



STAFF REPORT

TO: CHIEF ADMINISTRATIVE OFFICER
FROM: BRIGID REYNOLDS, CONSULTING TOWN PLANNER
SUBJECT: DP2026-05 WITH VARIANCE – 460 WINTER DR
MEETING DATE: MARCH 24, 2026
SUBJECT PROPERTY: LOT 3, SECTION 6, RENFREW DISTRICT, PLAN EPP138345 (PID 032-429-576)

PURPOSE

The purpose of this application is to approve a development permit with a variance to reduce the front yard setback from 7.5 m to 5.5 m for the construction of a single-family dwelling within the Watercourse & Streamside Protection Development Permit Area (DPA 1).

BACKGROUND

The subject property is located on a 1,070 m² (0.26 ac) parcel, located at 460 Winter Dr. The property is zoned Suburban Residential (R-1). The OCP designates the property as within DPA 1 due to its proximity to a small creek that runs along the north side of the property.

Reports submitted in support of this application include:

- Riparian Areas Protection Regulation: Assessment Report, prepared by Brittany Brooks, dated October 22, 2025
- Conditions and Impact Assessment and Riparian Planting Plan, prepared by Brittany Brooks, dated August 17, 2025

This lot was recently created as part of the phase 5 of the Slopes subdivision. Three covenants were registered on the title of the property to address various elements including wildfire, infiltrator (storm water) and riparian area.

Watercourse Protection DPA

The purpose of the Watercourse Protection DPA is to protect watercourses and their riparian areas, and the adjacent upland areas and to provide recommendations to minimize negative impacts to the riparian area and where possible enhance the area.

The Riparian Areas Protection Regulation: Assessment Report, prepared by Brittany Brooks and Bob Crandall, dated October 22, 2025, establishes the SPEA at 10.0 m from the natural boundary. The conditions of this permit detailed below are intended to minimize any negative impacts to the SPEA.

The Conditions and Assessment Report (CIA) and Planting Plan address issues associated with deficient reporting of the riparian condition for the original subdivision application. DP2025-12 approved December 16, 2025 'approved the CIA and Planting Plan. A landscape bond in the amount of \$6,030.45 to secure the planting was paid as part of DP2025-12.

Zoning Bylaw

The R-1 zone district establishes a front yard setback of 7.5 m. The applicant is requesting to reduce the front yard setback by 2.0 m to move the dwelling unit further away from the riparian area, as shown on Attachment 1. This will create more useable space in the rear yard, outside of the riparian area, and will minimize potential constructed related damage to the riparian area.

IMPLICATIONS

- a. Financial:**
Application fees are collected to cover the cost of processing the application.

- b. Policy/Legislation:**
The subject property is located in Development Permit Area – 1 for watercourse protection pursuant to the Official Community Plan.

- c. Strategic Priority:**
N/A

- d. Sustainability:**
N/A

- e. Communication:**
As required by the Development Approval Procedures Bylaw No. 1109, notice of the application was sent to neighbours within 50 m of the subject property a minimum of 10 days prior to Council's consideration of the request. The notice was mailed out on February 12, 2026 and no comments have been received.

- f. Staffing Implication:**

Processing this application is part of the Planning Department's regular duties.

Options

- 1) Approve the development permit with variances for this application.
- 2) Approve the development permit with variances with additional requirements.
- 3) Deny the development permit with variances for this application.

Recommendation

The contract planner recommends approving DPwV2026-05 to reduce the front yard setback from 7.5 m to 5.5 m [Zoning Bylaw section 5.1.6. e)i)] and to approve the development permit for the property located at 460 Winter Rd, legally described as Lot 3, Section 6, Renfrew District, Cowichan Lake District, Plan EPP138345 (PID 032-429-576) in conformance with the following conditions:

1. All development shall be in accordance with
 - a. Attached site plan
 - b. Riparian Areas Protection Regulation: Assessment Report, prepared by Brittany Brooks, dated October 22, 2025
2. Prior to any land alteration and building permit issuance
 - a. Delineate the SPEA boundary with high visibility fencing.
 - b. Implement sediment and erosion control measures in consultation with the QEP consistent with the RAPR Assessment Report.
3. Prior to occupancy permit issuance:
 - a. Install some form of permanent demarcation of the SPEA line.
 - b. Install two stormtec chambers with clean out

Signed:

Brigid Reynolds

Brigid Reynolds RPP MCIP
Contract Planner

Concurrence:

John T

John Thomas
Chief Administrative Officer

ATTACHMENT 2
RIPARIAN AREA REGULATION REPORT

FORM 1

Riparian Areas Protection Regulation - Qualified Environmental Professional - Assessment Report

Riparian Areas Protection Regulation: Assessment Report

Please refer to submission instructions and assessment report guidelines when completing this report.

Date **22-10-2025**

I. Primary QEP Information

First Name	Brittany	Middle Name	May
Last Name	Brooks		
Designation	R.P. Bio	Company	
Registration #	4080	Email	b.brooksenvironmental@gmail.com
Address	PO Box 1238		
City	Lake Cowichan	Postal/Zip	V0R2G0
Prov/state	BC	Country	Canada
		Phone #	250-701-3092

II. Secondary QEP Information

First Name	Robert	Middle Name	William
Last Name	Crandall		
Designation	Environmental ASCT	Company	Swordfern Environmental
Registration #	27767	Email	rcrandall007@yahoo.com
Address	PO Box 1354		
City	Lake Cowichan	Postal/Zip	V0R2G0
Prov/state	BC	Country	Canada
		Phone #	250-715-7074

III. Developer Information

First Name	Section 22 - Disclosure harmful to Personal Privacy
Last Name	
Company	
Phone #	
Address	
City	
Prov/state	

IV. Development Information

Development Type	Residential – single family		
Area of Development (ha)	0.03	Riparian Length (m)	40.8
Lot Area (ha)	0.107	Nature of Development	new
Proposed Start Date	07-28-2025	Proposed End Date	09-15-2027

V. Location of Proposed Development

Street Address (or nearest town)	Town of Lake Cowichan		
Local Government	Town of Lake Cowichan	City	Lake Cowichan
Stream Name	Fork of Beadnell Creek		
Legal Description (PID)	032-429-576	Region	Vancouver Island
Stream/River Type	Stream	DFO Area	South Island
Watershed Code	920-2577582		
Latitude	48	50	13
Longitude	-124	03	14

Completion of Database Information includes the Form 2 for the Additional QEPs, if needed. Insert that form immediately after this page.

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Description of Fisheries Resources Values

A historically constructed drainage ditch on the 14.32-hectare parent property was developed to intercept multiple seeps and braided stormwater flows originating from upland areas of the site. This man-made channel connects to a natural tributary that descends into a glade and ultimately converges with the main stem of Beadnell Creek.

Over time, numerous development concepts have been proposed for the site, and several engineering firms have been engaged to explore subdivision design options that account for existing hydrological features. In a previous assessment, Ministry of Environment Director Peter D. Law visited the property and provided direction that resolved concerns related to flow patterns and the maintenance of wildlife corridors through the site.

The upper portion of the property has been cleared and grubbed for several decades. In contrast, the lower portion of the tributary (associated with the proposed Phase V, see CIA below) traverses a mixed forested area that contributes ecological function through shading, organic matter input (leaf litter and insect fall), and channel stability. This section flows into a defined ravine system before joining the main stem of Beadnell Creek.

The confluence area serves as known Roosevelt Elk habitat, providing consistent bedding locations within the forest canopy and near perennial water sources. Elk frequently cross Beadnell Creek during nocturnal movements, occasionally contributing to localized sediment mobilization. Sediment from this section is monitored and filtered daily at the downstream salmon hatchery intake.

A tributary to (fork of) Beadnell Creek is within the proposed development and requires protection as it is important to the Cowichan Lake Salmonid Enhancement Society. It provides cool clean water to the rearing salmonids in the hatchery every Spring. Beadnell Creek then flows into the Cowichan River.

Stream Code: N/A

Stream Name: Beadnell Creek

Operational Management Unit: Lake Cowichan North

Municipal: Town of Lake Cowichan, CVRD Area F

- A) **BIOPHYSICAL OVERVIEW:** This stream enters the Cowichan from the north 1,200 m below the Cowichan Lake weir. The upper basin of the main stem is steep and narrow but the portion below the 260 m contour is relatively broad. Summer flow is supplied by groundwater seepage. Winter flow fluctuation is minimal. The west branch parallels the base of the west end of Hill 60 picking up seepage.

Air Photos

BC 82007 137-138

FORM 1

Riparian Areas Protection Regulation - Qualified Environmental Professional - Assessment Report

<u>Topographic Map</u>	92 C/16, 92C.090
<u>Salmonids</u>	Co to 1819 m but access is difficult after 94 m Cm to 94 m. Ct to 1819 m Bt to 1819 m.
<u>Obstructions</u>	25 m concrete section in Upper R1 which starts @ 75m. Migration period velocity in the lower 11 m of this section is about 2 MPS (most of this concrete was removed in 1999) Cowichan Lake Road culvert at 98 m (passable). Culvert is a 77 m long concrete box 3 m wide. It is just barely passable at times for adult coho, cutthroats and brown trout. It passes under Cowichan Lake Road and the west portion of Cowichan Esso (Romeo's). 500 m concrete flume with 3% slope (passable). Baffles added to aid fish passage 1994 -2002 (flume and culvert - Burns, 02) Sharply increasing gradient above 1819 m. Series of small drops on W.Fork in R2. Greatest vertical drop: .5 m. 1 m falls at 400 m on Neva Creek.
<u>Max. Temp. (C)</u>	12 9/19/87 R1 18.5 (R3 at highway 8/1/98) 15.2 West Fork R1 (9/12/98) 13.4 R5 (9/12/98) 17.2 R1 (8/18/04)
<u>Min Disch. (m3)</u>	.0025 (9/19/87) R1 .0028 (8/18/04) R1 R2 0 R3 0 R4 0 for the first 100 m in very dry years R4 .00045 (8/26/85) R4 .0035 @ 50 m (9/12/98) R5 .0029 @ Hancock Logging Road (9/12/98) West Fork R1 .000032 (9/12/98)
<u>Max. Disch.</u>	5.4 CMS (11/25/98)

BEADNELL CREEK

Channel width (m)	Wetted width (m)	Substrate	Slope%	Channel Confinement	Side Channel	Length (m)	Wetted Area (m ²)
<u>Mainstem</u>							
Reach 1	4.0	1.0	145R	1.0	CON	N 98	98
Reach 2	3.0	0	R	3.0	ENT	N 500	0
Reach 3	5.0	0	2710	1.2	FC	M 310	0
Reach 4	3.0	1.0	1450	2.0	FC	L 755	755

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Reach 5	1.0	1.0	1540	3.5	CON	N	160	160
Reach 6	1.0	1.0	1450	7.0	CON	N	1000	1000
<u>West Branch (enters Beadnell at 1230 m)</u>								
Reach 1	2.0	1.0	1630	2.0	FC	L	72	72
Reach 2	1.0	1.0	1270	7.0	CON	N	35	35
Reach 3	2.0	1.0	1630	2.5	CON	N	500	500
<u>East Branch (Neva Creek)</u>								
Reach 1	3.0	0	2610	2.0	FC	L	300	0
Reach 2	1.0	0.3	1540	4.0	ENT	N	350	105
Reach 3	1.0	0	1540	8.0	CON	N	900	0
<i>Description of the Development proposal</i>								
<p>A gentle slope ranging from approximately 2% to 4% is present over Lot 3, Section 6, Renfrew District, Plan EPP138345. This grade is consistent across the assessed riparian area and supports both native and non-native vegetation communities.</p>								
<p>Native vegetation observed within the riparian assessment area includes:</p> <ul style="list-style-type: none"> • Herbaceous and ground layer species: Sedges (<i>Carex</i> spp.), Sword Fern (<i>Polystichum munitum</i>), Foxglove (<i>Digitalis purpurea</i>), Skunk Cabbage (<i>Lysichiton americanus</i>), and Horsetail (<i>Equisetum</i> spp.) • Shrubs and small trees: Nootka Rose (<i>Rosa nutkana</i>), Willow (<i>Salix</i> spp.), Red Huckleberry (<i>Vaccinium parvifolium</i>), Oregon Grape (<i>Mahonia</i> spp.), Thimbleberry (<i>Rubus parviflorus</i>), Salmonberry (<i>Rubus spectabilis</i>), and Mountain Ash (<i>Sorbus</i> spp.) • Tree species: Red Alder (<i>Alnus rubra</i>), Western Red Cedar (<i>Thuja plicata</i>), Grand Fir (<i>Abies grandis</i>), and Western Hemlock (<i>Tsuga heterophylla</i>) 								
<p>Invasive plant species recorded on site include:</p> <ul style="list-style-type: none"> • Himalayan Blackberry (<i>Rubus armeniacus</i>) • Scotch Broom (<i>Cytisus scoparius</i>) • Creeping Thistle (<i>Cirsium arvense</i>) 								
<p>The subject watercourse exits through a defined ravine characterized by maturing mixed-species forest, including both coniferous and deciduous trees. This riparian zone exhibits a closed canopy in several sections, contributing to shading, bank stability, and organic matter input into the aquatic system.</p>								
<p>The lot size is 0.107 Ha, and the front setback is 7.5m which pushes the proposed building northwest into the lot and towards the SPEA. The 30m RAA encompasses the entire lot.</p>								

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The proposed development is for a single-family dwelling on the subject property, with the following specifications:

- Main Floor Area: 1,244 sq ft
- Upper Floor Area: 845 sq ft
- Attached Garage: Incorporated into the design to minimize impervious surface area.
- Back Patio: Designed to be functional and minimally invasive, with attention to site drainage and vegetation retention.

In response to stormwater management requirements, the development includes the installation of two SC740 stormwater chambers for the capture and management of stormwater runoff from the site.

Additionally, a permeable driveway is incorporated at the front of the dwelling, ensuring enhanced infiltration and reducing surface runoff.

Importantly, the proposed development will not occur within the 10-meter Streamside Protection and Enhancement Area (SPEA). However, it is located within the 30-meter Riparian Assessment Area (RAA). A 1-meter setback has been established from the SPEA boundary to ensure compliance with the regulations governing development near riparian zones.

All construction and site works will adhere to best management practices to protect the riparian area, mitigate impacts on water quality, and preserve the ecological integrity of the surrounding environment.

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2. Results of Detailed Riparian Assessment

Refer to Section 3 of Technical Manual

Date: 06-26-2025

Description of Water bodies involved (number, type)

Stream, 1

Stream	x
Wetland	
Lake	
Ditch	

Number of reaches 1

Reach # 1

Channel width and slope and Channel Type (use only if water body is a stream or a ditch, and only provide widths if a ditch)

Channel	Width(m)	Gradient (%)	
starting point	1.0d	2.5	I, <u>(Brittany Brooks)</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i> . b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u> . c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation.
upstream	1.0		
	3.1		
	1.1		
	2.8		
downstream	3.2d		
	3.0		
	1.8		
	2.0		
	2.1		
	3.0	4.5	
Total: minus high /low	19.9	7.0	
mean	2.2	3.5	
Channel Type	R/P C/P S/P		
	x		

Site Potential Vegetation Type (SPVT)

SPVT Polygons	Yes	No	
		x	Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes I, <u>(Brittany Brooks)</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i> . b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u> . c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation.
Polygon No:	1		Method employed if other than TR
SPVT Type	LC	SH	TR
			x

FORM 1

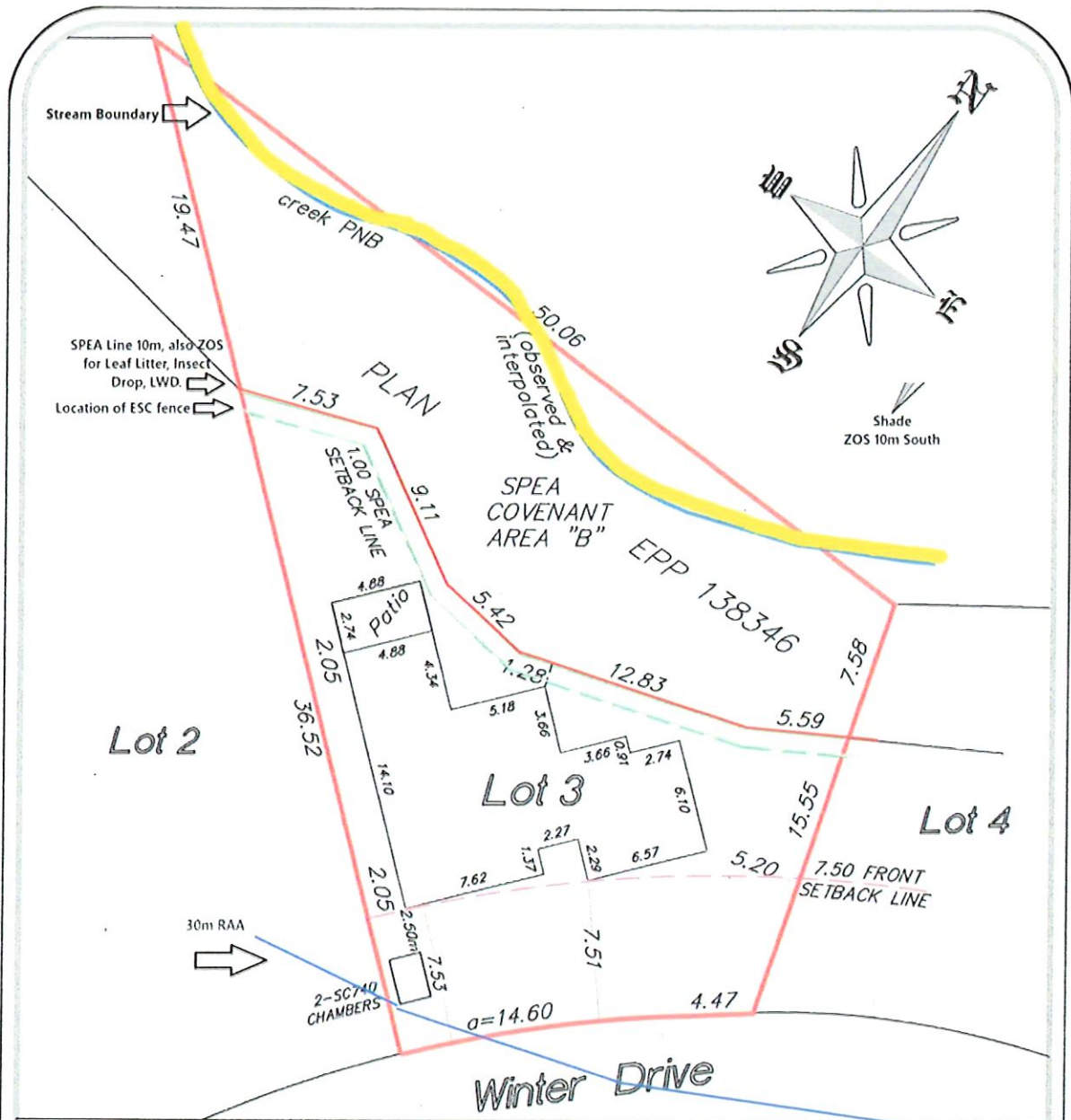
Riparian Areas Protection Regulation - Qualified Environmental Professional - Assessment Report

Zone of Sensitivity (ZOS) and resultant SPEA							
Segment No:	1	If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons					
LWD, Bank and Channel Stability ZOS (m)	10						
Litter fall and insect drop ZOS (m)	10						
Shade ZOS (m) max	10	South bank	Yes	X	No		
Ditch	Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow)						
Ditch Fish Bearing	Yes		No		If non-fish bearing insert no fish bearing status report		
SPEA maximum	10	(For ditch use table3-7)					
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <p>a) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>.</p> <p>b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>.</p> <p>c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and</p> <p>d) In carrying out my assessment of the development proposal, I have followed the technical manual to the Riparian Areas Protection Regulation.</p>							

Section 3. Site Plan

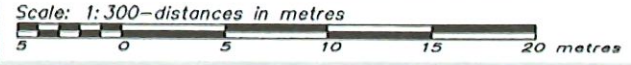
Insert jpg file below

Site Plan



Mortimer Surveying
 -DESIGN • ENGINEERING • SURVEYING-
 4386, Riverside Road,
 Duncan, B.C. - V9L 6M8
 Tel: (250) 748-6246
 - EMAIL ~ surveyor@telus.net -
 File: 2025/WINTRL3/LO.dwg
 2025/06/23

*Siting Plan of proposed dwelling layout on:-
 Lot 3, Section 6, Renfrew
 District, Plan EPP138345.*



Section 4. Measures to Protect and Maintain the SPEA

This section is required for detailed assessments. Attach text or document files, as need, for each element discussed in Part 4 of the RAPR. It is suggested that documents be converted to PDF *before* inserting into the assessment report. Use your "return" button on your keyboard after each line. You must address and sign off each measure. If a specific measure is not being recommended a justification must be provided.

<p>1. Danger Trees</p>	<p>There are no trees that are dead or dying. All trees are young maturing trees and many are deciduous. There are no concerns for dangerous trees. If deemed necessary, an arborist will be engaged to assess the condition of trees within the SPEA. Any danger trees or those at risk of windthrow will be removed safely to prevent damage to infrastructure or disturbance to the riparian area..</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <p>e) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>.</p> <p>f) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>.</p> <p>g) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation.</p>	
<p>2. Windthrow</p>	<p>Section 3.7.2 of the RAPR Assessment Methods Manual (BC MoFLNRO, 2019) identifies windthrow as a potential concern where partial forest clearing may leave residual trees exposed to high-velocity winds, potentially resulting in breakage or uprooting of trees and loss of riparian vegetation. In the subject property's case, the proposed development involves NO clearing within the RAA/SPEA zone, retention of maturing riparian canopy, minimal exposure to prevailing winds (given the valley orientation and adjacent upland forest), and no field evidence of prior mass windthrow events within the assessment area. Accordingly, the conditions that typically give rise to windthrow risk are not present.</p> <p>Based on these observations and professional judgement, I conclude that windthrow poses negligible risk to the stability of the riparian vegetation or to the integrity of the SPEA, and that no further windthrow mitigation beyond standard tree protection protocols is required.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>.</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>.</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation.</p>	
<p>3. Slope Stability</p>	<p>The proposed build site is located on stable, well-established soils with no signs of instability. The 2-4% slope across the site poses minimal risk for erosion or displacement. Given the soil conditions and the lack of</p>

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	<p>significant topographic features, slope stability is not a concern for the development.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <ol style="list-style-type: none"> I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation. 	
<p>4. Protection of Trees</p>	<p>Clear Demarcation: To prevent any accidental encroachment into the 10-meter SPEA boundary, an orange snow fence will be installed 1m+ along the SPEA line before the start of construction.</p> <p>Tree Root Protection Zones (TPZs) have been determined and the additional 1m setback from the SPEA will protect the root systems of trees. These zones will be located within the orange snow fence line and will ensure that no excavation or soil disturbance occurs within the root zones of trees, thereby preserving bank stability and the ecological integrity of the riparian area. The TPZs will extend to the drip line of the trees, ensuring that the root systems remain.</p> <p>Tree removal will be limited to hazardous trees only. **None of the trees designated for removal are located within the SPEA. No excavation will occur within the tree root zones of trees within or near the SPEA to ensure that the root systems remain intact and undisturbed.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <ol style="list-style-type: none"> I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation. 	
<p>5. Encroachment</p>	<p>Encroachment into the SPEA is not permitted and all contractors involved will be notified. Clear Demarcation: To prevent any accidental encroachment into the 10-meter SPEA boundary, an orange snow fence will be installed 1m+ (11m from SB) along the SPEA line before the start of construction. This visible barrier will clearly define the SPEA and serve as a protective boundary, ensuring that no construction activities, equipment, or materials extend into the riparian zone.</p> <p>Permanent Denotation: Upon subdivision completion, a permanent marker will be installed to clearly define the SPEA boundary. Options include the use of a row of</p>

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	<p>boulders, split rail fence, or a live fence, depending on the aesthetic and functional needs of the site. These permanent features will serve as long-term markers to ensure the SPEA line remains easily identifiable and protected.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <ol style="list-style-type: none"> I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation. 	
<p>1. Sediment and Erosion Control</p>	<p>The mobilization of sediment must be avoided during the development activities. An ESC fence will be properly installed using BMPs for sediment and erosion control. It will be installed just outside the SPEA boundary in accordance with the Provincial Erosion and Sediment Control(ESC) manual (BMP#23). The fence will act as a physical barrier, keeping the watercourse clean and minimizing any potential impacts on the Beadnell Creek Tributary.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <ol style="list-style-type: none"> I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and in carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation. 	
<p>2. Stormwater Management</p>	<p>In accordance with the RAPR Technical Manual and recognized best management practices, the proposed development aims to reduce runoff volume and improve water quality through a carefully designed stormwater management system. The primary goal is to capture and manage stormwater runoff effectively, while ensuring minimal impact on the adjacent riparian ecosystem and the Beadnell Creek Tributary.</p> <p>To achieve this, two stormwater chambers (SC740) will be installed to capture runoff generated from impervious surfaces, such as the roof and driveway. This system will store stormwater runoff temporarily, allowing it to be released gradually into the ground through controlled infiltration, thereby promoting natural groundwater recharge and reducing peak flow rates. By reducing both volume and velocity of runoff, the design minimizes risks of erosion, sediment transport, and downstream water quality degradation.</p> <p>The managed stormwater will eventually flow into the nearby Beadnell Creek Tributary, but the design ensures that these flows will be released gently into the ground, thereby avoiding erosion and sediment transport that could</p>

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	negatively impact the watercourse or aquatic habitat. This proactive approach aims to preserve the integrity of the riparian area, protect water quality, and mitigate the impact of development on the surrounding fish habitat.
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>.</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>.</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation.</p>	
<p>3. Floodplain Concerns (highly mobile channel)</p>	<p>There are no floodplain concerns. The property is on the mesa of the slope as a bench and is far above the flood plain elevation which will be conformed by BCLS and Building Inspector.</p> <p>The footings of house will be well above flood plain levels and local Building Inspector will not allow construction until floor joists are above 200 yr flood plain levels.</p>
<p>I, <u>(Brittany Brooks)</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the <i>Riparian Areas Protection Act</i>.</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>(0697413 B.C. Ltd.)</u>.</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the Riparian Areas Protection Regulation.</p>	

Section 5. Environmental Monitoring

Attach text or document files explaining the monitoring regimen Use your "return" button on your keyboard after each line. It is suggested that all document be converted to PDF *before* inserting into the PDF version of the assessment report. Include actions required, monitoring schedule, communications plan, and requirement for a post development report.

<p>Pre-Construction</p> <p>1. Pre-Construction Meeting:</p> <ul style="list-style-type: none"> o A pre-construction meeting will be held with all parties involved to review construction plans and ensure that no impacts will occur to protected areas. BMPs for ESC will be discussed and addressed. o Spill Response measures will be reviewed, and a spill kit will be on-site. o Walk the location of ESC fencing and orange snow (barrier) fencing. <p>Construction</p> <p>2. Site Monitoring During Construction:</p> <ul style="list-style-type: none"> o The site will be monitored regularly (e.g., weekly) by QEP or EM to ensure compliance with all environmental protection measures. o Straw bales will be on hand for distribution where required for additional erosion control. o Concrete delivery trucks will have a self-contained washout system. A designated washout area will be established outside of the SPEA and away from storm drains or ditches.

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- ESC fencing will be installed along the entire length of the 10-meter SPEA boundary, being careful not to damage native plants or tree roots.
- Invasive species like Himalayan Blackberry, thistle and Scottish Broom will be eradicated and disposed of properly to prevent further spread.

Post-Construction

3. Post-Construction Report:

- The report will be prepared to document SPEA protection compliance following build-out and to provide recommendations for future actions.
- The sedimentation fence and other temporary structures used during construction will be removed at lock-up.

Initial Site Visit

4. Site Visit by QEP/EM:

- Before starting any construction, a QEP and EM must be contacted to conduct a site visit and attend a pre-work meeting with the contractors.
- During the meeting, the ESC plan and communications plan will be developed to handle any environmental incidents or emergencies during construction. This plan will include contact numbers for the environmental monitor and relevant provincial, federal, and municipal contacts for potential emergencies (e.g., hydrocarbon spills, water quality issues). The EM must be contacted immediately in case of any environmental emergency, and appropriate responses will follow.

Additional Site Visit

5. Potential Need for Additional Site Visits:

- The need for additional site visits will be discussed during the pre-work meeting. The communications plan will provide the environmental monitor's contact number.
- Reasons to contact the EM include:
 - Hydrocarbon spills
 - Generation of sediment-laden runoff into the SPEA or watercourse
 - Damage to natural riparian vegetation within the SPEA
 - Precipitation events greater than 40mm of rainfall

Post-Construction Site Visit

6. Post-Construction Certification:

- As required by the Riparian Assessment, a QEP will conduct a post-construction visit to ensure that all conditions from the assessment reports have been properly implemented.
- The QEP will certify that all SPEA protection measures were followed. The post-construction report is required for obtaining the occupancy permit.

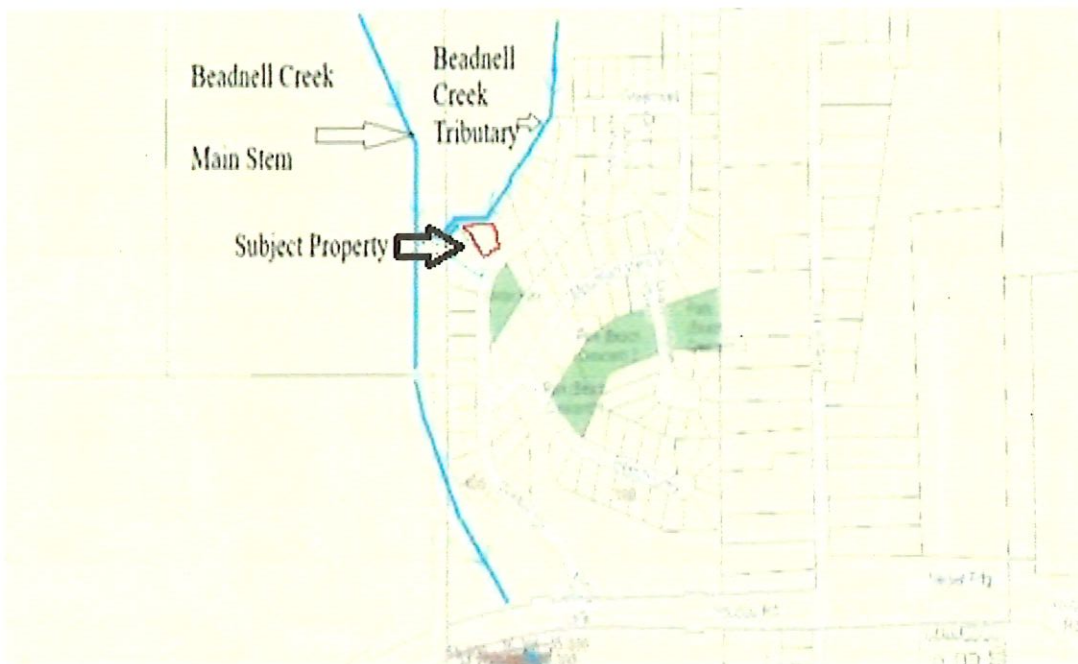


Figure 3. Civic Map

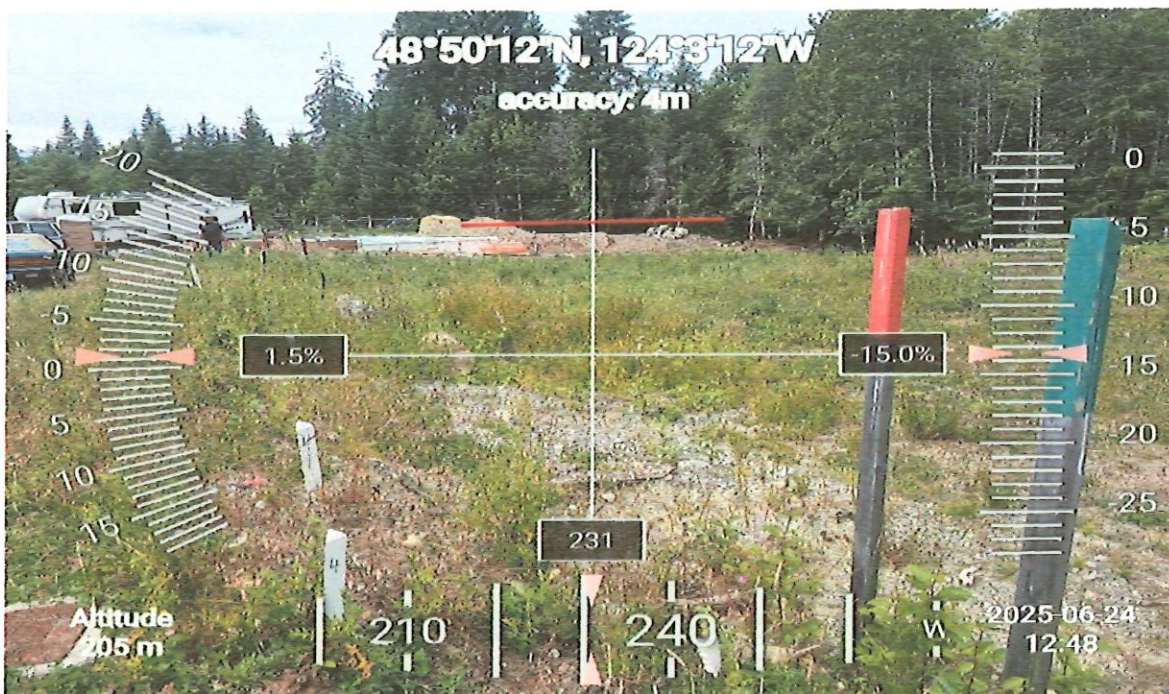


Figure 4. Looking southwest towards Lot 2.

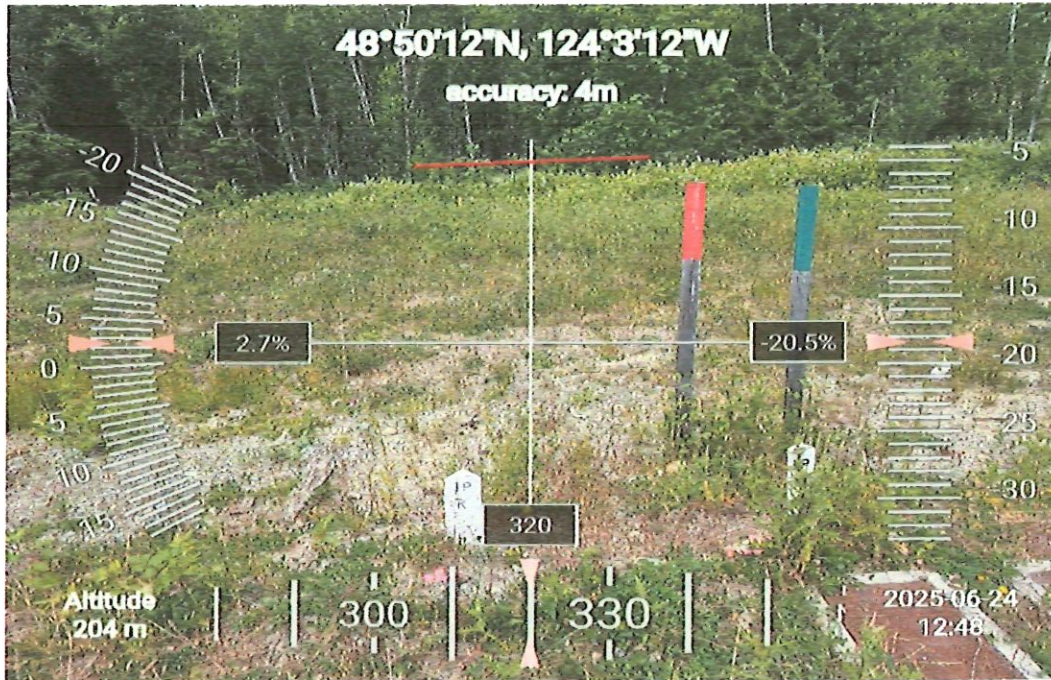


Figure 5. Property pin looking northwest to the 10m SPEA.

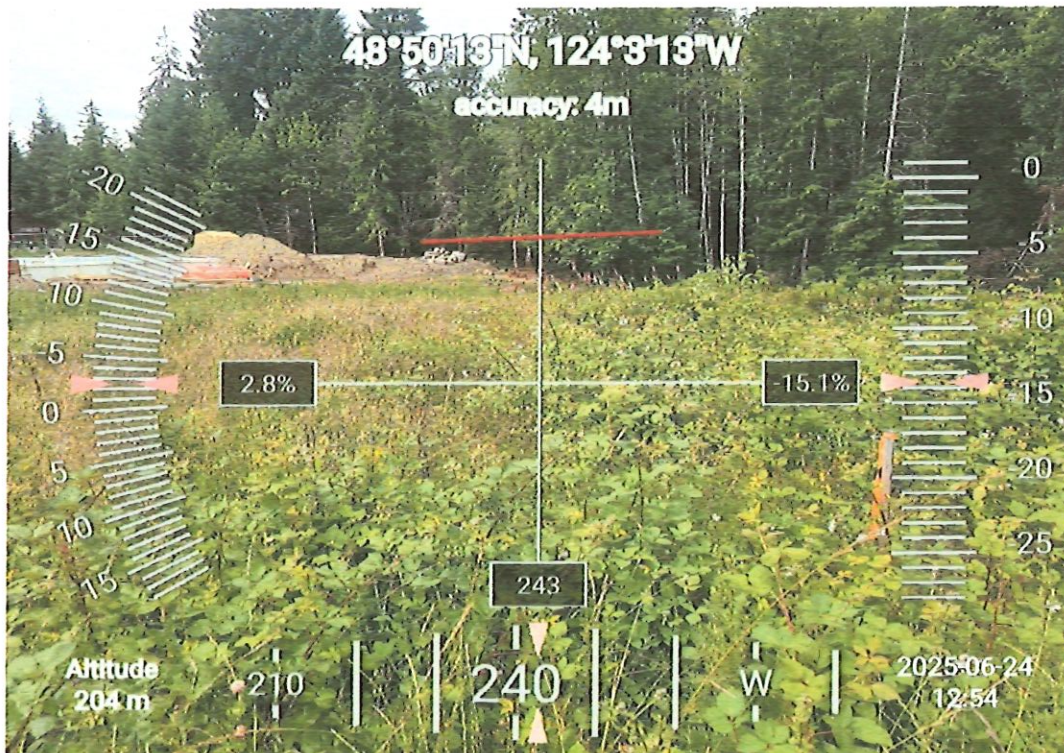


Figure 6. Looking southwest along the SPEA line towards Lot 2.

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