Floodplain Exemption Application

Referral Form – RDCK File F2601F

Date: May 07, 2026

You are requested to comment on the attached FLOODPLAIN EXEMPTION for potential effect on your agency's interests. We would appreciate your response **WITHIN 30 DAYS (PRIOR TO June 07, 2026).** If no response is received within that time, it will be assumed that your agency's interests are unaffected.

LEGAL DESCRIPTION & GENERAL LOCATION:
2168 Annabelle Road, Willow Point, Electoral Area 'F'
LOT 3 DISTRICT LOT 4780 KOOTENAY DISTRICT PLAN 5416
PID:014-442-698

PRESENT USE AND PURPOSE OF PERMIT REQUESTED:
The property has been improved with a single detached home and detached garage and is used for residential purposes. Crystal Creek runs to the east of the subject property.

The purpose of this Site-Specific Floodplain Exemption (SSFE) application is to authorize the construction of an accessory building (bunkhouse) at 7m from the natural boundary of Crystal Creek whereas the RDCK Floodplain Management Bylaw requires a building setback distance of 15m from the natural boundary of Crystal Creek. Thus the total proposed setback reduction requested in 8m.

Please note that the proposed build site is shown to be outside of the RDCK flood hazard polygon, however, the Flood Hazard Assessment completed by SNT Geotechnical LTD identified that the proposed build site is actually located on the Crystal Creek fan. Consequently, the flood hazards associated with the possibility of overland flow resulting from an avulsion from the creek channel have also been assessed in the report.

AREA OF PROPERTY AFFECTED	ALR STATUS	ZONING DESIGNATION	OCP DESIGNATION
0.16ha	no	Country Residential (R2) in RDCK Zoning Bylaw no. 1675	Country Residential (CR) in OCP Bylaw no. 2214, 2011

APPLICANT: Lindsey and Kurt Myram

Please provide your response via email.

If you are an RDCK commission member, do not respond via email. Your response is the commission's recommendation which staff will collect from the meeting minutes.

SADIE CHEZENKO, PLANNER
REGIONAL DISTRICT OF CENTRAL KOOTENAY

- ☒ TRANSPORTATION West Kootenay
- ☒ HABITAT BRANCH
- ☒ FRONT COUNTER BC (FLNRORD)
- ☐ AGRICULTURAL LAND COMMISSION
- ☒ ARCHAEOLOGY BRANCH
- ☐ REGIONAL AGROLOGIST
- ☐ ENERGY & MINES
- ☐ MUNICIPAL AFFAIRS & HOUSING
- ☒ INTERIOR HEALTH HBE Team, Nelson
- ☐ WATER SYSTEM OR IRRIGATION DISTRICT
- ☒ UTILITIES (FORTIS, BC HYDRO, NELSON HYDRO, COLUMBIA POWER)

REGIONAL DISTRICT OF CENTRAL KOOTENAY

DIRECTORS FOR:
☐ A ☐ B ☐ C ☐ D ☐ E ☒ F ☐ G ☐ H ☐ I
☐ J ☐ K

ALTERNATIVE DIRECTORS FOR:
☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H ☐ I
☐ J ☐ K

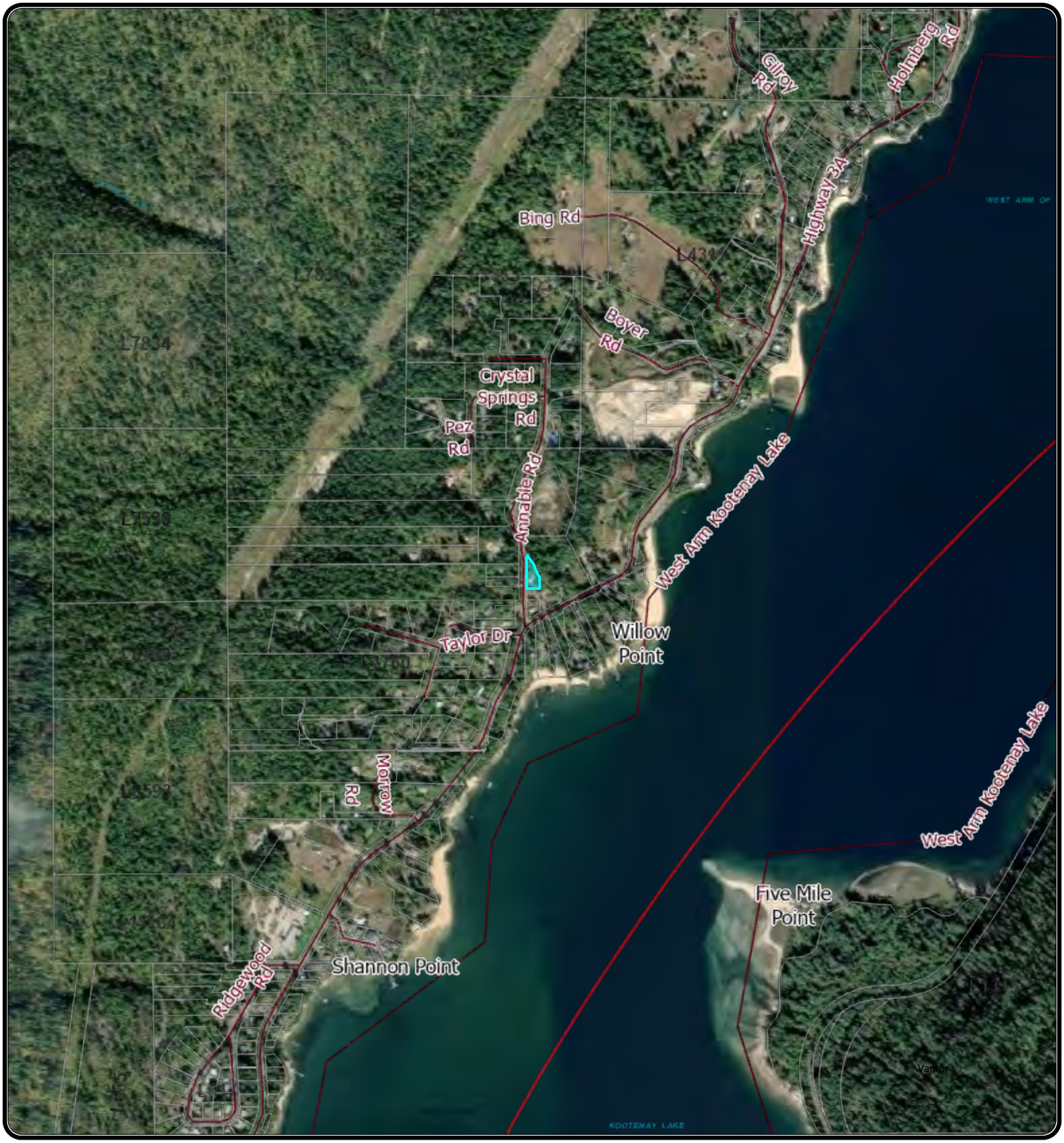
- ☐ APC AREA
- ☒ RDCK FIRE SERVICES – DISTRICT CHIEF (BY AREA)
- ☒ RDCK EMERGENCY SERVICES
- ☒ RDCK BUILDING SERVICES
- ☐ RDCK UTILITY SERVICES
- ☐ RDCK REGIONAL PARKS

Nelson Office: Box 590, 202 Lakeside Drive, Nelson, BC. V1L 5R4
Phone: 250.352.6665 | Toll Free: 1.800.268.7325 (BC) | Email: info@rdck.ca | Fax: 250.352.9300

The personal information on this form is being collected pursuant to *Regional District of Central Kootenay Planning Procedures and Fees Bylaw No. 2457, 2015* for the purpose of determining whether the application will affect the interests of other agencies or adjacent property owners. The collection, use and disclosure of personal information are subject to the provisions of FIPPA. Any submissions made are considered a public record for the purposes of this application. Only personal contact information will be removed. If you have any questions about the collection of your personal information, contact the Regional District Privacy Officer at 250.352.6665 (toll free 1.800.268.7325), info@rdck.bc.ca, or RDCK Privacy Officer, Box 590, 202 Lakeside Drive, Nelson, BC V1L 5R4.

RETURN TO: SADIE CHEZENKO, PLANNER
DEVELOPMENT AND COMMUNITY SUSTAINABILITY SERVICES
REGIONAL DISTRICT OF CENTRAL KOOTENAY
BOX 590, 202 LAKESIDE DRIVE
NELSON, BC V1L 5R4
Ph. 250-352-1585
Email: plandept@rdck.bc.ca

RDCK Map



REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

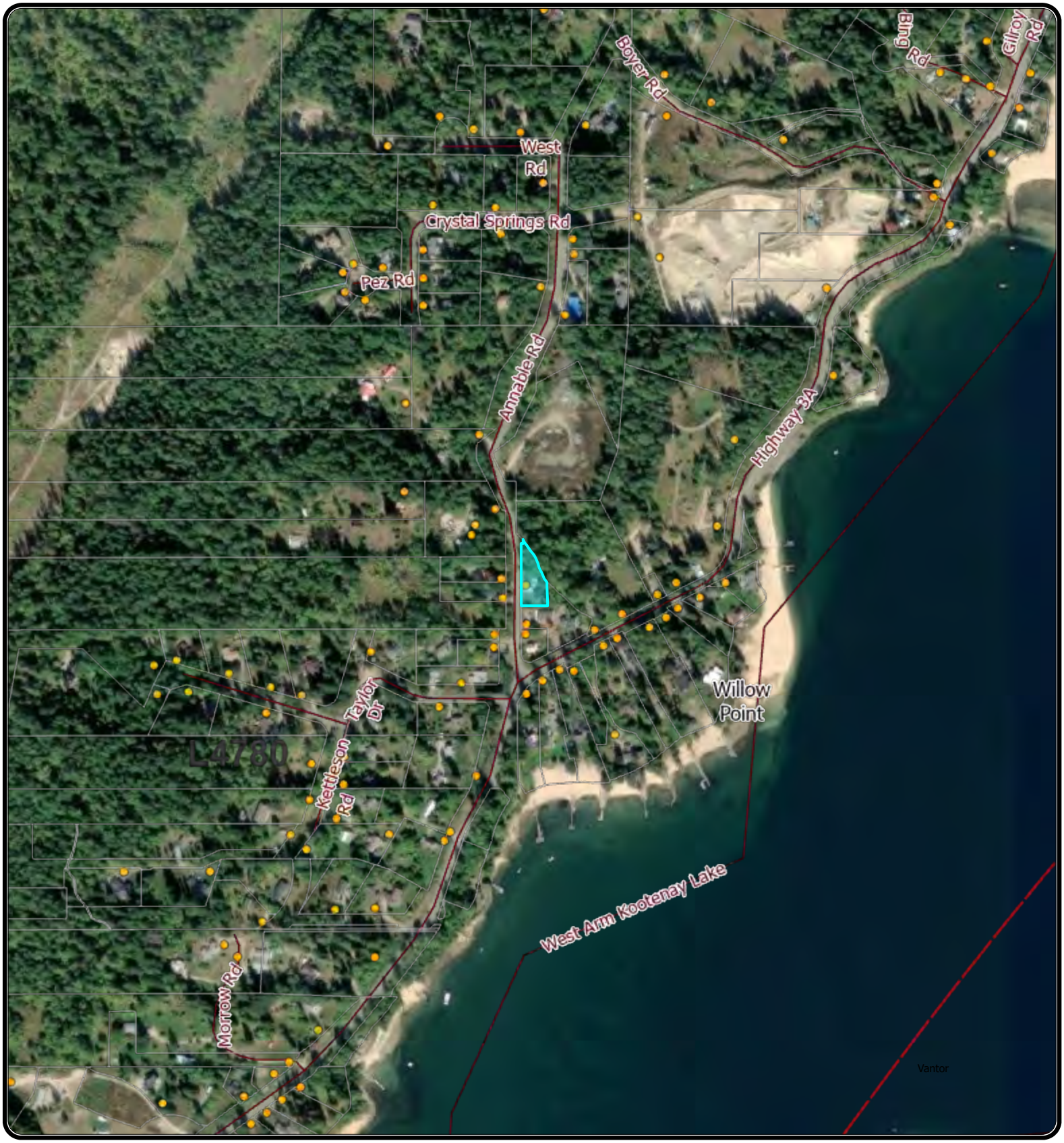
- Place Names
- Electoral Areas
- RDCK Streets
- Cadastre - Property Lines

Map Scale:

1:18,056

Date: May 5, 2026

RDCK Map



REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

- Place Names
- Electoral Areas
- RDCK Streets
- Cadastre - Property Lines
- Address Points

Map Scale:

1:9,028

Date: May 5, 2026

RDCK Map

REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

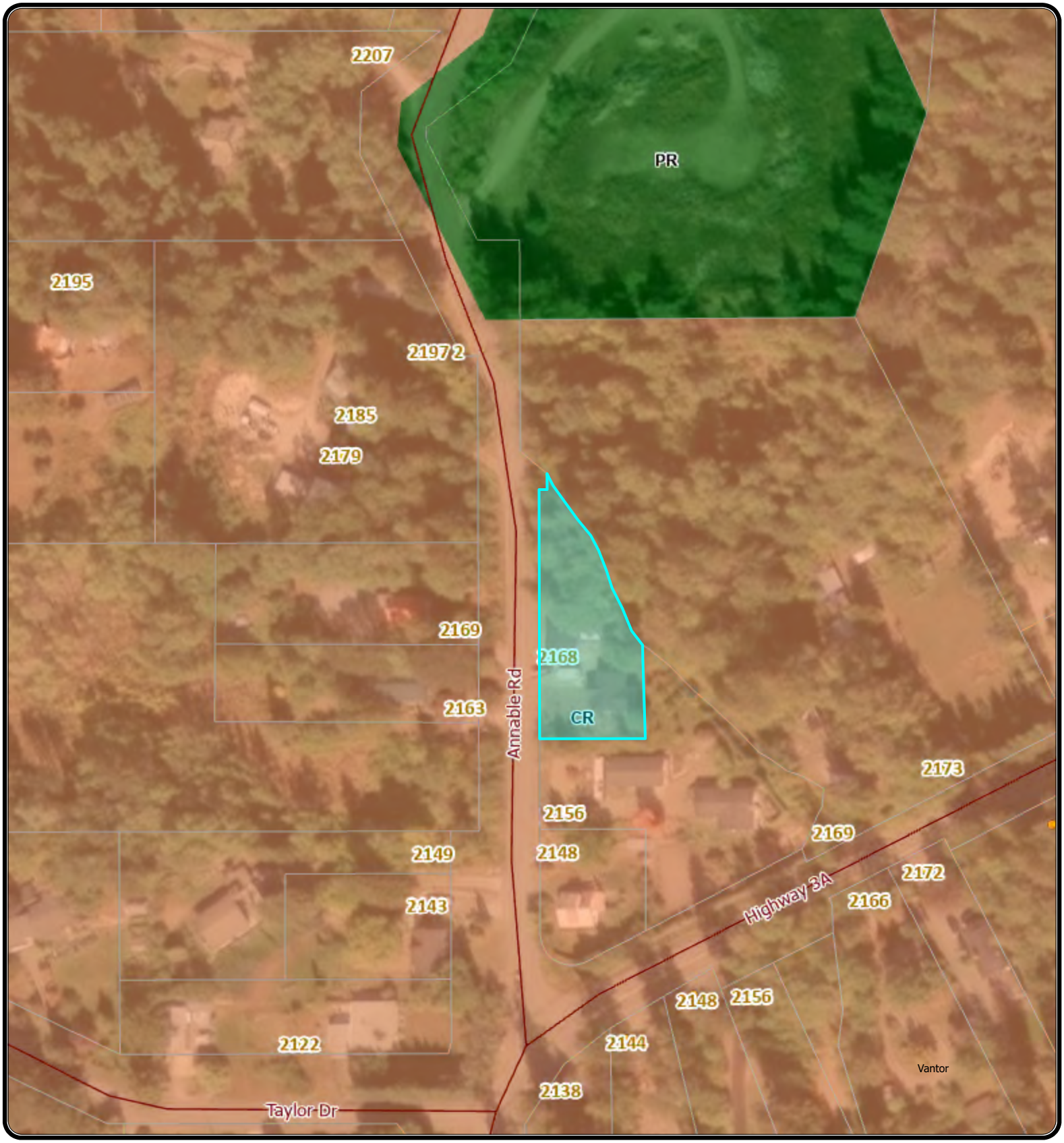
- Electoral Areas
- RDCK Streets
- Cadastre - Property Lines
- Address Points

Map Scale:

1:1,128

Date: May 5, 2026

RDCK Map



REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
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maps@rdck.bc.ca

Official Community Plan

- Country Residential
- Parks and Recreation

Legend

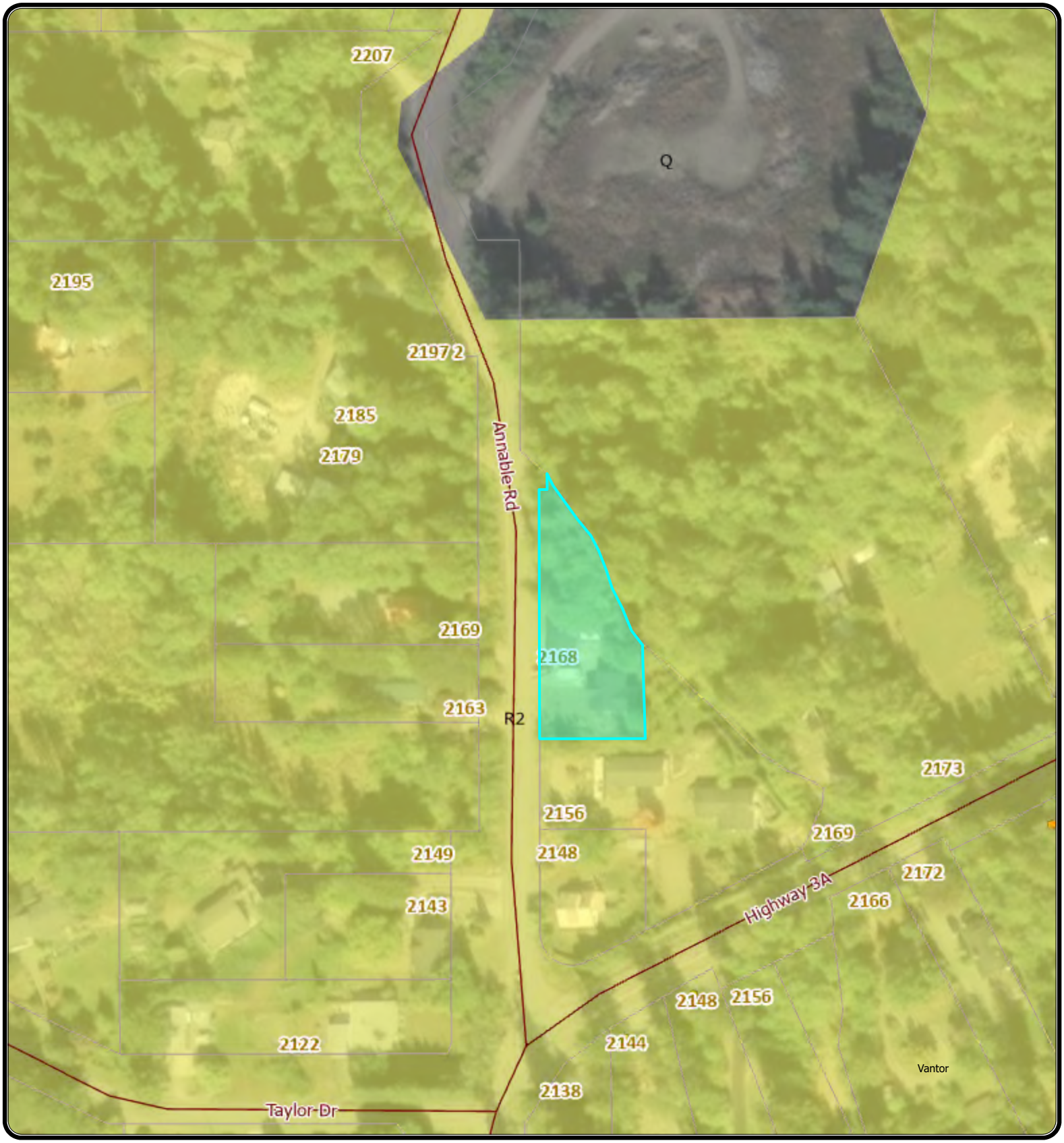
- Electoral Areas
- RDCK Streets
- Cadastre - Property Lines
- Address Points

Map Scale:

1:2,257

Date: May 5, 2026

RDCK Map



REGIONAL DISTRICT OF CENTRAL KOOTENAY
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Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Zoning Class

- Quarry
- Residential 2
- Electoral Areas

Legend

- RDCK Streets
- Cadastre - Property Lines
- Address Points

Map Scale:

1:2,257

Date: May 5, 2026

N
W E
S

RDCK Map

REGIONAL DISTRICT OF CENTRAL KOOTENAY
Box 590, 202 Lakeside Drive,
Nelson, BC V1L 5R4
Phone: 1-800-268-7325 www.rdck.bc.ca
maps@rdck.bc.ca

Legend

- ParcelMap BC - Crown Land
- Electoral Areas
- RDCK Streets
- Cadastre - Property Lines
- Address Points

Map Scale:

1:2,257

Date: May 5, 2026

Proposal Summary
Development Variance Permit – Site Specific Floodplain Exemption
Kurt and Lindsey Myram
2168 Annable Road, Nelson, BC V1L 6K5

This is an application for a Site Specific Floodplain Exemption at the address of 2168 Annable Road, Nelson, BC V1L 6K5.

We are applying for a Development Variance Permit to allow the construction of a detached accessory building on our property. The proposed structure is intended for guest accommodation and will include a sleeping area and bathroom only. No kitchen or cooking facilities are proposed, and the building is not designed to function as a self-contained dwelling unit or support full independent living.

The variance requested is a site-specific reduction of the floodplain setback from 15 meters to 6 meters. Due to the unique configuration of our lot, including its narrow dimensions at the north end and the presence of a creek along the east property line, the current 15-meter setback significantly restricts any reasonable location for such a structure. The requested reduction is the minimum necessary to allow for a functional and appropriately sited building.

This request is deeply personal for our family. We have two young children, ages 2 and 4, and no extended family living nearby. Our parents—six grandparents in total—live significant distances away, with some traveling over nine hours to visit us in Nelson. These visits are incredibly meaningful for maintaining strong family connections and supporting our young family.

Currently, when family visits, we must give up one of our children's bedrooms to accommodate them. This arrangement is not practical for longer stays and has limited visits to only a few nights at a time, reducing opportunities for our children to spend meaningful time with their grandparents.

The proposed guest cabin is thoughtfully designed and will be a high-quality addition to the property, providing a comfortable and welcoming space for visitors. Its use is limited in function, containing only sleeping and bathroom facilities, and it will remain clearly secondary to the principal residence.

We respectfully ask the committee to consider the unique physical constraints of our property alongside the importance of family connection and support in our situation. This variance would enable a reasonable use of the property while maintaining its residential character.

Thank you for your time and consideration.

Kurt Myram

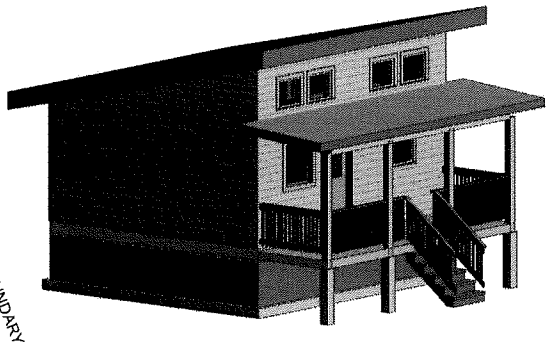
Lindsey Myram

TOTAL LOT AREA: 0.4 AC / 17424.0 SF

TOTAL BUILDING AREA
(INCL. DECKS & STAIRS ≥ 2'-0" ABOVE GRADE): 1334.7 SF

TOTAL GARAGE & OUTBUILDINGS: 1048.0 SF

LOT COVERAGE: 13.67 %



2 {3D}

NORTH

ANNABLE ROAD

CRYSTAL CREEK (BOUNDARY TO CENTER LINE OF CREEK)

PROPERTY LINE

EXIST. SHEDS TO BE REMOVED

6' - 0" 20' - 0" 19' - 8 1/4"

24' - 0"

3' - 0"

EXIST. GARAGE

PROPOSED
ADDITIONAL
ACCESSORY BUILDING

235' - 4 1/2"

PROPERTY LINE

ROCK WALL

EXISTING HOUSE

DECK

87' - 0 1/2"

I.P.

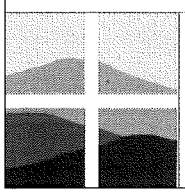
PROPERTY LINE

99' - 8 1/2"

I.P.

1 Site
1" = 20'-0"

NOTE: BUILDING PLACEMENT BASED ON MEASUREMENTS TAKEN FROM EXIST. PROPERTY PINS

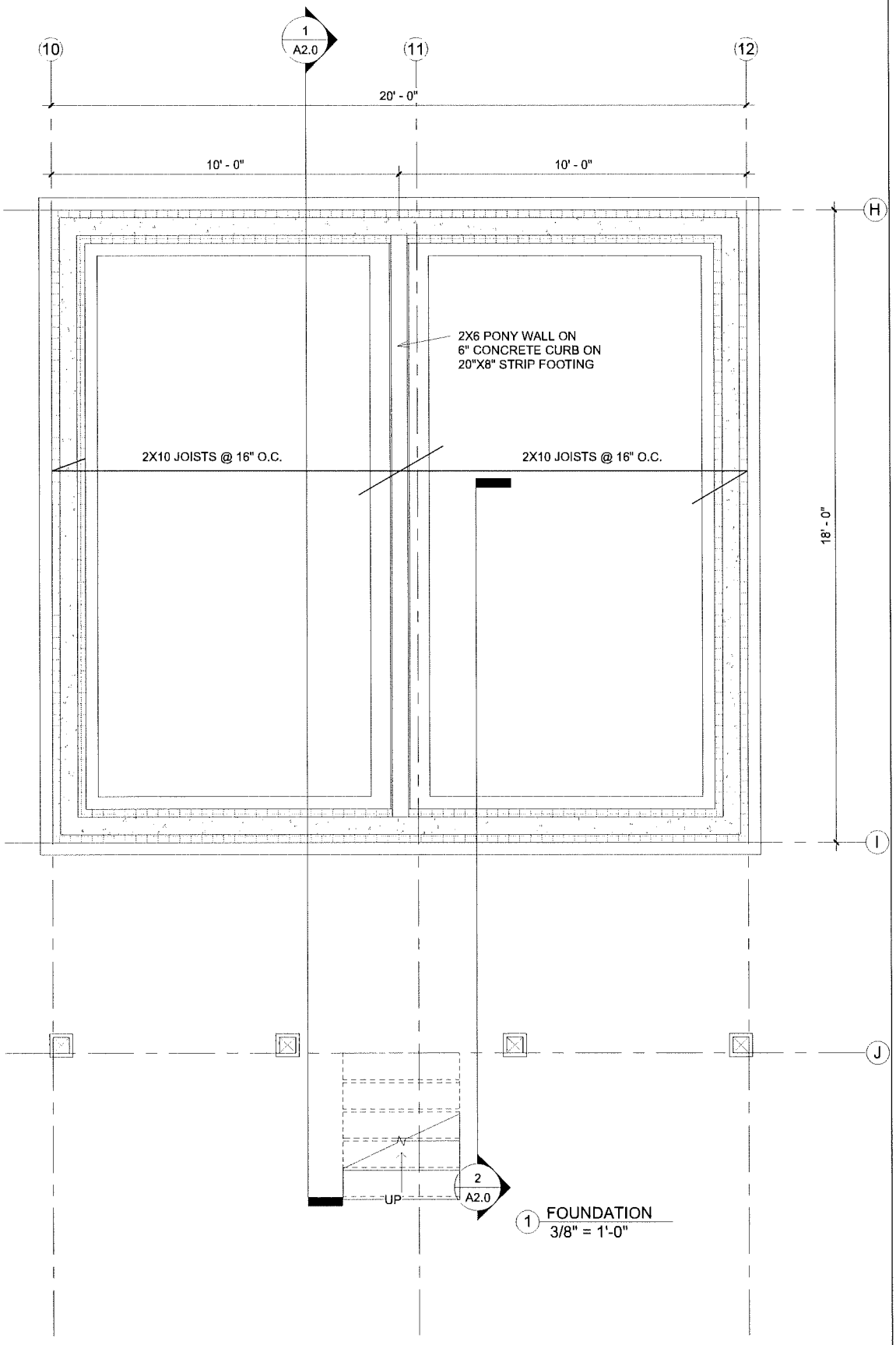


Ellenwood Homes
2843 Granite Rd
Nelson, BC
V1L 6Y5

AS
Accessory Structure
MYRAM

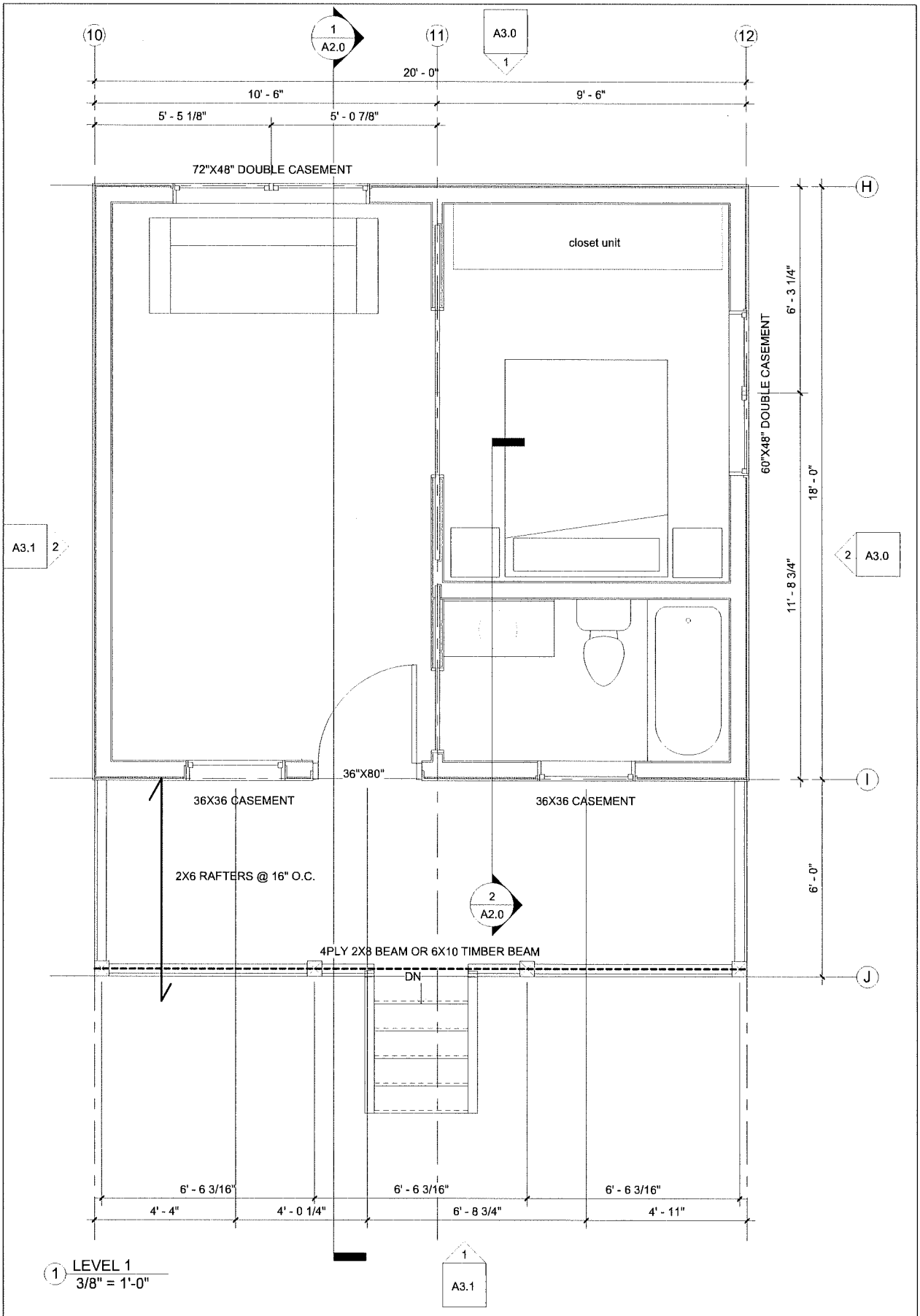
Scale	1" = 20'-0"	Drawn by	MB
A0.3		Date	2026 01 30

SITE PLAN



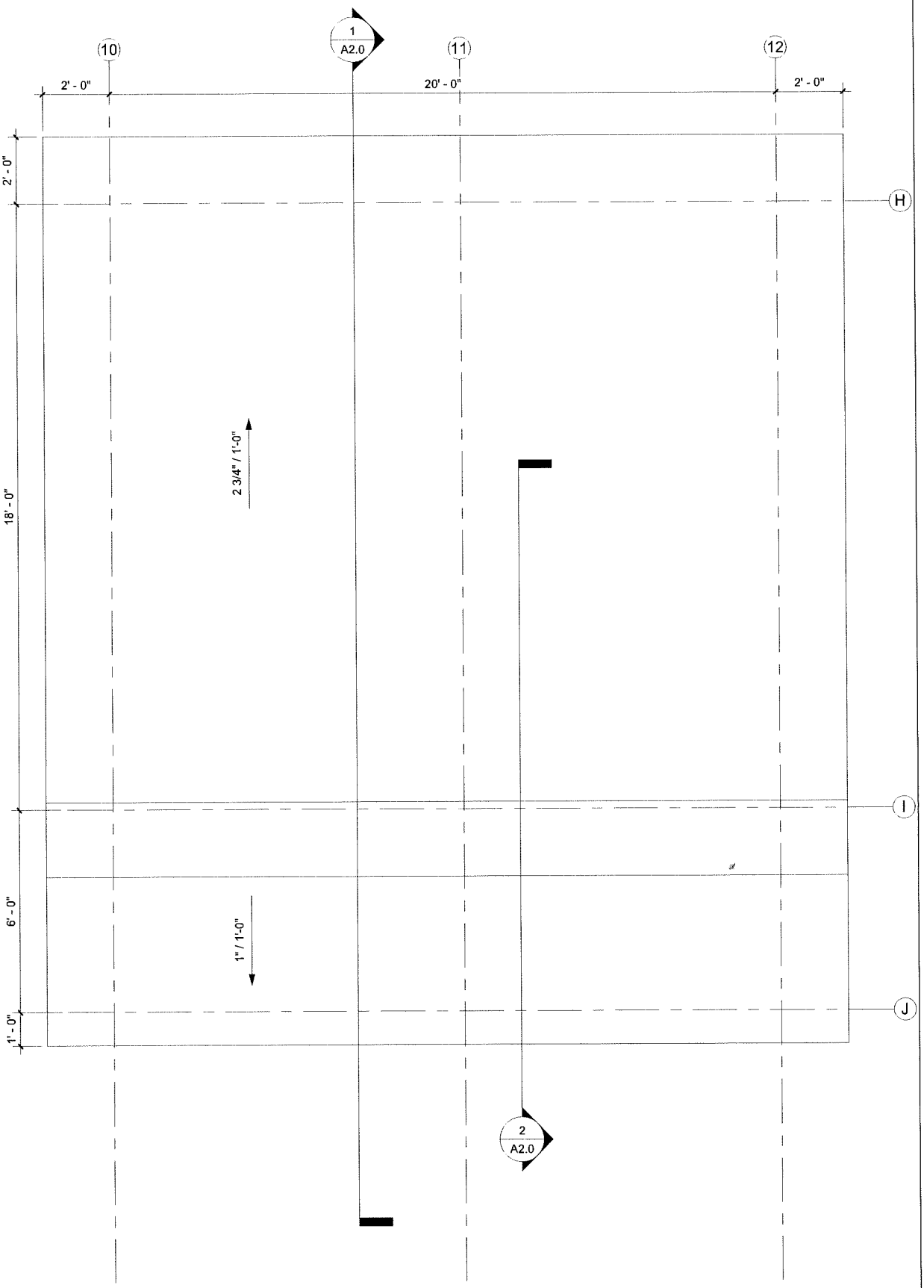
1 FOUNDATION
3/8" = 1'-0"

Ellenwood Homes 2843 Granite Rd Nelson, BC V1L 6Y5	AS MYRAM	Scale 3/8" = 1'-0"	Drawn by MB
		A1.0	Date 2026 01 30
		BASEMENT PLAN	

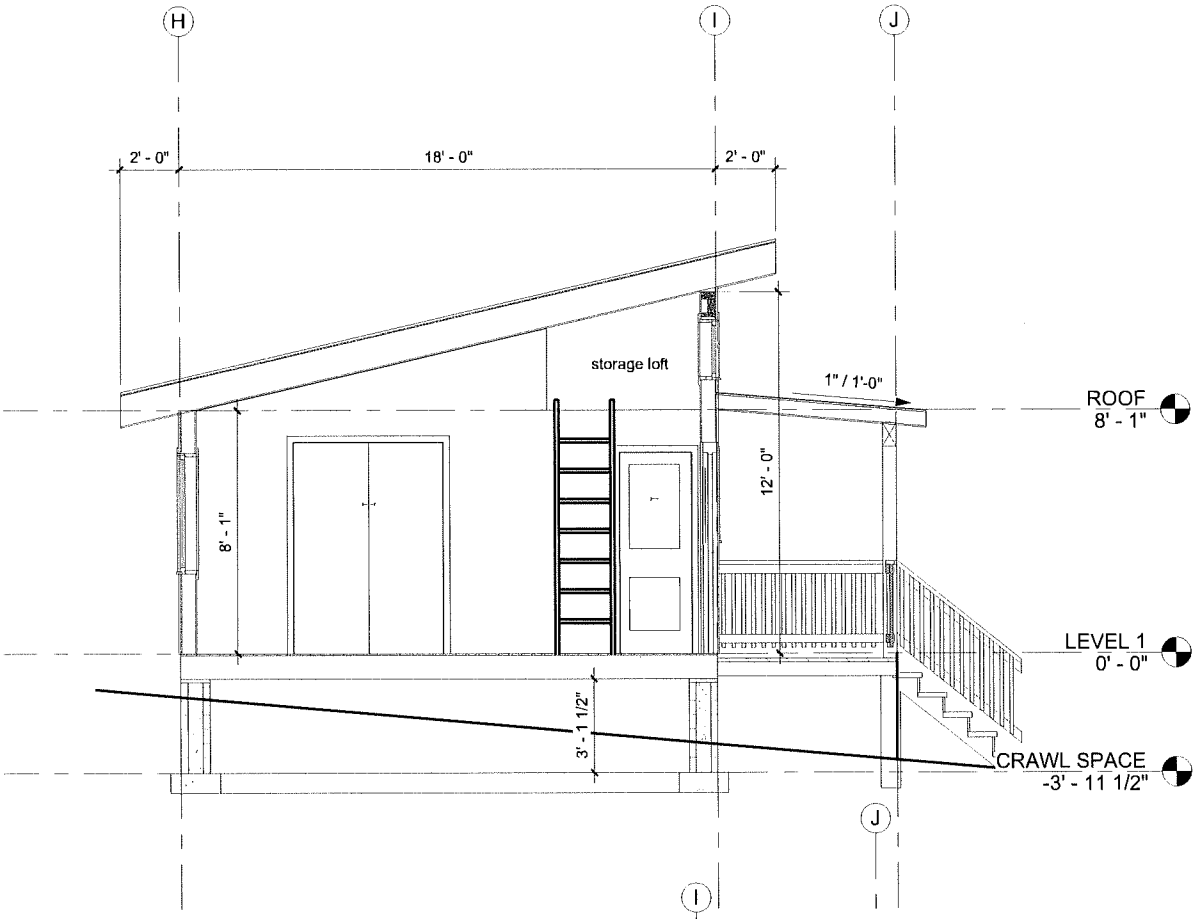


1 LEVEL 1
3/8" = 1'-0"

Ellenwood Homes 2843 Granite Rd Nelson, BC V1L 6Y5	AS MYRAM	Scale 3/8" = 1'-0"	Drawn by MB
		A1.1	Date 2026 01 30
		LEVEL 1 PLAN	



Ellenwood Homes 2843 Granite Rd Nelson, BC V1L 6Y5	AS MYRAM	Scale 3/8" = 1'-0"	Drawn by MB
		A1.2	Date 2026 01 30
		ROOF PLAN	



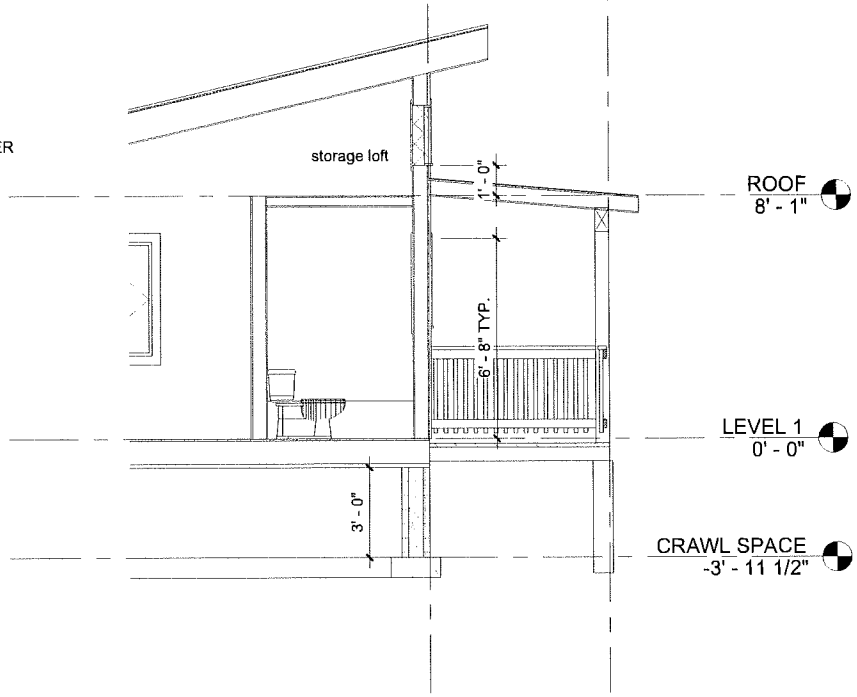
1 Section A
1/4" = 1'-0"

ROOF:
METAL ROOFING ON
APPROVED UNDERLAY ON
1/2" PLYWOOD SHEATHING ON
11 7/8" I JOISTS
C/W 2" VENTILATION BAFFLES
R28 BATT INSULATION
6MIL POLY AIR / VAPOUR BARRIER
1/2" DRYWALL

EXTERIOR WALLS:
SIDING ON
SHEATHING MEMBRANE ON
7/16" OSB ON
2X6 STUDS @ 24" O.C.
6 MIL POLY VAPOUR BARRIER
1/2" DRYWALL

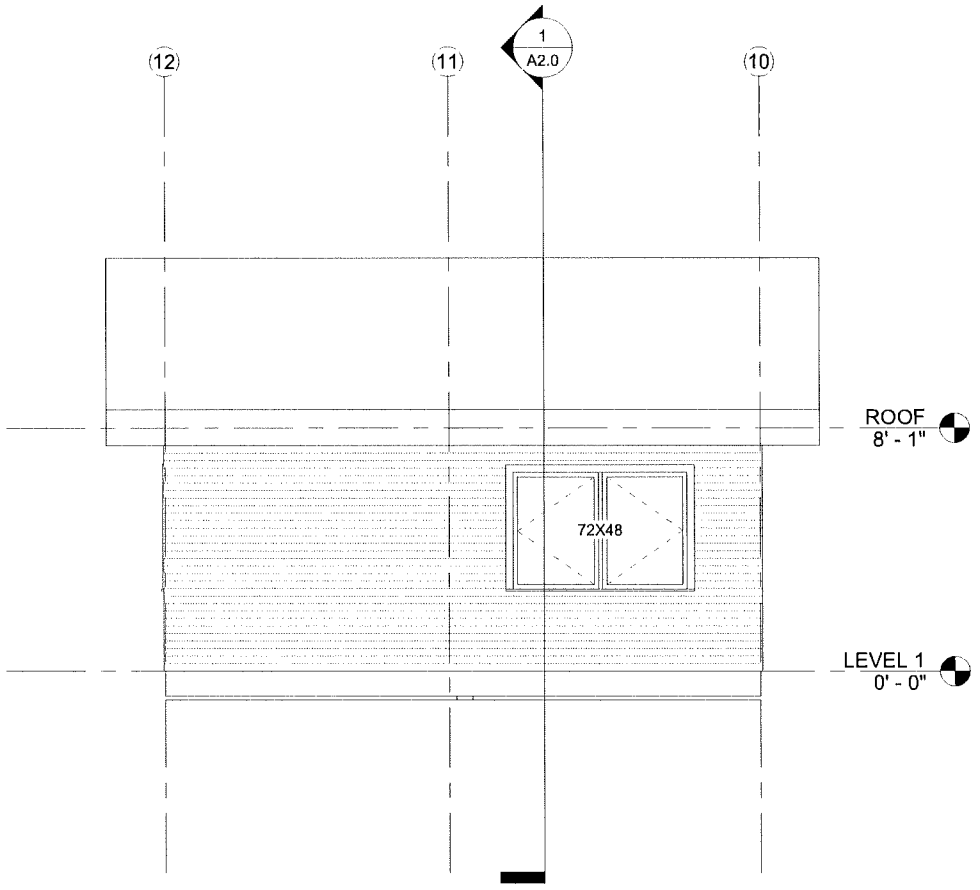
FLOOR:
FINISHED FLOORING ON
5/8" T&G SHEATHING ON
2X10 JOISTS @ 16" O.C.

FOUNDATION:
6" ICF ON
20"X8" STRIP FOOTINGS

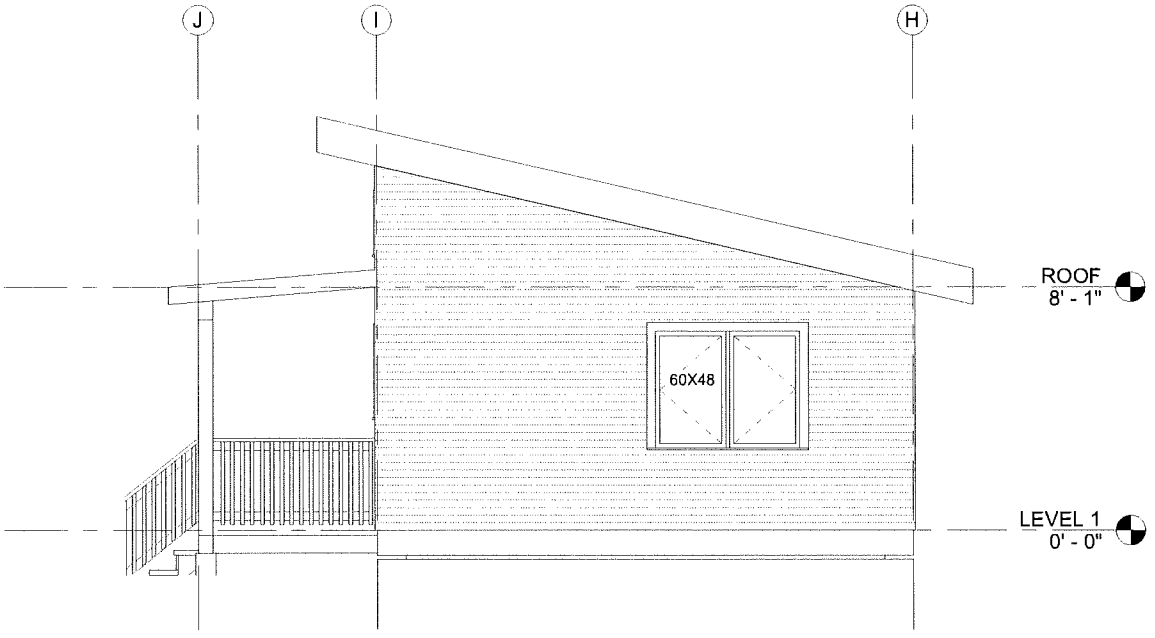


2 Section B
1/4" = 1'-0"

Ellenwood Homes 2843 Granite Rd Nelson, BC V1L 6Y5	AS MYRAM	Scale 1/4" = 1'-0"	Drawn by MB
		A2.0	Date 2026 01 30
		BUILDING SECTIONS	



1 Elevation North
1/4" = 1'-0"



2 Elevation East
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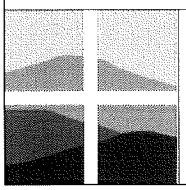


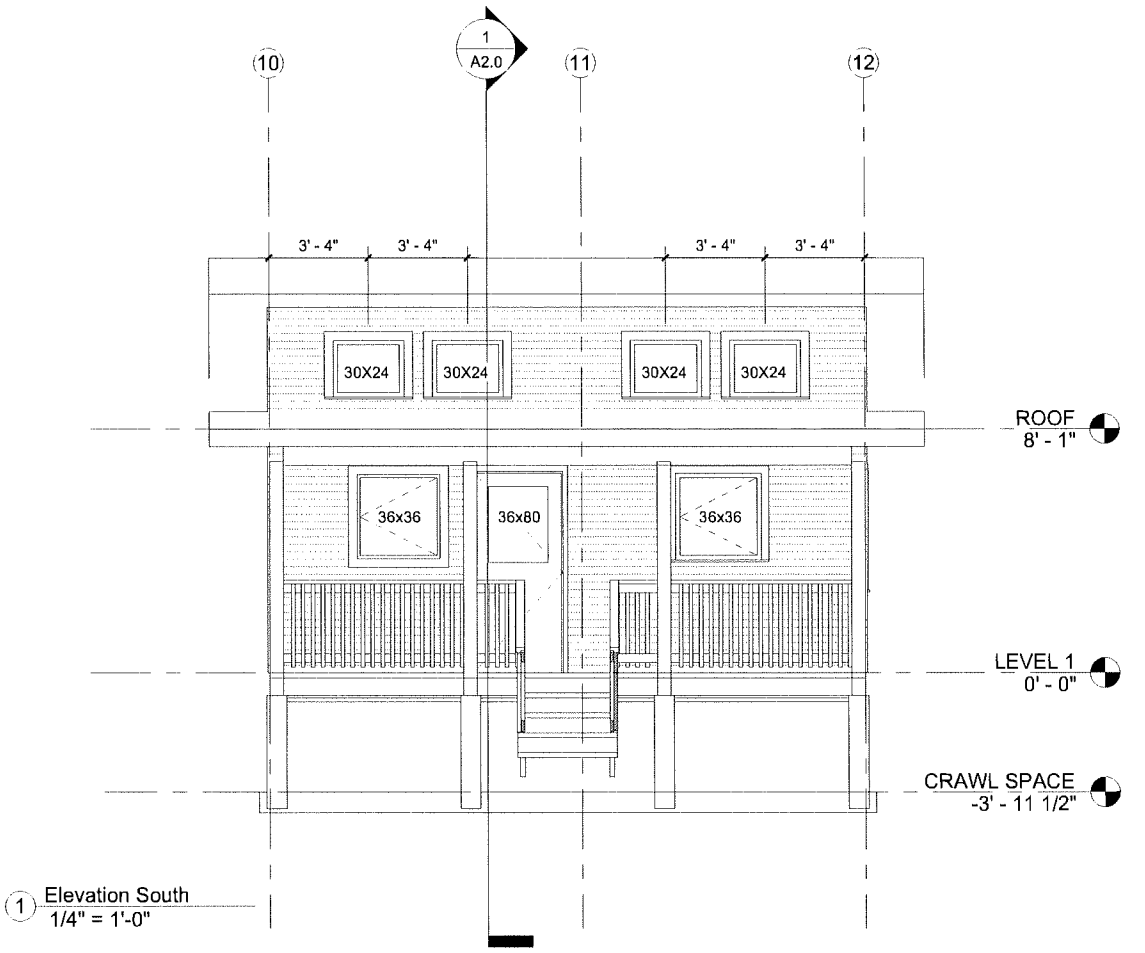
Ellenwood Homes
2843 Granite Rd
Nelson, BC
V1L 6Y5

AS

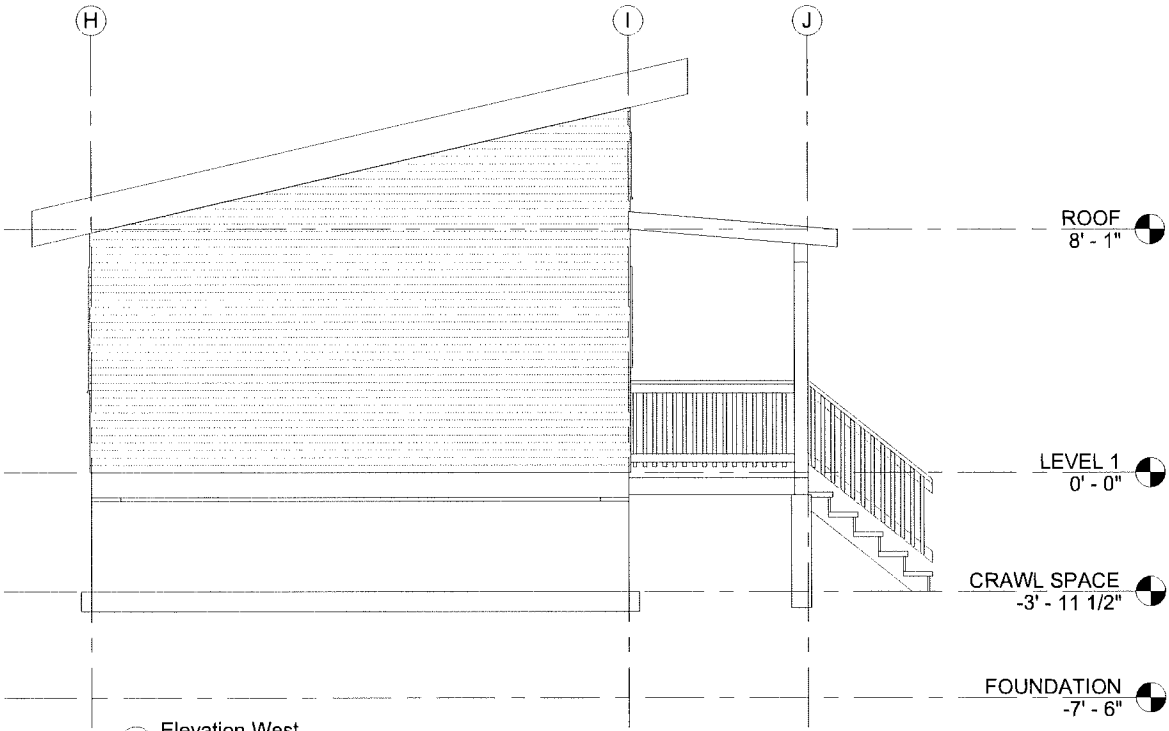
MYRAM

Scale	1/4" = 1'-0"	Drawn by	MB
A3.0		Date	2026 01 30

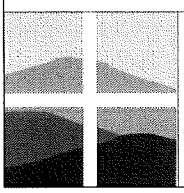
EXTERIOR ELEVATIONS



1 Elevation South
1/4" = 1'-0"



2 Elevation West
1/4" = 1'-0"



Ellenwood Homes
2843 Granite Rd
Nelson, BC
V1L 6Y5

AS

MYRAM

Scale	1/4" = 1'-0"	Drawn by	MB
A3.1		Date	2026 01 30

EXTERIOR ELEVATIONS

Suite #4, 385 Baker Street
Nelson, BC, V1L 4H6
250 509 1009

Flood Hazard Assessment for 2168 Annable Road, North Shore Nelson, BC for Lindsey Myram

Revision 1

April 28, 2026

Report Number: 26.540.01
Distribution:
Lindsey Myram - 1 copy
SNT Geotechnical Ltd. – 1 copy

Table of Content

1. Introduction

At the request of Lindsey Myram (the property owner), SNT Geotechnical Ltd. (SNTG) has completed this flood hazard assessment (FHA). This report replaces the original report dated March 28, 2025. The revision is provided solely to provide clarification on some of the terminology used. All observations, recommendations and conclusions contained in the original document still apply. The FHA is required to support an application to the Regional District of Central Kootenay (RDCK) for a site specific exemption (SSE), from Floodplain Management Bylaw 2080, to construct a 7.3 m (24 foot) by 6.1 m (20 foot) accessory building (including a deck) at 2168 Annable Road (LOT 3, PLAN NEP5416, DISTRICT LOT 4780, KOOTENAY LAND DISTRICT). Specifically, the SSE request is to reduce the floodplain setback distance, from the natural boundary of Crystal Creek, specified in Section 7.2 (k) of the bylaw to accommodate the construction of the accessory building on the property as shown in Figure 3.

2. Site Location

The property is located 6 km northeast of Nelson on the North Shore of Kootenay Lake, as shown in Figures 1 and 2. Figure 3 provides a site plan depicting the proposed location of the new structure.

Figure 1: Property Location – source Google Earth Image

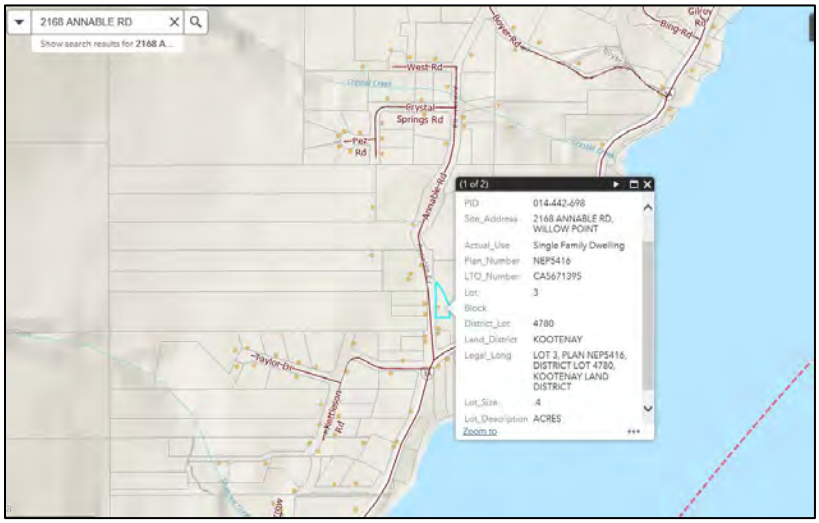


Figure 2: Property Location – Source RDCK webmap

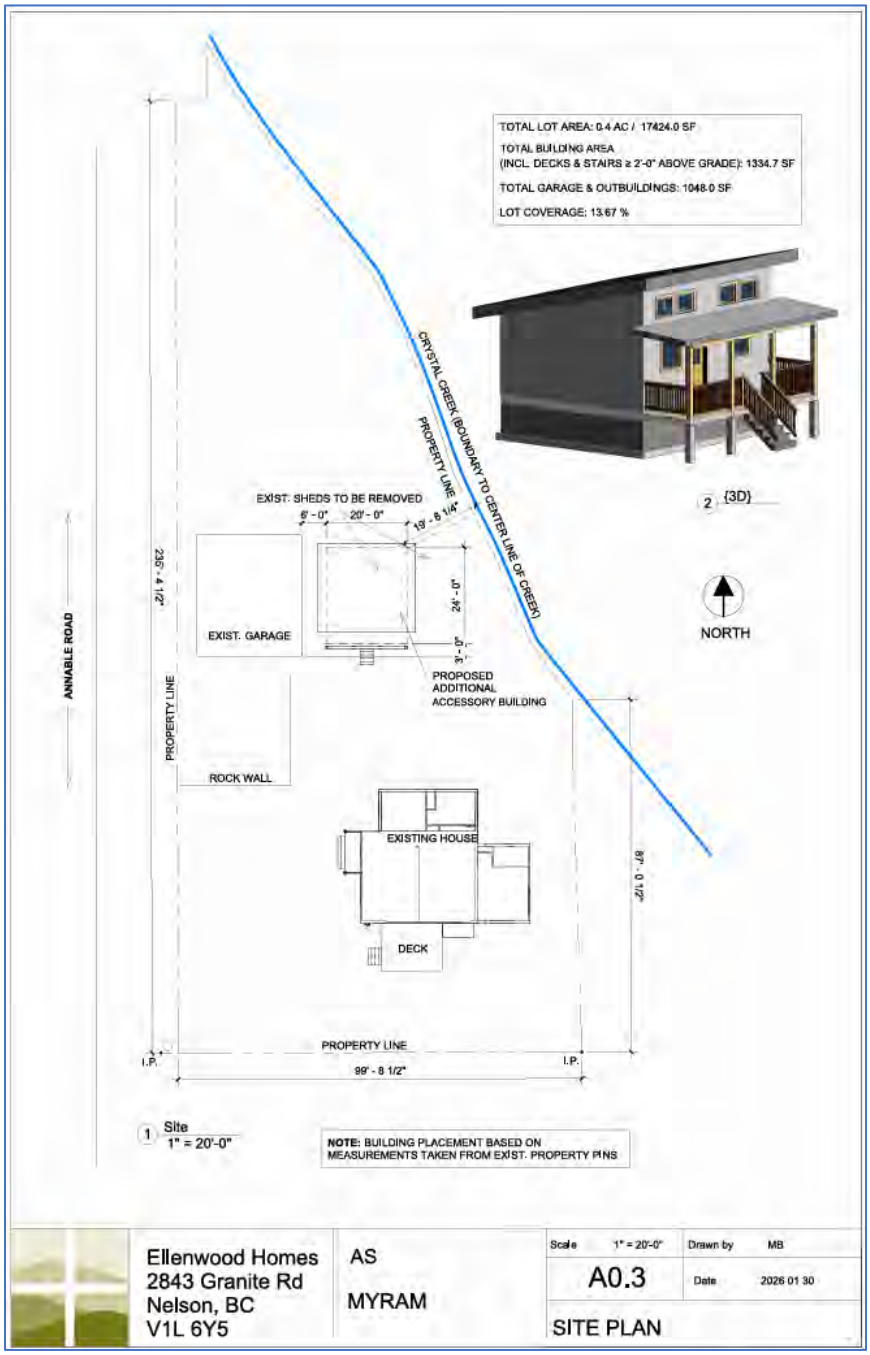


Figure 3: Site Plan – Source Lindsey Myram

3. Project Scope

This FHA was prepared in accordance with the Engineering and Geoscientists of BC's (EGBC) professional practice guideline and Legislated Flood Assessments in a Changing Climate in BC (2018).

Table 1 provides the list of tasks completed.

Table 1: Task List

Activity	Task
Field Review	Inspect subject property and Crystal Creek channel
	Observe and record hazard information
Office	Review background information
	Identify hydrogeomorphic hazards
	Assess hazards considering provincial thresholds for safety
	Analysis and Report writing

4. Background Information

This section provides a summary of the background information used in the preparation of this report.

4.1. RDCK Floodplain Bylaw

The bylaw requires a building setback distance of 15 m from the natural boundary of Crystal Creek. The Bylaw also specifies a flood construction level (FCL) of 1.5 m above the natural boundary of Crystal Creek. In addition, the bylaw refers to a Non Standard Flooding Erosion Area (NSFEA) polygon for Crystal Creek. The polygon, taken from the RDCK web map, is shown in Figure 4. The location of the proposed build site at 2168 Annable Road is shown to be south of the polygon. However, after completing field reviews and examining LiDAR mapping, SNTG has concluded that the Crystal Creek fan boundary is larger than that shown in Figure 4. Figure 5 provides a more accurate delineation of the fan boundary and polygon. This fan polygon was drawn using Google Earth imagery. SNTG has not completed field work to authenticate the boundaries. However, the field work and available LiDAR mapping indicates that the proposed building site is located on the Crystal Creek fan.

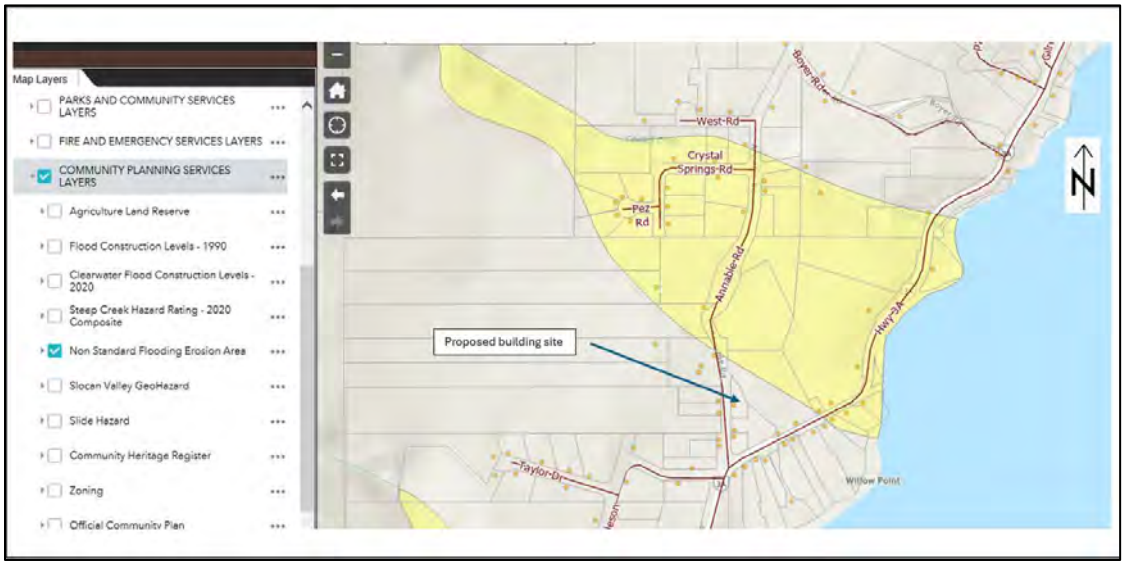


Figure 4: Non Standard Flooding Erosion Area for Crystal Creek – Source RDCK webmap

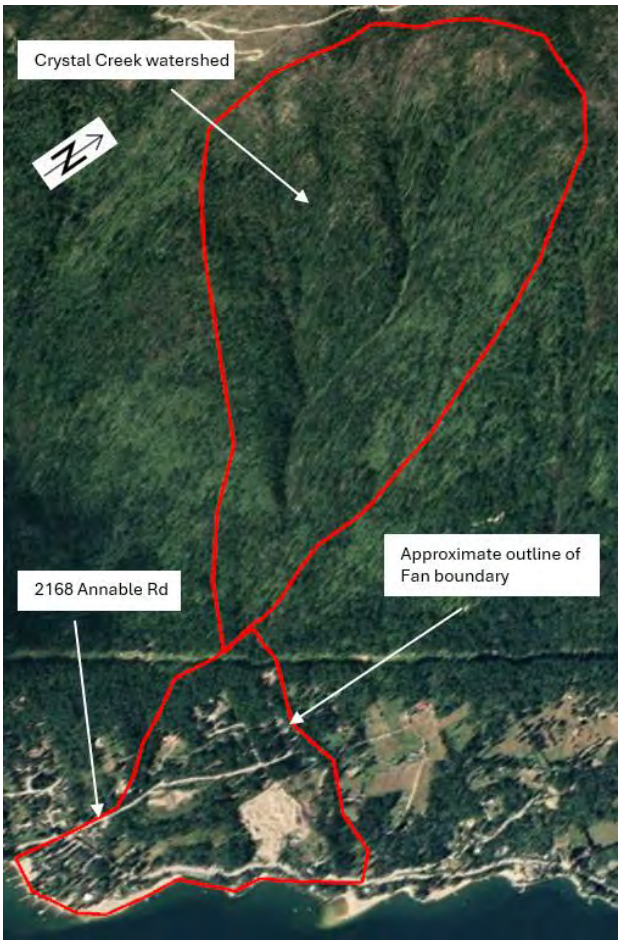


Figure 5: Google Image Showing an Approximation of Crystal Creek Watershed Area and Fan Boundaries

4.2. Land Title Search

A land title search, completed on January 21, 2026, identified that one flood hazard related restrictive covenant registered is on title for 2168 Annable Road. Covenant CA9271612 was registered in 2021 in favour of the RDCK. The covenant was registered as a condition of the approval of a Site Specific Exception (SSE) from Floodplain Management bylaw No. 2080, 2009. The SSE authorized the reduction of the Floodplain Setback distance from the natural boundary of Crystal Creek from 15 m to 9 m to permit the construction of an addition to an existing structure on the property. A copy of the land title search results and CA9271612 are included in Appendix A.

4.3. Existing Reports

An inquiry with the RDCK Planning Department indicated that the RDCK is aware of two other FHAs available for the Crystal Creek /Annable Road area. The relevant findings from these reports are summarized below:

4.3.1. Flood Hazard Assessment of 2168 Annable Road, North Shore Nelson

This report was completed by SNTG in 2021. The report was commissioned to support an application for a Site Specific Exception from the RDCK floodplain bylaw to permit the construction of an addition to the existing structure at 2168 Annable Road. Details of this permit application are discussed in Section 4.2. The investigation concluded, among other things, that the property is situated on an inactive portion of the paraglacial fan of Crystal Creek and that there is a very low probability that any course debris flow material (boulders, cobbles and timber debris) will travel down to the channel or across the fan surface to 2168 Annable Road.

4.3.2. Flood and Debris Flow Hazard Assessment at 2290 Annable Road, North Shore Nelson

This 2022 report, also completed by SNTG, was commissioned to support an application for a building permit to construct a structure at 2290 Annable Road. This property is located on Annable Road approximately 330 m north of the proposed build site on 2168 Annable Road.

5. Provincial and Engineers and Geoscientists Association of BC (EGBC) Guidelines

This section provides a summary of the provincial and EGBC guidelines pertaining to the assessment and regulation of flood hazards for proposed development adjacent to streams and on alluvial fans.

5.1. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD) 2004, Flood Hazard Area Land Use Management Guidelines (amended January 1, 2018)

MFLNRORD guidelines for land use management (2004) state the following with respect to development on alluvial fans:

> "*Consent to develop may be granted by an approval officer:*
> - *Where there is no alternative land available, and*
> - *Where an area of an alluvial fan can be shown to be stable because of hydraulic, physical and/or geological conditions.*
>
> *This approval should be subject to hazard management and flood proofing requirements determined on a site-specific basis. Such requirements may include but are not limited to:*
> - *Development density regulations,*
> - *The identification of the safe building site(s),*
> - *Building elevation and foundation design requirements,*
> - *The construction of on-site and/or off-site protective works, and*
> - *Land use regulations to prevent the alteration of the terrain and features such as landfills, excavations and the construction of new roads and utilities that would alter the hazard rating for the land.*
>
> *Where a study of the flooding hazard is not available and the hazard rating is considered significant, an assessment of the land by a suitably qualified professional should be required.*
>
> *If consent to develop on an alluvial fan is granted:*
>
> *Setback – The setback should be determined in accordance with clauses 3.2.1, 3.2.2 and 3.2.8*
> *FCL – Where the hazard is low, the building should be elevated a minimum of 1.0 meters above the general elevation of the surrounding ground on concrete foundation and protected from scour.*"

Note: Section 3.2.1 states that building setback distance should be 30 m from the natural boundary of any watercourse and that where a designated flood level has not been determined, the Flood Construction Level (FCL) should be no lower than 3 m above the natural boundary. Section 3.2.2 allows for an increase in the building setback distance greater than 30 m where there is a demonstration of extensive flooding and/or significant erosion and/or depth of flooding. Section 3.2.8 indicates that where stream meandering or braiding poses an addition hazard consideration should be given to having a site-specific determination of the setback distance by a suitably qualified professional.

Section 3.2.3 of the Guidelines titled 'Requirements for Smaller Streams' states the following:

> "The requirements for small streams may be reduced where the following conditions exist:

- Sufficient discharge records are available to establish the designated flood and/or the designated flood can be otherwise estimated as less than 80 cubic metres per second, and
- The watercourse has no significant history of flooding and/or bank erosion, and/or
- The watercourse is not located on an alluvial or colluvial fan, and/or
- It is deemed appropriate by an approval office

Setback – The setback requirements may be reduced to 15 metres from the natural boundary of the watercourse provided the floodway is not obstructed'

FCL – The elevation of areas used for habitation, business, or storage of goods damageable by floodwaters should be established within any building at an elevation greater than 1.5 metres above the natural boundary of the watercourse."

5.2. Ministry of Transportation and Transit (MoTT) Policy

While MoTT is not directly involved in the review of FHAs for a building permit their policies related to the assessment of applications for a proposed subdivision on alluvial fans are relevant and are copied below:

"*The Approving Officer considers that the land (proposed lots and/or remainder) within your proposal may be subject to natural hazard(s) such as, but not limited to, flooding, erosion, land slip or avalanche. If the risk to persons and/or property is too great your proposal could be refused. If you wish to explore this aspect further, you should engage a Qualified Professional (QP), registered with Engineers and Geoscientists British Columbia (EGBC), to advise you. All proposed lots and any remainders must be assessed.*

For assessing flood hazards the QP shall provide a report that follows the most recent version of the EGBC Guidelines for Legislated Flood Assessments in a Changing Climate in BC and include the Appendix I: Flood Assurance Statement, duly executed, with any report. Please note that for the purposes of that Appendix I statement, the province of British Columbia does not have an adopted level of flood hazard or flood risk tolerance. Also, the report must be provided for use by the Approving Officer and retention in the record of the approval decision.

The Approving Officer could consider a subdivision plan at risk from an event, based upon a specific probability of occurrence of that event. When quantifying the frequency of occurrence of natural hazards, the QP must distinguish between two different types of events: damaging events and life-threatening events.

Where the damaging event is a flooding hazard, a probability of occurrence of 1 in 200 years should be used as a minimum standard.

Where life-threatening catastrophic events are known as a potential natural hazard to a building lot the QP is to consider events having a probability of occurrence of 1 in 10,000 years and is to identify areas beyond the influence of these extreme events."

5.3. Engineers and Geoscientists BC (EGBC) Professional Practice Guidelines: Legislated Flood Assessment in a Changing Climate in BC

Table D-2 of Appendix D of Engineers and Geoscientists of BC Professional Practice Guidelines: Legislated Flood Assessments in a Changing Climate in BC provides recommendations for the appropriate level of effort to apply for the preparation of an FHA for a development proposal situated on an alluvial fan. The level of effort suggested is dependent on the proposed development type. Tables D-2 from the guidelines are reproduced in Figure 6.

Table D - 2: Types of Flood Hazard Assessments for Debris Floods, Debris Flows, Glacial Lake/Moraine Dam Floods, Including Alluvial Fans

CLASS	TYPICAL HAZARD ASSESSMENT METHODS AND CLIMATE/ENVIRONMENTAL CHANGE CONSIDERATIONS	TYPICAL DELIVERABLES	APPLICATIONS	RETURN PERIODS FOR HAZARD MAPS	APPLICATION FOR DEVELOPMENT TYPE
0	• Site visit and qualitative assessment of Flood Hazard without modelling • Identify any very low hazard surfaces in the consultation area (i.e., inactive fan surfaces) • Consider watershed scale environmental changes	Letter report or memorandum with water levels, approximate flow velocities, and (where appropriate) loading conditions	Very low loss potential for rivers and floodplains; loss of life very unlikely	Typically not needed	Building Permit: • Renovations, expansions, new single house, new duplex house
1	• All that was completed for Class 0 • Qualitative description of process potential, preliminary estimates of process magnitude and frequency, mapping of hazard zones based on field evidence, separation into direct and indirect impact zones • Same as Class 0	Maps showing hazard zones, report with water levels, approximate flow velocities, and (where appropriate) loading conditions	Possible loss of life even for single homes; scoping level studies for linear infrastructures, mines, urban developments	20-year 200-year 500-year (for Alluvial Fans)	Small Subdivision: • Subdivision into separate lots (3 to 10 single-family lots)
2	• All that was completed for Class 1 • Qualitative failure mode assessment, frequency-magnitude assessment based on chronosequential air photograph assessment, judgment-based inundation mapping, empirically-based runout modelling, and inundation mapping • Same as Class 1, and consider how climate change could affect frequency/magnitude characteristics of hazard process	Maps with area inundated for design event, flow velocity, flow depth, delineation of areas prone to bank erosion and river/creek bed elevation changes	Pre-feasibility studies for linear infrastructures, mines, urban developments	10-year 200-year 500-year (where appropriate)	Medium Subdivision: • Subdivision into >10 to 100 single-family lots, new subdivisions
3	• All that was completed for Class 1 • Qualitative failure mode assessment, detailed frequency-magnitude assessment using one or more absolute-dating methods, breach and or runout modelling for the design event as defined by return period and for the most likely failure scenario • Same as Class 2	Creation of frequency-magnitude graphs, mapping of area inundated for model run, flow velocity, flow depth, delineation of areas prone to bank erosion and river/creek bed elevation changes	Feasibility studies for linear infrastructures, mines, urban developments	200-year 1,000-year 2,500-year (where appropriate)	Large Subdivision: • >100 single-family lots, new subdivisions
4a	• All that was completed for Class 1 • Probabilistic failure mode assessment, geotechnical analysis of failure mechanisms, detailed frequency-magnitude assessment using all applicable absolute-dating methods, formulation of credible Hazard Scenarios and assigning of Hazard Scenario probabilities, breach modelling in 1-D and 2-D or 3-D runout modelling • Same as Class 2	Same as Class 3, with detailed reporting of geotechnical analyses; breach outflow hydrographs, and model assumptions and errors; hazard intensity maps for different Hazard Scenarios and return periods	Input for quantitative Risk Assessments; pre-design studies for large urban developments; design-level studies for high value/vulnerable industrial assets	200-year 1,000-year 2,500-year	Very Large Subdivisions (new towns and townships): • >100 single-family lots, new subdivisions
4b	• All that was completed for Class 4a assessment but for different Flood Risk reduction scenarios • Same as Class 3	Same as Class 4a for different Risk reduction scenarios	Same as Class 4	200-year 1,000-year 2,500 year	

Figure 6: Table D-2 describing types of FHAs for alluvial fans – source EGBC 2018

The level of effort appropriate for this report is described in the Class 0 row.

In addition, Section F2.2.1 of Appendix F of the EGBC Guidelines states that in general, new buildings should only be considered for unprotected fans (i.e. not protected by a dike or other protective works) if:

- The local government has adopted an appropriate bylaw or land use regulation that provides for building construction with knowledge of the flood hazard; or
- The qualified professional (QP) concludes that the site may be suitable for the intended use.

Section F2.2.1 of the EGBC Guidelines also states that a QP may conclude that the site may be suitable for the intended use if at least one of the following conditions applies:

- The fan is inactive.
- A standard/adequate dike or equivalent other structural mitigation works is constructed with the pertinent approvals as part of the development.
- The building site is not in a high hazard area of the fan (i.e., an avulsion or debris flow path, a design flood velocity greater than 1 m/s, and where safe access and egress are not possible).
- A risk assessment is undertaken whereby the local government establishes a tolerable level of risk, and the QP assessment confirms that the risk would not exceed this level.

The section also states that if the QP concludes that the land may be suitable for the intended use, the underside of the floor system used for habitation and storage of goods damageable by floodwaters should be elevated a minimum of 1.0 m above the surrounding grade around the perimeter of the building. It also states that particular attention should be given to specifications of appropriate on-site mitigation measures, such as, foundation design, method of achieving the elevation requirement for the underside of the floor system, site grading, and building configuration.

6. Field Observations

A field review was completed by Dwain Boyer, P.Eng on January 15, 2026. Having recently completed an FHA for this and one other nearby property (SNTG 2021 and 2022), the main objective of the January 15, 2026 field review was to assess whether or not there has been any significant alterations of the creek channel or terrain since the completion of the previous FHAs. The January 15, 2026 review included a foot traverse from the Crystal Creek road crossing at the powerline south along the creek channel to the proposed build site on 2168 Annable Road.

A cross section of the creek channel adjacent to the site of the proposed new accessory building (Figure 7) was measured using inclinometer and tape measure. Information was also gathered to establish input for hydraulic modelling (Section 7). Photographs taken are shown in Appendix B.

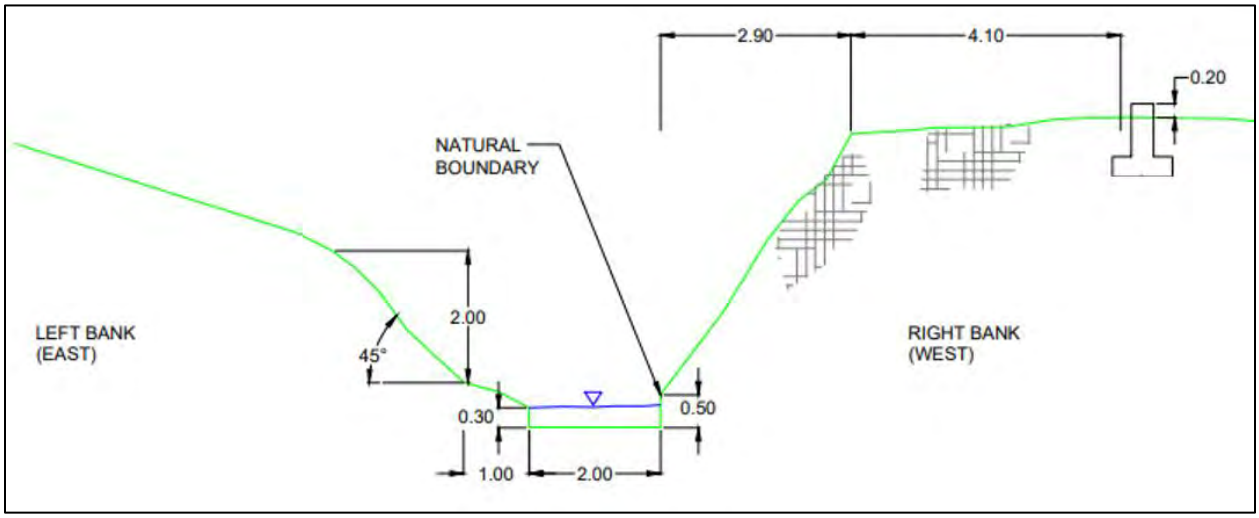


Figure 7: Crystal Creek Cross Section Sketch

Key observations from the field review are summarised below:

- An additional culvert crossing on a private road located approximately 30 m upstream from the 600 mm culvert crossing at Annable Road was documented and is shown in Photo 5. This crossing was not documented during the 2021 traverse because of concerns with crossing private properties at the time. The blockage and/or exceedance of the capacity of the 600 mm culvert under this private road would not have an impact on the flood hazard at the proposed build site. Water would overflow the road, with a high likelihood of a washout. However, water and debris would continue flowing downstream in the confined gulley leading to the culvert crossing at Annable Road.
- Other than the identification of the stream crossing discussed above, no significant alteration or change to the creek channel or terrain upslope of the proposed build site were evident when compared to previous field review related to this property in 2021.
- Fifty percent of the inlet of the 600 mm diameter culvert under Annable Road is blocked with bedload and debris. During an extreme flood event, it is highly likely that the capacity of this culvert will be exceeded and/or the culvert will be blocked resulting in ponding on the upstream side of the road fill and spillage of water and debris south down Annable Road. The flow directional arrows, in Photos 6, 7 and 8, indicate where water and/or debris will flow during and following a washout and/or blockage of the 600 mm culvert under Annable Road.
- As shown in Figure 7, the proposed structure is located 7 m from the natural boundary of Crystal Creek.
- Photos 7 and 8 show the proposed location of the structure adjacent to an existing garage. The proposed structure foundation design is similar to the existing garage shown in Photo 7.

7. Hydrology and Hydraulic Flow Modelling

The assessment of the hazard associated with decreasing the building setback distance from the natural boundary of Crystal Creek requires an estimate of expected flood flow depth and velocity in the adjacent channel (Figure 7 and Photo 1) anticipated during a flood discharge with an annual likelihood (P_a) of occurrence of 0.005 or one in two hundred year recurrence interval discharge (Q_{200}). Crystal Creek does not have flow records available to allow a flood frequency analysis to estimate the magnitude of an extreme event. Consequently, a Crystal Creek Q_{200} estimate was calculated using flow data from the Anderson Creek hydrometric station located 7 km south of Crystal Creek. This station has a watershed area of 9.07 km^2 and a flow record from 1945 to present. A flood frequency analysis, using Anderson Creek data, was used to establish a unit discharge to apply to the Crystal Creek watershed. The Crystal Creek watershed area is 3.0 km^2. Based on this data, the estimated Q_{200} for Crystal Creek is 3.2 m^3/s. The discharge estimate includes an allowance for climate change uncertainty consistent with EGBC guidelines (EGBC 2018). The guidelines recommend applying an upward adjustment of 20% for the design discharge to account for future changes in water input from precipitation. An additional 50% allowance was added to account for increased peak discharge from a potential debris flood: as suggested by Hungr et al (2001) resulting in a **Q_{200} flow estimate of 4.77 m^3/s.**

The assessment of the flood hazard on the fan was primarily based on the review of available information including reports, historical air photographs and more current Google Earth imagery, LiDAR data and field observations. However, SNTG has also used a 2-dimensional hydraulic model to simulate flood flows on the fan. The U.S. Army Corps of Engineers HEC-RAS (v6.2) (Hydraulic Engineering Center's River Analysis System) model was used. A digital elevation model (DEM), developed using LiDAR data from the provincial website, was used in the model. The estimated Q_{200} value of 4.77 m^3/s was used as the input discharge. An additional model run was completed using a flood discharge input with a one in 500 year return period (Q_{500}) of 5 m^3/s.

Parameters used as input for the model are summarized in Table 3. There was no historical flood information available to calibrate and validate the authenticity of the model predictions. However, in general, the model depicted floodwater movement across the present day fan surface along the lines expected from the field observations and historical information.

Table 3: Summary of parameters used for input to the hydraulic model

Parameter	Description/values	Comment
Hydrometric data	4.77 m^3/s	Additional model run using Q_{500} was completed to test sensitivity of the model using an extreme value
Roughness Coefficients (Manning's n values)	• 0.14 stream channel • 0.013 road surface • 0.08 mixed forest	
Geometry	LiDAR DEM	
Mesh Development (cell size)	• 0.5 m in creek gulley • 5 m fan surface	

Figure 8 provides the results (flow depth) of a model run assuming all culverts remain open and functional and an input flood discharge of 4.77 m^3/s.

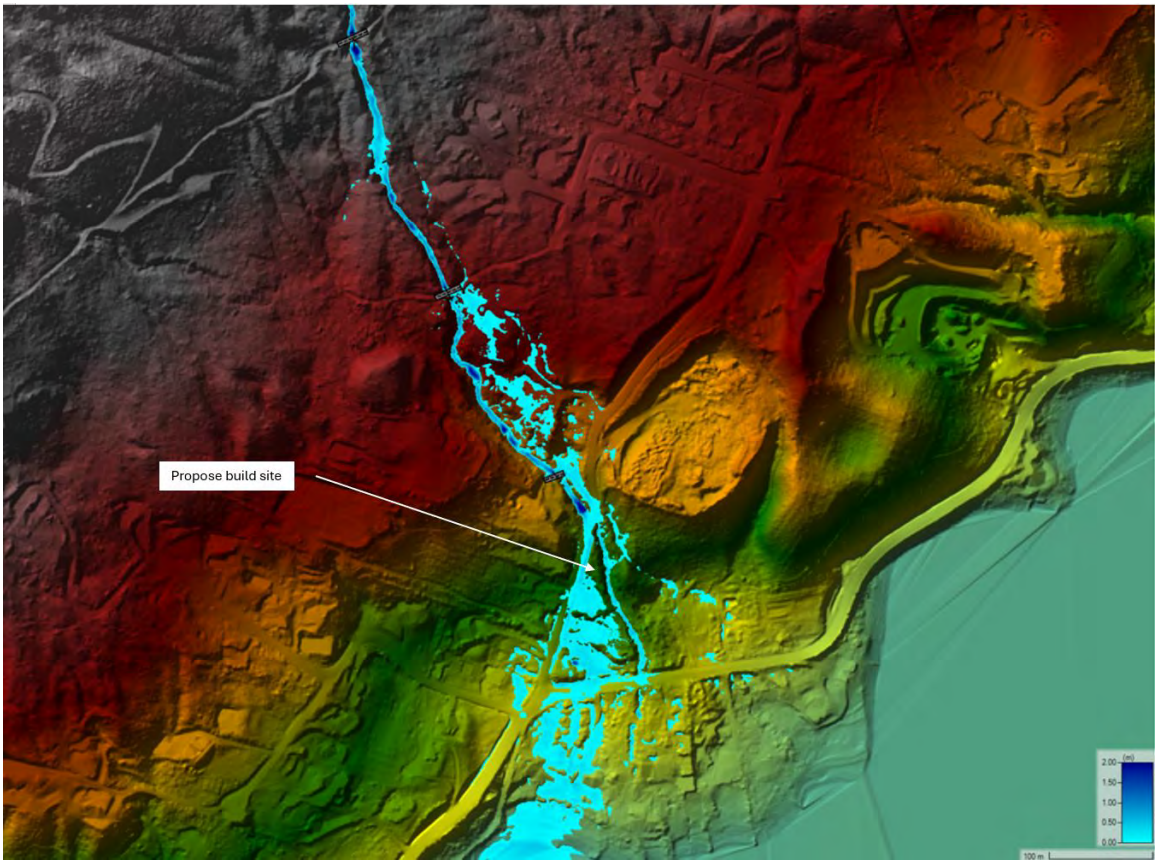


Figure 8: Map depicting results of hydraulic model run assuming all culvert crossings are open and functional and Q_{200} as the input discharge

Figure 9 depicts the results (flow depth) of a model run with the culvert under Annable Road completely blocked. As anticipated from the field review, the model predicts that water will pond on the upstream side of the road crossing and over top the road resulting in water flowing south down Annable Road and ditches. The flow down the road surface and ditches is shown to bypass the proposed build site. This is also consistent with field observations. An additional run was completed using the higher estimated Q_{500} as the input discharge. The results of this run also predicted the flow down Annable Road and ditch line will bypass the proposed build site.

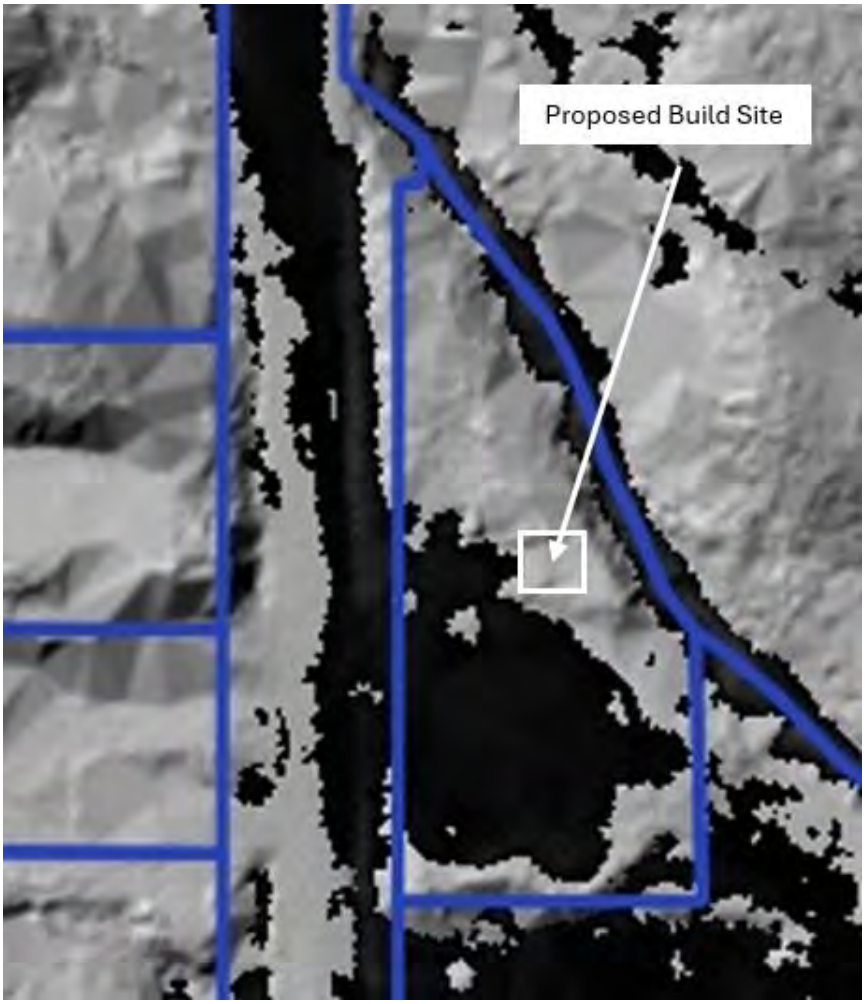


Figure 9: HEC-RAS model run with culvert under Annable Road blocked

The model provides useful information but has limitations:

1. No historical flood information was available to calibrate and validate the authenticity of the model predictions.
2. It is difficult to accurately predict avulsion paths on the fan surface with a two-dimensional, fixed bed model. The model operates on the assumption that the channel and topography on the fan surface remain unchanged during a simulated flood event. In reality, during an extreme flood event, high flow depths and velocities can erode banks, scour new channels across the fan surface and mobilize bedload and floating debris which can result in random and difficult to predict changes in channel geometry and flow routes across the fan surface.
3. Land development on the fan surface (the construction of new roads, driveways, landfills and excavations) over time can also alter the available flow paths across the fan surface.

8. Hazard Assessment

8.1. Hazard Identification and Threshold Levels of Safety

The level of safety on properties affected by river flooding in BC is assessed using a design flood event with a 200-year return period (MFLNRORD, 2004). Recognizing that flooding can be more unpredictable and extreme on alluvial fans the Engineers and Geoscientists of BC (EGBC) recommends the use of a higher return period flood (500 years) when the area may be subject to debris floods and debris flows without warning.

The MOTI guidance also states that "Where life-threatening catastrophic events are known as a potential natural hazard to a building lot the Qualified Professional is to consider events having a probability of occurrence of 1 in 10,000 years and is to identify areas beyond the influence of these extreme events.

8.2. Bank Erosion Hazard Assessment

The modelling results and the field observations indicate that even in the unlikely event that the culvert under Annable Road remains open during an extreme flood and water and debris continues to flow over Annable Road flows back into the channel upstream of the channel adjacent to the build site, the water will not overtop the bank, and the proposed building will not be inundated.

During a Q_{200} event, stream flow velocities in the channel adjacent to 2168 Annable Road are projected to be in the 1.5 to 2 m/s range. The channel bank/gully sidewall consists of a high percentage of boulders to cobble sized rock fragments which is highly resistant to erosion. Consequently, the stream bank/gulley side wall adjacent to the proposed build site, is highly resistant to erosion and/or lateral channel shifting and there is a low probability that bank erosion will cause flood damage to the proposed building site.

8.3. Crystal Creek Fan Hazard

As mentioned above, the proposed build site is shown to be outside of the RDCK flood hazard polygon (Figure 4). However, field reviews and the review of LiDAR mapping indicates that the proposed build site is located on the Crystal Creek fan. Consequently, the flood hazards associated with the possibility of overland flow resulting from an avulsion from the creek channel have been assessed.

While there is a higher likelihood of a channel avulsion on the steeper terrain at and near the apex of the fan, once the channel reaches the milder sloping, mid reaches of the fan, above the proposed build site, the creek flows are concentrated in the well incised channel/gulley. However, there are three road fills with small diameter culverts that cross the gulley/channel along this reach. During an extreme flood event, it is highly likely that the capacity of these culverts will be exceeded which will increase the likelihood of road washouts. Washouts at the road crossings, located upstream of Annable Road, will not have a significant adverse effect on the flood hazard at the proposed build site. Water and debris ponding on the upstream side of these road fills will flow over the roads and continue to flow in the incised channel/gulley down to the Annable Road crossing. However, a blockage and/or exceedance of the

culvert capacity at the Annable Road crossing will result in water and debris flowing down Annable Road in the direction of the proposed build site. However, as shown in Photos 6, 7 and 8 and suggested by the hydraulic modelling results (Figures 7 and 8), there is a high likelihood that water and debris will flow down the roadway to the west of existing garage and will bypass the proposed build site.

There are several factors that make it difficult to accurately predict where overland flow will occur on an alluvial/debris flood prone fan surface during an extreme flood event. Four of the factors are listed below.

- The dynamic nature of flooding on an alluvial/debris flood prone fan. During an extreme event the movement of bedload and floating debris (causing debris jams and blocking culverts) and channel shifting increases the likelihood of channel avulsions. These processes are difficult to impossible to predict and model with accuracy.
- Future modifications to the creek channel (fills and road crossings) and/or the terrain surface (new roads, driveways, excavations) can alter how flood will occur across the fan surface.
- Climate change impacts on hydrology, terrain stability and creek flows.
- Limitations associated with hydraulic modelling, primarily the inability to model the dynamic flow regime.

Given these uncertainties, it is prudent to incorporate flood mitigation measures at the proposed build site. If overland flow from a channel avulsion were to reach the proposed build site it would be in the form of shallow, low velocity sheet flow with a limited ability to cause damages to the building or its inhabitants. A typical mitigation measure commonly used to reduce the risk of flood damages is to elevate the underside of any floor system to an elevation that is above the predicted flood level. For the proposed structure, the design (Figure 3) calls for the construction of a foundation with the bottom of the floor system elevated 0.2 m above the ground level. This elevation of the floor system is deemed appropriate to mitigate potential flood damage. Further, due to the low erosion hazard, special erosion control measures for the foundation are not deemed necessary.

9. Conclusions and Recommendations

The following conclusions and recommendations resulting from the investigation:

1. Crystal Creek flows in a channel/gulley adjacent to (east) the proposed build site. The channel/gulley has sufficient capacity to convey a Q_{200} flood without overtopping and inundating the building site.
2. The bank of channel/gulley is highly resistant to bank erosion or channel shifting. The foundation of the proposed building was measured to be 7 m from the natural boundary of Crystal Creek. **This floodplain setback distance is deemed to render the building safe for its intended use.**
3. It is recommended that the building setback distance from the natural boundary for Crystal |Creek prescribed in Floodplain Management Bylaw 2080 be reduced from 15 m to 7 m to accommodate the construction of the structure as shown on the site plan (Figure 3).
4. To reduce the likelihood of flood damages caused by overland flow emanating from an avulsion from the Crystal Creek channel the underside of the floor system intended to be used for habitation and

storage of goods damageable by flood waters should constructed to an elevated at least 0.2 m above the highest ground elevation, as measured on the upslope side of the perimeter of the building.

5. The use intended is the construction of a new structure at 2168 Annable Road. With the incorporation of the flood damage mitigation measures recommended in 3 and 4 above **the proposed structure shown on the site plan (Figure 3) at 2168 Annable Road can be used safely for the intended use as required under Section 56 of the Community Charter.**

10. Flood Hazard Assurance Statement

A flood hazard assurance statement is included in Appendix C.

11. Closure – Report Use and Limitations

This report is prepared for the exclusive use of Lindsey Myram and the RDCK and may not be used by other parties without the written permission of SNT Geotechnical Ltd.

The use of this report is subject to the conditions on the Report Interpretation and Limitations sheet which is included with this report (Appendix D). The reader's attention is drawn specifically to those conditions, as it is considered essential that they be followed for proper use and interpretation of this report.

The material in this report reflects SNTG's best judgment and professional opinion in light of the information available to it at the time of preparation. Any use which a third party makes of this report or any reliance on or decision to be made based on it are the responsibility of such third parties. SNTG accepts no responsibility for damages, if any, suffered by any third party as a result of decision made or action based, or lack thereof, on this report. No other warranty is made, either expressed or implied.

The report and assessment have been carried out in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report.

Prepared by:

SNTG Permit Number 1001083
Dwain Boyer, P. Eng
SNT Geotechnical Ltd.

Reviewed by:

Ryan Williams, P. Geo
SNT Geotechnical Ltd.

12. References

1. BGC Engineering Inc, 2020, RDCK Floodplain and Steep Creek Study
2. Engineers and Geoscientists of BC, 2018, Professional Practice Guidelines, Legislated Landslide Assessments for Proposed Residential Development in BC Version 3.0
3. Engineers and Geoscientists of BC 2018 Professional Practice Guidelines, Legislated Flood Assessments in a changing Climate in BC Version 2.1 August 28, 2018
4. Klohn-Crippen, Feb 1998, Terrain Stability Inventory Alluvial and Debris Torrent Fans Kootenay Region, MFLNRO Report # 1020.
5. MFLNRORD, 2004 Flood Hazard Area Land Use Management Guidelines
6. Regional District of Central Kootenay, 2009 Floodplain Management Bylaw No. 2080
7. Regional District of Central Kootenay, 2009 Terms of Reference for Requirements for Professional Engineering/Geoscientists Undertaking Geotechnical Reports/Flood Hazard Assessments Reports
8. SNT Geotechnical Ltd, 2021 Flood Hazard Assessment at 2168 Annable Road, North Shore Nelson
9. SNT Geotechnical Ltd, 2022 Flood and Debris Flow Hazard Assessment at 2290 Annable Road, North Shore Nelson
10. Wallace, C. Alluvial Fan Boundary Mapping in Nelson Region, MFLNRO Report # 1395
11. Wilford, D. et al, 2004, Recognition of Debris Flow, Debris Flood and Flood Hazard Through Watershed Morphometrics.

Appendices

Appendix A – Title Search Results

TITLE SEARCH PRINT 2026-01-21, 09:58:25
File Reference: Requestor: Dwain Boyer
Declared Value $280000

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Land Title District	NELSON
Land Title Office	NELSON
Title Number	CA5671395
From Title Number	KX102424
Application Received	2016-11-25
Application Entered	2016-11-29

Registered Owner in Fee Simple
Registered Owner/Mailing Address: KURT RUSSELL MYRAM, JOURNEYMAN CARPENTER
LINDSEY ELIZABETH REED, JUNIOR ACCOUNTANT
2168 ANNABLE ROAD
NELSON, BC
V1L 6K5
AS JOINT TENANTS

Taxation Authority Nelson Trail Assessment Area

Description of Land
Parcel Identifier: 014-442-698
Legal Description:
LOT 3 DISTRICT LOT 4780 KOOTENAY DISTRICT PLAN 5416

Legal Notations
THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 14 OF THE LOCAL GOVERNMENT ACT, SEE CA8471528

Charges, Liens and Interests

Nature:	EASEMENT
Registration Number:	69849D
Registration Date and Time:	1965-05-28 14:30
Remarks:	APPURTENANT TO LOTS 1 AND 2 OF DISTRICT LOT 4780 KOOTENAY DISTRICT PLAN 5416
Nature:	MORTGAGE
Registration Number:	CA5671396
Registration Date and Time:	2016-11-25 10:03
Registered Owner:	KOOTENAY SAVINGS CREDIT UNION INCORPORATION NO. FI36

Title Number: CA5671395 TITLE SEARCH PRINT Page 1 of 2

TITLE SEARCH PRINT 2026-01-21, 09:58:25
File Reference: Requestor: Dwain Boyer
Declared Value $280000

Nature:	COVENANT
Registration Number:	CA9271612
Registration Date and Time:	2021-08-12 14:41
Registered Owner:	REGIONAL DISTRICT OF CENTRAL KOOTENAY

Nature:	PRIORITY AGREEMENT
Registration Number:	CA9271613
Registration Date and Time:	2021-08-12 14:41
Remarks:	GRANTING CA9271612 PRIORITY OVER CA5671396

Duplicate Indefeasible Title	NONE OUTSTANDING
Transfers	NONE
Pending Applications	NONE

Title Number: CA5671395 TITLE SEARCH PRINT Page 2 of 2

Land Title Act
Charge
General Instrument – Part 1

KAMLOOPS LAND TITLE OFFICE
AUG 12 2021 14:41:49.001
CA9271612-CA9271613

1. Application

REGIONAL DISTRICT OF CENTRAL KOOTENAY
BOX 590, 202 LAKESIDE DRIVE
NELSON BC V1L 5R4
250-352-1536

2. Description of Land

PID/Plan Number	Legal Description
014-442-698	**LOT 3 DISTRICT LOT 4780 KOOTENAY DISTRICT PLAN 5416**

3. Nature of Interest

Type	Number	Additional Information
COVENANT		**SECTION 219**
PRIORITY AGREEMENT	**CA5671396**	**Mortgage**

4. Terms

Part 2 of this instrument consists of:
(b) Express Charge Terms Annexed as Part 2

5. Transferor(s)

KURT RUSSELL MYRAM

LINDSEY ELIZABETH REED

KOOTENAY SAVINGS CREDIT UNION INCORPORATION, NO.F138

6. Transferee(s)

REGIONAL DISTRICT OF CENTRAL KOOTENAY
BOX 590, 202 LAKESIDE DRIVE
NELSON BC V1L 5R4

7. Additional or Modified Terms

Form C (Section 233)

2021 07 23 10:13:03.809

1 of 3 Pages

Status: Registered Plan #: CA9271612 App #: N/A Ctrl #: (Altered) RCVD: 2021-08-12 RQST: 2026-01-21 10.10.40

Status: Registered Doc #: CA9271612 RCVD: 2021-08-12 RQST: 2026-01-21 10.10.40

bc Land Title & Survey

Land Title Act
Charge
General Instrument – Part 1

8. Execution(s)

This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Witnessing Officer Signature	Execution Date	Transferor Signature(s)
	YYYY-MM-DD **2021-08-12**	**KURT MYRAM**
Suzanne Nedham **Commissioner for Taking Affidavits for British Columbia** Regional District of Central Kootenay Box 590, 202 Lakeside Drive Nelson BC V1L 6V9		**LINDSEY REED**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor Signature(s)
	YYYY-MM-DD **2021-08-10**	**Kootenay Savings Credit Union** By their Authorized Signatory
Bruce A. LeRose **Barrister & Solicitor** Suite 302-1199 Cedar Ave Trail BC V1R 4B8		**Edith Negreiff**
		Paul Butler

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Form C (Section 233) 2021 07 23 10:13:03.809 2 of 3 Pages

Status: Registered Plan #: CA9271612 App #: N/A Ctrl #: (Altered) RCVD: 2021-08-12 RQST: 2026-01-21 10.10.40

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Land Title Act
Charge
General Instrument – Part 1

Electronic Signature
Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

Suzanne Nedham V8A1MN

Digitally signed by Suzanne Nedham V8A1MN
Date: 2021-08-12 14:42:11 -07:00

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EXPRESS CHARGE TERMS – PART 2

WHEREAS:

A. The Grantor is the registered owner in fee simple of:

014-442-698
LOT 3 DISTRICT LOT 4780 KOOTENAY DISTRICT PLAN 5416

(hereinafter called the "Land");

B. The Grantee is the Regional District of Central Kootenay;

C. The Grantor has applied to the Grantee, under Section 11 of Regional District of Central Kootenay Floodplain Management Bylaw No. 2080, 2009 (the "Bylaw"), for a Site Specific Exemption (the "Site Specific Exemption") in relation to the Land from one or more of the Floodplain Specifications prescribed in that Bylaw for the purpose of constructing a **single family dwelling or applicable structure** (the "Intended Use");

D. The Grantee, under Section 524 of the *Local Government Act,* may make the granting of the Site Specific Exemption subject to the terms and conditions the Grantee considers necessary or advisable;

E. Under Section 11.2 of Schedule "A" to the Bylaw, the granting of the General Exemption is conditional on the Grantor providing the Grantee with a Report certified by a qualified professional that the land may be used safely for the use intended;

F. Pursuant to Section 524 of the *Local Government Act***,** the Grantor has provided the Grantee with the Report of the Engineer, SNT Geotechnical Ltd., P. Eng., dated June, 2021, which report is attached to this Agreement as Schedule 'A' (the "Report") certifying that the Land may be safely used for the purposes for which the permit application was made;

G. The Grantor has agreed to the terms and conditions of the granting of the Site Specific Exemption, namely to provide the Report to the Grantee, and to enter into and register this Agreement against the title to the Land as a covenant and indemnity under Section 219 of the *Land Title Act* and Section 524 of the *Local Government Act*.

NOW THEREFORE, in consideration of the premises and the covenants herein contained and for other valuable consideration, receipt and sufficiency of which is hereby acknowledged by the parties, the parties hereto covenant and agree with each other as follows:

1. The Grantor covenants and agrees to use the Land for the 'Intended Use' strictly in the manner determined and certified by the Engineer in the Report as enabling the safe use of the Land for the Intended Use.

2. The Grantor covenants and agrees to the following:

   a. That construction within Nine (9.0) meters (permitted setback as per **RDCK Board Resolution or Engineer's Report**) of the natural boundary of Crystal Springs Creek is prohibited.

   b. That construction must meet the applicable **Flood Construction Level (FCL)**.

   c. Any **Additional Conditions or Considerations** as outlined in the 'Report' or as a 'Subject' to approval of the Site Specific Exemption.

3. The Grantor covenants and agrees that the Site Specific Exemption is conditional on the Grantor's compliance with Section 1 of this Agreement and further covenants and agrees that failure to comply with Section 1 is a breach of this Agreement and entitles the Grantee to revoke the Site Specific Exemption.

4. The Grantor shall reimburse the Grantee for any expense that may be incurred by the Grantee as a result of a breach of a covenant under this Agreement.

5. The Grantor and the Grantee agree that the enforcement of this Agreement shall be entirely within the discretion of the Grantee and that the execution and registration of this covenant against the title to the Land shall not be interpreted as creating any duty on the part of the Grantee to the Grantor or to any other person to enforce any provision or the breach of any provision of this Agreement.

6. The Grantor acknowledges that the covenants in this Agreement are enforceable against the Grantor and the Grantor's successors in title, but the Grantor is not personally liable for breach of the covenants after the Grantor has ceased to be the owner of the Land.

7. Nothing contained or implied herein shall prejudice or affect the rights and powers of the Grantee in the exercise of its functions under any public or private statutes, bylaws, orders and regulations, all of which may be fully and effectively exercised in relation to the Land as if this Agreement had not been executed and delivered by the Grantor, and in particular, without limiting the generality of the foregoing, the Building Inspector of the Grantee may request further or additional reports to be prepared by a professional engineer or geoscientist experienced in geotechnical engineering prior to the issuance of a Building Permit for the Land.

8. The Grantor hereby releases and forever discharges the Grantee of and from any claim, cause of action, suit, demand, expenses, costs and legal fees whatsoever which the Grantor can or may have against the said Grantee for any loss or damage or injury that the Grantor may sustain or suffer arising out of the issuance of the Site Specific Exemption or a Building Permit for the Intended Use, or the use of the Land as a result of the issuance of the Site Specific Exemption or a Building Permit for the Intended Use, or as result of flooding or erosion of the Land.

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9. The Grantor covenants and agrees to indemnify and save harmless the Grantee from any and all claims, causes of action, suits, demands, expenses, costs and legal fees whatsoever that anyone might have as owner, occupier or user of the Land, or by a person who has an interest in or comes onto the Land, or by anyone who suffers loss of life or injury to his person or property, that arises out of the issuance of the Site Specific Exemption or a Building Permit for the Intended Use, or the use of the Land as a result of the issuance of the Site Specific Exemption or a Building Permit for the Intended Use, or as result of flooding or erosion of the Land.

10. It is mutually understood, acknowledged and agreed by the parties hereto that the Grantee has made no representations, covenants, warranties, guarantees, promises or Agreements (oral or otherwise) with the Grantor other than those contained in this Agreement.

11. The Grantor agrees to execute all other documents and provide all other assurances necessary to give effect to the covenants contained in this Agreement.

12. The Grantor shall pay the legal fees and disbursements and Land Title Office registration fees incurred by the Grantee in connection with the preparation and registration of this Agreement.

13. The Grantor covenants and agrees for itself, its heirs, executors, successors and assigns, that it will at all times perform and observe the requirements and restrictions hereinbefore set out and they shall be binding upon the Grantor as personal covenants only during the period of its respective ownership of any interest in the Land.

14. The restrictions and covenants herein contained shall be covenants running with the Land and shall be perpetual, and shall continue to bind all of the Land when subdivided, and shall be registered in the Kamloops Land Title Office pursuant to Section 219 of the *Land Title Act* and Section 524 of the *Local Government Act* as covenants in favor of the Grantee and as a first charge against the Land.

15. This Agreement shall inure to the benefit of the Grantee and shall be binding upon the parties hereto and their respective heirs, executors, successors and assigns.

16. Wherever the expressions "Grantor" and "Grantee" are used herein, they shall be construed as meaning the plural, feminine or body corporate or politic where the context or the parties so require.

17. Kootenay Savings Credit Union Incorporation No. F138 the registered holder of a charge by way of Mortgage against the within described property which said charge is registered in the Land Title Office at Kamloops, British Columbia, under #CA5671396, for and in consideration of the sum of One ($1.00) Dollar paid by the Grantee to the said Charge holder (the receipt whereof is hereby acknowledged), agrees with the Grantee, its successors and assigns, that the within Section 219 Covenant shall be an encumbrance upon the within described property in priority to the said Charges in the same manner and to the same effect as if it had been dated and registered prior to the said Charges.

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IN WITNESS WHEREOF the parties hereto hereby acknowledge that this Agreement has been duly executed and delivered by the parties executing Form C and D (page(s) 1 and 2) attached hereto.

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SCHEDULE "A" - REPORT OF ENGINEER

END OF DOCUMENT

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Appendix B – Site Photographs

Photo 1: View of right (southwest) Creek bank and location of the Cross Section shown in Figure 7.

Photo 2: View of Crystal Creek channel looking downstream from a vantage point approximately 25 m upstream from the proposed build site. An existing shed is shown on right background. Stream channel gradient 10%.

Photo 3: View of entrance to 600 mm diameter culvert under Annable Rd crossing at on north end of the property approximately 60 m upstream from the proposed build site.

Photo 4: View of Crystal Creek channel upstream from the 600 mm diameter culvert crossing of Annable Road.

Photo 5: View showing culvert road crossing on private road approximately 30 m upstream from the 600 mm culvert crossing at Annable Road shown in Photo 3.

Photo 6: View of looking north along Annable Road at the location of the 600 mm culvert crossing from a vantage point on the west side of the property. The proposed build site is to the east or right side of the photograph on the east side of the garage. A culvert blockage or flow capacity exceedance during an extreme flood will result in water and debris flowing down the road (depicted by white flow directional arrows) bypassing the proposed build site on 2168 Annable Road. The road surface gradient is 10%.

Photo 7: View looking at the Annable Road surface and ditch adjacent to the property. The white flow directional arrows indicate the path of overland flow from a blockage/ capacity exceedance at the 600 mm culvert crossing on Annable Road.

Photo 8: View looking south showing proposed build site adjacent (east) of the existing garage.

Appendix C – Flood Hazard Assessment Assurance Statement

Note: This statement is to be read and completed in conjunction with the current Engineers and Geoscientists BC *Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC* ("the guidelines") and is to be provided for flood assessments for the purposes of the *Land Title Act*, Community Charter, or the *Local Government Act*. Defined terms are capitalized; see the Defined Terms section of the guidelines for definitions.

To: The Approving Authority
RDCK
Nelson, BC
Jurisdiction and address

Date: Feb 25, 2026

With reference to (CHECK ONE):

- ☐ *Land Title Act* (Section 86) – Subdivision Approval
- ☐ *Local Government Act* (Part 14, Division 7) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ *Local Government Act* (Section 524) – Flood Plain Bylaw Variance
- ☑ *Local Government Act* (Section 524) – Flood Plain Bylaw Exemption

For the following property ("the Property"):
Lot 3 D.L. 4780 Kootenay District Plan 5416 (2168 Annable Rd)
Legal description and civic address of the Property

The undersigned hereby gives assurance that he/she is a Qualified Professional and is a Professional Engineer or Professional Geoscientist who fulfils the education, training, and experience requirements as outlined in the guidelines.

I have signed, sealed, and dated, and thereby certified, the attached Flood Assessment Report on the Property in accordance with the guidelines. That report and this statement must be read in conjunction with each other. In preparing that Flood Assessment Report I have:

[CHECK TO THE LEFT OF APPLICABLE ITEMS]

- ✓ 1. Consulted with representatives of the following government organizations: RDCK
- ✓ 2. Collected and reviewed appropriate background information
- ✓ 3. Reviewed the Proposed Development on the Property
- ✓ 4. Investigated the presence of Covenants on the Property, and reported any relevant information
- ✓ 5. Conducted field work on and, if required, beyond the Property
- ✓ 6. Reported on the results of the field work on and, if required, beyond the Property
- ✓ 7. Considered any changed conditions on and, if required, beyond the Property
- 8. For a Flood Hazard analysis I have:
  - ✓ 8.1 Reviewed and characterized, if appropriate, Flood Hazard that may affect the Property
  - ✓ 8.2 Estimated the Flood Hazard on the Property
  - ✓ 8.3 Considered (if appropriate) the effects of climate change and land use change
  - ✓ 8.4 Relied on a previous Flood Hazard Assessment (FHA) by others
  - ✓ 8.5 Identified any potential hazards that are not addressed by the Flood Assessment Report
- 9. For a Flood Risk analysis I have:
  - ___ 9.1 Estimated the Flood Risk on the Property
  - ___ 9.2 Identified existing and anticipated future Elements at Risk on and, if required, beyond the Property
  - ___ 9.3 Estimated the Consequences to those Elements at Risk

10. In order to mitigate the estimated Flood Hazard for the Property, the following approach is taken:
- ✓ 10.1 A standard-based approach
- ___ 10.2 A Risk-based approach
- ✓ 10.3 The approach outlined in the guidelines, Appendix F: Flood Assessment Considerations for Development Approvals
- ___ 10.4 No mitigation is required because the completed flood assessment determined that the site is not subject to a Flood Hazard

11. Where the Approving Authority has adopted a specific level of Flood Hazard or Flood Risk tolerance, I have:
- ___ 11.1 Made a finding on the level of Flood Hazard or Flood Risk on the Property
- ___ 11.2 Compared the level of Flood Hazard or Flood Risk tolerance adopted by the Approving Authority with my findings
- ___ 11.3 Made recommendations to reduce the Flood Hazard or Flood Risk on the Property

12. Where the Approving Authority has not adopted a level of Flood Hazard or Flood Risk tolerance, I have:
- ✓ 12.1 Described the method of Flood Hazard analysis or Flood Risk analysis used
- ✓ 12.2 Referred to an appropriate and identified provincial or national guideline for level of Flood Hazard or Flood Risk
- ✓ 12.3 Made a finding on the level of Flood Hazard of Flood Risk tolerance on the Property
- ✓ 12.4 Compared the guidelines with the findings of my flood assessment
- ✓ 12.5 Made recommendations to reduce the Flood Hazard or Flood Risk

✓ 13. Considered the potential for transfer of Flood Risk and the potential impacts to adjacent properties

✓ 14. Reported on the requirements for implementation of the mitigation recommendations, including the need for subsequent professional certifications and future inspections.

Based on my comparison between:

[CHECK ONE]

☐ The findings from the flood assessment and the adopted level of Flood Hazard or Flood Risk tolerance (item 11.2 above)

☑ The findings from the flood assessment and the appropriate and identified provincial or national guideline for level of Flood Hazard or Flood Risk tolerance (item 12.4 above)

I hereby give my assurance that, based on the conditions contained in the attached Flood Assessment Report:

[CHECK ONE]

☐ For subdivision approval, as required by the *Land Title Act* (Section 86), "that the land may be used safely for the use intended":

[CHECK ONE]

- ☐ With one or more recommended registered Covenants.
- ☐ Without any registered Covenant.

☐ For a development permit, as required by the *Local Government Act* (Part 14, Division 7), my Flood Assessment Report will "assist the local government in determining what conditions or requirements it will impose under subsection (2) of this section [Section 491 (4)]".

☐ For a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended":

[CHECK ONE]

- ☐ With one or more recommended registered Covenants.
- ☐ Without any registered Covenant.

☑ For flood plain bylaw variance, as required by the *Flood Hazard Area Land Use Management Guidelines* and the *Amendment Section 3.5 and 3.6* associated with the *Local Government Act* (Section 524), "the development may occur safely".

☐ For flood plain bylaw exemption, as required by the *Local Government Act* (Section 524), "the land may be used safely for the use intended".

I certify that I am a Qualified Professional as defined below.

Feb 25, 2026
Date

Prepared by

Dwain Boyer
Name (print)

Signature

3196 Heddle Rd
Address

Nelson, BC

250 551-8345
Telephone

dwain@SNTG.ca
Email

Reviewed by

Ryan Williams
Name (print)

Signature

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
DWAIN C. BOYER
12557
Feb 25, 2026

(Affix PROFESSIONAL SEAL here)

If the Qualified Professional is a member of a firm, complete the following:

I am a member of the firm SNT Geotechnical Ltd
and I sign this letter on behalf of the firm.
(Name of firm)

Appendix D – Report Interpretation and Limitations

1. STANDARD OF CARE

SNT Geotechnical Ltd. (SNTG) has prepared this report in a manner consistent with generally accepted engineering consulting practices in this area, subject to the time and physical constraints applicable. No other warranty, expressed or implied, is made.

2. COMPLETENESS OF THIS REPORT

This Report represents a summary of paper, electronic and other documents, records, data and files and is not intended to stand alone without reference to the instructions given to SNTG by the Client, communications between SNTG and the Client, and/or to any other reports, writings, proposals or documents prepared by SNTG for the Client relating to the specific site described herein.

This report is intended to be used and quoted in its entirety. Any references to this report must include the whole of the report and any appendices or supporting material. SNTG cannot be responsible for use by any party of portions of this report without reference to the entire report.

3. BASIS OF THIS REPORT

This report has been prepared for the specific site, development, design objective, and purpose described to SNTG by the Client or the Client's Representatives or Consultants. The applicability and reliability of any of the factual data, findings, recommendations or opinions expressed in this document pertain to a specific project as described in this report and are not applicable to any other project or site, and are valid only to the extent that there has been no material alteration to or variation from any of the descriptions provided to SNTG. SNTG cannot be responsible for use of this report, or portions thereof, unless we were specifically requested by the Client to review and revise the Report in light of any alterations or variations to the project description provided by the Client.

If the project does not commence within 18 months of the report date, the report may become invalid and further review may be required.

The recommendations of this report should only be used for design. The extent of exploration including number of test pits or test holes necessary to thoroughly investigate the site for conditions that may affect

Construction costs will generally be greater than that required for design purposes. Contractors should rely upon their own explorations and interpretation of the factual data provided for costing purposes, equipment requirements, construction techniques, or to establish project schedule.

The information provided in this report is based on limited exploration, for a specific project scope. SNTG cannot accept responsibility for independent conclusions, interpretations, interpolations or decisions by the Client or others based on information contained in this Report. This restriction of liability includes decisions made to purchase or sell land.

4. USE OF THIS REPORT

The contents of this report, including plans, data, drawings and all other documents including electronic and hard copies remain the copyright property of SNTG. However, we will consider any reasonable request by the Client to approve the use of this report by other parties as "Approved Users."

With regard to the duplication and distribution of this Report or its contents, we authorize only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of this Report by those parties. The Client and "Approved Users" may not give, lend, sell or otherwise make this Report or any portion thereof available to any other party without express written permission from SNTG. Any use which a third party makes of this Report – in its entirety or portions thereof – is the sole responsibility of such third parties. SNT GEOTECHNICAL LTD. ACCEPTS NO RESPONSIBILITY FOR DAMAGES SUFFERED BY ANY PARTY RESULTING FROM THE UNAUTHORIZED USE OF THIS REPORT.

Electronic media is susceptible to unauthorized modification or unintended alteration, and the Client should not rely on electronic versions of reports or other documents. All documents should be obtained directly from SNTG.

5. INTERPRETATION OF THIS REPORT

Classification and identification of soils and rock and other geological units, including groundwater conditions have been based on exploration(s) performed in accordance with the standards set out in Paragraph 1.

These tasks are judgmental in nature; despite comprehensive sampling and testing programs properly performed by experienced personnel with the appropriate equipment, some conditions may elude detection.

As such, all explorations involve an inherent risk that some conditions will not be detected.

Further, all documents or records summarizing such exploration will be based on assumptions of what exists between the actual points sampled at the time of the site exploration. Actual conditions may vary significantly between the points investigated and all persons making use of such documents or records should be aware of and accept this risk.

The Client and "Approved Users" accept that subsurface conditions may change with time and this report only represents the soil conditions encountered at the time of exploration and/or review. Soil and ground water conditions may change due to construction activity on the site or on adjacent sites, and also from other causes, including climactic conditions.

The exploration and review provided in this report were for geotechnical purposes only. Environmental aspects of soil and groundwater have not been included in the exploration or review or addressed in any other way.

The exploration and Report are based on information provided by the Client or the Client's Consultants, and conditions observed at the time of our site reconnaissance or exploration. SNTG has relied in good faith upon all information provided. Accordingly, SNTG cannot accept responsibility for inaccuracies, misstatements, omissions, or deficiencies in this Report resulting from misstatements, omissions, misrepresentations or fraudulent acts of persons or sources providing this information.

6. DESIGN AND CONSTRUCTION REVIEW

This report assumes that SNTG will be retained to work and coordinate design and construction with other Design Professionals and the Contractor. Further, it is assumed that SNTG will be retained to provide field reviews during construction to confirm adherence to building code guidelines and generally accepted engineering practices, and the recommendations provided in this report. Field services recommended for the project represent the minimum necessary to confirm that the work is being carried out in general conformance with SNTG's recommendations and generally accepted engineering standards. It is the Client's or the Client's Contractor's responsibility to provide timely notice to SNTG to carry out site reviews.

The Client acknowledges that unsatisfactory or unsafe conditions may be missed by intermittent site reviews by SNTG. Accordingly, it is the Client's or Client's Contractor's responsibility to inform SNTG of any such conditions.

Work that is covered prior to review by SNTG may have to be re-exposed at considerable cost to the Client. Review of all Geotechnical aspects of the project are required for submittal of unconditional Letters of Assurance to regulatory authorities. The site reviews are not carried out for the benefit of the Contractor(s) and therefore do not in any way effect the Contractor(s) obligations to perform under the terms of his/her Contract.

7. SAMPLE DISPOSAL

SNTG will dispose of all samples 3 months after issuance of this report, or after a longer period of time at the Client's expense if requested by the Client. All contaminated samples remain the property of the Client and it will be the Client's responsibility to dispose of them properly.

8. SUBCONSULTANTS AND CONTRACTORS

Engineering studies frequently requires hiring the services of individuals and companies with special expertise and/or services which SNT Geotechnical Ltd. does not provide. These services are arranged as a convenience to our Clients, for the Client's benefit. Accordingly, the Client agrees to hold the Company harmless and to indemnify and defend SNT Geotechnical Ltd. from and against all claims arising through such Sub consultants or Contractors as though the Client had retained those services directly. This includes responsibility for payment of services rendered and the pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. These conditions apply to specialized sub consultants and the use of drilling, excavation and laboratory testing services, and any other Sub consultant or Contractor.

9. SITE SAFETY

SNT Geotechnical Ltd. assumes responsibility for site safety solely for the activities of our employees on the jobsite. The Client or any Contractors on the site will be responsible for their own personnel. The Client or his representatives, Contractors or others retain control of the site. It is the Client's or the Client's Contractors responsibility to inform SNTG of conditions pertaining to the safety and security of the site – hazardous or otherwise – of which the Client or Contractor is aware.

Exploration or construction activities could uncover previously unknown hazardous conditions, materials, or substances that may result in the necessity to undertake emergency procedures to protect workers, the public or the environment. Additional work may be required that is outside of any previously established budget(s). The Client agrees to reimburse SNTG for fees and expenses resulting from such discoveries. The Client acknowledges that some discoveries require that certain regulatory bodies be informed. The Client agrees that notification to such bodies by SNTG Geotechnical Ltd. will not be a cause for either action or dispute.