and colluvium, both derived from glaciomarine sediments, typically consist of a matrix of fine sand with sand- to cobble-size fragments of very stiff silt and increasing coarse sand and fine gravel with depth. The thickness of fill is highly variable, ranging from 1 to 4 m, based on observations at the crest of the Berkley Escarpment prior to remediation works completed following the 2005 Berkley Landslide (Porter et al., October 2007). Capilano glaciomarine sediments are typically laminated sands, silts, and clays with lower permeability than overlying fill leading to the potential for perched water tables during periods of heavy rainfall. Vashon Drift lodgement till is extremely dense, relatively strong, and impermeable compared to overlying sediments (Porter et al., October 2007). Valley sides characteristically have outwash terrace deposits and colluvial deposits from historical landslides (Bednarski, 2014).

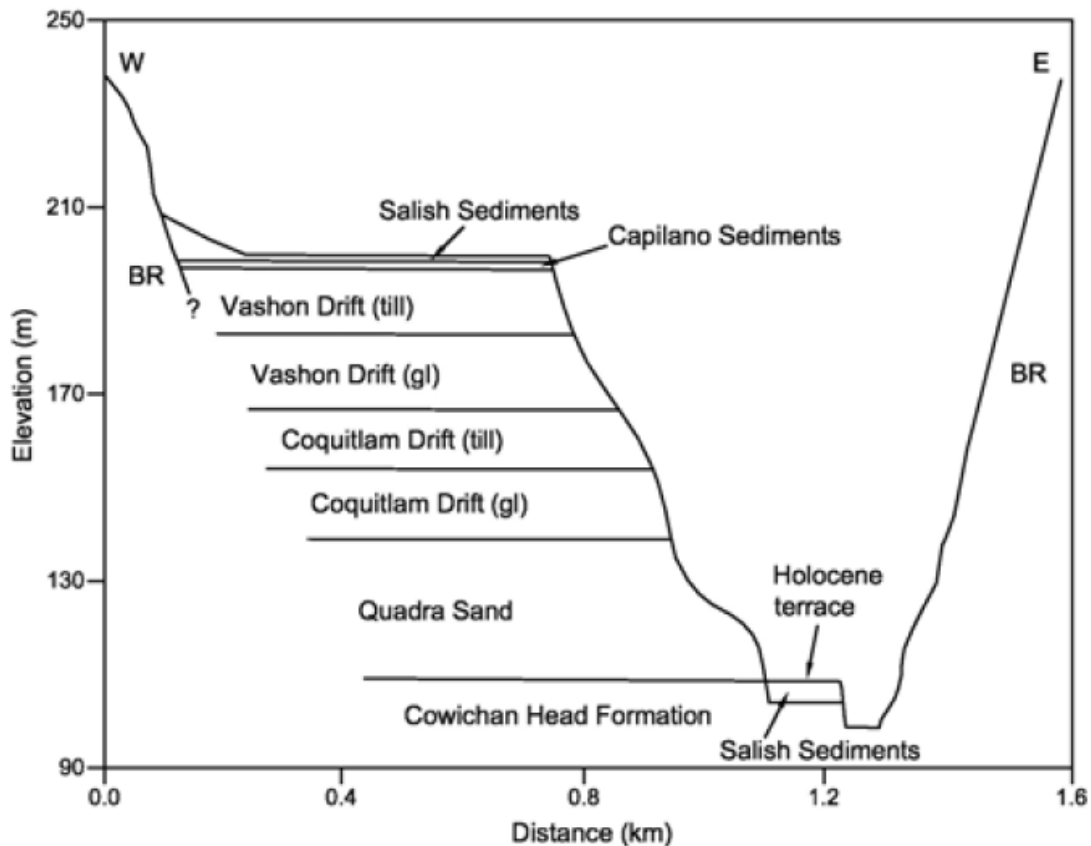


Figure 3-1 Typical stratigraphy of Pleistocene sediments in the vicinity of the Berkley Escarpment and DNV escarpment slopes (Porter et al, October 2007)

3.3 Lidar Change Detection

Lidar data covering the District is available from 2013, 2016, 2018, and 2022. BGC completed lidar change detection between lidar collected May 1, 2022 and April 23, 2013 to evaluate changed slope conditions on the escarpment slopes assessed. Details on the lidar change detection methodology are presented in Appendix B. Lidar change detection results are available in Cambio (cambio.bgcengineering.ca/DNV/vNext).

BGC interprets the observed changes in the lidar between 2013 and 2022 as largely attributable to local urban development, infrastructure modifications, river channel adjustments, and the December 2014 Seymour Rock Slide. There is limited evidence of slope movement on the escarpment slopes. BGC is not aware of any post-2022 landslides originating from the escarpment slopes.

3.4 Historical Landslide Inventory

BGC integrated historical records, airphotos, lidar data, and lidar change detection results to update the inventory of historical landslides in the District. In total, nine historical landslides have been recorded across the District escarpment slopes (Table 3-1). Six landslides were recorded between 1972 and 2005 originating from the Berkley Escarpment in the Berkley-

Riverside area (BGC, January 13, 2006). The recorded landslides originated in fill material and were triggered by surface water runoff water or seepage within the slope following heavy rainfall, travelling downslope as flow slides. Two of the historical landslides (1979, 2005) caused structural damage to houses located at the bottom of the Escarpment. Fortunately, in 1979, the occupants of the damaged home were able to escape; however, in the 2005 landslide, one serious injury and one fatality occurred (BGC, January 13, 2006).

Three additional landslides have occurred since the 2005 Berkley Landslide, two of which (2006, 2011) resulted from water main ruptures³ that caused small debris slides leading to inundation and debris deposition downslope. Additional historical debris slides (shallow slides of granular material) were noted on the Westlynn Escarpment over the period of 1952 to 1979 in aerial photographs (BGC, January 4, 2010) but are not listed in Table 3-1 due to their small size. The inventory does not include rockfall or debris-flow hazards nor those events for which the date could not be verified.

The historical flow slides had an average width of approximately 20 m, originated from slope angles between 35 and 46°, and terminated at runout angles ranging from 19 to 25° measured from the crest of the slope (BGC, January 13, 2006). The runout angle is the angle from horizontal of a line connecting the landslide release point to the furthest point of runout. It describes the kinetic energy of a landslide, with smaller angles indicating higher mobility and further runout from the base of the slope (Figure 3-2).

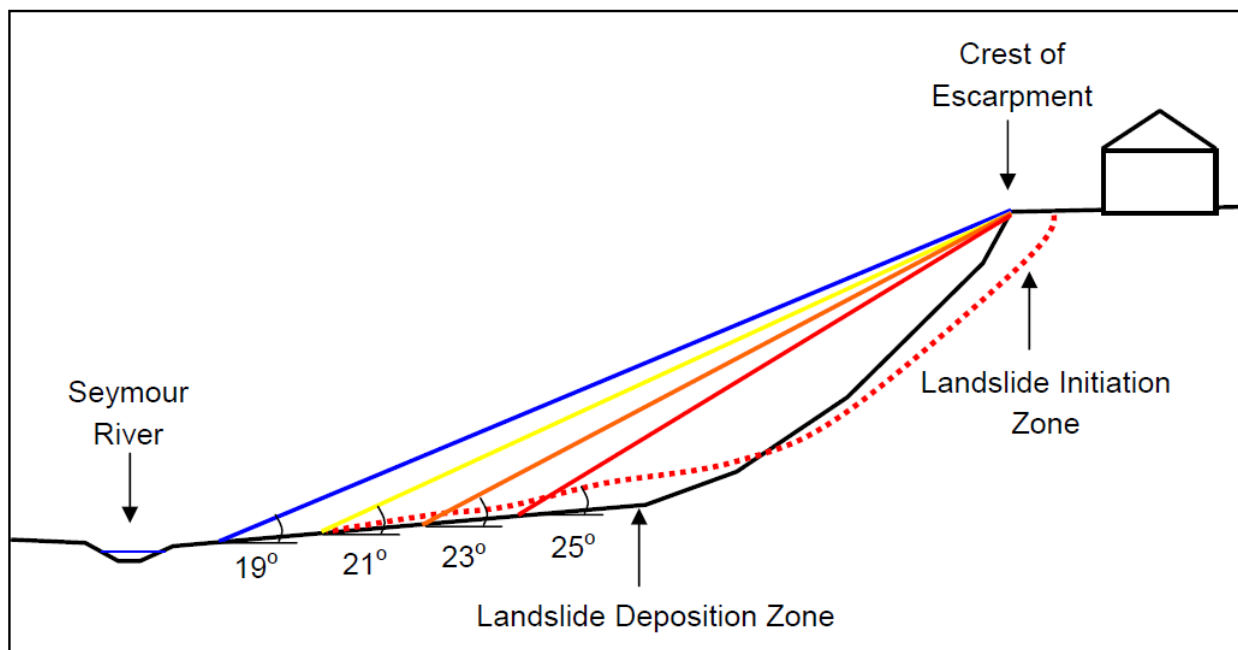


Figure 3-2 Schematic illustration of landslide runout angles (BGC, January 13, 2006).

³ The DNV's watermain replacement program considers the need to prioritize watermain replacement in areas susceptible to landslides.

Table 3-1 Summary of previous landslides. Modified after BGC (January 13, 2006).

Date of Occurrence	Address Near Initiation Zone	Site Observations	Consequences
December 25, 1972 <i>"Tate Slide"</i>	1425 Lennox	• Originated in fill • 35 to 46° slopes • Fill replaced, settled and cracked during December 1979 storm • Runoff from 3 properties directed towards slope • Pool not cracked but drains down the slope • Approx width at crest = 15 m • Approx runout angle = 23 – 25°	• 1425 Lennox: damaged sundeck • No houses were present below the slope – no damages or injuries down slope
December 17, 1979 <i>"Dawson-Chu Slide"</i>	2379 Carman	• Originated in fill • 42° slopes • Seepage evident 20 ft below crest • Fewer conifers than adjacent slopes • Pool drained down the slope • Approx width at crest = 20 m • Approx runout angle = 22 – 24°	• 2379 Carman: Pool and back yard lost • Impacted houses downslope: 3 ◦ 1730 Riverside: destroyed ◦ 1710, 1718 Riverside: damaged, car destroyed • Occupants at downslope houses: ◦ 1730 Riverside: 2 ◦ 1710, 1718 Riverside: unknown • 1730 Riverside sheared in half, one occupant in undamaged side, other escaped through basement window. No injuries.
December 17, 1979 <i>"Patrick Slide"</i>	2360 Carman	• Originated in fill • 37 to 45° slopes • Young deciduous trees and brambles at crest of slope • Roof and foundation drains extended over bank • Seepage 15 feet below scarp along surface of dense silts • Approx width at crest = 18 m • Approx runout angle = 24 – 26°	• 2360 Carman: Backyard lost, no other damages • Impacted houses downslope: 0 ◦ 1788, 1802 Riverside: no record of damages • No damages or injuries down slope
December 17, 1979 <i>"Tree Top – Chapman Slide"</i>	2205 Berkley	• Originated in fill • 36 to 40° slopes • Driveway runoff directed to storm sewer • Approx width at crest = 25 m • Approx runout angle = 23 – 25°	• 2205 Berkley: Backyard lost, no other damages • No houses were present below the slope – no damages or injuries down slope • No damages or injuries down slope
January 14, 1999	2391 Berkley	• Originated in fill • 40 to 45° slopes • Seepage evident at base of fill • Approx width at crest = 20 m	• 2391 Berkley: Portion of back yard lost • No houses were present below the slope – no damages or injuries down slope • Walking trail temporarily closed

Date of Occurrence	Address Near Initiation Zone	Site Observations	Consequences
		Approx runout angle = 30° (stopped by right bank of Canyon Creek)	
January 19, 2005 <i>"Berkley Slide"</i>	2175 Berkley	- Appears to have originated in thick fill and colluvium - Adjacent slopes >35° - Runoff from 3 properties and portion of Berkley Road directed towards slope - Fishpond present, not cracked - Approx slide width = 25 m - Approx runout angle = 21 – 23°	2175 Berkley: Retaining wall and back yard lost, failed to within 1.1 m of house - Impacted houses downslope: 2 2440 Chapman: destroyed 2290 Chapman: damaged, car destroyed - Occupants at downslope houses: 7 2440 Chapman: 2 (1 serious injury; 1 fatality) 2290 Chapman: 5 (3 of 5 sustained minor injuries)
April 9, 2006 ⁽²⁾	2240, 2248 Greylynn	- Water main near Viewlynn and Lauralynn Drive ruptured. Water inundated slope causing erosion and small debris slide. 30° to 35° slopes	- Water and debris deposited on Carmaria Court and properties downslope and east of initiation zones. - No injuries downslope
December 3, 2007 ⁽³⁾	1287 Seymour Boulevard	- Significant rain-on-snow event caused a flow slide 25 m north of 1287 Seymour Boulevard. - Triggered by uncontrolled discharge of water immediately above the landslide headscarp, along the power line access road. 30° to 40° slopes - Approx runout angle = 26° - Estimated volume = 250 m³	- No injuries - No significant property damage - Some sediment laden water flowed onto the driveway at 1287 Seymour Boulevard.
September 21, 2011 ⁽²⁾	2590, 2602 Lauralynn	- Water main along Lauralynn Drive broke triggering two debris slides that coalesced downslope. 25° to 35° slopes - Approx runout angle = 19° (majority of debris stopped upslope)	- Water and fine-grained debris flowed on driveway of 2416 and entered the basement of 2412 Carmaria Court. 50 m³ deposited on Carmaria Court. - No structural damage or injuries.

Notes:

- Slide names for Dawson-Chu, Patrick, and Tree Top-Chapman slides are after Cook (May 18, 2002). The letter identified an additional slump at 1305 and 1345 Lennox Street in December 1972, and slide in the 1000 and 1100 blocks of Riverside Drive in 1978 following excavation at the toe of the escarpment along with three other slides without dates. These slides are excluded from the inventory as they have different mechanisms and/or BGC could not verify the dates.
- Details based on BGC (May 22, 2013).
- Details based on BGC (December 6, 2007).

3.5 Risk Assessment Methods

3.5.1 General Framework

BGC assessed life-loss risk to building occupants at existing structures at the crest and base of escarpment slopes within the DNV Slope Hazard DPA. Landslide risk was estimated using the following equation:

$$RISK = P_{slide} \times P_{S:H} \times P_{T:S} \times V \times E$$

Where:

- P_{slide} is the annual likelihood of a landslide
- $P_{S:H}$ is the conditional probability that a landslide reaches the location of individual(s) exposed to the hazard (i.e., spatial probability of impact)
- $P_{T:S}$ is the conditional probability a person occupies the location at the time of the landslide (i.e., temporal probability)
- V is the conditional probability of fatality if impacted (i.e., vulnerability)
- E is the number of people exposed to the landslide.

BGC estimated landslide likelihood (P_{slide}) as described in 3.5.2 and estimated consequences for properties at the base (Section 3.5.3) and crest of the escarpment (Section 3.5.4), where consequences are expressed as the expected number of fatalities (N):

$$N = P_{S:H} \times P_{T:S} \times V \times E$$

3.5.2 Landslide Likelihood (P_{slide})

BGC used the historical landslide frequency and size to calibrate an estimate of average landslide likelihood for each assessed property. Seven flow slides are known to have occurred on escarpment slopes between 1972 and 2024 (Table 3-1). The average width of these slides approximately aligns with the width of a backyard at the crest of an escarpment slope. Over the 52-year period from 1972 to 2024, an average likelihood of a single slide ($P_{slide(avg)}$) of 0.001 applied across all assessed properties predicts approximately 7 flow slides across the District, aligning with the historical record.

To estimate property-specific landslide likelihood ($P_{slide(site)}$), BGC used an algorithm developed in past assessments that accounts for the factors that tend to make a slope more prone to landslides and evidence of past slope deformation:

$$P_{slide(site)} = [slope\ score] \times [loose\ soil\ score] \times [water\ score] \times [deformation\ score] \times [P_{slide(avg)}]$$

Where the slope, loose soil, water, and deformation scores were assigned as in Table 3-2.

Table 3-2 Landslide likelihood algorithm (after Porter et al., 2007)

Slope Score	Loose Soil Score	Water Score	Deformation Score
< 35° = 0.8 35 - 40° = 1.0 >40° = 1.25	Approved mechanical stabilization at and below crest = 0.35 <1 m deep at crest and <2 m deep below crest = 0.35 <2 m deep at and below crest = 0.5 >2 m deep at or below crest = 1.0 >2 m deep at and below crest = 2	All adjacent properties connected to storm sewer and street storm sewer properly managed = 0.35. Connected to storm sewer = 0.5, else: Runoff from backyard = 0.5 ... half roof = 0.75 ... full roof = 1.0 ... driveway = 1.5 ... street = 2	None observed = 0.5 Deformation at or below crest = 1.0 Deformation at and below crest = 2

Prior to the availability of lidar data, previous assessments mapped landslide runout zones using runout angles of 25° to 19° from the escarpment crest. In this assessment, BGC mapped individual representative landslide paths using 2022 lidar. These mapped landslide paths account for local topographic controls on landslide runout, and in some instances, differ from previous runout zones.

If BGC mapped more than one independent slide path from the same initiation zone at a single property, BGC divided the $P_{slide(site)}$ by the number of slide paths. For example, if $P_{slide(site)}$ is 0.0002 at a property with two independent slide paths, BGC assigned 0.0001 to each of the slide paths. The likelihood estimates leverage previously collected observations, where available, field observations collected in this assessment at select sites (Section 3.5.5, Appendix C), and integrate mitigation works completed since 2005. Likelihood estimates at each assessed property are provided in Appendix D.

3.5.3 Properties at the Base of Escarpments

Landslide intensity changes along the runout path as does the degree of building damage and life-loss risk. In the 2005 Berkley Landslide, the upper house closer to the escarpment slope (2440 Chapman Way) was completely destroyed and had 1 fatality and 1 serious injury, while the lower house (2290 Chapman Way) was partially damaged and had no fatalities (Figure 3-3). While other factors may have partially contributed to these outcomes (e.g., building orientation, construction type, and human behaviour), the buildings were impacted by markedly different landslide depths and assumed velocities.



Figure 3-3 Building damages from the 2005 Berkley Landslide. a) Completely damaged house at 2440 Chapman which had 1 fatality and 1 serious injury (source: Ian Smith/Vancouver Sun). b) Partially damaged house at 2290 Chapman Way with 0 fatalities and 5 survivors (source: BGC). c) Overview of the landslide path (source: Ian Lindsay/Vancouver Sun).

In this update, life-loss risk to people in buildings is based on the following factors:

- Landslide runout and building location relative to the escarpment, with properties further from the base of the escarpment less likely to be exposed to high landslide intensity.
- Landslide intensity, quantified by dynamic impact pressure, with higher intensity resulting in higher degrees of building damage and fatality rates.
- Height of the escarpment, with higher slopes leading to higher peak landslide impact pressures.
- Vulnerability of occupants in buildings impacted by landslides based on historical dataset
- Presence of upslope buildings providing some shielding from landslide impacts.

3.5.3.1 Landslide Runout

BGC assessed landslide mobility scenarios with runout angles of 25°, 23°, 21°, and 19° utilizing individual landslide paths mapped from the 2022 lidar. This mapping does not replace more detailed, site-specific assessments of landslides as part of the DNV permitting process.

Historical landslide runouts in the DNV (Table 3-3) and expert judgement informed estimates of the conditional probability of a landslide reaching a certain runout angle (Table 3-4).

Table 3-3 Historical DNV landslide runout angles.

Upper-Bound Landslide Runout Angle (°)	Count ^{1,2}	Historical Frequency
>25	1 (1287 Seymour Boulevard)	0.17 (1/6)
>23 to ≤25	1 (2360 Carman)	0.17 (1/6)
>21 to ≤23	3 (1425 Lennox, 2379 Carman, 2205 Berkley)	0.5 (3/6)
>19 to ≤21	1 (2175 Berkley)	0.17 (1/6)
≤19	0	0

Notes:

1. Addresses near initiation zone provided from Table 3-1.
2. Runout angle from 2391 Berkley landslide not included because runout truncated by right bank of Canyon Creek.
3. Runout angle from 2240, 2248 Greyllyn and 2590, 2602 Lauralynn landslides not included due to low sediment volumes and high water contents due to watermain rupture trigger.

Table 3-4 Assumed conditional probability of landslide mobility scenarios (probability of landslide reaching certain runout angle).

Landslide Runout Angle (°)	Conditional Probability
25	0.3
23	0.5
21	0.18
19	0.02

3.5.3.2 Landslide Intensity

BGC used a landslide's average dynamic impact pressure (kPa) as an intensity measure for this assessment because the available life-loss vulnerability relationship is a function of impact pressure (described near the end of this section). Impact pressure is an effective intensity measure because it accounts for a landslide's depth, velocity, and density. For the purposes of this district-wide risk assessment update, BGC assumed that a landslide reaches some peak impact pressure at the toe of the escarpment, beyond which impact pressures decrease as the landslide spreads out and slows down until termination at the runout angle (Figure 3-4). For simplicity, BGC assumed this decay in landslide impact pressure from the toe of the escarpment to the landslide terminus is linear.

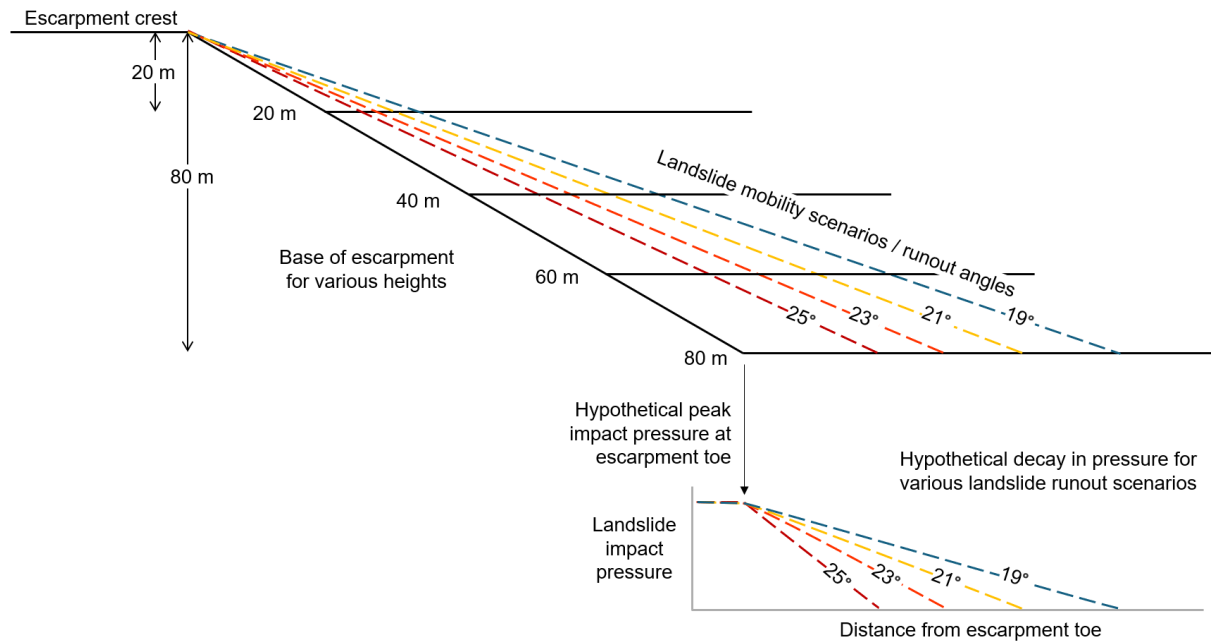


Figure 3-4 Schematic showing escarpment heights, landslide runout angles, and hypothetical landslide impact pressure decay forming the basis of the consequence estimation update.

3.5.3.3 Peak Impact Pressure

There are many factors that influence a landslide's peak impact pressure, such as the slope angle, landslide fluidity, volume, channelization, and obstacles along the landslide path. For the purposes of the District-wide risk assessment update, BGC estimates that landslides from higher escarpment heights result in higher peak impact pressures due to the increased distance for the landslide to accelerate and volume gained through entrainment. Escarpment height is also a convenient indicator to measure across the study area. BGC binned the escarpment height into four height classes from 10 to 80 m spanning the range present across the District.

Peak impact pressures were estimated by simulating landslides with the numerical model DAN3D (McDougall & Hungr, 2004) calibrated to the 2005 Berkley Landslide for different escarpment heights and release volumes (Table 3-5). Assuming initial volumes of 100 m³ to 600 m³ and an entrainment depth of up to 1.5 m along the slide path, the final simulated landslide volumes in DAN3D ranged from 200 m³ to 5,000 m³, spanning a range typical for recorded DNV landslides.

Table 3-5 Peak landslide impact pressures at the toe of the escarpment and total volumes estimated with numerical model DAN3D.

Escarpment Height (m)	Estimated Peak Landslide Impact Pressure at the Toe of the Escarpment (kPa) ^{1,2,3}	Estimated Total Landslide Volume (m³)
10-20	50	200 - 1,000
20-40	100	500 - 3,000
40-60	200	1,000 - 5,000
60-80	250	1,000 - 5,000

Notes:

1. Peak impact pressure (P) calculated using equation $P = 0.5dgp + \alpha \rho v^2$ (Zanchetta et al., 2004), where d is depth (m), g is acceleration due to gravity (m/s²), ρ is density (assumed 2,000 kg/m³), v is velocity (m/s), and α is dynamic impact coefficient (assumed 1.5).
2. Landslide depths and velocities at the toe of escarpment estimated with DAN3D assuming a Voellmy rheology calibrated to the 2005 Berkley Landslide based on survey data and field observations (best-fit friction parameter of 0.27 and turbulence parameter of 200 m/s²), 1.5 m entrainment along the slide path, and various landslide release heights (20 m, 40 m, 60 m, 70 m) and initial volumes (100 m³, 300 m³, 600 m³).
3. Calculated peak impact pressures varied approximately +/- 50 to 100 kPa. A best estimate value was assumed from the calculated range.

3.5.3.4 Vulnerability (V)

BGC used a vulnerability function to convert impact pressures to a probability of fatality at locations along the landslide path. The vulnerability function was developed by Natural Resources Canada and BGC from a dataset of 378 buildings and 282 people inside buildings impacted by rapid landslides and applies to typical North American wood-frame buildings (LeSueur et al., 2026).

Combining the landslide runout (Table 3-4), estimated impact pressures from different escarpment heights (Table 3-5), and assuming a linear decay of impact pressure with distance from the slope, BGC calculated an average vulnerability (expected value) at zoned runout locations from the escarpment crest (Figure 3-5). The curves in Figure 3-5 represent the vulnerability (V) x spatial probability of impact ($P_{(S:H)}$) terms in the risk equation (Section 2.1). Buildings at the base of the escarpment were assigned the values in Figure 3-5 based on mapped runout angles, landslide path mapping, and escarpment heights measured from 2022 lidar.

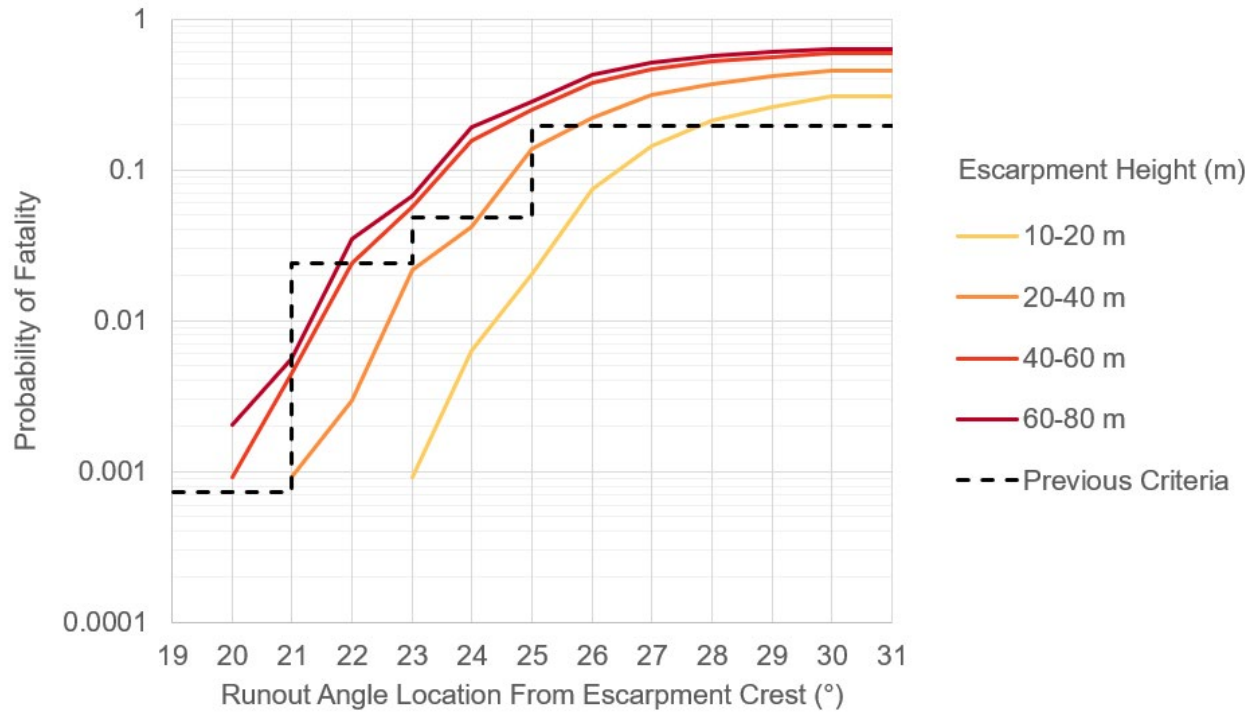


Figure 3-5 Probability of fatality for an individual in a wood frame building at the base of the escarpment given a landslide occurs from various escarpment heights. Values represent the vulnerability (V) x spatial probability of impact ($P_{(S:H)}$) term in the risk equation (Section 3.5.1).

3.5.3.5 Presence of Upslope Buildings

When there are multiple buildings along a landslide path, buildings directly upslope of others can provide shielding and energy dissipation if the landslide is not of sufficient intensity to destroy the building immediately upslope. In Figure 3-6, this concept is illustrated where a landslide would need to cause extensive damage of the first building at the base of the slope (Building B) to reach the next building (Building C).

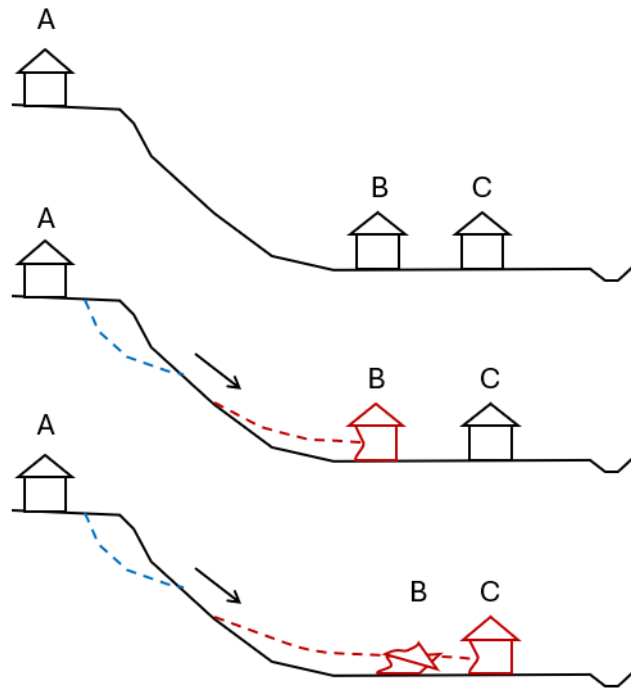


Figure 3-6 Schematic of the shielding effect of upslope buildings. Top section shows a slope prior to a landslide occurring. Middle section shows a landslide that damages house B but does not reach house C. Bottom section shows a landslide that damages house B and reaches house C leading to damage.

In the absence of established methods to reduce impact pressures, BGC used the upslope building vulnerability as a proxy for the expected impact pressures and associated building damage. In Natural Resources Canada and BGC's landslide impact database, impact pressures >50 kPa correspond to damage states where part of the building could be collapsed, offset, or swept away. An impact pressure of 50 kPa corresponds to a life-loss vulnerability of 0.3 in the vulnerability model. Based on this, BGC used the following logic to account for building shielding at the downslope property:

- If the upslope building vulnerability (V) ≥ 0.3 , reduce the escarpment height class in Figure 3-5 by one-level.
- If the upslope building vulnerability (V) < 0.3 , reduce the escarpment height class in Figure 3-5 to 10-20 m.

For example, if a building is located at a runout angle of 25° below a 40 to 60 m high escarpment and there is a building immediately upslope at a runout angle of 30° , the upslope building probability of fatality would be 0.6 (>0.3) and the downslope property probability of fatality would be reduced from 0.25 to 0.14.

3.5.3.6 Summary of Risk Parameters for Properties at the Base of Escarpment

Risk parameters used for properties at the base of escarpments are summarized in Table 3-6.

Table 3-6 Risk parameters for properties at the base of escarpments.

Risk Parameters	Value	Rationale
Probability of landslide ($P_{slide(site)}$)	0.00004 - 0.0013 ⁽¹⁾	$P_{slide(avg)}$: 0.001 Adjusted for site-specific characteristics using landslide likelihood algorithm (Table 3-2).
Probability of fatality (Spatial probability of impact * vulnerability) ($P_{S:H} \times V$)	0 - 0.64	Expected value for escarpment height and runout angle (Figure 3-5).
Temporal probability ($P_{T:S}$)	Individual risk: 0.67	Assuming individual most at risk spends on average 16 hours per day in their home.
	Group risk: 0.5	Assuming occupants are present 12 hours per day on average.
Element value (E)	Individual risk: 1	Based on a single individual who spends the highest proportion of time at home (individual most at risk).
	Group risk: 4	Assuming four people occupy each home on average.

Note:

1. This range represents the calculated range in $P_{slide(site)}$ while the maximum theoretical range is 0.05 to 10 times $P_{slide(avg)}$.

3.5.4 Properties at the Crest of Escarpment

For properties at the crest of the escarpment, BGC estimated the spatial probability of impact for people occupying backyards at the time of a landslide as the ratio of ground lost to the distance from the escarpment crest to the house (Table 3-7). The temporal probability, vulnerability, and element value were defined as in Table 3-8.

Table 3-7 Spatial probability of impact to occupants of backyards at crest of escarpment (BGC, January 13, 2006).

Distance from House to Crest of Escarpment	Spatial Probability of Impact ($P_{S:H}$)
< 3 m	0.99
3 - 6°m	0.67
6 – 9 m	0.40
9 – 12 m	0.29
> 12 m	0.20

Table 3-8 Risk parameters for properties at crest of escarpment (after BGC, November 27, 2008).

Parameter	Value	Rationale
Temporal probability ($P_{T:S}$)	Individual risk: 0.01	Individuals most at risk spend 15 minutes per day in their backyard on rainy days in the winter when landslides are most likely to occur.
	Group risk: 0.007	Assuming occupants are in their backyards for 10 minutes per day on average during rainy, winter days.
Vulnerability (V)	0.5	No historical data available to calibrate. Assumes a 50% chance of escaping from the slide headscarp area as the landslide starts to move.
Element value (E)	Individual risk: 1	Individual risk is based on a single individual who spends the highest proportion of time in the backyard.
	Group risk: 4	Assuming four people occupy each home on average.

3.5.5 Field Verification and Numerical Modelling at Select Properties

BGC identified properties for field assessment where the updated risk estimate was near the threshold or exceeded DNV's risk tolerance criteria along with a selection of additional representative properties to verify the desktop-level risk estimates. Field work was completed on December 5, 2024 by Lauren Hutchinson and Sophia Zubrycky. Field photos and observations are provided in Appendix C. BGC visited the following properties:

- Berkley Escarpment
 - 2360 Carman Place
 - 1788 Riverside Drive
 - 1802 Riverside Drive
 - 2430 Chapman Way
 - 2141 Berkley Avenue
 - 2125 Berkley Avenue
 - 2448 Hayseed Close
 - 2462 Hayseed Close
 - 2454 Hayseed Close
 - Layton/Hayseed Gully
 - 1855 Layton Drive
 - 2050 Rivergrove Place
 - 2064 Rivergrove Place
 - Berkley slide headscarp area (no development)
- West Hasting Escarpment
 - 1582 Merlynn Crescent
 - 1588 Merlynn Crescent
 - 2180 Carmaria Court.

Following the desktop-level risk estimates and field inspections, BGC completed numerical modelling of flow slides originating from two properties (2360 Carman Place, 2454 Hayseed

Close) at the Berkley escarpment crest to assess risk to downslope properties. These properties were selected for numerical modelling as the desktop risk estimate exceeded DNV's risk tolerance criteria and BGC's field assessment identified conditions consistent with the potential for future landslides, specifically:

- **2360 Carman Place.** The north side of the property is the location of one of the 1979 landslides (Table 3-1). The south side of the property has not experienced a known failure. On the south side, there is minor observed slumping (<0.1 m deep). Hand auger logs completed by BGC in 2005 suggest that the depth of fill at this location is approximately 1 m thick. Should this portion of the crest fail, material would channelize downslope in the natural gully and be directed towards 1788 Riverside Drive, which has inhabited area and ground-level windows within the gully area (Appendix C).
- **2454 Hayseed Close.** At 2454 Hayseed Close, a log crib retaining structure at the crest of the slope is showing signs of deformation and degradation of the logs since it was last inspected by BGC in October 2005. The log crib structure is approximately 3 m tall and comprises two, 1.5 m tall steps. There is limited evidence of differential deformation at the downstream face; however, at the corner joints the log structure is separating indicating downslope movement and evidence of damage and rotting of the logs was observed (Appendix C).

For each property, BGC simulated landslides with the numerical model DAN3D (McDougall & Hungr, 2004) using the 2022 lidar and calibrated to the 2005 Berkley Landslide (Voellmy rheology with best fit friction parameters of 0.27 and turbulence parameter of 200 m/s²). Table 3-9 summarizes details of the properties assessed with numerical modelling.

Table 3-9 Properties assessed with numerical modelling.

	2360 Carman Place	2454 Hayseed Close
Downslope Properties	1788, 1802 Riverside	2050, 2064 Rivergrove
Initial Volume^{1, 2} (m³)	100	170
Entrainment Depth (m)	0.5	0.5
Final Volume² (m³)	800	1,000
Estimated Peak Impact Pressure at Buildings Downslope³ (kPa)	65-70	100-125

Notes:

1. Initial volumes and entrainment depth along slide path based on field observations collected in December 2024. At 2360 Carman, the initial volume is based on an approximately 11 m wide headscarp that extends 5 m into the slope with a depth of 1.5 m. At 2454, the initial volume is based on an 8 m wide headscarp that extends 5 m into the slope with a thickness of 3 m to reflect the size of material retained by the log crib structure. The reported volumes integrate variation in the natural topography and were based on slip surfaces integrated to the 2022 lidar.
2. Initial and final volumes rounded to nearest 10 m³.
3. Peak impact pressure (P) calculated using equation $P = 0.5dgp + \alpha\rho v^2$ (Zanchetta et al., 2004), where d is depth (m), g is acceleration due to gravity (m/s²), ρ is density (assumed 2,000 kg/m³), v is velocity (m/s), and α is dynamic impact coefficient (assumed 1.5).

Informed by the numerical model results, BGC estimated life-loss vulnerability using a model relating impact pressures from rapid flow-type landslides to life-loss probability for typical North American wood-frame buildings (LeSueur et al., 2026). BGC integrated the estimated

vulnerability from the vulnerability model to the risk estimates for the properties listed in Table 3-9 in place of spatial impact and vulnerability estimates from the District-wide approach (Section 3.5.3).

3.5.6 Influence of Climate Change

The influence of climate change on slope hazards in the District is governed by changes in landslide-triggering storms and the slope conditions at the time of these storms. Climate projections for the District for the period of 2071 to 2100 in response to CMIP6 SSP5/8.5 emissions scenario suggest that precipitation will increase in winter, spring, and fall months (total annual increase of 7% relative to the period of 1961-1990) with reduction in precipitation falling as snow across these same months (total annual decrease of 87% relative to 1961-1990) (Wang et al., 2016; Mahony et al. 2022).

While the frequency, intensity, and total rainfall associated with storm events is expected to increase over the century due to climate change, the direct impact on escarpment landslides where mitigation measures have been implemented (e.g., fill removal, slope shaping, surface water drainage management) is uncertain. For this reason, BGC has not modified the landslide hazard and risk assessment to account for climate-driven changes. Notably, recommendations for landslide risk management on escarpments in a changing climate do not differ from those provided under current conditions (Section 4.1).

3.5.7 Limitations

BGC's risk assessment is based on 2022 lidar topography, BGC's current understanding of landslide hazards in the District, the current layout of buildings within the Slope Hazard DPA, assumptions on typical building occupancy, and exposed population. Any changes to the escarpment topography, drainage, or the location(s) and occupancy of buildings may change the risk. Any person(s) outside of a building, such as in a car or on foot, can be at risk of injury or fatality during a landslide due to the depth, speed, or force of the slide. BGC has not assessed economic risk as part of this scope

This assessment was completed at a District-wide scale and does not replace site-specific assessments required as part of the DNV permitting process. As part of this scope, BGC revisited only a selection of sites and the risk estimates presented may not be representative at sites where the local conditions have changed significantly since the last field inspection.

The assessment is subject to uncertainties and limitations of the lidar change detection (Appendix B), numerical modelling, and vulnerability model utilized that may warrant updates as methods advance and additional data becomes available.

While BGC did not adjust the landslide hazard and risk assessment to account for climate change, future updates to the risk assessment may integrate modification in response to current or future projected changes in climate, if deemed appropriate to estimate landslide risk and inform landslide risk management.

3.6 Risk Assessment Results

BGC assessed life-loss risk at 149 properties at the base of DNV escarpments and 124 properties at the crest of escarpment slopes. Of these, BGC identified two properties that exceed the DNV's risk tolerance threshold for existing development (1:10,000 PDI):

- 2050 Rivergrove Place
- 2064 Rivergrove Place.

BGC acknowledges that these two properties are near the threshold annual PDI for existing development. There is significant uncertainty in the probability of a future landslide given the condition of the retaining wall at 2454 Hayseed Close as well as the depth of erodible material along the slide path given the limited field information available. It is possible that the depth of erodible material may significantly exceed that modelled in which case the risk estimates above may be an underestimate. Given the proximity of the properties to the slope, the slope geometry, and the presence of the deteriorating retaining wall, BGC deems the 'unacceptable' risk level to be appropriate for these properties.

The two properties downslope of 2360 Carman Place (1788, 1802 Riverside Drive) are similarly near the threshold and within the range of uncertainty in the analysis. These properties are included in the 'tolerable' risk level; however, BGC notes that given the uncertainty in the analysis, we cannot conclusively rule out that the risk to these properties may exceed DNV's risk tolerance criteria for existing development. The information available on DNV's GeoWeb suggests that 1788 Riverside Drive was constructed in 1973, six years prior to the 1979 slide at this location. BGC did not encounter any records of damage to the property associated with that landslide. Given this, and provided the construction date is accurate, it may be possible that small slides originating from the location are sufficiently small to deposit within the natural gully without damaging the downslope properties. It is also possible that larger landslides than that modelled may result in higher impact pressures and damage to properties with increased life-loss risk.

Apart from the properties downslope of 2454 Hayseed Close and 2360 Carman Place, the updated risk estimates resulted in lower estimates of life-loss risk than previous assessments due to the:

- Mitigation works completed across the District since 2005
- Extended historical record to calibrate a reduced District-wide landslide frequency
- Updated consequence estimation method that accounts for the decay in landslide impact pressure with distance from the escarpment base and the shielding effect of upslope buildings.

BGC estimated that risk to properties at the base of the escarpment was less than previously assessed for 85% of properties (127 of 149 properties). Of these, 41 properties decreased from 'tolerable' to 'broadly acceptable' risk. For the properties where estimated risk is higher than previously assessed, the risk estimates are within the same risk level. All risk estimates presented are based on the maximum risk from any individual landslide path.

A summary of estimated risk levels for properties at the base of escarpment slopes is provided in Table 3-10. For properties within the 21° runout extents that were not directly intersected by a mapped landslide path, BGC assigned a risk level of ‘broadly acceptable’ to acknowledge the property is within a landslide hazard area. All 124 properties at the crest of escarpment slopes that BGC assessed were ‘broadly acceptable’.

In addition, BGC estimated interpreted risk levels for properties within the DNV Slope Hazard DPA but outside of previously assessed escarpments as a screening tool to identify any properties that may exceed the DNV’s risk tolerance criteria for existing development and warrant further assessment. BGC estimated interpreted risk levels for 183 properties at the base of slopes within the Slope Hazard DPA and an additional 355 properties at the crest of slopes within the DPA. Of these, BGC did not identify any properties with an interpreted risk level that exceeds DNV’s risk tolerance criteria for existing development. Interpreted risk levels are solely based on a desktop-level screening without site-specific information and are not intended to replace site-specific assessment at individual properties to identify site characteristics that may indicate slope instability (e.g., retaining walls in deteriorating condition).

Table 3-10 Estimated number of properties at the base of escarpment slopes in each risk level.

Escarpment	Estimated Risk Level for Properties at Base of Escarpment		
	Broadly Acceptable	Tolerable	Unacceptable
Berkley	48	26	2
Mosquito Creek	6	1	0
WestLynn	9	1	0
Pemberton	10	2	0
Riverside West	13	24	0
West Hastings	7	0	0
Total across Escarpments ⁽¹⁾	93	54	2

Note:

1. Total across escarpments refers to the sum of the number of properties in each risk level for all the escarpments assessed (Berkley, Mosquito Creek, WestLynn, Pemberton, Riverside West, and West Hastings).

Appendix D includes summary tables of the risk parameters and estimates:

- Table D-1 is a summary of field observations that form the basis for the landslide likelihood ($P_{slide(site)}$) values
- Table D-2 is summary of calculated ($P_{slide(site)}$) for each property.
- Table D-3 is a summary of estimated life-loss risk for each property at the base of escarpment slopes along each mapped landslide path.

- Table D-4 is a summary of estimated life-loss risk for each property at the crest of escarpment slopes.
- Tables D-5 and D-6 summarize the maximum estimated life-loss risk to each property at the base of escarpment slopes for previous assessments and this 2025 update.
- In addition to the tabular summaries, estimated risk level (broadly acceptable, tolerable, unacceptable) are presented in Cambio and have been provided as a spatial data package to the DNV.

In addition to this report, BGC has provided the DNV with the digital deliverables outlined in Table 3-11 which are also available in Cambio.

Table 3-11 Digital deliverables provided to DNV.

File	Description	Intended Use
Runout Extent (21°)	Runout angle to 21° from escarpment crest.	Inform Slope Hazard DPA extents.
Representative Mapped Landslide Paths	Individual landslide paths mapped from the escarpment crests. Intended to be representative of landslide paths from source area but not encompass all potential landslide paths.	Used to inform the present risk assessment update. Illustrate representative landslide paths for slides originating from the escarpment crests.
2026 Risk Estimates	Estimated individual risk level at property.	Communicate risk level to inform future risk management decision making and build public awareness.
Study Area Boundaries	Escarpment slopes included in study.	Delineate areas included in present assessment

4.0 RECOMMENDATIONS

4.1 General Recommendations

Managing landslide risk on escarpment slopes necessitates appropriate management of stormwater, fill and yard waste, and retaining walls. BGC recommends that the DNV encourage property owners to adopt appropriate practices as follows:

- Stormwater management.
 - Ensure properties along the crest of escarpments have access to the stormwater system, where practical, and to connect their drainage downpipes to it.
 - If connecting to the stormwater system is not practical, utilize alternative stormwater management systems approved by the Municipal Engineer that direct stormwater away from slopes.
 - Maintain stormwater drainage system to ensure it functions effectively.
- Fill and yard waste management.
 - BGC observed several properties on escarpment slopes where lawn cuttings, garden debris, and saturated fill have been placed at the escarpment crest (Appendix C). Property owners should remove these materials and further placement of garden waste along the escarpment should be discouraged.
- Retaining wall management.
 - Modification to existing or construction of new retaining walls should be reviewed by a Qualified Professional to ensure the designs will achieve the required level of risk reduction or appropriate factor of safety levels. Final 'as built' drawings and a completion report should be received from contractors and provided to the DNV to be recorded in the DNV natural hazard database.

In addition, as part of the DNV's proactive approach to natural hazard risk management, BGC recommends the DNV:

- Slope monitoring.
 - Conduct ongoing visual monitoring of the slopes to ensure that drainage systems remain functional, yard waste is appropriately managed, retaining walls are well maintained, and to prevent new surface erosion or landslide hazards from developing and going undetected.
 - Supplement visual monitoring with periodic lidar data collection (on the order of multiple years between acquisitions) and lidar change detection. Lidar change detection may be completed when new lidar becomes publicly available to reduce total cost to DNV.
 - Consider usage or development of a digital inspection platform for monitoring and inspection of natural areas and assets to facilitate easy reference to past conditions (as compared with static reports), flag changed conditions, and inform future risk management actions.
- Risk assessment updates.
 - Update risk estimates at individual properties when slope or building conditions have changed sufficiently to warrant an update to the risk level.

- Update the district-wide landslide risk assessment approximately every 10 years to account for additional changes in climate predictions and methods of landslide risk assessment over time, and to provide a regular opportunity to review slopes for changed conditions.
- Public education.
 - Continue to provide information and education to the public on how to reduce landslide risk when living near steep slopes.

4.2 Properties Exceeding DNV's Tolerance Criteria

Life-loss risk to properties downslope of 2454 Hayseed Close exceeds DNV's risk tolerance criteria for existing development due to the condition of the deteriorating retaining wall. BGC recommends the property owners at 2454 Hayseed Close develop an appropriate design and replace the deteriorating retaining wall in their backyard. BGC also recommends that the property owners at 2050 and 2064 Rivergrove Place are informed of the risk level at their properties. As an interim activity, the DNV may also consider engaging a Qualified Professional to complete a structural review work of the retaining wall. Finally, BGC recommends regular review of the slope in the vicinity of 2454 Hayseed Close given the steep slope (~35°) and proximity of buildings to the base of the escarpment. At the time of writing, BGC understands that work is underway to replace the retaining wall.

BGC also identified that properties downslope of 2360 Carman Place are near the risk tolerance threshold for existing development and within the range of uncertainty in the analysis. BGC recommends that the DNV keep these properties under review and complete regular site inspections to identify any changed slope conditions that may warrant reassessment of the risk. BGC also recommends that the DNV inform the property owners at 1788 Riverside Drive of the risk level at their property and of actions that can be taken by individual property owners to reduce their vulnerability, for example moving the location of bedrooms to downslope areas outside of the natural gully.

4.3 Guidance for Slope Hazard Assessments

The risk assessment update presented herein was completed at a district-wide scale for the purposes of informing risk management actions by the DNV. Building permit applications for individual properties or assemblies of properties in DPA areas warrant additional site-specific review to evaluate if the proposed development aligns with the DNV's risk tolerance criteria and the land can be safely used for the use intended. At the request of the DNV, BGC prepared guidance for developers, property owners, and Qualified Professionals completing slope hazard assessments. This guidance is provided as a memorandum in Appendix E.

5.0 CLOSURE

We trust the above satisfies your requirements. Should you have any questions or comments, please do not hesitate to contact us.

Yours sincerely,

BGC Engineering Inc.
per:



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Principal Geoscientist

EGBC Permit to Practice, BGC Engineering Inc. 1000944

LCH/KH/mjp/mm

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APPENDIX A

PREVIOUS ANALYSES AND MITIGATIONS



A-1 RECORD OF PREVIOUS ASSESSMENTS

Table A-1 BGC's past landslide risk assessment projects for the DNV.

Report Year	Report Title	Risk Assessment Method	Risk Assessed	
			Individual	Group
2021	Lynn Canyon Ecology Centre and Lynn Canyon Café: Preliminary Slope Assessment	Berkley (qualitative)	✓	
2018	Slope Assessment 520, 528 and 532 Alpine Court	Berkley (qualitative)	✓	
2017	1576 and 1582 Merlynn Crecent Landslide Risk Reassessment	Berkley	✓	
2016	4176 Virginia Crescent Slope Geotechnical Review	Limit Equilibrium	✓	
2013	West Hastings QRA	Berkley (amended)	✓	
2012	2307 Berkley Avenue - Landslide Risk Assessment Update	Berkley	✓	
2010	Landslide Risk Summary Report	Past methods	✓	✓
2010-2009	Landslide Risk Assessment for Select Escarpment Slopes	Berkley, Limit Equilibrium, Rockfall	✓	✓
2009	Riverside West Preliminary Landslide Hazard Assessment and Risk Analysis	Berkley (qualitative)	✓	
2009	Deep Cove – Cove Cliff Preliminary Landslide Hazard Assessment and Risk Analysis	Berkley adapted (qualitative)	✓	
2009	Mount Fromme East Preliminary Landslide Hazard Assessment and Risk Analysis	Berkley (qualitative)	✓	
2009	Mosquito Creek Escarpment Preliminary Landslide Hazard Assessment and Risk Analysis	Berkley (qualitative)	✓	
2009	Capilano River East Escarpment Preliminary Landslide Hazard Assessment and Risk Analysis	Berkley (qualitative)	✓	
2008	1264 and 1282 Arborlynn Drive Landside Risk Assessment	Berkley	✓	
2008	Westlynn and Pemberton Heights Landslide Risk Assessment	Berkley (amended)	✓	
2007	Dec 3/07 Flow Slide near 1287 Seymour Boulevard	Field observations		
2007	Berkley Landslide Risk Management Updated Landslide Risk Assessment Following Stage 1 Mitigation	Berkley	✓	
2006	Berkley Landslide Risk Management Phase 2 Assessment of Risk Control Options	Berkley	✓	✓
2006	Berkley Landslide Risk Management Phase 1 Risk Assessment	Berkley	✓	✓

Notes:

1. Individual risk evaluates the annual probability of death to the person most at risk (PDI) to the hazard.
2. Group risk evaluates the probability of a fatality per year among people exposed to the hazard.
3. This list does not include services provided by BGC as part of the Geotech-on-Demand program except where risk was assessed or mitigation works were completed that changed the risk.

APPENDIX B

ALS CHANGE DETECTION METHODOLOGY



B-1 DATA AND METHODOLOGY

The District of North Vancouver provided BGC with airborne lidar scans (ALS) collected by MetroVancouver 2013, 2018, and 2022 and by GeoBC in 2016. BGC used the 2013 and 2022 ALS from MetroVancouver to perform the change detection analysis.

The bare-earth lidar datasets were analyzed for topographical change using a custom software developed by BGC. The process of assessing three-dimensional (3D) surface change with ALS data involves four main steps:

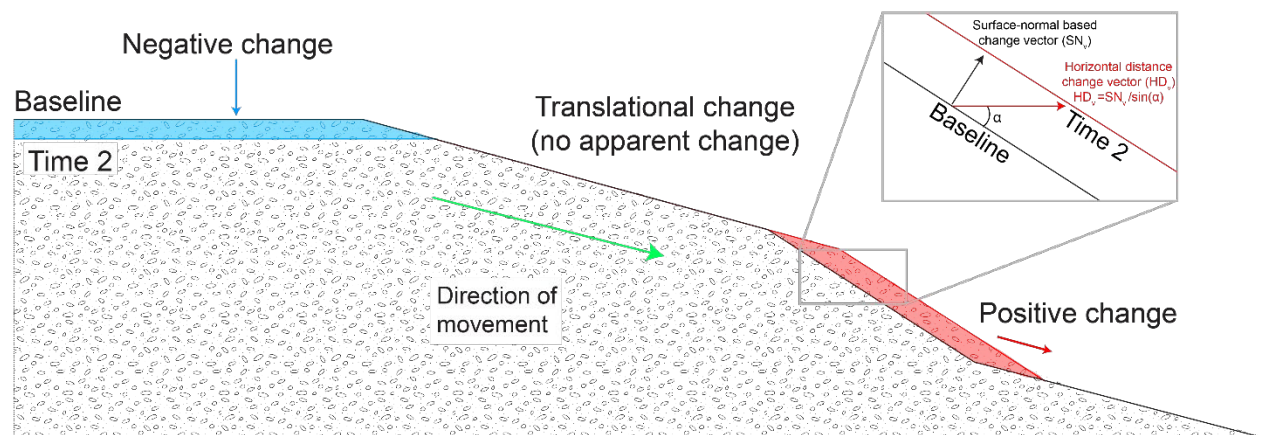
4. Align the 'active' (more recent) lidar dataset to the baseline (earlier) dataset. This is conducted by adjusting the spatial position of the active dataset to minimize the difference relative to the baseline dataset. During the alignment, areas of known or suspected changes are ignored to improve the accuracy of the alignment and improve the limit of detectable change. The initial step of re-aligning the ALS data reduces georeferencing errors resulting from poor GPS or ground control at the time of data collection. This process maximizes the ability to detect real change between datasets.
5. Calculate the limit of detectable change ($LoD_{95\%}$). The $LoD_{95\%}$ is defined as the 2.5% and 97.5% cumulative alignment interval of the model differences between the non-changing regions of the active and baseline ALS datasets. The alignment error between datasets is a function of the alignment, data precision, resolution, and the presence of non-changing sections of the datasets to control the alignment. Model differences within the $LoD_{95\%}$ may represent noise, error, or real change, if changes are too small to identify. The $LoD_{95\%}$ reported in the change detection images is rounded to the nearest 0.05 m. In cases where the $LoD_{95\%}$ is rounded down, the results shown may include small amounts of noise and/or alignment error which is considered in the interpretation of the results. The alignment error distribution may not be perfectly centered on zero due to a number of factors including vegetation, land use, and/or soil moisture. For this reason, the limit of detection may be skewed towards either positive or negative model differences for each comparison.
6. Conduct a 3D surface-normal based change measurement for each point in the 'active' dataset.
7. Interpret the results of the change detection as real change, spurious change, or error.

B-2 INTERPRETATION AND LIMITATIONS

The results of the change detection analysis are presented as colour-contoured images illustrating the surface-normal based change calculated between the baseline and active datasets. Positive model differences can be interpreted as material accumulation or bulging, and negative model differences can be interpreted as a loss of material (material removal, erosion or slumping). Zones of positive model difference are coloured yellow to red; zones of negative model difference are coloured light to dark blue. If the calculated change between the two datasets is less than the $LoD_{95\%}$, the area is coloured grey. Schematic B-1 illustrates the relative loss and accumulation of material through a simplified active landslide mass.

There are several limitations with lidar change detection. One limitation is the inability to detect translational movement where the ground and slip surfaces are parallel; in this instance, the ground surface appears unchanged between the two datasets (Schematic B-1). Because the ALS data represents the surface topography at each date, the analysis reflects surface changes only and cannot necessarily be extrapolated to interpret slide movements at depth.

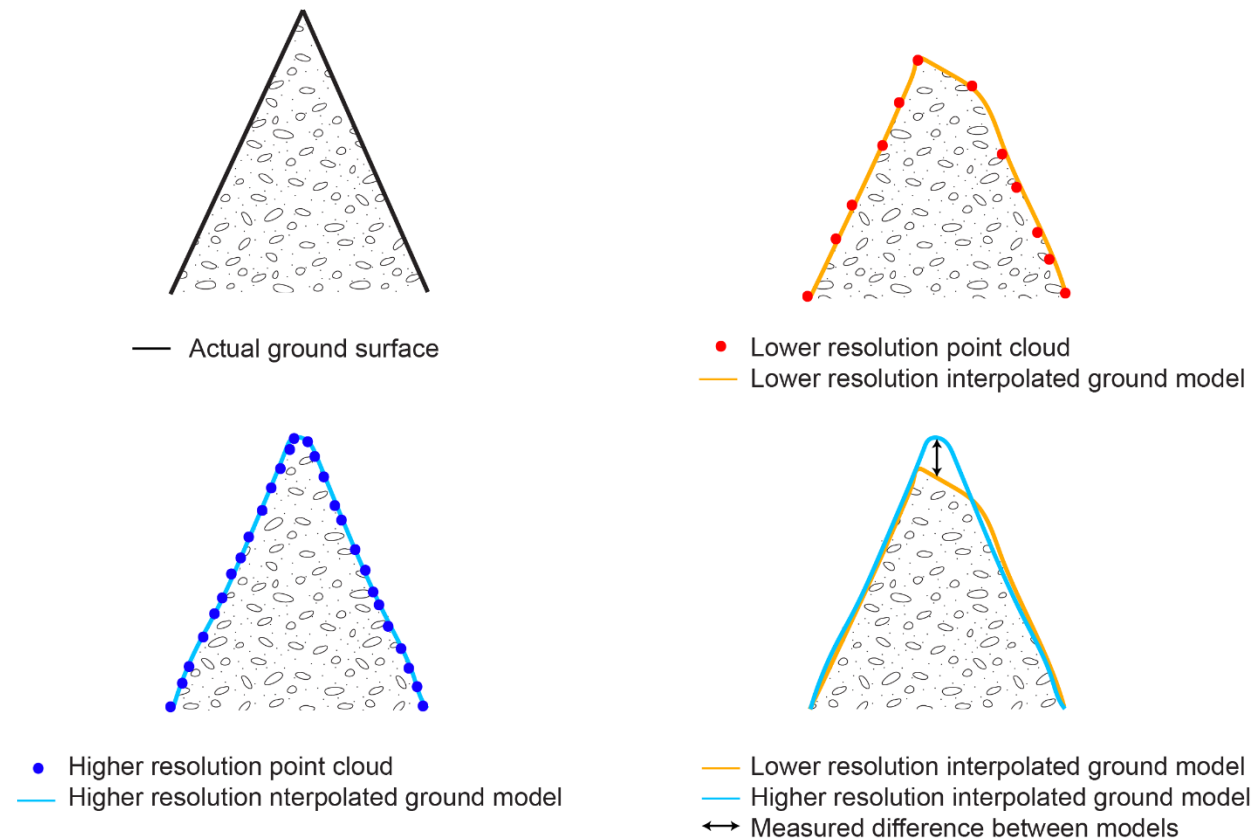
Positive changes reflected in ALS change detection analysis represent the amount of change that occurred along the shortest distance vector between the two datasets, and not necessarily the maximum magnitude of the deformation (Schematic B-1, inset). For example, a landslide with a slope angle of 35° showing a measured surface-normal based distance vector of 0.5 m in the zone of positive topographic change would imply an equivalent true horizontal change of 0.90 m. This limits our ability to detect deformation on landslides using lidar change detection analysis.



Schematic B-1 Simplified schematic diagram of translational landslide showing positive change in the direction of movement. The amount of change along the shortest distance vector can be used to calculate the true horizontal change.

Change detection results are limited by the temporal and spatial resolution of the datasets and the relative accuracy of the lidar points between each dataset (also referred to as data precision, or local accuracy). In this project BGC analyzed changes between 2013 and 2022 lidar datasets. Slope deformations that occurred before 2013 or after the 2022 dataset was collected are not detected in this analysis.

The assessment of topographical change between ALS datasets of different point density can result in spurious change. For example, in regions of steep topography, ridges and valleys are not well defined in the lower resolution ALS datasets but are mapped in the higher resolution datasets. The difference in data resolution, and resultant interpretation of the topology between datasets, is mapped as 'change' by the algorithms used. This situation is illustrated in Schematic B-2. Given the consistent data resolution across all datasets used for this study, the impact of data resolution on the results is minimal.

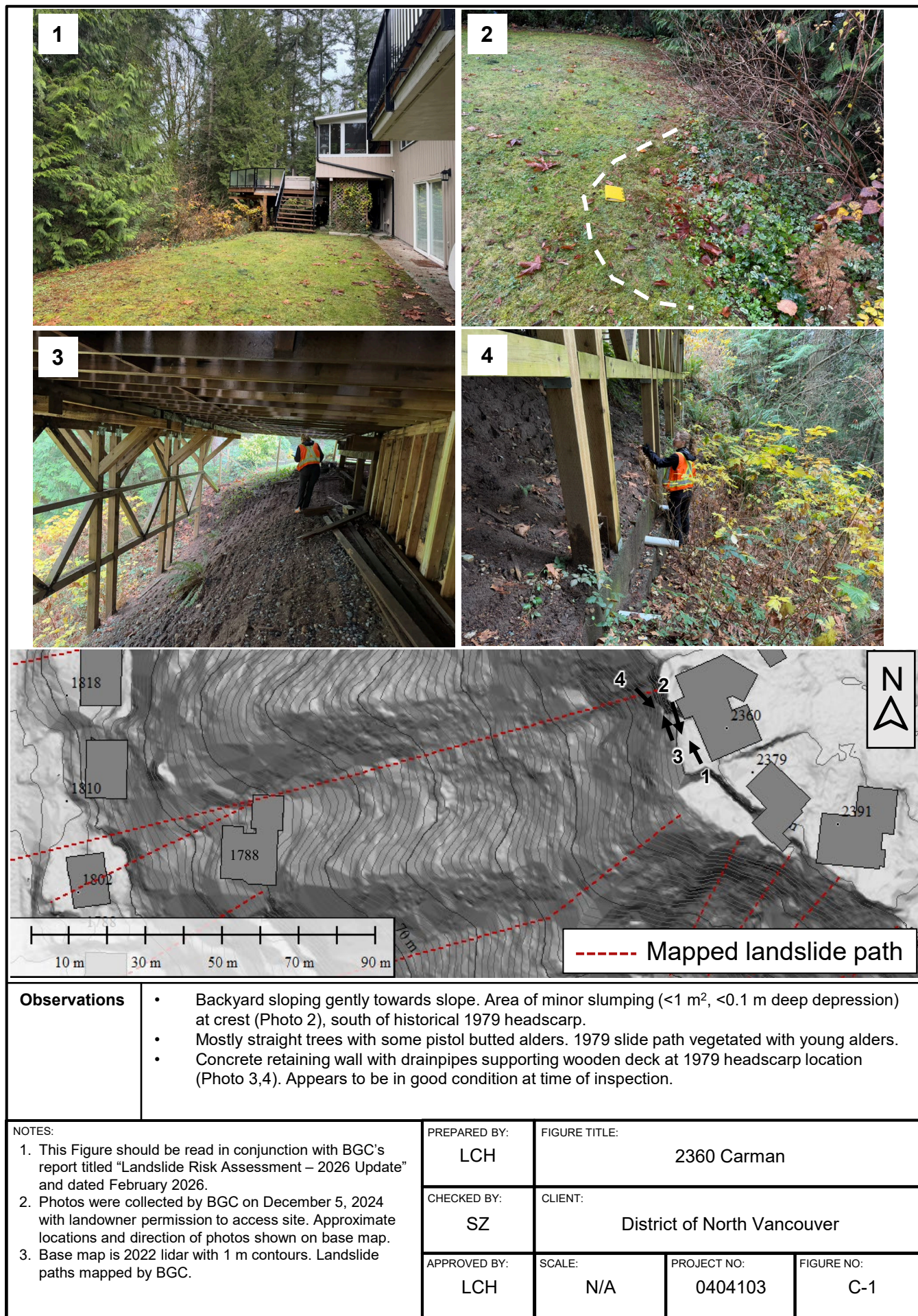


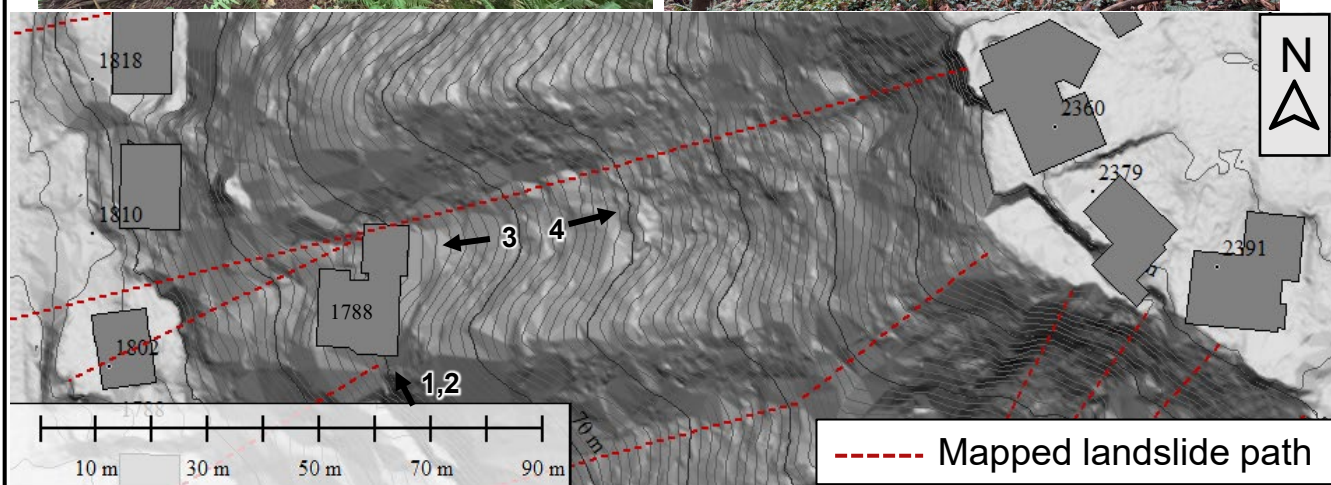
Schematic B-2 Schematic diagram of spurious changes caused by variable resolution of the datasets, not actual topographical change.

APPENDIX C

FIELD PHOTOS





**Observations**

- Cracks observed parallel to slope in driveway. Existing retaining wall at driveway in robust condition.
- Building in natural gully that includes the 1979 slide path. Large conifers observed in gully.
- Northeast corner of building exposed to landslides from 2360 Carman (Photo 3). Southern portion of building footprint protected by ridgeline.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

1788 Riverside

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

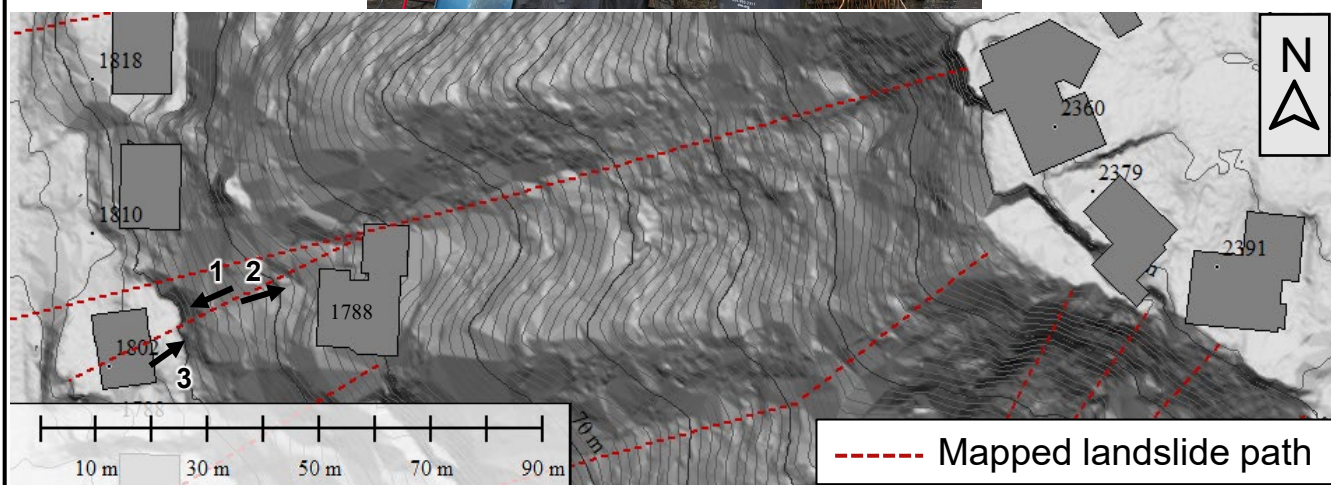
N/A

PROJECT NO:

0404103

FIGURE NO:

C-2

**Observations**

- Property downslope of 1788 Riverside. Gentler slope upslope of retaining wall.
- Landowner reported having a test pit completed in upslope area and indicated dense material was observed approximately 18 inches below ground (BGC does not have access to log to confirm).
- Landowner reported that stone retaining wall seeps in heavy rain.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

1802 Riverside

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

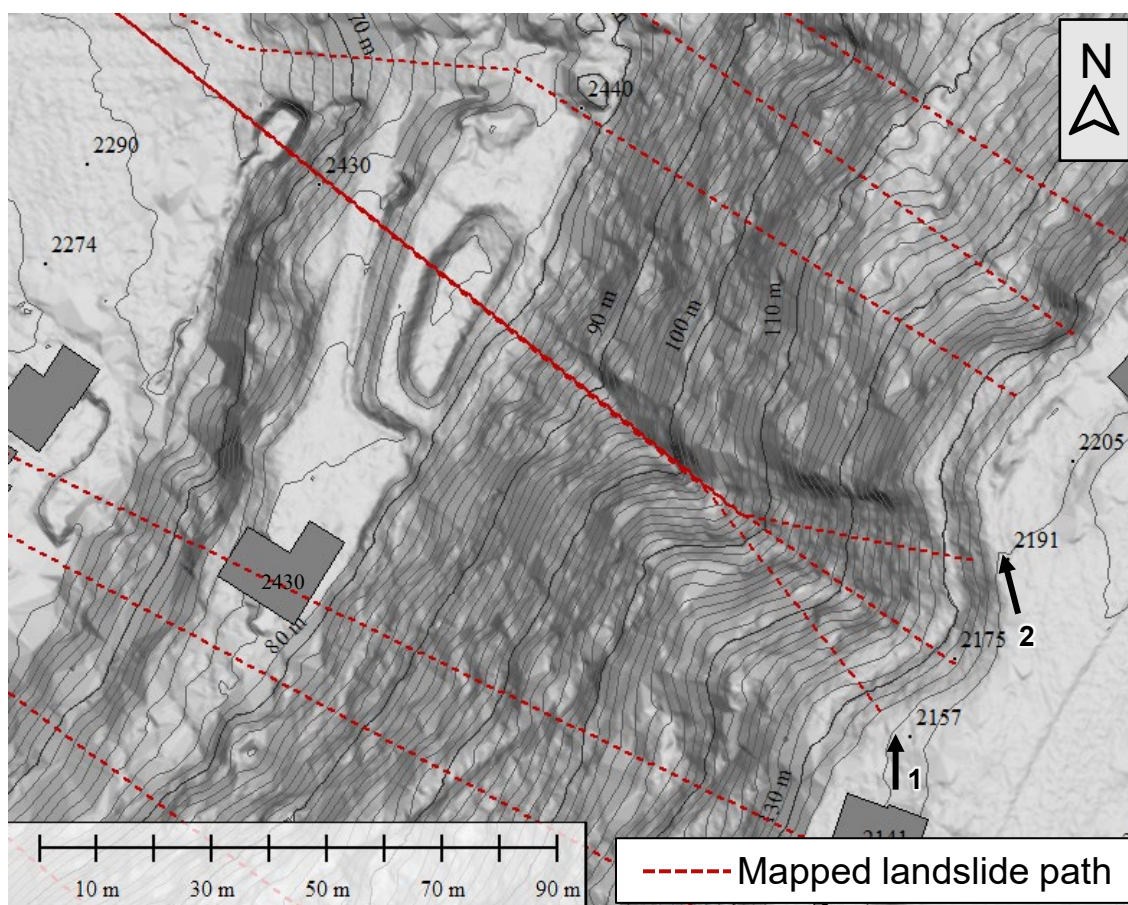
N/A

PROJECT NO:

0404103

FIGURE NO:

C-3

**Observations**

- 2005 Berkley landslide scarp re-vegetated with alders.
- Minor depression observed behind crest at north side of scarp (Photo 2). No signs of recent movement observed here at the time of inspection.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

Berkley Slide Headscarp Area

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

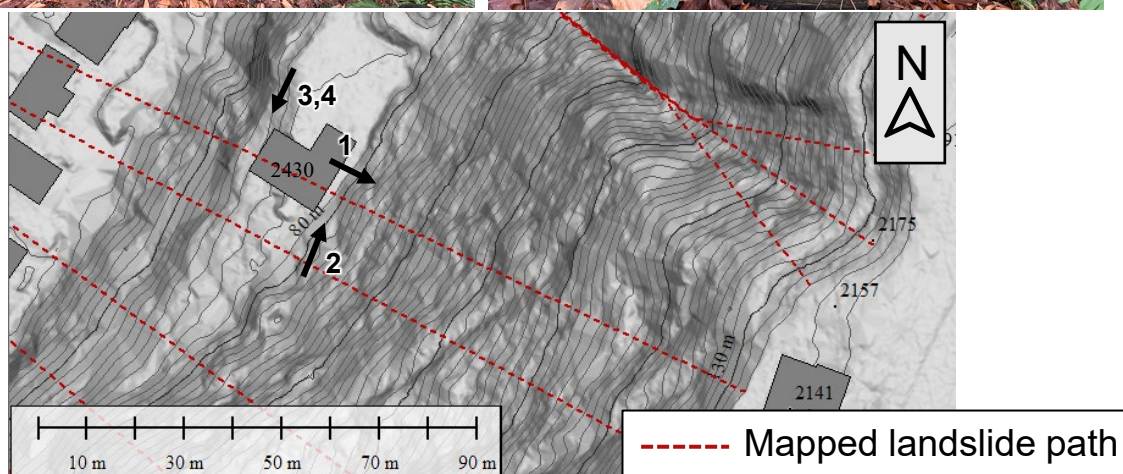
N/A

PROJECT NO:

0404103

FIGURE NO:

C-4

**Observations**

- Windows near ground level at the rear of the house (Photo 2).
- 0.4 m tall timber crib retaining wall located 2.5 m from the rear of the house and above 13 m tall slope (Photos 3, 4). Retaining wall is bowing downslope slightly. Building downslope of retaining wall is outside of 19° runout angle.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2430 Chapman Way

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

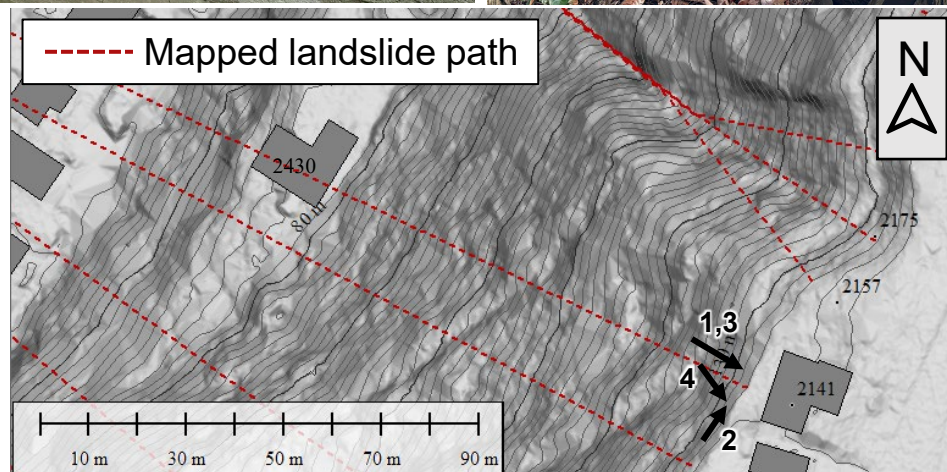
N/A

PROJECT NO:

0404103

FIGURE NO:

C-5

**Observations**

- Retaining wall in good overall condition at time of inspection (Photo 2). Some evidence of minor tilting and bowing.
- Large conifers on slope are straight.
- Vertical crack observed in building foundation (Photo 3).
- Loose exposed soil at south side of property, south of retaining wall (Photo 4).

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2141 Berkley

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

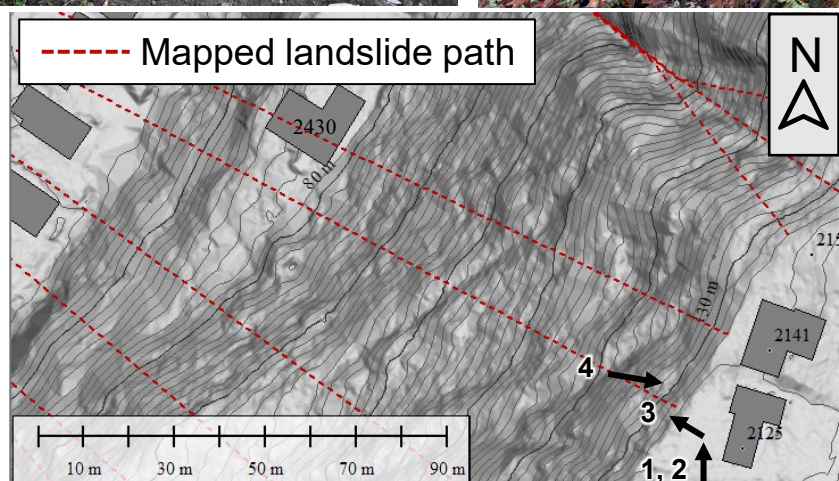
N/A

PROJECT NO:

0404103

FIGURE NO:

C-6

**Observations**

- Back yard is level (Photo 1). Small depression in grass near garden bed (Photo 2). Garden irrigation at the crest of slope (Photo 2).
- No retaining wall.
- Yard trimmings and loose fill (<0.5 m³) pushed over edge of slope (Photo 3).
- Less mature trees compared to slope below 2141 Berkley. Some pistol butted trees observed.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2125 Berkley

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

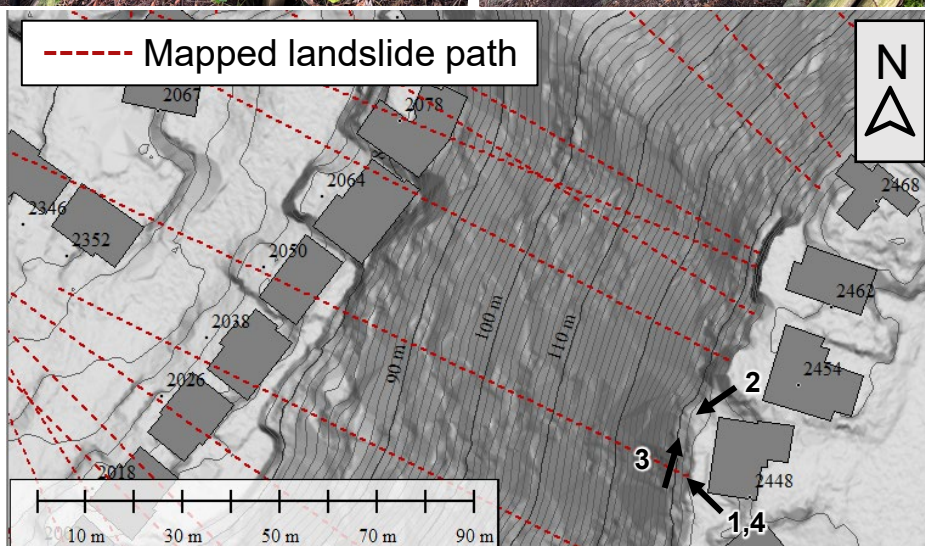
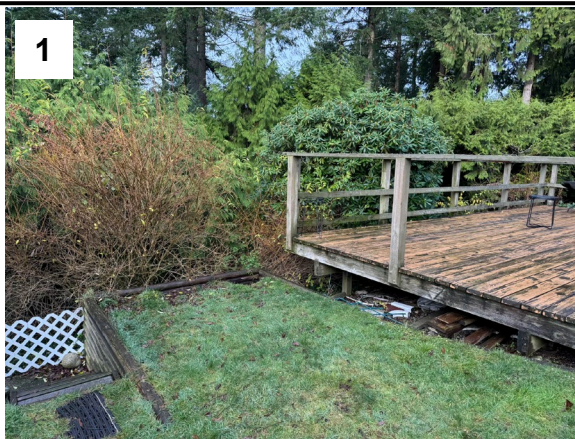
N/A

PROJECT NO:

0404103

FIGURE NO:

C-7

**Observations**

- Hot tub previously reported no longer there.
- Tiered timber crib retaining walls holding back garden beds in relatively good condition at time of inspection (Photo 3).
- Some pistol butted cedars observed on slope (Photo 4).

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2448 Hayseed

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

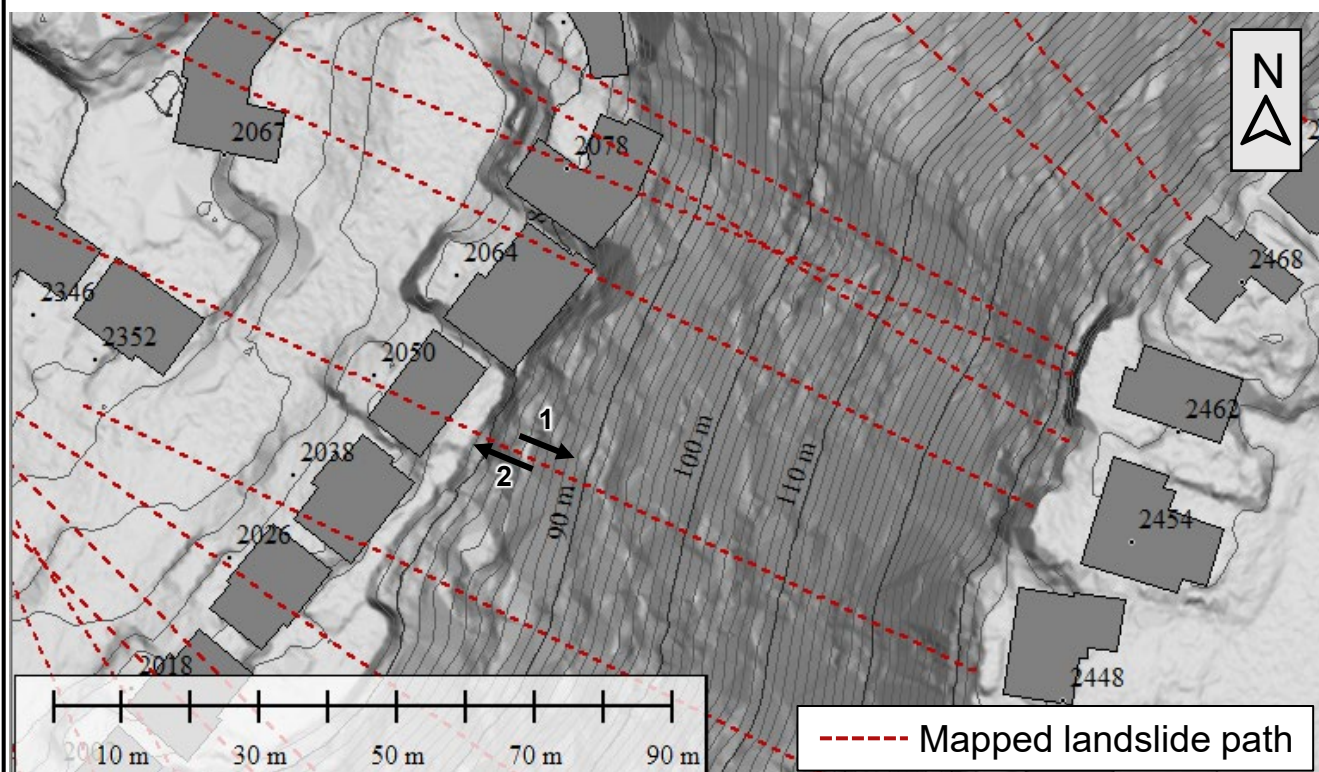
N/A

PROJECT NO:

0404103

FIGURE NO:

C-8



Observations

- BGC traversed slope above 2050 Rivergrove but did not enter backyard to observe condition of retaining wall.

NOTES:

- This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
- Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
- Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2050 Rivergrove

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

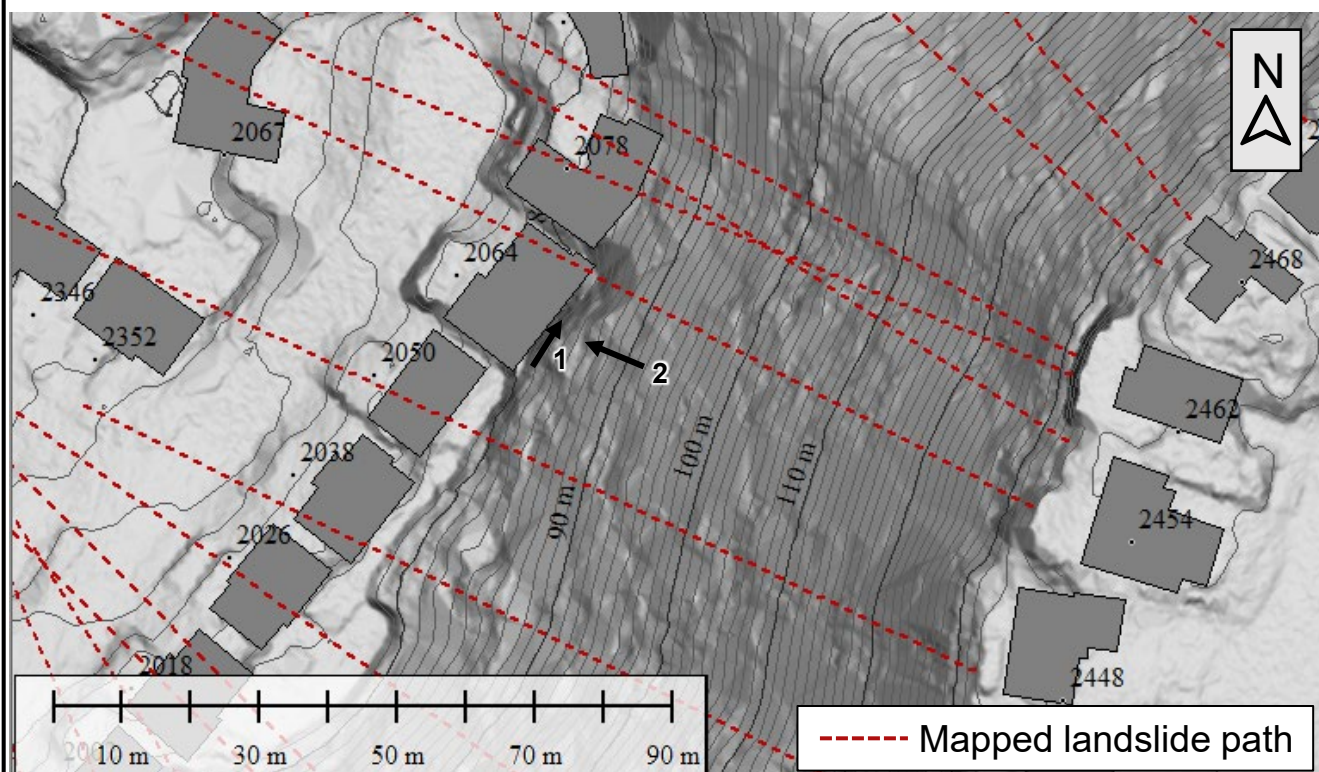
N/A

PROJECT NO:

0404103

FIGURE NO:

C-9

**Observations**

- Stone retaining wall in good condition (Photo 1).
- House very close to base of slope.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2064 Rivergrove

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

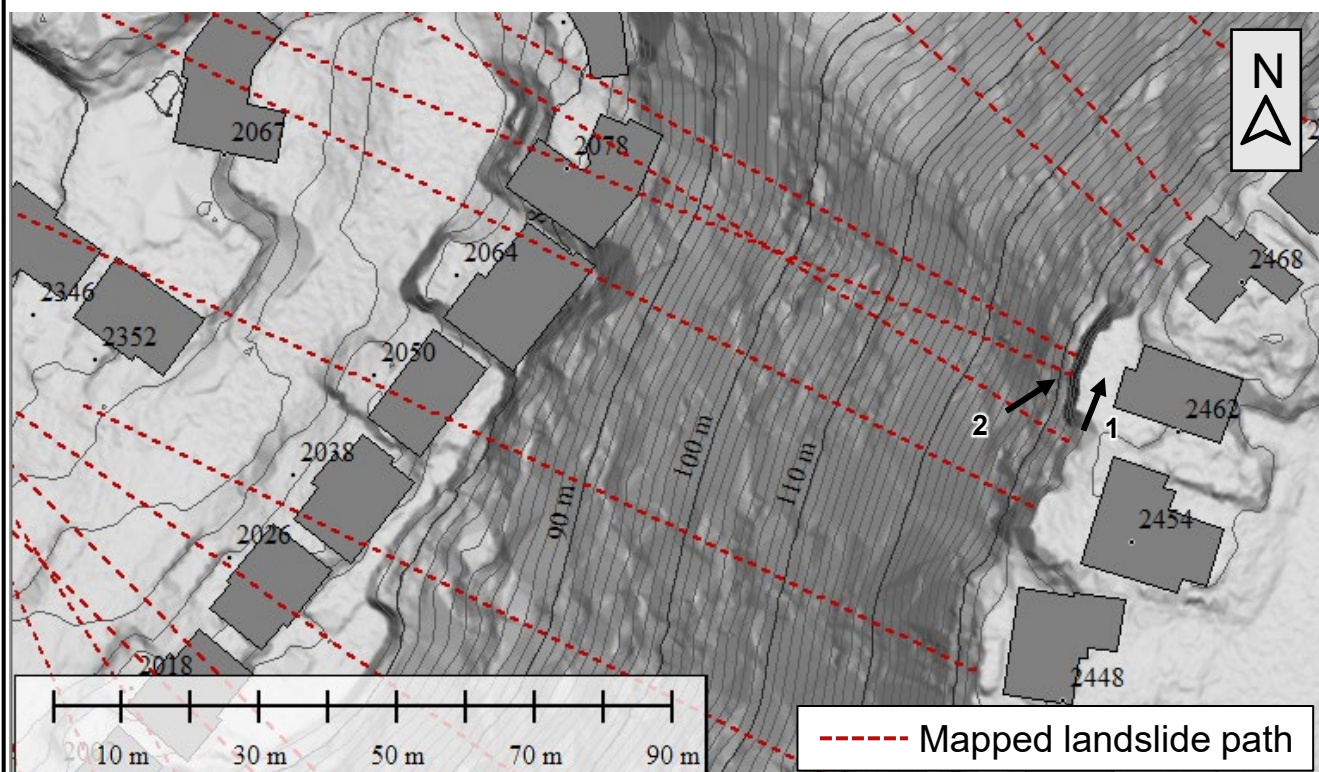
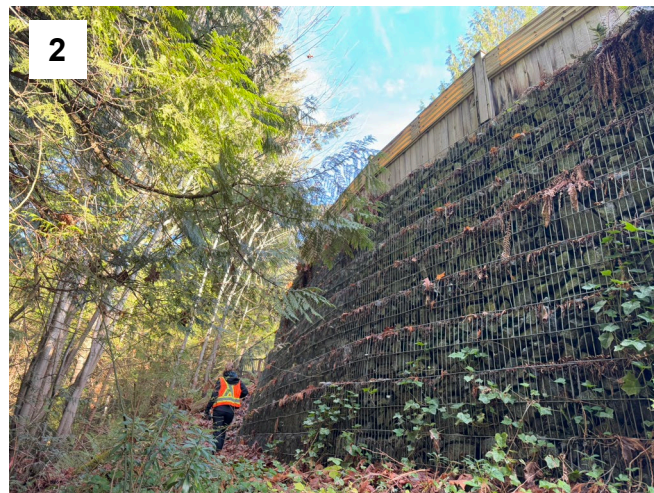
N/A

PROJECT NO:

0404103

FIGURE NO:

C-10

**Observations**

- Backyard supported with retaining wall (Photo 1). Fence at west side of backyard is tilted. Property owner acknowledged that the fence has never been straight.
- Approximately 4 m tall stepped gabion basket retaining wall with 0.5 m tall gabions (Photo 2). Property owner mentioned the gabion baskets were tied back with geogrid. Retaining wall appeared to be in good condition with no observed bulging or settling at the time of inspection.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

2462 Hayseed

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

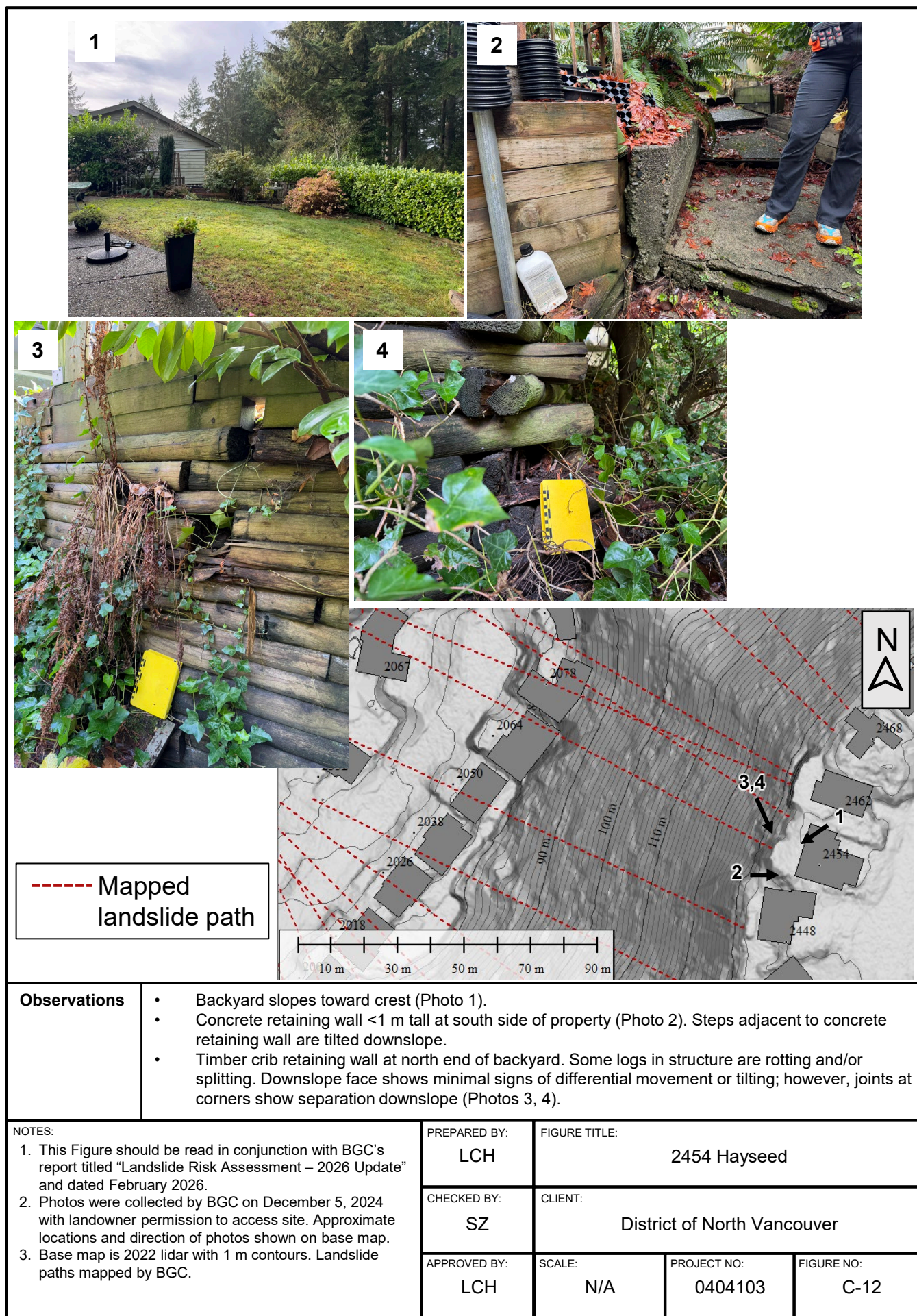
N/A

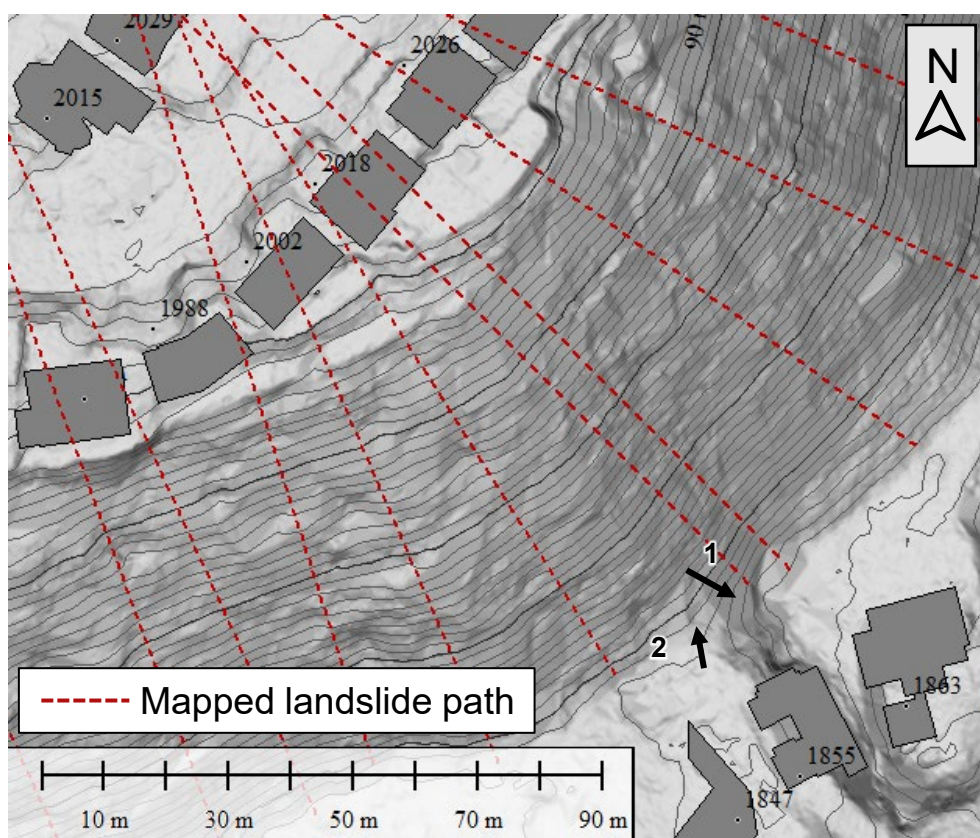
PROJECT NO:

0404103

FIGURE NO:

C-11



**Observations**

- Yard waste and cuttings observed over slope crest.
- No retaining wall. Relatively gentle slope at crest.

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

1855 Layton

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

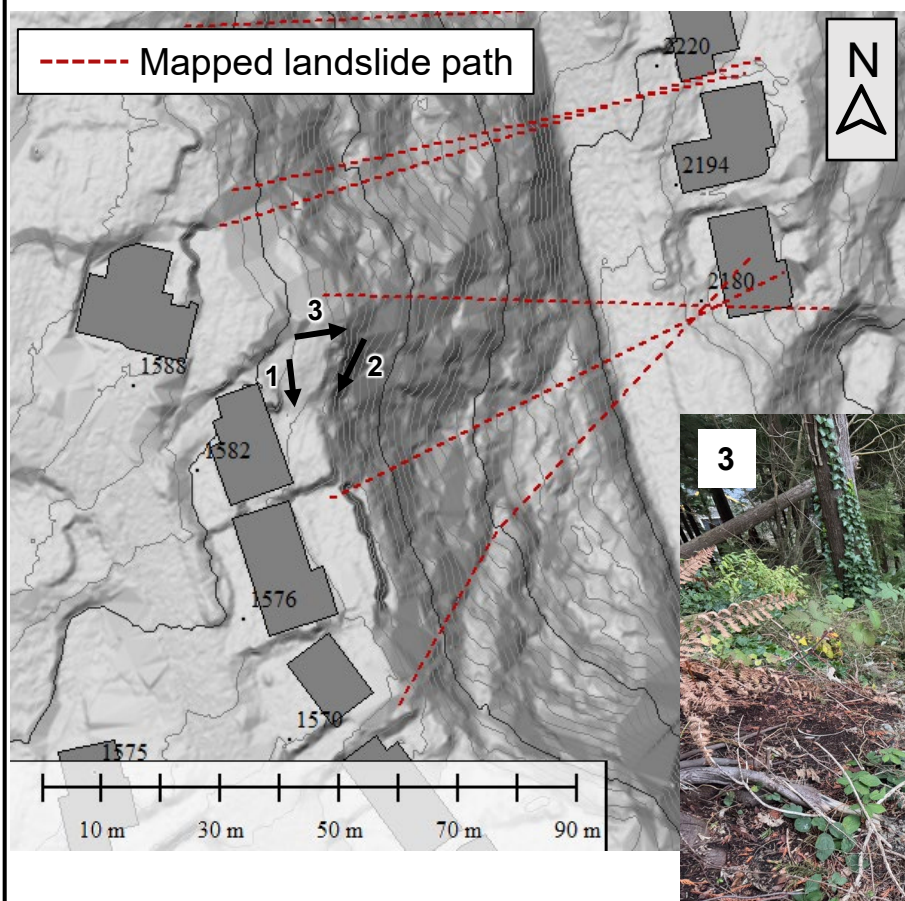
N/A

PROJECT NO:

0404103

FIGURE NO:

C-13

**Observations**

- Gabion basket retaining wall appears to be in good condition (Photo 2)
- Approximately $<0.5 \text{ m}^3$ of saturated material (silt and gravel, some clay) placed over the crest of slope at north end of property (Photo 3).

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

1582 Merlynn

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

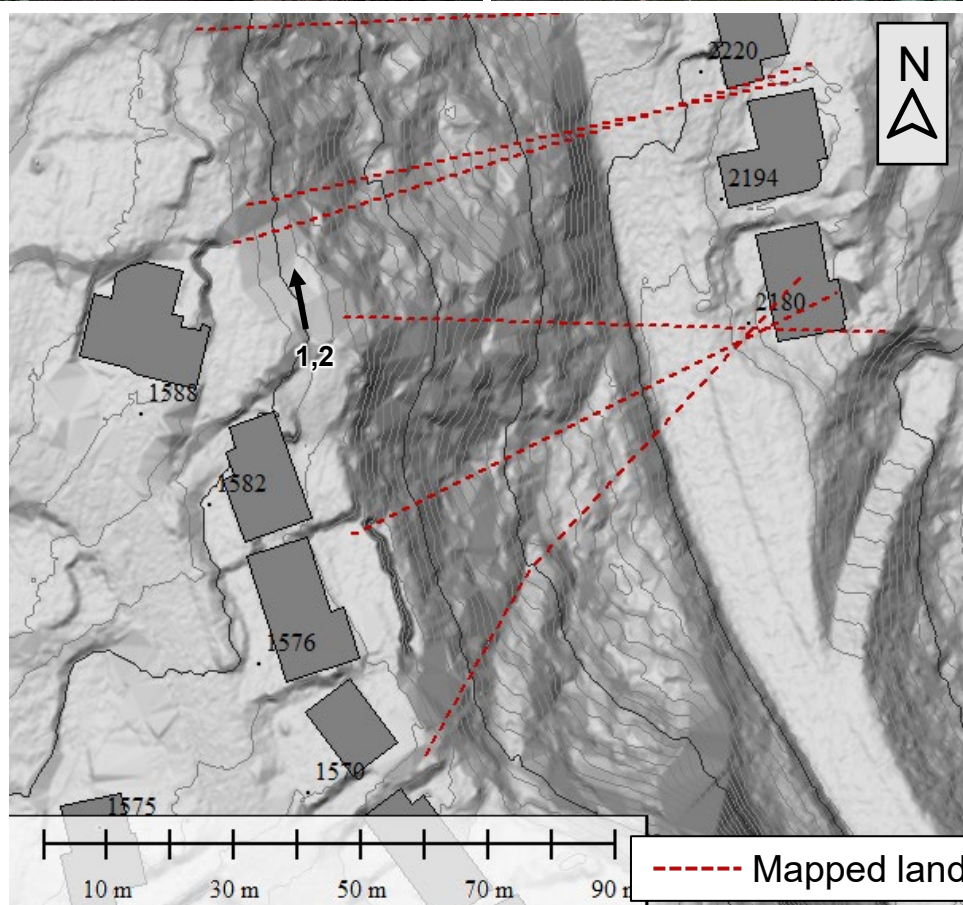
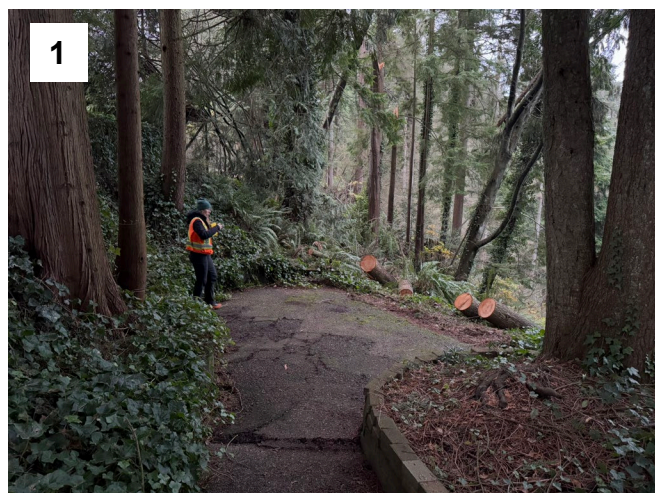
N/A

PROJECT NO:

0404103

FIGURE NO:

C-14

**Observations**

- Concrete seating area downslope of backyard, sloping outward (Photo 1). Cracks observed in concrete. No retaining wall observed.
- Trees and yard cuttings observed deposited over edge of slope (Photos 1, 2).

NOTES:

1. This Figure should be read in conjunction with BGC's report titled "Landslide Risk Assessment – 2026 Update" and dated February 2026.
2. Photos were collected by BGC on December 5, 2024 with landowner permission to access site. Approximate locations and direction of photos shown on base map.
3. Base map is 2022 lidar with 1 m contours. Landslide paths mapped by BGC.

PREPARED BY:

LCH

FIGURE TITLE:

1588 Merlynn

CHECKED BY:

SZ

CLIENT:

District of North Vancouver

APPROVED BY:

LCH

SCALE:

N/A

PROJECT NO:

0404103

FIGURE NO:

C-15

APPENDIX D

RISK ESTIMATE TABLES



Table D-1. Summary of Field Observations to Inform Landslide Likelihood Estimation (Pslide)

Address	Escarpment	Loose Materials at Fence	Loose Materials Down Slope	Slope Angle	Slope Deformation	% Conifers	Tree Condition	Retaining Wall	Wall Type	Wall Deformation	Backyard Deformation	Dist. To Crest	Runoff From	Pool or Hot Tub	Pool Condition	Seepage	Conn. Storm Sewer (according to previous assessment)	Mostly Gravel in Auger Holes	Conn. Storm Sewer (May 2024)
2477 Berton	Berkley	1-2m	1-2m	30-35 deg.	Erosion	50-75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2475 Berton	Berkley	<1m	1-2m	35-40 deg.	Erosion	25-50%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2469 Berton	Berkley	1-2m	1-2m	25-30 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2465 Berton	Berkley	<1m	<1m	25-30 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	Yes	Undeformed	No	Yes		Yes
2461 Berton	Berkley	<1m	1-2m	30-35 deg.	Erosion	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2441 Mowat	Berkley	<1m	1-2m	30-35 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2437 Mowat	Berkley	1-2m	1-2m	30-35 deg.	Erosion	>75%	Leaning	Yes	Timbers	None	None	>12m	Backyard	No	NA	No	Yes		Yes
2433 Mowat	Berkley	1-2m	1-2m	35-40 deg.	Erosion	50-75%	Straight	No	NA	NA	None	>12m	Backyard	Yes	Undeformed	No	Yes		Yes
2429 Mowat	Berkley	1-2m	1-2m	30-35 deg.	Erosion	>75%	Leaning	No	NA	NA	None	>12m	Half Roof	Yes	Undeformed	No	Yes		Yes
2425 Mowat	Berkley	<1m	1-2m	35-40 deg.	Slides	25-50%	Leaning	Yes	Timbers	None	None	>12m	Street	No	NA	No	Yes		Yes
1231 Lennox	Berkley	2-3m	1-2m	30-35 deg.	Slides	>75%	Straight	Yes	Other	Bulging	None	3-6m	Frontyard	No	NA	No	Yes		Yes
1275 Lennox	Berkley	1-2m	<1m	>40 deg.	Slides	<25%	Straight	No	NA	NA	None	<3m	Full Roof	Yes	Undeformed	No	Yes		Yes
1279 Lennox	Berkley	1-2m	<1m	>40 deg.	Slides	>75%	Straight	Yes	Timbers	Bulging	None	3-6m	Full Roof	No	NA	No	Yes		Yes
1305 Lennox	Berkley	2-3m	2-3m	35-40 deg.	Erosion	50-75%	Straight	Yes	Other	Bulging	None	9-12m	Full Roof	Yes	Undeformed	No	Yes		Yes
1345 Lennox	Berkley	1-2m	2-3m	35-40 deg.	Slides	25-50%	Pistol Butt	Yes	Timbers	None	None	9-12m	Full Roof	No	NA	No	Yes		Yes
1383 Lennox	Berkley	1-2m	2-3m	35-40 deg.	Erosion	50-75%	Straight	Yes	Blocks	None	Settled	3-6m	Full Roof	Yes	Undeformed	No	Yes		Yes
1425 Lennox	Berkley	<1m	1-2m	25-30 deg.	Slides	50-75%	Straight	No	NA	None	None	6-9m	Frontyard	Yes	Undeformed	No	Yes		Yes
1477 Lennox	Berkley	2-3m	1-2m	30-35 deg.	Erosion	25-50%	Straight	Yes	Timbers	None	None	6-9m	Backyard	No	NA	No	Yes		Yes
1479 Lennox	Berkley	2-3m	1-2m	35-40 deg.	Erosion	25-50%	Straight	Yes	Timbers	None	Settled	6-9m	Backyard	No	NA	No	Yes		Yes
1491 Lennox	Berkley	2-3m	1-2m	35-40 deg.	Erosion	25-50%	Leaning	Yes	Concrete	Cracked	None	3-6m	Frontyard	No	NA	No	Yes		Yes
1535 Lennox	Berkley	2-3m	2-3m	35-40 deg.	None	25-50%	Leaning	Yes	Timbers	Bulging	Settled	3-6m	Street	No	NA	No	Yes		Yes
1557 Lennox	Berkley	>3m	1-2m	35-40 deg.	Erosion	<25%	Straight	Yes	Timbers	Cracked	Settled	3-6m	Frontyard	Yes	Undeformed	No	Yes		Yes
1583 Lennox	Berkley	2-3m	1-2m	35-40 deg.	None	50-75%	Straight	Yes	Other	Cracked	None	<3m	Full Roof	No	NA	No	Yes		Yes
1593 Lennox	Berkley	<1m	1-2m	30-35 deg.	Erosion	>75%	Leaning	No	NA	NA	None	<3m	Street	No	NA	Yes	Yes		Yes
2402 Swinburne	Berkley	<1m	1-2m	25-30 deg.	None	>75%	Pistol Butt	No	NA	NA	None	<3m	Full Roof	No	NA	No	Yes		Yes
2410 Swinburne	Berkley	1-2m	>3m	35-40 deg.	Erosion	>75%	Leaning	No	NA	NA	None	6-9m	Backyard	No	NA	No	Yes		Yes
2414 Swinburne	Berkley	1-2m	1-2m	35-40 deg.	Cracks	50-75%	Leaning	Yes	Other	None	None	<3m	Half Roof	No	NA	No	Yes		Yes
1677 Layton	Berkley	1-2m	<1m	35-40 deg.	Slides	>75%	Leaning	No	NA	NA	None	>12m	Full Roof	No	NA	No	Yes		Yes
1691 Layton	Berkley	2-3m	2-3m	35-40 deg.	Cracks	50-75%	Leaning	No	NA	NA	Cracked	>12m	Full Roof	No	NA	No	Yes		Yes
1709 Layton	Berkley	2-3m	2-3m	35-40 deg.	None	50-75%	Leaning	No	NA	NA	None	>12m	Full Roof	Yes	Undeformed	No	Yes		Yes
1731 Layton	Berkley	2-3m	2-3m	35-40 deg.	None	50-75%	Straight	No	NA	NA	Settled	>12m	Full Roof	Yes	Undeformed	No	Yes		Yes
1753 Layton	Berkley	1-2m	1-2m	30-35 deg.	None	50-75%	Leaning	Yes	Other	Settled	Settled	>12m	Full Roof	Yes	Undeformed	No	Yes		Yes
1775 Layton	Berkley	>3m	2-3m	35-40 deg.	None	>75%	Straight	Yes	Timbers	None	None	6-9m	Frontyard	Yes	Undeformed	No	Yes		Yes
1797 Layton	Berkley	1-2m	1-2m	>40 deg.	None	50-75%	Straight	No	NA	NA	None	6-9m	Full Roof	No	NA	No	Yes		Yes
1815 Layton	Berkley	1-2m	2-3m	30-35 deg.	None	>75%	Straight	Yes	Concrete	None	Settled	6-9m	Backyard	No	NA	No	Yes		Yes
2391 Carman	Berkley	>3m	1-2m	35-40 deg.	Erosion	50-75%	Straight	Yes	Other	Bulging	Settled	6-9m	Frontyard	Yes	Undeformed	No	Yes		Yes
2379 Carman	Berkley	<1m	1-2m	25-30 deg.	Slides	50-75%	Straight	No	NA	NA	None	<3m	Frontyard	Yes	Undeformed	No	Yes		Yes
2360 Carman S.	Berkley	1-2m	1-2m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	Settled	3-6m	Frontyard	No	NA	No	Yes		Yes
2360 Carman N.	Berkley	1-2m	1-2m	35-40 deg.	None	50-75%	Straight	No	NA	NA	Settled	3-6m	Frontyard	No	NA	No	Yes		Yes
2372 Carman	Berkley	<1m	1-2m	25-30 deg.	None	>75%	Leaning	No	NA	NA	None	9-12m	Full Roof	No	NA	No	Yes		Yes
2386 Carman	Berkley	1-2m	1-2m	30-35 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Half Roof	No	NA	No	Yes		Yes
1839 Layton	Berkley	1-2m	1-2m	30-35 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Full Roof	No	NA	No	Yes		Yes
1847 Layton	Berkley	1-2m	1-2m	30-35 deg.	None	>75%	Straight	No	NA	NA	Settled	>12m	Street	No	NA	No	Yes		Yes
1855 Layton	Berkley	1-2m	1-2m	35-40 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Street	No	NA	No	Yes		Yes
1863 Layton	Berkley	<1m	1-2m	25-30 deg.	None	>75%	Pistol Butt	No	NA	NA	None	>12m	Full Roof	No	NA	No	Yes		Yes
Hayseed/Layton Gully	Berkley	<1m	1-2m	25-30 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes		Yes
2448 Hayseed	Berkley	1-2m	2-3m	30-35 deg.	Erosion	>75%	Pistol Butt	Yes	Timbers	None	None	6-9m	Half Roof	Yes	Undeformed	No	Yes		Yes
2454 Hayseed	Berkley	2-3m	1-2m	35-40 deg.	Erosion	>75%	Straight	Yes	Timbers	Settled	None	9-12m	Half Roof	No	NA	No	Yes		Yes
2462 Hayseed	Berkley	<1m	1-2m	30-35 deg.	Erosion	25-50%	Leaning	No	NA	None	None	9-12m	Full Roof	No	NA	No	Yes		Yes
2468 Hayseed	Berkley	<1m	1-2m	30-35 deg.	None	50-75%	Straight	No	NA	NA	None	<3m	Full Roof	Yes	Undeformed	No	Yes		Yes
2474 Hayseed	Berkley	1-2m	<1m	30-35 deg.	Erosion	>75%	Straight	Yes	Concrete	None	None	<3m	Full Roof	No	NA	Yes	Yes		Yes
2480 Hayseed	Berkley	1-2m	1-2m	30-35 deg.	Erosion	>75%	Leaning	Yes	Timbers	None	Settled	3-6m	Full Roof	No	NA	No	Yes		Yes
2486 Hayseed	Berkley	1-2m	1-2m	35-40 deg.	Erosion	>75%	Straight	Yes	Timbers	Settled	Settled	6-9m	Half Roof	No	NA	No	Yes		Yes
2125 Berkley	Berkley	<1m	1-2m	25-30 deg.	None	25-50%	Straight	Yes	Other	None	Settled	>12m	Street	No	NA	No	Yes		Yes
2141 Berkley	Berkley	<1m	2-3m	25-30 deg.	None	>75%	Straight	Yes	Timbers	None	None	3-6m	Half Roof	No	NA	No	Yes		Yes
2157 Berkley	Berkley	<1m	1-2m	25-30 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Full Roof	No	NA	No	Yes		Yes
2175 Berkley	Berkley	<1m	<1m	25-30 deg.	None	<25%	Straight	No	NA	NA	None	<3m	Street	No	NA	No	Yes		Yes
2191 Berkley	Berkley	<1m	1-2m	25-30 deg.	None	25-50%	Straight	No	NA	NA	None	3-6m	Frontyard	No	NA	No	Yes		Yes
2205 Berkley	Berkley	<1m	1-2m	25-30 deg.	None	25-50%	Straight	No	NA	NA	None	9-12m	Full Roof	No	NA	No	Yes		Yes
2217 Berkley	Berkley	>3m	2-3m	>40 deg.	Slides	<25%	Leaning	No	NA	NA	None	9-12m	Full Roof	Yes	Undeformed	Yes	Yes		Yes
2223 Berkley	Berkley	2-3m	1-2m	30-35 deg.	Erosion	50-75%	Straight	No	NA	NA	Settled	9-12m	Full Roof	No	NA	Yes	Yes		Yes
2249 Berkley	Berkley	2-3m	2-3m	35-40 deg.	None	25-50%	Straight	No	NA	NA	Settled	>12m	Full Roof	No	NA	Yes	Yes		Yes
2251 Berkley	Berkley	2-3m	1-2m	30-35 deg.	Erosion	>75%	Straight	No	NA	NA	None	>12m	Street	No	NA	Yes	Yes		Yes
2265 Berkley	Berkley	1-2m	1-2m	35-40 deg.	None	50-75%	Pistol Butt	Yes	Concrete	Cracked	Cracked	6-9m	Full Roof	No	NA	Yes	Yes		Yes
2279 Berkley	Berkley	1-2m	1-2m	30-35 deg.	Erosion	25-50%	Leaning	Yes	Timbers	None	None	9-12m	Full Roof	No	NA	Yes	Yes		Yes
2293 Berkley	Berkley	2-3m	1-2m	35-40 deg.	Slides	25-50%	Leaning	Yes	Timbers	None	None	>12m	Full Roof	Yes	Undeformed	No	Yes		Yes

Table D-1. Summary of Field Observations to Inform Landslide Likelihood Estimation (Pslide)

Address	Escarpment	Loose Materials at Fence	Loose Materials Down Slope	Slope Angle	Slope Deformation	% Conifers	Tree Condition	Retaining Wall	Wall Type	Wall Deformation	Backyard Deformation	Dist. To Crest	Runoff From	Pool or Hot Tub	Pool Condition	Seepage	Conn. Storm Sewer (according to previous assessment)	Mostly Gravel in Auger Holes	Conn. Storm Sewer (May 2024)
2307 Berkley	Berkley	2-3m	1-2m	35-40 deg.	None	<25%	Straight	Yes	Timbers	None	None	9-12m	Full Roof	Yes	Cracked	No	Yes		Yes
2321 Berkley	Berkley	1-2m	1-2m	35-40 deg.	Erosion	50-75%	Straight	Yes	Timbers	Settled	Settled	3-6m	Full Roof	No	NA	Yes	Yes		Yes
2335 Berkley	Berkley	2-3m	1-2m	35-40 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Full Roof	No	NA	No	Yes		Yes
2349 Berkley	Berkley	1-2m	1-2m	35-40 deg.	Erosion	>75%	Pistol Butt	Yes	Other	Bulging	Settled	>12m	Full Roof	No	NA	No	Yes		Yes
2363 Berkley	Berkley	1-2m	1-2m	35-40 deg.	Slides	25-50%	Pistol Butt	No	NA	NA	None	9-12m	Frontyard	No	NA	Yes	Yes		Yes
2377 Berkley	Berkley	>3m	2-3m	>40 deg.	Slides	50-75%	Straight	Yes	Concrete	Cracked	Settled	6-9m	Full Roof	No	NA	Yes	Yes		Yes
2391 Berkley	Berkley	1-2m	<1m	>40 deg.	Slides	<25%	Straight	Yes	Other	Bulging	Cracked	>12m	Street	No	NA	Yes	Yes		Yes
2409 Berkley	Berkley	1-2m	>3m	35-40 deg.	Cracks	25-50%	Leaning	No	NA	NA	Settled	>12m	Street	No	NA	No	Yes		Yes
2425 Berkley	Berkley	1-2m	<1m	<25 deg.	Slides	<25%	Straight	No	NA	NA	Settled	>12m	Full Roof	No	NA	No	Yes		Yes
4780 Hoskins	Westlynn	<1m	1-2m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	Yes	Yes	Yes
4778 Hoskins	Westlynn	<1m	1-2m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	9-12m	Backyard	No	NA	No	Yes	Yes	Yes
4774 Hoskins	Westlynn	1-2m	1-2m	30-35 deg.	Slides	>75%	Straight	Yes	Timbers	Bulging	None	>12m	Backyard	No	NA	No	Yes	Yes	Yes
4772 Hoskins	Westlynn	<1m	<1m	30-35 deg.	None	>75%	Straight	No	NA	NA	None	9-12m	Backyard	No	NA	No	Yes	Yes	Yes
2345 Kilmarnock	Westlynn	1-2m	1-2m	30-35 deg.	None	25-50%	Straight	Yes	Blocks	Cracked	Cracked	>12m	Backyard	Yes	Undeformed	No	No	No	No
2339 Kilmarnock	Westlynn	2-3m	1-2m	30-35 deg.	None	<25%	Straight	Yes	Timbers	Bulging	Settled	3-6m	Half Roof	No	NA	No	Yes	No	Yes
1864 Beaulynn	Westlynn	1-2m	<1m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	<3m	Frontyard	No	NA	No	Yes	No	Yes
1858 Beaulynn	Westlynn	0	1-2m	30-35 deg.	Slides	25-50%	Straight	No	NA	NA	None	3-6m	Frontyard	No	NA	No	Yes	No	No
1751 Irene	Westlynn	<1m	<1m	35-40 deg.	Slides	>75%	Straight	Yes	Timbers	Bulging	Settled	<3m	Half Roof	No	NA	No	No	No	Yes
1742 Irene	Westlynn	<1m	<1m	35-40 deg.	Slides	>75%	Straight	Yes	Timbers	None	Settled	<3m	Half Roof	No	NA	No	No	No	Yes
4150 Lynn Valley	Westlynn	1-2m	<1m	35-40 deg.	Slides	>75%	Straight	No	NA	NA	None	<3m	Frontyard	No	NA	No	No	No	No
2620 Lauralynn	Westlynn	1-2m	<1m	35-40 deg.	Erosion	25-50%	Straight	Yes	Timbers	Settled	None	3-6m	Frontyard	No	NA	Yes	No	No	Yes
1595 Graveley (W)	Pemberton	<1m	<1m	35-40 deg.	None	50-75%	Straight	No	NA	NA	None	<3m	Half Roof	No	NA	No	No	Yes	Yes
1595 Graveley (S)	Pemberton	<1m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	<3m	Half Roof	No	NA	No	No	Yes	Yes
1567 Graveley	Pemberton	<1m	<1m	35-40 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	Yes	Yes
1565 Graveley	Pemberton	<1m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	Yes	Yes
1415 W Keith	Pemberton	1-2m	1-2m	35-40 deg.	None	25-50%	Straight	Yes	Timbers	None	None	9-12m	Half Roof	No	NA	No	No	Yes	Yes
1395 W Keith	Pemberton	<1m	<1m	35-40 deg.	None	25-50%	Straight	Yes	Timbers	None	None	>12m	Half Roof	No	NA	No	Yes	Yes	Yes
4085 Capilano	Capilano	1-2m	<1m	30-35 deg.	Cracks	25-50%	Pistol Butt	Yes	Timbers	None	None	<3m	Full Roof	No	NA	No	No	No	Yes
4421 Patterdale	Capilano	1-2m	1-2m	25-30 deg.	Erosion	25-50%	Pistol Butt	Yes	Concrete	None	None	3-6m	Full Roof	No	NA	Yes	Unknown	No	Yes
1287 Seymour	Riverside West	1-2m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
1273 Seymour	Riverside West	<1m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
1261 Seymour	Riverside West	<1m	<1m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
1147 Heritage	Riverside West	<1m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1151 Heritage	Riverside West	<1m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1155 Heritage	Riverside West	<1m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1159 Heritage	Riverside West	<1m	1-2m	35-40 deg.	Slides	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1163 Heritage	Riverside West	<1m	1-2m	35-40 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	Yes	No	No	No
1167 Heritage	Riverside West	1-2m	1-2m	35-40 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1171 Heritage	Riverside West	1-2m	1-2m	35-40 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1175 Heritage	Riverside West	<1m	1-2m	35-40 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
1179 Heritage	Riverside West	<1m	1-2m	35-40 deg.	None	>75%	Leaning	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
985 Heritage	Riverside West	<1m	1-2m	25-30 deg.	None	25-50%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
979 Heritage	Riverside West	<1m	1-2m	25-30 deg.	None	25-50%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	No
973 Heritage	Riverside West	<1m	1-2m	25-30 deg.	None	25-50%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	Yes	No	No	No
967 Heritage	Riverside West	<1m	1-2m	25-30 deg.	None	25-50%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	Yes	No	No	No
689 Bow	Riverside West	1-2m	<1m	>40 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
687 Bow	Riverside West	<1m	<1m	>40 deg.	None	50-75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
683 Bow	Riverside West	1-2m	<1m	35-40 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
679 Seymour	Riverside West	<1m	1-2m	>40 deg.	Slides	50-75%	Pistol Butt	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
647 Seymour	Riverside West	1-2m	<1m	>40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
639 Seymour	Riverside West	1-2m	<1m	>40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
633 Seymour	Riverside West	1-2m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
631 Seymour	Riverside West	1-2m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
625 Seymour	Riverside West	1-2m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
621 Seymour	Riverside West	1-2m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	>12m	Backyard	No	NA	No	No	No	Yes
4424 Skyline	Mosquito Creek	<1m	<1m	35-40 deg.	Slides	<25%	Straight	No	NA	NA	None	3-6m	Half Roof	No	NA	No	No	No	No
518 Alpine Court - West	Mosquito Creek	<1m	<1m	>40 deg.	Erosion	>75%	Straight	No	NA	None	None	<3m	Frontyard	No	NA	No	No	No	No
518 Alpine Court - East	Mosquito Creek	<1m	1-2m	35-40 deg.	Erosion	>75%	Straight	No	NA	NA	None	<3m	Frontyard	No	NA	No	No	No	No
515 Alpine	Mosquito Creek	<1m	<1m	35-40 deg.	Erosion	25-50%	Straight	Yes	Concrete	None	None	<3m	Frontyard	No	NA	No	No	No	Yes
4867 Skyline	Mosquito Creek	<1m	1-2m	>40 deg.	Erosion	>75%	Straight	Yes	Other	None	None	<3m	Frontyard	Yes	Undeformed	Yes	No	No	Yes
647 Croydon	Mosquito Creek	<1m	1-2m	35-40 deg.	Slides	50-75%	Straight	Yes	Timbers	None	None	3-6m	Backyard	No	NA	Yes	No	No	Yes
481 Ventura	Mosquito Creek	<1m	<1m	>40 deg.	Slides	25-50%	Straight	No	NA	NA	Settled	3-6m	Frontyard	No	NA	No	No	No	No
4717 Prospect	Mosquito Creek	1-2m	1-2m	35-40 deg.	Cracks	50-75%	Pistol Butt	Yes	Other	None	None	>12m	Backyard	No	NA	Yes	No	No	Yes
4685 Prospect	Mosquito Creek	<1m	<1m	35-40 deg.	Erosion	50-75%	Straight	Yes	Other	Settled	Settled	3-6m	Backyard	Yes	Undeformed	No	Yes	No	No
2604 Lauralynn	West Hastings	<1m	1-2m	<25 deg.	None	>75%	Straight	No	NA	NA	None	>12m	Frontyard	No	NA	No	No	No	No
2602 Lauralynn	West Hastings	1-2m	1-2m	25-30 deg.	Slides	>75%	Straight	No	NA	NA	None	>12m	Frontyard	No	NA	No	No	No	No

Table D-1. Summary of Field Observations to Inform Landslide Likelihood Estimation (Pslide)

Address	Escarpment	Loose Materials at Fence	Loose Materials Down Slope	Slope Angle	Slope Deformation	% Conifers	Tree Condition	Retaining Wall	Wall Type	Wall Deformation	Backyard Deformation	Dist. To Crest	Runoff From	Pool or Hot Tub	Pool Condition	Seepage	Conn. Storm Sewer (according to previous assessment)	Mostly Gravel in Auger Holes	Conn. Storm Sewer (May 2024)
2590 Lauralynn	West Hastings	1-2m	<1m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	6-9m	Frontyard	No	NA	Yes	No	No	Yes
2574 Lauralynn	West Hastings	1-2m	<1m	35-40 deg.	Slides	50-75%	Straight	No	NA	NA	None	6-9m	Frontyard	No	NA	Yes	No	No	No
2558 Lauralynn	West Hastings	1-2m	1-2m	35-40 deg.	Slides	>75%	Leaning	No	NA	NA	Settled	6-9m	Frontyard	Yes	Undeformed	Yes	No	No	Yes
2542 Lauralynn	West Hastings	1-2m	1-2m	>40 deg.	Slides	50-75%	Straight	Yes	Other	None	None	>12m	Frontyard	No	NA	Yes	No	No	Yes
2526 Lauralynn	West Hastings	2-3m	1-2m	25-30 deg.	None	50-75%	Straight	No	NA	NA	None	>12m	Frontyard	Yes	Undeformed	No	No	No	No
2510 Lauralynn	West Hastings	1-2m	<1m	30-35 deg.	Slides	50-75%	Straight	No	NA	NA	None	9-12m	Frontyard	No	NA	No	No	No	No
2498 Lauralynn	West Hastings	2-3m	1-2m	35-40 deg.	Erosion	50-75%	Leaning	Yes	Timbers	None	None	6-9m	Frontyard	No	NA	No	No	No	No
2486 Lauralynn	West Hastings	1-2m	<1m	25-30 deg.	Slides	50-75%	Leaning	No	NA	NA	None	9-12m	Frontyard	No	NA	No	No	No	No
2474 Lauralynn	West Hastings	1-2m	1-2m	25-30 deg.	None	50-75%	Straight	No	NA	NA	Settled	>12m	Frontyard	No	NA	Yes	No	No	No
2462 Lauralynn	West Hastings	1-2m	1-2m	30-35 deg.	None	25-50%	Pistol Butt	Yes	Timbers	Bulging	None	>12m	Frontyard	No	NA	Yes	No	No	Yes
2450 Lauralynn	West Hastings	1-2m	1-2m	25-30 deg.	Slides	25-50%	Straight	No	NA	NA	None	>12m	Frontyard	No	NA	No	No	No	Yes
2438 Lauralynn	West Hastings	1-2m	<1m	30-35 deg.	Erosion	>75%	Straight	No	NA	NA	None	>12m	Frontyard	No	NA	No	No	No	Yes
2248 Greylynn	West Hastings	1-2m	<1m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	>12m	Frontyard	No	NA	Yes	No	No	Yes
2240 Greylynn	West Hastings	1-2m	1-2m	30-35 deg.	Slides	>75%	Straight	No	NA	NA	None	>12m	Frontyard	Yes	Undeformed	No	No	No	Yes
2232 Greylynn	West Hastings	<1m	1-2m	30-35 deg.	Slides	>75%	Straight	Yes	Timbers	Settled	None	>12m	Frontyard	No	NA	No	No	No	Yes
2224 Greylynn	West Hastings	<1m	<1m	30-35 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Frontyard	No	NA	Yes	No	No	Yes
2208 Greylynn	West Hastings	<1m	<1m	25-30 deg.	Slides	>75%	Pistol Butt	No	NA	NA	None	>12m	Frontyard	No	NA	Yes	No	No	No
2190 Greylynn	West Hastings	<1m	1-2m	35-40 deg.	Slides	>75%	Pistol Butt	Yes	Timbers	None	None	>12m	Frontyard	No	NA	Yes	No	No	Yes
1588 Merlynn	West Hastings	<1m	1-2m	30-35 deg.	None	>75%	Straight	No	NA	NA	Cracked	9-12m	Full Roof	No	NA	No	No	No	No
1582 Merlynn	West Hastings	<1m	1-2m	>40 deg.	Slides	50-75%	Pistol Butt	Yes	Other	None	None	6-9m	Frontyard	No	NA	No	Yes	No	Yes
1576 Merlynn	West Hastings	<1m	2-3m	>40 deg.	Slides	50-75%	Leaning	Yes	Concrete	None	None	3-6m	Frontyard	No	NA	No	No	No	Yes
1570 Merlynn	West Hastings	1-2m	<1m	35-40 deg.	Slides	>75%	Pistol Butt	Yes	Timbers	None	None	6-9m	Frontyard	No	NA	No	No	No	No

Table D-2. Summary of Landslide Likelihood (Pslide) values.
Berkley Escarpment

Pslide values (Following 10-4 Remediation (BGC, January 15, 2007))												2025 Pslide values							
Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
2477 Berton	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	1	1	1		0.14	0.0003	0.35	0.14	0.0001	0	-
2475 Berton	Berkley	1	0	0	0	0.35	0.35	0	1	1	1		0.12	0.0003	0.35	0.12	0.0001	0	-
2469 Berton	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.07	0.0002	0.35	0.07	0.0001	0	-
2465 Berton	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	0	-
2461 Berton	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	0	-
2441 Mowat	Berkley	0.8	0	0	0	0.35	0.35	0	0	0	0.5		0.05	0.0001	0.35	0.05	0.00005	0	-
2437 Mowat	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	1	1	1		0.14	0.0003	0.35	0.14	0.0001	0	-
2433 Mowat	Berkley	1	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.09	0.0002	0.35	0.09	0.0001	0	-
2429 Mowat	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	1	1	1		0.14	0.0003	0.35	0.14	0.0001	0	-
2425 Mowat	Berkley	1	0	0	0	0.35	0.35	0	1	1	1		0.12	0.0003	0.35	0.12	0.0001	0	-
1231 Lennox	Berkley	0.8	1	0	1	1	0.35	1	1	2	2		0.56	0.0013	0.35	0.56	0.0006	0	-
1275 Lennox	Berkley	1.25	0.5	0	0.5	0.5	0.35	0	1	1	1		0.22	0.0005	0.35	0.22	0.0002	1	0.00022
1279 Lennox	Berkley	1.25	0.5	0	0.5	0.5	0.35	1	1	2	2		0.44	0.0011	0.35	0.44	0.0004	0	-
1305 Lennox	Berkley	1	1	1	2	2	0.35	1	0	1	1		0.70	0.0017	0.35	0.70	0.0007	1	0.00070
1345 Lennox	Berkley	1	0.5	1	1.5	1	0.35	0	1	1	1		0.35	0.0008	0.35	0.35	0.0004	0	-
1383 Lennox	Berkley	1	0.5	1	1.5	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
1425 Lennox	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	4	0.00002
1477 Lennox	Berkley	0.8	1	0	1	1	0.35	0	0	0	0.5		0.14	0.0003	0.35	0.14	0.0001	2	0.00007
1479 Lennox	Berkley	1	1	0	1	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
1491 Lennox	Berkley	1	1	0	1	1	0.35	1	1	2	2		0.70	0.0017	0.35	0.70	0.0007	2	0.00035
1535 Lennox	Berkley	1	1	1	2	2	0.35	1	1	2	2		1.40	0.0034	0.35	1.40	0.0014	2	0.00070
1557 Lennox	Berkley	1	1	0	1	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
1583 Lennox	Berkley	1	1	0	1	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
1593 Lennox	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	3	0.00003
2402 Swinburne	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	1	0.00010
2410 Swinburne	Berkley	1	0.5	1	1.5	1	0.35	0	1	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
2414 Swinburne	Berkley	1	0.5	0	0.5	0.5	0.35	0	1	1	1		0.18	0.0004	0.35	0.18	0.0002	1	0.00018
1677 Layton	Berkley	1	0.5	0	0.5	0.5	0.35	0	1	1	1		0.18	0.0004	0.35	0.18	0.0002	1	0.00018
1691 Layton	Berkley	1	1	1	2	2	0.35	1	1	2	2		1.40	0.0034	0.35	1.40	0.0014	1	0.00140
1709 Layton	Berkley	1	1	1	2	2	0.35	0	1	1	1		0.70	0.0017	0.35	0.70	0.0007	1	0.00070
1731 Layton	Berkley	1	1	1	2	2	0.35	1	0	1	1		0.70	0.0017	0.35	0.70	0.0007	1	0.00070
1753 Layton	Berkley	0.8	0.5	0	0.5	0.5	0.35	1	1	2	2		0.28	0.0007	0.35	0.28	0.0003	2	0.00014
1775 Layton	Berkley	1	1	1	2	2	0.35	0	0	0	0.5		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
1797 Layton	Berkley	1.25	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.11	0.0003	0.35	0.11	0.0001	1	0.00011
1815 Layton	Berkley	0.8	0.5	1	1.5	1	0.35	1	0	1	1		0.28	0.0007	0.35	0.28	0.0003	2	0.00014
2391 Carman	Berkley	1	1	0	1	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
2379 Carman	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	3	0.00003
2360 Carman S	Berkley	1	0.5	0	0.5	0.5	0.35	1	1	2	2		0.35	0.0008	0.35	0.35	0.0004	1	0.00035
2360 Carman N.	Berkley	1	0.5	0	0.5	0.5	0.35	1	0	1	1		0.18	0.0004	0.35	0.18	0.0002	1	0.00018
2372 Carman	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	2	0.00005
2386 Carman	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.07	0.0002	0.35	0.07	0.0001	2	0.00004
1839 Layton	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.07	0.0002	0.35	0.07	0.0001	1	0.00007
1847 Layton	Berkley	0.8	0.5	0	0.5	0.5	0.35	1	0	1	1		0.14	0.0003	0.35	0.14	0.0001	1	0.00014
1855 Layton	Berkley	1	0.5	0	0.5	0.5	0.35	0	0	0	0.5		0.09	0.0002	0.35	0.09	0.0001	1	0.00009
1863 Layton	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	0.0001	1	0.00010
Hayseed/Layton Gully	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	9.80E-05	2	0.00005
2448 Hayseed	Berkley	0.8	0.5	1	1.5	1	0.35	0	1	1	1		0.28	0.0007	0.35	0.28	2.80E-04	1	0.00028
2454 Hayseed	Berkley	1	1	0	1	1	0.35	1	0	1	1		0.35	0.0008	0.35	0.35	3.50E-04	1	0.00035
2462 Hayseed	Berkley	0.8	0	0	0	0.35	0.35	0	1	1	1		0.10	0.0002	0.35	0.10	9.80E-05	2	0.00005
2468 Hayseed	Berkley	0.8	0	0	0	0.35	0.35	0	0	0	0.5		0.05	0.0001	0.35	0.05	4.90E-05	2	0.00002
2474 Hayseed	Berkley	0.8	0.5	0	0.5	0.5	0.35	0	0	0	0.5	0.07	0.0002	0.35	0.07	7.00E-05	1	0.00007	
2480 Hayseed	Berkley	0.8	0.5	0	0.5	0.5	0.35	1	1	2	2	0.28	0.0007	0.35	0.28	2.80E-04	1	0.00028	
2486 Hayseed	Berkley	1	0.5	0	0.5	0.5	0.35	1	0	1									

Westlynn, Pemberton Heights

Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
4780 Hoskins	Westlynn	0.8	0	0	0	0.35	0.35	0	1	1	1	0.8	0.08	0.0002	0.35	0.08	0.0001	1	0.00008
4778 Hoskins	Westlynn	0.8	0	0	0	0.35	0.35	0	1	1	1	0.8	0.08	0.0002	0.35	0.08	0.0001	1	0.00008
4774 Hoskins	Westlynn	0.8	0.5	0	0.5	0.5	0.35	1	1	2	2	0.8	0.22	0.0005	0.35	0.22	0.0002	2	0.00011
4772 Hoskins	Westlynn	0.8	0	0	0	0.35	0.35	0	0	0	0.5	0.8	0.04	0.0001	0.35	0.04	0.00004	2	0.00002
2345 Kilmarnock	Westlynn	0.8	0.5	0	0.5	0.5	0.5	1	0	1	1	1	0.20	0.0005	0.5	0.20	0.0002	2	0.00010
2339 Kilmarnock	Westlynn	0.8	1	0	1	1	0.35	1	0	1	1	1	0.28	0.0007	0.35	0.28	0.0003	1	0.00028
1864 Beaulynn	Westlynn	0.8	0.5	0	0.5	0.5	0.35	0	1	1	1	1	0.14	0.0003	0.35	0.14	0.0001	2	0.00007
1858 Beaulynn	Westlynn	0.8	1	0	1	1	0.35	0	1	1	1	1	0.28	0.0007	1.25	1.00	0.0010	2	0.00050
1751 Irene	Westlynn	1	0	0	0	0.35	0.75	1	1	2	2	1	0.53	0.0013	0.35	0.25	0.0002	0	-
1742 Irene	Westlynn	1	0	0	0	0.35	0.75	1	1	2	2	1	0.53	0.0013	0.35	0.25	0.0002	0	-
4150 Lynn Valley	Westlynn	1	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.63	0.0015	1.25	0.63	0.0006	0	-
2620 Lauralynn	Westlynn	1	0.5	0	0.5	0.5	1.25	1	0	1	1	1	0.63	0.0015	0.35	0.18	0.0002	0	-
1595 Graveley (W)	Pemberton Heights	1	0	0	0	0.35	0.75	0	0	0	0.5	0.8	0.11	0.0003	0.35	0.05	0.0000	1	0.00005
1595 Graveley (S)	Pemberton Heights	1	0	0	0	0.35	0.75	0	1	1	1	0.8	0.21	0.0005	0.35	0.10	0.0001	1	0.00010
1567 Graveley	Pemberton Heights	1	0	0	0	0.35	0.5	0	0	0	0.5	0.8	0.07	0.0002	0.35	0.05	0.0000	3	0.00002
1565 Graveley	Pemberton Heights	1	0	0	0	0.35	0.5	0	1	1	1	0.8	0.14	0.0003	0.35	0.10	0.0001	1	0.00010
1415 W Keith	Pemberton Heights	1	0.5	0	0.5	0.5	0.75	0	0	0	0.5	0.8	0.15	0.0004	0.35	0.07	0.0001	2	0.00004
1395 W Keith	Pemberton Heights	1	0	0	0	0.35	0.35	0	0	0	0.5	0.8	0.05	0.0001	0.35	0.05	0.0000	1	0.00005

Capilano

Average Slide Likelihood = 0.0024															Average Slide Likelihood = 0.0010				
2009 Pslide values (BGC, 2009)															2025 Pslide values				
Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
4085 Capilano	Capilano	0.8				0.5	1	0	1	1	1		0.4	0.0010	0.35	0.14	0.0001	1	0.00014
4421 Patterdale	Capilano	0.8				0.5	1	0	1	1	1		0.4	0.0010	0.35	0.14	0.0001	0	-

Riverside West

Average Slide Likelihood = 0.0024															Average Slide Likelihood = 0.0010				
2010 Pslide values															2025 Pslide values				
Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
1287 Seymour	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.35	0.18	0.0002	1	0.00018
1273 Seymour	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.35	0.12	0.0001	1	0.00012
1261 Seymour	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.35	0.12	0.0001	1	0.00012
1147 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1151 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1155 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1159 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1163 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1167 Heritage	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.5	0.25	0.0003	1	0.00025
1171 Heritage	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.5	0.25	0.0003	1	0.00025
1175 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
1179 Heritage	Riverside West	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	1	0.00018
985 Heritage	Riverside West	0.8	0	0	0	0.35	0.5	0	1	1	1		0.14	0.0003	0.5	0.14	0.0001	1	0.00014
979 Heritage	Riverside West	0.8	0	0	0	0.35	0.5	0	1	1	1		0.14	0.0003	0.5	0.14	0.0001	1	0.00014
973 Heritage	Riverside West	0.8	0	0	0	0.35	0.5	0	1	1	1		0.14	0.0003	0.5	0.14	0.0001	1	0.00014
967 Heritage	Riverside West	0.8	0	0	0	0.35	0.5	0	1	1	1		0.14	0.0003	0.5	0.14	0.0001	1	0.00014
689 Bow	Riverside West	1.25	0.5	0	0.5	0.5	0.5	0	0	0	0.5		0.16	0.0004	0.35	0.11	0.0001	1	0.00011
687 Bow	Riverside West	1.25	0	0	0	0.35	0.5	0	1	1	1		0.22	0.0005	0.35	0.15	0.0002	1	0.00015
683 Bow	Riverside West	1	0.5	0	0.5	0.5	0.5	0	0	0	0.5		0.13	0.0003	0.35	0.09	0.0001	1	0.00009
679 Seymour	Riverside West	1.25	0	0	0	0.35	0.5	0	1	1	1		0.22	0.0005	0.35	0.15	0.0002	1	0.00015
647 Seymour	Riverside West	1.25	0.5	0	0.5	0.5	0.5	0	1	1	1		0.31	0.0008	0.35	0.22	0.0002	1	0.00022
639 Seymour	Riverside West	1.25	0.5	0	0.5	0.5	0.5	0	1	1	1		0.31	0.0008	0.35	0.22	0.0002	1	0.00022
633 Seymour	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.35	0.18	0.0002	1	0.00018
631 Seymour	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.35	0.18	0.0002	1	0.00018
625 Seymour	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.35	0.18	0.0002	1	0.00018
621 Seymour	Riverside West	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.35	0.18	0.0002	1	0.00018

Mosquito Creek West

Average Slide Likelihood = 0.0024															Average Slide Likelihood = 0.0010				
2010 Pslide values															2025 Pslide values				
Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
4424 Skyline	Mosquito Creek	1	0	0	0	0.35	0.75	0	1	1	1		0.26	0.0006	0.75	0.26	0.0003	0	-
518 Alpine Court - West	Mosquito Creek	1.25	0	0	0	0.35	1.25	0	0	0	0.5		0.27	0.0007	1.25	0.27	0.0003	1	0.00027
518 Alpine Court - East	Mosquito Creek	1	0	0	0	0.35	1.25	0	0	0	0.5		0.22	0.0005	1.25	0.22	0.0002	0	-
515 Alpine	Mosquito Creek	1	0	0	0	0.35	1.25	0	0	0	0.5		0.22	0.0005	0.5	0.09	0.0001	2	0.00004
4867 Skyline	Mosquito Creek	1.25	0	0	0	0.35	1.25	0	0	0	0.5		0.27	0.0007	0.5	0.11	0.0001	0	-
647 Croydon	Mosquito Creek	1	0	0	0	0.35	0.5	0	1	1	1		0.18	0.0004	0.5	0.18	0.0002	0	-
481 Ventura	Mosquito Creek	1.25	0	0	0	0.35	1.25	1	1	2	2		1.09	0.0026	1.25	1.09	0.0011	0	-
4717 Prospect	Mosquito Creek	1	0.5	0	0.5	0.5	0.5	0	1	1	1		0.25	0.0006	0.5	0.25	0.0003	0	-
4685 Prospect	Mosquito Creek	1	0	0	0	0.35	0.5	1	0	1	1		0.18	0.0004	0.5	0.18	0.0002	6	0.00003

West Hastings Escarpment

		Average Slide Likelihood = 0.0024													Average Slide Likelihood = 0.0010				
		2013 Pslide values (BGC, May 2013)													2025 Pslide values				
Address	Escarpment	Slope Score	Soil Crest	Soil Slope	Soil Sum	Soil Score	Water Score	Def Crest	Def Slope	Def Sum	Deformation Score	Gravel Content	Adjustment Factor	Pslide	Water Score	Adjustment Factor	Pslide	Slide Paths with Homes Downslope (mapped from 2022 lidar)	Pslide/path
2604 Lauralynn	West Hastings	0.8	0	0	0	0.35	1.25	0	0	0	0.5	1	0.18	0.0004	1.25	0.18	0.0002	0	-
2602 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	1.25	0.50	0.0005	1	0.00050
2590 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	0.35	0.14	0.0001	0	-
2574 Lauralynn	West Hastings	1	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.63	0.0015	1.25	0.63	0.0006	0	-
2558 Lauralynn	West Hastings	1	0.5	0	0.5	0.5	1.25	1	1	2	2	1	1.25	0.0030	0.35	0.35	0.0004	0	-
2542 Lauralynn	West Hastings	1.25	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.78	0.0019	0.35	0.22	0.0002	1	0.00022
2526 Lauralynn	West Hastings	0.8	1	0	1	1	1.25	0	0	0	0.5	1	0.50	0.0012	1.25	0.50	0.0005	1	0.00050
2510 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	1.25	0.50	0.0005	0	-
2498 Lauralynn	West Hastings	1	1	0	1	1	1.25	0	1	1	1	1	1.25	0.0030	1.25	1.25	0.0013	0	-
2486 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	1.25	0.50	0.0005	0	-
2474 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	1	0	1	1	1	0.50	0.0012	1.25	0.50	0.0005	0	-
2462 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	1	1	2	2	1	1.00	0.0024	0.35	0.28	0.0003	1	0.00028
2450 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	0.35	0.14	0.0001	3	0.00005
2438 Lauralynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	0	0	0.5	1	0.25	0.0006	0.35	0.07	0.0001	1	0.00007
2248 Greylynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	0.35	0.14	0.0001	3	0.00005
2240 Greylynn	West Hastings	0.8	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.50	0.0012	0.35	0.14	0.0001	1	0.00014
2232 Greylynn	West Hastings	0.8	0	0	0	0.35	1.25	1	1	2	2	1	0.70	0.0017	0.35	0.20	0.0002	1	0.00020
2224 Greylynn	West Hastings	0.8	0	0	0	0.35	1.25	0	1	1	1	1	0.35	0.0008	0.35	0.10	0.0001	1	0.00010
2208 Greylynn	West Hastings	0.8	0	0	0	0.35	1.25	0	1	1	1	1	0.35	0.0008	1.25	0.35	0.0004	1	0.00035
2190 Greylynn	West Hastings	1	0	0	0	0.35	1.25	0	1	1	1	1	0.44	0.0011	0.35	0.12	0.0001	1	0.00012
1588 Merlynn	West Hastings	0.8	0	0	0	0.35	1	1	0	1	1	1	0.28	0.0007	1	0.28	0.0003	1	0.00028
1582 Merlynn	West Hastings	1.25	0	0	0	0.35	0.35	0	1	1	1	1	0.15	0.0004	0.35	0.15	0.0002	1	0.00015
1576 Merlynn	West Hastings	1.25	0	1	1	0.35	1.25	0	1	1	1	1	0.55	0.0013	0.35	0.15	0.0002	1	0.00015
1570 Merlynn	West Hastings	1	0.5	0	0.5	0.5	1.25	0	1	1	1	1	0.63	0.0015	1.25	0.63	0.0006	1	0.00063

Table D-3. Life-Safety Risk to Properties at the Base of Escarpment Slopes

Downslope Address	Building ID	Escarpment	Property at Slope Crest	Closest Upslope Property			Slope Angle (deg)	Slope Height (m)	Pslide	Spatial Impact + Vulnerability (V)	Individual Risk	Group Risk			
				Upslope Property (Y/N)	Upslope Property	Vulnerability at Upslope property					Annual PDI	No. Occupants (E)	Occupant Temporal (PT:S)	N (Fatalities)	Societal Risk (per year)
2336 TreeTop Lane	BLDG13192	Berkley	2223 Berkley	No	-	-	21	53	2.80E-04	0.004	8.3E-07	4	0.5	8.88E-03	2.49E-06
2354 TreeTop Lane	BLDG13125	Berkley	2223 Berkley	No	-	-	21	53	2.80E-04	0.004	8.3E-07	4	0.5	8.88E-03	2.49E-06
2336 TreeTop Lane	BLDG13192	Berkley	2217 Berkley	No	-	-	21	53	8.75E-04	0.004	2.6E-06	4	0.5	8.88E-03	7.77E-06
2296 Chapman Way	BLDG25600	Berkley	2205 Berkley	No	-	-	19	55	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2296 Chapman Way	BLDG25600	Berkley	2191 Berkley	No	-	-	19	56	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2296 Chapman Way	BLDG25600	Berkley	2175 Berkley	No	-	-	19	56	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2296 Chapman Way	BLDG25600	Berkley	2157 Berkley	No	-	-	19	56	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2430 Chapman Way	BLDG13703	Berkley	2141 Berkley	No	-	-	29	53	4.90E-05	0.562	1.8E-05	4	0.5	1.12E+00	5.50E-05
2230 Chapman Way	BLDG13634	Berkley	2141 Berkley	Yes	2430 Chapman Way	0.562	24	69	4.90E-05	0.155	5.1E-06	4	0.5	3.11E-01	1.52E-05
2256 Chapman Way	BLDG13586	Berkley	2141 Berkley	Yes	2430 Chapman Way	0.562	24	69	4.90E-05	0.155	5.1E-06	4	0.5	3.11E-01	1.52E-05
2243 Chapman Way	BLDG13522	Berkley	2141 Berkley	Yes	2230 Chapman Way	0.155	19	69	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2230 Chapman Way	BLDG13634	Berkley	2125 Berkley	No	-	-	24	70	9.80E-05	0.193	1.3E-05	4	0.5	3.86E-01	3.78E-05
2222 Chapman Way	BLDG13704	Berkley	2125 Berkley	No	-	-	24	70	9.80E-05	0.193	1.3E-05	4	0.5	3.86E-01	3.78E-05
2243 Chapman Way	BLDG13522	Berkley	2125 Berkley	Yes	2230 Chapman Way	0.155	19	70	9.80E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2225 Chapman Way	BLDG13595	Berkley	2125 Berkley	Yes	2230 Chapman Way	0.155	19	70	9.80E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2222 Chapman Way	BLDG13704	Berkley	2486 Hayseed	No	-	-	25	70	1.75E-04	0.285	3.3E-05	4	0.5	5.70E-01	9.97E-05
2206 Chapman Way	BLDG13767	Berkley	2486 Hayseed	No	-	-	20	70	1.75E-04	0.002	2.4E-07	4	0.5	4.10E-03	7.17E-07
2225 Chapman Way	BLDG13595	Berkley	2486 Hayseed	Yes	2222 Chapman Way	0.193	20	70	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2192 Chapman Way	BLDG13812	Berkley	2480 Hayseed	No	-	-	25	71	2.80E-04	0.285	5.3E-05	4	0.5	5.70E-01	1.59E-04
2206 Chapman Way	BLDG13767	Berkley	2480 Hayseed	No	-	-	25	71	2.80E-04	0.285	5.3E-05	4	0.5	5.70E-01	1.59E-04
2207 Chapman Way	BLDG13681	Berkley	2480 Hayseed	Yes	2192 Chapman Way	0.285	20	71	2.80E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2225 Chapman Way	BLDG13595	Berkley	2480 Hayseed	Yes	2192 Chapman Way	0.285	20	71	2.80E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2180 Chapman Way	BLDG13877	Berkley	2474 Hayseed	No	-	-	28	72	7.00E-05	0.566	2.6E-05	4	0.5	1.13E+00	7.92E-05
2192 Chapman Way	BLDG13812	Berkley	2474 Hayseed	No	-	-	28	72	7.00E-05	0.566	2.6E-05	4	0.5	1.13E+00	7.92E-05
2207 Chapman Way	BLDG13681	Berkley	2474 Hayseed	Yes	2180 Chapman Way	0.566	21	72	7.00E-05	0.004	2.1E-07	4	0.5	8.88E-03	6.22E-07
2185 Chapman Way	BLDG13755	Berkley	2474 Hayseed	Yes	2180 Chapman Way	0.566	21	72	7.00E-05	0.004	2.1E-07	4	0.5	8.88E-03	6.22E-07
2180 Chapman Way	BLDG13877	Berkley	2468 Hayseed	No	-	-	27	71	2.45E-05	0.511	8.3E-06	4	0.5	1.02E+00	2.50E-05
2192 Chapman Way	BLDG13812	Berkley	2468 Hayseed	No	-	-	27	71	2.45E-05	0.511	8.3E-06	4	0.5	1.02E+00	2.50E-05
2207 Chapman Way	BLDG13681	Berkley	2468 Hayseed	Yes	2180 Chapman Way	0.566	20	71	2.45E-05	0.001	1.5E-08	4	0.5	1.82E-03	4.47E-08
2185 Chapman Way	BLDG13755	Berkley	2468 Hayseed	Yes	2180 Chapman Way	0.566	20	71	2.45E-05	0.001	1.5E-08	4	0.5	1.82E-03	4.47E-08
2170 Chapman Way	BLDG13932	Berkley	2468 Hayseed	No	-	-	27	64	2.45E-05	0.511	8.3E-06	4	0.5	1.02E+00	2.50E-05
2151 Chapman Way	BLDG13817	Berkley	2468 Hayseed	Yes	2170 Chapman Way	0.511	20	64	2.45E-05	0.001	1.5E-08	4	0.5	1.82E-03	4.47E-08
2086 Rivergrove	BLDG14099	Berkley	2462 Hayseed	Yes	2078 Rivergrove	0.636	33	73	4.90E-05	0.595	1.9E-05	4	0.5	1.19E+00	5.83E-05
2078 Rivergrove	BLDG14216	Berkley	2462 Hayseed	No	-	-	35	73	4.90E-05	0.636	2.1E-05	4	0.5	1.27E+00	6.23E-05
2158 Chapman Way	BLDG13960	Berkley	2462 Hayseed	Yes	2078 Rivergrove	0.636	26	73	4.90E-05	0.379	1.2E-05	4	0.5	7.58E-01	3.71E-05
2151 Chapman Way	BLDG13817	Berkley	2462 Hayseed	Yes	2158 Chapman Way	0.379	20	73	4.90E-05	0.001	3.0E-08	4	0.5	1.82E-03	8.94E-08
2078 Rivergrove	BLDG14216	Berkley	2462 Hayseed	No	-	-	34	57	4.90E-05	0.595	1.9E-05	4	0.5	1.19E+00	5.83E-05
2067 Rivergrove	BLDG14143	Berkley	2462 Hayseed	Yes	2078 Rivergrove	0.636	25	57	4.90E-05	0.137	4.5E-06	4	0.5	2.74E-01	1.34E-05
2148 Chapman Way	BLDG13997	Berkley	2462 Hayseed	Yes	2067 Rivergrove	0.137	24	57	4.90E-05	0.006	2.0E-07	4	0.5	1.25E-02	6.14E-07
2078 Rivergrove	BLDG14216	Berkley	2454 Hayseed	No	-	-	33	58	1.75E-04	0.595	6.9E-05	4	0.5	1.19E+00	2.08E-04
2158 Chapman Way	BLDG13960	Berkley	2454 Hayseed	Yes	2078 Rivergrove	0.636	25	58	3.50E-04	0.137	3.2E-05	4	0.5	2.74E-01	9.58E-05
2067 Rivergrove	BLDG14143	Berkley	2454 Hayseed	Yes	2064 Rivergrove	0.501	25	56	3.50E-04	0.137	3.2E-05	4	0.5	2.74E-01	9.58E-05
2038 Rivergrove	BLDG14398	Berkley	Hayseed/Layton Gully	No	-	-	29	53	4.90E-05	0.562	1.8E-05	4	0.5	1.12E+00	5.50E-05
2352 Riverbank	BLDG14297	Berkley	2448 Hayseed	Yes	2050 Rivergrove	0.501	24	52	2.80E-04	0.042	7.8E-06	4	0.5	8.31E-02	2.33E-05
2346 Riverbank	BLDG14254	Berkley	2448 Hayseed	Yes	2352 Riverbank	0.042	22	52	2.80E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2336 Riverbank	BLDG14212	Berkley	2448 Hayseed	Yes	2346 Riverbank	0.000	20	52	2.80E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2026 Rivergrove	BLDG14449	Berkley	Hayseed/Layton Gully	No	-	-	27	47	4.90E-05	0.464	1.5E-05	4	0.5	9.28E-01	4.54E-05
2018 Rivergrove	BLDG14549	Berkley	1863 Layton	No	-	-	28	47	9.80E-05	0.520	3.4E-05	4	0.5	1.04E+00	1.02E-04
2018 Rivergrove	BLDG14549	Berkley	1855 Layton	No	-	-	28	43	8.75E-05	0.520	3.0E-05	4	0.5	1.04E+00	9.10E-05
2029 Rivergrove	BLDG14407	Berkley	1855 Layton	Yes	2018 Rivergrove	0.520	21	43	8.75E-05	0.001	5.3E-08	4	0.5	1.82E-03	1.60E-07
2002 Rivergrove	BLDG14610	Berkley	1847 Layton	No	-	-	27	42	1.40E-04	0.464	4.3E-05	4	0.5	9.28E-01	1.30E-04
2018 Rivergrove	BLDG14549	Berkley	1847 Layton	No	-	-	27	42	1.40E-04	0.464	4.3E-05	4	0.5	9.28E-01	1.30E-04
2029 Rivergrove	BLDG14407	Berkley	1847 Layton	Yes	2002 Rivergrove	0.464	20	42	1.40E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2002 Rivergrove	BLDG14610	Berkley	1839 Layton	No	-	-	28	42	7.00E-05	0.520	2.4E-05	4	0.5	1.04E+00	7.28E-05
2029 Rivergrove	BLDG14407	Berkley	1839 Layton	Yes	2002 Rivergrove	0.464	20	42	7.00E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1988 Rivergrove	BLDG14675	Berkley	2386 Carman	No	-	-	29	42	3.50E-05	0.562	1.3E-05	4	0.5	1.12E+00	3.93E-05
2002 Rivergrove	BLDG14610	Berkley	2386 Carman	No	-	-	29	42	3.50E-05	0.562	1.3E-05	4	0.5	1.12E+00	3.93E-05
2015 Rivergrove	BLDG14458	Berkley	2386 Carman	Yes	1988 Rivergrove	0.562	22	42	3.50E-05	0.003	6.9E-08	4	0.5	5.95E-03	2.08E-07
2029 Rivergrove	BLDG14407	Berkley	2386 Carman	Yes	1988 Rivergrove	0.562	22	42	3.50E-05	0.003	6.9E-08	4	0.5	5.95E-03	2.08E-07
1978 Rivergrove	BLDG14709	Berkley	2386 Carman	No	-	-	30	40	3.50E-05	0.595	1.4E-05	4	0.5	1.19E+00	4.16E-05
1988 Rivergrove	BLDG14675	Berkley	2386 Carman	No	-	-	30	40	3.50E-05	0.595	1.4E-05	4	0.5	1.19E+00	4.16E-05
1985 Rivergrove	BLDG14510	Berkley	2386 Carman	Yes	1978 Rivergrove	0.595	22	40	3.50E-05	0.003	6.9E-08	4	0.5	5.95E-03	2.08E-07
2015 Rivergrove	BLDG14458	Berkley	2386 Carman	Yes	1978 Rivergrove	0.595	22	40	3.50E-05	0.003	6.9E-08	4	0.5	5.95E-03	2.08E-07
2353 Riverbank	BLDG14319	Berkley	2386 Carman	Yes	2015 Rivergrove	0.003	20	40	3.50E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1978 Rivergrove	BLDG14709	Berkley	2372 Carman	No	-	-	28	40	4.90E-05	0.520	1.7E-05	4	0.5	1.04E+00	5.09E-05

Downslope Address	Building ID	Escarpment	Property at Slope Crest	Closest Upslope Property			Slope Angle (deg)	Slope Height (m)	Pslide	Spatial Impact + Vulnerability (V)	Individual Risk	Group Risk			
				Upslope Property (Y/N)	Upslope Property	Vulnerability at Upslope property					Annual PDI	No. Occupants (E)	Occupant Temporal (PT:S)	N (Fatalities)	Societal Risk (per year)
1950 Rivergrove	BLDG14716	Berkley	2372 Carman	No	-	-	28	40	4.90E-05	0.520	1.7E-05	4	0.5	1.04E+00	5.09E-05
1985 Rivergrove	BLDG14510	Berkley	2372 Carman	Yes	1978 Rivergrove	0.595	21	40	4.90E-05	0.001	3.0E-08	4	0.5	1.82E-03	8.94E-08
2015 Rivergrove	BLDG14458	Berkley	2372 Carman	Yes	1978 Rivergrove	0.595	21	40	4.90E-05	0.001	3.0E-08	4	0.5	1.82E-03	8.94E-08
2353 Riverbank	BLDG14319	Berkley	2372 Carman	Yes	1985 Rivergrove	0.003	19	40	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1946 Rivergrove	BLDG14727	Berkley	2372 Carman	No	-	-	26	44	4.90E-05	0.379	1.2E-05	4	0.5	7.58E-01	3.71E-05
1946 Rivergrove	BLDG14727	Berkley	2372 Carman	No	-	-	26	44	4.90E-05	0.379	1.2E-05	4	0.5	7.58E-01	3.71E-05
1838 Riverside	BLDG15090	Berkley	2360 Carman N.	No	-	-	28	72	1.75E-04	0.566	6.6E-05	4	0.5	1.13E+00	1.98E-04
1875 Riverside	BLDG15032	Berkley	2360 Carman N.	Yes	1838 Riverside	0.566	22	72	1.75E-04	0.024	2.8E-06	4	0.5	4.77E-02	8.36E-06
1777 Riverside	BLDG15440	Berkley	2360 Carman S.	Yes	1788 Riverside	0.372	21	78	3.50E-04	0.004	1.0E-06	4	0.5	8.88E-03	3.11E-06
1819 Riverside	BLDG15318	Berkley	2360 Carman S.	Yes	1788 Riverside	0.372	21	78	3.50E-04	0.004	1.0E-06	4	0.5	8.88E-03	3.11E-06
1758 Riverside	BLDG23255	Berkley	2379 Carman	No	-	-	27	80	3.27E-05	0.511	1.1E-05	4	0.5	1.02E+00	3.34E-05
1748 Riverside	BLDG23256	Berkley	2379 Carman	No	-	-	27	80	3.27E-05	0.511	1.1E-05	4	0.5	1.02E+00	3.34E-05
1733 Riverside	BLDG15550	Berkley	2379 Carman	Yes	1758 Riverside	0.511	21	80	3.27E-05	0.004	9.7E-08	4	0.5	8.88E-03	2.90E-07
1715 Riverside	BLDG15629	Berkley	2379 Carman	Yes	1748 Riverside	0.511	21	80	3.27E-05	0.004	9.7E-08	4	0.5	8.88E-03	2.90E-07
1730 Riverside	BLDG15690	Berkley	2379 Carman	No	-	-	25	75	3.27E-05	0.285	6.2E-06	4	0.5	5.70E-01	1.86E-05
1718 Riverside	BLDG15653	Berkley	2379 Carman	Yes	1730 Riverside	0.285	21	75	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1710 Riverside	BLDG15727	Berkley	2379 Carman	Yes	1730 Riverside	0.285	21	75	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1730 Riverside	BLDG15690	Berkley	2379 Carman	No	-	-	25	78	3.27E-05	0.285	6.2E-06	4	0.5	5.70E-01	1.86E-05
1748 Riverside	BLDG23256	Berkley	2379 Carman	Yes	1730 Riverside	0.285	21	78	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1730 Riverside	BLDG15690	Berkley	2391 Carman	No	-	-	24	78	3.50E-04	0.193	4.5E-05	4	0.5	3.86E-01	1.35E-04
1718 Riverside	BLDG15653	Berkley	2391 Carman	Yes	1730 Riverside	0.285	21	78	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1710 Riverside	BLDG15727	Berkley	2391 Carman	Yes	1730 Riverside	0.285	21	78	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1730 Riverside	BLDG15690	Berkley	1815 Layton	No	-	-	23	76	1.40E-04	0.068	6.3E-06	4	0.5	1.35E-01	1.89E-05
1718 Riverside	BLDG15653	Berkley	1815 Layton	Yes	1730 Riverside	0.285	20	76	1.40E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1710 Riverside	BLDG15727	Berkley	1815 Layton	Yes	1730 Riverside	0.285	20	76	1.40E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1650 Riverside	BLDG15815	Berkley	1815 Layton	No	-	-	22	69	1.40E-04	0.035	3.3E-06	4	0.5	7.00E-02	9.80E-06
1730 Riverside	BLDG15690	Berkley	1797 Layton	No	-	-	22	76	1.09E-04	0.035	2.6E-06	4	0.5	7.00E-02	7.66E-06
1718 Riverside	BLDG15653	Berkley	1797 Layton	Yes	1730 Riverside	0.285	20	76	1.09E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1710 Riverside	BLDG15727	Berkley	1797 Layton	Yes	1730 Riverside	0.285	20	76	1.09E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1730 Riverside	BLDG15690	Berkley	1775 Layton	No	-	-	21	74	3.50E-04	0.006	1.3E-06	4	0.5	1.12E-02	3.90E-06
1718 Riverside	BLDG15653	Berkley	1775 Layton	Yes	1730 Riverside	0.285	19	74	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1710 Riverside	BLDG15727	Berkley	1775 Layton	Yes	1730 Riverside	0.285	19	74	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1730 Riverside	BLDG15690	Berkley	1753 Layton	No	-	-	20	68	1.40E-04	0.002	1.9E-07	4	0.5	4.10E-03	5.73E-07
1650 Riverside	BLDG15815	Berkley	1753 Layton	No	-	-	22	68	1.40E-04	0.035	3.3E-06	4	0.5	7.00E-02	9.80E-06
1650 Riverside	BLDG15815	Berkley	1731 Layton	No	-	-	21	68	7.00E-04	0.006	2.6E-06	4	0.5	1.12E-02	7.81E-06
1650 Riverside	BLDG15815	Berkley	1709 Layton	No	-	-	21	68	7.00E-04	0.006	2.6E-06	4	0.5	1.12E-02	7.81E-06
1650 Riverside	BLDG15815	Berkley	1691 Layton	No	-	-	21	68	1.40E-03	0.006	5.2E-06	4	0.5	1.12E-02	1.56E-05
1650 Riverside	BLDG15815	Berkley	2410 Swinburne	No	-	-	20	60	3.50E-04	0.002	4.8E-07	4	0.5	4.10E-03	1.43E-06
1650 Riverside	BLDG15815	Berkley	2414 Swinburne	No	-	-	21	61	1.75E-04	0.006	6.5E-07	4	0.5	1.12E-02	1.95E-06
1650 Riverside	BLDG15815	Berkley	2402 Swinburne	No	-	-	22	57	9.80E-05	0.024	1.6E-06	4	0.5	4.77E-02	4.68E-06
1730 Riverside	BLDG15690	Berkley	2402 Swinburne	Yes	1650 Riverside	0.035	19	57	9.80E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1650 Riverside	BLDG15815	Berkley	1593 Lennox	No	-	-	21	58	3.27E-05	0.004	9.7E-08	4	0.5	8.88E-03	2.90E-07
1730 Riverside	BLDG15690	Berkley	1593 Lennox	Yes	1650 Riverside	0.035	19	58	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2300 Swinburne	BLDG16053	Berkley	1593 Lennox	Yes	2312 Swinburne	0.000	19	70	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2312 Swinburne	BLDG15995	Berkley	1593 Lennox	Yes	2316 Swinburne	0.035	21	70	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2316 Swinburne	BLDG15988	Berkley	1593 Lennox	No	-	-	22	70	3.27E-05	0.035	7.6E-07	4	0.5	7.00E-02	2.29E-06
2300 Swinburne	BLDG16053	Berkley	1583 Lennox	Yes	2312 Swinburne	0.000	19	72	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2312 Swinburne	BLDG15995	Berkley	1583 Lennox	Yes	2316 Swinburne	0.035	21	72	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2316 Swinburne	BLDG15988	Berkley	1583 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
2315 Swinburne	BLDG16239	Berkley	1593 Lennox	No	-	-	23	77	3.27E-05	0.068	1.5E-06	4	0.5	1.35E-01	4.41E-06
2311 Swinburne	BLDG16222	Berkley	1593 Lennox	Yes	2315 Swinburne	0.068	22	77	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1590 Riverside	BLDG16217	Berkley	1593 Lennox	Yes	2311 Swinburne	0.000	19	77	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1580 Riverside	BLDG16322	Berkley	1593 Lennox	Yes	2311 Swinburne	0.000	19	77	3.27E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2300 Swinburne	BLDG16053	Berkley	1557 Lennox	Yes	2312 Swinburne	0.000	19	73	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2312 Swinburne	BLDG15995	Berkley	1557 Lennox	Yes	2316 Swinburne	0.035	20	73	3.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2316 Swinburne	BLDG15988	Berkley	1557 Lennox	No	-	-	22	73	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
2300 Swinburne	BLDG16053	Berkley	1535 Lennox	Yes	2312 Swinburne	0.000	19	76	7.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2312 Swinburne	BLDG15995	Berkley	1535 Lennox	Yes	2316 Swinburne	0.035	21	76	7.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2316 Swinburne	BLDG15988	Berkley	1535 Lennox	No	-	-	22	76	7.00E-04	0.035	1.6E-05	4	0.5	7.00E-02	4.90E-05
1580 Riverside	BLDG16322	Berkley	1535 Lennox	No	-	-	21	82	7.00E-04	0.006	2.6E-06	4	0.5	1.12E-02	7.81E-06
1580 Riverside	BLDG16322	Berkley	1491 Lennox	No	-	-	21	72	3.50E-04	0.006	1.3E-06	4	0.5	1.12E-02	3.90E-06
1554 Riverside	BLDG16375	Berkley	1491 Lennox	No	-	-	21	72	3.50E-04	0.006	1.3E-06	4	0.5	1.12E-02	3.90E-06
1530 Riverside	BLDG16467	Berkley	1491 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1502 Riverside	BLDG16555	Berkley	1491 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1488 Riverside	BLDG16598	Berkley	1491 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1460 Riverside	BLDG16639	Berkley	1491 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1460 Riverside	BLDG16639	Berkley	1477 Lennox	No	-	-	21	70	7.00E-05	0.006	2.6E-07	4	0.5	1.12E-02	7.81E-07

Downslope Address	Building ID	Escarpment	Property at Slope Crest	Closest Upslope Property			Slope Angle (deg)	Slope Height (m)	Pslide	Spatial Impact + Vulnerability (V)	Individual Risk	Group Risk			
				Upslope Property (Y/N)	Upslope Property	Vulnerability at Upslope property					Annual PDI	No. Occupants (E)	Occupant Temporal (PT:S)	N (Fatalities)	Societal Risk (per year)
1458 Riverside	BLDG16679	Berkley	1477 Lennox	No	-	-	21	70	7.00E-05	0.006	2.6E-07	4	0.5	1.12E-02	7.81E-07
1488 Riverside	BLDG16598	Berkley	1477 Lennox	No	-	-	21	70	7.00E-05	0.006	2.6E-07	4	0.5	1.12E-02	7.81E-07
1418 Riverside	BLDG16824	Berkley	1477 Lennox	No	-	-	26	65	7.00E-05	0.429	2.0E-05	4	0.5	8.59E-01	6.01E-05
1426 Riverside	BLDG16826	Berkley	1477 Lennox	Yes	1418 Riverside	0.429	23	65	7.00E-05	0.057	2.7E-06	4	0.5	1.14E-01	7.95E-06
1350 Riverside	BLDG17167	Berkley	1425 Lennox	No	-	-	22	71	2.45E-05	0.035	5.7E-07	4	0.5	7.00E-02	1.72E-06
1320 Riverside	BLDG17306	Berkley	1425 Lennox	No	-	-	22	71	2.45E-05	0.035	5.7E-07	4	0.5	7.00E-02	1.72E-06
1372 Riverside	BLDG17045	Berkley	1383 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1260 Riverside	BLDG17502	Berkley	1305 Lennox	No	-	-	20	69	7.00E-04	0.002	9.6E-07	4	0.5	4.10E-03	2.87E-06
1238 Riverside	BLDG17593	Berkley	1305 Lennox	No	-	-	20	69	7.00E-04	0.002	9.6E-07	4	0.5	4.10E-03	2.87E-06
1226 Riverside	BLDG17672	Berkley	1305 Lennox	No	-	-	19	69	7.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1260 Riverside	BLDG17502	Berkley	1425 Lennox	No	-	-	22	70	2.45E-05	0.035	5.7E-07	4	0.5	7.00E-02	1.72E-06
1238 Riverside	BLDG17593	Berkley	1425 Lennox	No	-	-	21	70	2.45E-05	0.006	9.1E-08	4	0.5	1.12E-02	2.73E-07
1238 Riverside	BLDG17593	Berkley	1275 Lennox	No	-	-	20	66	2.19E-04	0.002	3.0E-07	4	0.5	4.10E-03	8.96E-07
1226 Riverside	BLDG17672	Berkley	1275 Lennox	No	-	-	20	66	2.19E-04	0.002	3.0E-07	4	0.5	4.10E-03	8.96E-07
2424 Carmaria	BLDG12210	West Hastings	2602 Lauralynn	No	-	-	20	19	5.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2344 Carmaria	BLDG12739	West Hastings	2248 Greyllynn	No	-	-	20	27	4.67E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2252 Carmaria	BLDG12944	West Hastings	2240 Greyllynn	No	-	-	21	32	1.40E-04	0.001	8.5E-08	4	0.5	1.82E-03	2.55E-07
2220 Carmaria	BLDG13043	West Hastings	2240 Greyllynn	No	-	-	20	32	1.40E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2220 Carmaria	BLDG13043	West Hastings	2208 Greyllynn	No	-	-	22	31	3.50E-04	0.003	6.9E-07	4	0.5	5.95E-03	2.08E-06
2220 Carmaria	BLDG13043	West Hastings	2190 Greyllynn	No	-	-	22	31	1.23E-04	0.003	2.4E-07	4	0.5	5.95E-03	7.29E-07
2194 Carmaria	BLDG13107	West Hastings	2190 Greyllynn	No	-	-	22	31	1.23E-04	0.003	2.4E-07	4	0.5	5.95E-03	7.29E-07
1672 Davenport	BLDG13539	Westlynn	2345 Kilmarnock	No	-	-	19	22	1.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1680 Davenport	BLDG13510	Westlynn	2345 Kilmarnock	No	-	-	21	22	1.00E-04	0.001	6.1E-08	4	0.5	1.82E-03	1.82E-07
1688 Davenport	BLDG13460	Westlynn	2339 Kilmarnock	No	-	-	23	22	2.80E-04	0.022	4.1E-06	4	0.5	4.37E-02	1.22E-05
1761 Bellelynn	BLDG15137	Westlynn	1864 Beaulynn	No	-	-	22	20	7.00E-05	0.003	1.4E-07	4	0.5	5.95E-03	4.17E-07
1747 Bellelynn	BLDG15222	Westlynn	1858 Beaulynn	No	-	-	26	18	5.00E-04	0.074	2.5E-05	4	0.5	1.48E-01	7.38E-05
1747 Bellelynn	BLDG15222	Westlynn	1858 Beaulynn	No	-	-	22	19	5.00E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2306 Carmaria	BLDG12811	West Hastings	2248 Greyllynn	No	-	-	21	29	4.67E-05	0.001	2.8E-08	4	0.5	1.82E-03	8.51E-08
4741 Woodrow	BLDG01818	Westlynn	4772 Hoskins	No	-	-	21	11	1.96E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
4745 Woodrow	BLDG01773	Westlynn	4772 Hoskins	No	-	-	20	10	1.96E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
4749 Woodrow	BLDG01703	Westlynn	4774 Hoskins	No	-	-	19	12	1.12E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
4753 Woodrow	BLDG01672	Westlynn	4774 Hoskins	No	-	-	19	10	1.12E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
4753 Woodrow	BLDG01672	Westlynn	4778 Hoskins	No	-	-	19	10	7.84E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
4757 Woodrow	BLDG01643	Westlynn	4780 Hoskins	No	-	-	19	12	7.84E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
500 Ventura	BLDG01681	Mosquito	4685 Prospect	No	-	-	20	27	2.92E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
522 Ventura	BLDG01640	Mosquito	4685 Prospect	No	-	-	29	21	2.92E-05	0.415	8.1E-06	4	0.5	8.30E-01	2.42E-05
544 Ventura	BLDG01565	Mosquito	4685 Prospect	No	-	-	29	18	2.92E-05	0.261	5.1E-06	4	0.5	5.23E-01	1.53E-05
550 Ventura	BLDG01486	Mosquito	4685 Prospect	No	-	-	27	16	2.92E-05	0.143	2.8E-06	4	0.5	2.87E-01	8.37E-06
4717 Prospect	BLDG01475	Mosquito	4685 Prospect	No	-	-	29	12	2.92E-05	0.261	5.1E-06	4	0.5	5.23E-01	1.53E-05
552 Palisade	BLDG01730	Mosquito	518 Alpine Court - West	No	-	-	31	20	2.73E-04	0.452	8.2E-05	4	0.5	9.03E-01	2.47E-04
568 Palisade	BLDG01700	Mosquito	515 Alpine	No	-	-	28	14	4.38E-05	0.210	6.1E-06	4	0.5	4.20E-01	1.84E-05
1893 Bowser	BLDG13913	Pemberton	1567 Graveley	No	-	-	26	28	1.63E-05	0.220	2.4E-06	4	0.5	4.40E-01	7.18E-06
1877 Bowser	BLDG13952	Pemberton	1567 Graveley	Yes	1893 Bowser	0.220	22	28	1.63E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1890 Bowser	BLDG13938	Pemberton	1567 Graveley	No	-	-	30	29	1.63E-05	0.452	4.9E-06	4	0.5	9.03E-01	1.47E-05
1866 Bowser	BLDG13967	Pemberton	1567 Graveley	Yes	1890 Bowser	0.452	24	29	1.63E-05	0.006	6.8E-08	4	0.5	1.25E-02	2.05E-07
1850 Bowser	BLDG14011	Pemberton	1567 Graveley	Yes	1866 Bowser	0.006	21	29	1.63E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1844 Bowser	BLDG14046	Pemberton	1567 Graveley	Yes	1850 Bowser	0.000	19	29	1.63E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1890 Bowser	BLDG13938	Pemberton	1565 Graveley	No	-	-	29	29	9.80E-05	0.415	2.7E-05	4	0.5	8.30E-01	8.14E-05
1866 Bowser	BLDG13967	Pemberton	1565 Graveley	Yes	1890 Bowser	0.452	25	29	9.80E-05	0.020	1.3E-06	4	0.5	4.07E-02	3.99E-06
1850 Bowser	BLDG14011	Pemberton	1565 Graveley	Yes	1866 Bowser	0.006	21	29	9.80E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1844 Bowser	BLDG14046	Pemberton	1565 Graveley	Yes	1850 Bowser	0.000	19	29	9.80E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1871 Philip	BLDG14015	Pemberton	1415 W Keith	No	-	-	27	40	3.50E-05	0.464	1.1E-05	4	0.5	9.28E-01	3.25E-05
1861 Philip	BLDG14050	Pemberton	1415 W Keith	Yes	1871 Philip	0.464	24	40	3.50E-05	0.042	9.7E-07	4	0.5	8.31E-02	2.91E-06
1412 Hope	BLDG14142	Pemberton	1415 W Keith	Yes	1861 Philip	0.042	20	40	3.50E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1856 Philip	BLDG14076	Pemberton	1395 W Keith	No	-	-	23	39	4.90E-05	0.022	7.1E-07	4	0.5	4.37E-02	2.14E-06
1840 Philip	BLDG14114	Pemberton	1395 W Keith	Yes	1856 Philip	0.022	20	39	4.90E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1404 Hope	BLDG24585	Pemberton	1415 W Keith	No	-	-	20	39	3.50E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2344 Carmaria	BLDG12739	West Hastings	2248 Greyllynn	No	-	-	19	26	4.67E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2252 Carmaria	BLDG12944	West Hastings	2224 Greyllynn	No	-	-	23	30	9.80E-05	0.022	1.4E-06	4	0.5	4.37E-02	4.28E-06
2180 Carmaria	BLDG13176	West Hastings	1582 Merlynn	No	-	-	23	29	1.53E-04	0.022	2.2E-06	4	0.5	4.37E-02	6.69E-06
1372 Riverside	BLDG17045	Berkley	1425 Lennox	No	-	-	24	76	2.45E-05	0.193	3.1E-06	4	0.5	3.86E-01	9.45E-06
1408 Riverside	BLDG16888	Berkley	1425 Lennox	No	-	-	27	70	2.45E-05	0.511	8.3E-06	4	0.5	1.02E+00	2.50E-05
1400 Riverside	BLDG16913	Berkley	1425 Lennox	Yes	1408 Riverside	0.511	23	70	2.45E-05	0.057	9.3E-07	4	0.5	1.14E-01	2.78E-06
1418 Riverside	BLDG16824	Berkley	1425 Lennox	No	-	-	27	70	2.45E-05	0.511	8.3E-06	4	0.5	1.02E+00	2.50E-05
1426 Riverside	BLDG16826	Berkley	1425 Lennox	Yes	1418 Riverside	0.429	24	70	2.45E-05	0.155	2.5E-06	4	0.5	3.11E-01	7.62E-06
1444 Riverside	BLDG16719	Berkley	1479 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1458 Riverside	BLDG16679	Berkley	1479 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05

Downslope Address	Building ID	Escarpment	Property at Slope Crest	Closest Upslope Property			Slope Angle (deg)	Slope Height (m)	Pslide	Spatial Impact + Vulnerability (V)	Individual Risk	Group Risk			
				Upslope Property (Y/N)	Upslope Property	Vulnerability at Upslope property					Annual PDI	No. Occupants (E)	Occupant Temporal (PT:S)	N (Fatalities)	Societal Risk (per year)
1460 Riverside	BLDG16639	Berkley	1479 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
1488 Riverside	BLDG16598	Berkley	1479 Lennox	No	-	-	22	72	3.50E-04	0.035	8.2E-06	4	0.5	7.00E-02	2.45E-05
2252 Carmaria	BLDG12944	West Hastings	2232 Greylynn	No	-	-	23	32	1.96E-04	0.022	2.9E-06	4	0.5	4.37E-02	8.56E-06
2220 Carmaria	BLDG13043	West Hastings	2232 Greylynn	No	-	-	22	32	1.96E-04	0.003	3.9E-07	4	0.5	5.95E-03	1.17E-06
2220 Carmaria	BLDG13043	West Hastings	1588 Merlynn	No	-	-	21	31	2.80E-04	0.001	1.7E-07	4	0.5	1.82E-03	5.11E-07
2194 Carmaria	BLDG13107	West Hastings	1588 Merlynn	No	-	-	21	31	2.80E-04	0.001	1.7E-07	4	0.5	1.82E-03	5.11E-07
2180 Carmaria	BLDG13176	West Hastings	1576 Merlynn	No	-	-	22	28	1.53E-04	0.003	3.0E-07	4	0.5	5.95E-03	9.11E-07
2180 Carmaria	BLDG13176	West Hastings	1570 Merlynn	No	-	-	19	28	6.25E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
2344 Carmaria	BLDG12739	West Hastings	2438 Lauralynn	No	-	-	21	30	7.00E-05	0.001	4.3E-08	4	0.5	1.82E-03	1.28E-07
1650 Riverside	BLDG15815	Berkley	1677 Layton	No	-	-	21	71	1.75E-04	0.006	6.5E-07	4	0.5	1.12E-02	1.95E-06
621 Seymour	BLDG20656	Riverside West	621 Seymour	No	-	-	30	26	1.75E-04	0.452	5.3E-05	4	0.5	9.03E-01	1.58E-04
615 Seymour	BLDG20714	Riverside West	621 Seymour	Yes	621 Seymour	0.452	21	26	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
625 Seymour	BLDG20632	Riverside West	625 Seymour	No	-	-	30	27	1.75E-04	0.452	5.3E-05	4	0.5	9.03E-01	1.58E-04
615 Seymour	BLDG20714	Riverside West	625 Seymour	Yes	625 Seymour	0.452	21	27	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
631 Seymour	BLDG20584	Riverside West	631 Seymour	No	-	-	30	28	1.75E-04	0.452	5.3E-05	4	0.5	9.03E-01	1.58E-04
633 Seymour	BLDG20559	Riverside West	633 Seymour	No	-	-	31	30	1.75E-04	0.452	5.3E-05	4	0.5	9.03E-01	1.58E-04
639 Seymour	BLDG20541	Riverside West	639 Seymour	No	-	-	31	32	2.19E-04	0.452	6.6E-05	4	0.5	9.03E-01	1.98E-04
657 Seymour	BLDG20618	Riverside West	639 Seymour	Yes	639 Seymour	0.452	22	32	2.19E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
647 Seymour	BLDG20533	Riverside West	647 Seymour	No	-	-	30	34	2.19E-04	0.452	6.6E-05	4	0.5	9.03E-01	1.98E-04
657 Seymour	BLDG20618	Riverside West	647 Seymour	Yes	647 Seymour	0.452	23	34	2.19E-04	0.001	1.3E-07	4	0.5	1.82E-03	3.99E-07
679 Seymour	BLDG20462	Riverside West	679 Seymour	No	-	-	32	36	1.53E-04	0.452	4.6E-05	4	0.5	9.03E-01	1.38E-04
683 Bow	BLDG20417	Riverside West	683 Bow	No	-	-	27	36	8.75E-05	0.314	1.8E-05	4	0.5	6.29E-01	5.50E-05
677 Bow	BLDG20524	Riverside West	683 Bow	Yes	683 Bow	0.314	20	36	8.75E-05	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
687 Bow	BLDG20385	Riverside West	683 Bow	No	-	-	27	36	8.75E-05	0.314	1.8E-05	4	0.5	6.29E-01	5.50E-05
687 Bow	BLDG20385	Riverside West	687 Bow	No	-	-	27	35	1.53E-04	0.314	3.2E-05	4	0.5	6.29E-01	9.62E-05
683 Bow	BLDG20417	Riverside West	687 Bow	No	-	-	27	35	1.53E-04	0.314	3.2E-05	4	0.5	6.29E-01	9.62E-05
677 Bow	BLDG20524	Riverside West	687 Bow	Yes	687 Bow	0.314	20	35	1.53E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
689 Bow	BLDG23093	Riverside West	689 Bow	No	-	-	34	37	1.09E-04	0.452	3.3E-05	4	0.5	9.03E-01	9.88E-05
687 Bow	BLDG20385	Riverside West	689 Bow	No	-	-	34	37	1.09E-04	0.452	3.3E-05	4	0.5	9.03E-01	9.88E-05
677 Bow	BLDG20524	Riverside West	689 Bow	Yes	687 Bow	0.314	24	37	1.09E-04	0.006	4.6E-07	4	0.5	1.25E-02	1.37E-06
967 Heritage	BLDG18396	Riverside West	967 Heritage	No	-	-	19	29	1.40E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
973 Heritage	BLDG18370	Riverside West	973 Heritage	No	-	-	25	34	1.40E-04	0.137	1.3E-05	4	0.5	2.74E-01	3.83E-05
979 Heritage	BLDG18318	Riverside West	979 Heritage	No	-	-	27	34	1.40E-04	0.314	2.9E-05	4	0.5	6.29E-01	8.80E-05
985 Heritage	BLDG18303	Riverside West	985 Heritage	No	-	-	26	34	1.40E-04	0.220	2.1E-05	4	0.5	4.40E-01	6.16E-05
1175 Heritage	BLDG18164	Riverside West	1175 Heritage	No	-	-	26	36	1.75E-04	0.220	2.6E-05	4	0.5	4.40E-01	7.70E-05
1175 Heritage	BLDG18164	Riverside West	1175 Heritage	No	-	-	26	36	1.75E-04	0.220	2.6E-05	4	0.5	4.40E-01	7.70E-05
1171 Heritage	BLDG18117	Riverside West	1171 Heritage	No	-	-	28	35	2.50E-04	0.372	6.2E-05	4	0.5	7.43E-01	1.86E-04
1111 Heritage	BLDG18127	Riverside West	1171 Heritage	Yes	1171 Heritage	0.372	21	38	2.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1191 Seymour	BLDG18208	Riverside West	1171 Heritage	Yes	1111 Heritage	0.000	20	50	2.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1167 Heritage	BLDG18093	Riverside West	1167 Heritage	No	-	-	26	35	2.50E-04	0.220	3.7E-05	4	0.5	4.40E-01	1.10E-04
1115 Heritage	BLDG18127	Riverside West	1167 Heritage	Yes	1167 Heritage	0.220	21	38	2.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1191 Seymour	BLDG18208	Riverside West	1167 Heritage	Yes	1115 Heritage	0.000	20	50	2.50E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1163 Heritage	BLDG18006	Riverside West	1163 Heritage	No	-	-	27	34	1.75E-04	0.314	3.7E-05	4	0.5	6.29E-01	1.10E-04
1119 Heritage	BLDG18083	Riverside West	1163 Heritage	Yes	1163 Heritage	0.314	21	38	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1193 Seymour	BLDG18131	Riverside West	1163 Heritage	Yes	1119 Heritage	0.000	20	50	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1159 Heritage	BLDG17962	Riverside West	1159 Heritage	No	-	-	27	35	1.75E-04	0.314	3.7E-05	4	0.5	6.29E-01	1.10E-04
1195 Seymour	BLDG18013	Riverside West	1159 Heritage	Yes	1159 Heritage	0.314	20	49	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1155 Heritage	BLDG17902	Riverside West	1155 Heritage	No	-	-	27	37	1.75E-04	0.314	3.7E-05	4	0.5	6.29E-01	1.10E-04
1123 Heritage	BLDG17936	Riverside West	1155 Heritage	Yes	1155 Heritage	0.314	22	41	1.75E-04	0.003	3.5E-07	4	0.5	5.95E-03	1.04E-06
1195 Seymour	BLDG18013	Riverside West	1155 Heritage	Yes	1123 Heritage	0.003	21	50	1.75E-04	0.000	0.0E+00	4	0.5	0.00E+00	0.00E+00
1151 Heritage	BLDG17821	Riverside West	1151 Heritage	No	-	-	28	38	1.75E-04	0.372	4.3E-05	4	0.5	7.43E-01	1.30E-04
1127 Heritage	BLDG19536	Riverside West	1151 Heritage	Yes	1151 Heritage	0.372	22	40	1.75E-04	0.003	3.5E-07	4	0.5	5.95E-03	1.04E-06
1151 Heritage	BLDG17821	Riverside West	1151 Heritage	No	-	-	30	37	1.75E-04	0.452	5.3E-05	4	0.5	9.03E-01	1.58E-04
1147 Heritage	BLDG17660	Riverside West	1147 Heritage	No	-	-	27	38	1.75E-04	0.314	3.7E-05	4	0.5	6.29E-01	1.10E-04
1143 Heritage	BLDG17657	Riverside West	1147 Heritage	Yes	1147 Heritage	0.314	24	41	1.75E-04	0.042	4.8E-06	4	0.5	8.31E-02	1.45E-05
1261 Seymour	BLDG17512	Riverside West	1261 Seymour	No	-	-	29	49	1.23E-04	0.562	4.6E-05	4	0.5	1.12E+00	1.38E-04
1273 Seymour	BLDG17416	Riverside West	1273 Seymour	No	-	-	29	48	1.23E-04	0.562	4.6E-05	4	0.5	1.12E+00	1.38E-04
1287 Seymour	BLDG17277	Riverside West	1287 Seymour	No	-	-	26	46	1.75E-04	0.379	4.4E-05	4	0.5	7.58E-01	1.33E-04
DAN3D Modelled - Spatial Impact + Vulnerability based on DAN3D models outputs.															
1788 Riverside	BLDG15312	Berkley	2360 Carman S.	No	-	-	29	78	3.50E-04	0.372	8.7E-05	4	0.5	7.44E-01	2.60E-04
1802 Riverside	BLDG15357	Berkley	2360 Carman S.	Yes	1788 Riverside	0.372	28	78	3.50E-04	0.360	8.4E-05	4	0.5	7.20E-01	2.52E-04
2064 Rivergrove	BLDG14277	Berkley	2454 Hayseed	No	-	-	34	56	3.50E-04	0.501	1.2E-04	4	0.5	1.00E+00	3.51E-04
2064 Rivergrove	BLDG14277	Berkley	2448 Hayseed	No	-	-	34	56	2.80E-04	0.458	8.5E-05	4	0.5	9.16E-01	2.56E-04
2050 Rivergrove	BLDG14327	Berkley	2448 Hayseed	No	-	-	31	52	2.80E-04	0.501	9.4E-05	4	0.5	1.00E+00	2.81E-04
2050 Rivergrove	BLDG14327	Berkley	2454 Hayseed	No	-	-	35	52	3.50E-04	0.458	1.1E-04	4	0.5	9.16E-01	3.21E-04

Table D-4. Risk to Properties at Crest of Escarpment Slopes

Address	Building ID	Escarpment	Pslide	Distance from crest (m)	Yard Spatial (PS:H)	Occupant Temporal (PT:S)	Occupant Vulnerability (V)	Individual Risk	Group Risk			
								Annual PDI	Occupant Temporal (PT:S)	No. Occupants (E)	N (Fatalities)	Societal Risk (per year)
2477 Berton	BLDG18983	Berkley	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2475 Berton	BLDG18904	Berkley	1.23E-04	>12m	0.2	0.01	0.5	1.3E-07	0.007	4	2.78E-03	3.40E-07
2469 Berton	BLDG18794	Berkley	7.00E-05	>12m	0.2	0.01	0.5	7.3E-08	0.007	4	2.78E-03	1.94E-07
2465 Berton	BLDG18662	Berkley	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
2461 Berton	BLDG18552	Berkley	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
2441 Mowat	BLDG18329	Berkley	4.90E-05	>12m	0.2	0.01	0.5	5.1E-08	0.007	4	2.78E-03	1.36E-07
2437 Mowat	BLDG18205	Berkley	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2433 Mowat	BLDG18130	Berkley	8.75E-05	>12m	0.2	0.01	0.5	9.1E-08	0.007	4	2.78E-03	2.43E-07
2429 Mowat	BLDG18070	Berkley	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2425 Mowat	BLDG17947	Berkley	1.23E-04	>12m	0.2	0.01	0.5	1.3E-07	0.007	4	2.78E-03	3.40E-07
1231 Lennox	BLDG17682	Berkley	5.60E-04	3-6m	0.67	0.01	0.5	2.0E-06	0.007	4	9.31E-03	5.21E-06
1275 Lennox	BLDG17490	Berkley	2.19E-04	<3m	0.99	0.01	0.5	1.1E-06	0.007	4	1.38E-02	3.01E-06
1279 Lennox	BLDG17417	Berkley	4.38E-04	3-6m	0.67	0.01	0.5	1.5E-06	0.007	4	9.31E-03	4.07E-06
1305 Lennox	BLDG17313	Berkley	7.00E-04	9-12m	0.29	0.01	0.5	1.1E-06	0.007	4	4.03E-03	2.82E-06
1345 Lennox	BLDG17208	Berkley	3.50E-04	9-12m	0.29	0.01	0.5	5.3E-07	0.007	4	4.03E-03	1.41E-06
1383 Lennox	BLDG17055	Berkley	3.50E-04	3-6m	0.67	0.01	0.5	1.2E-06	0.007	4	9.31E-03	3.26E-06
1425 Lennox	BLDG16899	Berkley	9.80E-05	6-9m	0.4	0.01	0.5	2.0E-07	0.007	4	5.56E-03	5.44E-07
1477 Lennox	BLDG16836	Berkley	1.40E-04	6-9m	0.4	0.01	0.5	2.9E-07	0.007	4	5.56E-03	7.78E-07
1479 Lennox	BLDG16724	Berkley	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
1491 Lennox	BLDG16578	Berkley	7.00E-04	3-6m	0.67	0.01	0.5	2.4E-06	0.007	4	9.31E-03	6.51E-06
1535 Lennox	BLDG16463	Berkley	1.40E-03	3-6m	0.67	0.01	0.5	4.9E-06	0.007	4	9.31E-03	1.30E-05
1557 Lennox	BLDG16381	Berkley	3.50E-04	3-6m	0.67	0.01	0.5	1.2E-06	0.007	4	9.31E-03	3.26E-06
1583 Lennox	BLDG16324	Berkley	3.50E-04	<3m	0.99	0.01	0.5	1.8E-06	0.007	4	1.38E-02	4.81E-06
1593 Lennox	BLDG16220	Berkley	9.80E-05	<3m	0.99	0.01	0.5	5.1E-07	0.007	4	1.38E-02	1.35E-06
2402 Swinburne	BLDG16061	Berkley	9.80E-05	<3m	0.99	0.01	0.5	5.1E-07	0.007	4	1.38E-02	1.35E-06
2410 Swinburne	BLDG15959	Berkley	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
2414 Swinburne	BLDG22813	Berkley	1.75E-04	<3m	0.99	0.01	0.5	9.0E-07	0.007	4	1.38E-02	2.41E-06
1677 Layton	BLDG15739	Berkley	1.75E-04	>12m	0.2	0.01	0.5	1.8E-07	0.007	4	2.78E-03	4.86E-07
1691 Layton	BLDG15682	Berkley	1.40E-03	>12m	0.2	0.01	0.5	1.5E-06	0.007	4	2.78E-03	3.89E-06
1709 Layton	BLDG15597	Berkley	7.00E-04	>12m	0.2	0.01	0.5	7.3E-07	0.007	4	2.78E-03	1.94E-06
1731 Layton	BLDG15554	Berkley	7.00E-04	>12m	0.2	0.01	0.5	7.3E-07	0.007	4	2.78E-03	1.94E-06
1753 Layton	BLDG15514	Berkley	2.80E-04	>12m	0.2	0.01	0.5	2.9E-07	0.007	4	2.78E-03	7.78E-07
1775 Layton	BLDG15452	Berkley	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
1797 Layton	BLDG15403	Berkley	1.09E-04	6-9m	0.4	0.01	0.5	2.3E-07	0.007	4	5.56E-03	6.08E-07
1815 Layton	BLDG15356	Berkley	2.80E-04	6-9m	0.4	0.01	0.5	5.8E-07	0.007	4	5.56E-03	1.56E-06
2391 Carman	BLDG15291	Berkley	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
2379 Carman	BLDG15274	Berkley	9.80E-05	<3m	0.99	0.01	0.5	5.1E-07	0.007	4	1.38E-02	1.35E-06
2360 Carman S.	BLDG15185	Berkley	3.50E-04	3-6m	0.67	0.01	0.5	1.2E-06	0.007	4	9.31E-03	3.26E-06
2360 Carman N.	BLDG15185	Berkley	1.75E-04	3-6m	0.67	0.01	0.5	6.1E-07	0.007	4	9.31E-03	1.63E-06
2372 Carman	BLDG15094	Berkley	9.80E-05	9-12m	0.29	0.01	0.5	1.5E-07	0.007	4	4.03E-03	3.95E-07
2386 Carman	BLDG15087	Berkley	7.00E-05	>12m	0.2	0.01	0.5	7.3E-08	0.007	4	2.78E-03	1.94E-07
1839 Layton	BLDG15066	Berkley	7.00E-05	>12m	0.2	0.01	0.5	7.3E-08	0.007	4	2.78E-03	1.94E-07
1847 Layton	BLDG14993	Berkley	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
1855 Layton	BLDG14936	Berkley	8.75E-05	>12m	0.2	0.01	0.5	9.1E-08	0.007	4	2.78E-03	2.43E-07
1863 Layton	BLDG14890	Berkley	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
Hayseed/Layton Gully	not found	Berkley	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	0	0.00E+00	0.00E+00
2448 Hayseed	BLDG14513	Berkley	2.80E-04	6-9m	0.4	0.01	0.5	5.8E-07	0.007	4	5.56E-03	1.56E-06
2454 Hayseed	BLDG14408	Berkley	3.50E-04	9-12m	0.29	0.01	0.5	5.3E-07	0.007	4	4.03E-03	1.41E-06
2462 Hayseed	BLDG14331	Berkley	9.80E-05	9-12m	0.29	0.01	0.5	1.5E-07	0.007	4	4.03E-03	3.95E-07
2468 Hayseed	BLDG14269	Berkley	4.90E-05	<3m	0.99	0.01	0.5	2.5E-07	0.007	4	1.38E-02	6.74E-07

Address	Building ID	Escarpment	Pslide	Distance from crest (m)	Yard Spatial (PS:H)	Occupant Temporal (PT:S)	Occupant Vulnerability (V)	Individual Risk	Group Risk			
								Annual PDI	Occupant Temporal (PT:S)	No. Occupants (E)	N (Fatalities)	Societal Risk (per year)
2474 Hayseed	BLDG14201	Berkley	7.00E-05	<3m	0.99	0.01	0.5	3.6E-07	0.007	4	1.38E-02	9.63E-07
2480 Hayseed	BLDG14136	Berkley	2.80E-04	3-6m	0.67	0.01	0.5	9.8E-07	0.007	4	9.31E-03	2.61E-06
2486 Hayseed	BLDG14088	Berkley	1.75E-04	6-9m	0.4	0.01	0.5	3.6E-07	0.007	4	5.56E-03	9.72E-07
2125 Berkley	BLDG13935	Berkley	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
2141 Berkley	BLDG13876	Berkley	4.90E-05	3-6m	0.67	0.01	0.5	1.7E-07	0.007	4	9.31E-03	4.56E-07
2217 Berkley	BLDG13546	Berkley	8.75E-04	9-12m	0.29	0.01	0.5	1.3E-06	0.007	4	4.03E-03	3.52E-06
2223 Berkley	BLDG13498	Berkley	2.80E-04	9-12m	0.29	0.01	0.5	4.2E-07	0.007	4	4.03E-03	1.13E-06
2249 Berkley	BLDG13437	Berkley	7.00E-04	>12m	0.2	0.01	0.5	7.3E-07	0.007	4	2.78E-03	1.94E-06
2251 Berkley	BLDG13392	Berkley	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2265 Berkley	BLDG13329	Berkley	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
2279 Berkley	BLDG13310	Berkley	1.40E-04	9-12m	0.29	0.01	0.5	2.1E-07	0.007	4	4.03E-03	5.64E-07
2293 Berkley	BLDG13258	Berkley	3.50E-04	>12m	0.2	0.01	0.5	3.6E-07	0.007	4	2.78E-03	9.72E-07
2307 Berkley	BLDG13173	Berkley	1.75E-04	9-12m	0.29	0.01	0.5	2.6E-07	0.007	4	4.03E-03	7.05E-07
2321 Berkley	BLDG13129	Berkley	1.75E-04	3-6m	0.67	0.01	0.5	6.1E-07	0.007	4	9.31E-03	1.63E-06
2335 Berkley	BLDG13096	Berkley	1.75E-04	>12m	0.2	0.01	0.5	1.8E-07	0.007	4	2.78E-03	4.86E-07
2349 Berkley	BLDG13058	Berkley	3.50E-04	>12m	0.2	0.01	0.5	3.6E-07	0.007	4	2.78E-03	9.72E-07
2363 Berkley	BLDG12990	Berkley	1.75E-04	9-12m	0.29	0.01	0.5	2.6E-07	0.007	4	4.03E-03	7.05E-07
2377 Berkley	BLDG12939	Berkley	1.75E-03	6-9m	0.4	0.01	0.5	3.6E-06	0.007	4	5.56E-03	9.72E-06
2391 Berkley	BLDG12879	Berkley	4.38E-04	>12m	0.2	0.01	0.5	4.6E-07	0.007	4	2.78E-03	1.22E-06
2409 Berkley	BLDG12859	Berkley	7.00E-04	>12m	0.2	0.01	0.5	7.3E-07	0.007	4	2.78E-03	1.94E-06
2425 Berkley	BLDG12820	Berkley	2.80E-04	>12m	0.2	0.01	0.5	2.9E-07	0.007	4	2.78E-03	7.78E-07
4780 Hoskins	BLDG01683	Westlynn	7.84E-05	>12m	0.2	0.01	0.5	8.2E-08	0.007	4	2.78E-03	2.18E-07
4778 Hoskins	BLDG01725	Westlynn	7.84E-05	9-12m	0.29	0.01	0.5	1.2E-07	0.007	4	4.03E-03	3.16E-07
4774 Hoskins	BLDG01778	Westlynn	2.24E-04	>12m	0.2	0.01	0.5	2.3E-07	0.007	4	2.78E-03	6.22E-07
4772 Hoskins	BLDG01826	Westlynn	3.92E-05	9-12m	0.29	0.01	0.5	5.9E-08	0.007	4	4.03E-03	1.58E-07
2345 Kilmarnock	BLDG13209	Westlynn	2.00E-04	>12m	0.2	0.01	0.5	2.1E-07	0.007	4	2.78E-03	5.56E-07
2339 Kilmarnock	BLDG13223	Westlynn	2.80E-04	3-6m	0.67	0.01	0.5	9.8E-07	0.007	4	9.31E-03	2.61E-06
1864 Beaulynn	BLDG14892	Westlynn	1.40E-04	<3m	0.99	0.01	0.5	7.2E-07	0.007	4	1.38E-02	1.93E-06
1858 Beaulynn	BLDG15084	Westlynn	1.00E-03	3-6m	0.67	0.01	0.5	3.5E-06	0.007	4	9.31E-03	9.31E-06
1595 Graveley (W)	BLDG13557	Pemberton Heights	4.90E-05	<3m	0.99	0.01	0.5	2.5E-07	0.007	4	1.38E-02	6.74E-07
1595 Graveley (S)	BLDG13557	Pemberton Heights	9.80E-05	<3m	0.99	0.01	0.5	5.1E-07	0.007	4	1.38E-02	1.35E-06
1567 Graveley	BLDG13570	Pemberton Heights	4.90E-05	>12m	0.2	0.01	0.5	5.1E-08	0.007	4	2.78E-03	1.36E-07
1565 Graveley	BLDG13559	Pemberton Heights	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
1415 W Keith	BLDG13633	Pemberton Heights	7.00E-05	9-12m	0.29	0.01	0.5	1.1E-07	0.007	4	4.03E-03	2.82E-07
1395 W Keith	BLDG13672	Pemberton Heights	4.90E-05	>12m	0.2	0.01	0.5	5.1E-08	0.007	4	2.78E-03	1.36E-07
4085 Capilano	BLDG04603	Capilano	1.40E-04	<3m	0.99	0.01	1.5	2.2E-06	0.007	5	5.16E-02	7.22E-06
4421 Patterdale	BLDG02555	Capilano	1.40E-04	3-6m	0.67	0.01	2.5	2.4E-06	0.007	6	6.98E-02	9.77E-06
4867 Skyline	BLDG01426	Mosquito Creek	1.09E-04	<3m	0.99	0.01	0.5	5.6E-07	0.007	4	1.38E-02	1.50E-06
518 Alpine Court - West	BLDG26161	Mosquito Creek	2.73E-04	<3m	0.99	0.01	0.5	1.4E-06	0.007	4	1.38E-02	3.76E-06
518 Alpine Court - East	BLDG26161	Mosquito Creek	2.19E-04	<3m	0.99	0.01	0.5	1.1E-06	0.007	4	1.38E-02	3.01E-06
515 Alpine	BLDG01638	Mosquito Creek	8.75E-05	<3m	0.99	0.01	0.5	4.5E-07	0.007	4	1.38E-02	1.20E-06
4424 Skyline	BLDG26234	Mosquito Creek	2.63E-04	3-6m	0.67	0.01	0.5	9.2E-07	0.007	4	9.31E-03	2.44E-06
4717 Prospect	BLDG01475	Mosquito Creek	2.50E-04	>12m	0.2	0.01	0.5	2.6E-07	0.007	4	2.78E-03	6.94E-07
4685 Prospect	BLDG01561	Mosquito Creek	1.75E-04	3-6m	0.67	0.01	0.5	6.1E-07	0.007	4	9.31E-03	1.63E-06
481 Ventura	BLDG01675	Mosquito Creek	1.09E-03	3-6m	0.67	0.01	0.5	3.8E-06	0.007	4	9.31E-03	1.02E-05
647 Croydon	BLDG05472	Mosquito Creek	1.75E-04	3-6m	0.67	0.01	0.5	6.1E-07	0.007	4	9.31E-03	1.63E-06
2620 Lauralynn	BLDG11890	Westlynn	1.75E-04	3-6m	0.67	0.01	0.5	6.1E-07	0.007	4	9.31E-03	1.63E-06
1742 Irene	BLDG02331	Westlynn	2.45E-04	<3m	0.99	0.01	0.5	1.3E-06	0.007	4	1.38E-02	3.37E-06
1751 Irene	BLDG02388	Westlynn	2.45E-04	<3m	0.99	0.01	0.5	1.3E-06	0.007	4	1.38E-02	3.37E-06
4150 Lynn Valley	BLDG04400	Westlynn	6.25E-04	<3m	0.99	0.01	0.5	3.2E-06	0.007	4	1.38E-02	8.59E-06
2604 Lauralynn	BLDG12001	West Hastings	1.75E-04	>12m	0.2	0.01	0.5	1.8E-07	0.007	4	2.78E-03	4.86E-07

Address	Building ID	Escarpment	Pslide	Distance from crest (m)	Yard Spatial (PS:H)	Occupant Temporal (PT:S)	Occupant Vulnerability (V)	Individual Risk	Group Risk			
								Annual PDI	Occupant Temporal (PT:S)	No. Occupants (E)	N (Fatalities)	Societal Risk (per year)
2602 Lauralynn	BLDG12039	West Hastings	5.00E-04	>12m	0.2	0.01	0.5	5.2E-07	0.007	4	2.78E-03	1.39E-06
2590 Lauralynn	BLDG26143	West Hastings	1.40E-04	6-9m	0.4	0.01	0.5	2.9E-07	0.007	4	5.56E-03	7.78E-07
2574 Lauralynn	BLDG12131	West Hastings	6.25E-04	6-9m	0.4	0.01	0.5	1.3E-06	0.007	4	5.56E-03	3.47E-06
2558 Lauralynn	BLDG12173	West Hastings	3.50E-04	6-9m	0.4	0.01	0.5	7.3E-07	0.007	4	5.56E-03	1.94E-06
2542 Lauralynn	BLDG12196	West Hastings	2.19E-04	>12m	0.2	0.01	0.5	2.3E-07	0.007	4	2.78E-03	6.08E-07
2526 Lauralynn	BLDG12261	West Hastings	5.00E-04	>12m	0.2	0.01	0.5	5.2E-07	0.007	4	2.78E-03	1.39E-06
2510 Lauralynn	BLDG12296	West Hastings	5.00E-04	9-12m	0.29	0.01	0.5	7.6E-07	0.007	4	4.03E-03	2.01E-06
2498 Lauralynn	BLDG12326	West Hastings	1.25E-03	6-9m	0.4	0.01	0.5	2.6E-06	0.007	4	5.56E-03	6.94E-06
2486 Lauralynn	BLDG12388	West Hastings	5.00E-04	9-12m	0.29	0.01	0.5	7.6E-07	0.007	4	4.03E-03	2.01E-06
2474 Lauralynn	BLDG12435	West Hastings	5.00E-04	>12m	0.2	0.01	0.5	5.2E-07	0.007	4	2.78E-03	1.39E-06
2462 Lauralynn	BLDG12476	West Hastings	2.80E-04	>12m	0.2	0.01	0.5	2.9E-07	0.007	4	2.78E-03	7.78E-07
2450 Lauralynn	BLDG12519	West Hastings	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2438 Lauralynn	BLDG12601	West Hastings	0.00E+00	>12m	0.2	0.01	0.5	0.0E+00	0.007	4	2.78E-03	0.00E+00
2248 Greylynn	BLDG12724	West Hastings	0.00E+00	>12m	0.2	0.01	0.5	0.0E+00	0.007	4	2.78E-03	0.00E+00
2240 Greylynn	BLDG12826	West Hastings	1.40E-04	>12m	0.2	0.01	0.5	1.5E-07	0.007	4	2.78E-03	3.89E-07
2232 Greylynn	BLDG12877	West Hastings	1.96E-04	>12m	0.2	0.01	0.5	2.0E-07	0.007	4	2.78E-03	5.44E-07
2224 Greylynn	BLDG12953	West Hastings	9.80E-05	>12m	0.2	0.01	0.5	1.0E-07	0.007	4	2.78E-03	2.72E-07
2208 Greylynn	BLDG13062	West Hastings	3.50E-04	>12m	0.2	0.01	0.5	3.6E-07	0.007	4	2.78E-03	9.72E-07
2190 Greylynn	BLDG25603	West Hastings	1.23E-04	>12m	0.2	0.01	0.5	1.3E-07	0.007	4	2.78E-03	3.40E-07
1588 Merlynn	BLDG13203	West Hastings	2.80E-04	9-12m	0.29	0.01	0.5	4.2E-07	0.007	4	4.03E-03	1.13E-06
1582 Merlynn	BLDG13316	West Hastings	1.53E-04	6-9m	0.4	0.01	0.5	3.2E-07	0.007	4	5.56E-03	8.51E-07
1576 Merlynn	BLDG13370	West Hastings	0.00E+00	3-6m	0.67	0.01	0.5	0.0E+00	0.007	4	9.31E-03	0.00E+00
1570 Merlynn	BLDG13478	West Hastings	6.25E-04	6-9m	0.4	0.01	0.5	1.3E-06	0.007	4	5.56E-03	3.47E-06

Table D-5. Life-Loss Risk for Properties at Base of Escarpment

Address	Building ID	Escarpment	Max Individual Risk (PDI)	
			2010	2025
2336 TreeTop Lane	BLDG13192	Berkley	8.1E-07	2.6E-06
2354 TreeTop Lane	BLDG13125	Berkley	8.1E-07	8.3E-07
2296 Chapman Way	BLDG25600	Berkley	8.1E-07	0.0E+00
2430 Chapman Way	BLDG13703	Berkley	6.9E-05	1.8E-05
2230 Chapman Way	BLDG13634	Berkley	6.9E-05	1.3E-05
2256 Chapman Way	BLDG13586	Berkley	1.7E-05	5.1E-06
2243 Chapman Way	BLDG13522	Berkley	2.6E-07	0.0E+00
2222 Chapman Way	BLDG13704	Berkley	6.9E-05	3.3E-05
2225 Chapman Way	BLDG13595	Berkley	2.6E-07	0.0E+00
2206 Chapman Way	BLDG13767	Berkley	6.9E-05	5.3E-05
2192 Chapman Way	BLDG13812	Berkley	6.9E-05	5.3E-05
2207 Chapman Way	BLDG13681	Berkley	8.6E-06	2.1E-07
2180 Chapman Way	BLDG13877	Berkley	1.7E-05	2.6E-05
2185 Chapman Way	BLDG13755	Berkley	8.6E-06	2.1E-07
2170 Chapman Way	BLDG13932	Berkley	1.7E-05	8.3E-06
2151 Chapman Way	BLDG13817	Berkley	2.1E-06	3.0E-08
2086 Rivergrove	BLDG14099	Berkley	2.4E-05	1.9E-05
2078 Rivergrove	BLDG14216	Berkley	3.5E-05	6.9E-05
2158 Chapman Way	BLDG13960	Berkley	2.4E-05	3.2E-05
2067 Rivergrove	BLDG14143	Berkley	8.7E-05	3.2E-05
2148 Chapman Way	BLDG13997	Berkley	2.4E-05	2.0E-07
2064 Rivergrove	BLDG14277	Berkley	8.7E-05	1.2E-04
2050 Rivergrove	BLDG14327	Berkley	8.7E-05	1.1E-04
2038 Rivergrove	BLDG14398	Berkley	8.7E-05	1.8E-05
2352 Riverbank	BLDG14297	Berkley	2.2E-05	7.8E-06
2346 Riverbank	BLDG14254	Berkley	1.1E-05	0.0E+00
2336 Riverbank	BLDG14212	Berkley	1.1E-05	0.0E+00
2026 Rivergrove	BLDG14449	Berkley	2.4E-05	1.5E-05
2018 Rivergrove	BLDG14549	Berkley	3.5E-05	4.3E-05
2029 Rivergrove	BLDG14407	Berkley	4.3E-06	6.9E-08
2002 Rivergrove	BLDG14610	Berkley	3.5E-05	4.3E-05
1988 Rivergrove	BLDG14675	Berkley	3.5E-05	1.4E-05
2015 Rivergrove	BLDG14458	Berkley	4.3E-06	6.9E-08
1978 Rivergrove	BLDG14709	Berkley	1.7E-05	1.7E-05
1985 Rivergrove	BLDG14510	Berkley	1.3E-07	6.9E-08
2353 Riverbank	BLDG14319	Berkley	1.3E-07	0.0E+00
1950 Rivergrove	BLDG14716	Berkley	2.4E-05	1.7E-05
1946 Rivergrove	BLDG14727	Berkley	2.4E-05	1.2E-05
1838 Riverside	BLDG15090	Berkley	4.3E-05	6.6E-05
1875 Riverside	BLDG15032	Berkley	1.1E-05	2.8E-06
1788 Riverside	BLDG15312	Berkley	8.7E-05	8.7E-05
1802 Riverside	BLDG15357	Berkley	8.7E-05	8.4E-05
1777 Riverside	BLDG15440	Berkley	3.2E-07	1.0E-06
1819 Riverside	BLDG15318	Berkley	1.1E-05	1.0E-06
1758 Riverside	BLDG23255	Berkley	2.4E-05	1.1E-05
1748 Riverside	BLDG23256	Berkley	2.4E-05	1.1E-05
1733 Riverside	BLDG15550	Berkley	9.1E-08	9.7E-08
1715 Riverside	BLDG15629	Berkley	9.1E-08	9.7E-08
1730 Riverside	BLDG15690	Berkley	8.7E-05	4.5E-05
1718 Riverside	BLDG15653	Berkley	6.1E-06	0.0E+00
1710 Riverside	BLDG15727	Berkley	1.1E-05	0.0E+00
1650 Riverside	BLDG15815	Berkley	4.3E-05	5.2E-06
2300 Swinburne	BLDG16053	Berkley	1.3E-06	0.0E+00
2312 Swinburne	BLDG15995	Berkley	1.1E-05	0.0E+00
2316 Swinburne	BLDG15988	Berkley	4.3E-05	1.6E-05
2315 Swinburne	BLDG16239	Berkley	8.7E-05	1.5E-06
2311 Swinburne	BLDG16222	Berkley	4.3E-05	0.0E+00
1590 Riverside	BLDG16217	Berkley	1.3E-06	0.0E+00
1580 Riverside	BLDG16322	Berkley	4.3E-05	2.6E-06
1554 Riverside	BLDG16375	Berkley	4.3E-05	1.3E-06
1530 Riverside	BLDG16467	Berkley	4.4E-05	8.2E-06
1502 Riverside	BLDG16555	Berkley	4.4E-05	8.2E-06
1488 Riverside	BLDG16598	Berkley	2.2E-05	8.2E-06
1460 Riverside	BLDG16639	Berkley	2.2E-05	8.2E-06
1458 Riverside	BLDG16679	Berkley	2.2E-05	8.2E-06
1418 Riverside	BLDG16824	Berkley	3.5E-05	2.0E-05
1426 Riverside	BLDG16826	Berkley	8.7E-06	2.7E-06
1350 Riverside	BLDG17167	Berkley	2.2E-05	5.7E-07
1320 Riverside	BLDG17306	Berkley	6.5E-07	5.7E-07
1372 Riverside	BLDG17045	Berkley	2.2E-05	8.2E-06
1260 Riverside	BLDG17502	Berkley	4.1E-07	9.6E-07
1238 Riverside	BLDG17593	Berkley	5.2E-07	9.6E-07
1226 Riverside	BLDG17672	Berkley	5.2E-07	3.0E-07
2424 Carmaria	BLDG12210	West Hastings	4.6E-07	0.0E+00
2344 Carmaria	BLDG12739	West Hastings	1.5E-05	4.3E-08
2252 Carmaria	BLDG12944	West Hastings	1.5E-05	2.9E-06
2220 Carmaria	BLDG13043	West Hastings	1.5E-05	6.9E-07
2194 Carmaria	BLDG13107	West Hastings	2.5E-05	2.4E-07
1672 Davenport	BLDG13539	Westlynn	6.1E-06	0.0E+00
1680 Davenport	BLDG13510	Westlynn	1.8E-05	6.1E-08
1688 Davenport	BLDG13460	Westlynn	3.7E-05	4.1E-06
1761 Bellelynn	BLDG15137	Westlynn	8.7E-06	1.4E-07

Address	Building ID	Escarpment	Max Individual Risk (PDI)	
			2010	2025
1747 Bellelynn	BLDG15222	Westlynn	6.9E-05	2.5E-05
2306 Carmaria	BLDG12811	West Hastings	1.5E-05	2.8E-08
4741 Woodrow	BLDG01818	Westlynn	1.7E-06	0.0E+00
4745 Woodrow	BLDG01773	Westlynn	3.5E-06	0.0E+00
4749 Woodrow	BLDG01703	Westlynn	9.8E-06	0.0E+00
4753 Woodrow	BLDG01672	Westlynn	3.4E-06	0.0E+00
4757 Woodrow	BLDG01643	Westlynn	9.8E-06	0.0E+00
500 Ventura	BLDG01681	Mosquito	1.1E-05	0.0E+00
522 Ventura	BLDG01640	Mosquito	4.3E-05	8.1E-06
544 Ventura	BLDG01565	Mosquito	4.3E-05	5.1E-06
550 Ventura	BLDG01486	Mosquito	4.3E-05	2.8E-06
4717 Prospect	BLDG01475	Mosquito	6.2E-05	5.1E-06
552 Palisade	BLDG01730	Mosquito	6.8E-05	8.2E-05
568 Palisade	BLDG01700	Mosquito	1.7E-05	6.1E-06
1893 Bowser	BLDG13913	Pemberton	3.5E-05	2.4E-06
1877 Bowser	BLDG13952	Pemberton	1.3E-07	0.0E+00
1890 Bowser	BLDG13938	Pemberton	3.5E-05	2.7E-05
1866 Bowser	BLDG13967	Pemberton	8.7E-06	1.3E-06
1850 Bowser	BLDG14011	Pemberton	4.0E-06	0.0E+00
1844 Bowser	BLDG14046	Pemberton	6.5E-08	0.0E+00
1871 Philip	BLDG14015	Pemberton	3.7E-05	1.1E-05
1861 Philip	BLDG14050	Pemberton	9.3E-06	9.7E-07
1412 Hope	BLDG14142	Pemberton	1.4E-07	0.0E+00
1856 Philip	BLDG14076	Pemberton	4.4E-06	7.1E-07
1840 Philip	BLDG14114	Pemberton	6.5E-08	0.0E+00
1404 Hope	BLDG24585	Pemberton	1.4E-07	0.0E+00
2180 Carmaria	BLDG13176	West Hastings	9.6E-05	2.2E-06
1408 Riverside	BLDG16888	Berkley	3.5E-05	8.3E-06
1400 Riverside	BLDG16913	Berkley	8.7E-06	9.3E-07
1444 Riverside	BLDG16719	Berkley	2.2E-05	8.2E-06
621 Seymour	BLDG20656	Riverside West	6.2E-05	5.3E-05
615 Seymour	BLDG20714	Riverside West	7.7E-06	0.0E+00
625 Seymour	BLDG20632	Riverside West	6.2E-05	5.3E-05
631 Seymour	BLDG20584	Riverside West	6.2E-05	5.3E-05
633 Seymour	BLDG20559	Riverside West	6.2E-05	5.3E-05
639 Seymour	BLDG20541	Riverside West	7.7E-05	6.6E-05
657 Seymour	BLDG20618	Riverside West	7.7E-06	1.3E-07
647 Seymour	BLDG20533	Riverside West	7.7E-05	6.6E-05
679 Seymour	BLDG20462	Riverside West	5.4E-05	4.6E-05
683 Bow	BLDG20417	Riverside West	3.1E-05	3.2E-05
677 Bow	BLDG20524	Riverside West	6.7E-07	4.6E-07
687 Bow	BLDG20385	Riverside West	5.4E-05	3.3E-05
689 Bow	BLDG23093	Riverside West	3.9E-05	3.3E-05
967 Heritage	BLDG18396	Riverside West	3.5E-05	0.0E+00
973 Heritage	BLDG18370	Riverside West	3.5E-05	1.3E-05
979 Heritage	BLDG18318	Riverside West	3.5E-05	2.9E-05
985 Heritage	BLDG18303	Riverside West	3.5E-05	2.1E-05
1175 Heritage	BLDG18164	Riverside West	4.3E-05	2.6E-05
1171 Heritage	BLDG18117	Riverside West	6.2E-05	6.2E-05
1111 Heritage	BLDG18127	Riverside West	2.3E-07	0.0E+00
1191 Seymour	BLDG18208	Riverside West	2.3E-07	0.0E+00
1167 Heritage	BLDG18093	Riverside West	6.2E-05	3.7E-05
1115 Heritage	BLDG18127	Riverside West	2.3E-07	0.0E+00
1163 Heritage	BLDG18006	Riverside West	4.3E-05	3.7E-05
1119 Heritage	BLDG18083	Riverside West	2.3E-07	0.0E+00
1193 Seymour	BLDG18131	Riverside West	2.3E-07	0.0E+00
1159 Heritage	BLDG17962	Riverside West	4.3E-05	3.7E-05
1195 Seymour	BLDG18013	Riverside West	1.6E-07	0.0E+00
1155 Heritage	BLDG17902	Riverside West	4.3E-05	3.7E-05
1123 Heritage	BLDG17936	Riverside West	1.6E-07	3.5E-07
1151 Heritage	BLDG17821	Riverside West	4.3E-05	5.3E-05
1127 Heritage	BLDG19536	Riverside West	1.6E-07	3.5E-07
1147 Heritage	BLDG17660	Riverside West	4.3E-05	3.7E-05
1143 Heritage	BLDG17657	Riverside West	1.1E-05	4.8E-06
1261 Seymour	BLDG17512	Riverside West	4.3E-05	4.6E-05
1273 Seymour	BLDG17416	Riverside West	4.3E-05	4.6E-05
1287 Seymour	BLDG17277	Riverside West	6.2E-05	4.4E-05

Table D-6. Life-Loss Risk for Properties at the Base of the Slope by Escarpment Area

Max Risk

Summary Stats - By Property														
Escarpment	Berkley		Mosquito		Westlynn		Pemberton		Riverside West		West Hastings		District-wide	
	2010	2025	2010	2025	2010	2025	2010	2025	2010	2025	2013	2025	pre-2025	2025
Broadly acceptable	24	48	0	6	7	9	9	10	11	13	1	7	52	93
Tolerable	52	26	7	1	3	1	3	2	26	24	6	0	97	54
Unacceptable	0	2	0	0	0	0	0	0	0	0	0	0	0	2

APPENDIX E

GUIDANCE FOR SLOPE HAZARD ASSESSMENTS ALONG ESCARPMENT SLOPES





February 20, 2026

Project 0404103

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

Attention: Fiona Dercole, Senior Project Manager, Public Safety

Guidance for Slope Hazard Assessments along Escarpment Slopes

1.0 INTRODUCTION

The District of North Vancouver (the District, DNV¹) manages risk from slope hazards to development through Development Permit Areas (DPAs), described in Schedule B - Slope Hazard DPA, amended July 30, 2021, of the Official Community Plan (OCP) (DNV, July 9, 2012). Applicants for proposed development within the Slope Hazard DPA may be required to provide slope hazard assessment report(s) prepared by a qualified professional (QP).

BGC Engineering Inc. (BGC) has completed a District-wide update of landslide risk from escarpment slopes to reflect advances in scientific knowledge, implementation of risk management works, and extended landslide history (BGC, February 20, 2026a). To complement this update, DNV requested BGC provide guidance for slope hazard assessments. The objectives of this work are to:

1. Recommend levels of assessment and associated criteria for slope hazard assessments at escarpments in the District.
2. Create a checklist for DNV plan checkers when reviewing slope hazard assessment reports prepared by QPs.

This work is intended to serve as guidance for developers, property owners, and QPs when undertaking slope hazard assessments, and as a resource for DNV plan checkers for development approvals in Slope Hazard DPA. It is limited to landslide slope hazards along escarpment² slopes and does not include guidance for steep-creek or rockfall hazard assessments. BGC could prepare similar guidance for such hazards at DNV's request.

Work was carried out under Purchase Order 99163-OS-125 and dated July 19, 2023.

¹ In this document, DNV is used to refer to the administrative authority and the District is used to refer to the geographic area.

² Escarpment slopes are steep, natural slopes that separate two relatively level land surfaces (e.g., Berkley Escarpment). These slopes range from several meters to approximately 85 meters high with slopes angles ranging from approximately 25 to 45° across the District. Escarpment slopes in the District are susceptible to rapid earth flows (referred to as flow slides), which have historically initiated in fill placed at the crest of the escarpment, entraining natural sediments as they descend the escarpment slope.

2.0 SLOPE HAZARD DPA

The DNV's Slope Hazard DPA applies to parcels that are wholly or partially within 20 meters of the top or bottom of a slope with an angle greater than 20° (36%) and height greater than 10 meters. While this report pertains only to escarpments, note that the DNV Slope Hazard DPA is not limited to escarpments (it includes any slopes within the DNV that meet these criteria). Figure 2-1 illustrates the concept of landslide runout angle. Further detail is provided in BGC (February 20, 2026a).

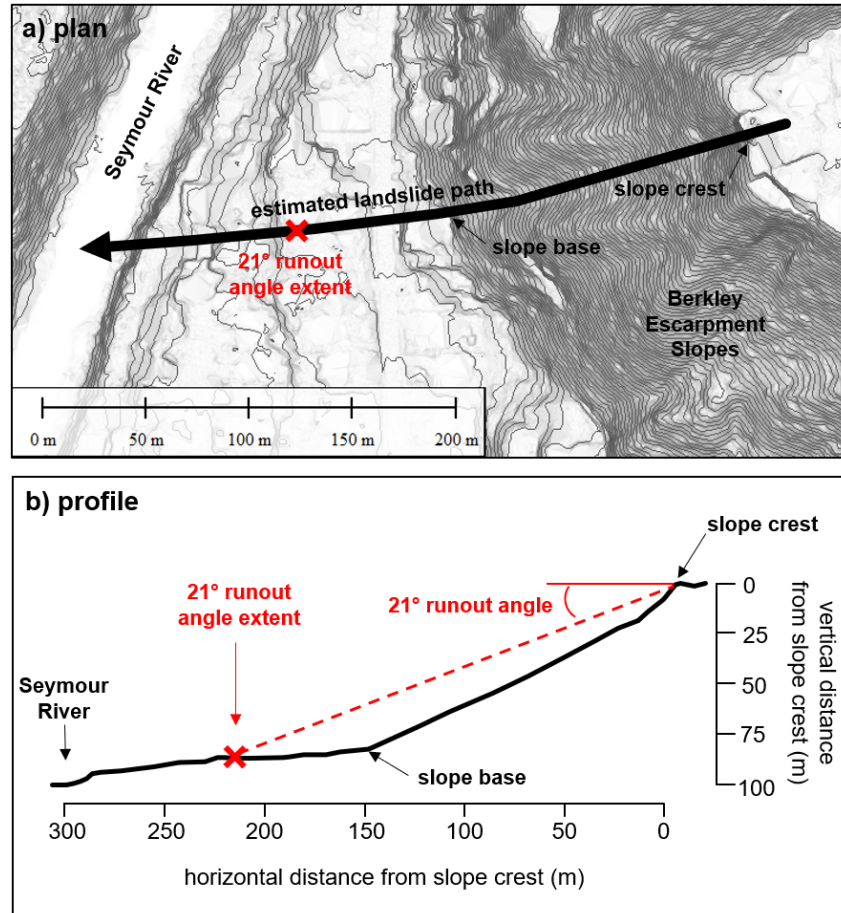


Figure 2-1 Example of a 21° runout angle measurement from an escarpment slope. Panel a) shows a plan view of the slope with 2022 lidar and 1 m contours, and panel b) shows the corresponding slope profile along the estimate landslide path. The estimated landslide path should approximately follow the fall line of topography, and the runout angle measurement should be made from the slope crest.

3.0 SLOPE HAZARD ASSESSMENT LEVELS OF ASSESSMENT

The DNV's OCP (Schedule B) provides the following guidelines for slope hazard assessment reports:

- The QP is to determine the appropriate method of assessment and level of effort.
- A “preliminary assessment” report, including a qualitative risk assessment, should be completed as an initial step to estimate if slope hazards are present. If the preliminary

assessment demonstrates risks are broadly acceptable (annual probability of death of an individual (PDI) less than 1:100,000), further risk assessment may not be required.

- Where the preliminary assessment report demonstrates risk is not broadly acceptable, a “detailed assessment” report with a quantitative risk assessment or factor of safety (FOS) calculations should be required.
- The assessment should meet the latest Engineers and Geoscientists of British Columbia (EGBC) best practice guidelines for landslide assessments (e.g., EGBC, March 1, 2023).

There are many factors a QP may consider when deciding the level of assessment, such as the local conditions, hazard types, potential consequences to or from the proposed development, and associated uncertainties. In this section, BGC recommends criteria to inform selection of the level of assessment for slope hazard assessments for proposed development. The recommended criteria and levels of effort apply to assessments on, at the base, and at the crest of escarpment slopes subject to landslide hazards. For properties located mid-slope, the QP would be responsible for selecting which criteria are most appropriate based on the relative location on the slope, slope characteristics, and surrounding development.

3.1 Properties On or at the Base of a Slope

3.1.1 Criteria

Table 3-1 provides the recommended level of assessment based on the type of proposed development and a screening-level individual life-loss risk estimate. For properties on or at the base of the slope, BGC recommends a preliminary assessment where the screening-level risk meets DNV’s risk tolerance criteria, and a detailed assessment where it does not (Table 3-1). The screening-level risk may be based on a previous quantitative risk assessment completed at the property, such as the most recent District-wide landslide risk assessment (e.g., BGC, February 20, 2026a) if available, or estimated using criteria in Table 3-2.

Table 3-1 Recommended level of assessment for proposed development on or at the base of a slope.

Proposed development type	Screening-level individual life-loss risk (annual probability of death of an individual, PDI) ¹		
	<1:100,000 (Broadly Acceptable)	<1:10,000 (Tolerable)	>1:10,000 (Unacceptable)
Building permit <25% increase in gross floor area	Preliminary	Preliminary	Detailed
Building permit (>25% increase to gross floor area and/or retaining wall >1.2m), Rezoning, Subdivision, or New development	Preliminary	Detailed	Detailed

Note:

1. Screening-level risk can be based on a previous quantitative risk assessment, such as the most recent District-wide landslide risk assessment (e.g., BGC, February 20, 2026a), or estimated using Table 3 2.

For properties not included in the District-wide landslide risk assessment, or at locations where site conditions have changed since the latest assessment, the criteria in Table 3-2 can be used to estimate risk at a screening-level. The screening-level risk estimate is intended to guide the level of assessment with Table 3-1, and is not intended to replace further work or be applied outside the DNV. It is based on the following:

- The escarpment slope height
- The runout angle from the crest of the slope to the upslope side of the building/development.

and assumes:

- The maximum annual landslide probability for DNV escarpment slopes from the most recent landslide risk assessment (BGC, February 20, 2026a)
- The presence of a fully occupied, typical, single-family wood-frame building.

Detail on the risk calculation are in the methods of BGC's (February 20, 2026a) landslide risk assessment update.

Table 3-2 Screening-level individual life-loss risk (annual probability of death of an individual, PDI) for proposed development on or at the base of a slope to be used with Table 3-1.

Slope height (m)	Runout angles from slope crest to upslope side of proposed inhabited structure			
	21-22°	23-24°	25-26°	>26°
<20 m	<1:100,000	<1:100,000	<1:10,000	>1:10,000
20-40 m	<1:100,000	<1:10,000	>1:10,000	>1:10,000
>40 m	<1:10,000	<1:10,000	>1:10,000	>1:10,000

Notes:

1. Screening-level risk is estimated using methods applied in BGC's (February 20, 2026a) landslide risk assessment update assuming the maximum annual landslide probability for DNV escarpment slopes and the presence of a fully occupied, typical, single-family wood-frame building on or at the base of the slope. These risk levels are intended to guide the level of assessment with Table 3-1, and are not intended to replace further work or be applied outside the DNV.
2. Slopes must have an angle greater than 20° (36%) and height greater than 10 meters to apply this tool within the District.
3. Slope height is the height difference from the slope crest to the slope base along a credible landslide path (e.g., Figure 2-1).
4. Runout angle is the angle from horizontal connecting the slope crest to the closest (upslope) side of the proposed development footprint along a credible landslide path (e.g., Figure 2-1). Properties located beyond the 21° runout angle from all credible landslide paths should not require a slope hazard assessment.

3.1.2 Levels of Assessment

The recommended levels of assessment for properties on or at the base of a slope are:

1. Preliminary Assessment

The screening-level risk suggests the proposed development likely meets DNV's risk tolerance criteria (Table 3-2). A preliminary, site-specific slope hazard assessment should include, at a minimum:

- Desktop study, such as a review of relevant background reports, maps, topography, imagery, climate, and historical hazard event information, as available
- Field visit to assess slope conditions
- Description of slope hazard(s) and characteristics

- Description of existing and proposed development, such as size, layout, construction type, use
- A qualitative risk assessment to demonstrate the screening-level risk assessment is representative and therefore meets DNV's risk tolerance criteria, showing:
 - The frequency and/or magnitude of the slope hazards affecting the property are not higher than assumed in the most recent District-wide landslide risk assessment, or a typical escarpment slope in the DNV, based on the observed site conditions
 - The proposed development will not increase the exposure or vulnerability of the building's inhabitants to the described slope hazards.
- Demonstrate the proposed development has implemented measures to reduce risk where practical, such as putting bedrooms on upper floors and on the far side away from the slope, locating windows and doors away from potential landslide impacts, or other measures listed in the OCP (Schedule B) Slope Hazard DPA guidelines.

A QP may elect to complete a detailed assessment if more information is required to assess that the proposed development may be safely used for the purpose intended.

2. Detailed Assessment

The screening level risk suggests the proposed development may not meet DNV's risk tolerance criteria (Table 3-2). A detailed, site-specific slope hazard assessment should include, at a minimum:

- Everything included in the Preliminary Assessment
- Quantitative assessment of individual life-loss risk
- Subsurface investigation (e.g., boreholes, CPT testing, test pits, hand augering, geophysics), if required to support risk assessment
- Slope stability analysis, if required to support risk assessment
- Numerical runout modelling to quantify landslide impacts, if required to support risk assessment
- Criteria for the design, construction, and maintenance of mitigative works, if required to achieve DNV risk tolerance criteria, along with a statement that proposed mitigative works will not transfer risk to other properties.

BGC recommends that if the proposed development significantly increases the density such that there could be numerous fatalities from a single hazard scenario, the QP should consider assessing group³ risk in addition to individual risk in the quantitative risk assessment. In such situations, the DNV may also elect to engage a third party to review the risk assessment, if deemed appropriate by the relevant authorities at the DNV.

³ The DNV's risk tolerance criteria do not include group (i.e., societal) risk. Group risk evaluates the number of people that could be killed by a hazard scenario considering all those exposed.

3.2 Properties On or at the Crest of a Slope

3.2.1 Criteria

BGC (January 13, 2006) recognized that for buildings constructed on native soils at the crest of escarpments within the DNV, the potential for slope failure leading to building foundation collapse and subsequent loss of life is very low, such that life-loss risk to building occupants is typically broadly acceptable. Depending on the site and nature of development, proposed development at the crest or on the slope may contribute to slope stability issues, which may transfer risks to adjacent or downslope properties. The DNV's OCP (Schedule B) recommends various measures to limit changes in slope conditions, such as avoiding the need for retaining walls or limiting the extent of paved surfaces. BGC recommends the level of assessment reflect the potential for proposed development to change slope conditions in a manner that could increase risk to downslope or adjacent properties. The level of assessment for properties on or at the crest of the slope can be guided using the criteria in Table 3-3.

Table 3-3 Recommended level of assessment for proposed development on or at the crest of an escarpment slope.

Proposed development type	Proposed development includes slope modification	Recommended level of assessment
Building permit (<25% increase in gross floor area)	No	Preliminary
	Yes	Detailed
Building permit (>25% increase to gross floor area or retaining wall), Rezoning, Subdivision, or New development	-	Detailed

Notes:

1. Slopes must have an angle greater than 20° (36%) and height greater than 10 meters, with proposed development within 20 m of the slope crest or on the slope.
2. Slope modification refers to any change in the slope conditions, including, but not limited to addition or modification of retaining wall, alteration of slope geometry, change to loading conditions on or at the crest of slope, change to drainage conditions.

3.2.2 Levels of Assessment

The recommended levels of effort for properties on or at the crest of a slope are:

1. Preliminary Assessment

The proposed development is unlikely to increase risk from slope hazards at the proposed site or to other properties. A preliminary, site-specific slope hazard assessment should include, at a minimum:

- Desktop study, such as a review of relevant background reports, maps, topography, imagery, climate, historical hazard event information, as available
- Field visit to assess slope conditions

- Description of slope hazard(s) and characteristics
- Description of existing and proposed development, such as size, layout, construction type, use
- Description of neighbouring and downslope properties and infrastructure, trails, streams, or other elements of value, such as location relative to the proposed development, layout, type, use
- A qualitative risk assessment to demonstrate that the proposed development does not increase the frequency and/or magnitude of potential slope hazards, thereby increasing risk to the proposed development, neighbouring properties, or downslope properties.
- Demonstrate the proposed development has implemented measures to improve slope conditions where practical, such as connecting buildings to the storm drainage system, grading lots to direct water away from slopes, revegetating disturbed slopes, removing excess fill from crest of slope, or other measures listed in the OCP (Schedule B) Slope Hazard DPA guidelines.

A QP may select to complete a detailed assessment if more information is required to assess that the proposed development may be safely used for the purpose intended.

2. Detailed Assessment

The proposed development may change the risk from slope hazards at the proposed site or to other properties. A detailed, site-specific slope hazard assessment should include, at a minimum:

- Everything included in the Preliminary Assessment
- Slope stability analysis to estimate a Factor of Safety (FOS) and assess the implications of the proposed development on slope stability (e.g., by adding or modifying retaining wall, altering slope geometry, changing loading conditions on or at the crest of slope, changing drainage conditions)
- Subsurface investigation (e.g., boreholes, CPT testing, test pits, hand augering, geophysics), as required to support slope stability analysis
- Numerical runout modelling to quantify landslide impacts to downslope areas, if required to demonstrate that risk transfer will not occur as a result of the proposed development
- Criteria for the design, construction, and maintenance of mitigative works, if required to achieve DNV FOS criteria, and statement that proposed mitigative works will not transfer risk to other properties.

4.0 CHECKLIST FOR SLOPE HAZARD ASSESSMENTS IN THE DNV

In this section, BGC provides a checklist to assist with reviewing slope hazard assessment reports for proposed development at the crest, base, or on the slope of an escarpment. The checklist is based on the assessment report guidelines in the in the OCP (Schedule B) Slope Hazard DPA, EGBC (March 1, 2023) best practice guidelines for landslide assessments, and BGC's geotechnical experience.

Level of Assessment (Preliminary, Detailed)

- ☐ Level of assessment aligns with recommendations in Section 3.1, or the QP has provided rationale justifying a different level of assessment.
- ☐ References latest EGBC best practice guidelines for landslide assessments.

Deliverables (Preliminary, Detailed)

- ☐ Plan drawing(s) with a topographic base map delineating slope hazard areas, parcel boundaries, existing structures, proposed development, and other relevant site features.
- ☐ Report that demonstrates that the proposed development meets DNV's risk tolerance criteria, includes a statement that the proposed development may be safely used for the purpose intended, and a signed and sealed Landslide Assurance from the EGBC best practice guidelines for landslide assessments.

Desktop Assessment (Preliminary, Detailed)

- ☐ Reviewed all relevant background reports, including the most recent landslide hazard assessment and previous reports affecting the property and surrounding area.
- ☐ Reviewed topography and imagery of the property and surrounding area.
- ☐ Described the geology, terrain, and climate of the study area.
- ☐ Described any known past slope hazard events at or near the property.
- ☐ Described existing and proposed development, such as size, layout, construction type, use.
- ☐ For properties at the crest of the slope, identified if the property is connected to the stormwater drainage system.
- ☐ Identified neighbouring and downslope properties and infrastructure.

Field Visit (Preliminary, Detailed)

- ☐ Traversed the slope including beyond the crest and base of the slope, if accessible.
- ☐ Collected observations about surface and groundwater drainage, such as channels, gullies, seepage points, and ponding.
- ☐ Collected observations about evidence of slope movement, such as scarps, tension cracks, uneven ground, depressions or sinkholes, bulging slopes, tilted trees, landslide debris.
- ☐ Described existing retaining wall(s) or mitigation structures (e.g., berms, basins) on the property or with the potential to influence slope hazards affecting property, including type, size, layout, and current condition, if applicable.
- ☐ Provided photographs from the field visit.

Slope Hazard Characterization (Preliminary, Detailed)

- ☐ Assessed the nature, extent, magnitude, frequency, possible triggering conditions, and potential consequences of slope hazards at a level of detail consistent with the level of assessment.

Subsurface Investigation (Detailed, if completed)

- ☐ Described site investigation methods and techniques, such as sampling equipment and tests performed.

- ☐ Described the underlying geology, including the depth of fill and soil types.
- ☐ Provided logs and photos of soil encountered.
- ☐ Provided estimates of soil engineering parameters, if applicable.
- ☐ Described limitations of subsurface investigation.

Qualitative Risk Assessment (Preliminary)

- ☐ For properties on or at the base of the slope, demonstrated:
 - ☐ the frequency and/or magnitude of the slope hazards affecting the property are not higher than assumed in the most recent District-wide landslide risk assessment, or a typical escarpment slope in the DNV, based on the observed site conditions, and/or;
 - ☐ the proposed development will not increase the exposure or vulnerability of the building's inhabitants to the described slope hazards.
- ☐ For properties on or at the crest of the slope, demonstrate that the proposed development does not increase the frequency and/or magnitude of potential slope hazards, thereby increasing risk to the proposed development, neighbouring properties, or downslope properties.

Quantitative Risk Assessment (Detailed)

- ☐ Described risk assessment methods, variables, and assumptions.
- ☐ Risk estimate compared to DNV risk tolerance thresholds.
- ☐ Where density is being increased significantly, described or estimated the potential implications for societal (group) risk.
- ☐ Described limitations and uncertainties of the risk assessment.

Slope Stability Analysis or Numerical Runout Modelling (Detailed, if completed)

- ☐ Described modelling methods, assumptions, and input parameters
- ☐ Provided figures and interpretations of model results.
- ☐ Described limitations and uncertainties of the modelling.

Risk Reduction Measures and Mitigation (Detailed, Preliminary)

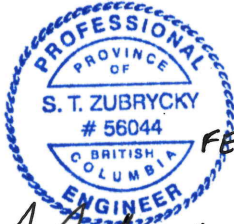
- ☐ For properties on or at the base of the slope, demonstrated measures undertaken to reduce risk where practical (e.g., putting bedrooms on upper floors and on the far side away from the slope, locating windows and doors away from potential landslide impacts)
- ☐ For properties on or at the crest of the slope, demonstrated measures undertaken to improve slope conditions where practical (e.g., connecting buildings to the storm drainage system, grading lots to direct water away from slopes, revegetating disturbed slopes, removing excess fill from crest of slope).
- ☐ For properties requiring mitigative works to meet DNV risk tolerance criteria, provided:
 - ☐ criteria for design, construction, and maintenance of proposed works;
 - ☐ statement that proposed works will not transfer risk to other properties.

5.0 CLOSURE

We trust the above satisfies your requirements. Should you have any questions or comments, please do not hesitate to contact us.

Yours sincerely,

BGC Engineering Inc.
per:



FEB. 20, 2026

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EGBC Permit to Practice, BGC Engineering Inc. 1000944

LCH/KH/mjp/mm

Attachment(s): Limitations
References

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REFERENCES

- BGC Engineering Inc. (2006, January 13). *Berkley Landslide Risk Management, Phase 1 Risk Assessment* [Report]. Prepared for District of North Vancouver
- BGC Engineering Inc. (2026a, February 20). *Landslide Risk Assessment – 2026 Update* [Report]. Prepared for District of North Vancouver.
- District of North Vancouver (DNV). (2009, November 10). *Natural Hazards Risk Tolerance Criteria* [Report to Council].
- District of North Vancouver (DNV). (2012). *Official Community Plan (OCP) Bylaw 7900 Amendment Bylaw 7934, 2012 (Amendment 4)*.
- Engineers and Geoscientists BC (EGBC). (2023, March 1). *Professional Practice Guidelines – Landslide Assessments in BC, Version 4.1*.

AGENDA INFORMATION☒ Regular Meeting

Date: June 22, 2026

☐ Other:

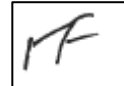
Date: _____



 Dept.
Manager



 GM/
Director



 CAO

The District of North Vancouver REPORT TO COUNCIL

May 25, 2026

Case: PLN2025-00048

File: 08.3060.20/048.25

AUTHOR: Taylor Jenks, Development Planner
SUBJECT: Bylaw 8784: Zoning Text Amendment for 2131-2171 Old Dollarton Road, 229-291 Riverside Drive & 2102-2128 Front Street (“Maplewood Gardens”)
RECOMMENDATION

THAT the “District of North Vancouver Rezoning Bylaw 1464 (Bylaw 8784)” is given FIRST, SECOND, and THIRD readings.

REASON FOR REPORT

Quadreal Development has applied to make revisions to a recently approved development at 2131 Old Dollarton Road, known as Maplewood Gardens. The proposal includes the conversion of 121 units from strata to rental and non-market rental, as well as revisions to parking, building height, the location of amenity space, and areas exempted for utility rooms as outlined in this report. These proposed changes require Council’s approval to amend the CD 152 zone as well as authorize delegated changes to the development covenant and housing agreement.

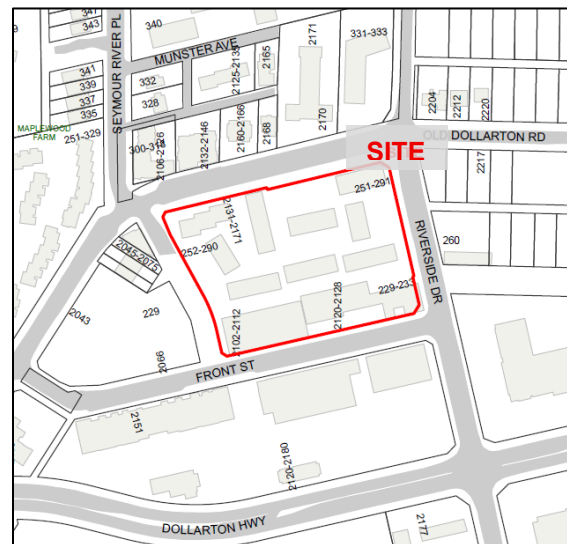


Figure 1 – Site Location

The zoning amendment bylaw is recommended to be given first, second and third readings. Notice of bylaw readings has been provided in accordance with the *Local Government Act*.

BACKGROUND

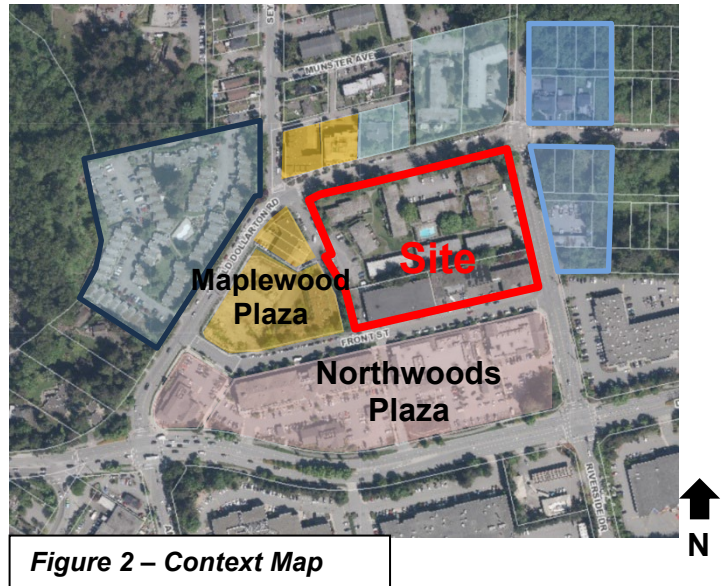
On March 17, 2025 the following bylaws were adopted by Council:

- Bylaw 8685 rezoned the site to Comprehensive Development Zone 152 (CD152);
- Bylaw 8686 authorized a housing agreement to secure 60 non-market rental units, in perpetuity; and
- Bylaw 8702 authorized a housing agreement to secure the rental tenure for 116 market rental units, in perpetuity.

These bylaws permitted the development of a large mixed-use project including:

- 552 residential units in five, six-storey buildings centered around a common outdoor plaza including 33 live/work units. The residential tenure was divided as follows:
 - 376 Strata units;
 - 116 Market rental units; and
 - 60 Non-market rental units.
- 803m² (8,600 sq. ft.) of ground floor commercial space fronting Seymour River Place.

Additional information on the approved proposal can be found in the [First/second/third reading](#), [Adoption](#), and [Development Permit](#) reports.



Due to changing market conditions and an ongoing need for rental housing, the applicant is now proposing a change in the tenure of 121 units, from strata to rental. This includes 20 units which will be secured as below-market in addition to the 60 already secured.

In addition, the following changes are being proposed to support this conversion:

- Reduction in parking with lower rates associated with rental units;
- Reduction in the strata parking rate to align with the District's Alternative Vehicle Parking Rates (AVPR) policy;
- An adjustment to building height exception for building C1 to allow for mechanical and electrical rooms on rooftop;
- Adjustments to the excluded floor area for amenity space to accommodate revised amenity locations.

Detailed analysis of each change is provided in this report. In addition, minor housekeeping amendments are also included.

DISCUSSION

Scope of Changes

Comprehensive Development Zone 152 (CD 152) which applies to the site allows for a maximum Gross Floor Area of 44,492 m² (478,908 sq. ft.) and regulates matters such as height, floor area exemptions, parking, and location of uses. Below is a summary of proposed changes to the project, some of which require amendments to the CD 152 zone.

Changes to Residential Tenure and Housing Mix

The project as approved in 2025 included two rental buildings, and three strata buildings. Due to changing market conditions and construction costs, the applicant is proposing to amend the proposal to convert one strata building (C3) to market rental tenure (R3) as well as slight revisions to the unit count in each building, while maintaining the overall unit count. Changes as proposed are shown in Table 1 and 2 below:

Table 1 – Residential Tenure at Bylaw Adoption (2025 proposal)

Approved	Building C1	Building C2	Building C3	Building R1	Building R2	Total
Market Rental	-	-	-	20	96	116
Below Market Rental	-	-	-	60	-	60
Strata	163	91	122	-	-	376
Total	163	91	122	80	96	552

Table 2 – Proposed Residential Tenure (current text amendment application)

Proposed	Building C1	Building C2	Building R3	Building R1	Building R2	Total (changes from 2025 proposal)
Market Rental	-	-	120	-	97	217 (+101)
Below Market Rental	-	-	-	80	-	80 (+20)
Strata	163	92	-	-	-	255 (-121)
Total	163	92	120	80	97	552

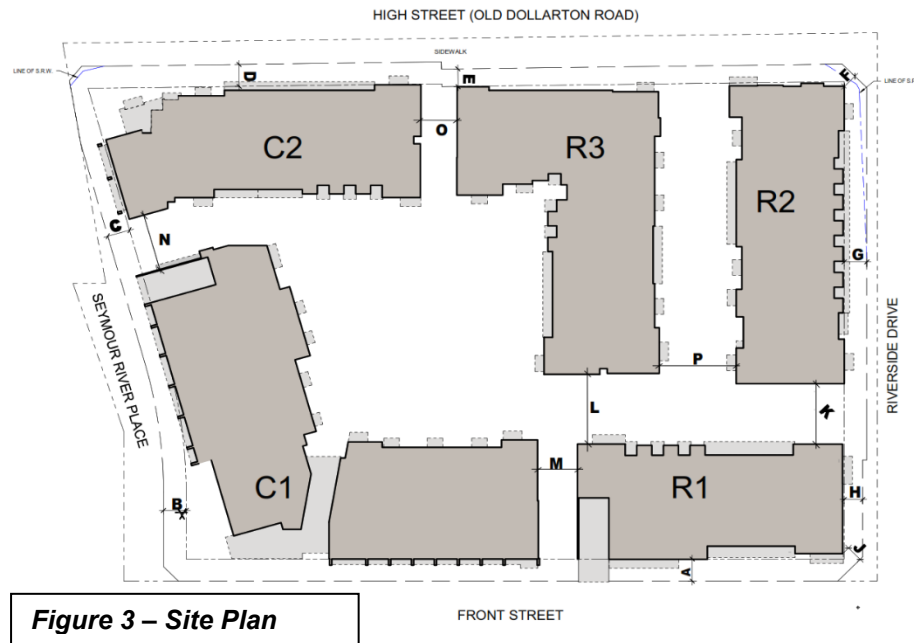


Figure 3 – Site Plan

Staff are supportive of this change as it provides more rental housing and more below market rental housing, a goal that is aligned with OCP, Rental and Affordable Housing Strategy, and the Housing Needs Report.

Changes to Vehicle Parking

By converting 121 units from strata to rental and below-market rental, which have different parking rates associated, the required parking is reduced from 545 to 503 spaces (a reduction of 42 spaces).

The applicant also proposes to reduce the parking rate associated with strata units, to align with the District’s *Alternative Vehicle Parking Rate Policy*. This change from 1.1 space/unit to 1 space/unit would result in a further decrease of 25 parking spaces. Total parking provided is proposed to be 478 spaces.

Table 3 Parking Requirements at time of Rezoning

	Stalls per Residential Unit	Number of units	Total Stalls
Market and Below-Market Rental Units	0.75	176	132
Strata Units	1.1	376	413
Total		522	545

Table 4 Proposed Parking Provisions

	Stalls per Residential Unit	Number of units	Total Stalls
Market and Below-Market Rental Units	0.75	297	223
Strata Units	1	255	255
Total		522	478

Table 5 Visitor and commercial (remaining the same)

	Stalls per Residential unit	Number of units	Total Stalls
Residential Visitor	0.1	545	55
Shared Residential Visitor and Commercial (included in visitor count above)	18 fixed spaces		18
Total			55

The applicant submitted a Transportation Impact Assessment (TIA) with a parking study, analysing the adequacy of the on-site parking supply and any anticipated impacts of this development on adjacent road networks, if any. The report suggests that the proposed parking rate can be supported with the implementation of select Transportation Demand Management (TDM) measures, including:

- Transit stop improvements including a shelter, accessible concrete pad, and bench;
- Multimodal wayfinding and transit information around the site;
- A proprietary app which displays building and alternative transportation information;
- Private bicycle maintenance facilities including tools for flat repair, and general maintenance; and
- Public bicycle maintenance stand including the above-noted tools.

Staff's review of the proposed parking rates is guided by the OCP, the Transportation Plan (2011) and the *Alternative Vehicle Parking Rate (AVPR)* policy.

The OCP directs consideration of reductions of parking requirements for new developments in town and village centres as ways to not only encourage alternate modes of transportation, reduce reliance on private vehicles and greenhouse gas emission, but also to increase housing affordability. Specifically, the OCP outlines that reduced parking requirements for rental and affordable housing can be considered as incentives to encourage the development of affordable housing in the District.

In alignment with the OCP, the current Transportation Plan seeks to implement strategic and practical TDM measures to make walking, cycling and transit more viable alternatives to driving.

The AVPR policy outlines in detail how TDM measures can be proposed to support reduced parking rates.

Based on the above, staff have reviewed the proposed parking assessment and found the revised parking rates to be supportable as they are in alignment with the AVPR policy. The site is located within the heart of Maplewood Village within close walking distance to shops and services, pedestrian and bicycle transportation networks, and transit stops for multiple routes in the vicinity, and is therefore a suitable location to consider parking reductions.

Changes to Bicycle Parking

The applicant proposes to increase the required bicycle parking required in the CD 152 zone to match what is being provided on-site. This change aligns with the *Bicycle Parking and End of Trip Facilities* Policy. All secure residential bicycle storage will include access to Level 1 electric bicycle charging.

Table 6 – Proposed Bicycle Parking

	Class 1 (Long Term) – Secure Bicycle Storage	Class 2 (Short Term) – Bicycle Storage	Total
Residential	960	60	1020
Commercial	4	6	10
Total	964	66	1030

Changes to Building Height Exception

CD 152 allows for exceptions to the maximum building height for areas such as electrical/mechanical rooms on the roof or elevator penthouses. An adjustment of approximately 2.3m (7 ft) height exemption is needed for Building C1 (from the current 2.7 to 5 m), in order to permit for domestic hot water rooms, allowing similar space on the rooftop as that which is already accommodated in buildings C2, R2, and R3. Slight adjustments to building heights 0.15m (0.5 ft.) are also proposed.

Table 7 -Building Height (as a result of the building height exemption adjustment to C1)

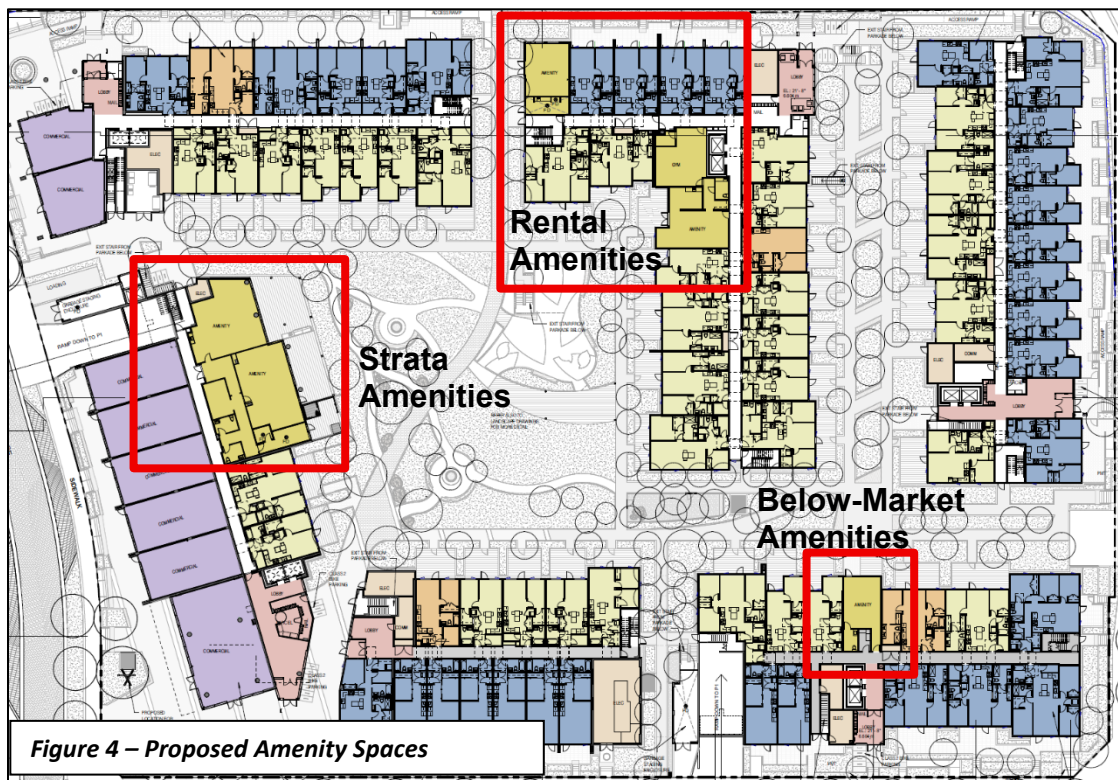
Building	Maximum Building Height	Maximum Height Exceptions	Maximum Storeys
Building C1	21m (68.75 ft.)	5 m (16.25 ft.)	6

Building C2	20.8m (68.2 ft.)	5 m (16.25 ft.)	6
Building R3	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R2	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R1	19.8m (65 ft.)	2.7 m (9 ft.)	6

Changes to Amenity Spaces

The development as previously approved included nearly 6,000 square feet of amenity space spread throughout the five buildings, as well as rooftop amenity space on buildings C2, C3 (now R3), and R2. In conjunction with the change in residential tenure, the indoor amenity spaces have been consolidated into buildings C1, R1, and R3, and have been reduced slightly to a total of 5,850 sq. ft. as seen in Figure 4 below. The rooftop amenity spaces have been consolidated to Buildings C2 and R2 primarily with a small deck on C1.

These changes to amenity spaces are meant to improve efficiency in maintenance, operation, and ease of access for each tenure type, and are reflected in table 1 of the attached text amendment bylaw. In addition, allowable floor area exemptions for mechanical and electrical rooms throughout the buildings have also been increased to accommodate the required equipment. Rooftop amenity space is also provided as part of the development, and has been consolidated into two larger spaces, one each for rental and strata tenures.



COMMUNITY BENEFITS AND FINANCIAL IMPLICATIONS

As a condition of the original rezoning approval in 2025, significant off-site works, land dedication, DCCs, and community amenity contribution in the form of in-kind below-market rental housing were secured.

This application does not change any of the commitments secured previously. In addition, more below-market rental and market rental housing are offered.

The following table outlines the existing and the proposed changes to the contributions.

Table 8 – Existing and Proposed Project Contributions

	2025 Approved Development	2026 Proposed Development (changes from the 2025 approval)
Market Rental Units	116 units	217 units (+101)
Below Market Rental Units	60 units	80 units (+20)
Off-site works	Estimate \$5.6 million	Unchanged
Land Dedications	Approximately 1,772 m ² (19,072 sq. ft.);	Unchanged
DCCs	Estimated at \$5.3 million	Estimated at \$22.4 million (due to change in various DNV and Metro Vancouver rates)
Public Art Contribution	A \$40,000 contribution in addition to designated land for a public art installation on site	Unchanged

CONCURRENCE

The project has been reviewed by staff from the Environment, Building, Legal, Parks, Engineering, Community Planning, Transportation, and the Fire Department.

The District of North Vancouver Rezoning Bylaw 8784 affects land lying within 800m of a controlled access intersection. The original rezoning bylaw was referred to the Provincial Ministry of Transportation and Transit and they noted that no further review would be required.

PUBLIC INPUT

The application was posted on the District's [website for Significant Development Applications](#), and notices were distributed to approximately 378 neighbours within a 100m radius of the site *in accordance with the District's policy on Non-Statutory Public Consultation for Development Applications*. Five responses were received and the following is a summary of the comments.

- General support for the project, and the conversion of units from strata to rental and below-market housing
- Concerns with the reduced parking rates in an area perceived to have insufficient parking.
- General concern with lack of commercial and employee parking in the neighbourhood.

As noted above, a parking analysis was provided with the application and reviewed by staff. Staff support the proposed parking rates, as they are accompanied by Transportation Demand Management Measures (TDM) and align with the District's AVPR policy

IMPLEMENTATION

Implementation of the proposed changes will require a Zoning Bylaw Text Amendment (Bylaw 8784/Attachment 1), modifications to the Housing Agreements to increase the rental and below-market rental units being provided, and modification of the Development Covenant registered on title. If the text amendment is approved by council, the subsequent changes to the Housing Agreements and Development Covenant can be approved by the General Manager, Planning, Properties, Projects, and will occur prior to adoption of the text amendment bylaw.

CONCLUSION

Staff are supportive of the proposed amendments to CD-152 zone for the mixed-use development as it secures additional rental and below-market rental housing in the heart of the Maplewood Village. This tenure type is supported by the OCP, the Rental and Affordable Housing Strategy, and the Housing Needs Report and will facilitate construction of a key project in the build-out of the Maplewood Village Centre, along with the supporting transportation assets.

OPTIONS

The following options are available for Council's consideration:

1. Give Bylaws 8784 First, Second and Third readings (Staff recommendation);
2. Refer the project back to staff for further consideration; or
3. Abandon the bylaw at First Reading.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jenks", with a large, stylized initial "J" that loops around the first part of the name.

Taylor Jenks

Development Planner

ATTACHMENTS

1. District of North Vancouver Rezoning Bylaw 1464 (Bylaw 8784)
2. CD 152 zone (blacklined version)
3. Redline Architectural pages showing proposed changes

REVIEWED WITH:					
☐ Community Planning	_____	☐ Clerk's Office	_____	External Agencies:	
☐ Development Planning	_____	☐ Communications	_____	☐ Library Board	_____
☐ Development Engineering	_____	☐ Finance	_____	☐ NS Health	_____
☐ Utilities	_____	☐ Fire Services	_____	☐ RCMP	_____
☐ Engineering Operations	_____	☐ ITS	_____	☐ NVRC	_____
☐ Parks	_____	☐ Solicitor	_____	☐ Museum & Arch.	_____
☐ Environment	_____	☐ GIS	_____	☐ Other:	_____
☐ Facilities	_____	☐ Real Estate	_____		
☐ Human Resources	_____	☐ Bylaw Services	_____		
☐ Review and Compliance	_____	☐ Planning	_____		

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The Corporation of the District of North Vancouver

Bylaw 8784

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 “District of North Vancouver Rezoning Bylaw 1464 (Bylaw 8784)”.

2. Amendments

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

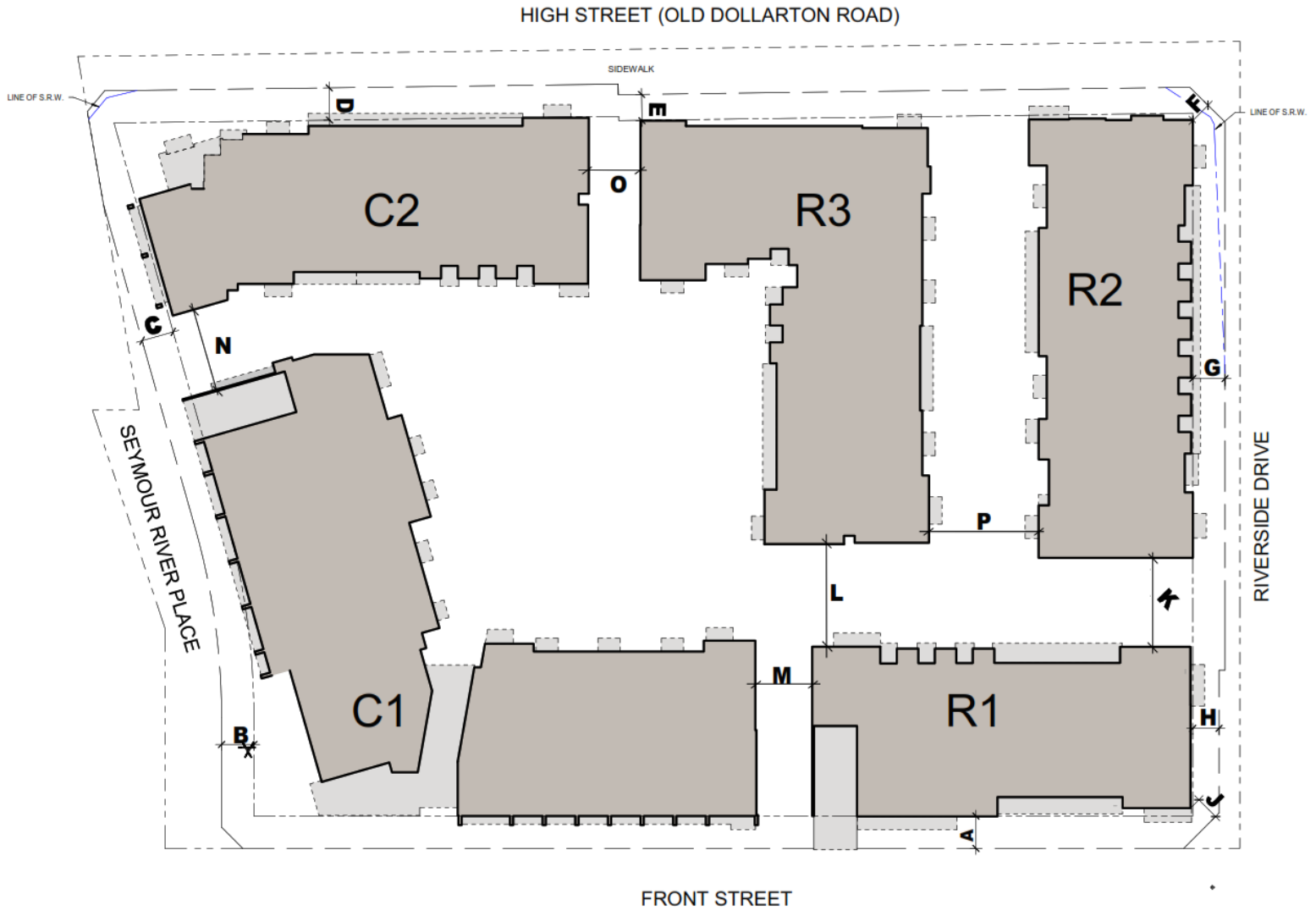
a) The following is added to Section 4B-152-3 “Conditions of Use”:

f) ***Personal Service Use:*** *Personal Service Use* is permitted in Live-work units and commercial units, except for commercial units located in the area identified in Figure 1.

b) Table 1- Maximum Exempted Floor Space in Section 4B-152 is deleted and replaced with the following:

Table 1 – Maximum Exempted Floor Space		
Area	Maximum exempted indoor amenity space/spaces in combination	Maximum exempted garbage, recycling, mechanical, and electrical rooms/enclosures in combination
C1	281.0 m ² (3,025 sq. ft.)	190.5 m ² (2,050sq. ft.)
C2	0	88.3 m ² (950sq. ft.)
R3	213.7 m ² (2,300 sq. ft.)	54.8 m ² (590 sq. ft.)
R2	0	113.3 m ² (1,220 sq. ft.)
R1	53.4 m ² (575 sq. ft.)	86.9 m ² (935 sq. ft.)
Total	548 m² (5,900 sq. ft.)	533.7 m² (5,745 sq. ft.)

c) Figure 2 in Section 4B-152 is deleted and replaced with the following:



- d) Table 3 – Building Height in Section 4B-152 is deleted and replaced with the following:

Table 3 – Building Height			
Building	Maximum Building Height	Maximum Height Exceptions	Maximum Storeys
Building C1	21m (68.75 ft.)	5 m (16.25 ft.)	6
Building C2	20.8m (68.2 ft.)	5 m (16.25 ft.)	6
Building R3	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R2	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R1	19.8m (65 ft.)	2.7 m (9 ft.)	6

- e) Section 4B152 – 10 “Parking, Loading and Servicing Regulations” is deleted in its entirety and replaced with the following:

- a. Parking and loading are to be provided in accordance with “Table 4” and “Figure 2”:

Table 4 – Parking Requirements		
Building	Use	Required Parking Rate
C1 and C2	Residential and Live-work	1 stall / unit
	Commercial	1 stall / 45 m ²
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in C1 and C2
R1	Residential and Live-work	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R1
R2 and R3	Residential	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R2 and R3

- b. Commercial parking is based on a blended rate for all uses excluding residential and live-work use and shall be shared with the required visitor parking in the C1 and C2 buildings.
- c. Bicycle parking is required in accordance with “Table 5”:

Table 5 - Bicycle Parking	
Class 1 – Long Term	956 spaces of which 4 must be for commercial purposes.
Class 2 – Short Term	66 spaces of which 6 must be for commercial purposes.

- d. Except as specifically provided in this section 4B 152-10, Parking and Loading shall be provided in accordance with Part 10 of this Bylaw.

READ a first time

READ a second time

READ a third time

Certified a true copy of “District of North Vancouver Rezoning Bylaw 1464 (Bylaw 8784)” as at Third Reading

Deputy Corporate Officer

APPROVED by the Ministry of Transportation and Transit on

ADOPTED

Mayor

Corporate Officer

The Corporation of the District of North Vancouver

Bylaw 8685

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 “District of North Vancouver Rezoning Bylaw 1440 (Bylaw 8685)”.

2. Amendments

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

a) Part 2A, Definitions is amended by adding CD152 to the list of zones that Part 2A applies to.

b) Part 2A, Definitions is amended by adding the following definitions:

“bicycle parking space, Class 1” means an indoor bicycle space that is secure and weather protected and is primarily for residents and employees for the long-term parking of one bicycle (also known as Class A or Long Term);

“bicycle parking space, Class 2” means a bicycle rack or space primarily for short-term parking of one bicycle (also known as Class B or Short term);

“end of trip facilities” are designated places that support cycling and other forms of active transportation and include secure parking, lockers, change rooms and shower facilities;

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

“Comprehensive Development Zone 152 (CD152)”

d) Part 4B Comprehensive Development Zone Regulations by inserting the following, inclusive of Schedule B:

The CD152 zone is applied to:

- i.) PID 010-651-519, Lot 2 Block 20 District Lot 193 Plan 7353;
- ii.) PID 010-651-501, Lot 1 Block 20 District Lot 193 Plan 7353; and
- iii.) PID 008-874-565, Lot A Blocks 19 and 20 District Lot 193 Plan 12507

all as indicated in Schedule A

4B 152 – 1 Intent

The purpose of the CD152 Zone is to permit a mixed-use development including commercial, residential, non-market residential and public plaza space.

4B 152 – 2 Permitted Uses:

The following *principal* uses shall be permitted:

- a) Uses Permitted Without Conditions:

Not applicable.

- b) Conditional Uses:

The following *principal* uses are permitted when the conditions outlined in Section 4B 152-3 Conditions of Use, are met:

- i) *live-work use;*
- ii) *office use*
- iii) *personal service use;*
- iv) *restaurant use;*
- v) *retail use;*
- vi) *residential use;*
- vii) *service use; and*
- viii) *social gathering use*

4B 152 - 3 Conditions of Use

- b) **All conditional uses:** All uses of land, buildings and structures are only permitted when the following condition of use is met:
 - i) All aspects of the use are completely contained within an enclosed building except for:

1. Parking and loading areas;
2. *Outdoor customer services areas*;
3. The display of goods;
4. Outdoor amenity areas (plazas, roof decks, play areas, and private or semi-private outdoor space); and
5. Public plazas and park areas.

c) **Residential:** *Residential uses* are only permitted when the following conditions are met:

- i) Each dwelling unit has access to private or semi-private outdoor space.
- ii) Each dwelling unit has exclusive access to a designated storage or bicycle storage space.
- iii) A minimum of 803 m² (8,643 sq. ft.) of commercial use is provided.
- iv) A minimum of 33 *Live-Work* units are provided with 12 fronting Front Street, 10 units fronting Riverside Drive and 11 units fronting Old Dollarton Road.
- v) minimum of 803 m² (8,643 sq. ft.) of the total permissible gross floor area must be used for commercial purposes where commercial purposes includes restaurant use and retail use singly and in combination and does not include live-work use.
- vi) Balcony enclosures are not permitted.

c) **Live-work:** *Live-work use* is only permitted when the following conditions are met:

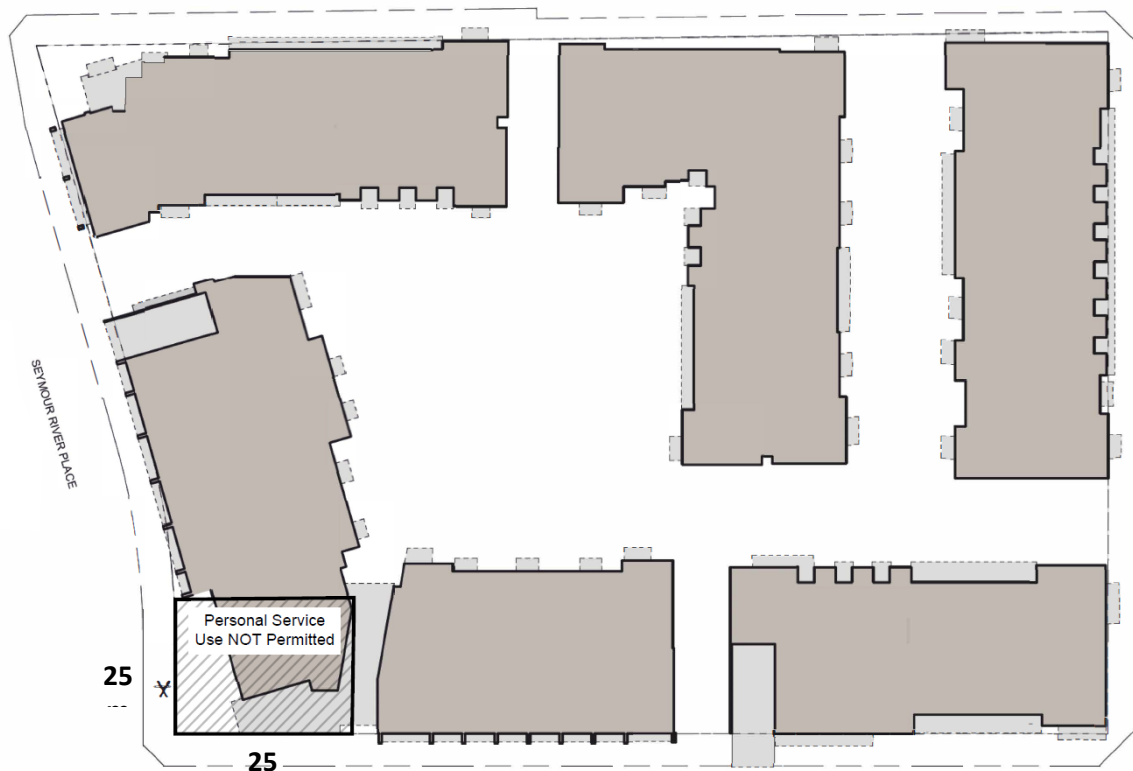
- i) Each dwelling unit has access to private or semi-private outdoor space; and
- ii) Each dwelling unit has exclusive access to a designated storage or bicycle storage space.
- iii) Each dwelling unit has a public entrance
- iv) Live-Work units will not accommodate restaurant or social gathering uses.

d) **Office Use:** *Office use* is only permitted when located within the live-work units.

e) **Restaurant:** *Restaurant use* is only permitted when located within commercial units along Seymour River Place

f) **Personal Service Use:** *Personal Service Use* is permitted in Live-work units and commercial units, except for commercial units located in the area identified in Figure 1.

Figure 1



4B 152 - 4 Accessory Use

- a) *Accessory uses* customarily ancillary to the principal uses are permitted.
- b) *Home occupations* are permitted in *residential* units.

4B 152 – 5 Density

- a) The maximum permitted *gross floor area* in the CD152 zone is 44,492 m² (478,908 sq. ft.) as measured to the exterior of the building sheathing, and as allocated below and as shown in Figure 2:
- b) For the purpose of calculating *gross floor area* the following are exempted:
 - i. Parking, stairwells, utility rooms, elevator lobbies, and bike storage areas located below grade in a structure which has an exposed exterior wall less than 1.2m (4 ft.) above finished grade.

- ii. Garbage, Recycling, Mechanical and Electrical and Water Meter Rooms located on the ground floor in accordance with “Table 1” and Figure 1”.
- iii. Amenity space in accordance with “Table 1”
- iv. The area of balconies and covered patios up to 10% of the total residential floor area for the building they are part of;

Table 1 – Maximum Exempted Floor Space		
Area	Maximum-exempted indoor amenity space (sq. ft.)	Maximum-exempted garbage, recycling mechanical and electrical room/enclosures (sq. ft.)
C1	3,046	1,830
C2	915	922
C3	721.2	530
R2	797	812
R1	500	969
Total	5,979.2 sq. ft. (555 m²)	5,063 sq. ft. (470.4 m²)

Table 1 – Maximum Exempted Floor Space		
Area	Maximum exempted indoor amenity space/spaces in combination	Maximum exempted garbage, recycling, mechanical, and electrical rooms/enclosures in combination
C1	281.0 m² (3,025 sq. ft.)	190.5 m² (2,050sq. ft.)
C2	0	88.3 m² (950sq. ft.)
R3	213.7 m² (2,300 sq. ft.)	54.8 m² (590 sq. ft.)
R2	0	113.3 m² (1,220 sq. ft.)
R1	53.4 m² (575 sq. ft.)	86.9 m² (935 sq. ft.)
Total	548 m² (5,900 sq. ft.)	533.7 m² (5,745 sq. ft.)

4B 152 – 6 Setbacks

- a) Buildings shall be set back from property lines to the closest building face, excluding any underground or partially exposed parking structure, window wells, balcony columns, alcove projections, or projecting balconies, and the above noted projections are not to exceed a depth as outlined in Section 409 of the zoning bylaw, and established by development permit and in accordance with “Table 2” and “Figure 2”

Figure 2

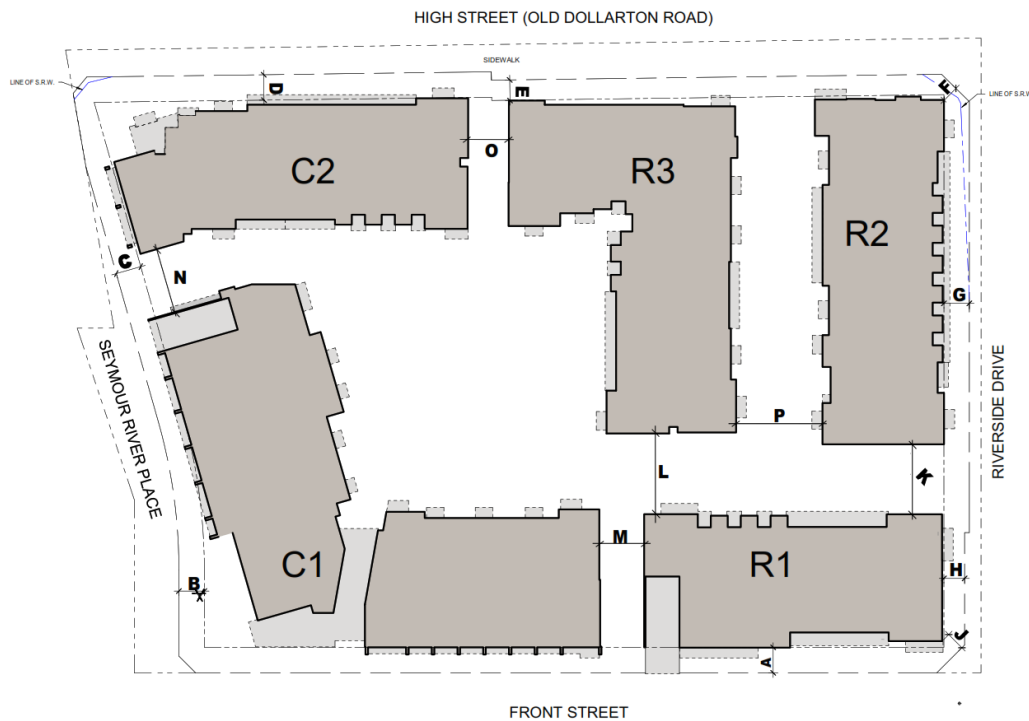


Table 2 – Setbacks (minimum)	
A	4.3 m (14 ft)
B	4.3 m (14 ft)
C	4.3 m (14 ft)
D	4.3 m (14 ft)
E	3.5 m (11.5 ft.)
F	2.75 m (9 ft.)
G	4.4 m (14.4 ft)
H	3.5 m (11.5 ft)
J	3.2 m (10.5 ft)
K	12.2 m (40 ft)
L	14.5 m (47.6 ft)
M	7.6 m (25 ft)
N	9.9 m (32.5 ft)

O	7.1 m (23.3 ft)
P	15 (49.2 ft)

4B 152 – 7 Height

- a) The maximum permitted height for any building in the CD152 zone shall be measured from the Flood Construction Level (FCL) at a geodetic elevation of 6.6 m, with specific building height provisions based on “Table 3” and “Figure 2”.

Table 3—Building Height			
Building	Maximum Building Height	Maximum Height Exceptions	Maximum Storeys
Building C1	21m (68.75 ft.)	2.7 m (9 ft.)	6
Building C2	20.8m (68.2 ft.)	5 m (16.25 ft.)	6
Building C3	19.7m (64.75 ft.)	5 m (16.25 ft.)	6
Building R2	19.65m (64.5 ft.)	5 m (16.25 ft.)	6
Building R1	19.8m (65 ft.)	2.7 m (9 ft.)	6

Table 3 – Building Height			
Building	Maximum Building Height	Maximum Height Exceptions	Maximum Storeys
Building C1	21m (68.75 ft.)	5 m (16.25 ft.)	6
Building C2	20.8m (68.2 ft.)	5 m (16.25 ft.)	6
Building R3	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R2	19.8m (65 ft.)	5 m (16.25 ft.)	6
Building R1	19.8m (65 ft.)	2.7 m (9 ft.)	6

- b) In addition to Part 4 General Regulations, Section 407 Height Exceptions, the following height exceptions shall apply in the CD152 zone: Elevator penthouses, heating, cooling, ventilation and other mechanical equipment required for building operations are permitted above the maximum height limit, provided they are completely screened and integrated into the building’s design and do not extend more than the maximum height exceptions as outlined in Table 3.

4B 152 – 8 Coverage

- a) Building Coverage: The maximum building coverage is 57%.
- b) Site Coverage: The maximum site coverage is 58%.

4B 152 – 9 Landscaping and Storm Water Management

- a) All land areas not occupied by buildings and patios shall be landscaped in accordance with a landscape plan approved by the District of North Vancouver.
- b) Screening consisting of solid fence, architectural screening, landscaping or a combination thereof, is required around the following:
 - i) any utility boxes, water meter chambers, vents or pumps that are not located underground and/ or within a building; and
 - ii) any solid waste (garbage, recycling, compost) or loading areas or facilities that are not located underground and / or within a building.

4B 152 - 10 Parking, Loading and Servicing Regulations

- a) Parking and loading are to be provided in accordance with “Table 4” and “Figure 2”:

Table 4—Parking Requirements		
Building	Use	Required Parking Rate
C1, C2, C3 combined	Residential and Live-work	1.1 stall / unit
	Commercial	1 stall / 45 m ²
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in C1, C2 and C3
R1	Residential and Live-work	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R1
R2	Residential	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R2

Table 4 – Parking Requirements		
Building	Use	Required Parking Rate
C1 and C2	Residential and Live-work	1 stall / unit
	Commercial	1 stall / 45 m ²
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in C1 and C2
R1	Residential and Live-work	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R1
R2 and R3	Residential	0.75 stall / unit
	Visitor	0.1 stall / unit
	Accessible	4.5% of all required parking in R2 and R3

- b) Commercial parking is based on a blended rate for all uses excluding residential and live-work use and shall be shared with the required visitor parking in the C1, C2, C3 buildings.
- c) Bicycle parking is required in accordance with “Table 5”:

Table 5 – Bicycle Parking	
Class 1 – Long Term	954 spaces of which 4 must be for commercial purposes.
Class 2 – Short Term	60 spaces of which 6 must be for commercial purposes.

Table 5 - Bicycle Parking	
Class 1 – Long Term	956 spaces of which 4 must be for commercial purposes.
Class 2 – Short Term	66 spaces of which 6 must be for commercial purposes.

- d) Except as specifically provided in this section 4B 152-10, Parking and Loading shall be provided in accordance with Part 10 of this Bylaw.
- e) The Zoning Map is amended in the case of the lands illustrated on the attached map (Schedule A) by rezoning the land from the Multiple-Family Residential Zone (RM3) and Light Industrial Zone (I3) to Comprehensive Development Zone CD152.
- f) The Siting Area Map section is amended by deleting Plan Section R/16.
- g) The Siting Area Map section is amended by deleting Plan Section I/97 and replacing it with the revised Plan Section I/97 attached in Schedule C.

READ a first time July 22, 2024

READ a second time July 22, 2024

READ a third time July 22, 2024

ADOPTED April 7, 2025

Mayor

Corporate Officer

Schedule A to Bylaw 8685

BYLAW 8685

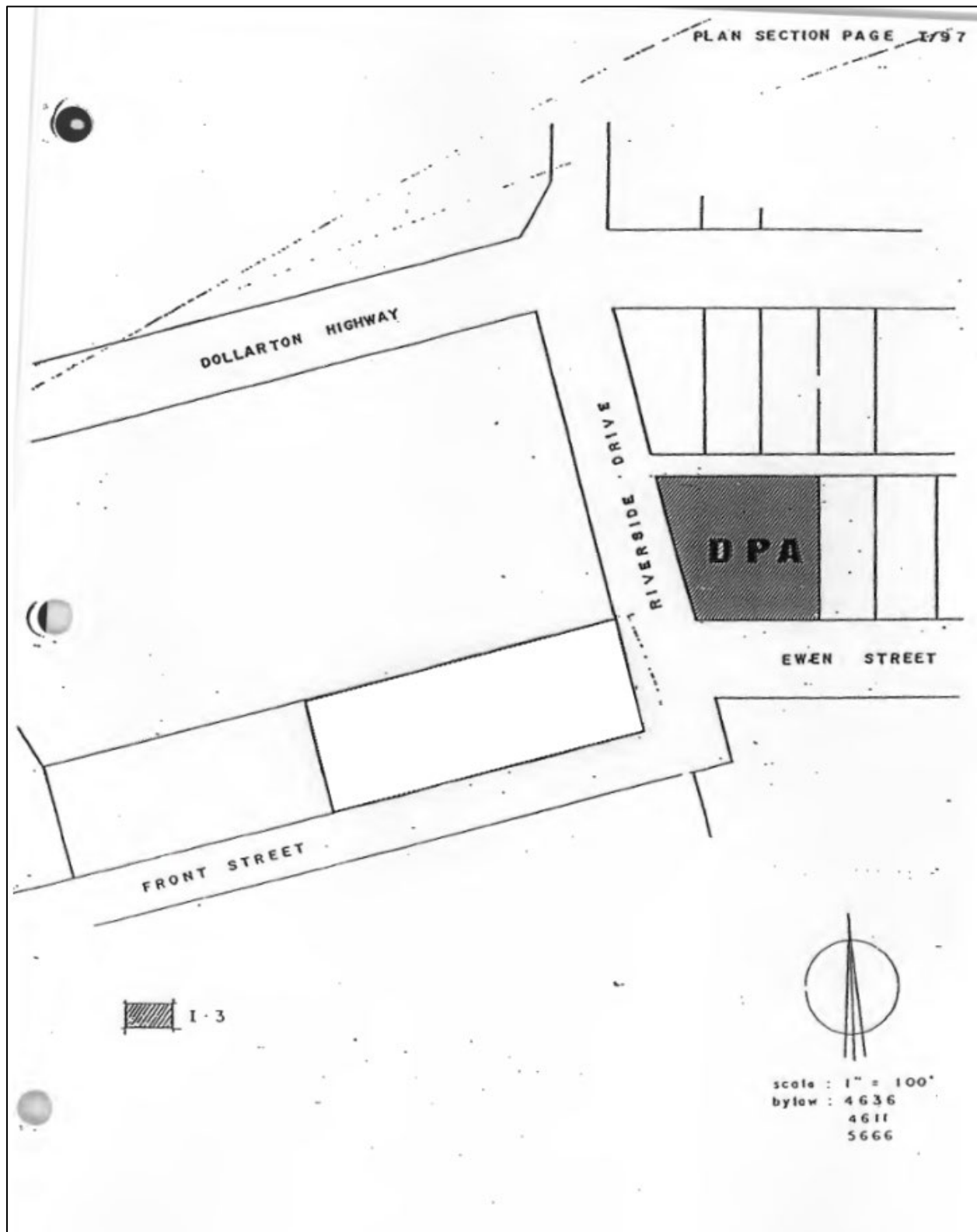
District of North Vancouver Rezoning Bylaw 1440 (Bylaw 8685)



-  Multi-Family Residential Zone 3 (RM3) to Comprehensive Development Zone 152 (CD152)
-  Light Industrial Zone (I3) to Comprehensive Development Zone 152 (CD152)



Schedule B to Bylaw 8685



[illegible]

RE-ISSUED FOR RZ & DP	25.01.10	AMS
RE-ISSUED FOR RZ & DP	24.07.03	AMS
RE-ISSUED FOR RZ & DP	24.05.28	AMS
RE-ISSUED FOR RZ & DP	23.12.13	AMS
ISSUED FOR ADP	23.05.24	AMS
ISSUED FOR REZONING	23.01.12	AMS

NO.	DESCRIPTION	DATE	BY
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CLIENT:



Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:

**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Stall Distribution Level P1

DATE: 2025-01-10 1:29:17 PM
:
DRAWN: Author
BY:
JOB NO: 1901
REVISION

SHEET NO.
A106



L



CLIENT:



Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

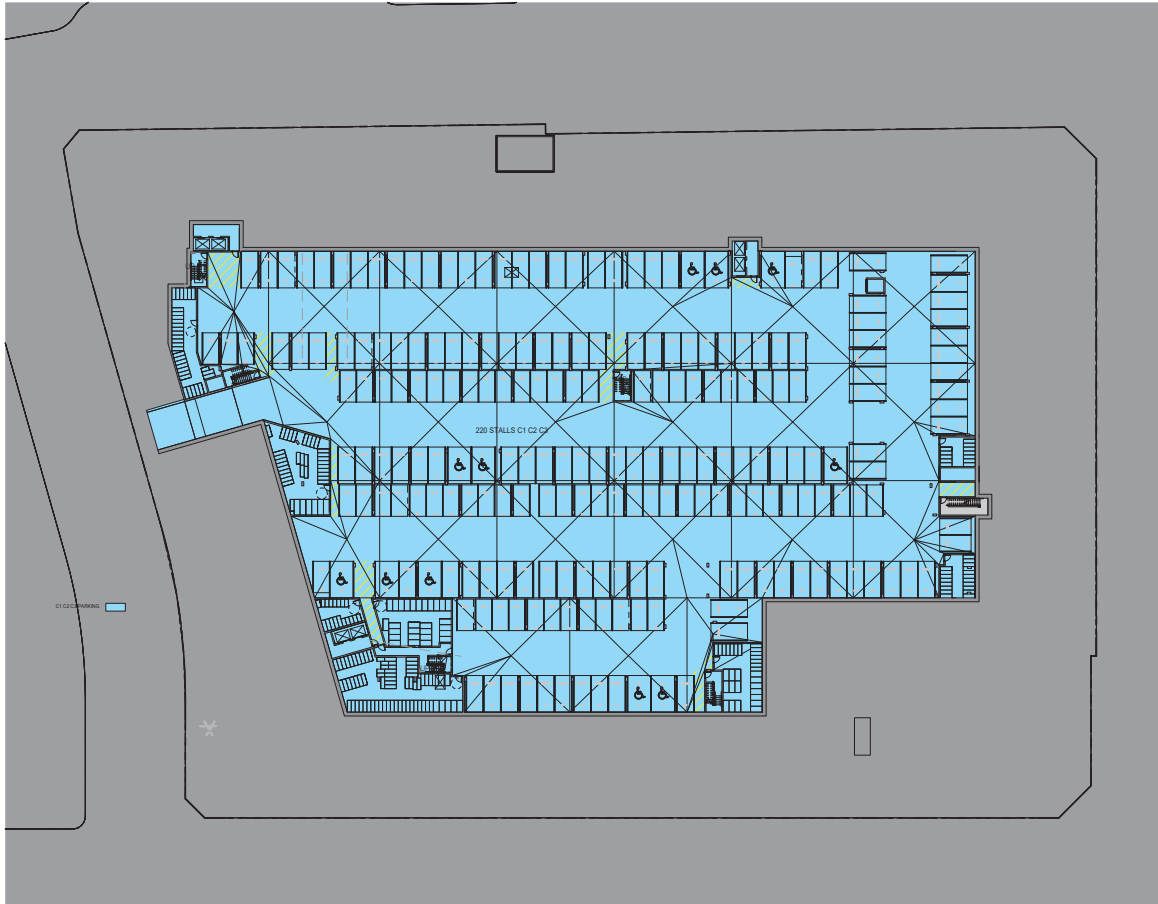
DRAWING TITLE:
Stall Distribution Level P1

DATE	11/7/2025 2:37:16 PM
DRAWN BY:	Author
JOB NO:	1901
REVISION	

SHEET NO.

A106

Level 2 Parkade Plan at DP



RE-ISSUED FOR RZ & DP	25.01.10	AMS
RE-ISSUED FOR RZ & DP	24.07.09	AMS
RE-ISSUED FOR RZ & DP	24.05.09	AMS
RE-ISSUED FOR RZ & DP	23.12.11	AMS
ISSUED FOR RZ & DP	22.05.09	AMS
ISSUED FOR REWORKING	23.01.12	AMS

NO.	DESCRIPTION	DATE	BY
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CLIENT:



Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

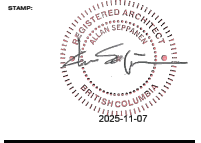
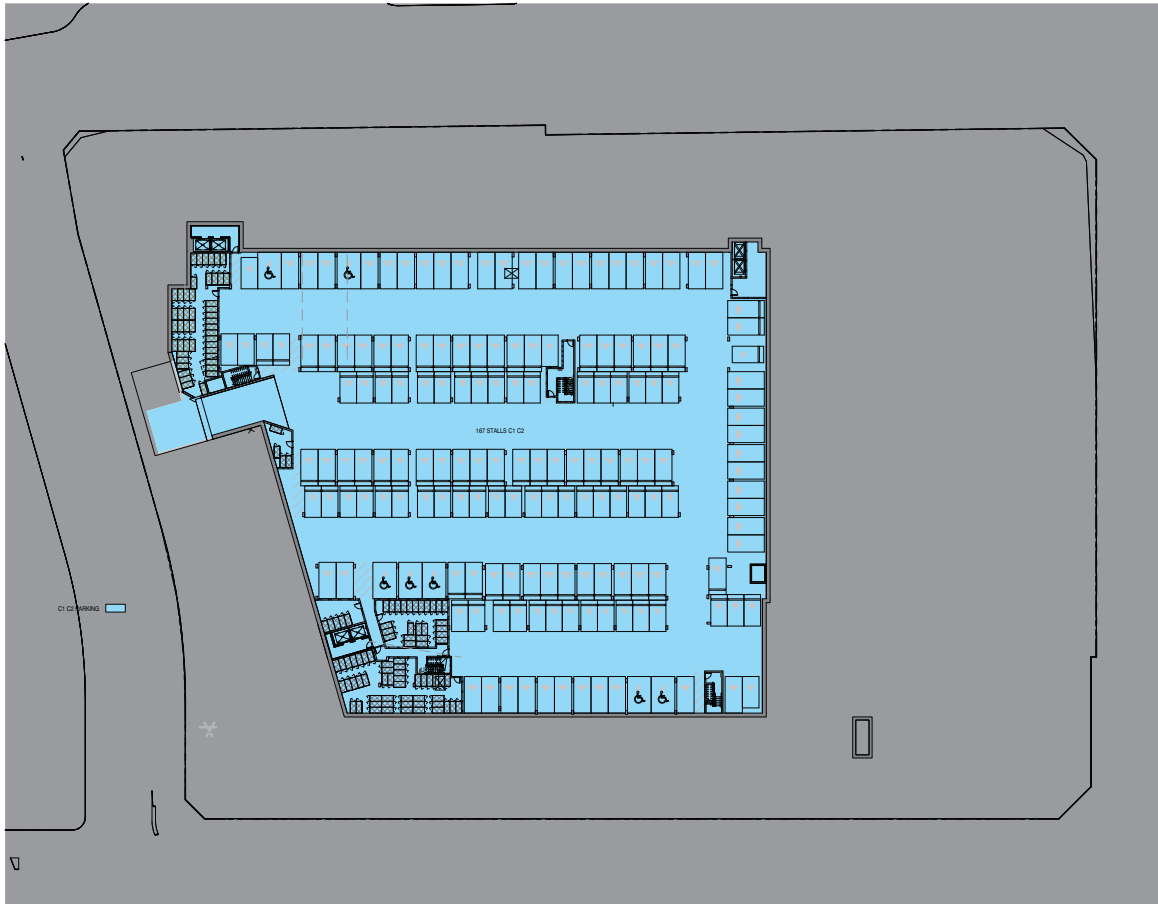
PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Stall Distribution Level P2

DATE	2025-01-10 12:29 PM
DRAWN	Author
BY	
JOB NO.	1901
REVISION	

SHEET NO.
A107

Proposed Level 2 Parkade Plan



ISSUE FOR DP VARIANCE PERMIT	25.11.07	AMS
RE-ISSUED FOR R2 & DP	25.01.10	AMS
RE-ISSUED FOR R2 & DP	24.07.09	AMS
RE-ISSUED FOR R2 & DP	24.05.09	AMS
RE-ISSUED FOR R2 & DP	23.12.11	AMS
ISSUED FOR ADP	22.05.20	AMS
ISSUED FOR REDLINING	23.01.12	AMS

NO.	DESCRIPTION	DATE	BY
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Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Stall Distribution Level P2

DATE	11/17/2025 2:37:21 PM
DRAWN	Author
BY	
JOB NO.	1901
REVISION	

SHEET NO.
A107

Issued for Development Variance Permit - 2025.11.07

Level 1 Floor Plan at DP



Proposed Level 1 Floor Plan



- LIVE / WORK
- LOBBY
- RESIDENTIAL
- AMENITY
- COMMERCIAL
- SERVICE

ARCHITECT:

RWA
ARCHITECTURE

1111 KILLICK
VANCOUVER, B.C.
CANADA V6L 1K7

T 604.722.0999
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A 604.722.0999

STAMP:

REGISTERED ARCHITECT
BRITISH COLUMBIA
2025-11-07

ISSUE FOR DP VARIANCE PERMIT	25.11.07	AMG
RE-ISSUED FOR R2 & DP	25.01.10	AMG
RE-ISSUED FOR R2 & DP	24.07.05	AMG
RE-ISSUED FOR R2 & DP	24.05.28	AMG
RE-ISSUED FOR R2 & DP	23.12.11	AMG
ISSUED FOR ADP	22.06.24	AMG
ISSUED FOR REDRAWING	23.01.12	AMG

NO.	DESCRIPTION	DATE	BY
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CLIENT:

QuadReal

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#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplegrove
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Site Plan

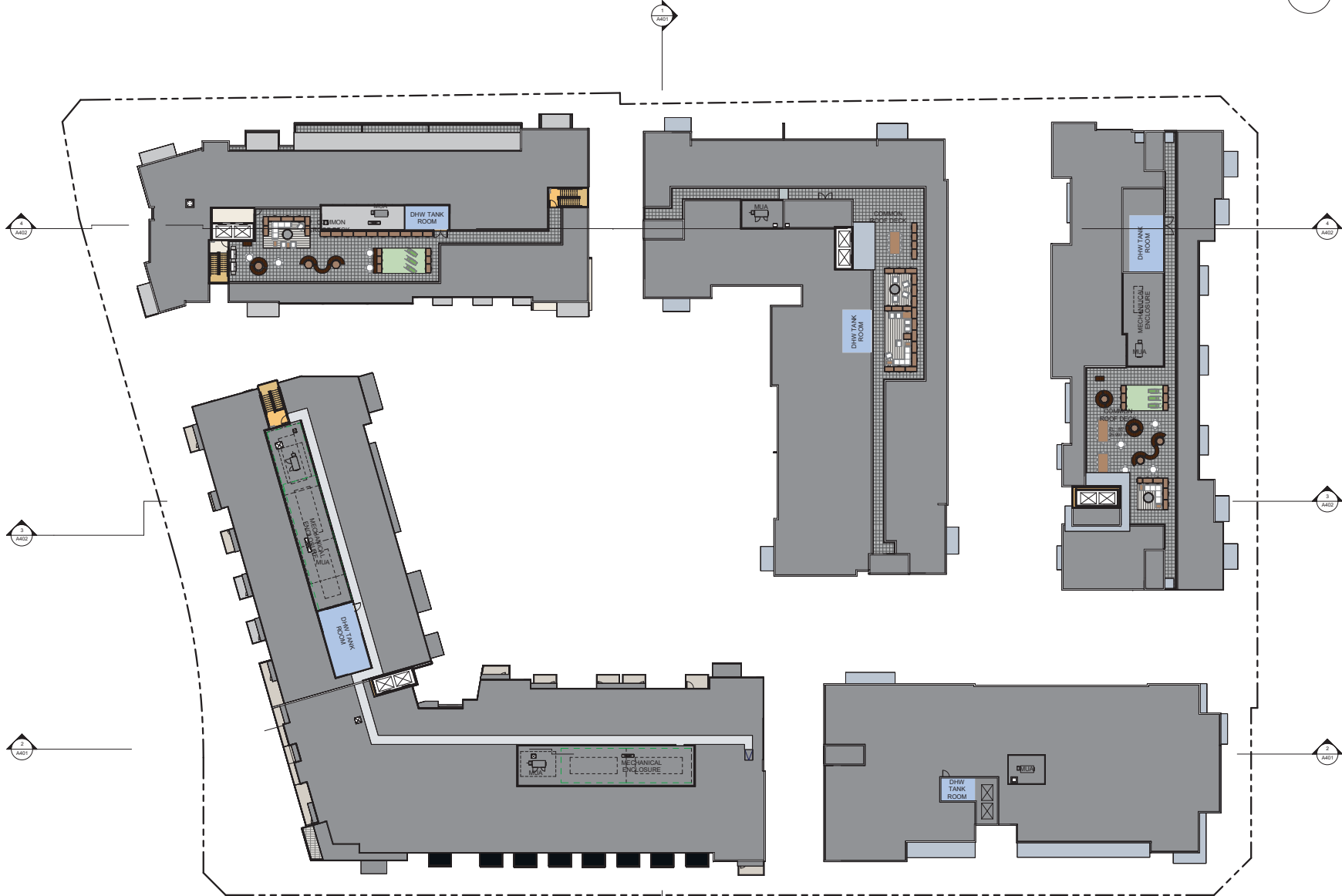
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DRAWN BY	Author
CHECKED BY	1901
REVISION	

SHEET NO.
A101

1 Site Plan
1" = 30'-0"

Roof Plan at DP

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1 Roof Level
 1" = 20'-0"

RE-ISSUED FOR RZ & DP	25.01.10	AMS
RE-ISSUED FOR RZ & DP	24.07.09	AMS
RE-ISSUED FOR RZ & DP	24.05.09	AMS
RE-ISSUED FOR RZ & DP	23.12.11	AMS
ISSUED FOR RZ	22.05.09	AMS
ISSUED FOR REWORKING	23.01.12	AMS

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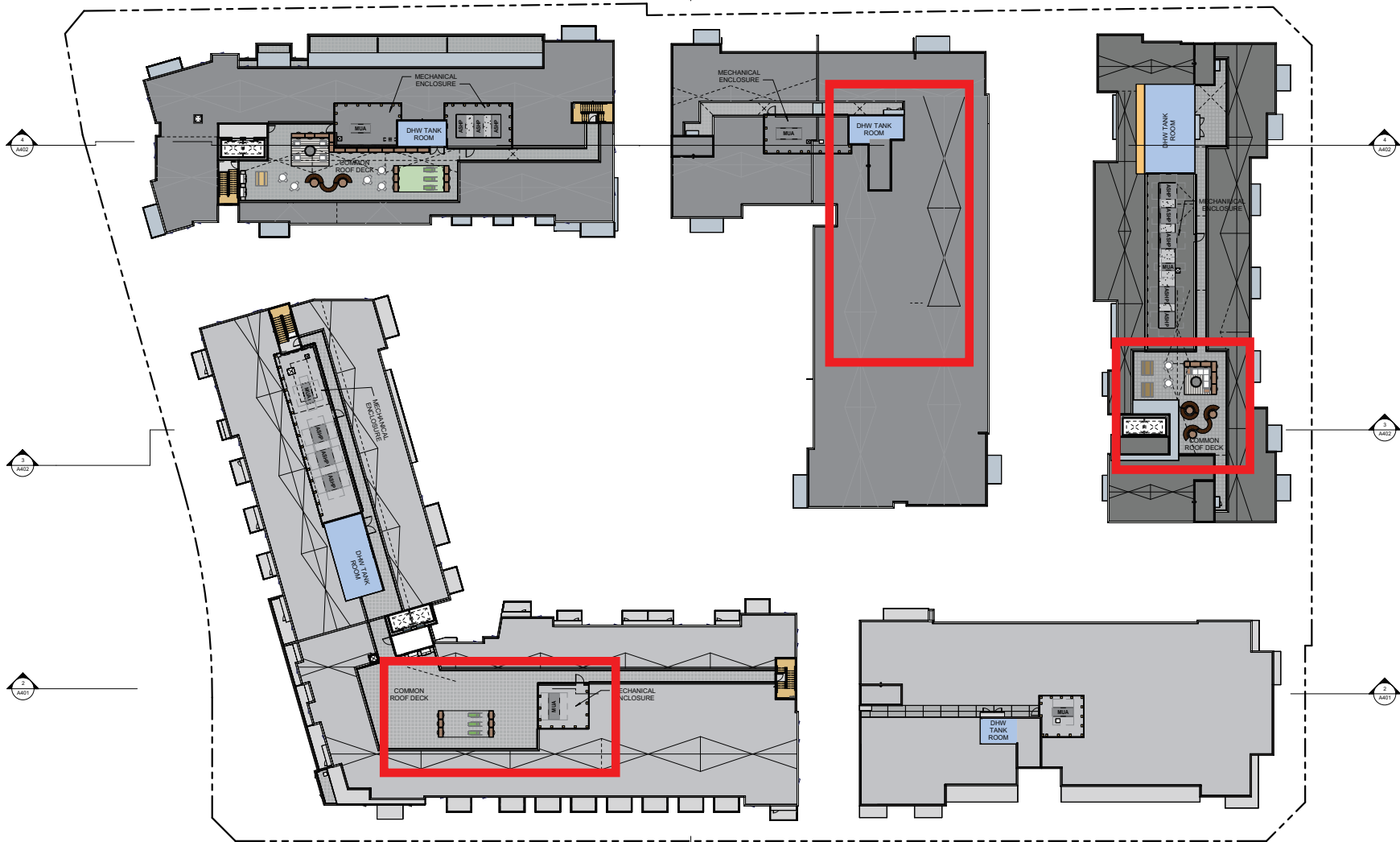
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**Maplewood
 Gardens**
 Front Street at Riverside,
 North Vancouver, B.C.

DRAWING TITLE:
Roof Level

DATE	2025-01-10 12:00 PM
DRAWN	Author
BY	1901
REVISION	

SHEET NO.
A209

Proposed Roof Plan



1 Roof Level
1" = 20'-0"

ISSUE FOR DP VARIANCE PERMIT	25.11.07	AMS
RE-ISSUED FOR R2 & DP	25.01.10	AMS
RE-ISSUED FOR R2 & DP	24.07.05	AMS
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RE-ISSUED FOR R2 & DP	23.12.15	AMS
ISSUED FOR ADP	22.05.24	AMS
ISSUED FOR REZONING	23.01.12	AMS

NO.	DESCRIPTION	DATE	BY
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Client:
QuadReal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Roof Level

DATE	11/11/2023 2:30:29 PM
DRAWN	Author
BY	1901
REVISION	

SHEET NO.
A209

Issued for Development Variance Permit - 2025.11.07

South and West Elevations at DP Building C1

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ARCHITECT:



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1.1	ARCHITECTURAL BOARD FORMED CONCRETE
1.2	ARCHITECTURAL CONCRETE - PAINTED
1.3	ARCHITECTURAL CONCRETE COLUMN - LIGHT SANDBLAST
2.1	CEMENTITIOUS PANEL CLADDING
2.2	METAL CLADDING PANEL
2.3	METAL CLADDING - ACCENT COLOUR
3.1	ALUMINUM CURTAIN WALL - DOUBLE GLAZED
3.2	ALUMINUM SPANDREL PANEL
3.4	ALUMINUM WINDOW WALL - DOUBLE GLAZED
3.5	VINYL WINDOW
3.7	ALUMINUM STOREFRONT - DOUBLE GLAZED
4.2	DOOR - WOOD FINISH
4.5	CURTAINWALL DOOR
5.0	GLASS & METAL
5.1	METAL MESH GUARDRAIL
5.2	ALUMINUM - GLASS PRIVACY SCREEN
5.3	TEMPERED GLASS GUARDRAIL/ALUMINUM FRAME
5.4	TEMPERED GLASS GUARDRAIL WITH COLOURED SLATS
5.5	PRE-FINISHED METAL SCREEN
5.6	PRE-FINISHED METAL FENCE
5.9	METAL LOUVER
5.10	PRE-FINISHED METAL PICKET RAILING
6.2	WOOD COLOURED CLADDING
7.2	MECHANICAL ENCLOSURE WOOD COLOURED SCREEN
7.3	FIRE DEPARTMENT CONNECTION
8.1	PAD MOUNTED TRANSFORMER
8.2	
8.4	
8.5	CONCRETE PLANTER WALL
8.6	CAST IN PLACE CONCRETE STAIRS
8.8	WOODEN BENCH AT CONCRETE PLANTER WALL
9.2	ACCESS RAMP
9.3	ENTERPHONE
9.9	ALUMINUM GLASS RAIN PROTECTION
9.10	PUBLIC ART INSTALLATION



2.	RE-ISSUED FOR REDLINING	23.03.18	AMS
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7.	ISSUED FOR ADP	22.05.20	AMS
8.	ISSUED FOR REDLINING	23.01.19	AMS

NO.	DESCRIPTION	DATE	BY
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CLIENT:



Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

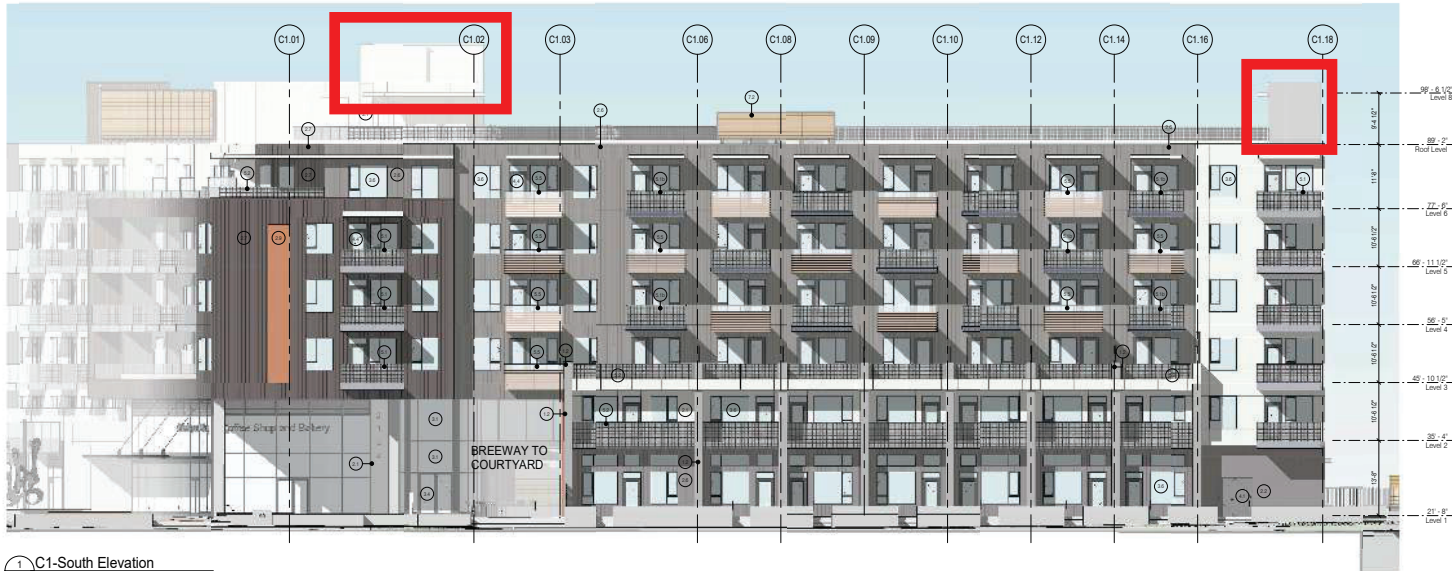
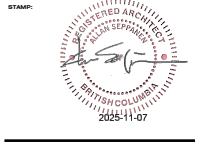
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DATE	2025-01-10 12:07 PM
DRAWN	Author
BY	
JOB NO.	1901
REVISION	

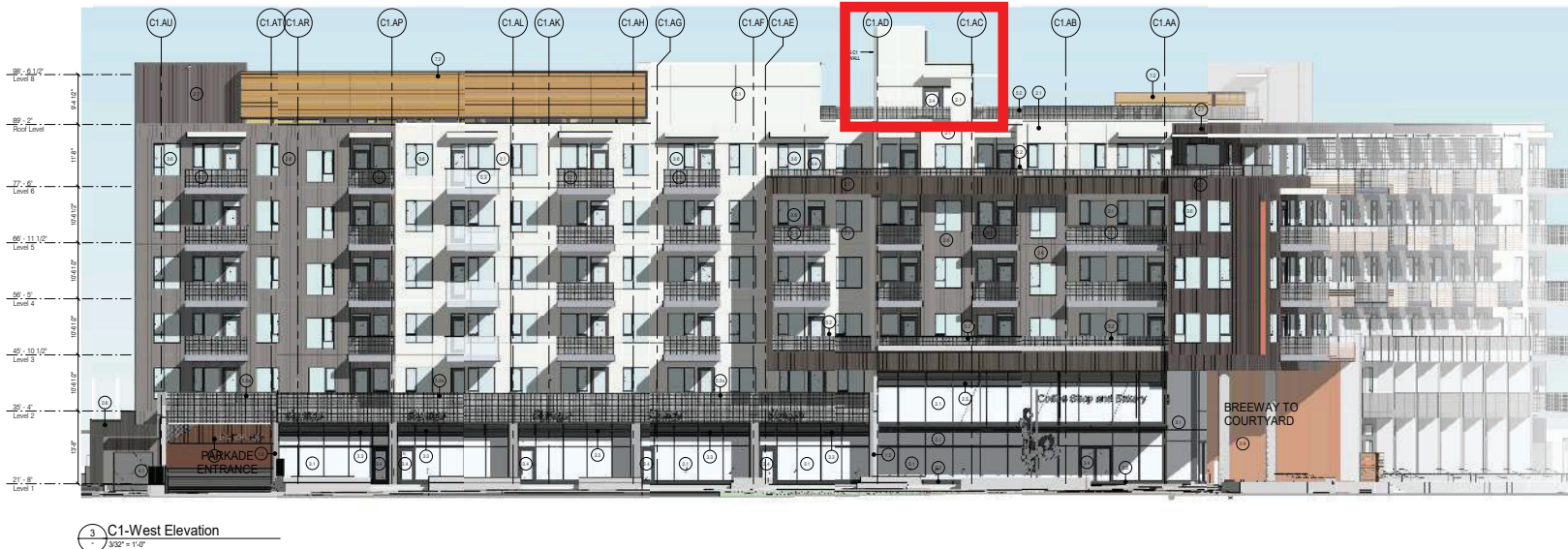
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A311

Proposed South and West Elevations Building C1

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1.1	ARCHITECTURAL/BOARD FORMED CONCRETE
1.2	ARCHITECTURAL CONCRETE - CP PAINTED
2.1	FIBER CEMENT PANEL - WHITE
2.2	FIBER CEMENT PANEL - MID GREY
2.6	METAL REVEAL - MID GREY
2.7	METAL REVEAL - DARK GREY
2.8	METAL REVEAL - WHITE
3.1	ALUMINUM CURTAIN WALL - DOUBLE GLAZED (CASCADIA - IRON ORE)
3.2	ALUMINUM CURTAIN WALL - LOUVRE (CASCADIA - IRON ORE)
3.4	ALUMINUM CURTAIN WALL - DOOR (CASCADIA - IRON ORE)
3.5	VINYL WINDOW (STARLINE CHARCOAL OR SIMILAR)
3.7	METAL WIRE MESH GUARDRAIL w/ LIGHT PANEL (CASCADIA - BONE WHITE)
3.8	METAL WIRE MESH GUARDRAIL @ BALCONY (CASCADIA - BONE WHITE)
3.9	TEMPERED CLEAR GLASS GUARDRAIL w/ LIGHT PANEL (CASCADIA - IRON ORE)
3.9A	TEMPERED CLEAR GLASS GUARDRAIL (CASCADIA - IRON ORE)
3.4	TEMPERED PROTECTED GLASS GUARDRAIL (CASCADIA - IRON ORE)
3.5	TEMPERED CLEAR GLASS GUARDRAIL w/ CORTEN SLATS (CASCADIA - IRON ORE, WESTFORM ACORN SLATS)
3.6	PRE-FINISHED METAL FENCE (CASCADIA - IRON ORE)
3.7	CAST IN PLACE CONCRETE STAIRS
3.7	ACCESS RAMP



RE-APPLIED FOR REDZONING	25.01.10	AMM
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RE-APPLIED FOR REDZONING	25.01.10	AMM
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RE-APPLIED FOR REDZONING	25.01.10	AMM
RE-APPLIED FOR REDZONING	25.01.10	AMM

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#800 - 666 Burrard Street,
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PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Elevations - Building C1

DATE	2025-11-07 10:00 PM
DRAWN	Author
BY	1901
REVISION	

SHEET NO.
A311

North and East Elevations at DP Building C1



1 C1-North Elevation
3/32" = 1'-0"



2 C1-East Elevation
3/32" = 1'-0"

1.1	ARCHITECTURAL/BOARD FORMED CONCRETE
1.2	ARCHITECTURAL CONCRETE - PAINTED
1.3	ARCHITECTURAL CONCRETE COLUMN - LIGHT SAND/ART
2.1	CEMENTITIOUS PANEL GLAZING
2.2	METAL CLADDING PANEL
2.3	METAL CLADDING - ACCENT COLOUR
3.1	ALUMINUM CURTAIN WALL - DOUBLE GLAZED
3.2	ALUMINUM SPANDREL PANEL
3.4	ALUMINUM WINDOW WALL - DOUBLE GLAZED
3.6	VINYL WINDOW
3.7	ALUMINUM STOREFRONT - DOUBLE GLAZED
4.2	DOOR - WOOD FINISH
4.5	CURTAINWALL DOOR
5.0	GLASS & METAL
5.1	METAL MESH GUARDRAIL
5.2	ALUMINUM + GLASS PRIVACY SCREEN
5.3	TEMPERED GLASS GUARDRAIL/ALUMINUM FRAME
5.4	TEMPERED GLASS GUARDRAIL WITH COLOURED SLATS
5.5	PRE-FINISHED METAL SCREEN
5.6	PRE-FINISHED METAL FENCE
5.9	METAL LOUVER
5.10	PRE-FINISHED METAL PICKET RAILING
6.2	WOOD COLOURED CLADDING
7.2	MECHANICAL ENCLOSURE-WOOD COLOURED SCREEN
7.3	FIRE DEPARTMENT CONNECTION
8.1	PAD MOUNTED TRANSFORMER
8.2	
8.4	
9.1	CIP CONCRETE PLANTER WALL
9.4	CAST IN PLACE CONCRETE STAIRS
9.5	WOODEN BENCH AT CONCRETE PLANTER WALL
9.7	ACCESS RAMP
9.8	INTERPHONE
9.9	ALUMINUM/GLASS RAIN PROTECTION
9.10	PUBLIC ART INSTALLATION



NO.	DESCRIPTION	DATE	BY
1	RE-ISSUED FOR RZ & DP	25.01.10	AMS
2	RE-ISSUED FOR RZ & DP	24.07.09	AMS
3	RE-ISSUED FOR RZ & DP	24.05.09	AMS
4	RE-ISSUED FOR RZ & DP	23.12.11	AMS
5	RE-ISSUED FOR REDRAWING	03.05.10	AMS
6	ISSUED FOR REDRAWING	23.01.12	AMS



Quadreal
#800 - 688 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

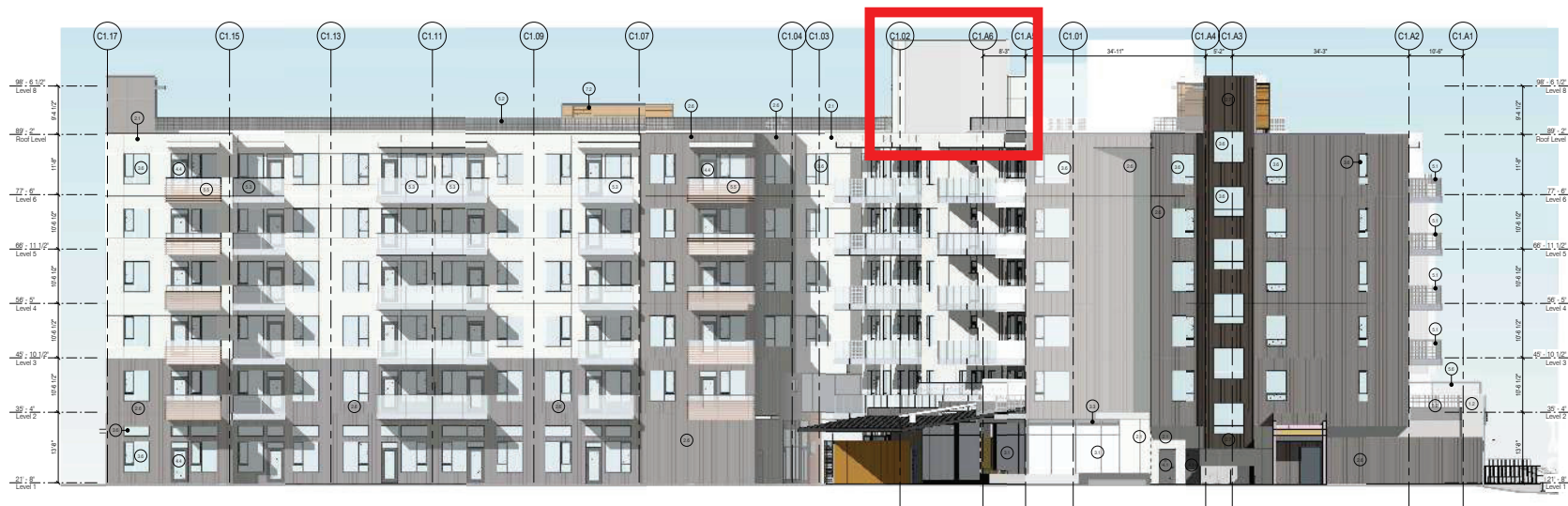
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DATE: 2025-01-10 12:00 PM
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JOB NO.: 1901
REVISION:

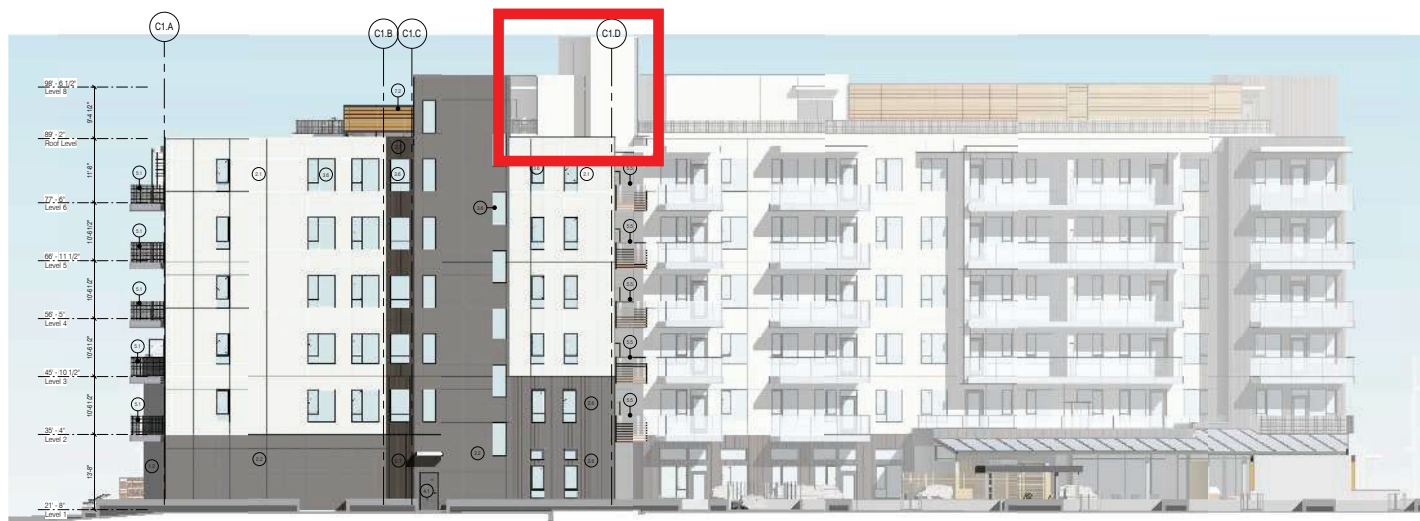
SHEET NO.
A312

Proposed North and East Elevations Building C1

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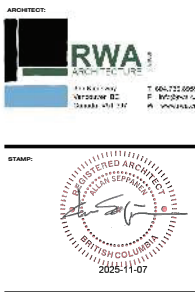


1 C1-North Elevation
3/32" = 1'-0"



2 C1-East Elevation
3/32" = 1'-0"

1.1	ARCHITECTURAL BOARD FORMED CONCRETE
1.2	ARCHITECTURAL CONCRETE - CIP / PAINTED
1.3	ARCHITECTURAL CONCRETE - LIGHT SANDBLAST
2.1	FIBER CEMENT PANEL - WHITE
2.2	FIBER CEMENT PANEL - MID GREY
2.6	METAL REVEAL - MID GREY
2.7	METAL REVEAL - DARK GREY
2.8	METAL REVEAL - WHITE
3.1	ALUMINUM CURTAIN WALL - DOUBLE GLAZED (CASCADIA - IRON ORE)
3.3	ALUMINUM CURTAIN WALL - LOUVRE (CASCADIA - IRON ORE)
3.4	ALUMINUM CURTAIN WALL - DOOR (CASCADIA - IRON ORE)
3.6	VINYL WINDOW (STARLINE CHARCOAL OR SIMILAR)
6.1	METAL WIRE MESH GUARDRAIL w/ LIGHT PANEL (CASCADIA - BONE WHITE)
6.2	METAL WIRE MESH GUARDRAIL @ BALCONY (CASCADIA - BONE WHITE)
6.3	TEMPERED CLEAR GLASS GUARDRAIL w/ LIGHT PANEL (CASCADIA - IRON ORE)
6.3a	TEMPERED CLEAR GLASS GUARDRAIL (CASCADIA - IRON ORE)
6.4	TEMPERED FROSTED GLASS GUARDRAIL (CASCADIA - IRON ORE)
6.5	TEMPERED CLEAR GLASS GUARDRAIL w/ CORTEN SLATS (CASCADIA - IRON ORE, WESTFORM - ACORN SLATS)
6.8	PRE-FINISHED METAL FENCE (CASCADIA - IRON ORE)
6.9	CAST IN PLACE CONCRETE STAIRS
6.7	ACCESS RAMP



NO.	DESCRIPTION	DATE	BY
1	ISSUE FOR DP VARIANCE PERMIT	25.11.07	AMS
2	RE-ISSUED FOR R2 & DP	25.01.10	AMS
3	RE-ISSUED FOR R2 & DP	24.07.09	AMS
4	RE-ISSUED FOR R2 & DP	24.06.09	AMS
5	RE-ISSUED FOR R2 & DP	23.12.10	AMS
6	RE-ISSUED FOR REDRAWING	23.03.10	AMS
7	ISSUED FOR REDRAWING	23.01.12	AMS

CLIENT:

Quadreal
#800 - 666 Burrard Street,
Vancouver, B.C., V6C 2X8

PROJECT TITLE:
**Maplewood
Gardens**
Front Street at Riverside,
North Vancouver, B.C.

DRAWING TITLE:
Elevations - Building C1

DATE: 2025-11-07 2:07:40 PM
DRAWN: Author
BY: 1901
REVISION:

SHEET NO.
A312

AGENDA INFORMATION	
☒ Regular Meeting	Date: <u>June 22, 2026</u>
☐ Other:	Date: _____

gm

Dept.
Manager

Dm

GM/
Director

rf

CAO

The District of North Vancouver REPORT TO COUNCIL

June 2, 2026

Case: PLN2026-00006

File: 08.3060.20/006.26

AUTHOR: Jon Maselli, Development Planner

SUBJECT: Bylaws 8802 and 8803: Heritage Revitalization Agreement and Heritage Designation - 3526 Everglade Place

RECOMMENDATION

THAT “Heritage Revitalization Agreement Authorization Bylaw 8803, 2026 (3526 Everglade Place – Perry Residence)” is given FIRST reading;

AND THAT “Heritage Designation Bylaw 8802, 2026 (3526 Everglade Place – Perry Residence)” is given FIRST reading;

AND THAT Bylaws 8802 and 8803 are referred to a Public Hearing.

REASON FOR REPORT

This application proposes to relocate and conserve the historic Perry Residence and to subdivide the site into three lots. Council’s consideration is required for:

- Bylaw 8803 to authorize a Heritage Revitalization Agreement (**Attachment 1**); and
- Bylaw 8802 to designate the “Perry Residence” as a protected heritage property (**Attachment 2**).

In accordance with the *Local Government Act*, a Public Hearing is required for the Heritage Revitalization Agreement (HRA)

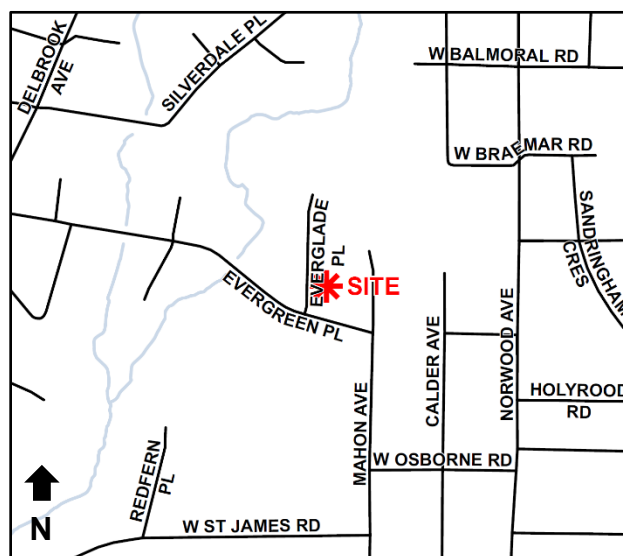


Figure 1: Site Location

Authorization Bylaw and the Heritage Designation Bylaw. If Council approves the HRA, subsequent to bylaw adoption, the proposed subdivision and Building Permits would proceed under the conditions secured in the HRA and associated covenants.

SUMMARY

This application proposes a Heritage Revitalization Agreement (HRA) and subdivision of the property at 3526 Everglade Place. The proposal involves the relocation, restoration, and permanent protection of the “Perry Residence” (listed on the District’s Community Heritage Register), and the subdivision of the property into three lots. Two new detached homes are proposed on the two northern lots, with the relocated Perry Residence on the southern lot.

In exchange for the long-term protection of the heritage home, the proposed HRA would allow for additional development rights as well as variances to the standard Single-Family Residential Delbrook (RSD) zone and subdivision regulations under the Zoning Bylaw.

BACKGROUND

Site and Surrounding Area

The property is located at 3526 Everglade Place in the Delbrook neighbourhood, which consists of one legal lot, approximately 62 m (203 ft) in width, 29 m (95 ft) in depth, and 1,650 m² (17,800 ft²) in area. The Perry Residence is situated in the approximate centre of the lot.

Surrounding development consists of detached houses zoned RSD on all sides. Braemar Elementary School is located within a five-minute walk to the northeast of the site, and Mountainside Secondary School is located within a five-minute walk to the south.

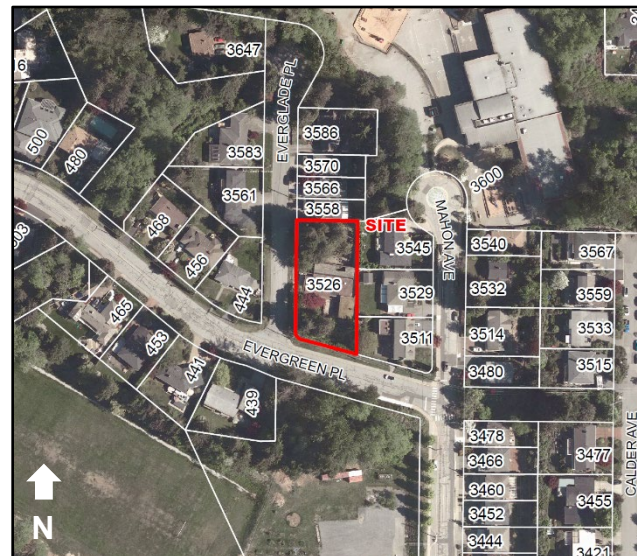


Figure 2: Site Aerial

The Perry Residence

The Perry Residence was designed by architect Arthur Erickson and constructed in 1963. The home is listed on the District’s Community Heritage Register, which recognizes its heritage value but does not provide formal heritage protection.

A Statement of Significance (SOS) prepared by Schueck Heritage Consulting identifies the following character-defining elements of the property and supports the proposed HRA and heritage designation:

- Physical and visual connection of the house and studio to the natural setting;
- Original residential form, scale, and massing of the house as expressed by its low horizontal form with angled and flat roof segments, and deep overhangs;
- West Coast Modern style, as expressed both on the exterior and interior of the house;
- Large studio/garage space and a large expanse of windows; and
- Carved front door attributed to the artist Bill Reid.

The SOS describes the Perry Residence as an early example of Arthur Erickson's work before the west coast architect became well-known for his designs.



Figure 3: Perry Residence

ANALYSIS

Proposal

The application proposes to relocate the Perry Residence to the south portion of the site and to subdivide the site into three detached residential lots:

- **Lots A and B:** Two new detached residential lots are to be created at the north portion of the site, each with a proposed two-storey residential home with vehicle access off of Everglade Place.
- **Lot C:** The relocated and restored Perry Residence will stand on this lot. The applicant proposes to designate the house through the Heritage Designation Bylaw, permanently protecting this valuable heritage resource. In addition, the applicant is proposing to

enter into a HRA with the District to secure additional development rights for the site (see below sections for further discussion).

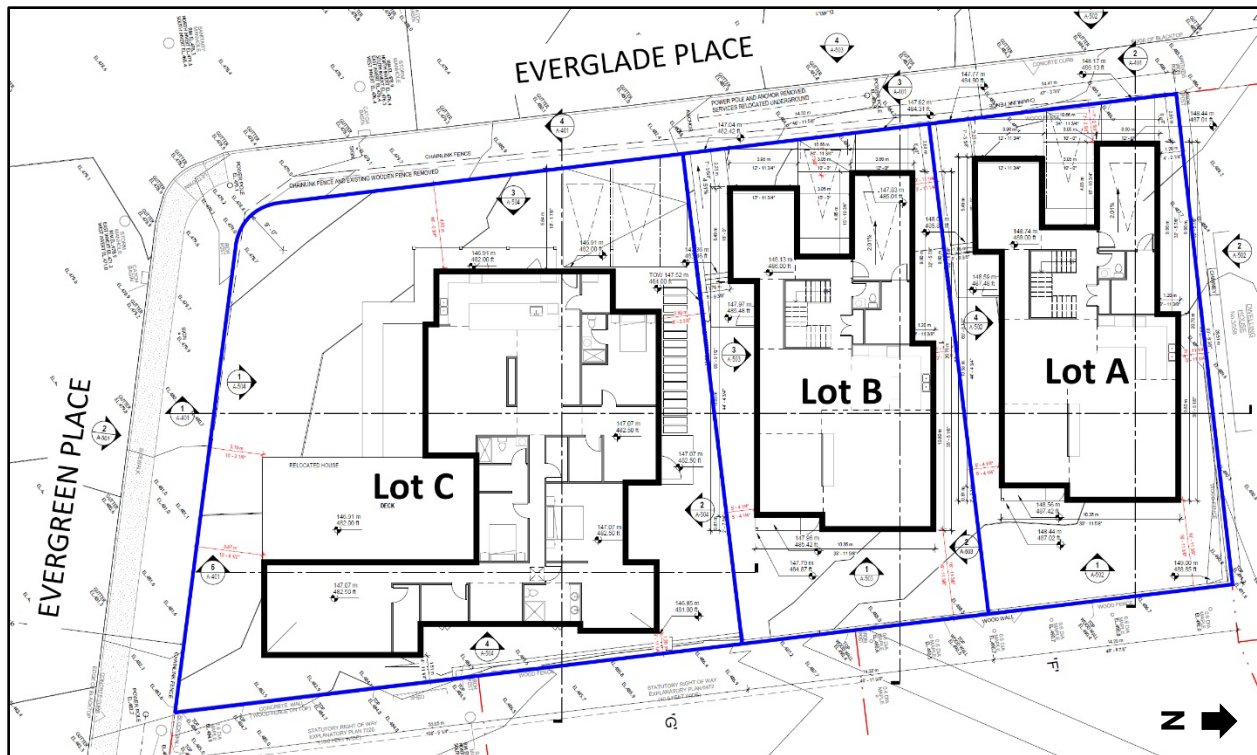


Figure 4: Proposed Site Plan (proposed building outlines and lot lines bolded for clarity)

Policy Alignment

The site is designated Residential Level 2: Detached Residential (RES2) in the Official Community Plan (OCP), which envisions detached housing at a density of up to approximately 0.55 FSR. The proposed blended density of 0.54 FSR across the three lots is consistent with the RES2 designation. An OCP amendment is not required.

The proposal is consistent with Policy 6.5.4. of the OCP:

6.5.4. Encourage the protection and enhancement of buildings and sites which have historic significance to the community by exploring opportunities to use the tools and incentives available under the Local Government Act.

The proposal is also contributing to the goals of the Heritage Strategic Plan (2019-2029). The Plan aims to assist in managing, maintaining, and protecting valuable community resources now and for the future. This application would advance the Plan by permanently protecting a valuable community heritage resource.

Relocation and Restoration of Perry Residence

In addition to the SOS, a draft Heritage Conservation and Maintenance Plan (the “Conservation Plan”) prepared by Mountain Heritage has also been submitted in support of this application. The Conservation Plan identifies the conservation works required for the heritage home, including the restoration of original character-defining elements, the approach to refinishing exterior walls, the introduction of new cladding visually compatible with the historic walls, and the long-term maintenance plan for the building. Staff have reviewed the draft Conservation Plan and found it acceptable, subject to minor revisions. The final Conservation Plan will be attached to the HRA Bylaw.

The applicant has also provided a letter from Nickel Bros confirming that the proposed relocation of the Perry Residence is feasible. The letter describes the anticipated relocation method, which involves raising the structure using multiple hydraulic jacks and a unified hydraulic system to reduce the potential for structural damage. The house would be moved approximately 50 feet to its proposed location.

The relocation and safe reinstallation of the Perry Residence is the first important step in ensuring a viable HRA project, with the relocation process being secured in the HRA and Section 219 covenants as attached to the HRA Bylaw. Once the house is safely relocated, this covenant may be discharged.

The application was reviewed by the District’s Community Heritage Advisory Committee (HAC) on May 27, 2026. The meeting did not achieve quorum, and the Committee was not able to pass a formal motion. However, the applicant presented the detailed proposal, and Committee members in attendance provided feedback on the following themes:

- Relocation Logistics and Building Integrity: The Committee discussed the method for lifting and moving the structure using steel beams and noted the need to protect specific architectural details during the relocation.
- Conservation of Character-Defining Elements: The Committee wanted the applicant to ensure to retain the heritage elements while updating the building’s insulation, mechanical systems, and roof membrane.
- Landscaping and Tree Retention: The Committee noted the applicant retained a landscape architect familiar with Arthur Erickson’s design principles. It was suggested that the applicant maximize the retention or relocation of existing trees and shrubs on the proposed Lot C where feasible.
- Construction Sequencing: The Committee asked about the order of subdivision, sale, and construction on the two newly created lots. The applicant indicated a preference to construct the two new homes concurrently with relocating and restoring the heritage house to ensure design cohesion and reduce neighbourhood disruption. The applicant

also stated that their current project financing requires subdivision approval before funding the relocation and weather protection of the heritage house.

- **Neighbourhood Character:** The Committee reviewed the proposed design of the two new detached homes on lots A and B. The applicant noted the infill designs replicate character-defining elements of the heritage house to ensure the overall redevelopment remains visually cohesive and consistent with the surrounding neighbourhood character.

Legal Protection of Perry Residence and Commensurate Development Rights under HRA

A Heritage Revitalization Agreement (HRA) is a legal tool under the *Local Government Act* with a specific focus on incentivizing the preservation of heritage resources. It is a voluntary agreement negotiated between a municipality and the owners of the heritage property, requiring approval from Council. The *Local Government Act* allows a municipality to negotiate with an applicant for additional development rights and variances to zoning and subdivision regulations in exchange for permanent protection of the heritage building.

The density rights proposed to be secured through the HRA Bylaw are:

Regulation	Permitted under RSD Zone	Proposed (Lot A)	Proposed (Lot B)	Proposed (Lot C)
Minimum Lot Area	743 m ²	407.74 m ²	408.06 m ²	Complies (837.09 m ²)
Minimum Lot Width	21 m	14.20 m	14.32 m	Complies (33.05 m)
Minimum Lot Depth	34 m	28.50 m	28.50 m	28.50 m
Maximum Floor Space Ratio (FSR)	0.43	0.78	0.78	Complies (0.36)

Other specific variances proposed to be secured through the HRA Bylaw are:

Regulation	Permitted under RSD Zone	Proposed (Lot A)	Proposed (Lot B)	Proposed (Lot C)
Maximum Building Depth	19.81 m	21.22 m	21.21 m	24.20 m (existing)
Maximum Building Coverage	35%	50.6%	50.5%	37.4%

Regulation	Permitted under RSD Zone	Proposed (Lot A)	Proposed (Lot B)	Proposed (Lot C)
Maximum Building Height	Flat roof: 6.71 m Minimum 3 in 12 pitch: 7.32 m Minimum 4.5 in 12 pitch: 7.92 m	8.50 m	8.50 m	Complies (4.64 m)
Minimum Front Yard Setback	9.14 m	2.20 m	2.20 m	4.90 m
Minimum Rear Yard Setback	9.14 m	5.17 m	5.16 m	1.20 m
Minimum Side Yard Setback	1.83 m	1.20 m	1.20 m	Complies (2.50 m)
Minimum Flanking Side Street Setback	5.78 m	N/A	N/A	3.10 m

The application is also proposing to legally designate the relocated Perry Residence, thereby securing its long-term protection for the benefit of the broader community.

In view of the designation as well as the significant undertaking of relocation and restoration of the Perry Residence, staff support the proposal of creating two smaller lots to provide compensation. Of note, the existing lots immediately north of the site (where the newly created lots A and B will be adjacent to) have a smaller lot width than the proposed lots A and B with an average lot width of 10.01 m (32.86 ft.).

In reviewing the home design on the proposed lots A and B, staff generally support the gross floor area size of the proposed homes (approximately 316 m² / 3,409 sq. ft. per home) This is on par with the average size of homes in the area. Therefore, staff also support the proposed building siting and height variances. Staff are also prepared to support the proposed driveway design for the two new houses, which deviates from the standards in the Development Servicing Bylaw.

The ongoing maintenance and upkeep of the Perry Residence in accordance with the approved SOS and the Conservation Plan is secured through the HRA and Section 219 covenants attached to the HRA Bylaw.

Tree Replacement and Landscape Design

The applicant has submitted an Arborist Report, which was reviewed by staff. Due to the proposed building footprints for the new buildings as well as the large footprint of the existing

Perry Residence, all of the on-site trees are proposed to be removed and new planting proposed.

A total of 7 bylaw-sized trees (i.e., protected by the Tree Protection Bylaw) are proposed to be removed. At a ratio of three to one, 21 replacement trees will be required to be planted on site or in the District boulevard area.

The applicant has provided a proposed landscape plan showing the new planting scheme for Lot C, as well as the locations of the required replacement trees across all three lots. The planting scheme for the relocated Perry Residence (Lot C) is meant to complement the West Coast Modern setting for the house and staff are supportive of this scheme.

Subdivision Proposal

Should Council approve the HRA and Heritage Designation for the relocation and permanent protection of the Perry Residence, the Approving Officer will review the subdivision application.

A preliminary review of the subdivision proposal indicates that the proposed three-lot configuration can be adequately serviced subject to a number of conditions including:

- A 3.0 m corner cut at the intersection of Evergreen Place and Everglade Place;
- Underground service connections to all three lots, with conduit installation along the site frontage for future undergrounding of overhead utilities;
- Coordination with BC Hydro regarding the relocation of the power pole and anchor/guy wire on Everglade Place; and
- An Engineering Servicing Agreement, which includes approved civil drawings, prior to Building Permit issuance.

PUBLIC INPUT

A virtual Public Information Meeting (PIM) is planned to occur from June 3 to June 17, 2026. A summary of the public input will be provided as an agenda addendum. This departure from the standard process is to facilitate the earliest Council consideration of the project.

Notices were distributed to neighbours in accordance with the District's policy on Non-Statutory Public Consultation for Development Applications. One bi-directional sign was placed on the property to notify passersby of the meeting, and advertisements were placed in the North Shore News. A webpage was established for this project on the District's website.

CONCURRENCE

The project has been reviewed by staff from the Environment, Building and Permits, Legal, Parks, Engineering, Community Planning, and Fire and Rescue Services departments.

CONCLUSION

This application would facilitate the relocation, restoration, and permanent protection of the Perry Residence. It meets key Council objectives including preserving our heritage resources and allowing gentle densification in lower density neighbourhoods.

OPTIONS

The following options are available for Council's consideration:

1. Give Bylaws 8802 and 8803 First Reading and refer the bylaws to a Public Hearing (Staff Recommendation);
2. Refer the project back to staff for further consideration; or
3. Abandon Bylaws 8802 and 8803 at First Reading.

Respectfully submitted,



Jon Maselli
Development Planner

ATTACHMENTS

1. Heritage Revitalization Agreement Authorization Bylaw 8803
2. Heritage Designation Bylaw 8802
3. Statement of Significance
4. Heritage Conservation and Maintenance Plan
5. Architectural and Landscape Plans

REVIEWED WITH:		
☒ Community Planning	<u>ZT</u>	☐ Clerk's Office
☐ Development Planning	<u> </u>	☐ Communications
☐ Development Engineering	<u> </u>	☐ Finance
☐ Utilities	<u> </u>	☐ Fire Services
☐ Engineering Operations	<u> </u>	☐ ITS
☐ Parks	<u> </u>	☐ Solicitor
☐ Environment	<u> </u>	☐ GIS
☐ Facilities	<u> </u>	☐ Real Estate
☐ Human Resources	<u> </u>	☐ Bylaw Services
☐ Review and Compliance	<u> </u>	☐ Planning
		External Agencies:
		☐ Library Board
		☐ NS Health
		☐ RCMP
		☐ NVRC
		☐ Museum & Arch.
		☐ Other:

The Corporation of the District of North Vancouver

Bylaw 8803

A bylaw to enter into a heritage revitalization agreement pursuant to section 610 of the *Local Government Act* (RSBC 2015, c.1)

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

Citation

1. This bylaw may be cited as “Heritage Revitalization Agreement Authorization Bylaw 8803, 2026 (3526 Everglade Place – Perry Residence)”.

Heritage Revitalization Agreement

2. The Council of the District of North Vancouver is authorized to enter into a Heritage Revitalization Agreement substantially in the form of the agreement attached to this Bylaw (the “Heritage Revitalization Agreement”) with the owner of the property and building located at 3526 Everglade Place (the “Perry Residence”) and legally described as PID: 009-366-326; Lot E Block G District Lot 617 Plan 10582.

Execution of Agreement

3. The Mayor and Corporate Officer are authorized on behalf of the Council to sign the Heritage Revitalization Agreement substantially in the form attached as Schedule A and titled “Heritage Revitalization Agreement and Section 219 Covenants – Perry Residence” and forming part of this Bylaw.

Delegation

4. Wherever in the Heritage Revitalization Agreement a heritage alteration permit is required, the discretion to approve, refuse or issue such permit is delegated by the District to the General Manager of Planning, Properties & Permits (the “GM”) and:
 - a. such exercise of discretion relating to the issuance of the heritage alteration permit shall be made by the GM acting reasonably in accordance with sound municipal heritage and conservation practice;
 - b. such exercise of discretion, including any terms and conditions imposed, shall be consistent with the *Local Government Act*, and with the intent of preserving the heritage character and heritage value of the Perry Residence and its setting; and

- c. the GM may refer any exercise of discretion to the District of North Vancouver Community Heritage Committee for advice.

Severability

- 5. If any section, subsection or clause of this bylaw is for any reason held to be invalid by the decision of a court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this Bylaw

READ a first time

PUBLIC HEARING held

READ a second time

READ a third time

ADOPTED

Mayor

Corporate Officer

Schedule A to Bylaw 8803

TERMS OF INSTRUMENT - PART 2

HERITAGE REVITALIZATION AGREEMENT AND SECTION 219 COVENANTS – PERRY RESIDENCE

BETWEEN:

THE CORPORATION OF THE DISTRICT OF NORTH VANCOUVER, a municipal corporation, having a civic address of 355 West Queens Road, North Vancouver, BC V7N 4N5

(the "**District**")

AND:

KATE ELIZABETH JOHNSON, having a civic address of 2550 Queens Avenue, West Vancouver, BC V7V 2Y8

AND:

STEVEN KEITH BAILEY, having a civic address of 2550 Queens Avenue, West Vancouver, BC V7V 2Y8

(Kate Elizabeth Johnson and Steven Keith Bailey are together, the "**Owner**")

WHEREAS:

- A. The Owner is the beneficial and registered Owner in fee simple of lands and premises having a civic address of 3526 Everglade Place in the District of North Vancouver, British Columbia, legally described as PID: 009-366-326, Lot E, Block G, District Lot 617, Plan 10582 (the "**Lands**");
- B. There is a building situated on the Lands known as the "Perry Residence" which the District and the Owner consider to have heritage value and character (the "**Heritage Building**") and which is listed in the District of North Vancouver Community Heritage Register;
- C. The Owner wishes to develop the Lands by relocating the Heritage Building to the south portion of the Lands, restoring and rehabilitating the Heritage Building, and subdividing the Lands into three lots to allow for the construction of two new single-family residential buildings on two new northern lots and for the restored and rehabilitated Heritage Building to remain on the southern lot;
- D. Section 610 of the *Local Government Act* authorizes a local government to enter into a Heritage Revitalization Agreement with the owner of heritage property allowing variations of, and supplements to, *inter alia*, the provisions of a zoning bylaw; and

- E. In order to provide continuing protection to the Heritage Building and allow for the proposed development on the Lands, the Owner has agreed to the heritage designation of the Lands and Heritage Building as protected heritage property and the Owner and the District have further agreed to enter into this Heritage Revitalization Agreement and Section 219 Covenants to provide for the restoration, rehabilitation, long-term maintenance and preservation of the Heritage Building and to vary certain provisions of the District's by-laws in connection with the Lands pursuant to section 610 of the *Local Government Act*.

THEREFORE, pursuant to Section 610 of the *Local Government Act* and Section 219 of the *Land Title Act* and in consideration of the mutual obligations and benefits given herein and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties agree as follows:

ARTICLE 1 DEFINITIONS

1.1 **Definitions.** In this Agreement, unless explicitly used differently elsewhere herein, the terms defined in this section have the meanings given to them here:

- (a) **"Approving Officer"** means the approving officer for the District appointed under the *Land Title Act*;
- (b) **"Chief Building Official"** means the District's chief building official or his or her designate;
- (c) **"District"** means The Corporation of the District of North Vancouver;
- (d) **"Conservation Plan"** means the *Conservation Plan for the Perry Residence – 3526 Everglade Place, North Vancouver* prepared by Susan Medville, M.A., CAHP, BCAHP at Mountain Heritage, dated February 11, 2026, together with such modifications and additional plans as may be approved by the GM from time to time at the GM's sole discretion a copy of which is attached as Schedule "A";
- (e) **"Development"** means the proposed development on the Lands described above in Recital C;
- (f) **"GM"** means the District's General Manager of Planning, Properties & Permits;
- (g) **"Heritage Alteration Permit"** means a permit to alter or change features of heritage buildings issued by the District pursuant to section 617 of the *Local Government Act*;
- (h) **"Heritage Building"** has the meaning given to it in Recital B;
- (i) **"Heritage Consultant"** means an independent, heritage building rehabilitation and conservation expert, knowledgeable and experienced in and duly qualified for planning and supervising rehabilitation and conservation work for heritage buildings;

- (j) **“Heritage Designation”** means the District’s designation of the Lands and the Heritage Building by bylaw as protected heritage property pursuant to sections 611 and 612 of the Local Government Act;
- (k) **“Land Title Act”** means the *Land Title Act*, R.S.B.C. 1996, c.250;
- (l) **“Lands”** has the meaning given above in the introductory paragraphs hereto and includes any other parcels of land into which the Lands may at any time in any way be consolidated or subdivided;
- (m) **“Local Government Act”** means the Local Government Act, R.S.B.C 2015, c.1, as may be amended or superseded;
- (n) **“Lots”** means Lots A, B and C as shown on the Site Plan attached as Schedule “C” and “Lot” means any one of them;
- (o) **“New Buildings”** means the two new single-family residential buildings to be constructed on Lots A and B of the Lands as part of the Development and “New Building” means either one of them;
- (p) **“Owner”** means the registered owner or owners of the Lands and the successors and assigns thereof and;
- (q) **“Permits”** means any building permit(s), development permit(s) and Heritage Alteration Permits issued by the District in respect of the Development, as such permit(s) may be modified or amended from time to time, including, without limitation, all final reports, plans, drawings and specifications relating thereto and any amendments thereof;
- (r) **“Preliminary Plans and Drawings”** means the preliminary plans and drawings for the Development attached as Schedule “D”;
- (s) **“rehabilitate”** and **“rehabilitation”** mean the planning and carrying out of restoration, rehabilitation, construction and conservation work to restore, upgrade, improve and conserve the structure, support and heritage characteristics and features of a heritage building or real property heritage feature so as to revitalize it and extend its life and use as such;
- (t) **“Rehabilitation Work”** has the meaning given below herein;
- (u) **“Relocation”** means the relocation of the Heritage Building by a qualified contractor to the southern portion of the Lands to be known as Lot C, in accordance with the Preliminary Plans and Drawings, the Conservation Plan and the Relocation Plan;
- (v) **“Relocation Plan”** means the plan for the Relocation of the Heritage Building to the southern portion of the Lands to be known as Lot C, as prepared by Nickel Bros and dated May 27, 2026, a copy of which is attached as Schedule “E”;

- (w) **“Statement of Significance”** means the Statement of Significance prepared by Schueck Heritage Consulting and dated July 2025, a copy of which is attached as Schedule “B”.
- (x) **“Site Plan”** means the proposed plan for the Lands, showing the proposed Lots and location of the Heritage Building and New Buildings, a copy of which is attached as Schedule “C”;
- (y) **“Zoning Bylaw”** means the District of North Vancouver Zoning Bylaw No. 3210, 1965 as amended, consolidated, re-enacted or replaced from time to time.

ARTICLE 2
SECTION 219 COVENANT -
RELOCATION, REHABILITATION AND CONSERVATION OF HERITAGE BUILDING

2.1 Pursuant to Section 219 of the *Land Title Act*, the Owner covenants and agrees, as a covenant and agreement running with, charging and binding the Lands, that:

- (a) the Owner will not subdivide, use or develop the Lands and Heritage Building except as specifically set out in this Agreement;
- (b) the Lands and Heritage Building have heritage value, deserving of protection and conservation and the Owner specifically agrees to maintain, preserve and protect the heritage character of the Heritage Building in accordance with this Agreement and will not demolish the Heritage Building, in whole or in part, nor alter or change in any manner, any exterior feature of the Heritage Building unless the Owner first obtains a Heritage Alteration Permit from the District;
- (c) the Owner, at the Owner's expense, and to the satisfaction of the GM:
 - (i) apply for and obtain from the District all necessary Permits prior to commencing and part of the Development including any Relocation or alteration to the Heritage Building;
 - (ii) within twenty-four (24) months after the date upon which the Permits are issued authorizing the Development on the Lands, plus any additional time by which the date of expiry of the Permit may be extended under the provisions of the *Zoning Bylaw* or other bylaws of the District, shall carry out the Relocation and rehabilitate or cause the rehabilitation of the Heritage Building in accordance with this Agreement, the Permits, the Statement of Significance and the Conservation Plan (the **“Rehabilitation Work”**);
 - (iii) shall ensure that a Heritage Consultant supervises the Relocation of the Heritage Building and the Rehabilitation Work;
 - (iv) shall ensure that, at all times during the carrying out of the Rehabilitation Work, the Heritage Building is secure from vandalism and occupation by squatters; and

- (v) on completion of the Relocation and the Rehabilitation Work as required by this Agreement, shall cause a Heritage Consultant to submit to the GM, a signed statement stating explicitly that the Relocation and Rehabilitation Work has been completed in accordance with any issued Permits, the Statement of Significance, the Relocation Plan and the Conservation Plan;
- (d) the parties agree that notwithstanding the provisions of District bylaw requirements related to the zoning applicable to the Lands, the Lands may be used and developed in the following manner:
 - (i) the Owner must not make an application to subdivide the Lands to create the Lots until the Relocation of the Heritage Building has been completed;
 - (ii) following the Relocation of the Heritage Building to the southern portion of the Lands to be known as Lot C, the Owner may apply for the Lands to be subdivided to create the Lots as generally shown on the Site Plan;
 - (iii) the Heritage Building must be Relocated to Lot C strictly in accordance with the Site Plan, Relocation Plan, Conservation Plan and with the Preliminary Plans and Drawings attached as Schedule "D", as may be modified with the approval of the GM;
 - (iv) one new single-family residential building may be constructed on each of Lot A and B as shown in the Site Plan within the building envelope outlined on the Site Plan and Preliminary Plans and Drawings attached as Schedule "D",

all in accordance with the terms, limitations and conditions of this Agreement all laws and bylaws including the Zoning Bylaw, as varied hereby;
- (e) nobody will in any way use or occupy either the New Buildings or the Heritage Building or any part thereof and nobody will apply for or take any other action to compel the District, and, notwithstanding that either the New Buildings or the Heritage Building may be ready for occupancy, the District will be under no obligation to issue any occupancy permit occupy either the New Buildings or the Heritage Building or any part thereof at any time after this Agreement is registered on title to the Lands, until:
 - (i) the Relocation and Rehabilitation Work has been completed in accordance herewith;
 - (ii) the Owner, as required above herein, has submitted or caused to be submitted to the GM the signed written statement referred to in Section 2.1(c)v); and
 - (iii) the District has given the Owner a written notice or confirmation by which the District explicitly accepts or confirms its acceptance that the Relocation and Rehabilitation Work has been completed in accordance herewith;
- (f) the District may revoke at any time any occupancy permit(s) issued to occupy either the New Buildings or the Heritage Building prior to completion of the

Rehabilitation Work, unless such occupancy permit(s) was obtained in accordance with this Agreement, and in such circumstances the Owner, on reasonable notice from the District, will ensure that anyone occupying any part of any such building vacates it immediately on such revocation of occupancy permit(s), and if anyone continues to occupy any portion of any part of occupy either the New Buildings or the Heritage Building in contravention of such revocation, this Agreement and any applicable District bylaws, the District, at the Owner's expense, may pursue all remedies available to it, including, without limitation, injunctive relief, to ensure that either the New Buildings or the Heritage Building is vacated and unoccupied in accordance with this Agreement;

- (g) the Owner acknowledges and agrees that the Rehabilitation Work carried out in accordance with the Conservation Plan describes a minimum enhancement to the heritage appearance of the Heritage Building. Other technical upgrades may be required in accordance with applicable District's bylaws or Provincial building codes.
- (h) after completion of the Rehabilitation Work in accordance herewith, the Owner, at the Owner's expense, will do all things reasonably necessary to conserve the Heritage Building as rehabilitated, keep it in good condition in all respects at all times and maintain the Heritage Building in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada and in accordance with the Conservation Plan;
- (i) at all times after and while this Agreement is registered on title to the Lands, the Owner, at the Owner's expense, shall keep the Heritage Building insured to full replacement value against all perils, including, without limitation, damage or destruction by earthquake;
- (j) except for maintenance and repair work, the Owner will not and will not suffer or permit anyone else to do anything at any time to renovate, alter, modify or reconfigure or that will result in any alteration, modification or reconfiguration of the Heritage Building in any way except as may be permitted or required by this Agreement, the Conservation Plan and/or any development and/or Heritage Alteration Permits issued by the District;
- (k) wherever the Owner is issued a Heritage Alteration Permit to restore, rehabilitate, replicate, repair, replace, maintain or in any way alter improvements on, or features of the Heritage Building, or to construct or maintain other works to protect or conserve such improvements or features, all such work shall be done at the Owner's sole expense strictly in accordance with the Heritage Alteration Permit and all plans and specifications forming part thereof and shall be diligently and continuously maintained in good repair and efficient operating condition by the Owner at the Owner's sole expense in accordance with good engineering, design, heritage and conservation practice;
- (l) in the event that the Heritage Building is damaged, the parties agree that the Owner must repair the building, in which event the Owner shall forthwith commence the repair work and complete the same within one year of the date of damage. In the event that the Heritage Building is accidentally damaged or destroyed to the extent of 75% or more of its value above its foundations, as

determined by the Chief Building Official, the terms of this Agreement which relate to the Heritage Building shall cease to be of any effect and thereafter all use and occupation of Lands shall be in accordance with the District Zoning Bylaw No. 3210, as amended, and in accordance with all other bylaws or regulations of the District or any other laws of any other authority having jurisdiction;

- (m) if at any time, in default under this Agreement, the Owner, in the District's opinion, fails to perform its obligations as required hereby to rehabilitate and conserve the Heritage Building and fails to rectify any such default within thirty (30) days, or within such other longer time as the District may explicitly permit, after notice from the District to so rectify such default, the District, on the Owner's behalf and at the Owner's expense, may, but will be under not be obligated to, enter onto the Lands or into the Heritage Building to rectify the Owner's default; and
- (n) the Owner acknowledges and agrees that, notwithstanding that this Agreement and the Heritage Designation and this Agreement may result in restrictions with respect to the future use and development of the Lands and any Lots into which the Lands may be subdivided and therefore may affect the value of the Lands, the Owner has received full and fair compensation therefor by the development rights and variances set out in this Agreement and the Owner hereby waives and renounces any and all claims for any further or other compensation by reason of this Agreement and/or the Heritage Designation and acknowledges and agrees that the requirements of Section 613(1) of the *Local Government Act* have been fully satisfied, and the Owner hereby releases the District and its officials, officers, employees and agents from any liability for any loss, injury, damage or expense of any kind the Owner may suffer, incur or experience and the Owner will indemnify the District for any loss, injury, damage or expense the District may incur, suffer or experience and for any complaint, demand, claim, action, suit or judgment for any loss, injury, damage or expense anyone else may suffer, incur or experience arising out of or in any way connected with this Agreement and/or the Heritage Designation. The release and promise of indemnification contained in this paragraph will survive discharge and termination of this Agreement.

ARTICLE 3 OPTION TO PROVIDE LETTER OF CREDIT

3.1 Notwithstanding the occupancy restrictions set out in Article 2 in respect of the New Buildings and the Heritage Building, the District, in its discretion, may issue occupancy permits therefor and, on that basis either the New Buildings or the Heritage Building or both, may be occupied prior to the time that the Rehabilitation Work is completed in accordance herewith, provided:

- (a) the Owner duly applies to the District for any and all occupancy permits required therefor and pays all fees required therefor;
- (b) this Agreement has been fully registered in the Land Title Office to the District's satisfaction;
- (c) the District has issued a building permit and/or Heritage Alteration Permit in respect of the Rehabilitation Work;

- (d) all legal requirements for occupancy of the New Buildings and the Heritage Building have been fulfilled;
- (e) the Owner has delivered to the District, in all respects to the District's satisfaction, a letter of credit in the amount equal to one hundred and twenty percent (120%) of the then estimated cost to complete the Rehabilitation Work, with such estimate to be made in writing by the Consultant and explicitly accepted in writing by the District;
- (f) the Owner, at the time of application for any such occupancy permits, is not, in the District's opinion, in breach of any of its obligations under this Agreement or any other agreement between the District and the Owner with respect to the New, Buildings, the Heritage Building and/or the Lands; and
- (g) the District, in its opinion, is satisfied that the Rehabilitation Work is being carried out diligently.

3.2 All letters of credit required under this Article will be issued by a Schedule I Canadian chartered bank or other financial institution acceptable to the GM and will be unconditional, irrevocable and self-renewing and otherwise in a form and content which is acceptable to the GM and will be provided for a period of one (1) year with a provision for an automatic renewal or extension without amendment from year to year.

3.3 The District may call upon the letter or letters of credit provided to it pursuant to the preceding paragraphs herein and apply the proceeds therefrom for any purpose and in any manner it may choose in connection with the Rehabilitation Work, if:

- (a) the bank issuing the letter of credit refuses to extend or renew the expiry date of the letter of credit;
- (b) the Owner becomes insolvent or commits any act of bankruptcy or becomes bankrupt or takes the benefit of any act or legislation that may be enforced for bankrupt or insolvent debtors;
- (c) the Owner, in the District's opinion, has not been diligently carrying out the Rehabilitation Work; or
- (d) the District in any way undertakes all or any part of the Rehabilitation Work pursuant to this Agreement.

3.4 Within a reasonable time of the Owner's request after completion of the Rehabilitation Work in accordance with this Agreement, the District will, as the case may be, return to its issuer any letter of credit provided to the District hereunder or, if the District has called upon the letter of credit, deliver to the Owner any remaining balance therefrom.

ARTICLE 4

SECTION 219 COVENANT - NO SEPARATE SALE

4.1 Pursuant to Section 219 of the *Land Title Act*, the Owner covenants and agrees, as a covenant and agreement running with, charging and binding the Lands, that no portion of the

Lands will at any time be sold separately from any other portion of the Lands and that all of the Lands will be owned at all times by the same person or persons.

4.2 Within a reasonable time of the Owner's request after the relocation of the Heritage Building to Lot C has been completed in accordance with this Agreement, the District, at the Owner's expense, will discharge from title to the Lands the Section 219 covenant contained in this Article 4 and Lots A and B may be separately sold.

ARTICLE 5 DEBTS OWED TO DISTRICT

5.1 If the District, pursuant to this Agreement, enters upon the Lands or any of them to perform any of the Owner's obligations hereunder to carry out the Rehabilitation Work or to conserve, repair or replace or replicate the Heritage Building:

- (a) there will be no express or implied warranties as to the quality of any work the District may so carry out or the suitability of the materials for the purposes for which they are put; and
- (b) the Owner will pay to the District, forthwith on demand, to the extent the District has not taken payment for such costs from any letters of credit provided to the District hereunder, as reimbursement for expenses incurred, the full amount of all costs the District incurs to carry out work to rehabilitate, conserve, repair or replace the Heritage Building, plus twenty percent (20%) of such costs as fair compensation for the District's overhead, and any such amounts the Owner does not pay or fails to pay to the District forthwith on demand will bear interest, until paid in full, at a rate of 6% per annum calculated and compounded monthly from the date such cost or expense was incurred or payment or expenditure was made by the District. Such amounts required to be paid by the Owner shall constitute a debt due and owing to the District.

ARTICLE 6 BYLAW VARIATIONS

6.1 Pursuant to the provisions of Section 610(2)(b) of the *Local Government Act*, the following variances to the Zoning Bylaw are granted through this Agreement to enable the proposed renovations to and rehabilitation of the Heritage Building on the Lands and the Development:

- (a) Minimum lot area: 407.74 m² on Lot A and 408.06 m² Lot B;
- (b) Minimum lot width: 14.20 m on Lot A and 14.32 m on Lot B;
- (c) Minimum lot depth: 28.50 m on Lots A, B, and C;
- (d) Maximum Floor Space Ratio: 0.78 on Lots A and B
- (e) Maximum building depth: 21.22 m on Lot A, 21.21 m on Lot B, and 24.20 m on Lot C;
- (f) Maximum building coverage: 50.6% on Lot A, 50.5% on Lot B, and 37.4% on Lot C;

- (g) Maximum building height: 8.50 m on Lots A and B;
- (h) Minimum front yard setback: 2.20 m on Lots A and B, 4.90 m on Lot C;
- (i) Minimum rear yard setback: 5.17 m on Lot A, 5.16 m on Lot B, and 1.20 m on Lot C;
- (j) Minimum side yard setback: 1.20 m on Lots A and B;
- (k) Minimum combined side yard setback: 2.83 m on Lots A and B; and
- (l) Minimum flanking side street setback: 3.10 m on Lot C.

ARTICLE 7 SUBDIVISION

7.1 **Subdivision.** If the Lands are subdivided at any time hereafter either under the provisions of the *Land Title Act* or under other similar legislation enacted from time to time then upon the deposit of a plan of subdivision or similar plan as the case may be:

- (a) the rights and benefits of this Agreement herein granted will be annexed to and run with each of the new parcels, lots, or other subdivided parcels and areas so created; and
- (b) the burdens, obligations and covenants contained in this Agreement will continue to charge each of the new parcels, lots, or other subdivided parcels and areas so created,

provided that following the proposed subdivision to create the Lots, the parties acknowledge and agree that the obligations and covenants contained in Sections 2.1(h) to (m) of the Section 219 Covenant contained in Article 2 hereof will be limited to the Owner of Lot C, being the Lot that contains the Heritage Building.

7.2 The Owner expressly acknowledges and agrees that it is a condition of entering into this Agreement that prior to the Approving Officer's approval of the proposed subdivision, the Owner's solicitor will have provided to the District his or her written professional undertaking to deposit the proposed subdivision plan only as an all or nothing package with any charges required by the Approving Officer, including without limitation:

- (a) a Section 219 development covenant securing the development conditions on Lots A, B, and C, including building form, character, materials, and unit count, registered against title to each lot in favour of the District in priority to all financial charges;
- (b) a stormwater management covenant; and
- (c) an Engineering Servicing Agreement,

all of which covenants must be in a form acceptable to the District's Municipal Solicitor.

ARTICLE 8 GENERAL

8.1 Agreement's Relation to Subdivision Approval. The Owner agrees that the Approving Officer is, with respect to any preliminary or final application for approval of the Proposed Subdivision, entitled (but not required) to consider whether the proposed subdivision complies with the applicable requirements under this Agreement or whether the requirements of this Agreement have been complied with and to reject the application if any of those requirements have not, in the opinion of the Approving Officer, been complied with. Nothing in this Agreement commits the Approving Officer to approve any proposed subdivision plan, which approval remains at the discretion of the Approving Officer.

8.2 Heritage Alteration Permits. The Owner acknowledges that the issuance of a Heritage Alteration Permit is at the sole discretion of the District and the District is at no time under any obligation to issue a Heritage Alteration Permit to the Owner. Any application for a Heritage Alteration Permit must be consistent with the Conservation Plan and may be considered by the GM pursuant to the authority delegated to the GM by the District Council in Heritage Revitalization Agreement Authorization Bylaw No. 8803.

8.3 Adoption of Bylaw. This Agreement, following execution by the parties, shall become effective only upon the adoption by District Council of Heritage Revitalization Agreement Authorization Bylaw No. 8803 authorizing this Agreement.

8.4 Amendment. As required by the *Local Government Act*, parties acknowledge and agree that this Agreement may only be amended by one of the following means:

- (a) by bylaw with the consent of the parties provided that a public hearing shall be held if an amendment would permit a change to use or density of use on the Lands, or
- (b) by Heritage Alteration Permit issued pursuant to Section 617 of the *Local Government Act*.

8.5 Representations. It is mutually understood and agreed that the District has made no representations, covenants, warranties, promises or agreements, express or implied, other than those contained in this Agreement.

8.6 Statutory Functions. Except as expressly varied or supplemented herein, this Agreement shall not prejudice or affect the rights and powers of the District in the exercise of its statutory functions and responsibilities, including, but not limited to, the *Local Government Act* and its rights and powers under any enactments, bylaws, order or regulations, all of which, except as expressly varied or supplemented herein, are applicable to the Property.

8.7 No Liability to District. In no case shall the District be liable or responsible in any way for:

- (a) any personal injury, death or consequential damage of any nature whatever, however caused, that may be suffered or sustained by the Owner or by any other person who may be on the Lands; or

- (b) any loss or damage of any nature whatever, however caused to the Lands or any improvements or personal property thereon belonging to the Owner or to any other person,

arising directly or indirectly from, or in any way related to, the entering into of this Agreement, compliance with the conditions, restrictions and requirements in this Agreement, the Proposed Subdivision, wrongful or negligent failure or omission to comply with the conditions, restrictions and requirements herein, or from the enforcement or non-enforcement of any restrictions or requirements herein or with any other term condition or provision of this Agreement.

8.8 Indemnity. The Owner shall at all times indemnify and save harmless the District of and from all loss and damage, and all actions, claims, costs, demands, expenses, fines, liabilities and suites of any nature whatsoever by whomsoever brought for which the District shall or may become liable, incur or suffer by reason of existence and effect whether direct or indirect of the restrictions or requirements herein, or breach or non-performance by the Owner of any covenant, term or provision hereof, or by reason of any work or action of the Owner in performance of its obligations hereunder, or by reason of any wrongful act or omission, default or negligence of the Owner.

8.9 Damages. The Owner covenants and agrees that the measure of damages for any breach of the restrictions or requirements of this Agreement shall include, but shall not be limited to, the actual cost and expense of all administration, labour, materials, equipment, services and work required for all remedial acts necessary to fully restore, rehabilitate, replace or maintain the building, structure, improvement on or feature of the Lands having heritage value to be protected, conserved, preserved or kept in its natural state. The nature and extent of any breach of the said restrictions and requirements, and the nature and extent of any restoration, rehabilitation, replacement, maintenance or remedial work or action of any nature required to remedy such breach shall be determined by the District in its sole discretion.

8.10 Specific Performance. The Owner agrees that the District is entitled to obtain an order for specific performance of this Agreement and a prohibitory or mandatory injunction in respect of any breach by the Owner of this Agreement. The Owner agrees that this is reasonable given the public interest in preserving the heritage value and character of the Heritage Building.

8.11 Priority of Registration. The Owner, at his, her or its expense, after execution of this Agreement, shall do or cause to be done all things and acts necessary to ensure that this Agreement is registered against title to the Lands with priority over all other encumbrances on title to the Lands as the District may require.

8.12 Perfection of Intention. The parties hereto will do such things and execute such further and other documents and instruments and do such further and other acts as may be reasonably necessary to implement and carry out the provisions and intent of this Agreement and to ensure timely and effective registration in the Land Title Office.

8.13 Waiver. No restrictions, requirements or other provisions in this Agreement shall be deemed to have been waived by the District unless a written waiver authorized by resolution of the Council and signed by an officer of the District has first been obtained, and without limiting the generality of the foregoing, no condoning, excusing or overlooking by the District on previous occasions of any default nor any previous written waiver shall be taken to operate as a waiver by

the District of any subsequent default or in any way to defeat or affect the rights of remedies the District.

8.14 **Time of Essence.** Time will be of the essence in respect of this Agreement.

8.15 **Successor's Bound.** All restrictions, rights and liabilities herein imposed upon or given to the respective parties shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns. When the Owner is more than one party they shall be bound jointly and severally by the terms, covenants and agreements herein on the part of the Owner. The District will file a notice of this Agreement in the Land Title Office in accordance with section 610(10) of the *Local Government Act* and upon registration of such notice, this Agreement and any amendment to it shall be binding on all persons who acquire an interest in the land affected by this Agreement.

8.16 **District's Other Rights and Obligations.** Nothing contained or implied herein will derogate from the obligations of the Owner under any other agreement with the District or, if the District so elects, prejudice or affect the District's rights, powers, duties or obligations in the exercise of its functions pursuant to the *Community Charter*, and the *Local Government Act*, or any other Act of the legislature of British Columbia, as amended from time to time. The rights given to the District by this Agreement are permissive only and nothing in this Agreement imposes any legal duty of any kind on the District to the Owner or anyone else, and nothing in this Agreement obliges the District to enforce this Agreement, to perform any act or to incur any expense in respect of this Agreement.

8.17 **Compliance with Laws.** Despite any provision of this Agreement, the Owner shall comply with all laws, including bylaws of the District and all regulations and orders of any authority having jurisdiction, and to the extent only that such laws, regulations and orders are mandatory and necessarily require the breach of any restriction or positive obligation herein to be observed or performed by the Owner, or less than strict compliance with the terms hereof, then the Owner upon sixty days' written notice to the District shall be excused from complying with such restrictions or performing such obligation and such restriction or obligation shall be suspended but only to the extent and for the time that such mandatory law, regulation or order is inconsistent with compliance with the said restrictions or obligations.

8.18 **Notices.** Any notice to be given hereunder shall be in writing and may be either delivered personally or sent by prepaid registered mail and if so mailed shall be deemed to have been given five (5) days following the date upon which it was mailed. The address of the parties for the purpose of notice shall be as follows:

To the District:

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

Attention: Municipal Clerk

If to the Owner:

Kate Elizabeth Johnson and Steven Keith Bailey
 2550 Queens Avenue,
 West Vancouver, BC V7V 2Y8

Any party hereto may at any time give notice in writing to the other of any change of address and after the third day of the giving of such notice the address therein specified shall be the address of such party for the giving of notices.

8.19 **Interpretation.** The following provisions regarding interpretation apply to this Agreement:

- (a) Gender specific terms include both genders and include corporations. Words in the singular include the plural, and words in the plural include the singular; and
- (b) 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.

8.20 **Governing Law.** This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein.

8.21 **Severability.** If any part of this Agreement is for any reason held to be invalid by a court of competent jurisdiction, the invalid portion is to be severed from the rest of this Agreement and the decision that it is invalid does not affect the validity of the remainder of this Agreement.

8.22 **District Approvals.** In this Agreement, where District “approval”, “acceptance”, “consent” or similar authorization or agreement is required, unless provided for otherwise in this Agreement, such “approval”, “acceptance”, “consent” or similar District agreement or authority must be provided in writing, by the District departments, employees, officers or designates, as the case may be, that are authorized to provide such “approval”, “acceptance”, “consent” or similar authorization or agreement. Any purported “approval”, “acceptance” “consent” or similar authorization or agreement provided by a District department, employee, officer or designate, as the case may be, that is not authorized to provide the same, shall be of no force or effect.

IN WITNESS WHEREOF the parties have executed this Agreement on Form C which is a part hereof.

SCHEDULE "A"
CONSERVATION PLAN

Conservation Plan for the Perry Residence 3526 Everglade Place, North Vancouver



Perry Residence- Selwyn Pullan Photograph, circa 1960s

Prepared For: Steven Bailey

Prepared By: Mountain Heritage, Susan Medville, M.A., CAHP, BCAHP

February 11, 2026

Revised- May 26, 2026 (See revisions highlighted in yellow, pages 7-8, 12)

Revised – June 4, 2026 (Interior recommendations added, pages 15-19)



MOUNTAIN
HERITAGE

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Introduction

Name of Building	Perry Residence
Address	3526 Everglade Place
Municipality	District of North Vancouver
Legal Description	LOT E BLOCK G DISTRICT LOT 617 PLAN 10582
Parcel Identifier (PID)	009-366-326
Year Built	1963
Original Owner	Frank Perry
Builder	Unknown
Architect/ Designer	Arthur Erickson
Heritage Status	Listed in the District of North Vancouver Community Heritage Register and listed as a secondary building in The Modern Architecture of North Vancouver 1930-196 Heritage Building Inventory

In November of 2025, Steven Bailey, property owner of 3526 Everglade Place, District of North Vancouver requested that a Conservation Plan be completed by Mountain Heritage. This work is being done in conjunction with the Mr. Bailey's plans of rehabilitating the property to better serve current housing needs and to ensure the long-term conservation of the structure and based on the understanding that as a historic property it represents a unique, valuable and irreplaceable resource.

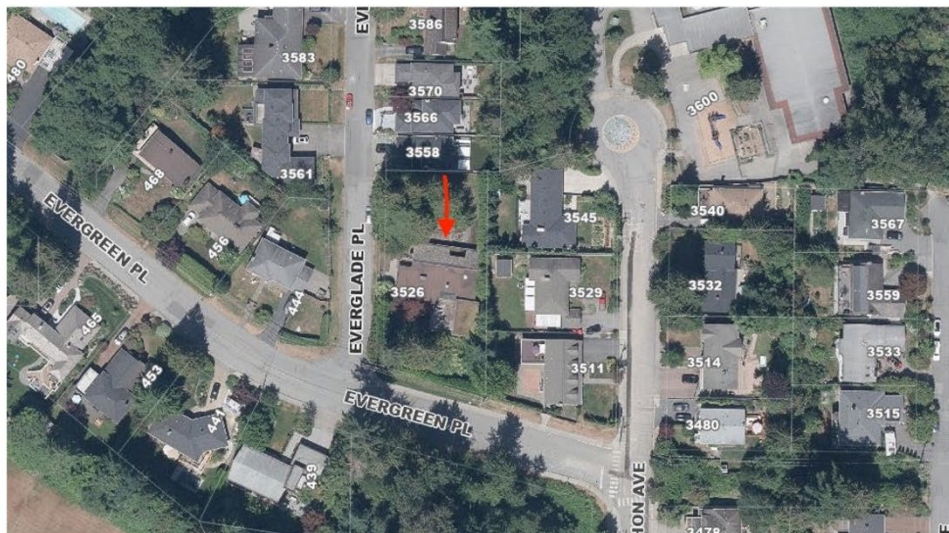
A Statement of Significance (SOS) was developed for the residence in July of 2025 by Schueck Heritage Consulting (see Appendix I). The SOS provides, baseline heritage data on the building. The Conservation Plan takes the SOS into full consideration to ensure any work that is done on the site will be conducted with the Heritage Values and Character Defining Elements in mind and their preservation well planned for. The Conservation Plan inclusive of the SOS should be used as a guide to assist any specialist or contractors involved with any work at the building to understand the importance of the building's Heritage Values and Character Defining Elements.



(Arthur Erikson sketch of building, circa 1960s)

Site Location

For the purposes of this report the front elevation of the building is identified as the north elevation. The north elevation is the location of the building's formal double doored entrance. The west elevation faces Everglade Place. The building is located in the Norwood Queens - Delbrook neighbourhood of the District of North Vancouver, BC.



(Source: Google Maps, 2025)

Methodology

The project began December 10, 2025, with a meeting with property owner Mr. Bailey, project Architect Doug Johnson, and Mountain Heritage on site. Mr. Bailey and Mr. Johnson provided background information on the property and the research materials used in the development of the Statement of Significance. Observations were made during a walk around the property, focusing on the building's exterior of which photographs and field notes were taken. Historic photographs and informed observation of materials in place show that very few changes have taken place to the structure since its construction and it has been moderately well maintained, leaving most of the historic fabric of the structure intact.

Based on the information gathered on site, consultation, inclusion of the Statement of Significance and following the Park's Canada *Standards and Guidelines for the Conservation of Historic Places in Canada* the Conservation Plan has been developed. The Conservation Plan was submitted to Mr. Bailey and Mr. Johnson, February 11, 2026. Revisions were made to the plan May 26 and June 4, 2026.

Background

The owner has expressed that their end goal is to conserve the historic house located 3526 Everglade Place in a way which allows for livability and functionality, allowing for continued residential use of the building and the creation of additional housing on north end of the property.

The owner's intent is to move the subject building approximately 35 feet to the south and five feet to the east on the lot, retaining its current orientation on the property. This move will require a removal of the existing foundation and the construction of a new foundation. The north-west portion of the lot will be subdivided to allow for two additional stand-alone residences.

This Conservation Plan addresses the interventions and maintenance recommendations that should be followed when developing a scope of work for the future care and conservation of the subject building.

The below portion of the plan provides a policy framework that will ensure any potential work done is being conducted with the building's Heritage Values and Character Defining Elements in mind and their heritage conservation planned for.

The following Conservation Plan identifies the following items:

- Listing of **proposed interventions** or work that needs to take place on and in the building.
- The **Character Defining Elements** (CDEs) that have potential to be impacted by the work.
- The **conservation strategy**- succinct statements of intent for each action.
- **Maintenance** recommendations.

Prior to undertaking any work on the building, *The Standards and Guidelines for the Conservation of Historic Places in Canada*, found in Appendix II, should be reviewed by both the individuals involved in the oversight of the project and by any professionals such as an architect or building engineer and contractors hired to do the work. These guidelines along with best practices for heritage conservation, have been taken into consideration with the below Conservation Plan in regard to the proposed interventions currently needed to ensure the longevity of the structure. Every effort should be made to familiarize those working on the project with the planned conservation approach and actions and to ensure they understand the scope project and importance of the building's character-defining elements.

Before any work is to take place, it is recommended that a Qualified Hazardous Material Specialist experienced in the restoration of heritage structures to be consulted prior to any work, which may disturb possible hazardous materials such as paint, materials that may contain asbestos or mold. No hazardous material surveys were undertaken in the course of this report. It is also recommended that a qualified Structural Engineer and Licensed Electrician experienced in successful heritage conservation projects be further consulted to ensure all work is done in compliance with current codes and building regulations. These professionals should be knowledgeable to alternative compliances and heritage variances that may be available to the Perry Residence as a listed home on the North Vancouver Heritage Register allowing for a higher retention of heritage materials and conservation.

Project Conservation Strategy

The overall long-term **conservation** strategy for the Perry Residence at 3256 Everglade Place is a combination of **restoration**, **rehabilitation** and **preservation**. These strategies follow as defined in the *Standards and Guidelines for the Conservation of Historic Places in Canada*:

Conservation: all actions or processes that are aimed at safeguarding the Character-defining elements of an historic place so as to retain its Heritage Value and extend its physical life. This may involve preservation, rehabilitation, restoration or a combination of these actions or processes.

Restoration: The action or process of accurately revealing, recovering or representing the state of a historic place or of an individual component, as it appeared at a particular period in its history, while protecting its heritage value.

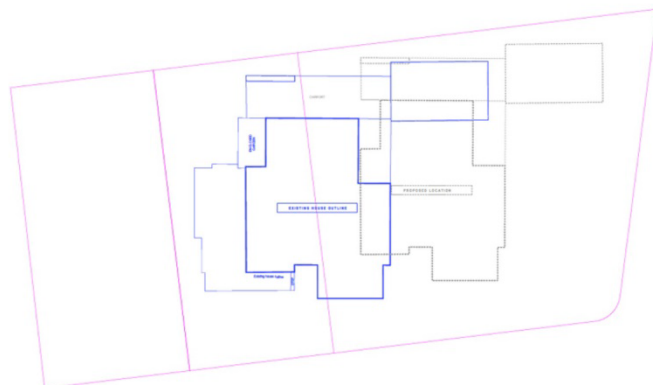
Rehabilitation: the action or process of making possible a continuing or compatible contemporary use of a historic place or an individual component, through repair, alterations, and/or additions, while protecting its heritage value.

Preservation: The action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of a historic place or of an individual component, while protecting its heritage value.

The primary intent is to preserve the existing historic structure, while undertaking a rehabilitation that will repair and upgrade the building. As part of the scope of work, character-defining elements will be preserved, while missing or deteriorated elements will be restored.

Conservation Plan

Site and Landscape



Site Plan, TKL Design, 2026.

Proposed Intervention

The Perry Residence currently sits in the center of a 0.4 acre-lot. The north portion of the lot is covered with cedar trees, the willow tree on this side of the property mentioned in Erickson's 1963 plans is no longer standing. Erickson did not include any additional notes or drawings in his plans in relation to the landscaping on the site. The southern end of the lot is dense with both native plants and holly, black berry, bamboo and a planted maple. The landscaping has not been maintained. The dense vegetation around the south side of the property has created a natural barrier between the structure and Everglade Place. The movement of the Perry Residence will allow for the northern part of the lot to be redeveloped and the conservation of the historic building. It is proposed that the building moved on lot approximately 35 feet to the south and five feet to the east on the property maintaining same orientation. The north and west side decking of the heritage building will be rehabilitated to accommodate proposed property line realignments. Gardens and landscaping will be rehabilitated as per the *Primary Landscape Design Objective for the Perry Residence*, TKL Design, 2026.

Impacted Character Defining Elements

- Location in the Norwood Queens-Delbrook neighborhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.

Conservation Strategy

Preservation and Rehabilitation

- Preserve the orientation of the building. Frontages of the building facing Everglade Place and Evergreen Place will remain the same.
- Rehabilitate landscape and gardens around the building so that building maintains its relationship with outdoor and indoor connections per recommendations *Primary*

Landscape Design Objective for the Perry Residence, TKL Design and taking into special consideration the three following bullet points below.

- Retain and incorporate into the landscape plan any mature non-invasive plants and trees currently on the south side of the lot that are outside of the relocated footprint of the structure and decking.
- Retain plantings and establish new plantings that will shield the house from view from Everglade Place, preserving the structure's connection to the natural environment.
- Ensure any new plantings or existing plantings are not directly abutting the historic fabric of the structure or overhang above its roof.
- New structures to the north of the heritage building should be designed to be 'physically and visually compatible with, subordinate to and distinguishable from the historic place' as recommended in Standard 11. (See Appendix II)

Overall Form, Scale and Massing



Proposed Intervention

Exterior footprint of house will be preserved. The house's current configuration is a main single-story structure connected by a carport to the Perry studio with extensive decking on the north and south elevations and moderate decking on the west elevation. The form and scale will change minimally with the enclosure of the carport on the east elevation and enclosure of the porch on the west elevation. Massing of the decking will be reduced on the north and west elevations.

Character Defining Elements

- Original residential form, scale and massing as expressed by its one-story height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- Large wood decks surrounding the house
- Small private courtyard garden off the main bedroom
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Rehabilitation and Preservation

- Preserve the overall scale and massing of the building.
- The rehabilitation of the west elevation porch encloses a 8'x10' portion creating a pantry and kitchen. (See sections on Walls and Fenestration for additional details.)
- The rehabilitation of the carport from covered space with open walls to an enclosed interior living space with windows. (See sections on Walls and Fenestration for additional details.)
- Because the overall form, scale and massing of the house are important character-defining elements, it is recommended that no other changes be made in the form of additions or alterations.
- The rehabilitation of the bedroom courtyard by the repositioning of bedroom courtyard wood-screen 90 degrees to west.
- The decking will be altered on the north and west elevation of the building. It will be reduced in size on both elevations. Any replacement decking should be constructed of like material.

Roof



Proposed Interventions

The roof lines and gutter system will be preserved on the structure; the roof will be re-membraned to address leaks. The loose river stones which clad the roof presently will be replaced with a like product of river stone replicas in same size, shape and color as the existing but of a lighter material. Sky lights and clerestory windows will be replaced with windows of the same dimensions and a like material. The brick chimney will be removed.

Character Defining Elements

- The physical and visual connection of the house and studio to the natural setting

- Original residential form, scale and massing as expressed by its one-story height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines
- Skylights
- Clerestory windows
- Roof cladding comprised of medium-sized smooth river rock

Conservation Strategy

Preservation and Rehabilitation

- Preserve the roof structure in its current configuration, as expressed by its angled roof and flat planed roof and deep overhangs.
- Roofing membrane and cladding system will be rehabilitated. River stones of the same dimension are the preferred material for cladding and should match original. If replicas are used for weight considerations, they should match the originals as closely as possible.
- Replace roofing materials when it comes time to reroof.
- Preservation of gutter system, any rehabilitation with like for like materials and dimensions. Any replacement of parts of the gutter system will match existing materials and colors.
- Ensure adequate rainwater disposal system is installed and ensure proper drainage from the site is maintained.
- Replacement of skylights and clerestory windows, flashing and trim with like for like materials, exact in dimension to originals.

Maintenance

- Annually remove any debris or moss from roof with sweeping and gentle hosing. Do not use high pressure hose or harsh cleaning agents.
- Annually inspect flashing, repair as needed.
- Yearly interior and exterior inspection to note any changes such as damaged roofing materials, leaks or pin holes and changes to be immediately addressed.
- Expected roof material replacement on a twenty-year cycle.
- Observe how gutters are functioning on a very wet day. See where failures are occurring repair or replace as needed. Make sure there are no blockages at outlets of gutters.
- Expected gutter material replacement on a twenty-year cycle.

Foundation



Proposed Intervention

The residence will be moved approximately 35 feet to the south and five feet to the east on maintaining same orientation on property lot, on a new foundation.

Character Defining Element

- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- Transition through rooms, especially from the dining room to the living room.

Conservation Strategy

Rehabilitation

- New material should match original in appearance, as viewed from the exterior.
- Foundations should be reviewed by a Structural Engineer.
- To ensure the prolonged preservation of the new foundations, all landscaping should be separated from the foundations at grade to assist drainage and hardscaping to prevent splash back.

Maintenance

- Annual inspection of exterior and interior foundations, where visible, for signs of undue settlement, deformation, or cracking.
- If any of the above found, obtain immediate advice from a professional structural engineer.
- Repointing work of damaged areas should be done with mortar like existing formula.
- Annually check that perimeter drainage piping is functional.
- Arrange a drainage inspection every three to five years.

Exterior Walls



Proposed Intervention

Wall will be rehabilitated on the west elevation for the kitchen addition and with the conversion of the carport to living space. The wall on the west elevation will see the addition of cladding with the 8'x10' enclosure of porch. The opening for the carport on the north elevation will be enclosed as will the east elevation carport elevation. Cladding in other areas will be preserved and restored where it has suffered damage from moisture or other factors.

Character Defining Element

- All wood cladding including very narrow vertical strips
- Inverted triangular fascias

Conservation Recommendation

Rehabilitation, Preservation and Restoration

- Preserve original siding on all elevations, if possible, and clean surfaces for refinishing.
- High-pressure power washing, abrasive cleaning or sandblasting should not be allowed under any circumstances.
- If needed **historic** wood should be refinished to match original cladding.
- Determine the original **historic color and finish** of cladding, restore original color scheme.
- **Color samples should be tested in natural light prior to final application of stain to ensure it matches and will weather to be compatible to existing stain.**
- New cladding used for rehabilitations of carport and west porch should be physically and visually compatible with, subordinate to and distinguishable from the historic walls.
- **New cladding will be of the same dimensions and material (compatible) as the historic fabric however the new material will be distinguishable through the finish use of Shui Sogi Ban instead of staining.**

Maintenance

- In yearly building inspection make note of cladding condition.
- Ensure that no plants (trees, ground plantings, vines, or moss) are touching the building.
- Schedule bi-annual cleaning of exterior, with removal of any insect or animal nests. Washing gently with low pressure garden hose when needed. Do not use high pressure hose, power washer or harsh cleaning agents.

- Yearly check for water ingress, ensuring there is not staining, rot or mould.

Fenestration

The windows and doors of the historic structure are fundamental to the building's appearance and tie directly to its heritage value. The placement of windows and doors in the historic place are what allow for the visual connection of the house and studio to the natural setting, one of its principal Character Defining Elements.

Windows



Proposed Intervention

With the rehabilitation of the west side of the building for additional kitchen space and the rehabilitation of the carport to living space, there will be the limited addition of new windows and doors and the removal of some historic windows and doors. The clerestory lights are failing and will be rehabilitated.

Character Defining Elements

- The physical and visual connection of the house and studio to the natural setting.
- Large wood framed windows, including sliding glass double doors
- Skylights
- Clerestory windows
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Preservation and Rehabilitation

- Complete an inspection and detailed inventory list of all windows to determine extent of recommended repair or replacement.
- Preserve and repair as possible, using in kind repairs where feasible.
- If single glazed windows are to be rehabilitated to accommodate double-glazing. Double glazed units should be visually consistent with original windows.
- If windows or clerestory lights are replaced, they are to be replaced in kind.

- New windows used for rehabilitations of carport and west porch should be physically and visually compatible with, subordinate to and distinguishable from the historic windows.

Maintenance

- Annual inspection to ensure the windows are functioning correctly and conducting repair as needed following conservation standards.
- Do not use high pressure hose or harsh cleaning agents on windows.

Doors



Proposed Intervention

With the rehabilitation of the west side of the building for additional kitchen space there will removal of the wood door facing Everglade Place.

Character Defining Element

- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

Conservation Strategy

Preservation and Restoration

- Complete an inspection and detailed inventory list of all doors to determine extent of recommended repair or replacement.
- Retain the door openings in their original locations and preserve and repair all original doors.
- Retain original doors hardware.
- If original doors or sliding glass doors are replaced, they are to be replaced in kind.
- Any newly installed doors should be visually compatible with existing doors.
- Bill Reid carving will be removed from door and installed in the interior of the building to ensure safe keeping.

Maintenance

- In yearly building inspection make note of door operation and condition of hardware (no rust or breakage).
- At inspection lubricate hardware.
- Replace any broken glass as it happens in doors.
- Check weather stripping for wear and replace as needed.
- Do not use high pressure hose or harsh cleaning agents on doors.

Interior

The Perry Residence features several character-defining interior architectural features that appear to date to the building's original construction. These interior elements should be preserved where possible. Rehabilitation measures may be introduced as required to accommodate functional modern needs or building code upgrades. Any interventions should be made in a manner that is sympathetic to the historic character of the building. If any historic material is to be removed from the building it is recommended that it is done in such a manner that it will allow for the salvage and/or recycling of all architectural elements, siding, lumber, wood flooring, historic doors, windows, brass hardware and other materials.

Ceiling



(Ceiling of existing master bedroom and ceiling in transition from existing dining room to gallery hall and living area)

Proposed Intervention

- Retention and preservation of the existing wood ceilings throughout.

Character Defining Elements

- Extensive use of wood on floors, walls and ceilings
- Wood slat ceiling in the living room

Conservation Strategy

Preservation and Restoration

- Most of the wood ceilings in the structure are in good condition with the exception of a few places where water damage has occurred.
- Complete investigation of condition of ceiling, and repair as required to match existing.
- Roof and skylight details and joints should be inspected, and any leaks should be repaired to prevent further damage to ceilings.

Maintenance

- Maintain wood ceilings with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot clean ceilings to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying. Test detergent solution in an obscured area of the ceiling prior to use to ensure it does not damage it.

Interior Walls



(Left to right- existing entryway, wall between existing entry way and dining area, studio)

Proposed Interventions

- Preservation and rehabilitation of the re-sawn strip of fir wall material in entryway and dining area as entryway will be expanded to include part of the existing dining area.
- Removal of the variety of panel wood walls and replacement with drywall finish throughout remainder of building.
- Rehabilitation of studio and garage areas into integrated living space with the rest of the building.

Character Defining Elements

- Extensive use of wood on floors, walls and ceilings
- Transition through rooms, especially from the dining room to the living room
- Re-sawn strips of fir as wall cladding
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Rehabilitation and Preservation

- The re-sawn strips of fir used as a dividing wall currently between the entryway and the dining area will be preserved. The existing wall will be moved a few feet to the west to accommodate the new floor plan.
- The revised entry way floor plan will allow for transition from the entry way to the living area.
- The garage is being rehabilitated to accommodate additional living space, the expanse of windows will be rehabilitated, and the exterior garage doors will be replaced with exterior siding as noted in the recommendations for the section Exterior Walls and the interior garage door by interior drywall.

Maintenance

- Maintain interior walls with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot clean walls to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying.

Test detergent solution in an obscured area of the wall prior to use to ensure it does not damage the wall.

Floors



(Wood flooring in existing dining area and tile in existing living room abutting wood floor of den area)

Proposed Intervention

- Removal and replacement of all existing flooring.

Character Defining Element

- Extensive use of wood on floors, walls and ceilings

Conservation Strategy

Non-Applicable

- Wood floors throughout will be replaced with wood flooring at owner's preference for a unified flooring material throughout the structure.
- It is recommended that any deconstruction of the building take place in such a manner that it will provide for the salvage and/or recycling of all architectural elements, siding, lumber, wood flooring, historic doors, windows, brass hardware and other materials.

Maintenance

- Non-Applicable

Furnishings



(Cabinetry in kitchen, den and front door carving)

Proposed Intervention

- Relocation and rehabilitation of built in cabinetry in kitchen, it will be repurposed for use in the new laundry room in the portion of the house which is currently the garage.
- Preservation of built in cabinetry in den.
- Preservation of purported Bill Reid door carving panel. Door carving panel will be relocated into the interior of the structure and on display.

Character Defining Elements

- Wood kitchen cabinets with gull-wing doors
- Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Carving on front door purportedly by Bill Reid.

Conservation Strategy

Preservation and Rehabilitation

- Rehabilitate the existing kitchen cabinetry to be re-used in the future laundry room.
- Preserve the den cabinetry.
- Preserve and relocate the door carving to the interior of the building.

Maintenance

- Maintain cabinetry with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot cabinetry to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying. Test detergent solution in an obscured area of cabinetry prior to use to ensure it does not damage the cabinetry.

Appendixes

Appendix I: Statement of Significance

Prepared by: Schueck Heritage Consulting
July 2025

Description:

Designed in the West Coast Modern style in 1963, the Perry Residence is located on a wooded property on the upper slopes of the District of North Vancouver, British Columbia. It is a one-storey, wood frame house clad in narrow vertical cedar siding, with a combination of angled and flat roof forms clad in river rock and with deep overhangs. It has large expanses of glazing and clerestory windows and is surrounded by a wide wooden deck.

Heritage Values:

The heritage significance of the Perry Residence lies primarily in its aesthetic, cultural and historic values. It is a rare example of a West Coast Modern house, designed by Arthur Erickson just before he became famous, that has essentially retained its original design and materials on both the exterior and interior.

The house has aesthetic value primarily for its West Coast Modern design as evidenced by its overall form and details. It is a modest, one-storey structure with Japanese Shinto design influences. “An ode to Japanese minimalism transplanted into the rugged Canadian forest, the house exemplifies the concept of *Wabi Sabi* that marries the rough and the refined.”¹ Other aspects of Shinto residential design that can be seen in the Perry Residence and which contribute to the ethos of West Coast Modernism include its connection to nature through the use of large windows, clerestory windows, skylights and sliding glass doors that provide natural light and ventilation. Additionally, the house sits in harmony with nature through the extensive use of local materials and through its physical and visual connection to the outside.

The house is clad in narrow vertical wood siding stained dark brown. The deep roof overhangs are both practical (providing shelter to the house and decks from sun and rain) and they help to reinforce the strong horizontal massing. Of particular note on the exterior are the inverted triangular fascia boards, the clerestory glazing and skylights, and the way the angled roof on the north side and the flat roof on the south side work together. Apparently, they were angled to match the declination of the earth so that on December 21st, there is no shadow inside the house.² The cladding on the angled roof is unusual – medium-sized smooth river rock – an aesthetically pleasing method for keeping the roof cool and protecting it from large snowfalls and strong winds.

The interior of the house also has strong aesthetic value and continues the references to West Coast Modern and Shinto design principles through its uncluttered spaces and extensive use of natural materials. The rooms are small but feel spacious due to the amount of glazing and the high ceilings. Particularly effective is the transition from room to room, such as walking through a low-ceilinged hallway into the high-ceilinged living room. The floor in the living room is noteworthy for its Japanese

¹ Hadani Ditmars. “Explore the Perry Estate, a lesser-known Arthur Erickson project in Canada.” *Wallpaper**, 18 February 2025.

² Ibid.

mother-of-pearl tiles, some shiny and some matte to give a shimmering effect, and for the pine slat ceiling. The kitchen, while small, has wood counters and cupboards with doors that open upwards in a gull-wing style. There is a clever pass-through with a wine storage area underneath. A great deal of thought has clearly gone into the design of the interior spaces, down to the nail pattern on the fascias (pairs of nails starting close together and widening out as they go along). The main bedroom has a small, private courtyard garden that brightens the room and provides the connection to the outside that so reflects the West Coast Modern style.

The Perry Residence has strong cultural/historic significance for its year of construction (1963) and for its connections to Frank Perry, Bill Reid and Arthur Erickson. Frank Perry (1923-2006) was born in Vancouver, graduating from the University of British Columbia and teaching high school history in North Vancouver for 30 years. He was also a successful sculptor in bronze, brass, stone and wood, deriving inspiration from Henry Moore, Constantin Brancusi and the German Expressionists. He trained locally, in London England and in Florence Italy. His commissions included work for municipal halls, civic theatres and private homes. He received the Order of Canada and was a member of the Royal Academy of the Arts, Northwest Institute of Sculpture, B.C. Society of Artists, Sculptors' Society of Canada, and the Royal Canadian Academy. He won awards for his work, such as the Burnaby Outdoor Sculpture Show in 1958 and the Centennial Sculpture competition in Vancouver in 1967, with a piece that is now outside the Playhouse Theatre.³ Married to Doris, nee Olson, (1926-1972), also a schoolteacher, they lived together in the house from 1963 (when it replaced a small house and studio) until her death in 1972. Frank continued to live in the house until selling it in 2002.

The Perry Residence is also associated with local artist Bill Reid (1920-1998), who was a good friend of Mr. Perry, likely working in the large, bright studio from time to time. A plaque on one of the bedroom doors states that Mr. Reid lived in the house from 1974-1975. Born in Victoria, Mr. Reid was an "internationally recognized Haida artist, frequently credited with the revival and innovative resurgence of Northwest Coast Indigenous arts in the contemporary world."⁴ Of special note is that the front door to the house has a carved inlay that is purported to be by Mr. Reid, who did something similar for the Cliff House designed by Zoltan Kiss.

The house was designed by architect Arthur Erickson (1924-2009). Born in Vancouver, he received his formal education at McGill and the University of British Columbia, followed by architectural training in 1950. He spent time in Asia while serving in the Armed Forces. In 1953, he opened an architectural practice in Vancouver with Geoffrey Massey. He designed the Perry Residence in 1963, the same year that he and Mr. Massey won the design competition for Simon Fraser University. Known nationally and internationally for both residential and major commissions, Mr. Erickson's design of the Perry Residence is an example of his residential work just as he became famous. It is an excellent and early example of the type of designs for which he became known: "The hallmark of much of Erickson's work through the 1960s and 1970s was the interpretation of exterior and interior spaces within a post-and-beam framework that is tightly controlled but not fixed to a rigid grid."⁵ A well-respected local architect also known for his West Coast Modern buildings, Barry Downs (1930-2022) wrote of his contemporaries' work including Mr. Erickson's: "Open floor plans, simple post

³ Dictionary of Canadian Artists – artist file on Frank Perry, National Gallery of Canada Archives

⁴ The Canadian Encyclopedia website.

⁵ Harold Kalmon, *A History of Canadian Architecture*, Volume 2. Oxford University Press, Ontario. 1994, p. 795.

and beam structures, flat planar roofs, use of skylights and large glass areas, characterized their work.”⁶ – a description that could be about the Perry Residence.

Character Defining Elements

Key elements that define the heritage character of the building include its:

- Location in the Norwood Queens/Delbrook neighbourhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.
- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- West Coast Modern style, as seen on the exterior through the:
 - All wood cladding including very narrow vertical strips
 - Inverted triangular fascias
 - Large wood framed windows, including sliding glass double doors
 - Skylights
 - Clerestory windows
 - Roof cladding comprised of medium-sized smooth river rock
 - Large wood decks surrounding the house
 - Small private courtyard garden off the main bedroom
- West Coast Modern style, as seen on the interior through the:
 - Extensive use of wood on floors, walls and ceilings
 - Transition through rooms, especially from the dining room to the living room
 - Wood slat ceiling in the living room
 - Re-sawn strips of fir as wall cladding
 - Wood kitchen cabinets with gull-wing doors
 - Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

⁶ Barry Downs, *The Poetics of West Coast Modernism in West Vancouver – Three Exhibitions on Architecture*. West Coast Cultural Services, 2005, p.3.

Appendix II: The Standards for the Conservation of Historic Places in Canada

The Standards are not presented in a sequential or hierarchical order, and as such, equal consideration should be given to each. All standards for any given type of treatment must therefore be applied simultaneously to a project.

General Standards (all projects)

1. Conserve the heritage value of a historic place. Do not remove, replace, or substantially alter its intact or repairable character-defining elements. Do not move a part of a historic place if its current location is a character-defining element.
2. Conserve changes to a historic place which, over time, have become character-defining elements in their own right.
3. Conserve heritage value by adopting an approach calling for minimal intervention.
4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties or by combining features of the same property that never coexisted.
5. Find a use for a historic place that requires minimal or no change to its character-defining elements.
6. Protect and, if necessary, stabilize a historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbance of archaeological resources, take mitigation measures to limit damage and loss of information.
7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.
8. Maintain character-defining elements on an ongoing basis. Repair character-defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.
9. Make any Intervention needed to preserve character-defining elements physically and visually compatible with the historic place, and identifiable upon close inspection. Document any intervention for future reference.

Additional Standards Relating to Rehabilitation

10. Repair rather than replace character-defining elements. Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the historic place.

11. Conserve the heritage value and character-defining elements when creating any new additions to a historic place or any related new construction. Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.

12. Create any new additions or related new construction so that the essential form and integrity of a historic place will not be impaired if the new work is removed in the future.

Additional Standards Relating to Restoration

13. Repair rather than replace character-defining elements from the restoration period. Where character-defining elements are too severely deteriorated to repair and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.

14. Replace missing features from the restoration period with new features whose forms, materials and detailing are based on sufficient physical, documentary and/or oral evidence.

Source: Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, Ottawa, 2010. (<http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf>)

Appendix III: Site Photographs, December 10, 2025



West elevation



North elevation

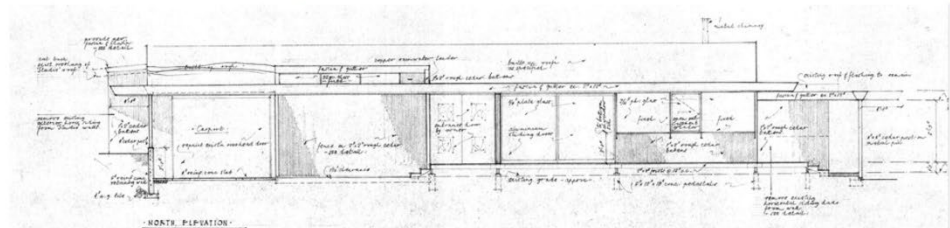


South elevation

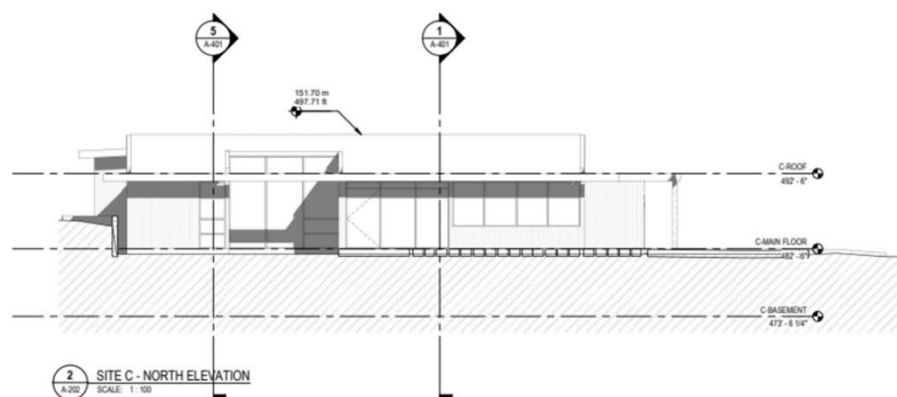


East elevation

Appendix IV: Elevation Comparisons



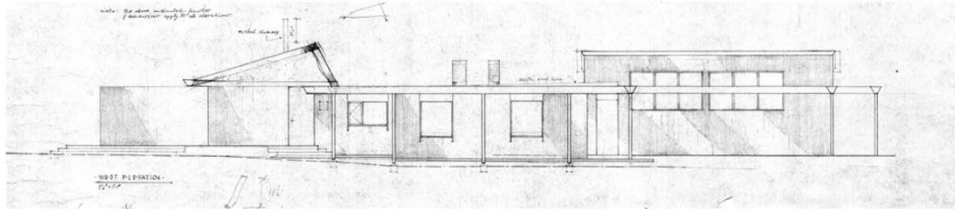
North Elevation, Arthur Erickson, 1963



North Elevation Proposed, Bruce Johnson, 2026



North Elevation, as is July 2025, Schueck Heritage Consulting Photo



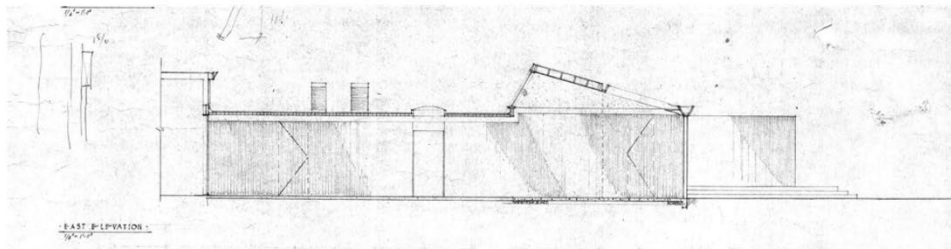
West Elevation, Arthur Erickson, 1963



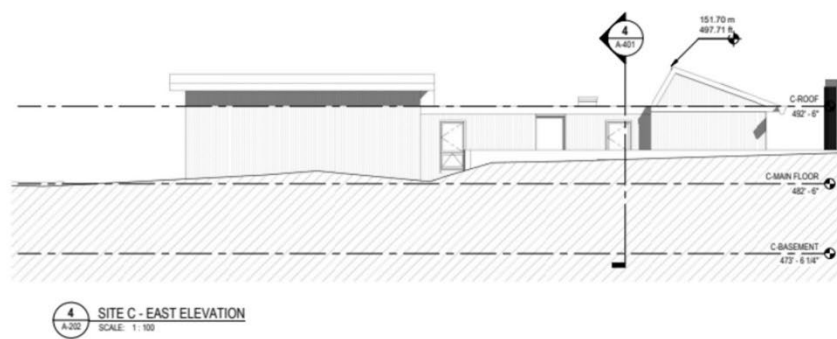
West Elevation Proposed, Bruce Johnson, 2026



West Elevation, as is July 2025, Schueck Heritage Consulting Photo



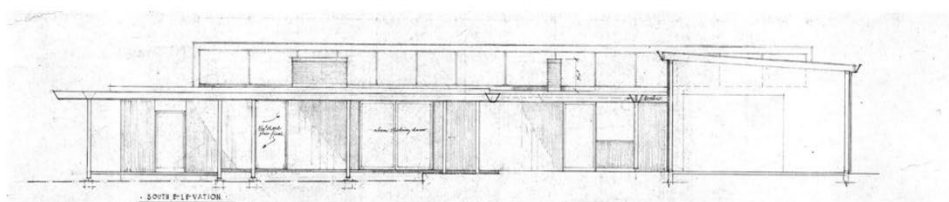
East Elevation, Arthur Erickson, 1963



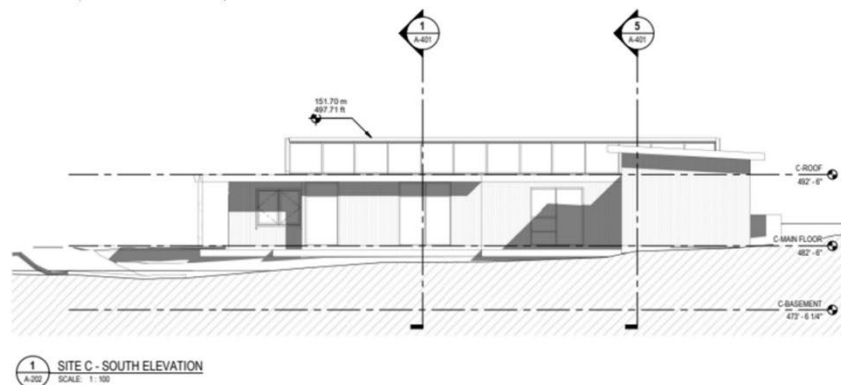
East Elevation Proposed, Bruce Johnson, 2026



East Elevation, as is December 2025, Mountain Heritage Photo



South Elevation, Arthur Erickson, 1963



South Elevation Proposed, Bruce Johnson, 2026



South Elevation and west elevation of studio, as is July 2025, Schueck Heritage Consulting Photo

Appendix V: Selected Plans



As-is site plan 2025 provided by owner



Plans for site development, 2026 provided by owner



Conservation Resources- Online

Parks Canada. *Standards and Guidelines for the Conservation of Historic Places in Canada*. Ottawa, 2010. <https://parks.canada.ca/culture/rc/p-crhp/standards>

Preservation Brief 4: Roofing in Historic Buildings.
<https://www.nps.gov/tps/how-to-preserve/briefs/4-roofing.htm>

Preservation Brief 6: Dangers of Abrasive Cleaning to Historic Buildings.
<http://www.nps.gov/tps/how-to-preserve/briefs/6-dangers-abrasive-cleaning.htm>

Preservation Brief 9: The Repair of Historic Wooden Windows.
<https://www.nps.gov/tps/how-to-preserve/briefs/9-wooden-windows.htm>

Preservation Brief 10: Exterior Paint Problems on Historic Woodwork.
<https://www.nps.gov/tps/how-to-preserve/briefs/10-paint-problems.htm>

Preservation Brief 15: Preservation of Historic Concrete.
<https://www.nps.gov/tps/how-to-preserve/briefs/15-concrete.htm>

Preservation Brief 37: Appropriate Methods of Reducing Lead-Paint Hazards in Historic Housing.
<https://www.nps.gov/tps/how-to-preserve/briefs/37-lead-paint-hazards.htm>

Preservation Brief 39: Holding the Line: Controlling Unwanted Moisture in Historic Buildings.
<https://www.nps.gov/tps/how-to-preserve/briefs/39-control-unwanted-moisture.htm>

Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings
<https://www.nps.gov/tps/how-to-preserve/briefs/47-maintaining-exteriors.htm>

Selecting and Appropriate Replacement Window for Your Historic Building:
<https://www.wisconsinhistory.org/Records/Article/CS4308>

http://www2.gov.bc.ca/assets/gov/topic/0DB9A63A500898D3B7753CFFBCDF5DE6/documents/heritage/heritage_conservation_community_guide.pdf

SCHEDULE "B"
STATEMENT OF SIGNIFICANCE

Statement of Significance
3526 Everglade Place
District of North Vancouver, BC



July 2025

Description:

Designed in the West Coast Modern style in 1963, the Perry Residence is located on a wooded property on the upper slopes of the District of North Vancouver, British Columbia. It is a one-storey, wood frame house clad in narrow vertical cedar siding, with a combination of angled and flat roof forms clad in river rock and with deep overhangs. It has large expanses of glazing and clerestory windows and is surrounded by a wide wooden deck.

Heritage Values:

The heritage significance of the Perry Residence lies primarily in its aesthetic, cultural and historic values. It is a rare example of a West Coast Modern house, designed by Arthur Erickson just before he became famous, that has essentially retained its original design and materials on both the exterior and interior.

The house has aesthetic value primarily for its West Coast Modern design as evidenced by its overall form and details. It is a modest, one-storey structure with Japanese Shinto design influences. "An ode to Japanese minimalism transplanted into the rugged Canadian forest, the house exemplifies the concept of *Wabi Sabi* that marries the rough and the refined."¹ Other aspects of Shinto residential design that can be seen in the Perry Residence and which contribute to the ethos of West Coast Modernism include its connection to nature through the use of large windows, clerestory windows, skylights and sliding glass doors that provide natural light and ventilation. Additionally, the house sits in harmony with nature through the extensive use of local materials and through its physical and visual connection to the outside.

The house is clad in narrow vertical wood siding stained dark brown. The deep roof overhangs are both practical (providing shelter to the house and decks from sun and rain) and they help to reinforce the strong horizontal massing. Of particular note on the exterior are the inverted triangular fascia boards, the clerestory glazing and skylights, and the way the angled roof on the north side and the flat roof on the south side work together. Apparently, they were angled to match the declination of the earth so that on December 21st, there is no shadow inside the house.² The cladding on the angled roof is unusual – medium-sized smooth river rock – an aesthetically pleasing method for keeping the roof cool and protecting it from large snowfalls and strong winds.

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¹ Hadani Ditmars. "Explore the Perry Estate, a lesser-known Arthur Erickson project in Canada." *Wallpaper**, 18 February 2025.

² Ibid.

Particularly effective is the transition from room to room, such as walking through a low-ceilinged hallway into the high-ceilinged living room. The floor in the living room is noteworthy for its Japanese mother-of-pearl tiles, some shiny and some matte to give a shimmering effect, and for the pine slat ceiling. The kitchen, while small, has wood counters and cupboards with doors that open upwards in a gull-wing style. There is a clever pass-through with a wine storage area underneath. A great deal of thought has clearly gone into the design of the interior spaces, down to the nail pattern on the fascias (pairs of nails starting close together and widening out as they go along). The main bedroom has a small, private courtyard garden that brightens the room and provides the connection to the outside that so reflects the West Coast Modern style.

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Frank Perry (1923-2006) was born in Vancouver, graduating from the University of British Columbia and teaching high school history in North Vancouver for 30 years. He was also a successful sculptor in bronze, brass, stone and wood, deriving inspiration from Henry Moore, Constantin Brancusi and the German Expressionists. He trained locally, in London England and in Florence Italy. His commissions included work for municipal halls, civic theatres and private homes. He received the Order of Canada and was a member of the Royal Academy of the Arts, Northwest Institute of Sculpture, B.C. Society of Artists, Sculptors' Society of Canada, and the Royal Canadian Academy. He won awards for his work, such as the Burnaby Outdoor Sculpture Show in 1958 and the Centennial Sculpture competition in Vancouver in 1967, with a piece that is now outside the Playhouse Theatre³. Married to Doris, nee Olson, (1926-1972), also a schoolteacher, they lived together in the house from 1963 (when it replaced a small house and studio) until her death in 1972. Frank continued to live in the house until selling it in 2002.

The Perry Residence is also associated with local artist Bill Reid (1920-1998), who was a good friend of Mr. Perry, likely working in the large, bright studio from time to time. A plaque on one of the bedroom doors states that Mr. Reid lived in the house from 1974-1975. Born in Victoria, Mr. Reid was an "internationally recognized Haida artist, frequently credited with the revival and innovative resurgence of Northwest Coast Indigenous arts in the contemporary world".⁴ Of special note is that the front door to the house has a carved inlay that is purported to be by Mr. Reid, who did something similar for the Cliff House designed by Zoltan Kiss.

The house was designed by architect Arthur Erickson (1924-2009). Born in Vancouver, he received his formal education at McGill and the University of British Columbia, followed by architectural training in 1950. He spent time in Asia while serving in the Armed Forces. In 1953, he opened an architectural practice in Vancouver with Geoffrey Massey. He designed the Perry Residence in 1963, the same year that he and Mr. Massey won the design competition for Simon Fraser University. Known nationally and internationally for both residential and major commissions, Mr. Erickson's design of the Perry Residence is an example of his residential work just as he became famous. It is an excellent and early example of the type of designs for which he became known: "The hallmark of much of Erickson's work through the 1960s and 1970s was the interpretation of exterior and interior spaces within a post-and-beam framework that is tightly controlled but not fixed to a rigid grid."⁵ A well-respected local architect also

³ *Dictionary of Canadian Artists* – artist file on Frank Perry, National Gallery of Canada Archives

⁴ The Canadian Encyclopedia website.

⁵ Harold Kalmon, *A History of Canadian Architecture, Volume 2*. Oxford University Press, Ontario. 1994, p. 795.

known for his West Coast Modern buildings, Barry Downs (1930-2022) wrote of his contemporaries' work, including Mr. Erickson's: "Open floor plans, simple post and beam structures, flat planar roofs, use of skylights and large glass areas, characterized their work."⁶ – a description that could be about the Perry Residence.

Character-defining Elements

Key elements that define the heritage character of the building include its:

- Location in the Norwood Queens/Delbrook neighbourhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.
- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- West Coast Modern style, as seen on the exterior through the:
 - All wood cladding including very narrow vertical strips
 - Inverted triangular fascias
 - Large wood framed windows, including sliding glass double doors
 - Skylights
 - Clerestory windows
 - Roof cladding comprised of medium-sized smooth river rock
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 - Small private courtyard garden off the main bedroom
- West Coast Modern style, as seen on the interior through the:
 - Extensive use of wood on floors, walls and ceilings
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 - Wood slat ceiling in the living room
 - Re-sawn strips of fir as wall cladding
 - Wood kitchen cabinets with gull-wing doors
 - Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

⁶ Barry Downs, The Poetics of West Coast Modernism in West Vancouver – Three Exhibitions on Architecture. West Coast Cultural Services, 2005, p.3.

Photographs of the Subject Building (June 2025)



West Elevation, as seen from Everglade Place



North Elevation, showing front entry, opening in the roof notes the bedroom courtyard garden.



South Elevation, with garage/studio on right



East Elevation, focussing on garage/studio entry

Selection of Interior Photographs (June 2025)



Kitchen



Dining Room



Hallway to Living Room



View through Main
Bedroom to Courtyard
Garden



Living Room



Plaque on Door

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<https://vancouversun.com/news/unknown-1963-arthur-erickson-home-for-sale-north-vancouver>

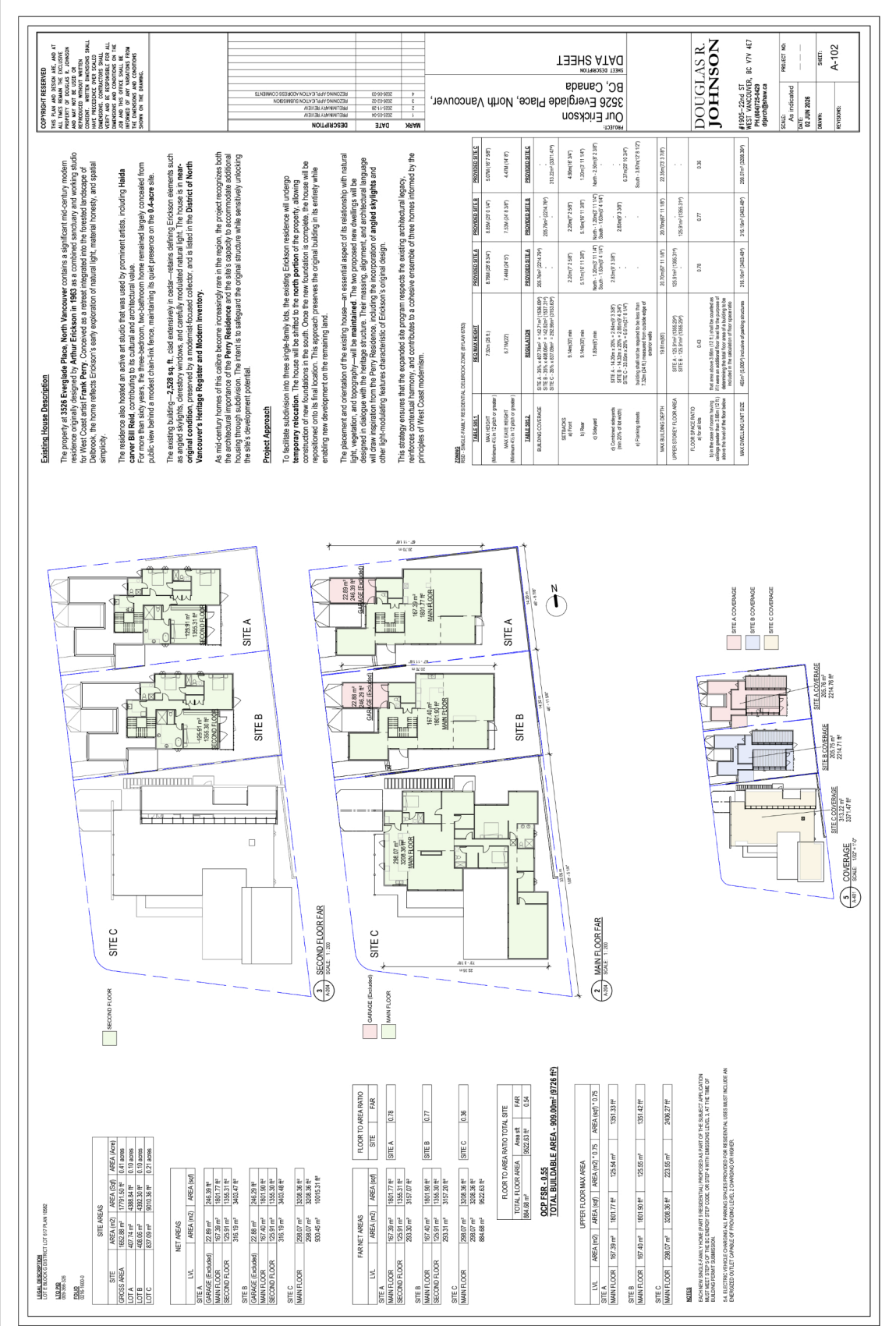
Vancouver Heritage Foundation
<https://www.vancouverheritagefoundation.org/discover-heritage/vancouver-heritage-house-styles-hub/house-styles-by-name-and-era/>

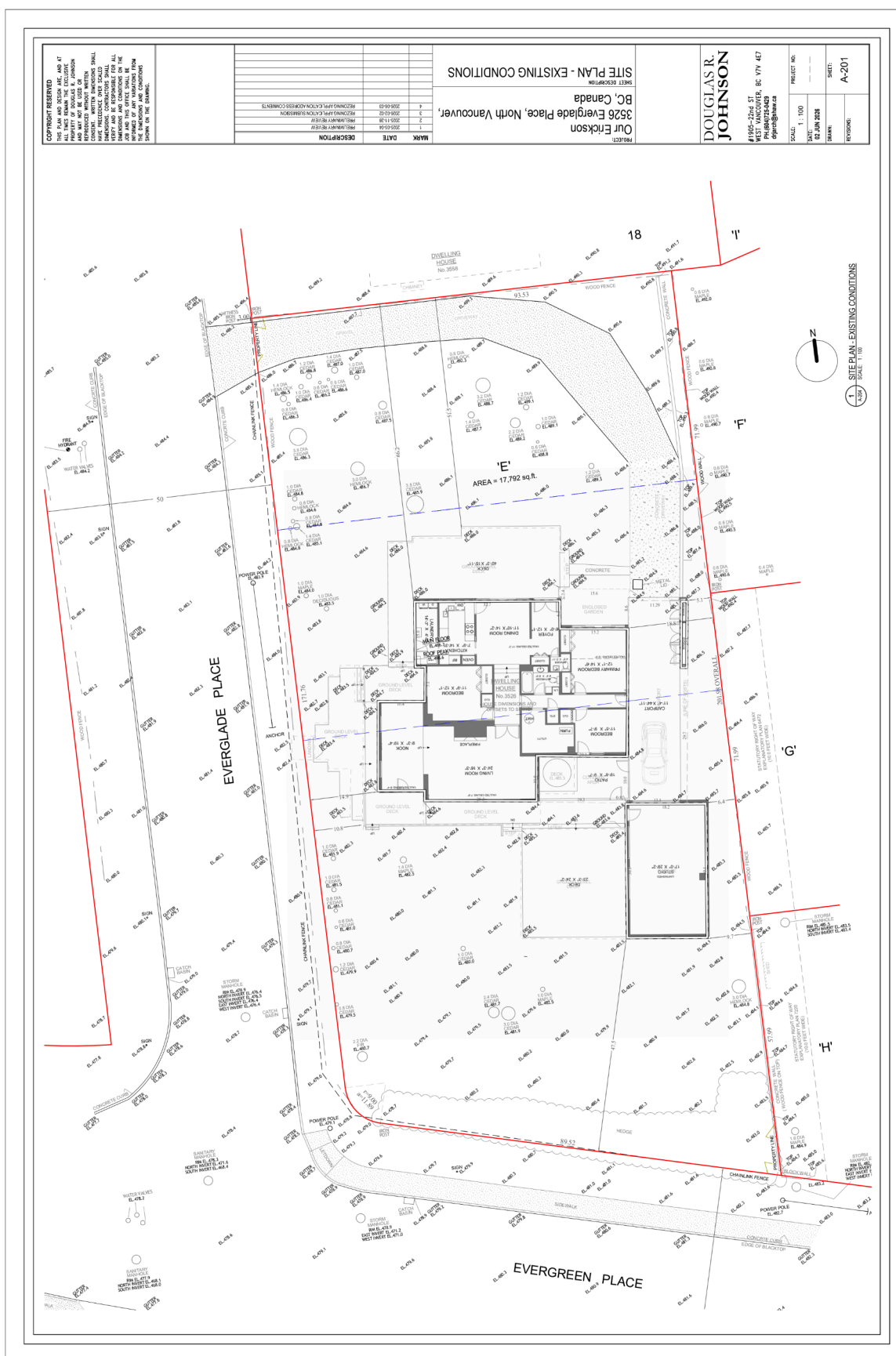
Vancouver Sun and Vancouver Province – Frank Perry Obituary, 10-11 August 2006.

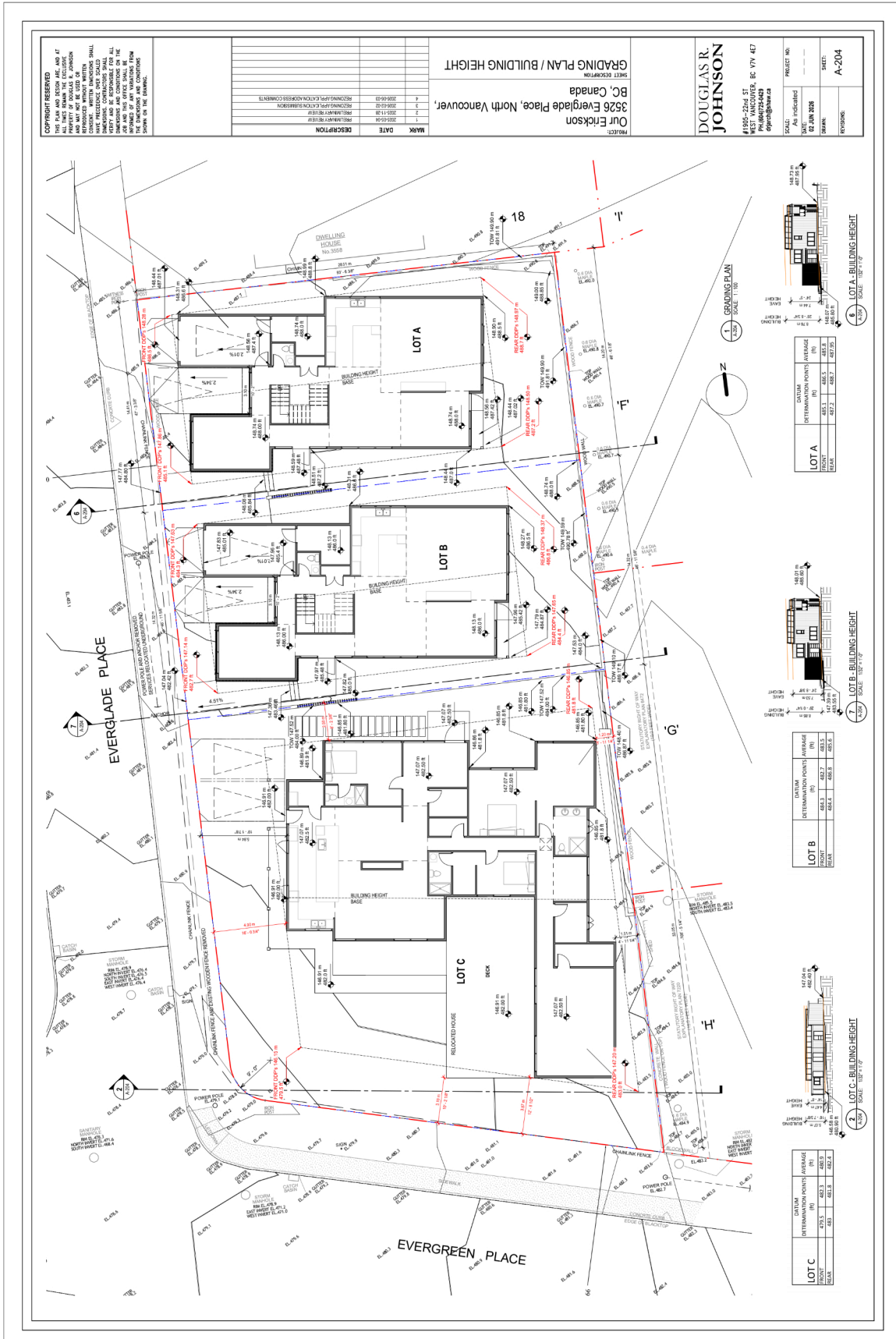
Windsor Liscombe, Rhodri. The New Spirit - Modern Architecture in Vancouver 1938 – 1963. Canadian Centre for Architecture, Montreal and Douglas & McIntyre, Vancouver, 1997.

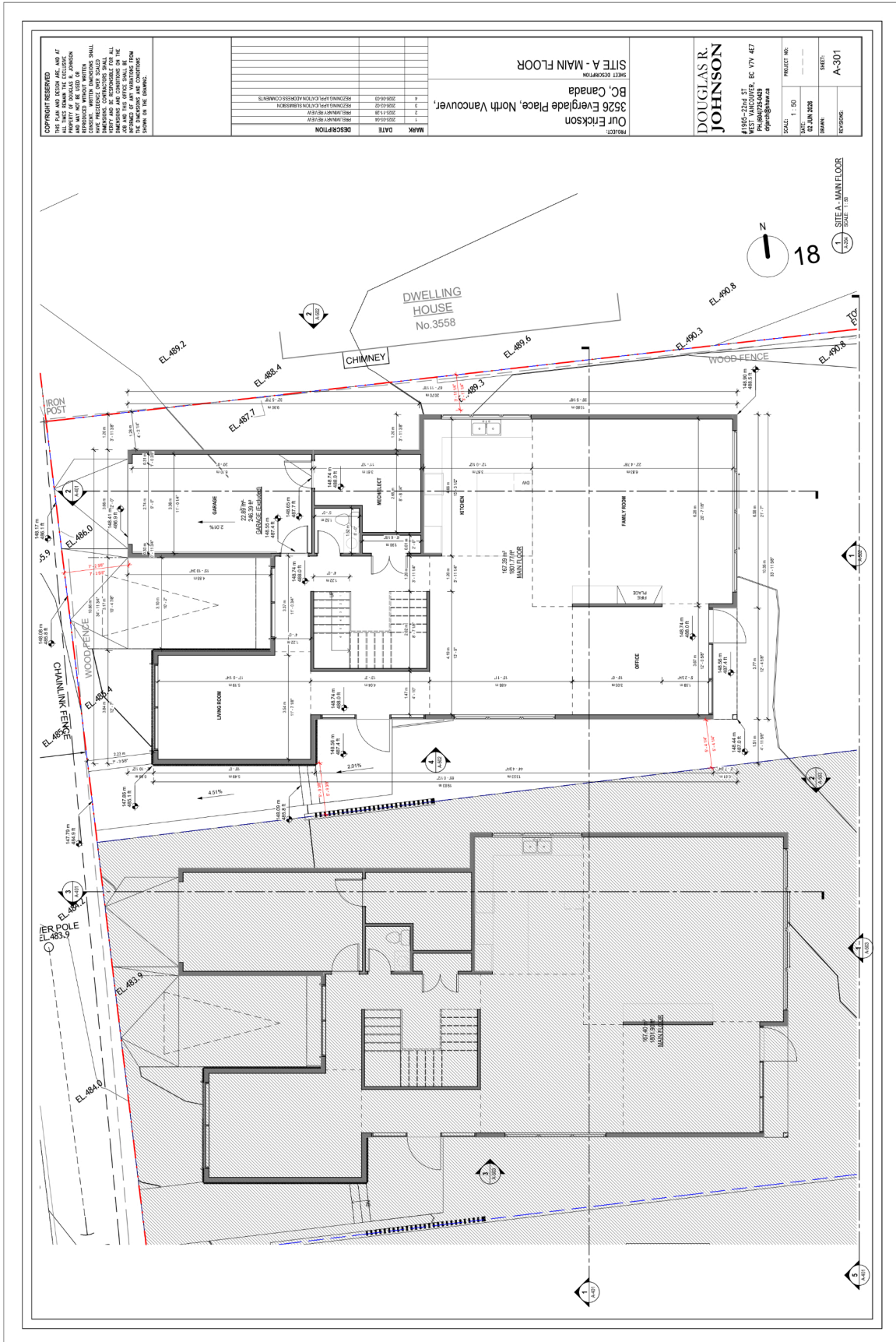
SCHEDULE "C"
SITE PLAN

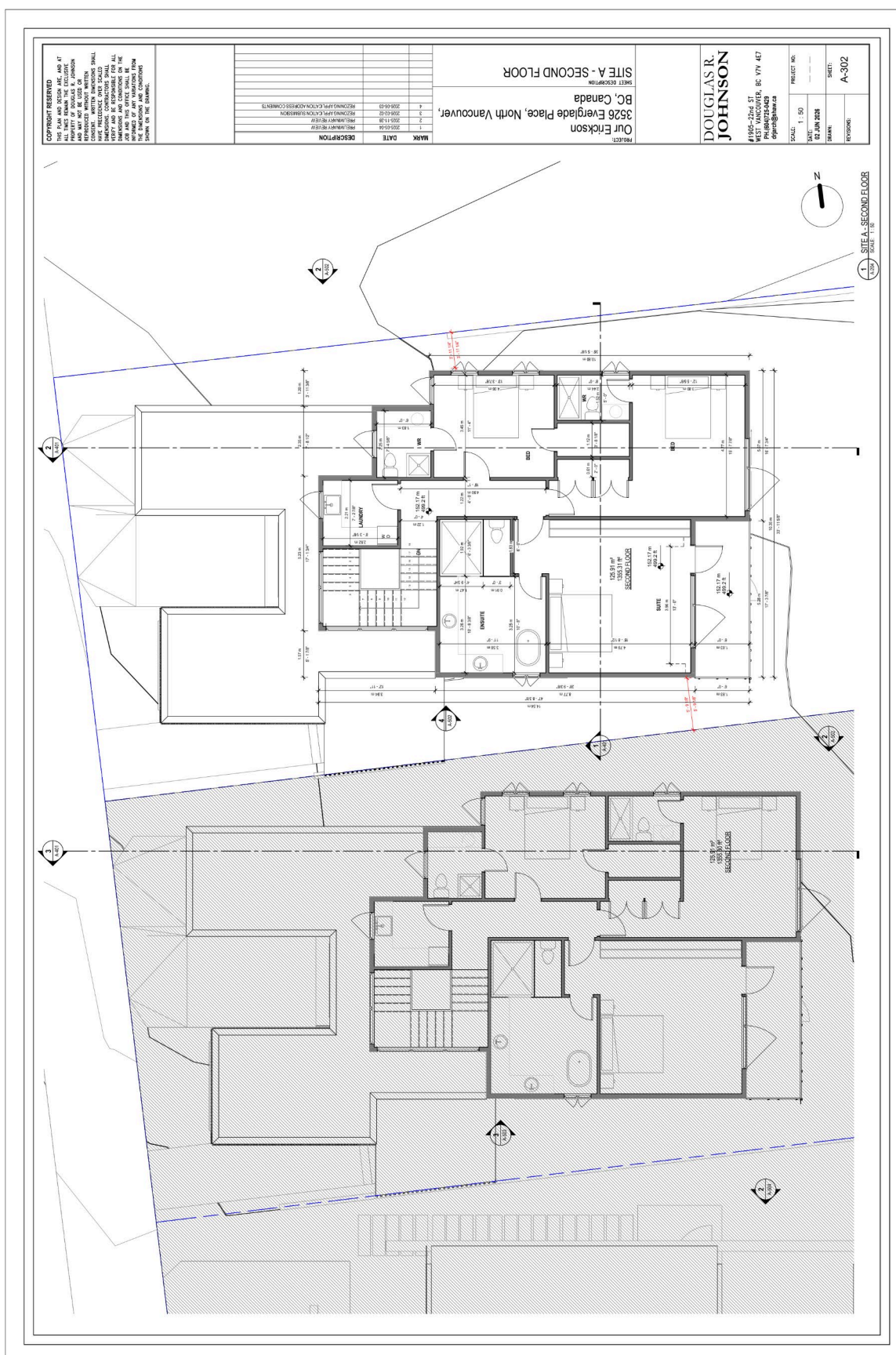
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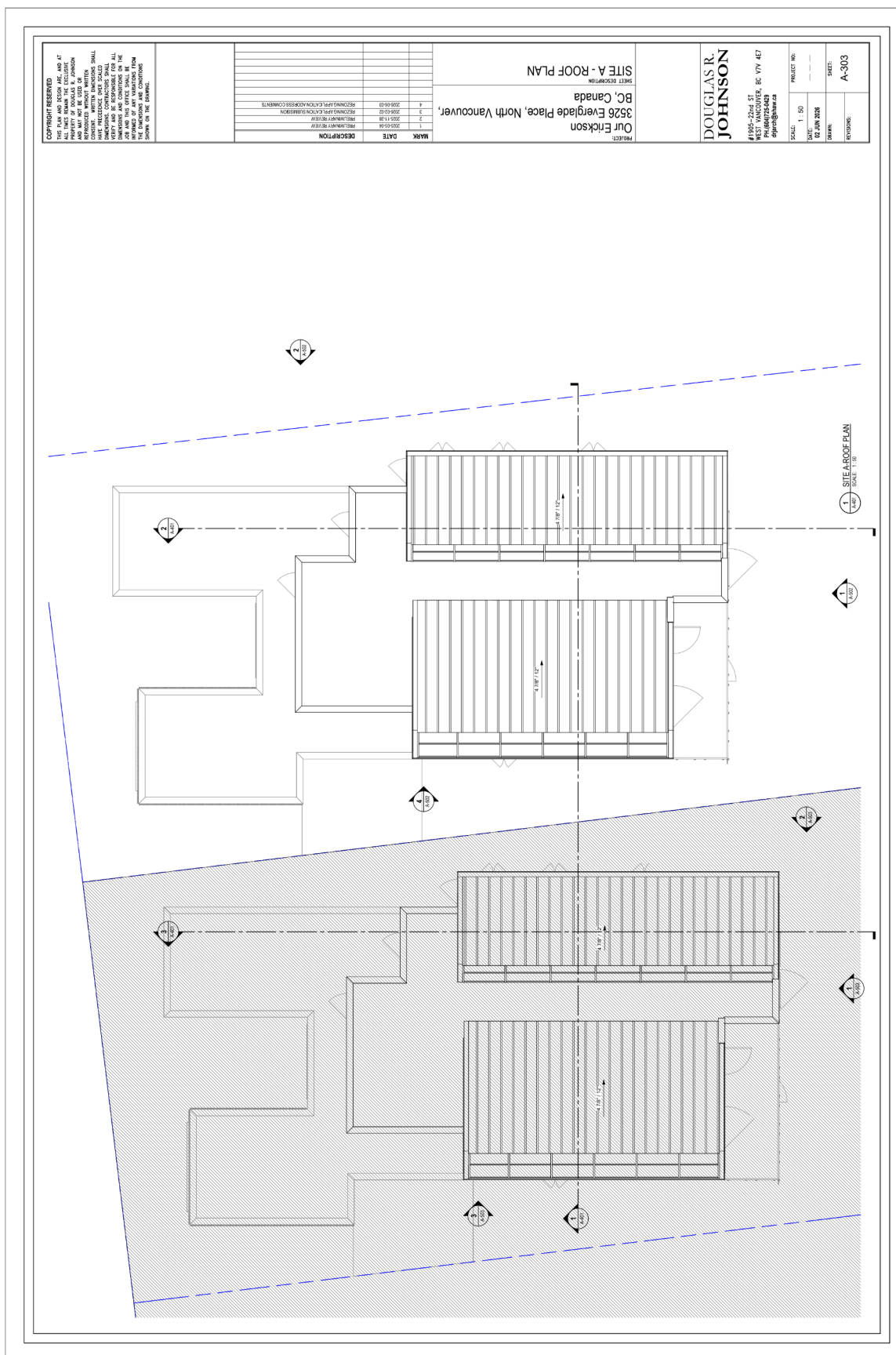




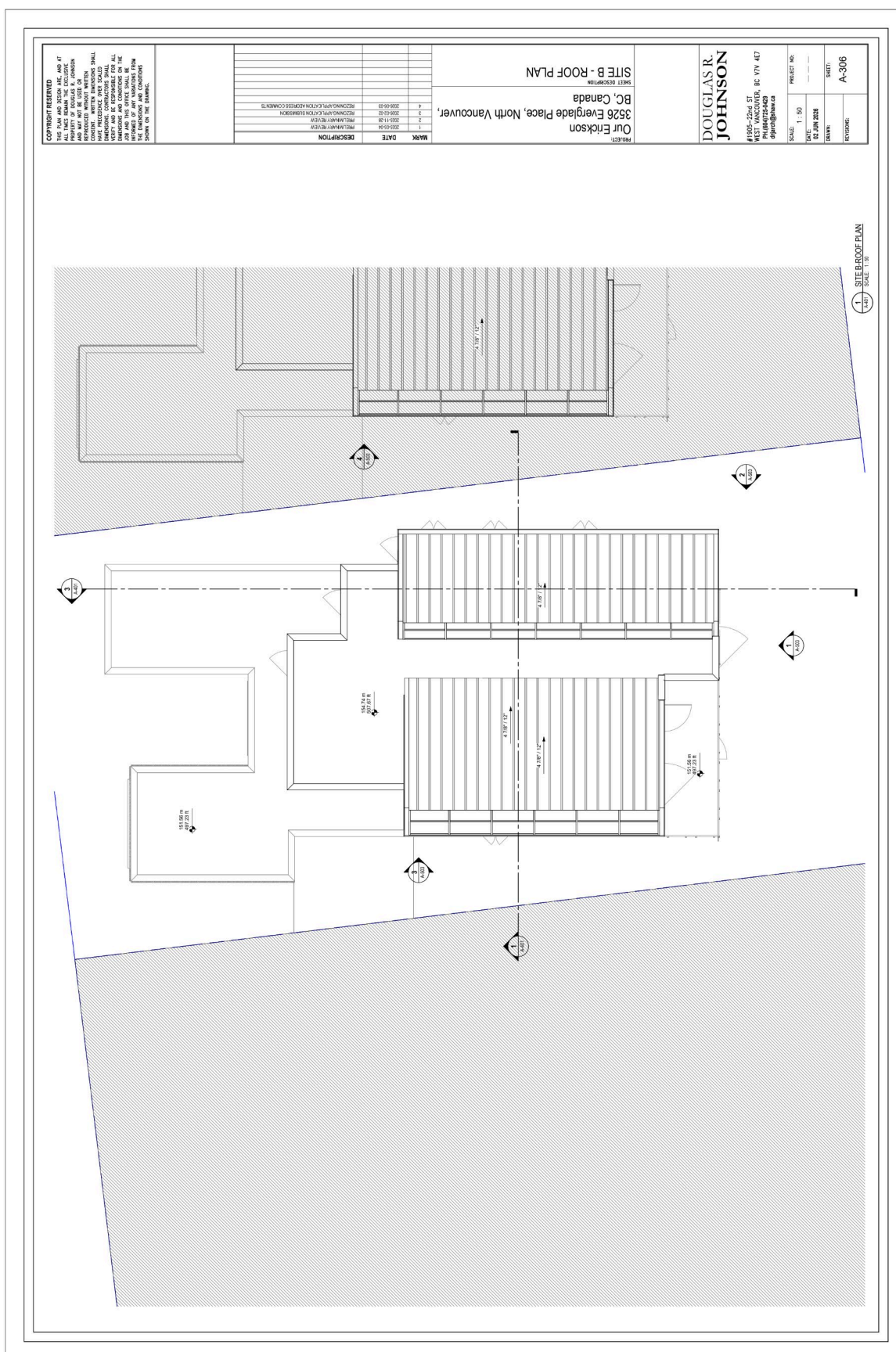


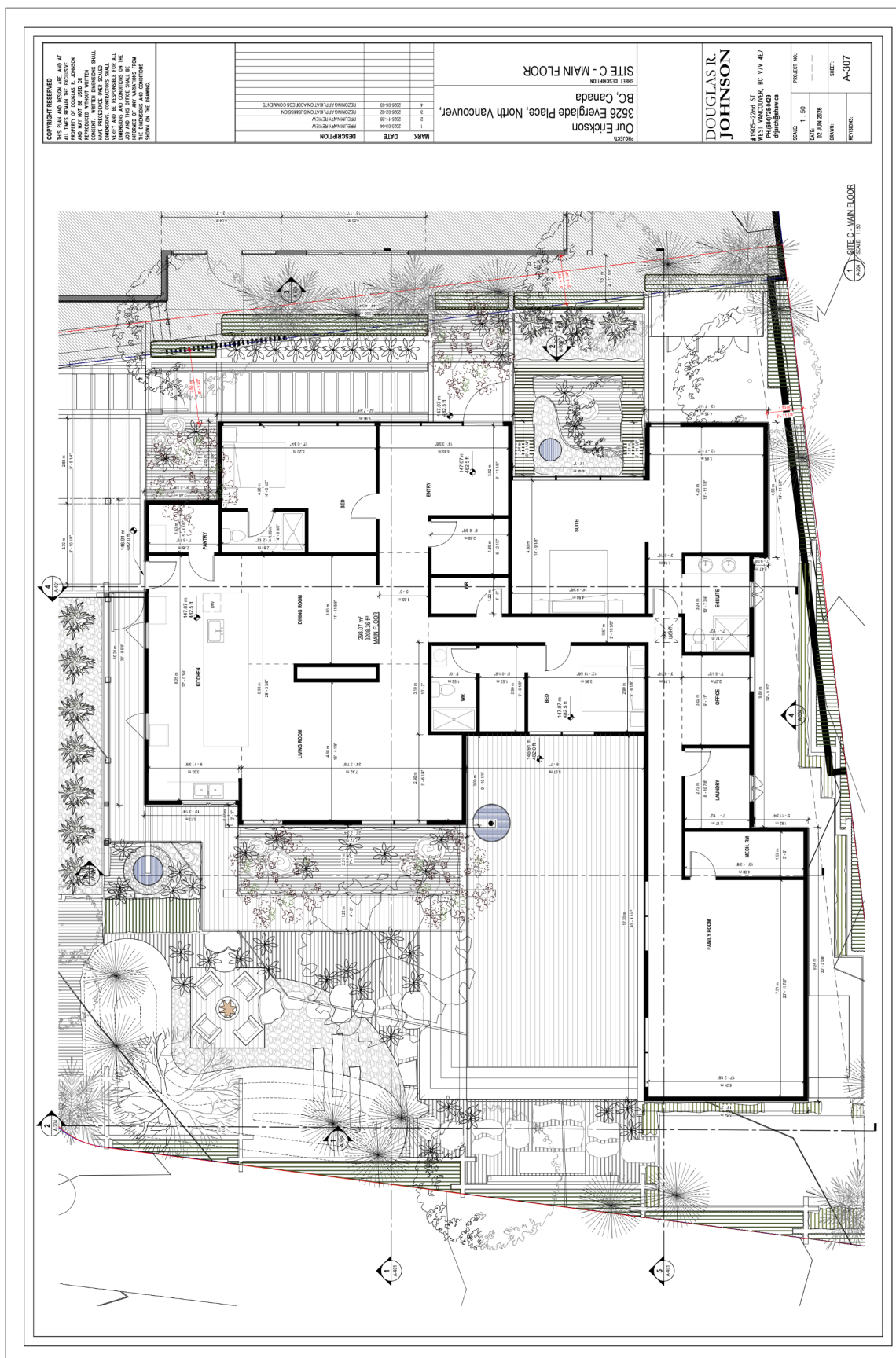




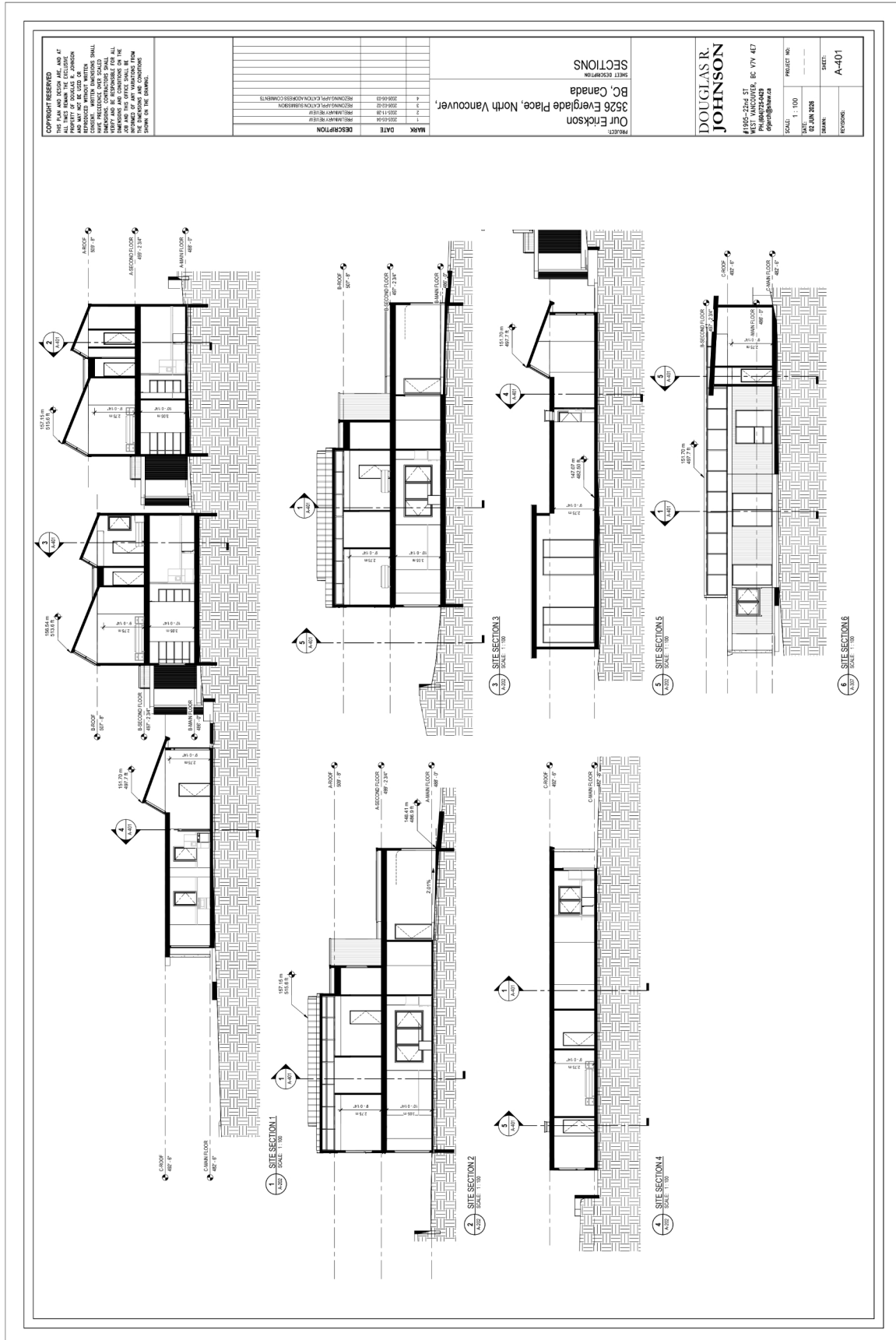




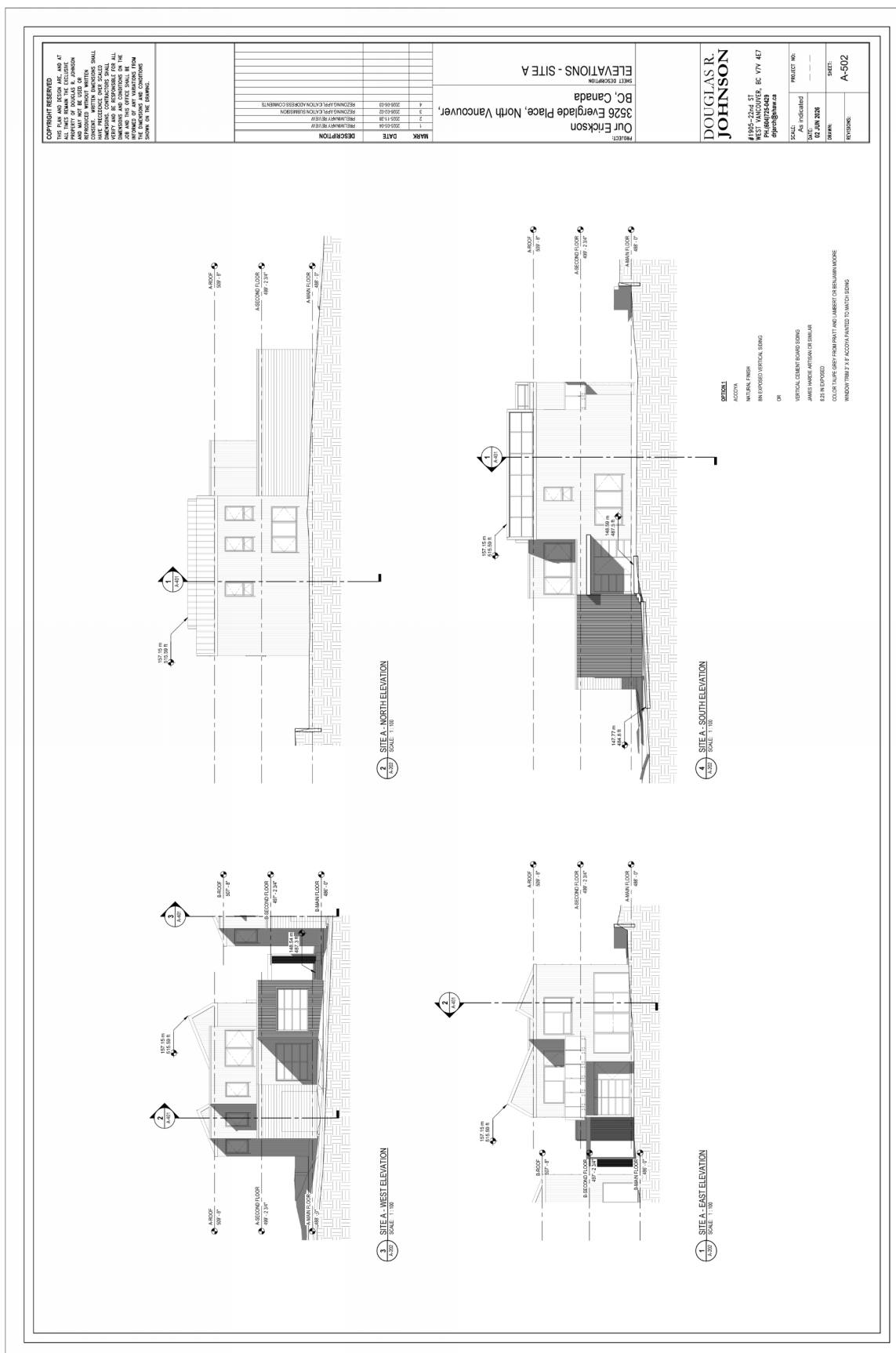


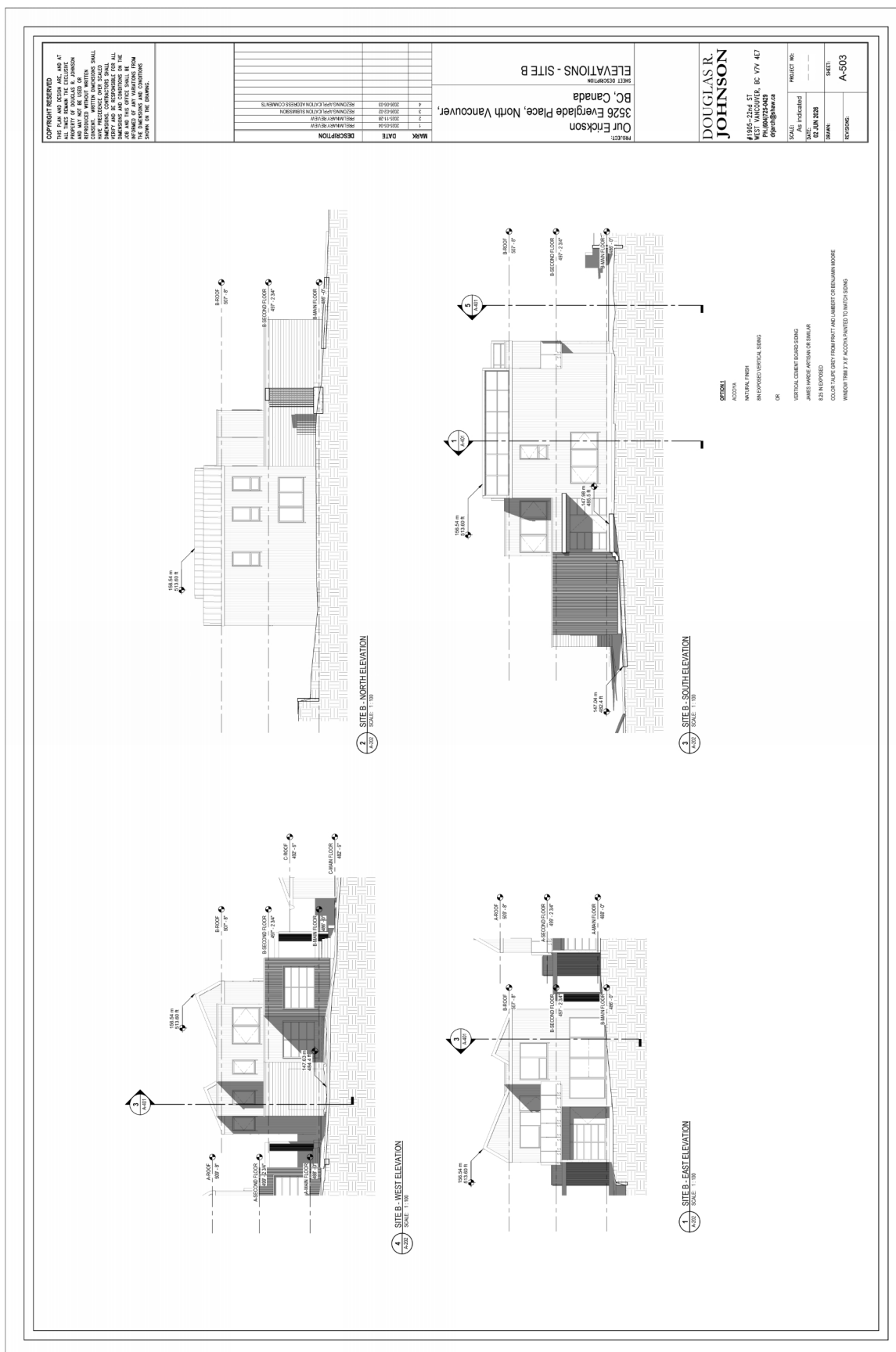


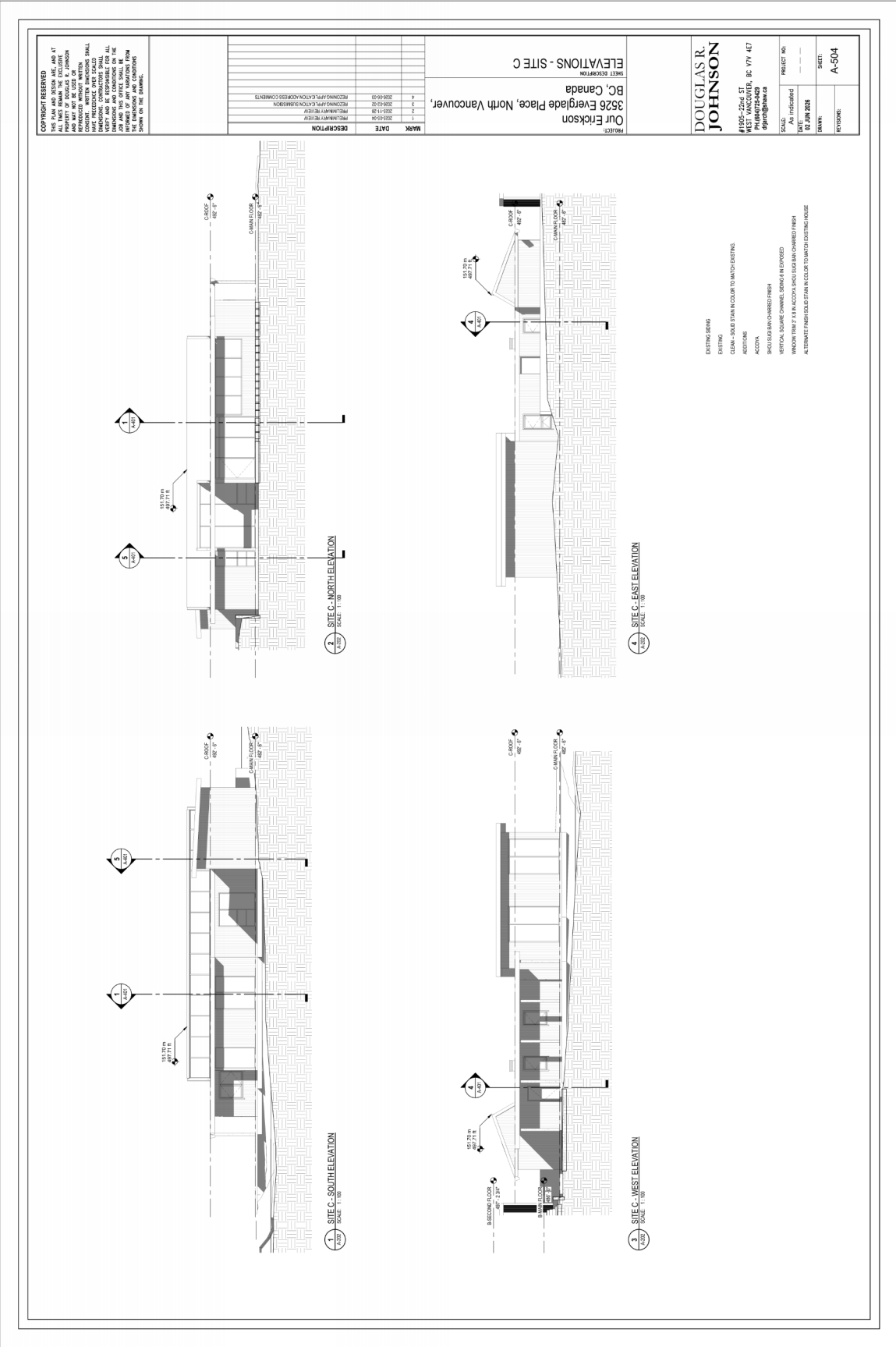


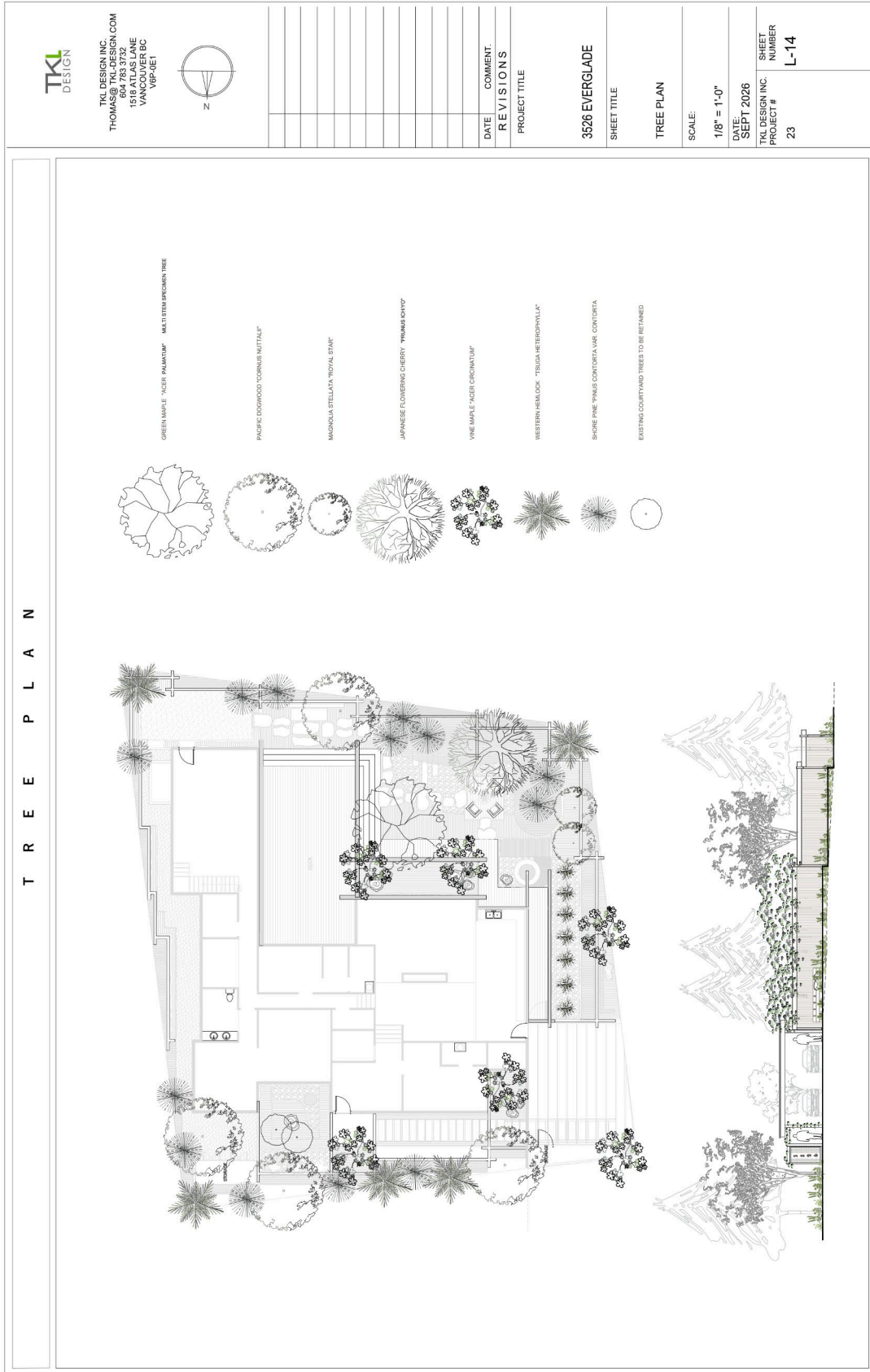












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SCHEDULE "E"
RELOCATION PLAN



May 27th, 2026

To whom it may concern;

Re: Historic house relocation at 3526 Everglade Pl, North Vancouver, BC

Nickel Bros has been engaged by Douglas Johnson to support the proposed relocation of the heritage structure located at 3526 Everglade Pl, North Vancouver, BC.

Based on the information reviewed to date, Nickel Bros confirms that the proposed relocation of the heritage structure is feasible, subject to final site conditions, required permits, access preparation, and final execution planning. The proposed scope includes moving the structure approximately 50 ft on the same property to accommodate the planned heritage retention and new foundation works.

Nickel Bros has extensive experience safely relocating, rehabilitating, and preserving heritage and historic structures, including projects of similar and greater complexity. Nickel Bros has relocated more than 500 historical buildings, including the Heritage Firehall at UBC, the Haldi House at Fort Langley, and the little yellow schoolhouse relocated from Vancouver to the Squamish Nation. This experience allows Nickel Bros to work with relevant project stakeholders to develop a practical relocation approach suitable for the structure and site conditions.

The anticipated relocation method includes raising the structure using multiple hydraulic jacks and structural steel beams to allow installation of the required structural moving equipment. All jacking will be completed using a Unified Hydraulic System, which helps control the lift, minimize differential movement, and reduce the potential for distortion-related structural damage. Once properly supported, the structure will be moved approximately 50 ft to its proposed location on the same property. The structure is anticipated to be staged up to eleven feet (11') above excavated grade to allow construction of the new foundation system below. At a second mobilization, Nickel Bros will return to lower the structure approximately six feet (6') onto the new foundation.

Safety. Precision. Integrity.

Vancouver:
13035 Lilley Dr,
Maple Ridge, BC V2W 0G6
Toll-Free: 1.866.813.9430
Fax: 604.944.6082
E-mail: Vancouver@nickelbros.com

Vancouver Island:
1990 Balsam Road
Nanaimo, BC V9X 1T5
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Fax: 250.753.8215
E-Mail: Vanisland@nickelbros.com

Seattle:
10405 19th Ave SE
Everett, WA 98208
Toll-Free: 1.866.920.2767
Fax: 425.257.2069
E-mail: Washington@nickelbros.com

Residential: www.nickelbros.com

Industrial: www.nickelbrosindustrial.com

Page 1



Prior to the move, Nickel Bros will provide an execution plan as the move date approaches. Nickel Bros will also prepare safe work procedures and risk assessments to address public safety, personnel safety, cargo protection, equipment safety, and site-specific execution requirements.

Although Nickel Bros uses specialized equipment, experienced personnel, and controlled procedures to minimize impacts to the structure, some movement-related effects can occur during lifting, moving, staging, and lowering, particularly with heritage structures and older building materials. These effects may include minor cracking, settlement of finishes, or movement in brittle or pre-existing conditions. The exact extent of any impact cannot be predicted with certainty prior to execution; however, Nickel Bros' methodology is intended to reduce these risks as much as reasonably practical.

The current budget price for Nickel Bros' relocation scope is approximately \$95,000.00, subject to final scope, site conditions, access requirements, and final execution planning. This budget price does not include applicable taxes.

If you have any questions or concerns regarding the proposed relocation procedure, please feel free to reach out.

Sincerely,

Pezh Nasiri

Estimator & Project Coordinator.

Safety. Precision. Integrity.

Vancouver:
13035 Lilley Dr,
Maple Ridge, BC V2W 0G6
Toll-Free: 1.866.813.9430
Fax: 604.944.6082
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E-mail: Washington@nickelbros.com

Residential: www.nickelbros.com

Industrial: www.nickelbrosindustrial.com

CONSENT AND PRIORITY INSTRUMENT

In this consent and priority instrument:

- (a) **“Existing Charges”** means the Mortgage registered under number **CB2367956** and the Assignment of Rents registered under number **CB2367957**;
- (b) **“Existing Chargeholder”** means Corside Construction Ltd.;
- (c) **“New Charges”** means the Section 219 Covenants contained in the attached Terms of Instrument – Part 2; and
- (d) words capitalized in this instrument, not otherwise defined herein, have the meaning ascribed to them in the attached Terms of Instrument – Part 2.

For ten dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which the Existing Chargeholder acknowledges, the Existing Chargeholder:

- (a) consents to the Owner granting the New Charges to the District;
and
- (b) agrees with the District that the New Charges charge the Lands in priority to the Existing Charges in the same manner and to the same effect as if the Owner had granted the New Charges, and they had been registered against title to the Lands, prior to the grant or registration of the Existing Charges or the advance of any money under the Existing Charges.

To witness this consent and priority instrument, the Existing Chargeholder has caused its duly authorized signatories to sign the attached General Instrument - Part 1.

END OF DOCUMENT

The Corporation of the District of North Vancouver

Bylaw 8802

A bylaw to designate property as heritage property

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

Citation

1. This bylaw may be cited as “Heritage Designation Bylaw 8802, 2026 (3526 Everglade Place – Perry Residence)”.

Heritage Designation Protection

2. The Council designates the following as protected heritage property pursuant to Section 611 of the *Local Government Act*:
 - a. the lands in the District of North Vancouver and legally described as: PID 009-366-326, Lot E Block G District Lot 617 Plan 10582; and
 - b. the exterior portion of the building on the Lands on the plans attached to this bylaw as Schedule A (the “Perry Residence”).

Authority to Issue Heritage Alteration Permit

3. Pursuant to Section 617 of the *Local Government Act*, the Council delegates to the General Manager - Planning, Properties & Permits the authority to issue heritage alteration permits to authorize interior and exterior alterations of the Perry Residence not otherwise permitted by this bylaw, provided that the alterations, including the materials used and the design, colour and texture are in the opinion of the General Manager - Planning, Properties & Permits appropriate to the general period and style for the building.

Severability

4. If any section, subsection or clause of this bylaw is for any reason held to be invalid by the decision of a court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this Bylaw.

READ a first time

PUBLIC HEARING held

READ a second time

READ a third time

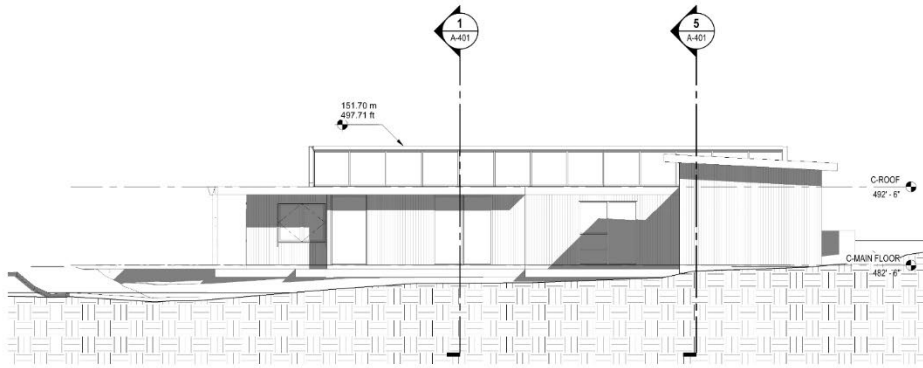
ADOPTED

Mayor

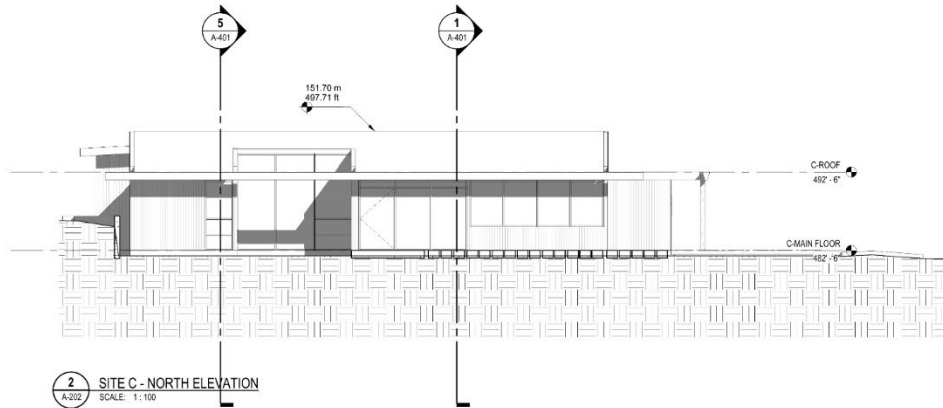
Corporate Officer

PERRY RESIDENCE

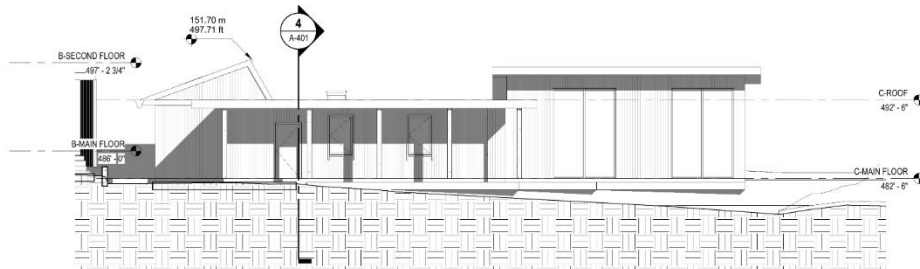




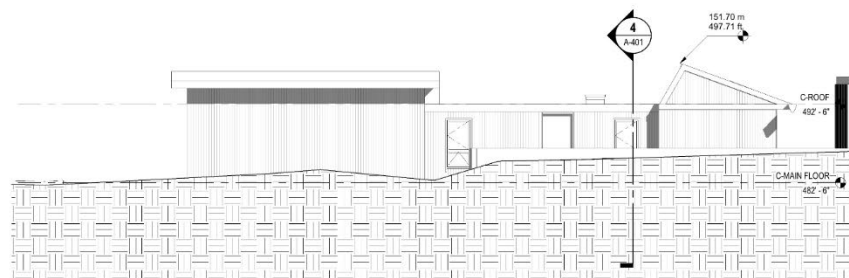
1 SITE C - SOUTH ELEVATION
A-202 SCALE: 1:100



2 SITE C - NORTH ELEVATION
A-202 SCALE: 1:100



3 SITE C - WEST ELEVATION
A-202 SCALE: 1:100



4 SITE C - EAST ELEVATION
A-202 SCALE: 1:100

Statement of Significance
3526 Everglade Place
District of North Vancouver, BC



July 2025

Description:

Designed in the West Coast Modern style in 1963, the Perry Residence is located on a wooded property on the upper slopes of the District of North Vancouver, British Columbia. It is a one-storey, wood frame house clad in narrow vertical cedar siding, with a combination of angled and flat roof forms clad in river rock and with deep overhangs. It has large expanses of glazing and clerestory windows and is surrounded by a wide wooden deck.

Heritage Values:

The heritage significance of the Perry Residence lies primarily in its aesthetic, cultural and historic values. It is a rare example of a West Coast Modern house, designed by Arthur Erickson just before he became famous, that has essentially retained its original design and materials on both the exterior and interior.

The house has aesthetic value primarily for its West Coast Modern design as evidenced by its overall form and details. It is a modest, one-storey structure with Japanese Shinto design influences. "An ode to Japanese minimalism transplanted into the rugged Canadian forest, the house exemplifies the concept of *Wabi Sabi* that marries the rough and the refined."¹ Other aspects of Shinto residential design that can be seen in the Perry Residence and which contribute to the ethos of West Coast Modernism include its connection to nature through the use of large windows, clerestory windows, skylights and sliding glass doors that provide natural light and ventilation. Additionally, the house sits in harmony with nature through the extensive use of local materials and through its physical and visual connection to the outside.

The house is clad in narrow vertical wood siding stained dark brown. The deep roof overhangs are both practical (providing shelter to the house and decks from sun and rain) and they help to reinforce the strong horizontal massing. Of particular note on the exterior are the inverted triangular fascia boards, the clerestory glazing and skylights, and the way the angled roof on the north side and the flat roof on the south side work together. Apparently, they were angled to match the declination of the earth so that on December 21st, there is no shadow inside the house.² The cladding on the angled roof is unusual – medium-sized smooth river rock – an aesthetically pleasing method for keeping the roof cool and protecting it from large snowfalls and strong winds.

The interior of the house also has strong aesthetic value and continues the references to West Coast Modern and Shinto design principles through its uncluttered spaces and extensive use of natural materials. The rooms are small but feel spacious due to the amount of glazing and the high ceilings.

¹ Hadani Ditmars. "Explore the Perry Estate, a lesser-known Arthur Erickson project in Canada." [Wallpaper*](#), 18 February 2025.

² Ibid.

Particularly effective is the transition from room to room, such as walking through a low-ceilinged hallway into the high-ceilinged living room. The floor in the living room is noteworthy for its Japanese mother-of-pearl tiles, some shiny and some matte to give a shimmering effect, and for the pine slat ceiling. The kitchen, while small, has wood counters and cupboards with doors that open upwards in a gull-wing style. There is a clever pass-through with a wine storage area underneath. A great deal of thought has clearly gone into the design of the interior spaces, down to the nail pattern on the fascias (pairs of nails starting close together and widening out as they go along). The main bedroom has a small, private courtyard garden that brightens the room and provides the connection to the outside that so reflects the West Coast Modern style.

The Perry Residence has strong cultural/historic significance for its year of construction (1963) and for its connections to Frank Perry, Bill Reid and Arthur Erickson.

Frank Perry (1923-2006) was born in Vancouver, graduating from the University of British Columbia and teaching high school history in North Vancouver for 30 years. He was also a successful sculptor in bronze, brass, stone and wood, deriving inspiration from Henry Moore, Constantin Brancusi and the German Expressionists. He trained locally, in London England and in Florence Italy. His commissions included work for municipal halls, civic theatres and private homes. He received the Order of Canada and was a member of the Royal Academy of the Arts, Northwest Institute of Sculpture, B.C. Society of Artists, Sculptors' Society of Canada, and the Royal Canadian Academy. He won awards for his work, such as the Burnaby Outdoor Sculpture Show in 1958 and the Centennial Sculpture competition in Vancouver in 1967, with a piece that is now outside the Playhouse Theatre³. Married to Doris, nee Olson, (1926-1972), also a schoolteacher, they lived together in the house from 1963 (when it replaced a small house and studio) until her death in 1972. Frank continued to live in the house until selling it in 2002.

The Perry Residence is also associated with local artist Bill Reid (1920-1998), who was a good friend of Mr. Perry, likely working in the large, bright studio from time to time. A plaque on one of the bedroom doors states that Mr. Reid lived in the house from 1974-1975. Born in Victoria, Mr. Reid was an "internationally recognized Haida artist, frequently credited with the revival and innovative resurgence of Northwest Coast Indigenous arts in the contemporary world".⁴ Of special note is that the front door to the house has a carved inlay that is purported to be by Mr. Reid, who did something similar for the Cliff House designed by Zoltan Kiss.

The house was designed by architect Arthur Erickson (1924-2009). Born in Vancouver, he received his formal education at McGill and the University of British Columbia, followed by architectural training in 1950. He spent time in Asia while serving in the Armed Forces. In 1953, he opened an architectural practice in Vancouver with Geoffrey Massey. He designed the Perry Residence in 1963, the same year that he and Mr. Massey won the design competition for Simon Fraser University. Known nationally and internationally for both residential and major commissions, Mr. Erickson's design of the Perry Residence is an example of his residential work just as he became famous. It is an excellent and early example of the type of designs for which he became known: "The hallmark of much of Erickson's work through the 1960s and 1970s was the interpretation of exterior and interior spaces within a post-and-beam framework that is tightly controlled but not fixed to a rigid grid."⁵ A well-respected local architect also

³ *Dictionary of Canadian Artists* – artist file on Frank Perry, National Gallery of Canada Archives

⁴ The Canadian Encyclopedia website.

⁵ Harold Kalmon, *A History of Canadian Architecture, Volume 2*. Oxford University Press, Ontario. 1994, p. 795.

known for his West Coast Modern buildings, Barry Downs (1930-2022) wrote of his contemporaries' work, including Mr. Erickson's: "Open floor plans, simple post and beam structures, flat planar roofs, use of skylights and large glass areas, characterized their work."⁶ – a description that could be about the Perry Residence.

Character-defining Elements

Key elements that define the heritage character of the building include its:

- Location in the Norwood Queens/Delbrook neighbourhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.
- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- West Coast Modern style, as seen on the exterior through the:
 - All wood cladding including very narrow vertical strips
 - Inverted triangular fascias
 - Large wood framed windows, including sliding glass double doors
 - Skylights
 - Clerestory windows
 - Roof cladding comprised of medium-sized smooth river rock
 - Large wood decks surrounding the house
 - Small private courtyard garden off the main bedroom
- West Coast Modern style, as seen on the interior through the:
 - Extensive use of wood on floors, walls and ceilings
 - Transition through rooms, especially from the dining room to the living room
 - Wood slat ceiling in the living room
 - Re-sawn strips of fir as wall cladding
 - Wood kitchen cabinets with gull-wing doors
 - Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

⁶ Barry Downs, The Poetics of West Coast Modernism in West Vancouver – Three Exhibitions on Architecture. West Coast Cultural Services, 2005, p.3.

Photographs of the Subject Building (June 2025)



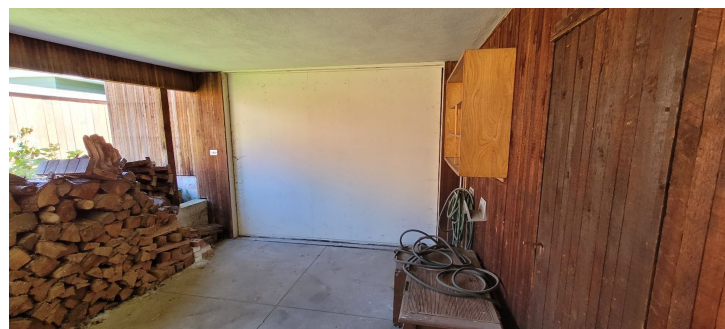
West Elevation, as seen from Everglade Place



North Elevation, showing front entry, opening in the roof notes the bedroom courtyard garden.



South Elevation, with garage/studio on right



East Elevation, focussing on garage/studio entry

Selection of Interior Photographs (June 2025)



Kitchen



Dining Room



Hallway to Living Room



View through Main
Bedroom to Courtyard
Garden



Living Room



Plaque on Door

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Conservation Plan for the Perry Residence 3526 Everglade Place, North Vancouver



Perry Residence- Selwyn Pullan Photograph, circa 1960s

Prepared For: Steven Bailey

Prepared By: Mountain Heritage, Susan Medville, M.A., CAHP, BCAHP

February 11, 2026

Revised- May 26, 2026 (See revisions highlighted in yellow, pages 7-8, 12)

Revised – June 4, 2026 (Interior recommendations added, pages 15-19)



PO Box 342, Pemberton, BC, V0N 2L0
604.698.7367 www.mountainheritage.ca

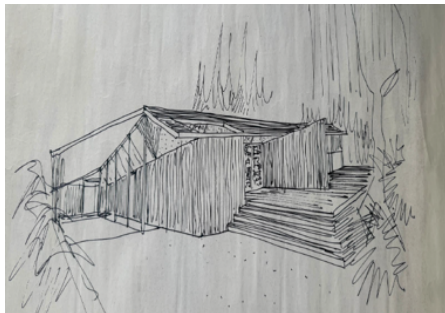
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Introduction

Name of Building	Perry Residence
Address	3526 Everglade Place
Municipality	District of North Vancouver
Legal Description	LOT E BLOCK G DISTRICT LOT 617 PLAN 10582
Parcel Identifier (PID)	009-366-326
Year Built	1963
Original Owner	Frank Perry
Builder	Unknown
Architect/ Designer	Arthur Erickson
Heritage Status	Listed in the District of North Vancouver Community Heritage Register and listed as a secondary building in The Modern Architecture of North Vancouver 1930-196 Heritage Building Inventory

In November of 2025, Steven Bailey, property owner of 3526 Everglade Place, District of North Vancouver requested that a Conservation Plan be completed by Mountain Heritage. This work is being done in conjunction with the Mr. Bailey's plans of rehabilitating the property to better serve current housing needs and to ensure the long-term conservation of the structure and based on the understanding that as a historic property it represents a unique, valuable and irreplaceable resource.

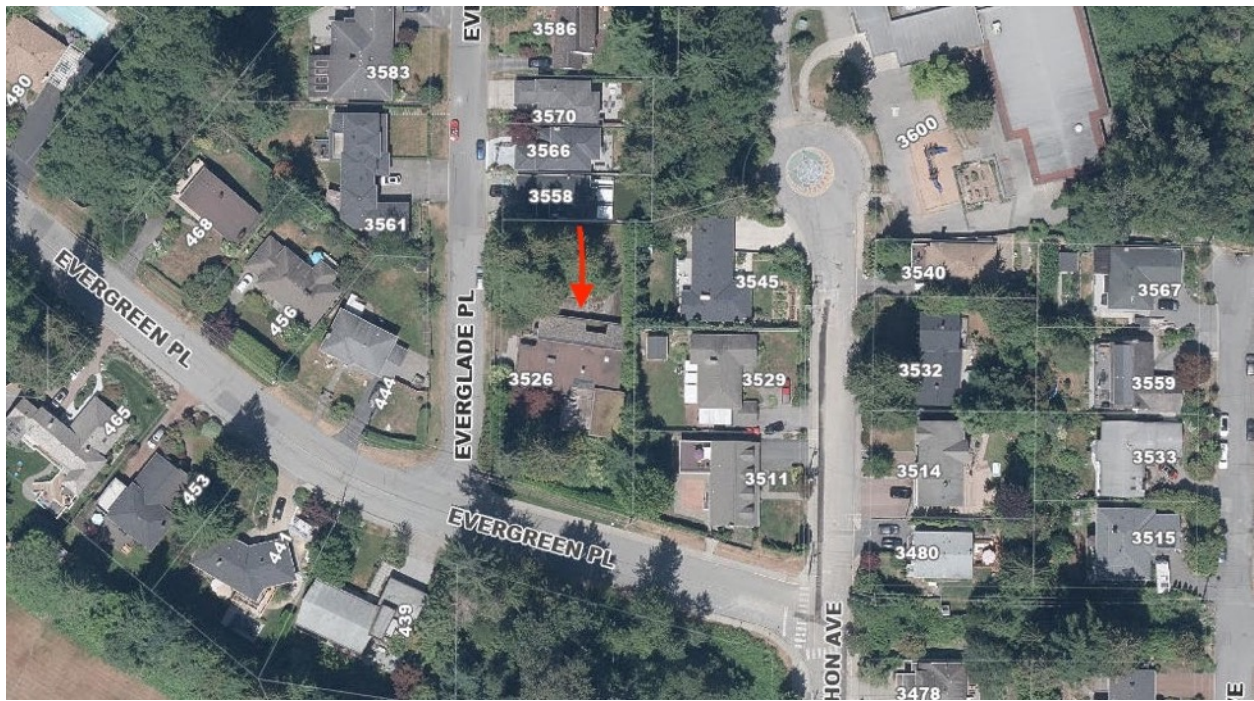
A Statement of Significance (SOS) was developed for the residence in July of 2025 by Schueck Heritage Consulting (see Appendix I). The SOS provides, baseline heritage data on the building. The Conservation Plan takes the SOS into full consideration to ensure any work that is done on the site will be conducted with the Heritage Values and Character Defining Elements in mind and their preservation well planned for. The Conservation Plan inclusive of the SOS should be used as a guide to assist any specialist or contractors involved with any work at the building to understand the importance of the building's Heritage Values and Character Defining Elements.



(Arthur Erickson sketch of building, circa 1960s)

Site Location

For the purposes of this report the front elevation of the building is identified as the north elevation. The north elevation is the location of the building's formal double doored entrance. The west elevation faces Everglade Place. The building is located in the Norwood Queens - Delbrook neighbourhood of the District of North Vancouver, BC.



(Source: Google Maps, 2025)

Methodology

The project began December 10, 2025, with a meeting with property owner Mr. Bailey, project Architect Doug Johnson, and Mountain Heritage on site. Mr. Bailey and Mr. Johnson provided background information on the property and the research materials used in the development of the Statement of Significance. Observations were made during a walk around the property, focusing on the building's exterior of which photographs and field notes were taken. Historic photographs and informed observation of materials in place show that very few changes have taken place to the structure since its construction and it has been moderately well maintained, leaving most of the historic fabric of the structure intact.

Based on the information gathered on site, consultation, inclusion of the Statement of Significance and following the Park's Canada *Standards and Guidelines for the Conservation of Historic Places in Canada* the Conservation Plan has been developed. The Conservation Plan was submitted to Mr. Bailey and Mr. Johnson, February 11, 2026. Revisions were made to the plan May 26 and June 4, 2026.

Background

The owner has expressed that their end goal is to conserve the historic house located 3526 Everglade Place in a way which allows for livability and functionality, allowing for continued residential use of the building and the creation of additional housing on north end of the property.

The owner's intent is to move the subject building approximately 35 feet to the south and five feet to the east on the lot, retaining its current orientation on the property. This move will require a removal of the existing foundation and the construction of a new foundation. The north-west portion of the lot will be subdivided to allow for two additional stand-alone residences.

This Conservation Plan addresses the interventions and maintenance recommendations that should be followed when developing a scope of work for the future care and conservation of the subject building.

The below portion of the plan provides a policy framework that will ensure any potential work done is being conducted with the building's Heritage Values and Character Defining Elements in mind and their heritage conservation planned for.

The following Conservation Plan identifies the following items:

- Listing of **proposed interventions** or work that needs to take place on and in the building.
- The **Character Defining Elements** (CDEs) that have potential to be impacted by the work.
- The **conservation strategy**- succinct statements of intent for each action.
- **Maintenance** recommendations.

Prior to undertaking any work on the building, *The Standards and Guidelines for the Conservation of Historic Places in Canada*, found in Appendix II, should be reviewed by both the individuals involved in the oversight of the project and by any professionals such as an architect or building engineer and contractors hired to do the work. These guidelines along with best practices for heritage conservation, have been taken into consideration with the below Conservation Plan in regard to the proposed interventions currently needed to ensure the longevity of the structure. Every effort should be made to familiarize those working on the project with the planned conservation approach and actions and to ensure they understand the scope project and importance of the building's character-defining elements.

Before any work is to take place, it is recommended that a Qualified Hazardous Material Specialist experienced in the restoration of heritage structures to be consulted prior to any work, which may disturb possible hazardous materials such as paint, materials that may contain asbestos or mold. No hazardous material surveys were undertaken in the course of this report. It is also recommended that a qualified Structural Engineer and Licensed Electrician experienced in successful heritage conservation projects be further consulted to ensure all work is done in compliance with current codes and building regulations. These professionals should be knowledgeable to alternative compliances and heritage variances that may be available to the Perry Residence as a listed home on the North Vancouver Heritage Register allowing for a higher retention of heritage materials and conservation.

Project Conservation Strategy

The overall long-term **conservation** strategy for the Perry Residence at 3256 Everglade Place is a combination of **restoration**, **rehabilitation** and **preservation**. These strategies follow as defined in the *Standards and Guidelines for the Conservation of Historic Places in Canada*:

Conservation: all actions or processes that are aimed at safeguarding the Character-defining elements of an historic place so as to retain its Heritage Value and extend its physical life. This may involve preservation, rehabilitation, restoration or a combination of these actions or processes.

Restoration: The action or process of accurately revealing, recovering or representing the state of a historic place or of an individual component, as it appeared at a particular period in its history, while protecting its heritage value.

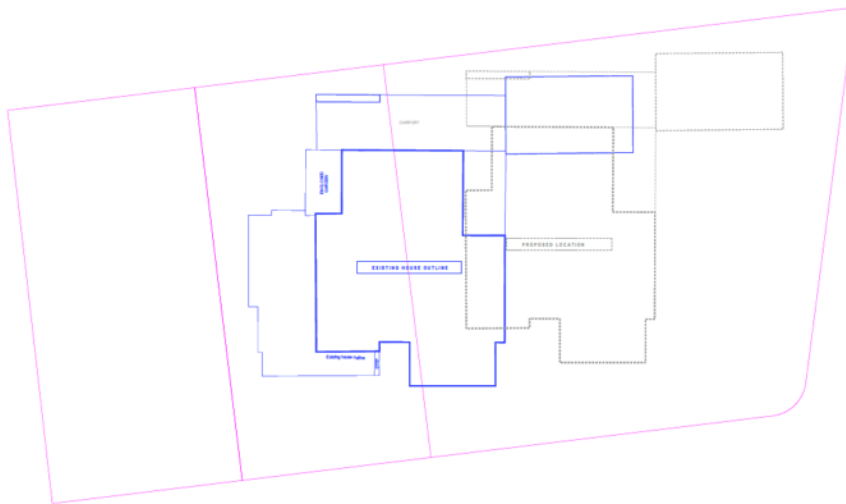
Rehabilitation: the action or process of making possible a continuing or compatible contemporary use of a historic place or an individual component, through repair, alterations, and/or additions, while protecting its heritage value.

Preservation: The action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of a historic place or of an individual component, while protecting its heritage value.

The primary intent is to preserve the existing historic structure, while undertaking a rehabilitation that will repair and upgrade the building. As part of the scope of work, character-defining elements will be preserved, while missing or deteriorated elements will be restored.

Conservation Plan

Site and Landscape



Site Plan, TKL Design, 2026.

Proposed Intervention

The Perry Residence currently sits in the center of a 0.4 acre-lot. The north portion of the lot is covered with cedar trees, the willow tree on this side of the property mentioned in Erickson's 1963 plans is no longer standing. Erickson did not include any additional notes or drawings in his plans in relation to the landscaping on the site. The southern end of the lot is dense with both native plants and holly, black berry, bamboo and a planted maple. The landscaping has not been maintained. The dense vegetation around the south side of the property has created a natural barrier between the structure and Everglade Place. The movement of the Perry Residence will allow for the northern part of the lot to be redeveloped and the conservation of the historic building. It is proposed that the building moved on lot approximately 35 feet to the south and five feet to the east on the property maintaining same orientation. The north and west side decking of the heritage building will be rehabilitated to accommodate proposed property line realignments. Gardens and landscaping will be rehabilitated as per the *Primary Landscape Design Objective for the Perry Residence*, TKL Design, 2026.

Impacted Character Defining Elements

- Location in the Norwood Queens-Delbrook neighborhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.

Conservation Strategy

Preservation and Rehabilitation

- Preserve the orientation of the building. Frontages of the building facing Everglade Place and Evergreen Place will remain the same.
- Rehabilitate landscape and gardens around the building so that building maintains its relationship with outdoor and indoor connections per recommendations *Primary*

Landscape Design Objective for the Perry Residence, TKL Design and taking into special consideration the three following bullet points below.

- Retain and incorporate into the landscape plan any mature non-invasive plants and trees currently on the south side of the lot that are outside of the relocated footprint of the structure and decking.
- Retain plantings and establish new plantings that will shield the house from view from Everglade Place, preserving the structure's connection to the natural environment.
- Ensure any new plantings or existing plantings are not directly abutting the historic fabric of the structure or overhang above its roof.
- New structures to the north of the heritage building should be designed to be 'physically and visually compatible with, subordinate to and distinguishable from the historic place' as recommended in Standard 11. (See Appendix II)

Overall Form, Scale and Massing



Proposed Intervention

Exterior footprint of house will be preserved. The house's current configuration is a main single-story structure connected by a carport to the Perry studio with extensive decking on the north and south elevations and moderate decking on the west elevation. The form and scale will change minimally with the enclosure of the carport on the east elevation and enclosure of the porch on the west elevation. Massing of the decking will be reduced on the north and west elevations.

Character Defining Elements

- Original residential form, scale and massing as expressed by its one-story height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- Large wood decks surrounding the house
- Small private courtyard garden off the main bedroom
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Rehabilitation and Preservation

- Preserve the overall scale and massing of the building.
- The rehabilitation of the west elevation porch encloses a 8'x10' portion creating a pantry and kitchen. (See sections on Walls and Fenestration for additional details.)
- The rehabilitation of the carport from covered space with open walls to an enclosed interior living space with windows. (See sections on Walls and Fenestration for additional details.)
- Because the overall form, scale and massing of the house are important character-defining elements, it is recommended that no other changes be made in the form of additions or alterations.
- The rehabilitation of the bedroom courtyard by the repositioning of bedroom courtyard wood-screen 90 degrees to west.
- The decking will be altered on the north and west elevation of the building. It will be reduced in size on both elevations. Any replacement decking should be constructed of like material.

Roof



Proposed Interventions

The roof lines and gutter system will be preserved on the structure; the roof will be re-membraned to address leaks. The loose river stones which clad the roof presently will be replaced with a like product of river stone replicas in same size, shape and color as the existing but of a lighter material. Sky lights and clerestory windows will be replaced with windows of the same dimensions and a like material. The brick chimney will be removed.

Character Defining Elements

- The physical and visual connection of the house and studio to the natural setting

- Original residential form, scale and massing as expressed by its one-story height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines
- Skylights
- Clerestory windows
- Roof cladding comprised of medium-sized smooth river rock

Conservation Strategy

Preservation and Rehabilitation

- Preserve the roof structure in its current configuration, as expressed by its angled roof and flat planed roof and deep overhangs.
- Roofing membrane and cladding system will be rehabilitated. River stones of the same dimension are the preferred material for cladding and should match original. If replicas are used for weight considerations, they should match the originals as closely as possible.
- Replace roofing materials when it comes time to reroof.
- Preservation of gutter system, any rehabilitation with like for like materials and dimensions. Any replacement of parts of the gutter system will match existing materials and colors.
- Ensure adequate rainwater disposal system is installed and ensure proper drainage from the site is maintained.
- Replacement of skylights and clerestory windows, flashing and trim with like for like materials, exact in dimension to originals.

Maintenance

- Annually remove any debris or moss from roof with sweeping and gentle hosing. Do not use high pressure hose or harsh cleaning agents.
- Annually inspect flashing, repair as needed.
- Yearly interior and exterior inspection to note any changes such as damaged roofing materials, leaks or pin holes and changes to be immediately addressed.
- Expected roof material replacement on a twenty-year cycle.
- Observe how gutters are functioning on a very wet day. See where failures are occurring repair or replace as needed. Make sure there are no blockages at outlets of gutters.
- Expected gutter material replacement on a twenty-year cycle.

Foundation



Proposed Intervention

The residence will be moved approximately 35 feet to the south and five feet to the east on maintaining same orientation on property lot, on a new foundation.

Character Defining Element

- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- Transition through rooms, especially from the dining room to the living room.

Conservation Strategy

Rehabilitation

- New material should match original in appearance, as viewed from the exterior.
- Foundations should be reviewed by a Structural Engineer.
- To ensure the prolonged preservation of the new foundations, all landscaping should be separated from the foundations at grade to assist drainage and hardscaping to prevent splash back.

Maintenance

- Annual inspection of exterior and interior foundations, where visible, for signs of undue settlement, deformation, or cracking.
- If any of the above found, obtain immediate advice from a professional structural engineer.
- Repointing work of damaged areas should be done with mortar like existing formula.
- Annually check that perimeter drainage piping is functional.
- Arrange a drainage inspection every three to five years.

Exterior Walls



Proposed Intervention

Wall will be rehabilitated on the west elevation for the kitchen addition and with the conversion of the carport to living space. The wall on the west elevation will see the addition of cladding with the 8'x10' enclosure of porch. The opening for the carport on the north elevation will be enclosed as will the east elevation carport elevation. Cladding in other areas will be preserved and restored where it has suffered damage from moisture or other factors.

Character Defining Element

- All wood cladding including very narrow vertical strips
- Inverted triangular fascias

Conservation Recommendation

Rehabilitation, Preservation and Restoration

- Preserve original siding on all elevations, if possible, and clean surfaces for refinishing.
- High-pressure power washing, abrasive cleaning or sandblasting should not be allowed under any circumstances.
- If needed **historic** wood should be refinished to match original cladding.
- Determine the original **historic color and** finish of cladding, restore original color scheme.
- **Color samples should be tested in natural light prior to final application of stain to ensure it matches and will weather to be compatible to existing stain.**
- New cladding used for rehabilitations of carport and west porch should be physically and visually compatible with, subordinate to and distinguishable from the historic walls.
- **New cladding will be of the same dimensions and material (compatible) as the historic fabric however the new material will be distinguishable through the finish use of Shui Sogi Ban instead of staining.**

Maintenance

- In yearly building inspection make note of cladding condition.
- Ensure that no plants (trees, ground plantings, vines, or moss) are touching the building.
- Schedule bi-annual cleaning of exterior, with removal of any insect or animal nests. Washing gently with low pressure garden hose when needed. Do not use high pressure hose, power washer or harsh cleaning agents.

- Yearly check for water ingress, ensuring there is not staining, rot or mould.

Fenestration

The windows and doors of the historic structure are fundamental to the building's appearance and tie directly to its heritage value. The placement of windows and doors in the historic place are what allow for the visual connection of the house and studio to the natural setting, one of its principal Character Defining Elements.

Windows



Proposed Intervention

With the rehabilitation of the west side of the building for additional kitchen space and the rehabilitation of the carport to living space, there will be the limited addition of new windows and doors and the removal of some historic windows and doors. The clerestory lights are failing and will be rehabilitated.

Character Defining Elements

- The physical and visual connection of the house and studio to the natural setting.
- Large wood framed windows, including sliding glass double doors
- Skylights
- Clerestory windows
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Preservation and Rehabilitation

- Complete an inspection and detailed inventory list of all windows to determine extent of recommended repair or replacement.
- Preserve and repair as possible, using in kind repairs where feasible.
- If single glazed windows are to be rehabilitated to accommodate double-glazing. Double glazed units should be visually consistent with original windows.
- If windows or clerestory lights are replaced, they are to be replaced in kind.

- New windows used for rehabilitations of carport and west porch should be physically and visually compatible with, subordinate to and distinguishable from the historic windows.

Maintenance

- Annual inspection to ensure the windows are functioning correctly and conducting repair as needed following conservation standards.
- Do not use high pressure hose or harsh cleaning agents on windows.

Doors



Proposed Intervention

With the rehabilitation of the west side of the building for additional kitchen space there will removal of the wood door facing Everglade Place.

Character Defining Element

- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

Conservation Strategy

Preservation and Restoration

- Complete an inspection and detailed inventory list of all doors to determine extent of recommended repair or replacement.
- Retain the door openings in their original locations and preserve and repair all original doors.
- Retain original doors hardware.
- If original doors or sliding glass doors are replaced, they are to be replaced in kind.
- Any newly installed doors should be visually compatible with existing doors.
- Bill Reid carving will be removed from door and installed in the interior of the building to ensure safe keeping.

Maintenance

- In yearly building inspection make note of door operation and condition of hardware (no rust or breakage).
- At inspection lubricate hardware.
- Replace any broken glass as it happens in doors.
- Check weather stripping for wear and replace as needed.
- Do not use high pressure hose or harsh cleaning agents on doors.

Interior

The Perry Residence features several character-defining interior architectural features that appear to date to the building's original construction. These interior elements should be preserved where possible. Rehabilitation measures may be introduced as required to accommodate functional modern needs or building code upgrades. Any interventions should be made in a manner that is sympathetic to the historic character of the building. If any historic material is to be removed from the building it is recommended that it is done in such a manner that it will allow for the salvage and/or recycling of all architectural elements, siding, lumber, wood flooring, historic doors, windows, brass hardware and other materials.

Ceiling



(Ceiling of existing master bedroom and ceiling in transition from existing dining room to gallery hall and living area)

Proposed Intervention

- Retention and preservation of the existing wood ceilings throughout.

Character Defining Elements

- Extensive use of wood on floors, walls and ceilings
- Wood slat ceiling in the living room

Conservation Strategy

Preservation and Restoration

- Most of the wood ceilings in the structure are in good condition with the exception of a few places where water damage has occurred.
- Complete investigation of condition of ceiling, and repair as required to match existing.
- Roof and skylight details and joints should be inspected, and any leaks should be repaired to prevent further damage to ceilings.

Maintenance

- Maintain wood ceilings with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot clean ceilings to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying. Test detergent solution in an obscured area of the ceiling prior to use to ensure it does not damage it.

Interior Walls



(Left to right- existing entryway, wall between existing entry way and dining area, studio)

Proposed Interventions

- Preservation and rehabilitation of the re-sawn strip of fir wall material in entryway and dining area as entryway will be expanded to include part of the existing dining area.
- Removal of the variety of panel wood walls and replacement with drywall finish throughout remainder of building.
- Rehabilitation of studio and garage areas into integrated living space with the rest of the building.

Character Defining Elements

- Extensive use of wood on floors, walls and ceilings
- Transition through rooms, especially from the dining room to the living room
- Re-sawn strips of fir as wall cladding
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.

Conservation Strategy

Rehabilitation and Preservation

- The re-sawn strips of fir used as a dividing wall currently between the entryway and the dining area will be preserved. The existing wall will be moved a few feet to the west to accommodate the new floor plan.
- The revised entry way floor plan will allow for transition from the entry way to the living area.
- The garage is being rehabilitated to accommodate additional living space, the expanse of windows will be rehabilitated, and the exterior garage doors will be replaced with exterior siding as noted in the recommendations for the section Exterior Walls and the interior garage door by interior drywall.

Maintenance

- Maintain interior walls with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot clean walls to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying.

Test detergent solution in an obscured area of the wall prior to use to ensure it does not damage the wall.

Floors



(Wood flooring in existing dining area and tile in existing living room abutting wood floor of den area)

Proposed Intervention

- Removal and replacement of all existing flooring.

Character Defining Element

- Extensive use of wood on floors, walls and ceilings

Conservation Strategy

Non-Applicable

- Wood floors throughout will be replaced with wood flooring at owner's preference for a unified flooring material throughout the structure.
- It is recommended that any deconstruction of the building take place in such a manner that it will provide for the salvage and/or recycling of all architectural elements, siding, lumber, wood flooring, historic doors, windows, brass hardware and other materials.

Maintenance

- Non-Applicable

Furnishings



(Cabinetry in kitchen, den and front door carving)

Proposed Intervention

- Relocation and rehabilitation of built in cabinetry in kitchen, it will be repurposed for use in the new laundry room in the portion of the house which is currently the garage.
- Preservation of built in cabinetry in den.
- Preservation of purported Bill Reid door carving panel. Door carving panel will be relocated into the interior of the structure and on display.

Character Defining Elements

- Wood kitchen cabinets with gull-wing doors
- Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Carving on front door purportedly by Bill Reid.

Conservation Strategy

Preservation and Rehabilitation

- Rehabilitate the existing kitchen cabinetry to be re-used in the future laundry room.
- Preserve the den cabinetry.
- Preserve and relocate the door carving to the interior of the building.

Maintenance

- Maintain cabinetry with routine dry cleaning such as dusting and light vacuuming with a soft tool. The horizontal elements and ledges will collect dust and dirt quicker than vertical surfaces and should be cleaned more frequently.
- Spot cabinetry to remove any dirt marks with a clean damp sponge and dried with a clean cloth. If water is insufficient use a non-ionic detergent followed by damp rinsing and drying. Test detergent solution in an obscured area of cabinetry prior to use to ensure it does not damage the cabinetry.

Appendixes

Appendix I: Statement of Significance

Prepared by: Schueck Heritage Consulting
July 2025

Description:

Designed in the West Coast Modern style in 1963, the Perry Residence is located on a wooded property on the upper slopes of the District of North Vancouver, British Columbia. It is a one-storey, wood frame house clad in narrow vertical cedar siding, with a combination of angled and flat roof forms clad in river rock and with deep overhangs. It has large expanses of glazing and clerestory windows and is surrounded by a wide wooden deck.

Heritage Values:

The heritage significance of the Perry Residence lies primarily in its aesthetic, cultural and historic values. It is a rare example of a West Coast Modern house, designed by Arthur Erickson just before he became famous, that has essentially retained its original design and materials on both the exterior and interior.

The house has aesthetic value primarily for its West Coast Modern design as evidenced by its overall form and details. It is a modest, one-storey structure with Japanese Shinto design influences. “An ode to Japanese minimalism transplanted into the rugged Canadian forest, the house exemplifies the concept of *Wabi Sabi* that marries the rough and the refined.”¹ Other aspects of Shinto residential design that can be seen in the Perry Residence and which contribute to the ethos of West Coast Modernism include its connection to nature through the use of large windows, clerestory windows, skylights and sliding glass doors that provide natural light and ventilation. Additionally, the house sits in harmony with nature through the extensive use of local materials and through its physical and visual connection to the outside.

The house is clad in narrow vertical wood siding stained dark brown. The deep roof overhangs are both practical (providing shelter to the house and decks from sun and rain) and they help to reinforce the strong horizontal massing. Of particular note on the exterior are the inverted triangular fascia boards, the clerestory glazing and skylights, and the way the angled roof on the north side and the flat roof on the south side work together. Apparently, they were angled to match the declination of the earth so that on December 21st, there is no shadow inside the house.² The cladding on the angled roof is unusual – medium-sized smooth river rock – an aesthetically pleasing method for keeping the roof cool and protecting it from large snowfalls and strong winds.

The interior of the house also has strong aesthetic value and continues the references to West Coast Modern and Shinto design principles through its uncluttered spaces and extensive use of natural materials. The rooms are small but feel spacious due to the amount of glazing and the high ceilings. Particularly effective is the transition from room to room, such as walking through a low-ceilinged hallway into the high-ceilinged living room. The floor in the living room is noteworthy for its Japanese

¹ Hadani Ditmars. “Explore the Perry Estate, a lesser-known Arthur Erickson project in Canada.” Wallpaper*, 18 February 2025.

² Ibid.

mother-of-pearl tiles, some shiny and some matte to give a shimmering effect, and for the pine slat ceiling. The kitchen, while small, has wood counters and cupboards with doors that open upwards in a gull-wing style. There is a clever pass-through with a wine storage area underneath. A great deal of thought has clearly gone into the design of the interior spaces, down to the nail pattern on the fascias (pairs of nails starting close together and widening out as they go along). The main bedroom has a small, private courtyard garden that brightens the room and provides the connection to the outside that so reflects the West Coast Modern style.

The Perry Residence has strong cultural/historic significance for its year of construction (1963) and for its connections to Frank Perry, Bill Reid and Arthur Erickson. Frank Perry (1923-2006) was born in Vancouver, graduating from the University of British Columbia and teaching high school history in North Vancouver for 30 years. He was also a successful sculptor in bronze, brass, stone and wood, deriving inspiration from Henry Moore, Constantin Brancusi and the German Expressionists. He trained locally, in London England and in Florence Italy. His commissions included work for municipal halls, civic theatres and private homes. He received the Order of Canada and was a member of the Royal Academy of the Arts, Northwest Institute of Sculpture, B.C. Society of Artists, Sculptors' Society of Canada, and the Royal Canadian Academy. He won awards for his work, such as the Burnaby Outdoor Sculpture Show in 1958 and the Centennial Sculpture competition in Vancouver in 1967, with a piece that is now outside the Playhouse Theatre.³ Married to Doris, nee Olson, (1926-1972), also a schoolteacher, they lived together in the house from 1963 (when it replaced a small house and studio) until her death in 1972. Frank continued to live in the house until selling it in 2002.

The Perry Residence is also associated with local artist Bill Reid (1920-1998), who was a good friend of Mr. Perry, likely working in the large, bright studio from time to time. A plaque on one of the bedroom doors states that Mr. Reid lived in the house from 1974-1975. Born in Victoria, Mr. Reid was an “internationally recognized Haida artist, frequently credited with the revival and innovative resurgence of Northwest Coast Indigenous arts in the contemporary world.”⁴ Of special note is that the front door to the house has a carved inlay that is purported to be by Mr. Reid, who did something similar for the Cliff House designed by Zoltan Kiss.

The house was designed by architect Arthur Erickson (1924-2009). Born in Vancouver, he received his formal education at McGill and the University of British Columbia, followed by architectural training in 1950. He spent time in Asia while serving in the Armed Forces. In 1953, he opened an architectural practice in Vancouver with Geoffrey Massey. He designed the Perry Residence in 1963, the same year that he and Mr. Massey won the design competition for Simon Fraser University. Known nationally and internationally for both residential and major commissions, Mr. Erickson's design of the Perry Residence is an example of his residential work just as he became famous. It is an excellent and early example of the type of designs for which he became known: “The hallmark of much of Erickson's work through the 1960s and 1970s was the interpretation of exterior and interior spaces within a post-and-beam framework that is tightly controlled but not fixed to a rigid grid.”⁵ A well-respected local architect also known for his West Coast Modern buildings, Barry Downs (1930-2022) wrote of his contemporaries' work including Mr. Erickson's: “Open floor plans, simple post

³ Dictionary of Canadian Artists – artist file on Frank Perry, National Gallery of Canada Archives

⁴ The Canadian Encyclopedia website.

⁵ Harold Kalmon, *A History of Canadian Architecture*, Volume 2. Oxford University Press, Ontario. 1994, p. 795.

and beam structures, flat planar roofs, use of skylights and large glass areas, characterized their work.”⁶ – a description that could be about the Perry Residence.

Character Defining Elements

Key elements that define the heritage character of the building include its:

- Location in the Norwood Queens/Delbrook neighbourhood of the District of North Vancouver.
- The physical and visual connection of the house and studio to the natural setting.
- Original residential form, scale and massing as expressed by its one-storey height, with an angled roof and flat planed roof and deep overhangs, that together create strong horizontal lines.
- West Coast Modern style, as seen on the exterior through the:
 - All wood cladding including very narrow vertical strips
 - Inverted triangular fascias
 - Large wood framed windows, including sliding glass double doors
 - Skylights
 - Clerestory windows
 - Roof cladding comprised of medium-sized smooth river rock
 - Large wood decks surrounding the house
 - Small private courtyard garden off the main bedroom
- West Coast Modern style, as seen on the interior through the:
 - Extensive use of wood on floors, walls and ceilings
 - Transition through rooms, especially from the dining room to the living room
 - Wood slat ceiling in the living room
 - Re-sawn strips of fir as wall cladding
 - Wood kitchen cabinets with gull-wing doors
 - Hidden pass-through between the kitchen and the dining room, with wine storage underneath
- Large studio/garage with garage doors at either end and a large expanse of windows that let in the natural light.
- Carving on front door purportedly by Bill Reid.

⁶ Barry Downs, *The Poetics of West Coast Modernism in West Vancouver – Three Exhibitions on Architecture*. West Coast Cultural Services, 2005, p.3.

Appendix II: The Standards for the Conservation of Historic Places in Canada

The Standards are not presented in a sequential or hierarchical order, and as such, equal consideration should be given to each. All standards for any given type of treatment must therefore be applied simultaneously to a project.

General Standards (all projects)

1. Conserve the heritage value of a historic place. Do not remove, replace, or substantially alter its intact or repairable character-defining elements. Do not move a part of a historic place if its current location is a character-defining element.
2. Conserve changes to a historic place which, over time, have become character-defining elements in their own right.
3. Conserve heritage value by adopting an approach calling for minimal intervention.
4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties or by combining features of the same property that never coexisted.
5. Find a use for a historic place that requires minimal or no change to its character-defining elements.
6. Protect and, if necessary, stabilize a historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbance of archaeological resources, take mitigation measures to limit damage and loss of information.
7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.
8. Maintain character-defining elements on an ongoing basis. Repair character-defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.
9. Make any Intervention needed to preserve character-defining elements physically and visually compatible with the historic place, and identifiable upon close inspection. Document any intervention for future reference.

Additional Standards Relating to Rehabilitation

10. Repair rather than replace character-defining elements. Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the historic place.

11. Conserve the heritage value and character-defining elements when creating any new additions to a historic place or any related new construction. Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.

12. Create any new additions or related new construction so that the essential form and integrity of a historic place will not be impaired if the new work is removed in the future.

Additional Standards Relating to Restoration

13. Repair rather than replace character-defining elements from the restoration period. Where character-defining elements are too severely deteriorated to repair and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.

14. Replace missing features from the restoration period with new features whose forms, materials and detailing are based on sufficient physical, documentary and/or oral evidence.

Source: Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, Ottawa, 2010. (<http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf>)

Appendix III: Site Photographs, December 10, 2025



West elevation



North elevation

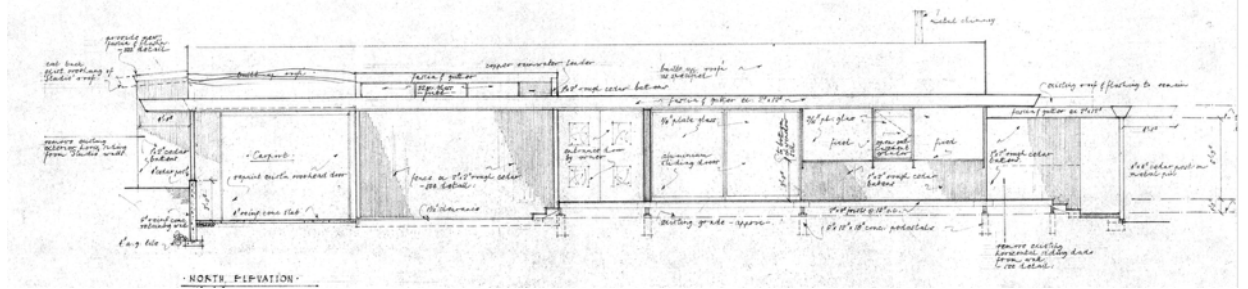


South elevation

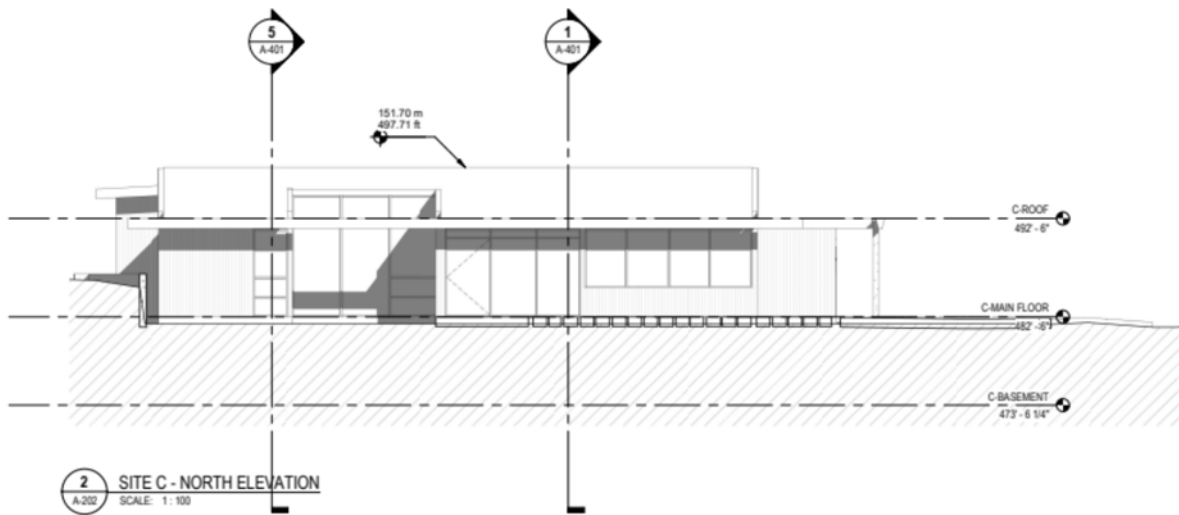


East elevation

Appendix IV: Elevation Comparisons



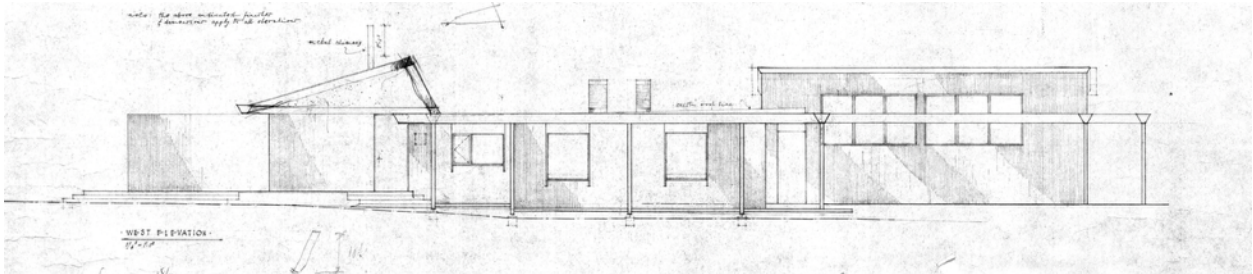
North Elevation, Arthur Erickson, 1963



North Elevation Proposed, Bruce Johnson, 2026



North Elevation, as is July 2025, Schueck Heritage Consulting Photo



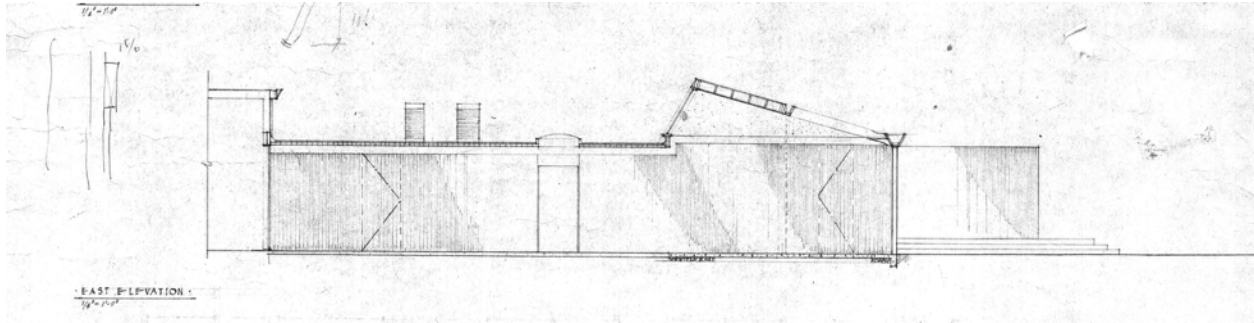
West Elevation, Arthur Erickson, 1963



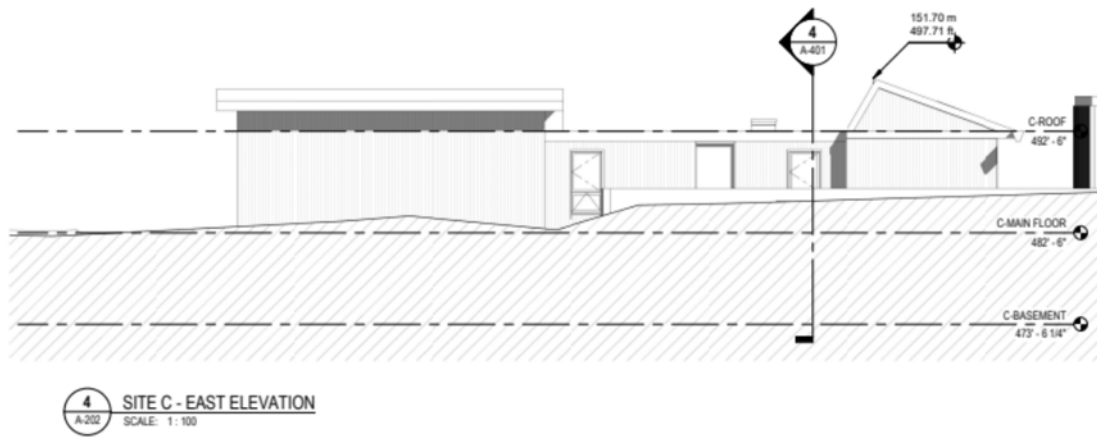
West Elevation Proposed, Bruce Johnson, 2026



West Elevation, as is July 2025, Schueck Heritage Consulting Photo



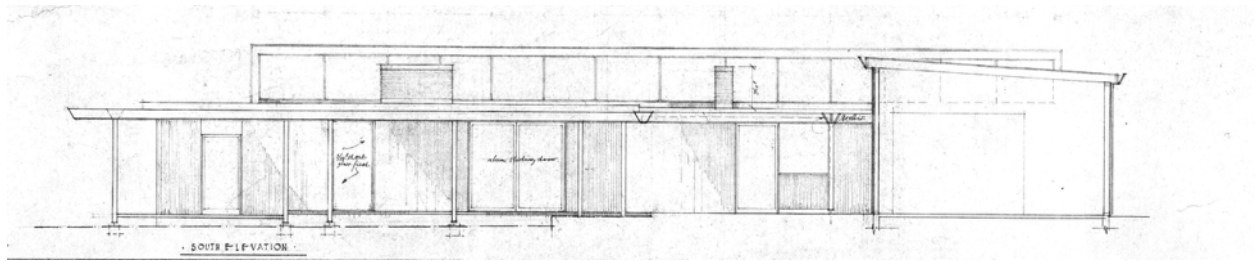
East Elevation, Arthur Erickson, 1963



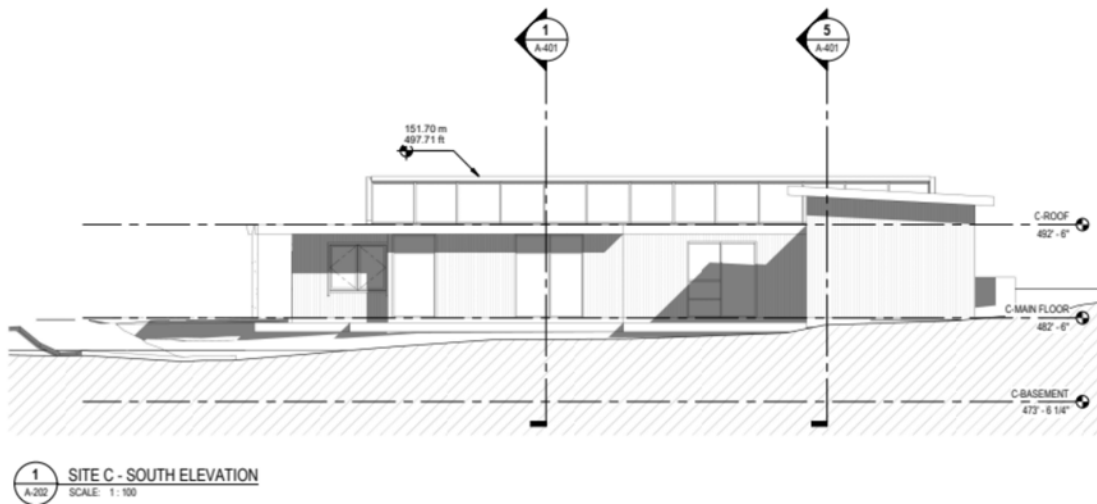
East Elevation Proposed, Bruce Johnson, 2026



East Elevation, as is December 2025, Mountain Heritage Photo



South Elevation, Arthur Erickson, 1963



South Elevation Proposed, Bruce Johnson, 2026

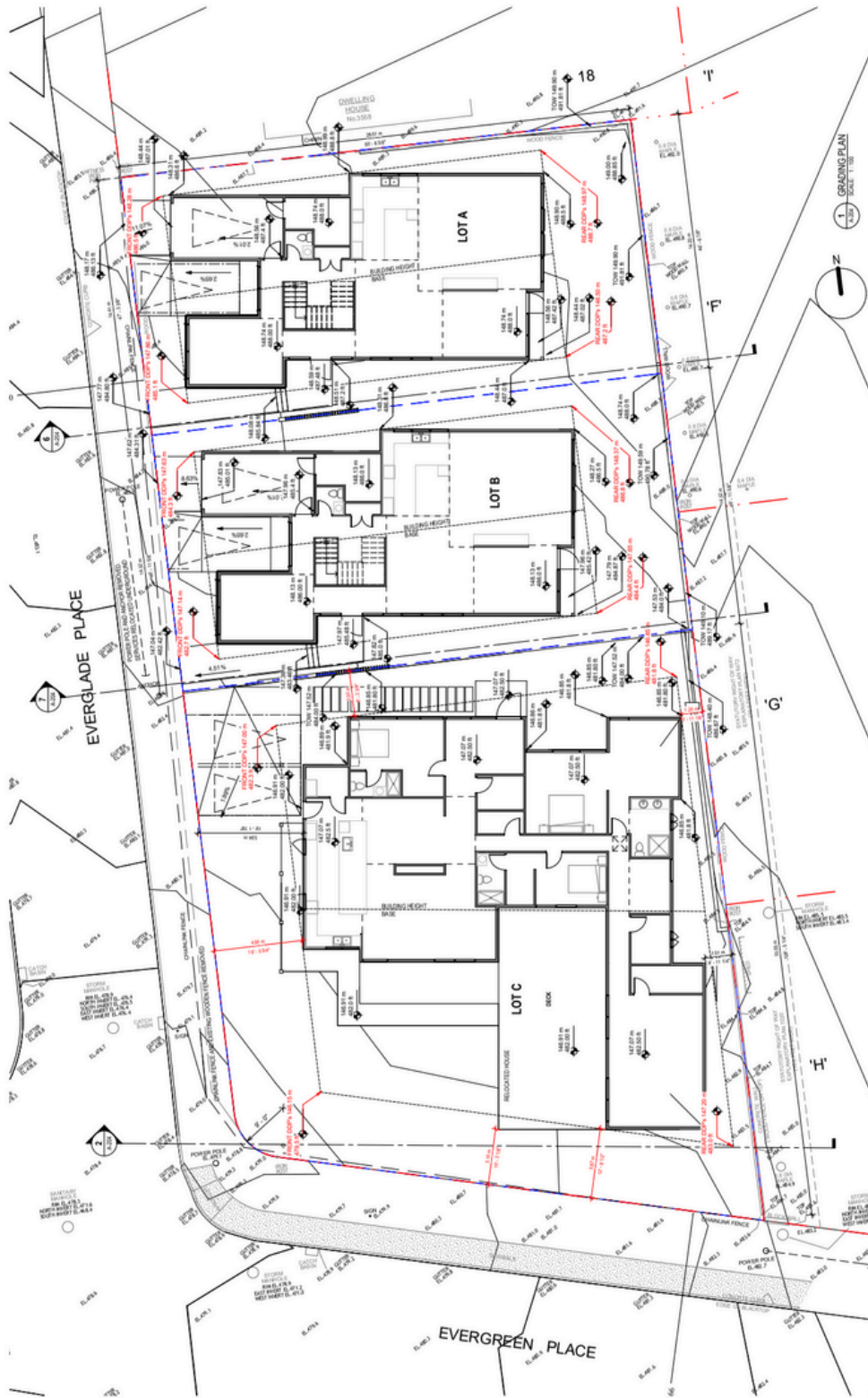


South Elevation and west elevation of studio, as is July 2025, Schueck Heritage Consulting Photo

Appendix V: Selected Plans



As-is site plan 2025 provided by owner



Plans for site development, 2026 provided by owner

COMPLETED PLAN

USING: SITE, CADENCE AND SPACE TO CREATE THE STRUCTURE, LAYERS AND HARMONY FOR THE HOUSE AND GARDEN



TKL Design Complete Landscape Plan

Conservation Resources- Online

Parks Canada. *Standards and Guidelines for the Conservation of Historic Places in Canada*. Ottawa, 2010. <https://parks.canada.ca/culture/rcrp-crhp/standards>

Preservation Brief 4: Roofing in Historic Buildings.
<https://www.nps.gov/tps/how-to-preserve/briefs/4-roofing.htm>

Preservation Brief 6: Dangers of Abrasive Cleaning to Historic Buildings.
<https://www.nps.gov/tps/how-to-preserve/briefs/6-dangers-abrasive-cleaning.htm>

Preservation Brief 9: The Repair of Historic Wooden Windows.
<https://www.nps.gov/tps/how-to-preserve/briefs/9-wooden-windows.htm>

Preservation Brief 10: Exterior Paint Problems on Historic Woodwork.
<https://www.nps.gov/tps/how-to-preserve/briefs/10-paint-problems.htm>

Preservation Brief 15: Preservation of Historic Concrete.
<https://www.nps.gov/tps/how-to-preserve/briefs/15-concrete.htm>

Preservation Brief 37: Appropriate Methods of Reducing Lead-Paint Hazards in Historic Housing.
<https://www.nps.gov/tps/how-to-preserve/briefs/37-lead-paint-hazards.htm>

Preservation Brief 39: Holding the Line: Controlling Unwanted Moisture in Historic Buildings.
<https://www.nps.gov/tps/how-to-preserve/briefs/39-control-unwanted-moisture.htm>

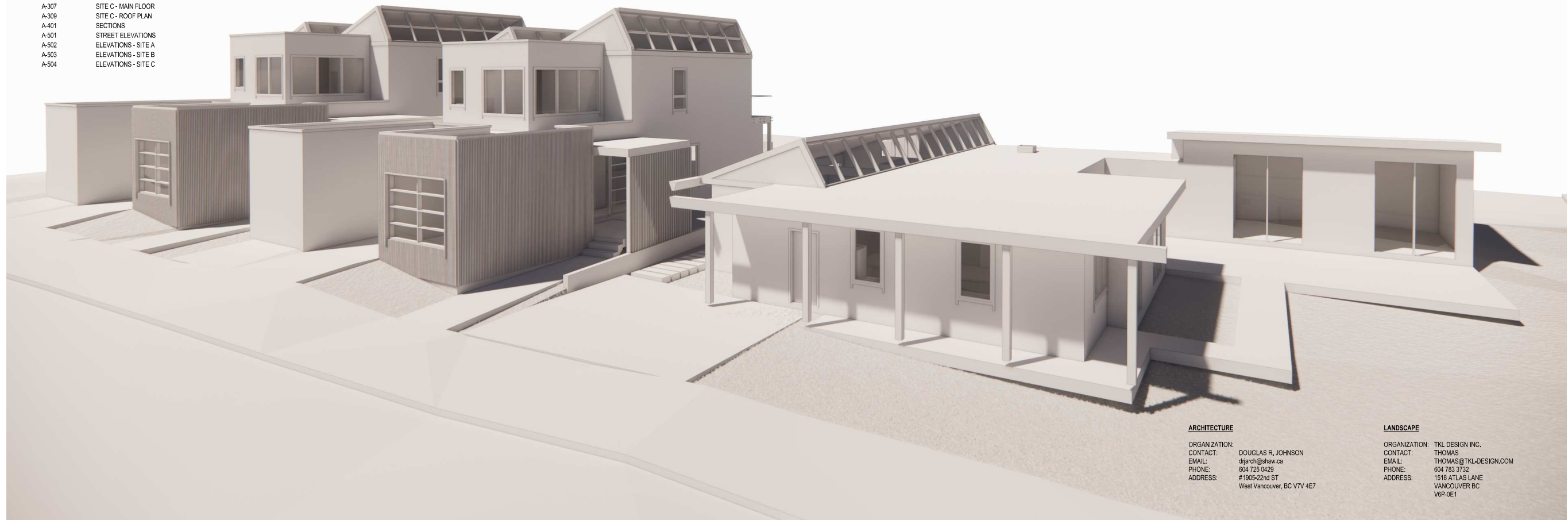
Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings
<https://www.nps.gov/tps/how-to-preserve/briefs/47-maintaining-exterior.htm>

Selecting and Appropriate Replacement Window for Your Historic Building:
<https://www.wisconsinhistory.org/Records/Article/CS4308>

http://www2.gov.bc.ca/assets/gov/topic/0DB9A63A500898D3B7753CFFBCDF5DE6/documents/heritage/heritage_conservation_community_guide.pdf

OUR ERICKSON
3526 EVERGLADE PLACE, NORTH VANCOUVER
BC, CANADA

A-101	COVER SHEET
A-102	DATA SHEET
A-103	CONTEXT
A-201	SITE PLAN - EXISTING CONDITIONS
A-202	SITE PLAN - PROPOSAL
A-203	SITE PLAN - LANDSCAPE
A-204	GRADING PLAN / BUILDING HEIGHT
A-301	SITE A - MAIN FLOOR
A-302	SITE A - SECOND FLOOR
A-303	SITE A - ROOF PLAN
A-304	SITE B - MAIN FLOOR
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A-306	SITE B - ROOF PLAN
A-307	SITE C - MAIN FLOOR
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A-401	SECTIONS
A-501	STREET ELEVATIONS
A-502	ELEVATIONS - SITE A
A-503	ELEVATIONS - SITE B
A-504	ELEVATIONS - SITE C



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PHONE: 604 725 0429
ADDRESS: #1905-22nd ST
West Vancouver, BC V7V 4E7

ORGANIZATION: TKL DESIGN INC.
CONTACT: THOMAS
EMAIL: THOMAS@TKL-DESIGN.COM
PHONE: 604 783 3732
ADDRESS: 1518 ATLAS LANE
VANCOUVER BC
V6P-0E1

	MARK	DATE	DESCRIPTION
1		2026-05-04	PRELIMINARY REVIEW
2		2025-11-28	PRELIMINARY REVIEW
3		2026-02-02	REZONING APPLICATION SUBMISSION
4		2026-06-03	REZONING APPLICATION ADDRESS COMMENTS

PROJECT: Our Erickson
3526 Everglade Place, North Vancouver,
BC, Canada

SHEET DESCRIPTION
COVER SHEET

DOUGLAS R.
JOHNSON

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drjarch@shaw.ca

SCALE:	PROJECT NO:
DATE: 02 JUN 2026	— — —
DRAWN:	SHEET:
REVISIONS:	A-101



KEY PLAN



PHOTO 1

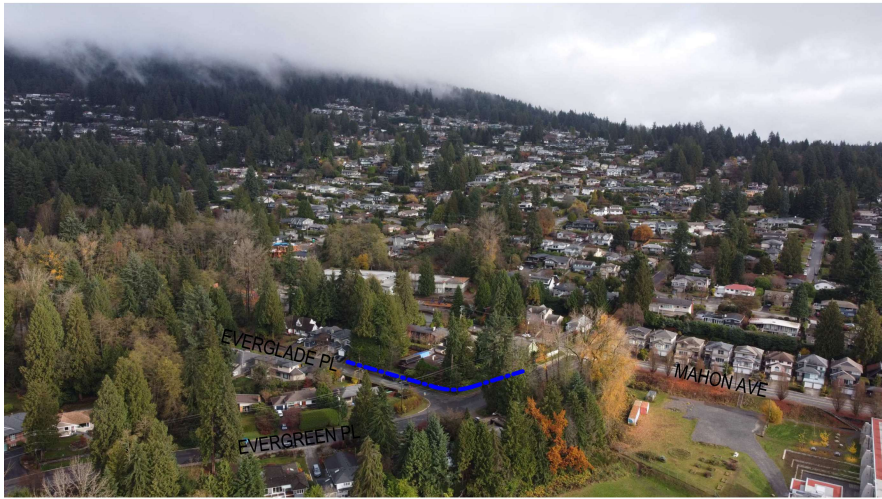


PHOTO 2



PHOTO 3



PHOTO 4

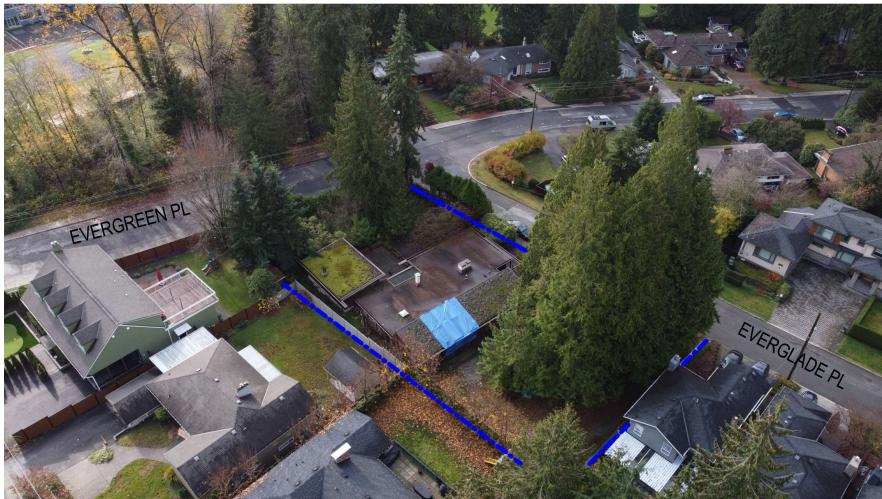


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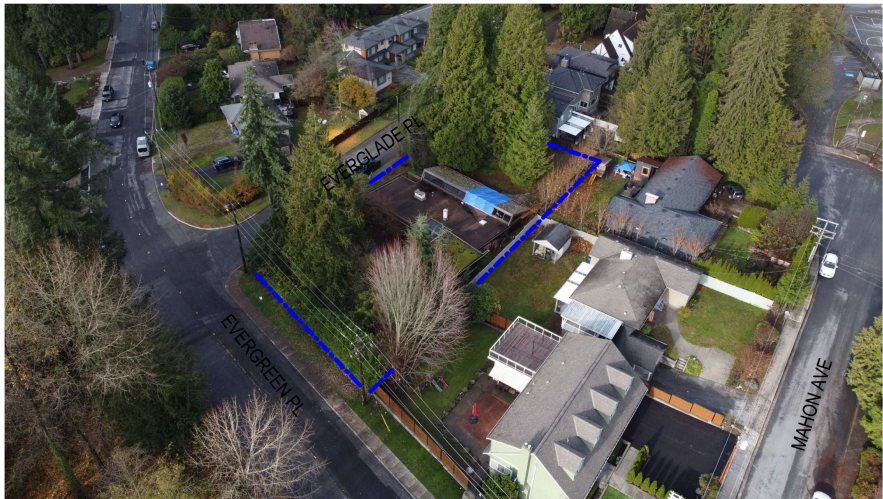


PHOTO 6



PHOTO 7

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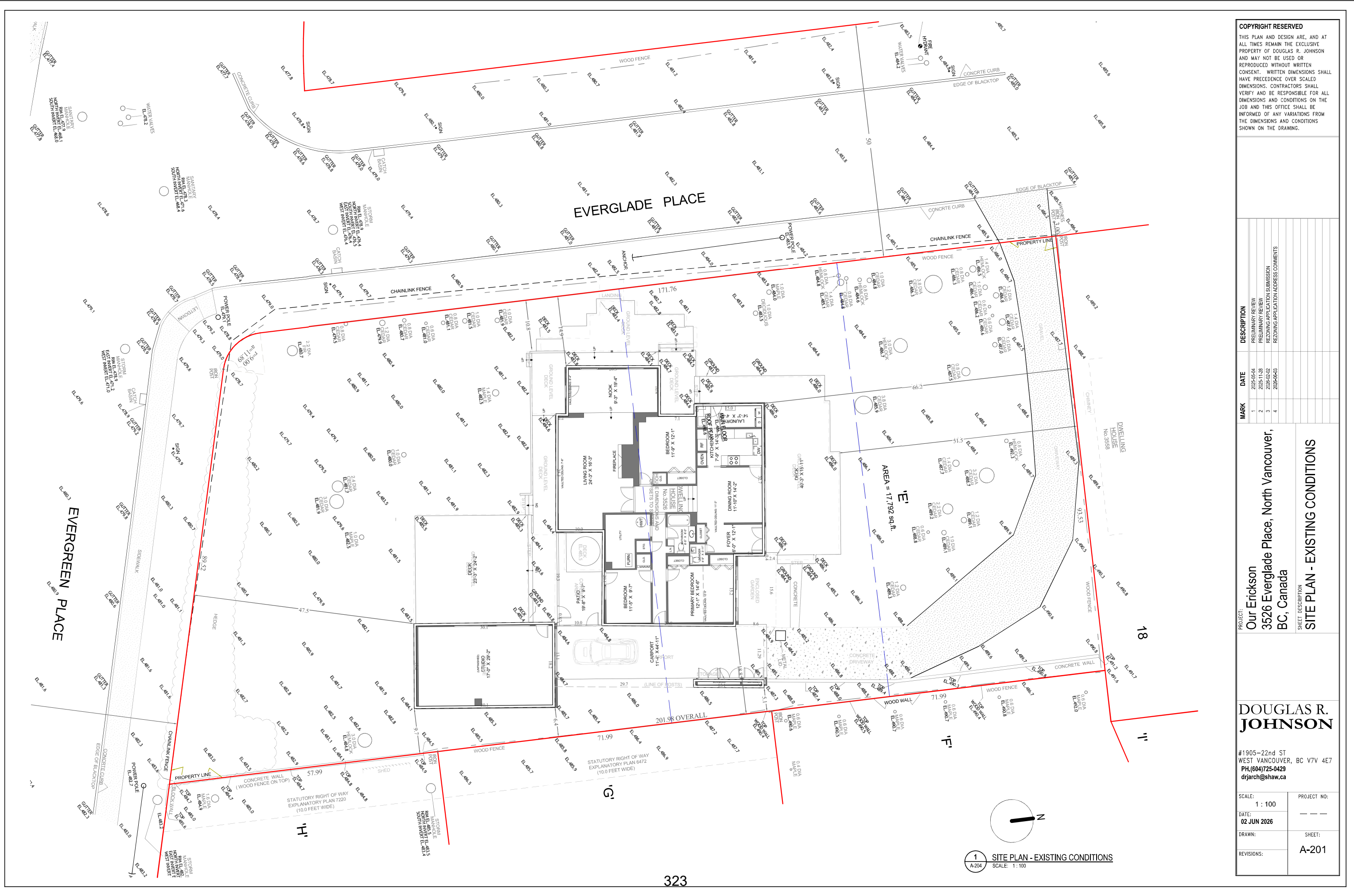
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2	2025-11-26	PRELIMINARY REVIEW
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4	2026-06-03	REZONING APPLICATION ADDRESS COMMENTS

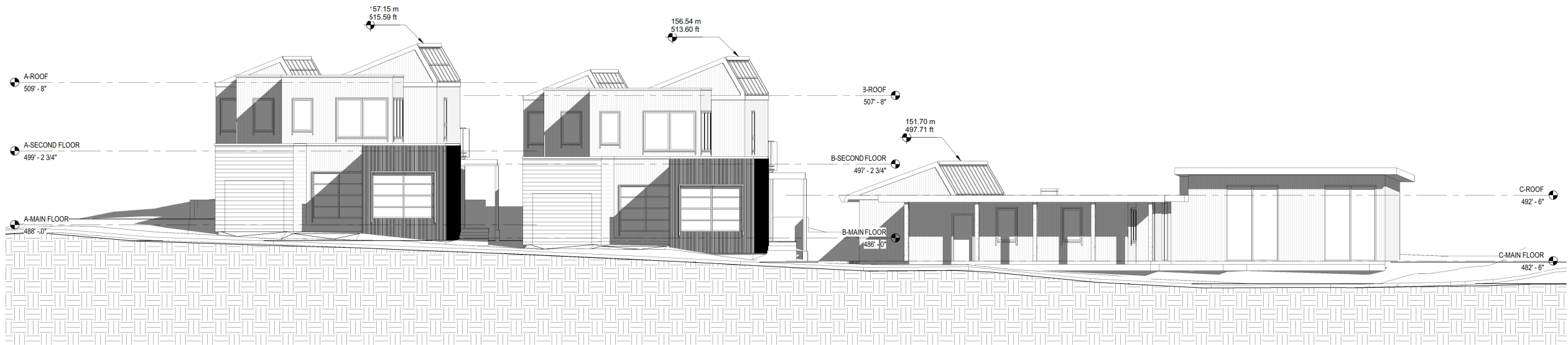
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Our Erickson
3526 Everglade Place, North Vancouver,
BC, Canada
SHEET DESCRIPTION
CONTEXT

DOUGLAS R. JOHNSON

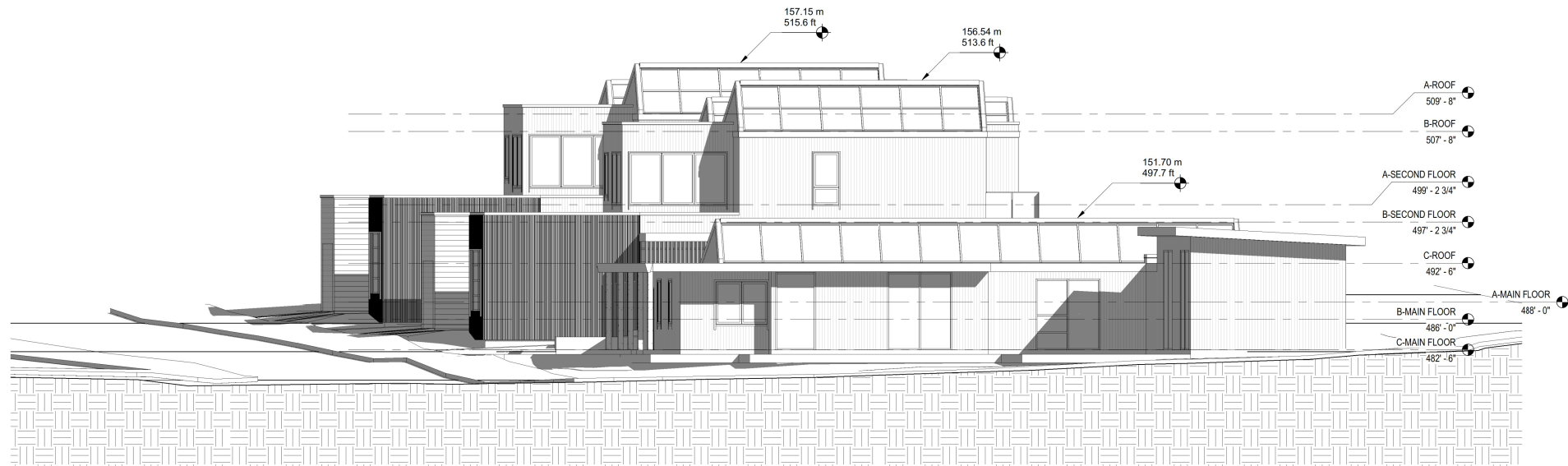
#1905-22nd ST
WEST VANCOUVER, BC V7V 4E7
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drjarch@shaw.ca

SCALE: 1/16" = 1'-0"	PROJECT NO: ---
DATE: 02 JUN 2026	SHEET: A-103
DRAWN:	
REVISIONS:	





1 STREET ELEVATION - WEST - EVERGLADE PL
A-202 SCALE: 1 : 100



2 STREET ELEVATION - SOUTH - EVERGREEN PL
A-202 SCALE: 1 : 100

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4	2025-06-03	REZONING APPLICATION ADDRESS COMMENTS

PROJECT: Our Erickson
3526 Everglade Place, North Vancouver,
BC, Canada
SHEET DESCRIPTION: STREET ELEVATIONS

DOUGLAS R. JOHNSON

#1905-22nd ST
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drjarch@shaw.ca

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DATE: 02 JUN 2026	SHEET: A-501
DRAWN:	
REVISIONS:	

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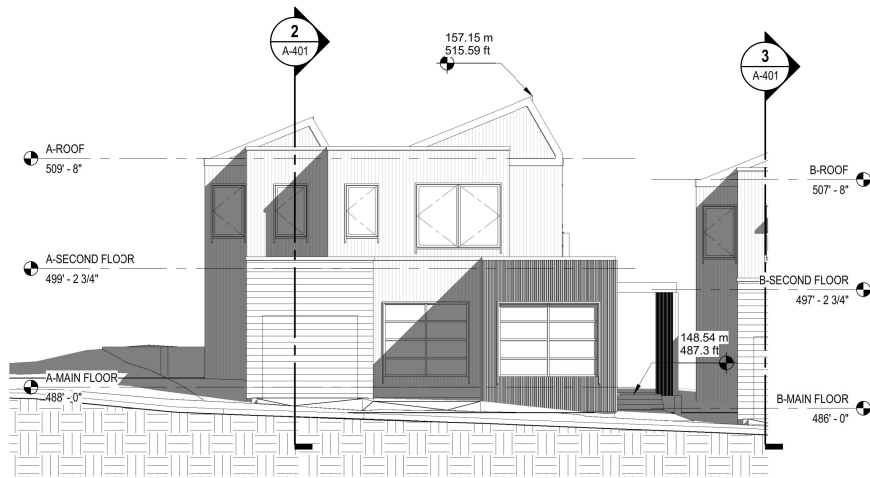
MARK	DATE	DESCRIPTION
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2	2025-11-28	PRELIMINARY REVIEW
3	2025-02-02	REZONING APPLICATION SUBMISSION
4	2025-06-03	REZONING APPLICATION ADDRESS COMMENTS

PROJECT:
Our Erickson
3526 Everglade Place, North Vancouver,
BC, Canada
SHEET DESCRIPTION
ELEVATIONS - SITE A

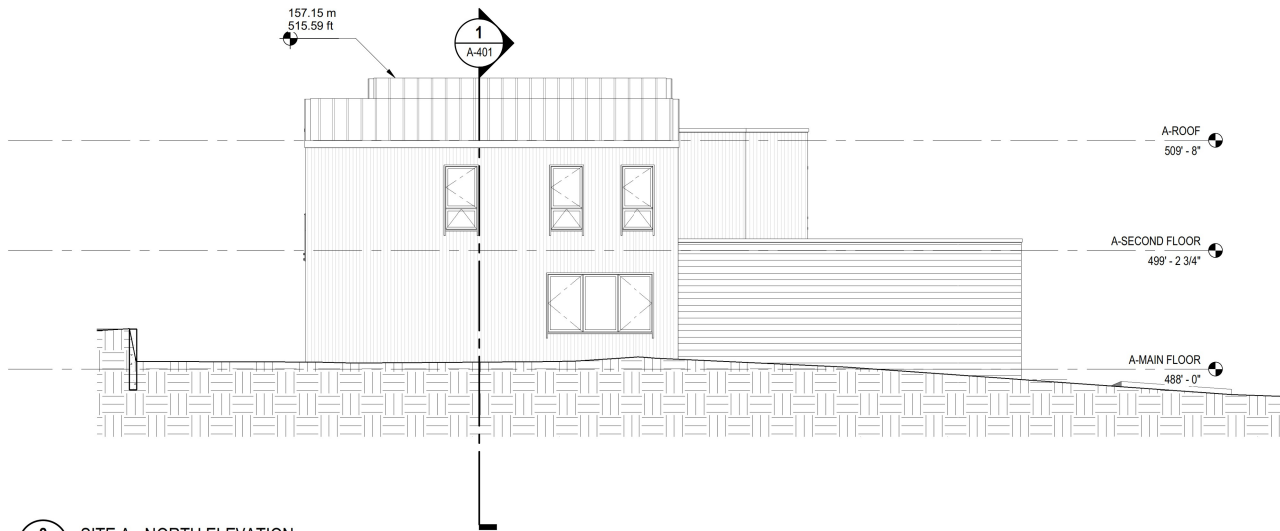
DOUGLAS R. JOHNSON

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drjarch@shaw.ca

SCALE: As indicated	PROJECT NO: ---
DATE: 02 JUN 2026	
DRAWN:	SHEET: A-502
REVISIONS:	



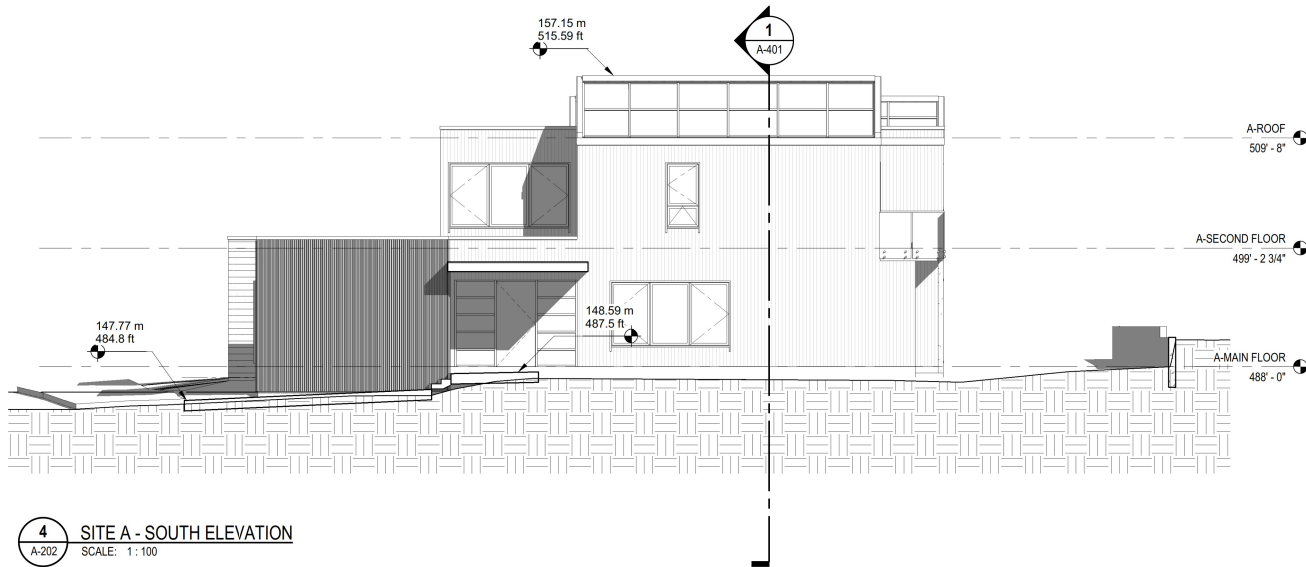
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A-202 SCALE: 1 : 100



2 SITE A - NORTH ELEVATION
A-202 SCALE: 1 : 100



1 SITE A - EAST ELEVATION
A-202 SCALE: 1 : 100

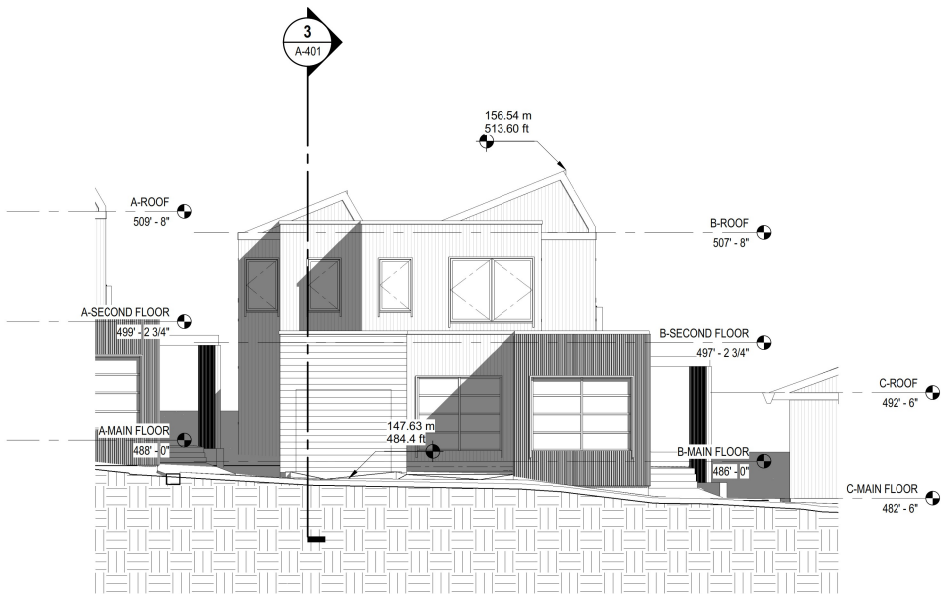


4 SITE A - SOUTH ELEVATION
A-202 SCALE: 1 : 100

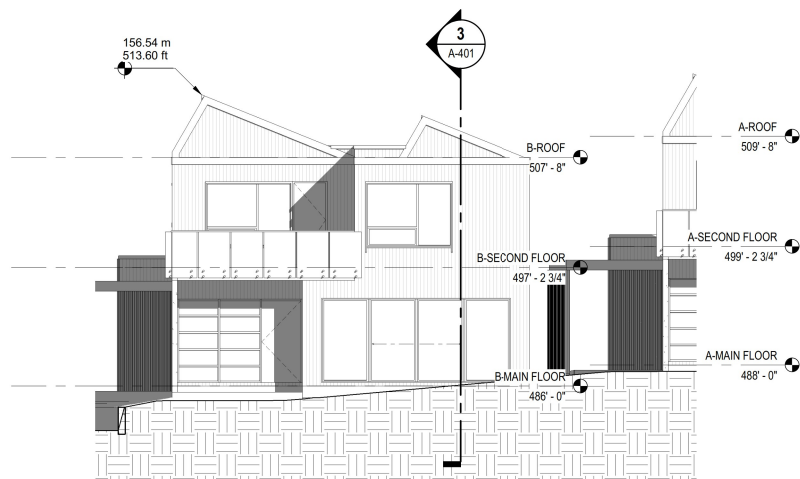
OPTION 1
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NATURAL FINISH
8IN EXPOSED VERTICAL SIDING

OR

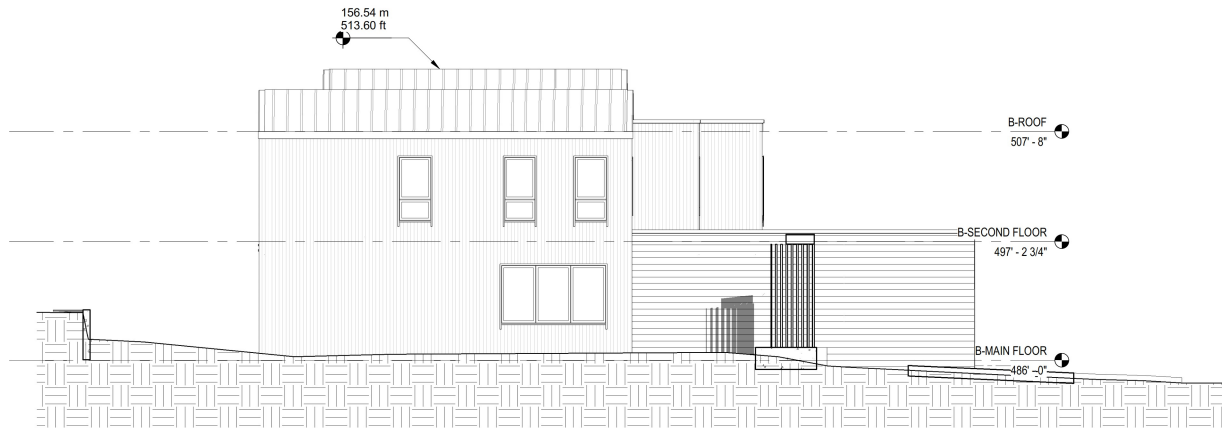
VERTICAL CEMENT BOARD SIDING
JAMES HARDIE ARTISAN OR SIMILAR
8.25 IN EXPOSED
COLOR TAUPE GREY FROM PRATT AND LAMBERT OR BENJAMIN MOORE
WINDOW TRIM 3" X 8" ACCOYA PAINTED TO MATCH SIDING



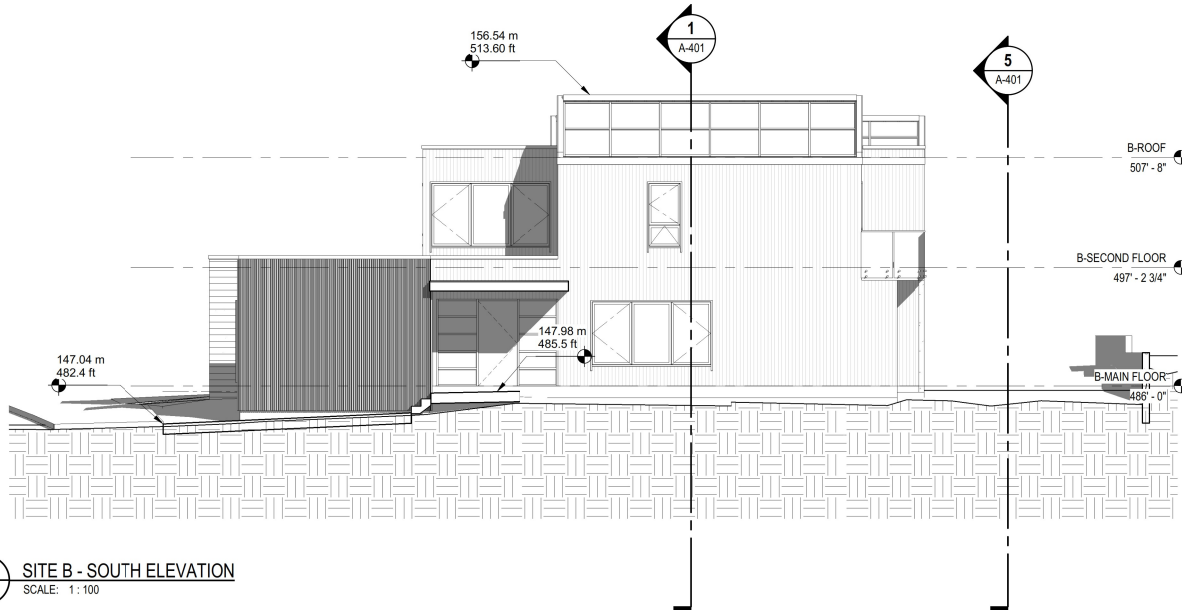
4 SITE B - WEST ELEVATION
A-202 SCALE: 1:100



1 SITE B - EAST ELEVATION
A-202 SCALE: 1:100



2 SITE B - NORTH ELEVATION
A-202 SCALE: 1:100



3 SITE B - SOUTH ELEVATION
A-202 SCALE: 1:100

OPTION 1
ACCOYA
NATURAL FINISH
8IN EXPOSED VERTICAL SIDING

OR

VERTICAL CEMENT BOARD SIDING
JAMES HARDIE ARTISAN OR SIMILAR
8.25 IN EXPOSED
COLOR TAUPE GREY FROM PRATT AND LAMBERT OR BENJAMIN MOORE
WINDOW TRIM 3" X 8" ACCOYA PAINTED TO MATCH SIDING

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DESCRIPTION

DATE

MARK

PRELIMINARY REVIEW

2025-05-04

1

PRELIMINARY REVIEW

2025-11-28

2

REZONING APPLICATION SUBMISSION

2025-02-02

3

REZONING APPLICATION ADDRESS COMMENTS

2025-06-03

4

PROJECT:

Our Erickson
3526 Everglade Place, North Vancouver,
BC, Canada

SHEET DESCRIPTION

ELEVATIONS - SITE B

DOUGLAS R.
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PH. (604) 725-0429
drjarch@shaw.ca

SCALE:

As indicated

DATE:

02 JUN 2026

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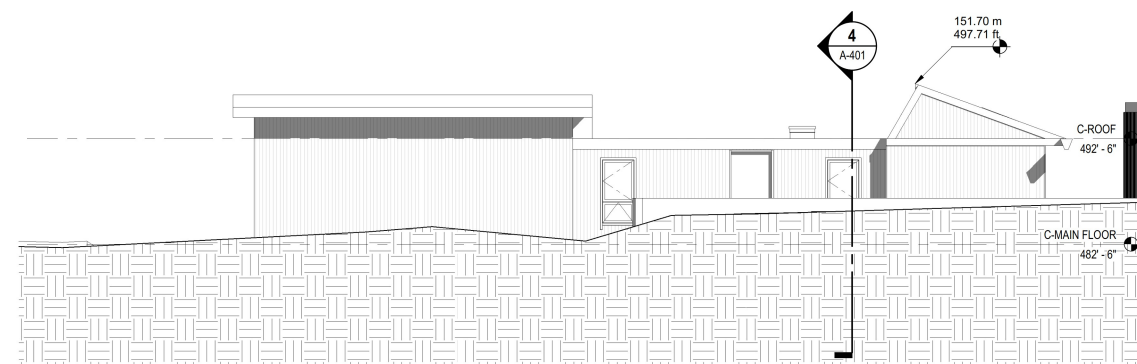
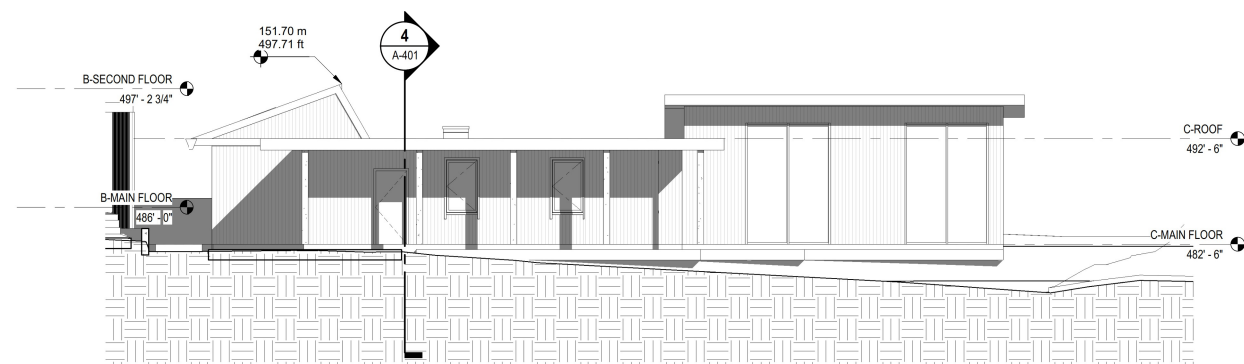
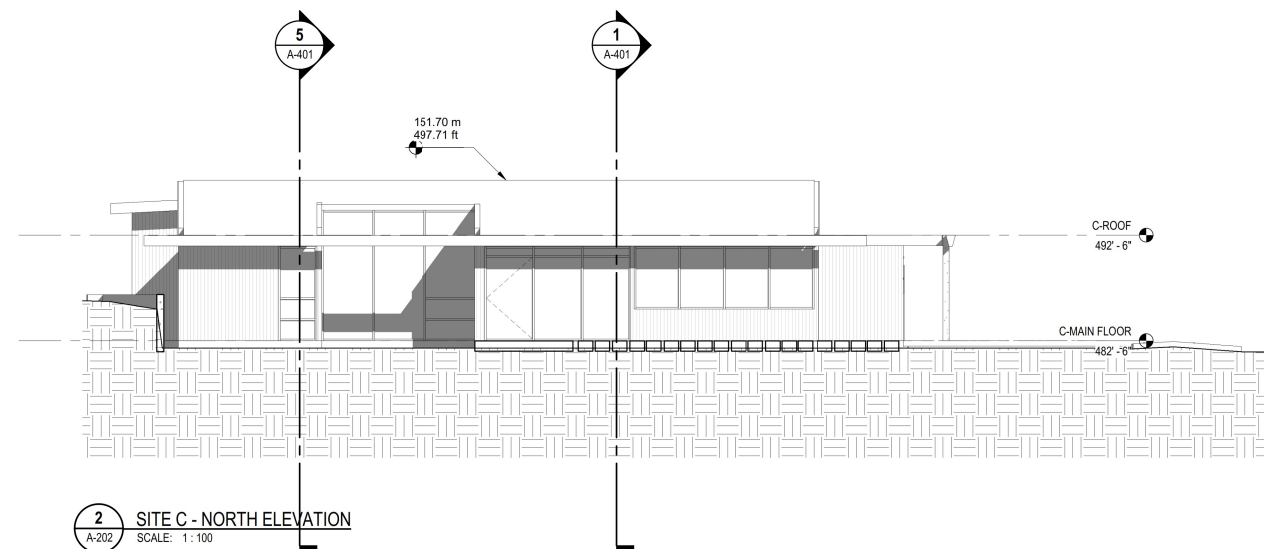
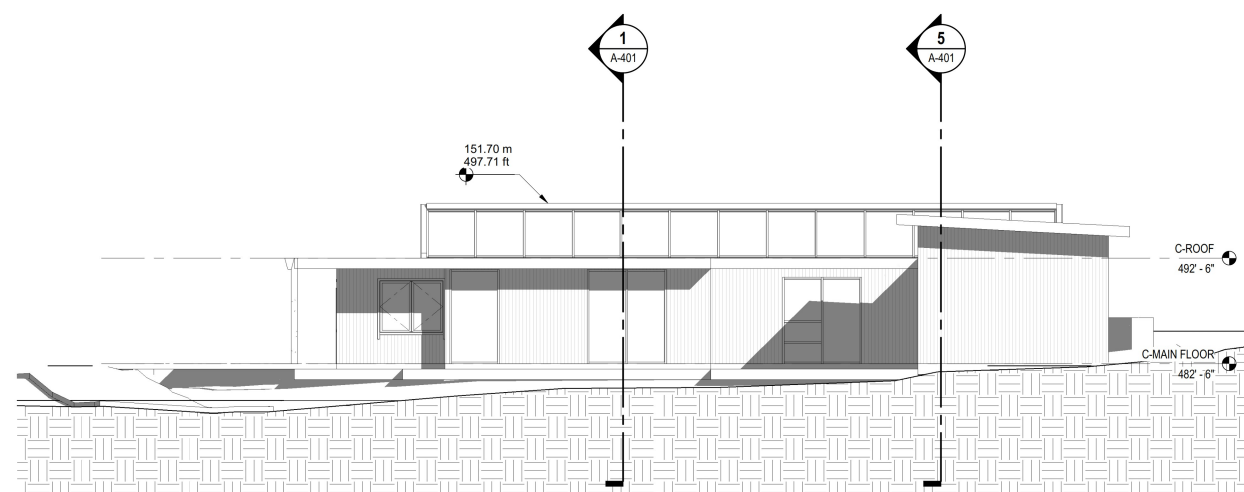
REVISIONS:

PROJECT NO:

SHEET:

A-503

327



EXISTING SIDING

EXISTING

CLEAN - SOLID STAIN IN COLOR TO MATCH EXISTING.

ADDITIONS

ACCOYA

SHOU SUGI BAN CHARRED FINISH

VERTICAL SQUARE CHANNEL SIDING 6 IN EXPOSED

WINDOW TRIM 3" X 8 IN ACCOYA SHOU SUGI BAN CHARRED FINISH

ALTERNATE FINISH SOLID STAIN IN COLOR TO MATCH EXISTING HOUSE

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PROJECT: Our Erickson
35526 Everglade Place, North Vancouver,
BC, Canada

SHEET DESCRIPTION
ELEVATIONS - SITE C

DOUGLAS R.
JOHNSON

#1905-22nd ST
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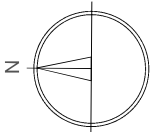
SCALE: As indicated	PROJECT NO: — — —
DATE: 02 JUN 2026	
DRAWN:	SHEET: A-504
REVISIONS:	

C O M P L E T E D P L A N

USING: SITE, CADENCE AND SPACE TO CREATE THE STRUCTURE, LAYERS AND HARMONY FOR THE HOUSE AND GARDEN



TKL DESIGN INC.
THOMAS@ TKL-DESIGN.COM
604 783 3732
1518 ATLAS LANE
VANCOUVER BC
V6P-0E1



DATE	COMMENT.
REVISIONS	
PROJECT TITLE	

3526 EVERGLADE

SHEET TITLE

FINAL SITE PLAN

SCALE:

1/8" = 1'-0"

DATE:
JAN 2026

TKL DESIGN INC.
PROJECT #

23

SHEET
NUMBER

L-15

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AGENDA INFORMATION☐ Regular Meeting

Date: _____

☐ Other:

Date: _____


 Dept.
Manager


 GM/
Director


 CAO

The District of North Vancouver

REPORT TO COUNCIL

June 10, 2026

File: 09.3900.20/000.000

AUTHOR: Rhonda Schell, Deputy Corporate Officer, Legislative Services**SUBJECT:** **Bylaw 8788: Business License Bylaw Housekeeping Amendment to Reflect Updated Non-medical Retail Cannabis Policy****RECOMMENDATION:**

THAT "Business License Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)" is given SECOND and THIRD Readings.

BACKGROUND:

Bylaw Number 8788 received first reading on April 27, 2026 ([Staff report dated April 9, 2026](#)) and a public meeting was held and closed on May 25, 2026.

The bylaw is now ready to be considered for second and third readings by Council.

Options:

1. THAT "Business Licence Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)" is given SECOND and THIRD reading" (staff recommendation);
OR
2. THAT "Business Licence Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)" is given no further readings and abandoned at FIRST reading, and that the District's Non-medical Retail Cannabis Policy is amended to update the operating hours for cannabis retailers from 9 am to 11 pm to 9 am to 9 pm.

Respectfully submitted,



Rhonda Schell
Deputy Corporate Officer, Legislative Services

SUBJECT: Bylaw 8788: Business License Bylaw Housekeeping Amendment to Reflect Updated Non-medical Retail Cannabis Policy

June 10, 2026

Page 2

Attachments:

1. Bylaw 8788
2. Public Meeting Report

REVIEWED WITH:		
☐ Business and Economic _____	☐ Finance _____	External Agencies: ☐ Library Board _____ ☐ Museum and Archives _____ ☐ NSEM _____ ☐ NS Health _____ ☐ NVRC _____ ☐ RCMP _____ ☐ Other: _____
☐ Bylaw Services _____	☐ Fire Services _____	
☐ Clerk's Office _____	☐ Golf _____	
☐ Climate and Biodiversity _____	☐ Housing _____	
☐ Communications _____	☐ Human Resources _____	
☐ Community Planning _____	☐ Integrated Planning _____	
☐ Development _____	☐ ITS _____	
Engineering _____	☐ Parks _____	
☐ Development Services _____	☐ Real Estate _____	
☐ Engineering _____	☐ Solicitor _____	
Infrastructure _____	☐ Transportation _____	
☐ Engineering Public _____		
Works _____		
☐ Environment _____		
☐ Facilities _____		

The Corporation of the District of North Vancouver

Bylaw 8788

A bylaw to amend the Business Licence Bylaw 4567, 1974

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

Citation

1. This bylaw may be cited as “Business Licence Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)”.

Amendments

2. Business License Bylaw 4567, 1974 is amended as follows:

a) PART 5 – GENERAL REGULATIONS, Section 518A Cannabis Retail Store is amended by replacing (3) (b) with:

Open a cannabis retail store for business at any time other than between the hours of 9:00 a.m. and 11:00 p.m., seven days a week.

READ a first time April 27, 2026

OPPORTUNITY for representations to Council provided in accordance with Section 59 of the *Community Charter* on May 25, 2026

READ a second time

READ a third time

ADOPTED

Mayor

Corporate Officer

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**DISTRICT OF NORTH VANCOUVER
PUBLIC MEETING**

**Cannabis Retail Store Hours of Operation
Business Licence Bylaw Amendment**

REPORT of the Public Meeting held on Monday, May 25, 2026 commencing at 6:04 p.m. in the Council Chambers of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

Present: Mayor Mike Little
Councillor Jordan Back
Councillor Betty Forbes
Councillor Jim Hanson
Councillor Herman Mah
Councillor Lisa Muri
Councillor Catherine Pope

Staff: Dan Milburn, Acting Chief Administrative Officer
Genevieve Lanz, Director – Legislative Services and Corporate Officer
Neonila Lilova, Manager – Business and Economic Development
Mina Sami, Development Planner
Cheryl Archer, Confidential Council Clerk
Jillian Holden, Administration Clerk

1. OPENING BY THE MAYOR

Mayor Little welcomed everyone and advised that the purpose of the Public Meeting was to receive input from the community on the proposed bylaw amendments as outlined in the Notice of Public Meeting.

He further noted that the Public Meeting was convened pursuant to Section 59 of the *Community Charter*. Members of Council, staff, and the public participated in person and via Zoom and the meeting was being streamed live over the internet and recorded in accordance with the *Freedom of Information and Protection of Privacy Act*.

Mayor Little stated that:

- Following the staff presentation, speakers would be called from the established speakers list. At the end of the speakers list, the Chair would call on speakers from the audience;
- Each speaker would have five minutes to address Council for a first time and should begin remarks to Council by stating their name;
- After everyone who wished to speak had spoken once, speakers would then be allowed one additional five-minute presentation;
- Any additional presentations would be allowed at the discretion of the Chair;

- Speakers were reminded to refrain from repeating information from their previous presentations and to ensure all comments remained focused on the bylaw under consideration;
- If a written submission was provided, speakers were asked not to read the entire submission, noting that they could provide a summary or briefly reiterate the highlights;
- All members of the audience were asked to be respectful of one another as diverse opinions are expressed, noting that the meeting was an open and impartial forum for Council to hear everyone's views;
- Council's role at Public Meetings is to listen to the public, not to debate the merits of the bylaw;
- Council may ask clarifying questions during Public Meetings;
- A binder containing documents and submissions related to the bylaw is available for review in hard copy and online;
- Speaking opportunities would be provided for everyone who wished to provide input and the meeting would be continued on a second night, if required;
- At the conclusion of the public input Council may request further information from staff, which may or may not require an extension of the meeting, or Council may close the meeting, after which Council should not receive further new information from the public.

2. INTRODUCTION OF BYLAW BY CORPORATE OFFICER

Genevieve Lanz, Corporate Officer, introduced the proposed bylaw, stating that Bylaw 8788 proposes to amend the Business Licence Bylaw to update cannabis retail store operating hours from 9:00 a.m. to 9:00 p.m. to 9:00 a.m. to 11:00 p.m. to align with the District's Non-medical Cannabis Policy.

3. PRESENTATION BY STAFF

Neonila Lilova, Manager – Business and Economic Development provided an overview of the proposal elaborating on the introduction by the Corporate Officer. Ms. Lilova advised that:

- The proposed bylaw is a housekeeping amendment to align the District's Business Licence Bylaw with its Non-Medical Retail Cannabis Policy;
- Updates to the Non-Medical Retail Cannabis Policy were approved by Council to align the operating hours of cannabis retailers in the District with the Province's cannabis retail licensing standards of 9:00 a.m. to 11:00 p.m. on October 20, 2025;
- Staff identified the inconsistency between the bylaw and policy and brought forward the amendment to the Business Licence Bylaw to address the inconsistency.

4. REPRESENTATIONS FROM THE PUBLIC

4.1. Marcia Stephenson:

- Spoke in opposition to the proposal;
- Stated she opposes the extension of operating hours for Imagine Cannabis as it would only benefit one business owner and customers who are not able to organize their time to make their purchases in the 12 hours they are currently open;
- Opined that longer opening hours at this location would cause issues for more than 400 people;
- Stated that she would not like to see conditions that encourage late meetups;
- Stated that people smoke in public and the smoke comes into residences through ventilation systems;
- Stated that Imagine Cannabis would be the only store open later on that side of the mall;
- Questioned why cannabis stores need later opening hours;
- Stated that people want quiet after 9:00 p.m., including families and seniors;
- Stated that she did not want destination vehicle traffic roaring down her street; and,
- Stated that other businesses that stay open late are on the other side of the mall and do not disturb residents.

4.2. Andrew Prietel:

- Spoke in support of the proposal, noting he is the owner of North Shore Cannabis;
- Opined that their store does not have the same issues as identified by the previous speaker due to their location and proximity to other businesses that are open late;
- Noted that the liquor store adjacent to North Shore Cannabis is open until 11:00 p.m. and it would be helpful to have both stores open until the same time for security and their business model;
- Stated that later opening hours make a significant difference;
- Opined that the cannabis stores in Lynn Valley and Deep Cove will not open later because it is not a viable option for those locations;
- Noted there are cannabis stores in the City of North Vancouver that stay open later;
- Noted that the cannabis store in Lynn Valley closes at 6:00 pm. and is allowed to stay open later;
- Stated that the top cannabis suppliers to the North Shore on the internet operate 24 hours a day and hours are not enforced by police; and,
- Stated that online sales take business away from legal operators who pay taxes.

4.3. Corrie Kost:

- Suggested custom hours based on neighbourhoods;
- Opined that the proposed bylaw and existing policy are too broad and the extended hours are not necessary; and,
- Noted that businesses in Edgemont Village close at 9:00 p.m.

4.4. Andrew Prietel SPEAKING FOR A SECOND TIME:

- Stated that there are few problems with cannabis stores;
- Opined that most customers buy products and leave;
- Noted that cannabis stores do not have places to consume products on the premises;
- Advised that he had owned the Lynnwood Inn and stated that there were many more issues with people who consumed alcohol.

4.5. Marcia Stephenson SPEAKING FOR A SECOND TIME:

- Stated that her comments were based on her experience and that of her neighbours;
- Opined that the District established Town Centres and neighbourhoods for liveability;
- Noted Town Centres have been densified;
- Stated that she wants to be in a family-friendly community; and,
- Stated that consistency between the bylaw and policy should not be as important as the people living near cannabis stores.

4.6. Joao Pedro:

- Advised that he works for the BC Cannabis Store on Marine Drive;
- Questioned if information on changes to operating hours would be provided to their union;
- Expressed concern regarding the safety of employees if working alone with extended hours; and,
- Noted that the store manager chose to have 9:00 p.m. as the store's closing time.

4.7. Hana Watanabe:

- Spoke in opposition to the proposal;
- Stated that she does not use cannabis;
- Noted that Vancouver has issues with addiction and the Downtown East Side is in crisis;
- Stated she supports limiting access to cannabis by youth;
- Stated that 19-year-olds do not have fully developed brains; and,
- Opined that extended hours would enable youth to have easier access to cannabis.

5. QUESTIONS FROM COUNCIL

In response to a question from Council, staff advised that if the bylaw is adopted, the five cannabis stores in the District, both private and public, would be allowed to stay open until 11 p.m., noting this aligns with the provincial standard. Staff further noted that the decision to stay open until 11 p.m. or to continue to close earlier would be at the discretion of individual operators.

In response to a question from Council, staff advised that if the bylaw is not adopted, the District would need to change the Non-medical Retail Cannabis Policy to allow stores to operate until 9:00 p.m.

In response to a question from Council, staff advised the Business Licence Bylaw is not variable, meaning that variances to the Business Licence Bylaw are not possible. Staff noted that Council can modify operating hours in any business licence if there are issues. Staff further noted that the five cannabis stores in the District have had no compliance issues and no significant issues with the RCMP.

In response to a question from Council, staff advised that some District stores changed their operating hours when the policy was updated in October 2025 and that they have all been notified that they may only remain open until 9:00 p.m. unless the bylaw is amended to allow opening later.

In response to a question from Council, staff advised that cannabis stores in the City of North Vancouver are permitted to open from 9:00 a.m. to 11:00 p.m. but it is up to individual operators how late to remain open.

In response to a question from Council, staff advised that when the bylaw returns to Council for further consideration, staff will provide options, both of which will align the policy with the bylaw.

6. COUNCIL RESOLUTION

MOVED by Councillor MURI

SECONDED by Councillor HANSON

THAT the May 25, 2026 Public Meeting regarding Bylaw 8788 is closed;

AND THAT “Business Licence Bylaw 4567, 1974 Amendment Bylaw 8788, 2026 (Amendment 56)” is returned to Council for further consideration.

CARRIED
(6:35 p.m.)

CERTIFIED CORRECT:

Confidential Council Clerk