Development Permit Application

Referral Form – RDCK File DP2611Hn

Date: October 30, 2026

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

LEGAL DESCRIPTION & GENERAL LOCATION:
2384 Highway 6, Hills, Electoral Area 'H'
LOT 22 DISTRICT LOT 10589 KOOTENAY DISTRICT PLAN NEP65043 (PID: 024-577-375)

PRESENT USE AND PURPOSE OF PERMIT REQUESTED:
The subject property is located in the rural area of Hills on the west side of Summit Lake and is accessed directly from Highway 6. There is an existing campground on the property that includes a mix of serviced RV sites and tent sites.

This Watercourse Development Permit (WDP) application has been submitted to authorize a two-lot subdivision (RDCK File No. S2315Hn). The campground will remain entirely on the remainder lot and a 1 hectare lot is proposed to be subdivided with access provided by a common lot.

AREA OF PROPERTY AFFECTED	ALR STATUS	ZONING	OCP
8.3 ha (20.7 acres)	n/a	n/a	Tourist Commercial (C2) in Official Community Plan Bylaw No. 1967, 2009

APPLICANT: Masse Environmental Ltd. c/o Fiona Lau

Please provide your response via email.

If your agency's interests are 'Unaffected' no further information is necessary. In all other cases, we would appreciate receiving additional information to substantiate your position and, if necessary, outline any conditions related to your position. Please note any legislation or official government policy which would affect our consideration of this permit.

☒ MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE ☒ HABITAT BRANCH ☒ FRONTCOUNTER BC ☒ ARCHAEOLOGY BRANCH ☐ AGRICULTURAL LAND COMMISSION ☐ REGIONAL AGROLOGIST ☐ ENERGY & MINES ☐ MUNICIPAL AFFAIRS & HOUSING ☒ INTERIOR HEALTH, HBE TEAM ☐ SCHOOL DISTRICT NO. ☐ 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 ☐ APHC AREA ☒ RDCK FIRE SERVICES ☒ RDCK EMERGENCY SERVICES ☒ RDCK BUILDING SERVICES ☐ RDCK UTILITY SERVICES ☐ RDCK RESOURCE RECOVERY ☐ RDCK REGIONAL PARKS

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.

RDCK Map



RDCK Streets

Electoral Areas

N

0 0.18 0.35 km

Scale: 1:18,056
October 8, 2026 10:25 AM
Size: 8.5 x 11"

The map data are approximate for reference only. The Regional District of Central Kootenay is not liable for any errors or omissions on this map nor any loss or damage resulting from its use.

RDCK Map



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

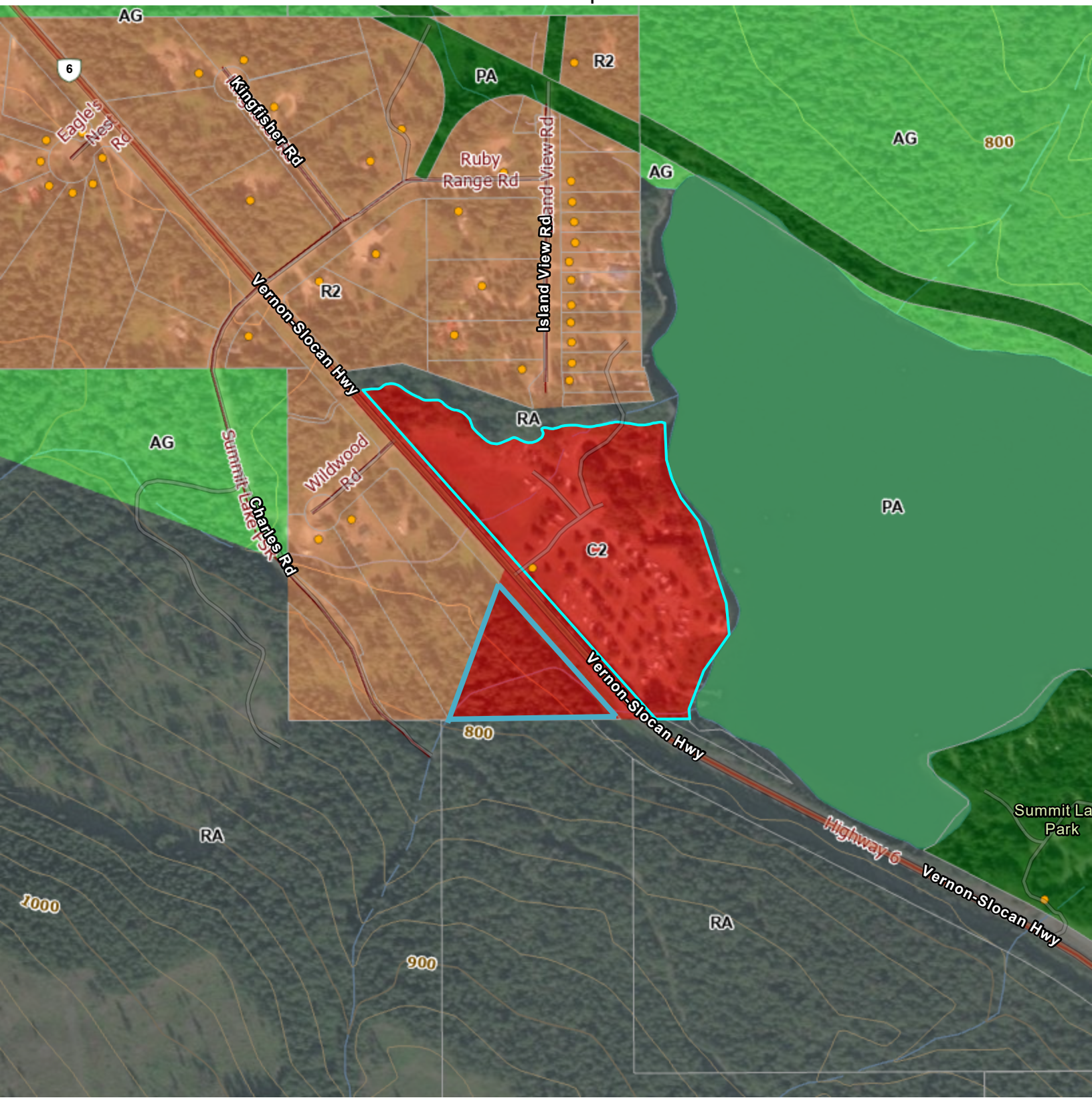
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October 8, 2026 10:25 AM
Size: 8.5 x 11"

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RDCK Map



- Address Points
- Cadastre Property Lines
- RDCK Streets

Official Community Plan Legend

- Agriculture
- Commercial
- Country Residential
- Parks and Recreation
- Resource Area

20 Meter Contours

- 20 meter
- 100 meter
- Streams and Shorelines
- Lakes and Rivers
- Electoral Areas

N

0 0.09 0.18 km

Scale: 1:9,028
October 8, 2026 10:30 AM
Size: 8.5 x 11"

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RDCK Map



- Address Points
- Cadastre Property Lines
- RDCK Streets

Development Permit Areas

DPA Type

- Environmentally Sensitive Residential Cluster
- Watercourse

20 Meter Contours

- 20 meter
- 100 meter
- Streams and Shorelines
- Lakes and Rivers
- Electoral Areas

N

0 0.09 0.18 km

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Size: 8.5 x 11"

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RDCK Map



- Address Points
- Cadastre Property Lines
- RDCK Streets
- Trails
- Parks and Community Services
- Electoral Areas

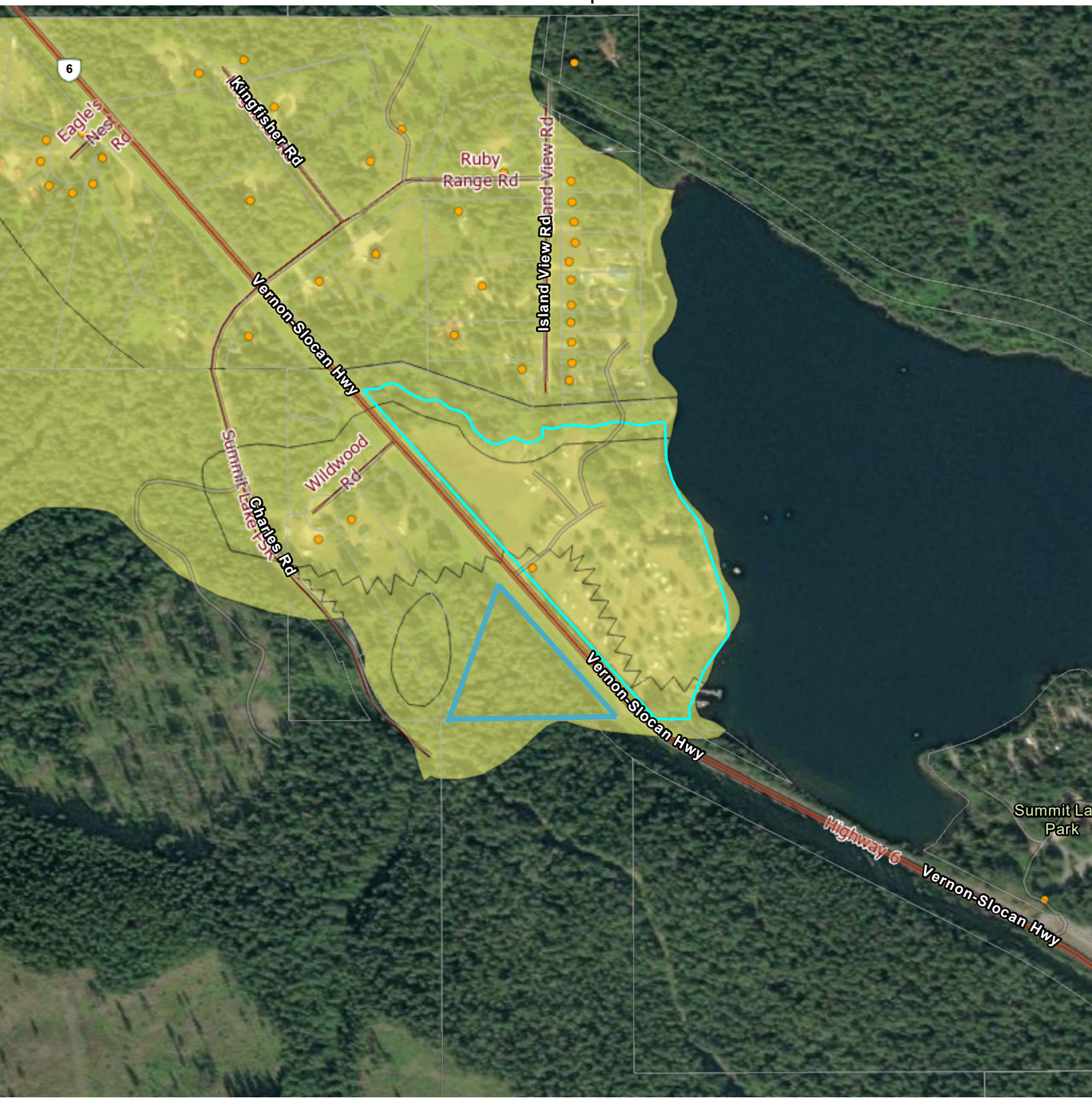
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RDCK Map



- Address Points
- Cadastre Property Lines
- RDCK Streets
- Non Standard Flooding Erosion Area
- Electoral Areas

N

0 0.09 0.18 km

Scale: 1:9,028
October 8, 2026 10:26 AM
Size: 8.5 x 11"

The map data are approximate for reference only. The Regional District of Central Kootenay is not liable for any errors or omissions on this map nor any loss or damage resulting from its use.

SUBDIVISION PLAN OF LOT 22, DL 10589, KOOTENAY DISTRICT, PLAN NEP65043.

PLAN EPP148232

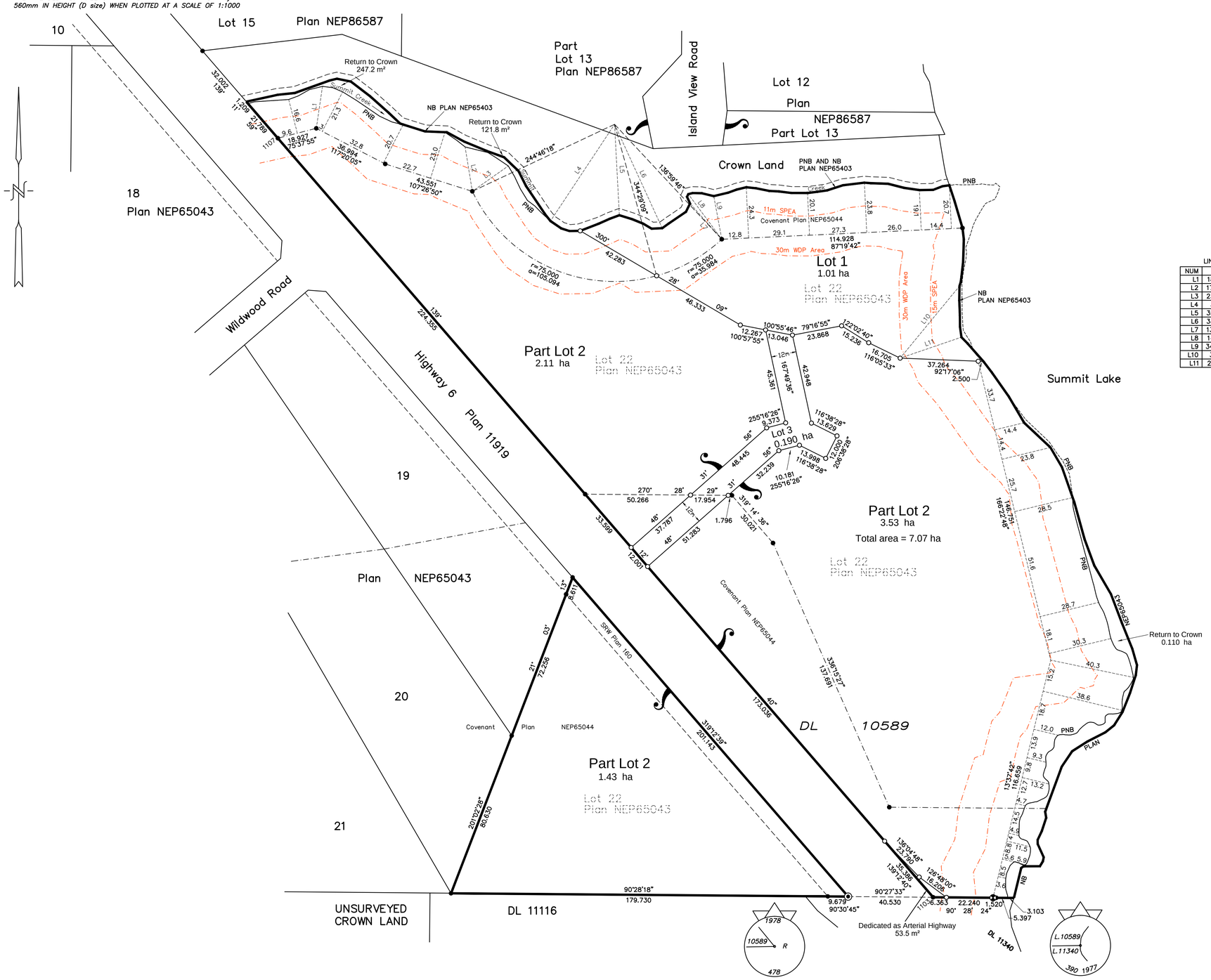
BCGS 82K.012

20 0 20 40 60

All distances are horizontal ground level, in metres and decimals thereof

THE INTENDED PLOT SIZE OF THIS PLAN IS 864mm IN WIDTH by 560mm IN HEIGHT (D size) WHEN PLOTTED AT A SCALE OF 1:1000

SITE PLAN



LINE TABLE

NUM	BEARING	DISTANCE
L1	188°21'25"	20.266
L2	170°45'55"	21.431
L3	234°45'14"	21.001
L4	33°31'05"	55.363
L5	356°59'21"	43.421
L6	335°21'35"	54.532
L7	138°24'03"	22.818
L8	143°24'15"	26.830
L9	349°27'03"	20.936
L10	39°27'55"	44.530
L11	251°07'13"	30.895

INTEREST IN COMMON LOT 3

LOT 1	1/2
LOT 2	1/2

LEGEND

- DENOTES STANDARD TYPE 1 CONCRETE POST FOUND
- DENOTES STANDARD CAPPED POST FOUND
- DENOTES STANDARD IRON POST FOUND
- DENOTES STANDARD IRON POST PLACED

DISTANCES SHOWN ARE IN METRES AND DECIMALS THEREOF.

GRID BEARINGS ARE DERIVED FROM DIFFERENTIAL CARRIER PHASE GNSS OBSERVATIONS AND ARE REFERRED TO THE CENTRAL MERIDIAN OF UTM ZONE 11 NORTH.

THE UTM COORDINATES AND ESTIMATED ABSOLUTE ACCURACY ACHIEVED ARE DERIVED USING 2.6 HOURS OF GNSS DUAL FREQUENCY OBSERVATIONS AND POST PROCESSED USING THE CSRS-PPP ONLINE PROCESSING PROVIDED BY NATURAL RESOURCES CANADA.

THIS PLAN SHOWS HORIZONTAL GROUND LEVEL DISTANCES UNLESS OTHERWISE SPECIFIED. TO COMPUTE GRID DISTANCES, MULTIPLY GROUND LEVEL DISTANCES BY THE AVERAGE COMBINED FACTOR OF 0.9995101. THE AVERAGE COMBINED FACTOR HAS BEEN DETERMINED BASED ON AN ELLIPSOIDAL ELEVATION OF 750 METRES.

REFERENCE POINT 1103
UTM NORTHING.....5556296.167
UTM EASTING.....452802.279
DATUM.....NAD83 (CSRS)(2002), UTM Zone 11
ESTIMATED ABSOLUTE ACCURACY IS 0.05m
COMBINED FACTOR IS 0.9995107

REFERENCE POINT 1107
UTM NORTHING.....5556658.179
UTM EASTING.....452489.921
DATUM.....NAD83 (CSRS)(2002), UTM Zone 11
ESTIMATED ABSOLUTE ACCURACY IS 0.05m
COMBINED FACTOR IS 0.9995095

THIS PLAN NEED NOT COMPLY WITH SECTION 75(1)(c) or (d) OF THE LAND TITLE ACT.

ACCESS BY COMMON LOT

THIS PLAN LIES WITHIN THE JURISDICTION OF THE APPROVING OFFICER FOR THE MINISTRY OF TRANSPORTATION & TRANSIT.
(file # 2023-00332)

THIS PLAN LIES WITHIN THE REGIONAL DISTRICT OF CENTRAL KOOTENAY.

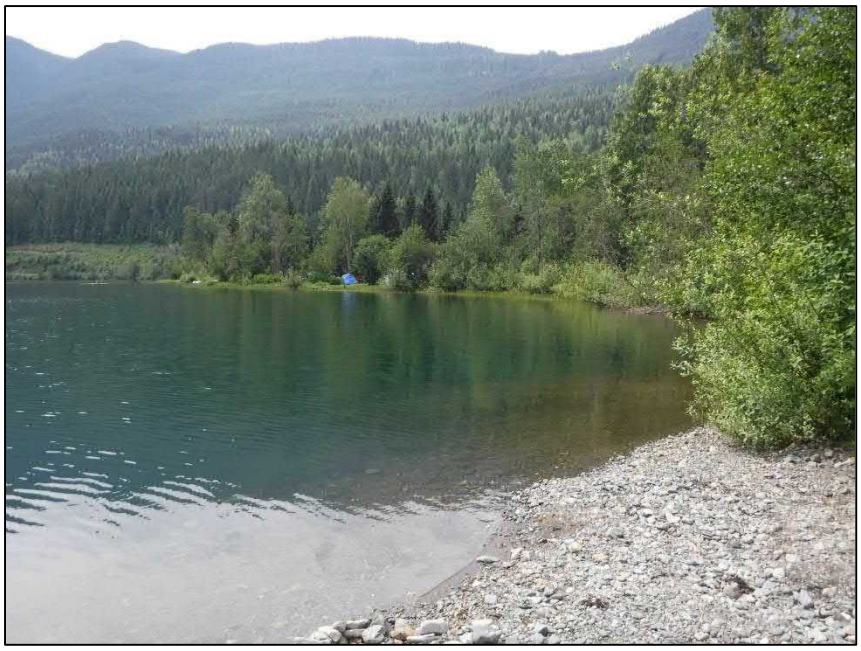
THE FIELD SURVEY REPRESENTED BY THIS PLAN WAS COMPLETED ON THE 11th DAY OF AUGUST, 2026.
JASON RUSSELL SHORTT, BCLS # 770

russell shortt
land SURVEYORS
2801-32nd Street, Vernon, B.C. V1T 5L8
Phone: (250)545-0511 Email: jasons@jrshortt.ca
F.B. 1382 p60 File: 30415sub

303968_081826

2384 Highway 6 (Camp Valhalla) Subdivision
Summit Lake, BC

Riparian Assessment



Prepared for:
Zane Bouvette
Aurora North Developments Ltd.
Nakusp, BC

Prepared by:
Masse Environmental Consultants Ltd.
812 Vernon St.
Nelson, BC, V1L 4G4

Nov 7, 2022

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ABBREVIATIONS

CDC: Conservation Data Centre
CKISS: Central Kootenay Invasive Species Society
DBH: Diameter at Breast-Height
DFO: Fisheries and Oceans Canada
ha: hectare
HWM: High Water Mark
ICHmw2: Interior Cedar - Hemlock Slocan moist warm (ICHmw2) biogeoclimatic subzone
km: kilometer
LWD: Large Woody Debris
MOTI: Ministry of Transportation and Infrastructure
NSFEA: Non-Standard Flood and Erosion Area
PID: Parcel Identification
QEP: Qualified Environmental Professional
RAPR: Riparian Area Protection Regulation
RDCK: Regional District of Central Kootenay
RPF: Registered Professional Forester
sp.: used when the actual specific name is not specified (spp. is plural)
SPEA: Streamside Protection and Enhancement Area
SPVT: site potential vegetation type
UTM: Universal Transverse Mercator (11U is the datum)
WDP: Watercourse Development Permit
WSC: Watershed Code
ZOS: Zones of Sensitivity

1 INTRODUCTION

Masse Environmental Consultants Ltd. was retained by Zane Bouvette, Aurora North Developments Ltd., to provide environmental consulting services in support of a proposed subdivision at 2384 Hwy 6, legally described as Lot 22, Plan NEP65043, District Lot (DL) 10589, Kootenay Land District (KLD) (PID 024-577-375). The area proposed for development consists of one property with a total area of 8.38 ha, which the proponent proposes to subdivide into two parcels, with the subdivided parcel (Lot A) 1.03 ha in size. The proposed subdivision is located within the riparian areas of Summit Lake and upper Bonanza Creek (also locally known as Summit Creek), triggering the requirement for a watercourse development permit (WDP) area application. Restrictive covenants are located along both Summit Lake and upper Bonanza Creek (Refer to Section 3.1).

A site assessment was conducted on July 18, 2022, by Fiona Lau, B.Tech., A.Sc.T. and Jennifer Ross, M.Sc., P. Chem. to assess the habitat values and potential impact of the proposed subdivision on the riparian and foreshore areas.

This assessment evaluated the existing conditions of the foreshore and riparian areas, identified important habitat values, assessed the existing environmental impacts, and recommends measures to protect environmentally sensitive areas for future development. It is based on the following regulatory framework and best management practices documents:

- Slocan Lake North Portion of Electoral Area 'H' Official Community Plan Bylaw No. 1967, 2009.
- Western Toad Management Strategies for Summit Lake
- British Columbia *Riparian Areas Protection Regulation*
- British Columbia *Water Sustainability Act*
- General BMPs and Standard Project Considerations (Ministry of Environment)
- On the Living Edge: Your Handbook for Waterfront Living
- Develop with Care. Environmental Guidelines for Urban and Rural Land Development in British Columbia

This report has been prepared by Jennifer Ross, M.Sc., P.Chem. and reviewed by Fiona Lau B.Tech., A.Sc.T. I, Fiona Lau, hereby certify that:

a) I am a Qualified Environmental Professional (QEP), as defined in Section 21 of the *Riparian Areas Protection Regulation* made under the *Riparian Areas Protection Act*;

b) I am qualified to carry out the assessment of the proposal made by the developer (Aurora North Developments Ltd.), which is described in Section 2.3 of this Assessment Report (the "development proposal");

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 specifications of the *Riparian Areas Protection Regulation* and assessment methodology set out in the Minister's manual.

2 PROJECT OVERVIEW

2.1 Location

The subject property is located ~12 km southeast of the Village of Nakusp, BC, on Summit Lake (Appendix 1). Summit Lake is situated between the Valhalla and Selkirk Mountain Ranges at the north end of the Slocan Valley along Highway 6.

The property is bordered by upper Bonanza Creek to the north, Summit Lake to the east, and the Ministry of Transportation and Infrastructure (MoTI) right of way (ROW) for Highway 6 to the southwest. The property is slightly sloped towards the shoreline of Summit Lake.

The project area is within the Interior Cedar – Hemlock Slocan moist warm (ICHmw2) biogeoclimatic subzone. The ICHmw2 is present from valley bottom to mid-slopes (up to 1450 m) along Summit Lake and its tributaries. This zone has warm, moist summers, and cool to mild, moist winters with moderate snowfall. Snowpacks are moderately deep and persist from December through March or April, with frequent rain-on-snow events. The persistent snowpack and mild climate prevent soils from freezing to any significant depth. The ICHmw2 has a high species diversity with abundant Western red cedar (*Thuja plicata*), Western hemlock (*Tsuga heterophylla*), interior Douglas fir (*Pseudotsuga menziesii var. glauca*), and Western larch (*Larix occidentalis*), and a variety of other species including hybrid white spruce (*Picea engelmannii x glauca*) in wet sites and black cottonwood (*Populus balsamifera ssp. trichocarpa*) in floodplain ecosystems (MacKillop and Ehman 2016).

Bonanza Creek and Summit Lake form part of the Bonanza Creek Watershed (12,232 ha) and the Bonanza Biodiversity Corridor, an ecologically important area with critical habitat, biological diversity, and landscape connectivity from Summit Lake to the north end of Slocan Lake (Mahr 2018).

2.2 Existing Site Conditions

2.2.1 Watercourses

Three watercourses were mapped within the subject property: Summit Lake (Cover Photo, Photo 1) located along the east property boundary, upper Bonanza Creek (Photo 2 and 3) located along the north property boundary, and a small unnamed creek (identified as Alspen Creek on Camp Valhalla's water license) that is mapped at the southern property boundary on Habitat Wizard (2022). The northeast corner of the property is situated within the upper Bonanza Creek alluvial fan.

Summit Lake

Summit Lake is a small, shallow mountain lake approximately 3.4 km in length, with an area of 1.57 km^2. The maximum depth (17 m) occurs at the northwestern end of the lake, near the project site. The lake is fed by eight tributaries (including upper Bonanza Creek) and drains southeast via Lower Bonanza Creek. Typical lake levels are lowest from September to March and spike in the months of May and June during spring freshet.

During the site visit, the visible high-water mark (HWM) of Summit Lake was consistent with the natural boundary shown on the survey provided in Appendix 2. The natural boundary was evaluated using high-water indications on the soil and the presence of flood tolerant vegetation.

"Natural Boundary" means the visible high-water mark of a watercourse where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the watercourse a character distinct from that of its banks in vegetation as well as in the nature of the soil itself, and includes the active floodplain (BC 1996, RDCK 2009).

Upper Bonanza Creek

Upper Bonanza Creek (WSC 340-047200-99600) is a 1st order, fish bearing stream with a length of ~6 km. It originates at the hydrologic divide between Arrow Lake and Summit Lake (south of Nakusp, BC) and flows into Summit Lake at the northwest end. The stream channel within the lower reaches (below the highway) typically dries up in summer months; however, it is unknown whether this occurs in the upper reaches as well.

Alspen Creek

Water from Alspen Creek is diverted for use by Camp Valhalla (refer to Section 2.4). There was no evidence of the Alspen Creek stream channel on the property; however according to the Owner, Alspen Creek flows through a culvert under the highway in the spring and discharges onto the forest floor behind the fish shack located at the southeast corner of the property.



Photo 1. View of Summit Lake looking southeast from Camp Valhalla.



Photo 2. Upper Bonanza Creek looking downstream below the pedestrian bridge.

2.2.2 Existing Development

The subject property is an existing private campground with 75 campsites and amenities including a washroom and shower house, laundry facilities, a sani-dump, garbage, recycling, and composting facilities, an office/gift shop, a gazebo, a boat launch, boat docks, floating swimming dock, a fish cleaning hut, and two sand beaches. Only some of the campsites, the gazebo, fish cleaning hut, boat launch, docks, and sand beaches are located within 30 m of Summit Lake.

The gazebo (~60 m^2) is located ~10 m from the lake boundary (Photo 3). It is an open-air building constructed of wood with concrete pillar footings. The fish cleaning hut (12 m^2) is a wooden shack with a concrete slab base, also located ~10 m from the lake boundary (Photo 4). Some of the lake frontage campsites within 30 m of Summit Lake are serviced with water and power (Photo 5). None of the frontage sites have sewer hookups.

The boat launch (Photo 6; 10m^2) and three boat docks (Photo 7; ~100 m^2 total footprint) are located at the southeastern corner of the property. A floating swimming dock is anchored offshore and occupies an area of ~10 m^2 (Photo 8). Two sand beaches have been created on the property with a total linear length of ~28 m (Photo 9 and Photo 10).



Photo 3. View of Camp Valhalla gazebo.



Photo 4. View of fish cleaning hut.



Photo 5. View of water and power-serviced campsites within the riparian area of Summit Lake.



Photo 6. View of gravel boat launch.



Photo 7. View of boat docks.



Photo 8. View of swimming dock.



Photo 9. View of the eastern sand beach.



Photo 10. View of the southeastern sand beach.

Along upper Bonanza Creek, development has been limited to a wooden pedestrian bridge (8.1 m x 1.85 m), a small ford (Photo 11), and a 0.5 m wide walking path along the south side of the creek. Three travel trailers and some camp building materials have been stationed within 30 m of the creek (Photo 12).



Photo 11. View of pedestrian bridge and ford over upper Bonanza Creek.



Photo 12. View of trailers and materials stored within riparian area of upper Bonanza Creek.

2.3 Development Proposal

The proposed development within the 30 m WDP area consists of a subdivision of a single property (8.38 ha) into two parcels, with the subdivided parcel referred to as Lot A (1.03 ha) located in the northeast portion of the property, adjacent to both Summit Lake and upper Bonanza Creek. Refer to Site Plan for proposed subdivision development layout (Appendix 2).

2.4 Services

The existing campsite is serviced with electricity, telephone, and internet via utility lines that run along the Highway 6 right-of-way. Camp Valhalla holds a water license (C120875, 45.5 m^3/day) for Alspen Creek, that supplies water to the campground via underground water lines (iMap BC 2022). An onsite wastewater system, consisting of septic tanks, a pump tank, an active infiltration field, and a reserve field, services 35 of the campsites, the washroom, and the sani-dump (Bamber 2022). The septic fields are located north of the existing camp access road, northeast of Highway 6, and >30 m from Summit Lake and upper Bonanza Creek.

As part of the subdivision proposal, an onsite sewerage dispersal areas assessment was completed by Simon Bamber, AScT, ROWP (Appendix 3). A suitable septic field location and a suitable reserve field area were sited outside of the 30 m setback from both Summit Lake and upper Bonanza Creek within Lot A (Lot A in this report).

3 REGULATORY REVIEW

3.1 Streamside Protection and Enhancement Area

The default WDP riparian assessment area is 30 meters from the natural boundary of Summit Lake and from the high-water mark of upper Bonanza Creek. To determine if this area aligns with the *Riparian Areas Protection Regulation* (RAPR) criteria, a detailed assessment of the subject property was conducted to calculate the Streamside Protection and Enhancement Areas (SPEAs) for Summit Lake and for upper Bonanza Creek on the proposed site. Results for the Zones of Sensitivity (ZOSs) and SPEAs are presented in Table 1 and shown on the Site Plan in Appendix 2. The SPEA was calculated to be between 15 and 23 m along the foreshore of Summit Lake and 11 m along upper Bonanza Creek.

Table 1. Results of detailed assessment.

Feature Type	SPVT	Zones of Sensitivity			SPEA
		LWD	Litter fall	Shade	
Summit Lake	TR	15 m	15 m	15 - 23 m	15 – 23 m
Upper Bonanza Creek	TR	11 m	11 m	11 m	11 m

SPVT- site potential vegetation type (TR-tree)

LWD- large woody debris

SPEA- streamside protection and enhancement area

Summit Lake

As per the RAPR, the large woody debris (LWD), and litter fall ZOS were plotted 15 m inland from the HWM of Summit Lake. The shade ZOS was plotted 15 -23 m from of the HWM. The SPEA setback is determined based on the ZOS with the greatest width. Therefore, within the subject property, the SPEA is 15 - 23 m from the HWM of Summit Lake.

A restrictive covenant agreement (KN74763) forms part of the title for the subject property. This covenant agreement and associated survey are provided in Appendix 4. The restrictive covenant prohibits any building, mobile home or unit, modular home or structure within 7.5 m of the natural boundary of Summit Lake. This setback is well within the calculated SPEA.

Upper Bonanza Creek

As per the RAPR, the LWD, litter fall, and shade ZOS's were plotted 11 m from the HWM of upper Bonanza Creek based on an average channel width of 3.6 m. The resulting SPEA setback is therefore 11 m. However, there is a restrictive covenant agreement (KN74765) in place, whereby no building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, be built, constructed or placed on the Covenanted Area due to potential flood or erosion hazard. The covenanted area is ~23 m from the HWM of upper Bonanza Creek (labelled Summit Creek on the survey). Since the covenant is more restrictive than the SPEA, the covenant setback will be used in this report rather than the SPEA. A copy of this restrictive covenant is provided in Appendix 4.

4 RESOURCES

4.1 Fish and Fish Habitat

The Summit Lake foreshore is predominantly low gradient riparian and lake margin habitat (Photo 13Photo 14). Submergent aquatic vegetation was noted around the boat docks and swimming dock, with wetland habitat occurring along the fringe of the lake supporting numerous species of emergent aquatic vegetation (yellow pond lily, water sedge, bluejoint, shore sedge and common spike-rush) and an abundance of overhanging vegetation. Aquatic and overhanging vegetation provide high value cover habitat for fish, while the shallow waters also provide juvenile rearing habitat. Deeper water habitat was observed at the mouth of upper Bonanza Creek, providing migration, cover and rearing habitat for fish (Photo 15). Substrate along most of the shoreline consists of fine sediment, organics and small angular gravel (Photo 16). Larger cobble and gravels were observed at the mouth of upper Bonanza Creek providing cover habitat for juvenile fish (Photo 15).

Summit Lake has been extensively managed for fisheries, with chemical treatments to remove undesirable fish species applied during the period of 1957 - 1986. In 1985, a weir was constructed on Lower Bonanza Creek, ~1 km downstream of Summit Lake, to prevent non-sport fish from re-colonizing the lake. Since that time, rainbow trout (*Oncorhynchus mykiss*) have been annually stocked in an effort to create a rainbow trout fishery (Oliver 2003). Recent information indicates that rainbow trout, sculpin (*Cottus sp*), and eastern brook trout (*Salvelinus fontinalis*) occur in Summit Lake (Baxter & Irvine 2014).

Extensive freshwater mussel beds have been confirmed along the south shoreline of Summit Lake (Photo 17). Mussel beds in Summit Lake are mostly concentrated between 5-10 m horizontal distance from shore at water depths between 0.75-1.5 m. Mussel species present are the Western Floater (*Anodonta kennerlyi*; Masse 2022). An underwater survey for freshwater mussels was not conducted along the shoreline of the property; however, single live mussels and multiple shells were observed confirming that shoreline habitat is suitable for mussels.



Photo 13. Summit Lake shoreline view, looking southeast from mouth of upper Bonanza Creek.



Photo 14. Summit Lake shoreline view, looking north from group campsite area.



Photo 15. Deep water habitat and cobble substrate at mouth of Bonanza Creek.



Photo 16. Typical substrate in Summit Lake along shoreline.



Photo 17. Underwater photo of live mussel in Summit Lake (Photo credit T. Ehlers, MEC).

Upper Bonanza Creek was assessed for approximately 500 m from its mouth up to the culvert under Highway 6 (Photo 18).The channel had an average width of 3.6 m, average gradient of ~3% and riffle pool morphology (Photo 19). Streambed substrate was predominantly cobble and gravel with some boulder and sand (Photo 20). Cover was moderate with overhanging vegetation providing most of the cover with some boulder and large woody debris habitat (Photo 19 andPhoto 21). At the time of the assessment, it was noted that the lower 160 m section of the streambed was dry (downstream of UTM 11U.452692.5556632) (Photo 2). Deposited bedload material and seasonal channels within the riparian area close to the creek mouth, indicate that this area is prone to flooding each year (Photo 22).

Rainbow trout have been documented in upper Bonanza Creek approximately 312 m upstream of the site (iMap BC 2022). Dead fish including longnose dace (*Rhinichthys cataractae*) and sculpin were observed in upper Bonanza Creek during the assessment (Photo 23). It is presumed that these fish died because of the natural dewatering of the streambed during the dry summer months. No barriers to upstream fish passage

were observed below Hwy 6; however, the Highway 6 corrugated steel pipe culvert (1200 mm diameter) is likely a velocity barrier to upstream fish passage at high flows (Photo 18).



Photo 18. Culvert outlet under Hwy 6.



Photo 19. Typical riffle pool morphology along upper Bonanza Creek.

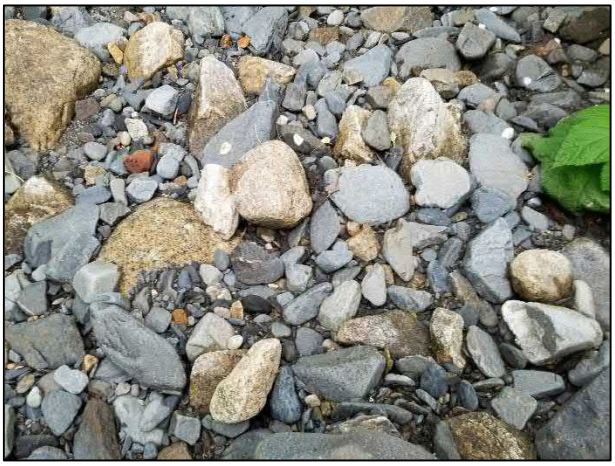


Photo 20. Typical cobble and gravel substrate in upper Bonanza Creek.



Photo 21. Upper Bonanza Creek, upstream of the pedestrian bridge, showing a shallow pool.



Photo 22. Deposited bedload material and seasonal channels near mouth of Bonanza Creek.



Photo 23. Dead longnose dace observed on dried up creek bed.

4.2 Riparian Vegetation

The riparian area along Summit Lake has an east to southeast aspect and has been moderately disturbed, with increased vegetation clearing in the southern portion of the property and some undisturbed areas in the northern portion. The shoreline is relatively flat lake margin with a 1-2 % slope and moist to wet soils. Undisturbed forested areas were mature mixed coniferous/deciduous forest dominated by mature black cottonwood, paper birch (*Betula papyrifera*), and Western red cedar (Photo 24), with a well-developed understory of shrubs and herbaceous species (Photo 25). Wetland habitat along the shore of the lake support a variety of sedge and rush species with flood tolerant shrubs interspersed (Photo 26), while previously disturbed areas were observed to be primarily dominated by agronomic grass sp. (Photo 27). Refer to Table 2 for full list of species documented.



Photo 24. View of riparian vegetation along the Summit Lake foreshore, looking south from upper Bonanza Creek mouth.



Photo 25. Typical deciduous shrub and tree habitat within Summit Lake riparian area.



Photo 26. Wetland habitat along Summit Lake.



Photo 27. Historically cleared and revegetated with grass for campsites, Summit Lake.

A band of riparian forest 20-30 m wide from the upper Bonanza Creek stream centre line consists of mixed coniferous/deciduous mature forest. Tree cover is variable with black cottonwood, paper birch, Interior Douglas Fir, and Western red cedar. The shrub layer included red-osier dogwood (*Cornus sericea*), saskatoon (*Amelanchier alnifolia*), thimbleberry (*Rubus parviflorus*), and ferns (Photo 28). Several snags and wildlife trees were observed within the riparian forest. Refer to Table 2 for full list of species documented.

Riparian forests are sensitive ecosystems because they provide high wildlife values and important functions in moderating flood impacts and buffering aquatic ecosystems. They are biologically diverse and provide important forage, cover, and nesting, denning, and roosting sites. Large live and dead black cottonwoods in this area (Photo 29) are a valuable wildlife habitat element, supporting cavity dwelling birds and several bat species.



Photo 28. Typical deciduous trees with abundant understory vegetation, upper Bonanza Creek.



Photo 29. Mature cottonwood tree providing important wildlife habitat, upper Bonanza Creek.

Table 2. Plant species encountered within the Summit Lake and upper Bonanza Creek WDP areas.

Species Name	Latin Name	Species Name	Latin Name
Trees		Herbaceous (cont.)	
black cottonwood	*Populus trichocarpa*	goatsbeard	*Aruncus dioicus*
black hawthorn	*Crataegus douglasii*	fairybells	*Prosartes sp.*
choke cherry	*Prunus virginiana*	field mint	*Mentha arvensis*
interior Douglas fir	*Pseudotsuga menziesii*	fireweed	*Chamaenerion angustifolium*
mountain ash	*Sorbus sp.*	forget-me-not	*Myosotis sp.*
paper birch	*Betula papyrifera*	lady fern	*Athyrium filix-femina*
Western hemlock	*Tsuga heterophylla*	large-leaved avens	*Geum macrophyllum*
Western red cedar	*Thuja plicata*	marsh cinquefoil	*Comarum palustre*
Western white pine	*Pinus monticola*	meadow buttercup	*Ranunculus acris*
Western yew	*Taxus brevifolia*	pathfinder	*Adenocaulon bicolor*
Shrubs		red clover	*Trifolium pratense*
alder	*Alnus sp.*	round-leaved orchis	*Galearis rotundifolia*
beaked hazelnut	*Corylus cornuta*	self-heal	*Prunella vulgaris*
black gooseberry	*Ribes lacustre*	small bedstraw	*Galium trifidum*
black twinberry	*Lonicera involucrata*	sweet-scented bedstraw	*Galium triflorum*
common lilac	*Syringa vulgaris*	tufted vetch	*Vicia cracca*
common snowberry	*Symphoricarpos albus*	twinflower	*Linnaea borealis*
Douglas maple	*Acer glabrum*	white clover	*Trifolium repens*
pink spirea	*Spiraea douglasii*	wild ginger	*Asarum caudatum*
red-osier dogwood	*Cornus sericea*	wild strawberry	*Fragaria virginiana*
saskatoon	*Amelanchier alnifolia*	willowherb	*Epilobium sp.*
spreading dogbane	*Apocynum androsaemifolium*	yarrow	*Achillea millefolium*
Oregon grape	*Berberis sp.*	Rushes/Sedges/Aquatic	
thimbleberry	*Rubus parviflorus*	Cusick's sedge	*Carex cusickii*
wild sarsaparilla	*Aralia nudicaulis*	common rush	*Juncus effusus*
willows	*Salix spp.*	dagger-leaf rush	*Juncus ensifolius*
Herbaceous		Kellogg`s sedge	*Carex kelloggii*
American brooklime	*Veronica beccabunga*	large water-starwort	*Callitriche heterophylla*
bracken fern	*Pteridium aquilinum*	Rocky Mountain pond-lily	*Nuphar polysepala*
common dandelion	*Taraxacum officinale*	scouring rush	*Equisetum hymale*
common horsetail	*Equisetum arvense*	Weeds	
common plantain	*Plantago major*	burdock	*Arctium sp.*
cow-parsnip	*Heracleum maximum*	curly dock	*Rumex crispus*
enchanter's-nightshade	*Circaea alpina*	oxeye daisy	*Leucanthemum vulgare*
falsebox	*Paxistima myrsinites*	yellow hawkweed	*Hieracium spp.*
false Solomon's seal	*Maianthemum racemosum*	wall lettuce	*Mycelis muralis*
fringecup	*Tellima grandiflora*		

4.3 Wildlife

The property features a mature cottonwood stand within a mixed coniferous/deciduous forest next to a shallow mountain lake, which is attractive habitat to many species of wildlife. Summit Lake and surrounding area is a regionally important site for Western toad ((*Anaxyrus boreas;* FLNRO 2017) and also provides important spring forage and connectivity for grizzly bears (*Ursus arctos*) within Central Selkirk (ID: 436) and Valhalla (ID: 439) Grizzly Bear Population Units (iMap BC 2022). The property falls also within the Central Selkirk Caribou Population Unit (ID: 1951); however, the small number of mountain caribou in this herd are not likely to frequent low-elevation habitat with high human recreational use.

Incidental wildlife observations of bird and snake species and evidence of river otter (*Lontra canadensis*) were recorded throughout the riparian areas. A one-time site visit is not sufficient for a comprehensive inventory; however, we documented some species with confirmed presence on the property through our observations, geospatial data on Habitat Wizard and discussions with the campsite caretaker (Table 3).

4.3.1 Reptiles and Amphibians

The project area supports endemic reptiles and amphibians, such as chorus frogs (*Pseudacris regilla*), Columbia spotted frogs (*Rana luteiventris*), Coeur d'Alene Salamanders (*Plethodon idahoensis*), garter snakes (*Thamnophis* sp.), Northern alligator lizards (*Elgaria coerulea*), long-toed salamanders (*Ambystoma macrodactylum*), and Western toads (Ehlers and Durand 2018). Garter snakes were observed on multiple occasions along both Summit Lake and upper Bonanza Creek during the site assessment (Photo 30Photo 31).

Summit Lake supports a regionally important population of Western toads. These toads inhabit all forest and wetland types, with mature forests being the highest quality habitat due to the structural complexity, a wider variety or prey, diverse security features, protection from temperature extremes, and the availability of overwintering habitat. Western toads require connectivity between aquatic breeding sites and upland terrestrial foraging/overwintering areas. Western toad is a federal Species of Special Concern (COSEWIC 2012). Due in part to mortality risks associated with highway infrastructure, there have been extensive efforts to monitor and protect the Summit Lake Western toad population. Recommended management strategies are outlined in Section 5.9.



Photo 30. Garter snake sp. observed in upper Bonanza Creek.



Photo 31. Garter snake sp. observed in upper Bonanza Creek.

4.3.2 Birds

The riparian habitat along Summit Lake supports a variety of birds. Large riparian cottonwood trees are preferred nest sites for many species of raptors, owls, woodpeckers, and songbirds. Summit Lake also provides high quality habitat for shorebirds and waterfowl. Numerous bird sightings have been documented within 10 km of the subject property, including the Western Grebe (*Aechmophorus occidentalis*), a red-listed species, and the following blue-listed species: Bobolink (*Dolichonyx oryzivorus*), Great Blue Heron (*Ardea herodias*), and Winter Wren (*Troglodytes hiemalis*). Multiple bird sightings (Photo 32) and calls were also documented during the site visit and confirmed by the campsite caretaker (Table 3), as well as two grass nests were identified within the riparian area (Photo 33).



Photo 32. Cedar Waxwing observed in shrub next to Summit Lake.



Photo 33. Small grass nest observed in shrub within riparian area.

Table 3. Wildlife species with confirmed or suspected presence on the property.

Common Name	Scientific Name	Comment
American beaver	*Castor canadensis*	Presence confirmed by owner.
American black bear	*Ursus americanus*	Presence confirmed by owner.
American robin	*Turdus migratorius*	Observed in riparian vegetation in property.
bald eagle	*Haliaeetus leucocephalus*	Observed flying over Summit Lake adjacent to property.
bats		Presence confirmed by owner.
black-capped chickadee	*Poecile atricapillus*	Observed in riparian vegetation in property.
Canada goose	*Branta canadensis*	Observed swimming along property shoreline in Summit Lake.
cedar waxwing	*Bombycilla cedrorum*	Observed feeding in riparian vegetation in property, suspected of having a nearby nest around mouth of Upper Bonanza Creek.
common gartersnake	*Thamnophis sirtalis*	Observed on property behind fish cleaning shack.
common loon	*Gavia immer*	Heard calling from Summit Lake.
downy woodpecker	*Dryobates pubescens*	Observed feeding in Upper Bonanza Creek riparian vegetation.
dragonflies		Observed feeding over Summit Lake along shoreline.
elk	*Cervus elaphus*	Presence confirmed by owner.
grizzly bear	*Ursus arctos*	Presence confirmed by owner.
killdeer	*Charadrius vociferus*	Observed flying along Summit Lake margin along property boundary.
mallard duck	*Anas platyrhynchos*	Observed swimming along property shoreline in Summit Lake.
“invasive” slug	*Arion sp.*	Observed feeding in Upper Bonanza Creek.
moose	*Alces alces*	Presence confirmed by owner.
North-American river otter	*Lontra canadensis*	Presence confirmed by owner.
Northern rough-winged swallow	*Stelgidopteryx serripennis*	Observed feeding and flying over Summit Lake at the property.
osprey	*Pandion haliaetus*	Observed flying over Summit Lake adjacent to property.
pine siskin	*Spinus pinus*	Observed in riparian vegetation in property.
song sparrow	*Melospiza melodia*	Observed in riparian vegetation in property.
swallowtail butterfly	*Papilio sp.*	Observed in campsite area of property.
violet-green swallow	*Tachycineta thalassina*	Observed feeding and flying over Summit Lake at the property.
Western terrestrial garter snake	*Thamnophis elegans*	Observed feeding in Upper Bonanza Creek within the property.
white-tailed deer	*Odocoileus virginianus*	Presence confirmed by owner.
wolves	*Canis lupus*	Presence confirmed by owner.

4.3.3 Mammals

Mammals that are expected to use the foreshore area around the subject property include American beaver (*Castor canadensis*), American black bear (*Ursus americanus*), North-American river otter, and white-tailed deer (*Odocoileus virginianus*); however bobcat (*Lynx rufus*), cougar (*Puma concolor*), coyote (*Canis latrans*), elk (*Cervus elaphus*), grizzly bear (*Ursus arctos*), moose (*Alces alces*), and other predators may also frequent these areas. The riparian area provides browse, cover, and fishing opportunities, especially at the creek mouth. Bats and other small mammals are expected to frequent the property and utilize the large cottonwood trees for roosting.

4.4 Species at Risk

The BC Conservation Data Center (CDC) occurrence data and critical habitat for Federally listed species were queried within iMap BC, using a 10 km buffer around the center point of the subject property. In addition, the Bonanza Conservation Values Assessment Report (Ecologic and Masse 2020) was referenced to identify other species at risk known to occur in the Bonanza Corridor. The query results are presented in Appendix 5. Potential occurrence on the property was assessed as confirmed, likely, possible, unlikely, or unknown, according to known species habitat affinities, the habitat profile of the property, and on proximity to mapped occurrences. Ten species at risk were identified to be present in and around Summit Lake (Table 4), with 46 species having potential to occur.

Table 4. Species at Risk Confirmed in and around Summit Lake

Species	Latin Name	BC List[1]	COSEWIC[2] / SARA[3]
Western Toad	*Anaxyrus boreas*	yellow	Special Concern/Special Concern
Coeur d'Alene Salamander	*Plethodon idahoensis*	yellow	Special Concern/Special Concern
Northern Goshwawk	*Accipiter gentilis atricapillus*	blue	Not at risk
Western Grebe	*Aechmophorus occidentalis*	red	Special concern/ Special concern
Great Blue Heron	*Ardea herodias herodias*	blue	Not at risk
Broad-winged Hawk	*Buteo platypterus*	blue	Not at risk
Common Nighthawk	*Chordeiles minor*	yellow	Special concern/ Threatened
Barn Swallow	*Hirundo rustica*	blue	Special concern/ Threatened
Grizzly Bear	*Ursus arctos*	blue	Special concern/Special concern
Herrington Fingernailclam	*Sphaerium occidentale*	blue	Not at Risk

1 BC Conservation Status (CDC): Red = extirpated, endangered, or threatened. Blue = special concern. Yellow = secure. 2COSEWIC/SARA: Endangered (E) = Facing imminent extirpation or extinction. Threatened (T) = Likely to become endangered. Special concern (SC) = May become a threatened or an endangered. Species listed on Schedule 1, SARA are legally protected

4.5 Archaeological Resources

Summit Lake is part of the traditional territory of the Sinixt, Syilx Okanagan, and Ktunaxa First Nations and is assumed to fall within an area of 'high' archaeological potential based on the foreshore environment and local history. A review of archaeological resources on this property is outside the scope of this report. However, Archaeological Chance Find Procedures are provided in Appendix 6 for guidance on which

protocols to follow in the event of a chance archaeological find, to ensure that archaeological sites are documented and protected as required for compliance with the BC *Heritage Conservation Act*.

5 MEASURES TO PROTECT THE INTEGRITY OF SPEA

This section provides measures to protect the integrity of the SPEA as described in RAPR, as well as recommended best management practices. These recommendations are based on the SPEA for Summit Lake (15- 23 m) and upper Bonanza Creek (~11 m; Appendix 2). In order to protect the SPEA of upper Bonanza Creek, these recommendations shall also be followed within the restrictive creek covenant (~23m from the HWM of upper Bonanza Creek). Other than the proposed subdivision, future developments have not been finalized.

5.1 Danger Trees

A Registered Professional Forester (RPF) was not retained to assess danger trees; however, a quick assessment for potential danger trees was conducted by the QEP within the property. It is recommended that a RPF or arborist is retained to assess the health and potential danger of the mature cottonwood trees that are located within falling distance of any proposed new residences.

5.2 Windthrow

An RPF was not retained to assess potential windthrow since no clearing is proposed within or adjacent to the SPEA. Further assessment of windthrow is beyond the scope of this report, and any such assessment should be led by a RPF, or professional arborist.

5.3 Slope Stability

A geotechnical engineer (P.Geo. or P.Eng.) was not retained to assess potential slope stability within or adjacent to the SPEA as the property is generally flat. The property is relatively flat and no slope stability indicators were identified during the site assessment that would suggest the need for such an assessment.

5.4 Protection of Trees and Vegetation

Protection of trees and other vegetation in the Summit Lake SPEA and the upper Bonanza Creek covenant area during future developments can be achieved by implementing the following measures:

- The SPEA along Summit Lake and creek covenant boundary along upper Bonanza Creek will be located and clearly marked on the ground by a registered surveyor prior to subdivision development. These areas will be identified as no-construction zones and root systems of trees should be protected to the dripline of the tree in order to maintain ecosystem integrity.
- Snow fencing shall be installed along Summit Lake SPEA and creek covenant boundaries as shown on the Site Plan, for any future developments (Appendix 3).
- Maintain the natural drainage of the site as much as possible.
- Ensure that no pollutants are allowed to contaminate the soil within the development area next to the SPEA.

5.5 Encroachment

At this time, the proposed subdivision does not involve any further encroachment within the SPEAs beyond the existing developments covered in Section Error! Reference source not found.. Future encroachment within the SPEA of Summit Lake and upper Bonanza Creek must be avoided in order to maintain the natural environment of these watercourses, their ecosystems (aquatic and riparian), and biological diversity. In addition, to protect the integrity of the SPEA along upper Bonanza Creek, we recommended that the creek covenant area is a no-disturbance zone.

5.6 Sediment and Erosion Control

Existing erosion and sediment concerns are limited to natural stream occurrences such as streambank erosion and channel braiding, both of which were observed in the bottom 500 m of upper Bonanza Creek. The existing restrictive covenant along upper Bonanza Creek has been set in place to mitigate against damages arising from flooding and erosion.

Future developments will require erosion and sediment control plans to reduce the risk of sediment input to Summit Lake and into upper Bonanza Creek.

At a minimum, these plans should:

- Limit the disturbance of native vegetation throughout each subdivided lot to the extent possible and ensure disturbed/exposed soils are revegetated with native vegetation as soon as possible.
- Safely stockpile any erodible materials in a manner that eliminates the possibility of erosion and sediment transport. This may require covering the stockpiles with tarps or with a vegetative cover.
- During construction, activities should be suspended during periods of heavy rain if there is any risk that continued work could result in sediment delivery to the SPEAs, Summit Lake, or to upper Bonanza Creek.
- An erosion and sediment control plan shall be prepared prior to development, which could include sediment fencing, ditching, detention/setting ponds, check dams, etc. to manage turbid wastewater generated by construction or heavy rain events. Turbid wastewater will not be permitted to leave the construction site.

5.7 Stormwater Management

As noted in Section Error! Reference source not found., details about future development of the property to be subdivided have not been finalized. Future developments will require stormwater management plans.

At a minimum, a stormwater management plan should:

- Control storm water surface runoff and direct it away from disturbed/exposed soils.
- Promote the installation of permeable surfaces that permit rainwater infiltration into the ground to moderate the flow of overland storm water.

- Design roof rainwater collection systems that direct rainwater into suitable landscape features which can absorb and utilize runoff. Roof runoff will not be permitted to discharge directly to the SPEAs, Summit Lake, or to upper Bonanza Creek.

5.8 Floodplain Concerns

The restrictive covenants (Appendix 4) indicate that a large portion of property to be subdivided is located within an area with potential flood or erosion danger. Active floodplain was identified at the mouth of upper Bonanza Creek and an avulsed area was noted along upper Bonanza Creek below Highway 6 (11U.452551.5556668).

The RDCKs non-standard flood and erosion areas (NSFEAs) geospatial mapping provides more information about three areas identified on the subject property (RDCK 2022). The three areas include:

1) The covenanted area along upper Bonanza Creek (1.75 acres) is rated 'E', indicating potential for flooding and erosion from high-velocity flows, avulsions, debris flows, or bank stability problems typical of areas on alluvial/debris flow fans of larger streams, moderate sized streams with steeper slopes, or erodible banks in the floodway of large rivers (RDCK 2019). A full Engineer or Geoscientist report, including a completed hazard assessment, siting of proposed buildings and site-specific recommendations is required for development.
2) A 2.35 acre area along Highway 6 in the south and southwestern portions of the subject property is also rated 'E'.
3) The remaining property (12.94 acres) northeast of Highway 6 is rated '2' indicating potential for flooding by moderate-velocity flows typical of areas on alluvial/debris flow fans of moderate sized streams, small streams with steeper slopes, or the transition zone of larger alluvial and debris flow fans (RDCK 2019).

The RDCK Floodplain Management Bylaw requires a 15 m setback and a 1.5 m flood construction level from the natural boundary of Summit Lake and HWM of upper Bonanza Creek. NSFEAs are areas where standard floodplain setbacks and construction levels may not be adequate to provide the necessary protection against flooding, erosion, and/or debris flow, and where additional construction requirements apply.

5.9 Protection of Wildlife Habitat

Riparian zones allow wildlife to travel between habitat "islands" by providing migration corridors between upland areas and water, as well as along streambanks and the foreshore. They also help circulate nutrients between terrestrial and aquatic ecosystems. Details about future development of the property to be subdivided have not be finalized. However, the proposed subdivision can be expected to have minimal impact on wildlife habitat if wildlife movement within the SPEA is not interrupted and if the following recommendations are followed.

5.9.1 Western Toads

Specific Western Toad Management Strategies for Summit Lake (FLNRO 2017) have been developed to inform land use practices such as highway infrastructure, forestry operations, recreation, and private land development. Management strategies include:

- Maintaining a minimum width of 20 m from the drainage centerline for riparian corridors.
- Retaining intact vegetation along streams and maintaining windfirm edges.
- Leaving woody debris and leaf litter in place.
- Avoiding pesticide and herbicide use.
- Avoiding dock installations.

5.9.2 Birds

Best management practices developed to protect nesting birds include the following:

- Wildlife snags should be retained within the SPEA, unless considered a hazard. These trees serve as wildlife perch trees and potential nesting and roosting sites for raptors. They also provide food for woodpeckers, who in turn create nest cavities for other birds.
- Any mature hazard trees (>300 mm diameter at breast height (DBH)), as deemed by an arborist or RPF and proposed for removal within the SPEA should be cut at minimum 3.3 m (10 ft) in height from the ground and left as a wildlife snag.
- Any clearing of trees and vegetation should be conducted outside of the songbird breeding season (early-April 1 to mid-August). If clearing is to occur during the songbird breeding season a QEP should be retained to evaluate the presence of any active nests within areas to be cleared and propose measures to protect these nests.
- Follow the Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia (MOE 2013) if any active raptor nests are discovered within 100 m of the subject property. Active raptor nests are legally protected at all times of the year and some inactive nests (ex: Bald Eagle nests) are similarly protected. A QEP should be retained to determine the appropriate mitigation measures to protect raptors and their habitat.

5.10 Protection of Fish Habitat

If all of the considerations outlined in Section 5 of this report are adhered to, disturbance to fish and fish habitat should be minimal. However, the developer should be aware of the following:

- All works in and about Summit Lake and/or upper Bonanza Creek will require a *Water Sustainability Act* Change Approval or Notification application.
- Fisheries and Oceans Canada has developed an interim code of practice for end-of-pipe fish protection screens for small water intakes in freshwater (DFO 2022) that should be reviewed and followed in the event that water will be diverted from any watercourse use at this property.

5.11 Management of Equipment and Fuel/Lubricant Materials

Deleterious substances degrade water quality and affect fish and fish habitat. Future developments will require a spill prevention and emergency response plan to minimize the likelihood and impact of a spill of a deleterious substance, such as fuels, oils, and lubricants contained in equipment or vehicles used for construction.

At a minimum, this plan should:

- Ensure that each piece of heavy equipment is equipped with its own spill response kit that is appropriate to the types and quantities of fluids stored within. The contents of each kit must be replaced immediately after use.
- Ensure that all equipment operators are familiar with the use of spill kits and their contents.
- Store all equipment in a designated area as far from Summit Lake and upper Bonanza Creek as possible. If equipment cannot be stored >30 m away from these watercourses, secondary containment will be utilized to capture any potential spills or leaks.

5.12 Invasive Plant Management

Construction and development activities can potentially increase the prevalence of invasive plant species which can out-compete native riparian vegetation, causing damage to habitat and ecosystem function. The following mitigation measures are recommended to reduce the establishment and proliferation of invasive plant species:

- All equipment should be thoroughly washed and inspected before entering the subject property to prevent the import of new invasive plant seeds and parts.
- Minimize the amount of vegetation clearing and soil disturbance.
- Revegetated all exposed soils immediately following construction.
- Burdock (*Arctium sp.),* oxeye daisy (*Leucanthemum vulgare*), and yellow hawkweeds (*Hieracium spp.)* are invasive weeds listed as species for strategic control in the Central Kootenays and within the Nakusp and Slocan invasive plant management areas (CKISS 2022). Species for strategic control are generally widespread and management efforts are aimed at protecting site-specific values or assets. It is recommended that these species be contained where found and prevented from colonizing new areas of the SPEAs of Summit Lake and/or upper Bonanza Creek.

6 CONCLUSION

The subject property proposed for subdivision has been partially disturbed by historic development activities; however, most of the riparian areas are intact. If the proposed SPEAs and creek covenant areas are protected and maintained as no-construction zones, and if the mitigation measures proposed in this report are followed, impacts to Summit Lake, upper Bonanza Creek, and their associated riparian areas should be minimal. Any activities proposed within the SPEA or creek covenants should be assessed by a QEP prior to construction.

7 CLOSURE

This report has been prepared by a QEP who has not acted for, or as an agent(s) of the RDCK and was at the expense of the property owner.

I, Fiona Lau, certify that I am qualified to carry out this assessment; and that the assessment methods under the *Regulation* have been followed; and that, in my professional opinion:

(i) if the development is implemented as proposed, or

(ii) if the streamside protection and enhancement areas identified in the report are protected from the development, and

(iii) if the developer implements the measures identified in the report to protect the integrity of those areas from the effects of the development,

then there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area.

Sincerely,

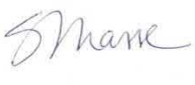




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APPENDIX 1
LOCATION MAP

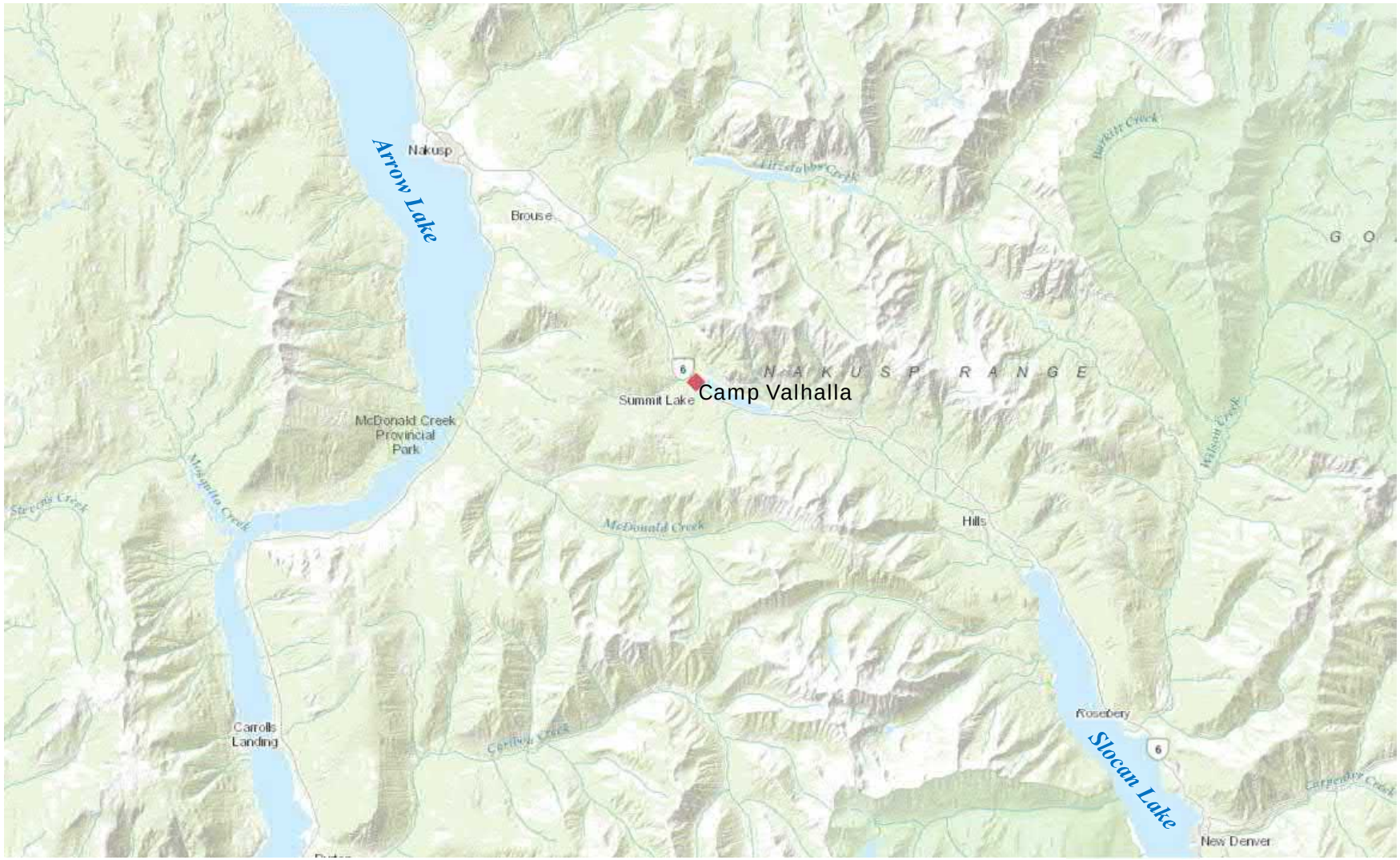
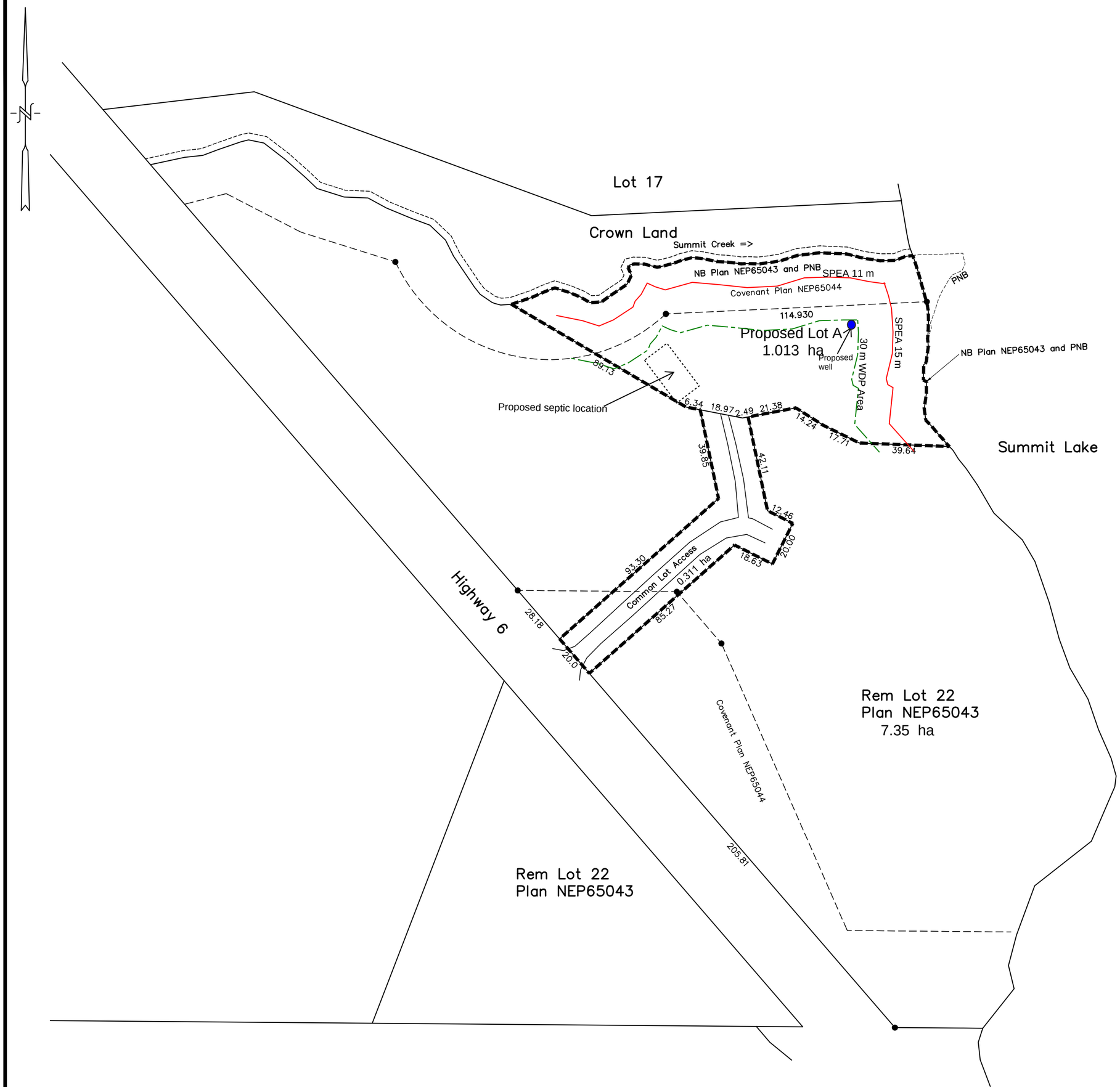


Figure 1. Location Map – Camp Valhalla 2384 Hwy 6

APPENDIX 2
SURVEY AND SITE PLAN



Proposed subdivision of part of Lot 22, DL 10589, Kootenay District, Plan NEP65043.

Client: Bouvette

SCALE 1:1250

25 0m 25 50 75

The intended plot size of this plan is 560mm in width by 432mm in height (ANSI C) when plotted at a scale of 1:1250

This plan was prepared for design purposes and is for the exclusive use of Bouvette.

Distances are shown in metres and decimals thereof.

Parcel dimensions are derived from Plan NEP65043 and field survey.

This plan shows horizontal ground level distances except where otherwise noted.

Bearings and distances are derived from field survey observations and are referred to the central meridian of UTM zone 11N, NAD83 CSRS

This plan has been prepared based on Land Title and Survey Authority records and a field survey completed on October 12, 2022. Unregistered interests have not been included or considered.

The Certificate of Title PID 024–577–375 was searched on September 13, 2022.

Jason R. Shortt accepts no responsibility for and hereby disclaim all obligations and liabilities for damages including, but not limited to, direct, indirect, special, and consequential damages arising out of or in connection with and direct or indirect use or reliance upon the Plan beyond its intended use.

© Jason R. Shortt, BCLS, 2022. All rights reserved. No person may copy, reproduce, republish, transmit or alter this document, in whole or part, without the express written consent of Jason R. Shortt.

russell shortt
land SURVEYORS
2801–32nd Street, Vernon, B.C. V1T 5L8
Phone: (250)545–0511 Email: jasons@jrshortt.ca

FILE: 30415

F.B.1317 p138

PLAN NEP 65044

DEPOSITED IN THE LAND TITLE OFFICE AT NELSON, B. C. THIS 18th DAY OF August, 19 99.

I.C.B. Smith
REGISTRAR

D. L. 11337

D. L. 11416

D. L. 6391

PLAN 603-G

PLAN 603-D

D. L. 7694

D. L. 10589

D. L. 7693

PLAN NEP 65043

HIGHWAY PLAN 11919

ROAD

20 METRES WIDE

F. S. R. PLAN 10650

SUMMIT LAKE

SUMMIT CREEK

RETURN TO CROWN

CROWN

Present Natural Boundary

Original Natural Boundary

Creek Covenenant ART 0.174 Ac

30 m RDCK WDP Area

Proposed Lot A
1.03 ha

Proposed well

Proposed septic location

Rem Lot 22
Plan NEP 65043
7.35 ha

Gazebo

Sandy Beach Areas

Boat Ramp

Docks

Fish Shack

BTs

20cm Hemlock	2.30	188°	
18cm Balsam	3.00	350°	
14cm Fir	2.74	83°	
22cm CEDAR	3.70	35°	
20cm CEDAR	1.80	101°	
23cm CEDAR	2.60	290°	

REFERENCE PLAN SHOWING COVENANTED AREA OVER PARTS OF LOTS 3,4,5,6,9,18,19,20,21 & 22, PLAN NEP 65043, DISTRICT LOT 10589, KOOTENAY DISTRICT.

BCGS 82F.043

SCALE 1:1250

ALL DISTANCES ARE IN METRES AND DECIMALS THEREOF UNLESS OTHERWISE INDICATED.

20 10 0 20 40 60 80 100 metres

LEGEND

BEARINGS ARE ASTRONOMIC AND ARE DERIVED FROM PLAN 11919.

- ● DENOTES STANDARD IRON POST FOUND.
- ⊗ DENOTES STANDARD CAPPED POST SET.
- ✱ DENOTES NON-STANDARD SQUARE IRON POST FOUND.
- ⊛ DENOTES STANDARD CAPPED POST FOUND.
- ⊙ DENOTES STANDARD CONCRETE POST FOUND
- Wt DENOTES WITNESS.

LEGEND

- RDCK WDP area (30 m)
- Litterfall and LWD ZOS (Upper Bonanza Creek 11 m, Summit Lake15m)
- Shade ZOS (Upper Bonanza Creek 9.9 m, Summit Lake 15-23m)
- SPEA (Upper Bonanza Creek 11m, Summit Lake 15-23m)

Date Created: Aug 25, 2022
Drawn by: F Lau

MASSE ENVIRONMENTAL CONSULTANTS LTD.

I, GORDON STEIN, A BRITISH COLUMBIA LAND SURVEYOR OF NELSON, IN BRITISH COLUMBIA CERTIFY THAT I WAS PRESENT AT AND PERSONALLY SUPERINTENDED THE SURVEY REPRESENTED BY THIS PLAN AND THAT THE SURVEY AND PLAN ARE CORRECT. THE SURVEY WAS COMPLETED ON THE 21st DAY OF November, 19 98.

G. Stein
BCLS

THIS PLAN LIES WITHIN THE CENTRAL KOOTENAY REGIONAL DISTRICT.

COMP FILE SUMMGOVT

Status: Filed
Plan #: NEP65044 App #: N/A Ctrl #:
RCVD: 1999-08-18 RQST: 2022-08-15 12.24.25

APPENDIX 3
ONSITE SEWERAGE DISPERSAL AREAS ASSESSMENT

Preliminary Subdivision Application

Interior Health: Authorized Person Subdivision Report

Date: August 15, 2022

1: Lot and contact details:

Lot:	LOT 22, DISTRICT LOT 10589, KOOTENAY DISTRICT PLAN NEP65043
PID:	024-577-375
Folio:	21-710-03093.650
Street address:	2384 Highway 6, Summit Lake
Description:	The property is located on the north side of Highway 6, approximately 12km southeast of Nakusp with a small part on the south side.
Owner:	CAMP VALHALLA HOLDINGS INC., INC.NO. BC0716484
Contact info:	468 WEST 43RD AVENUE, VANCOUVER, BC, V5Y 2T8 Tel: 250 231 4454; email: cory.peck@gmail.com
Agent:	Cory Peck 1056 McCarty Crescent, Revelstoke, BC, V0E 2S1; Tel: 250 231 4454; email: cory.peck@gmail.com
AP contact:	S. Bamber AScT; ROWP (OW0551); tel: 250-265-8032; email: sibamber2@gmail.com
General:	The existing lot is 20.66 acres in area and is accessed off Highway 6. Part of the existing lot is located on the south side of Highway 6. The owner intends to subdivide into one new lot **(Lot A - 2.47 acres/1.0 ha)** a common access **lot (0.4 acres)** and the **remainder (17.79acres)** respectively.

2: Onsite sewerage dispersal areas assessment - see Appendix A:

Proposed Lot A:

- Lot A is currently part of the active campground layout with driveway and trees.
- The areas investigated for wastewater dispersal for Lot A have a 1 to 2 % slope.
- Slopes vary (1 to 5%) across the lot generally from west to east towards Summit Lake which forms the eastern boundary of the lot.
- During site assessment of the proposed Lot A by soil test pits and percolation tests there were no apparent indications of seasonal high-water level or restrictive layers.
- Hydraulic loading rate: Lot A soil test pit details and permeabilities are noted in the site assessment report appendix A.
- No potential downslope breakout points are located within 15m of the dispersal areas.
- There is no limiting layer within the top 1.8m of the soils.
- The proposed field and 100% reserve field areas are setback more than 30m from both the lake high water mark and the creek located on the north boundary of Lot A.
- Proposed Lot A water supply will be from a new well installation (>30 to wastewater system).

Remainder Lot:

- The Remainder lot is an active campground with an onsite wastewater system serving the 35 unit campground a washroom block and a RV/trailer sani-dump.
- The existing wastewater system appears (from a visual inspection) to be functioning normally.
- The septic tank and pump tank are in good condition and there is no evidence of past or current issues with the existing infiltration field. It does not pose a health or safety hazard. The owner will be provided with a maintenance plan for the system (in the absence of one from the previous owners)
- There is a full 100% reserve field area previously allocated when the original lots were subdivided in that area. Both the active field and the reserve field are located to the north of the lot access road (see 1989 plan in Appendix C).
- The allocated 100% reserve field area for the campground installation has not been changed since it was laid out (in 1985) and is therefore considered to be suitable (detailed design plan for this area is contained in Appendix C).
- The lot water supply is serviced by a creek intake located to the southwest on the south side of Highway 6.
- Adequate horizontal setbacks from water lines to field areas are in place.

Common Lot – for access:

This is currently the access road for the campground and will remain so, while also providing access for proposed Lot A.

General (both lots):

- The lots are not in a floodplain area although they are in a NSFEA based on the RDCK mapping website information.
- Horizontal setbacks from lake high-water mark and creek are all greater than 30m.
- There are no water wells within 30m of the lot boundaries.
- The common lot to provide access to Lot 1 will be created on the alignment of the existing access road from Highway 6.
- There are two Covenants noted on the Land Title: KN74763 and KN 74765 for the Crown and RDCK. Copies of these are not yet available but they are not believed to restrict the placement of any onsite wastewater systems.
- There is a Right of Way 50401D for the BC Hydro power lines on the south side of Highway 6, this does not affect the lot areas on the north side of Highway 6. (see Appendix D)

3: Site Plan: See Appendix B. Note that the final subdivision plan will be prepared by a BCLS at the appropriate time, following survey to accurately locate the lot boundaries.

4: ROWP Statement:

I have reviewed all of the criteria contained in ***"Interior Health: Subdivision Report Criteria for Authorized Persons (HP-HE-9021 dated April 2019)"*** and have identified two suitable sewerage dispersal areas for Lots A, B and a 100% reserve area for the Remainder, which when used for onsite sewerage disposal, will not create a health hazard if the onsite wastewater systems are subsequently designed in accordance with the Sewerage System Regulations and the current Sewerage System Standard Practice Manual, Version 3, September 2014.



Simon Bamber. Date: August 15, 2022.

This statement was prepared by S. Bamber AScT., ROWP, for the purposes of inclusion in a preliminary subdivision application. The material in it reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this proposal, or decisions made or based on it, are the responsibilities of such third parties.
S. Bamber AScT., ROWP, accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this statement.

Attached:

Appendix A: Site assessment details (hydraulic loading rates, percolation rates soils type etc)

Appendix B: Proposed site plan.

Appendix C: Reference documents for existing wastewater system.

Appendix D: Right of Way: 50401D BC Hydro.

APPENDIX A
Valhalla Campground, Summit Lake

Authorized Person Site Assessment details

The site was visited in September 2021 and July 2022.
Six soils test pits and percolation tests were carried out. 3 are located on proposed Lot A.
Three are located on the Remainder lot to assess for additional reserve area.
A 100% reserve area is already constructed for the Remainder lot.

Soil test pits
All test pits were of a very similar nature, the depth of fill over the natural sand varied from 0.9 to 1.5 in the areas sampled. The environmental study contained numerous test pits and boreholes across the site which confirm this.

Proposed Lot A: (# TP1 - 3)

0 to 100mm:	brown sandy topsoil and organic matter, roots medium fine.
100 to 300mm:	orange/brown gravelly sand loam, blocky, roots few fine.
300 to 2400mm:	grey gravelly sand, single grain, roots few to 900mm.

Remainder Lot: (# TP 4-6)

0 to 100mm:	brown topsoil and organics, roots many fine to medium.
100 to 300mm:	red sandy silt, blocky, roots few fine.
300 to 2400mm:	grey gravelly sand, single grain.

Water table/restrictive layer
There was no evident of restrictive layer or seasonal high-water table.
Vertical separation requirements from infiltration level for type 1 gravity systems (>1.8m) can be achieved at both field locations.

Setbacks, Easement & Covenants etc.
All necessary SPM horizontal setbacks to lot boundaries, proposed dwellings, driveways, utilities, proposed wells and water lines, lake HWM etc. can all be achieved.
There are no easements of covenants which affect the location of onsite sewage dispersal areas.

(Continued on page 2)

Soil Percolation Tests Summary

Lot A and Remainder:

Standard percolation testing obtained results from 1 to 4 minutes per inch. This is likely due to the varying amounts of silt in the sand and gravel soils.
A conservative proposed Hydraulic Loading Rate for the well-draining native sand is **30 L/m2/day**.

Dispersal area size: Preliminary design calculation for four-bedroom dwelling:
Daily design flow = 1,600 L/day.
HLR 30 L/m2/day so: 1,600/30 = 53.3 m2 required for dispersal field and 53.3 m2 for 100% reserve field area.
Single trench at 0.6m width x 22.5m length provides 13.5m2 so 4 trenches provide 54 m2 (>53.3)
Standard trench spacing at 1.8m c/c therefore requires a total field area width of (3 x 1.8) + (2 x 0.3) = 6.0m.
Dispersal area total external size = 22.5m length x 6m width = **135 m2 for each field (270m2 total)**

Summary: Two areas i.e., a sewage dispersal area and a 100% reserve area are available on each lot.



Simon Bamber AScT, ROWP

Date: August 15, 2022



N

Approx 50m

LOT 22, DISTRICT LOT 10589,
KOOTENAY DISTRICT PLAN NEP65043
PID: 024-577-375
Folio: 21-710-03093.650
Street address: 2384 Highway 6, Summit Lake

Proposed Subdivision.

Note: Subdivision plan to be prepared by BC Land Surveyor.

Authorized Person
Subdivision Report – Onsite Wastewater.
Appendix B site plan.
August 2022

REGISTERED ONSITE WASTEWATER PRACTITIONER
ASTTBC
SIMON BAMBER
PL
OW0551

Preliminary Subdivision Application

Interior Health: Authorized Person Subdivision Report

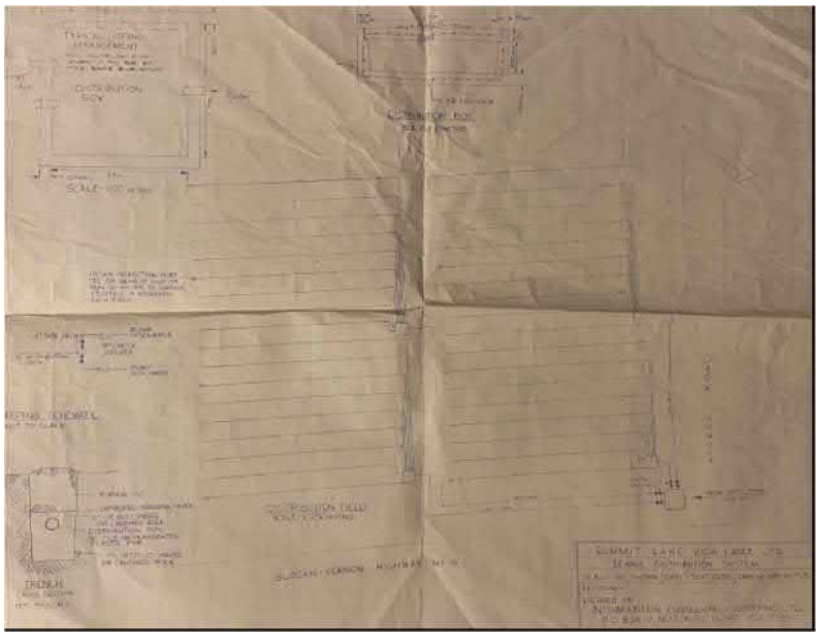
2384 Highway 6, Summit Lake

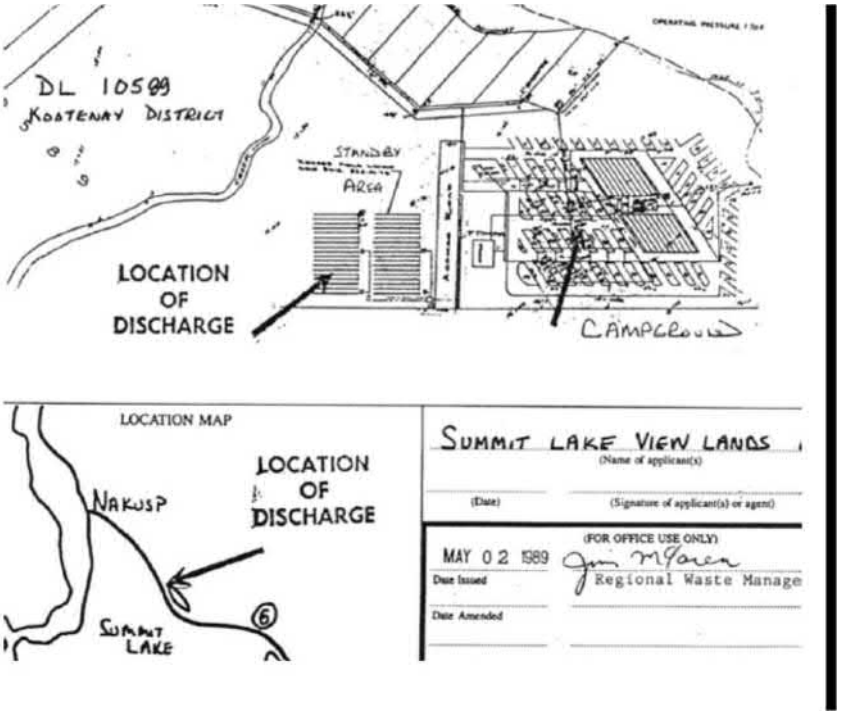
Date: August 15, 2022

Appendix C

Existing campground onsite wastewater approved system design and installation plans.

Field and 100% reserve field.





Preliminary Subdivision Application

Interior Health: Authorized Person Subdivision Report

Date: August 15, 2022

Appendix D: BC Hydro RoW 50401D

1-CK

PLAN No. RW160

Deposited in the Land Registry Office at Nelson, this 28th day of July, 1967.

Registrar

BRITISH COLUMBIA POWER COMMISSION

PLAN

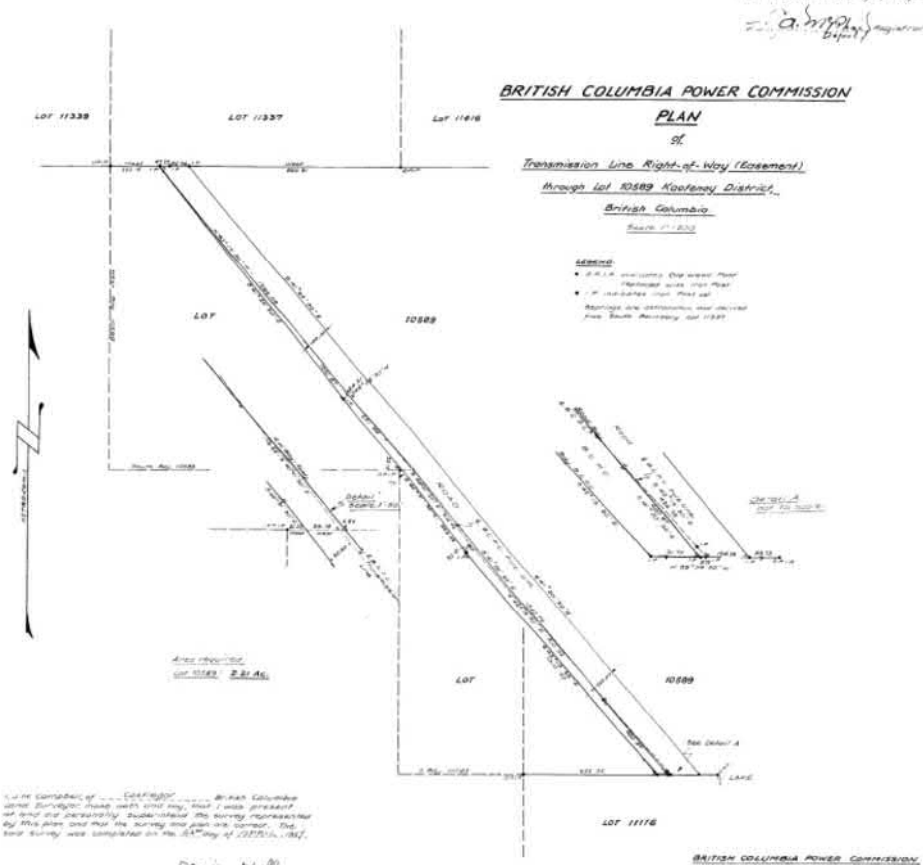
of

Transmission Line Right-of-Way (Easement)

through Lot 10589 Kootenay District,

British Columbia

Scale: 1" = 200'



LEGEND

- ⊙ R.I.P. indicates Iron Pipe Post
- ⊙ I.P. indicates Iron Post set

Bearings are astronomic and derived from South Boundary of Lot 11337

Area required
Lot 10589 2.81 Ac.

I, [illegible] of [illegible], British Columbia, Land Surveyor, make oath and say, that I was present at and did personally superintend the survey represented by this plan and that the survey and plan are correct. That said survey was completed on the 24th day of [illegible], 1967.

Sworn before me at Kaslo this 11th day of May 1967.

A Notary Public in and for the Province of British Columbia

BRITISH COLUMBIA POWER COMMISSION

[illegible] Chairman

[illegible] Secretary

APPENDIX 4
RESTRICTIVE COVENANTS ON TITLE

LAND TITLE ACT
FORM C 12
(Section 233)
Province of
British Columbia

KN074764 99 AUG 18 14 12 KN074763
LAND TITLE OFFICE
KAMLOOPS

19 AUG 18 PM
LAND TITLE OFFICE
KAMLOOPS

GENERAL INSTRUMENT - PART 1 (This area for Land Title Office) Page 1 of 7 Pages 7

1. APPLICATION: (Name, address, phone number and signature of applicant, applicant's solicitor or agent)

Michael Nasmyth, Nasmyth Morrow & Goody
Barristers & Solicitors, Box 80
Nelson, B.C. V1L 5P7 352-3171
File No. 44044

agent for subsequent chargee

signature of applicant, applicant's solicitor or agent

ABSTRACT REGISTRY 372-0746

2. PARCEL IDENTIFIER(S) AND LEGAL DESCRIPTION(S) OF LAND:*

(PID) (LEGAL DESCRIPTION)

Lots 17 and 22, District Lot 10589
Kootenay District, Plan NEP 65043

3. NATURE OF INTEREST:* DESCRIPTION	DOCUMENT REFERENCE (page and paragrah)	PERSON ENTITLED TO INTEREST
Covenant, Section 219 LTA ~~as to parts in Plan NEP~~	page 4, para. 4	The Crown in Right of British Columbia & Regional District of Central Kootenay
Priority Agreement over V12525	page 7, para. 4	

4. TERMS: Part 2 of this instrument consists of (select one only)

(a) Filed Standard Charge Terms — D.F. No.
(b) Express Charge Terms — [X] Annexed as Part 2
(c) Release — There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 of in a schedule annexed to this instrument. If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. TRANSFEROR(S):*

SUMMIT LAKE VIEW LANDS LTD. Inc. #270349 as to Covenant
KOOTENAY SAVINGS CREDIT UNION as to Priority over Mortgage V12525

6. TRANSFEREE(S): (including postal address(es) and postal code(s))*

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA as represented by Minister of Environment, Lands & Parks, Parliament Buildings, Victoria BC, V8V 1X5 and REGIONAL DISTRICT OF CENTRAL KOOTENAY
601 Vernon Street, Nelson, BC, V1L 4E9

7. ADDITIONAL OR MODIFIED TERMS:*

n/a

01 99/08/18 14:14:49 01 KL 297814
CHARGE $110.00

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) recept of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date Y	M	D	Party(ies) Signature(s)
LINDA MILLER NOTARY PUBLIC Box 9, Winlaw, BC V0G 2J0 Ph (250) 226-7866	99	01	31	SUMMIT LAKE VIEW LANDS LTD. by its authorized signatory: KENNETH ALAN POZNIKOFF

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. 1979, c. 116, 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.

* If space insufficient, enter "SEE SCHEDULE" and attach schedule in Form E.
** If space insufficient, continue executions on additonal page(s) in Form D.

LAND TITLE ACT
FORM D

EXECUTIONS CONTINUED Page 2 of Pages

Officer Signature(s)	Execution Date Y	M	D	Transferor/Borrower/Party Signature(s)
BRUCE A. LeROSE Barrister & Solicitor SUITE 200 - 999 FARWELL ST. TRAIL, B.C., V1R 3V1 TEL: (604) 368-3327 FAX: (604) 368-4994	99	03	12	KOOTENAY SAVINGS CREDIT UION by its authorized signatory: JAMES CRAIG
BRUCE A. LeROSE Barrister & Solicitor SUITE 200 - 999 FARWELL ST. TRAIL, B.C., V1R 3V1 TEL: (604) 368-3327 FAX: (604) 368-4994	99	03	12	ROBERT STEWART

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.

pn

TERMS OF INSTRUMENT - part two

COVENANT

THIS AGREEMENT made this 31 day of January 1999

BETWEEN:

SUMMIT LAKE VIEW LANDS LTD.
Inc. #270349
PO Box 991
Nakusp, BC
V0G 1R0

(Hereinafter called the "Grantor")
OF THE FIRST PART

AND:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Minister of Environment, Lands and Parks, Parliament Buildings, Victoria, B.C. V8V 1X5

(Hereinafter called the "First Grantee")
OF THE SECOND PART

AND:

REGIONAL DISTRICT OF CENTRAL KOOTENAY
601 Vernon Street
Nelson, BC, V1L 4E9

(Hereinafter called the "Second Grantee")
OF THE THIRD PART

WHEREAS the Grantor is the registered owner in fee simple of the following lands in the Province of British Columbia, more particularly known and described as:

District Lot 10589, Kootenay District, except part shown red on Plan 603-0 and except part included in Plan 11919
PID 016 451 988

(hereinafter called the "Lands")

The Grantor proposes to subdivide the Lands according to a "Plan of Subdivision" of District Lot 10589, Kootenay District, except part shown red on Plan 603-0 and except part included in Plan 11919 completed by Gordon Stein, B.C.L.S. on the 27th day of November, 1998; and registered in the Kamloops Land Title Office as Plan NEP 65043 . The Grantor proposes to grant to the Grantees a covenant under Section 219 of the *Land Title Act* against the following lands contained in the subdivision:

Lots 17 and 22
District Lot 10589, Kootenay District, Plan NEP 65043
(Hereinafter called the "Lots")

AND WHEREAS a covenant under Section 219 of the *Land Title Act* is required as a condition of the consent to approval of the subdivision of the Lands by the Minister of Environment, Lands and Parks, under Section 82 of the *Land Title Act*;

AND WHEREAS Section 219 of the *Land Title Act* provides that there may be registered as a charge against the title to any land a covenant in favour of the First Grantee and the Second Grantee in respect to the use of the land or that land is not to be subdivided except in accordance with the covenant;

AND WHEREAS the Grantor is aware of and hereby acknowledges that there is a potential flood danger to the Lots.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of ONE ($1.00) DOLLAR of lawful money of Canada and other good valuable consideration paid by the First and Second Grantees to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the First and Second Grantees under Section 219 of the *Land Title Act* of the Province of British Columbia as follows:

1. The Grantor hereby covenants and agrees with each of the First Grantee and Second Grantee, as a covenant in favour of each of the First Grantee and Second Grantee pursuant to Section 219 of the *Land Title Act*, it being the intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lots, that from and after the date hereof:

   a) No building, mobile home or unit, modular home or structure shall be constructed, reconstructed, moved, extended or located within 7.5 metres of the natural boundary of Summit Lake.

   b) No area used for habitation, business, or storage of goods damageable by floodwater shall be located within any building at an elevation such that the underside of the floor system, thereof, is less than one point five (1.5) metres above the natural boundary of Summit Lake.

      In the case of a mobile home, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

   c) The required elevation may be achieved by structural elevation of the said habitable, business, or storage area or by adequately compacted landfill on which any building is to be constructed or mobile home or unit located, or by a combination of both structural elevation and landfill. No area below the required

elevation shall be used for the installation of furnaces or other fixed equipment susceptible to damage by floodwater. Where landfill is used to raise the natural ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback requirement given in condition (1a) above. The face of the landfill slope shall be adequately protected against erosion from flood flows (Wave action, ice or other debris).

2. The Grantor acknowledges that the First and Second Grantees do not represent to the Grantor, nor to any other person that any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area will not be damaged by flooding or erosion and the Grantor, with full knowledge of the potential flood or erosion danger and in consideration of the approvals given by the First Grantee hereby:

   (a) agrees to indemnify and to save harmless the First and Second Grantees and their employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims and demands which the First and Second Grantees or any of their employees, servants or agents, may suffer or incur or be put to arising out of or in connection with any breach of any covenant or agreement on the part of the Grantor, or his, heirs, executors, administrators, successors and assigns contained in this Agreement or arising out of or in connection with any personal injury, death or loss or damage to the Covenanted Area, or to any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area caused by flooding, erosion or some such similar cause; and

   (b) does remise, release and forever discharge the First and Second Grantees and their employees, servants or agents from all manner of actions, cause of actions, suits, debts, accounts, covenants, contracts, claims and demands which the Grantor or any of his heirs, executors, administrators, successors and assigns may have against the First and Second Grantees and their employees, servants or agents for and by reason of any personal injury, death or loss or damage to the Covenanted Area, or to any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area, caused by flooding, erosion or some such similar cause.

3. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the First and Second Grantees in relation to the Grantor, including their heirs, executors, administrators, successors and assigns, or the Covenanted Area under any law, bylaw, order or regulation or in equity all of which rights, powers and remedies may be fully and effectively exercised by the First and Second Grantees as if this Agreement had not been made by the parties.

4. The terms, conditions, covenants and other provisions of this Agreement will extend to, be binding upon and enure to the benefit of the parties to this Agreement and their respective successors and assigns.

5. The Grantor will do or cause to be done at his expense all acts reasonably necessary for the First and Second Grantees to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Covenanted Area save and except those specifically approved in writing by the First and Second Grantees.

6. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of Section 219(5) of the *Land Title Act*.

7. The Grantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of this Agreement.

8. Whenever the singular or masculine or neuter is used herein, the same shall be construed as including the plural, feminine, body corporate or politic unless the context requires otherwise.

9. If any section or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.

10. This Agreement shall be interpreted according to the laws of the Province of British Columbia.

11. Where there is a reference to an enactment of the Province of British Columbia in this Agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

12. Every reference to the Minister of Environment, Lands and Parks, in this Agreement shall include the Minister of Environment, Lands and Parks, the Deputy Minister of Environment, Lands and Parks, and any person designated by either of them to act for or on their respective behalf with respect to any of the provisions of this Agreement.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and year first above written.

pm

SIGNED, by the Grantor
Summit Lake View Lands Ltd.
in the presence of:

LINDA MILLER
NOTARY PUBLIC
Box 9,
Winlaw, BC V0G 2J0
Ph (250) 226-7866

SUMMIT LAKE VIEW LANDS LTD.
by its authorized signatory:

This is the instrument creating the condition of Covenant pursuant to Section 219 of the *Land Title Act* by the Grantor referred to herein.

Approving Officer, Ministry of
Transportation and Highways

CONSENT

KOOTENAY SAVINGS CREDIT UNION, (the "Prior Chargee)
Holder of Mortgage registered under Number V12525

WHEREAS by instruments registered in the Land Title Office at Nelson in British Columbia on the 28th day May, 1986 under Number V12525 the Prior Chargee was granted a Mortgage (the "Prior Charge") in respect of the land described in the attached Covenant (the "Subsequent Charge").

AND WHEREAS the Prior Chargee consents to and agrees that the Subsequent Charge shall have priority over the Prior Charge.

THEREFORE the Prior Chargee hereby approves of, joins in, consents to and grants to Her Majesty the Queen, in Right of the Province of British Columbia, represented by the Minister of Environment, Lands and Parks, Parliament Buildings, Victoria, British Columbia, V8V 1X5 and Regional District of Central Kootenay, 501 Vernon Street, Nelson, British Columbia, V1L 4E9 (the "Subsequent Chargee") priority over the interest of the Prior Chargee in the land and postpones the right, title and interest of the Prior Charge in the land to the Subsequent Chargee as if the Prior Charge had been registered immediately after the registration of the Subsequent Charge and notwithstanding the respective dates and time of execution and registration of the charges or the respective dates of advancement of moneys under them.

END OF DOCUMENT

LAND TITLE ACT
FORM C
(Section 233)
Province of
British Columbia

KN074766 99 AUG 18 14 12 KN074765

LAND TITLE OFFICE
KAMLOOPS

GENERAL INSTRUMENT - PART 1 (This area for Land Title Office) Page 1 of 7 Pages

1. APPLICATION: (Name, address, phone number and signature of applicant, applicant's solicitor or agent)

Michael Nasmyth, Nasmyth Morrow & Goody
Barristers & Solicitors, Box 80
Nelson, B.C. V1L 5P7 352-3171
File No. 44044

agent for subsequent chargee

signature of applicant, applicant's solicitor or agent

ABSTRACT REGISTRY
372-0746

2. PARCEL IDENTIFIER(S) AND LEGAL DESCRIPTION(S) OF LAND:*

(PID) (LEGAL DESCRIPTION)

Lots 3, 4, 5, 6, 9, 18, 19, 20, 21 and 22, District Lot 10589
Kootenay District, Plan NEP 65043

3. NATURE OF INTEREST:* DESCRIPTION	DOCUMENT REFERENCE (page and paragrah)	PERSON ENTITLED TO INTEREST
Covenant, Section 219 LTA	page 4, para. 4	The Crown in Right of British Columbia & Regional District of Central Kootenay
as to parts in Plan NEP 65044		
Priority Agreement over V12525	page 7, para. 4	

4. TERMS: Part 2 of this instrument consists of (select one only)

(a) Filed Standard Charge Terms — D.F. No.
(b) Express Charge Terms — [X] Annexed as Part 2
(c) Release — [ ] There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 of in a schedule annexed to this instrument. If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. TRANSFEROR(S):*

SUMMIT LAKE VIEW LANDS LTD. Inc. #270349 as to Covenant
KOOTENAY SAVINGS CREDIT UNION as to Priority over Mortgage V12525

6. TRANSFEREE(S): (including postal address(es) and postal code(s))*

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA as represented by Minister of Environment, Lands & Parks, Parliament Buildings, Victoria BC, V8V 1X5 and REGIONAL DISTRICT OF CENTRAL KOOTENAY 601 Vernon Street, Nelson, BC, V1L 4E9

7. ADDITIONAL OR MODIFIED TERMS:*

n/a

01 99/08/18 14:14:55 01 KL 297814
CHARGE $110.00

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) recept of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date Y	M	D	Party(ies) Signature(s)
LINDA MILLER NOTARY PUBLIC Box 9, Winlaw, BC V0G 2J0 Ph (250) 226-7866	99	01	31	SUMMIT LAKE VIEW LANDS LTD. by its authorized signatory: KENNETH ALAN POZNIKOFF

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. 1979, c. 116, 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.

* If space insufficient, enter "SEE SCHEDULE" and attach schedule in Form E.
** If space insufficient, continue executions on additonal page(s) in Form D.

LAND TITLE ACT
FORM D

EXECUTIONS CONTINUED Page 2 of 7 Pages

Officer Signature(s)	Execution Date Y	M	D	Transferor/Borrower/Party Signature(s)
BRUCE A. LeROSE Barrister & Solicitor SUITE 200 - 999 FARWELL ST. TRAIL, B.C., V1R 3V1 TEL: (604) 368-3327 FAX: (604) 368-4994	99	03	12	KOOTENAY SAVINGS CREDIT UION by its authorized signatory: JAMES CRAIG
BRUCE A. LeROSE Barrister & Solicitor SUITE 200 - 999 FARWELL ST. TRAIL, B.C., V1R 3V1 TEL: (604) 368-3327 FAX: (604) 368-4994	99	03	12	ROBERT STEWART

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.

TERMS OF INSTRUMENT - part two

COVENANT

THIS AGREEMENT made this 31 day of January 1999

BETWEEN:

SUMMIT LAKE VIEW LANDS LTD.
Inc. #270349
PO Box 991
Nakusp, BC
V0G 1R0

(Hereinafter called the "Grantor")
OF THE FIRST PART

AND:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Minister of Environment, Lands and Parks, Parliament Buildings, Victoria, B.C. V8V 1X5

(Hereinafter called the "First Grantee")
OF THE SECOND PART

AND:

REGIONAL DISTRICT OF CENTRAL KOOTENAY
601 Vernon Street
Nelson, BC, V1L 4E9

(Hereinafter called the "Second Grantee")
OF THE THIRD PART

WHEREAS:

WHEREAS the Grantor is the registered owner in fee simple of the following lands in the Province of British Columbia, more particularly known and described as:

District Lot 10589, Kootenay District, except part shown red on Plan 603-0 and except part included in Plan 11919
PID 016 451 988

(hereinafter called the "Lands")

The Grantor proposes to subdivide the Lands according to a "Plan of Subdivision" of District Lot 10589, Kootenay District, except part shown red on Plan 603-0 and except part included in Plan 11919 completed by Gordon Stein, B.C.L.S. on the 27th day of November, 1998; and registered in the Kamloops Land Title Office as Plan NEP 65043. The Grantor proposes to grant to the Grantees a covenant under Section 219 of the *Land Title Act* against the following lands contained in the subdivision:

Lots 3, 4, 5, 6, 9, 18, 19, 20, 21 and 22
District Lot 10589, Kootenay District, Plan NEP 65043

(Hereinafter called the "Lots")

AND WHEREAS a covenant under Section 219 of the *Land Title Act* is required as a condition of the consent to approval of the subdivision of the Lands by the Minister of Environment, Lands and Parks, under Section 82 of the *Land Title Act*;

AND WHEREAS Section 219 of the *Land Title Act* provides that there may be registered as a charge against the title to any land a covenant in favour of the First Grantee and the Second Grantee in respect to the use of the land or that land is not to be subdivided except in accordance with the covenant;

AND WHEREAS the Grantor is aware of and hereby acknowledges that there is a potential flood danger to the Lots.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of ONE ($1.00) DOLLAR of lawful money of Canada and other good valuable consideration paid by the First and Second Grantees to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the First and Second Grantees under Section 219 of the *Land Title Act* of the Province of British Columbia as follows:

1. The Grantor hereby covenants and agrees with each of the First Grantee and Second Grantee, as a covenant in favour of each of the First Grantee and Second Grantee pursuant to Section 219 of the *Land Title Act*, it being the intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lots, that from and after the date hereof:

   a) No building, mobile home or unit, modular home or structure shall be constructed, reconstructed, moved, extended or located within those parts of the Lots shown within bold outline on reference plan showing covenanted area over parts of Lots 3, 4, 5, 6, 9, 18, 19, 20, 21, and 22, District Lot 10589, Kootenay District, Plan NEP 65043 completed by Gordon Stein, B.C.L.S. on the 27th day of November, 1998 and numbered Plan NEP 65044 (hereinafter called the "Covenanted Area")

2. The Grantor acknowledges that the First and Second Grantees do not represent to the Grantor, nor to any other person that any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area will not be damaged by flooding or erosion and the Grantor, with full knowledge of the potential flood or erosion danger and in consideration of the approvals given by the First Grantee hereby:

   (a) agrees to indemnify and to save harmless the First and Second Grantees and their employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims and demands which the First and Second Grantees or any of their employees, servants or agents, may suffer or incur or be put to arising out

of or in connection with any breach of any covenant or agreement on the part of the Grantor, or his, heirs, executors, administrators, successors and assigns contained in this Agreement or arising out of or in connection with any personal injury, death or loss or damage to the Covenanted Area, or to any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area caused by flooding, erosion or some such similar cause; and

(b) does remise, release and forever discharge the First and Second Grantees and their employees, servants or agents from all manner of actions, cause of actions, suits, debts, accounts, covenants, contracts, claims and demands which the Grantor or any of his heirs, executors, administrators, successors and assigns may have against the First and Second Grantees and their employees, servants or agents for and by reason of any personal injury, death or loss or damage to the Covenanted Area, or to any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Covenanted Area, caused by flooding, erosion or some such similar cause.

3. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the First and Second Grantees in relation to the Grantor, including their heirs, executors, administrators, successors and assigns, or the Covenanted Area under any law, bylaw, order or regulation or in equity all of which rights, powers and remedies may be fully and effectively exercised by the First and Second Grantees as if this Agreement had not been made by the parties.

4. The terms, conditions, covenants and other provisions of this Agreement will extend to, be binding upon and enure to the benefit of the parties to this Agreement and their respective successors and assigns.

5. The Grantor will do or cause to be done at his expense all acts reasonably necessary for the First and Second Grantees to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Covenanted Area save and except those specifically approved in writing by the First and Second Grantees.

6. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of Section 219(5) of the *Land Title Act*.

7. The Grantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of this Agreement.

8. Whenever the singular or masculine or neuter is used herein, the same shall be construed as including the plural, feminine, body corporate or politic unless the context requires

otherwise.

9. If any section or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.

10. This Agreement shall be interpreted according to the laws of the Province of British Columbia.

11. Where there is a reference to an enactment of the Province of British Columbia in this Agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

12. Every reference to the Minister of Environment, Lands and Parks, in this Agreement shall include the Minister of Environment, Lands and Parks, the Deputy Minister of Environment, Lands and Parks, and any person designated by either of them to act for or on their respective behalf with respect to any of the provisions of this Agreement.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and year first above written.

SIGNED, by the Grantor
Summit Lake View Lands Ltd.
in the presence of:

LINDA MILLER
NOTARY PUBLIC
Box 9,
Winlaw, BC V0G 2J0
Ph (250) 226-7866

SUMMIT LAKE VIEW LANDS LTD.
by its authorized signatory:

This is the instrument creating the condition of Covenant pursuant to Section 219 of the *Land Title Act* by the Grantor referred to herein.

Approving Officer, Ministry of
Transportation and Highways

CONSENT

KOOTENAY SAVINGS CREDIT UNION, (the "Prior Chargee)

Holder of Mortgage registered under Number V12525

WHEREAS by instruments registered in the Land Title Office at Nelson in British Columbia on the 28th day May, 1986 under Number V12525 the Prior Chargee was granted a Mortgage (the "Prior Charge") in respect of the land described in the attached Covenant (the "Subsequent Charge").

AND WHEREAS the Prior Chargee consents to and agrees that the Subsequent Charge shall have priority over the Prior Charge.

THEREFORE the Prior Chargee hereby approves of, joins in, consents to and grants to Her Majesty the Queen, in Right of the Province of British Columbia, represented by the Minister of Environment, Lands and Parks, Parliament Buildings, Victoria, British Columbia, V8V 1X5 and Regional District of Central Kootenay, 501 Vernon Street, Nelson, British Columbia, V1L 4E9 (the "Subsequent Chargee") priority over the interest of the Prior Chargee in the land and postpones the right, title and interest of the Prior Charge in the land to the Subsequent Chargee as if the Prior Charge had been registered immediately after the registration of the Subsequent Charge and notwithstanding the respective dates and time of execution and registration of the charges or the respective dates of advancement of moneys under them.

END OF DOCUMENT

Scan

LAND TITLE ACT
FORM 11(a)
(Section 99(1) (e), (j) and (k))

APPLICATION FOR DEPOSIT OF REFERENCE PLAN OR EXPLANATORY PLAN (CHARGE)

I, P. Michael Nasmyth, Barrister & Solicitor, #105 465 Ward Street, Nelson, BC, V1L 1S7 (agent of: Her Majesty the Queen in Right of the Province of British Columbia as represented by the Ministry of Environment, Lands and Parks, Parliament Buildings, Victoria, BC, V8V 1X5 and Regional District of Central Kootenay 601 Vernon Street, Nelson, BC, V1L 4E9 owners of a registered charge) apply to deposit a reference/explanatory plan of:

parts of Lots 3, 4, 5, 6, 9, 18, 19, 20, 21 and 22, District Lot 10589 Kootenay District, Plan NEP 65043

issued Plan NEP 65044

I enclose:

1. The reference/explanatory plan.
2. The reproductions of the plan required by Section 67(u); *(see below)*.
3. Fees of $50.00.

01 99/08/18 14:15:00 01 KL 297814
S/S/OT PLANS $50.00

Dated the 13 day of August, 1999

Signature

NOTE:

(i) Under section 67(u) the following reproductions of the plan must accompany this application:

(a) one blue linen original (alternatively white linen or original transparency).
(b) one duplicate transparency.
(c) one whiteprint is required as a worksheet for the land title office.

(ii) The following further requirements may be necessary:

(a) If the parent property is in an Agricultural Land Reserve, a release is required unless the parent property is less than 2.0 acres (app. .8094 hectares) or where, for permitted uses, an approving officer has signed the plan under section 1(1)(a) and (b) of the Subdivision and Land Use Regulation (B.C. Reg. 7/81) under the *Agricultural Land Commission Act*.

(b) Where a notice respecting a grant under the *Home Purchase Assistance Act* is endorsed on title, an extra white print must accompany the application, unless the Ministry of Lands, Parks and Housing agrees otherwise in writing. This extra print must contain the following endorsement:

"The eligible residence as defined by the *Home Purchase Assistance Act* is located on lot ____ created by this plan.

B.C.L.S. or solicitor for the owner"

(c) Controlled access approval must be evident on the plan where parent property adjoins a highway that is designated as a controlled access highway.

(d) Where the plan refers to a restrictive covenant to be made under section 215, the instrument containing the covenant must be tendered with the plan.

APPENDIX 5
SPECIES AT RISK

Species-at-Risk in the Bonanza Biodiversity Corridor (Ecologic and Masse 2020).

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Anaxyrus boreas	Western Toad	amphibian	Yellow	Special Concern	Special Concern	confirmed	Summit Lake Toad Management Area, many local observations from Hills through Summit Lake
Plethodon idahoensis	Coeur d'Alene Salamander	amphibian	Yellow	Special Concern	Special Concern	possible	Reported from New Denver to Nakusp and suitable habitat exists
Argia vivida	Vivid Dancer	arthropod	Blue	Special Concern	Special Concern	possible	Nearby occurrences in Slocan Valley, Little Wilson Lake
Bombus occidentalis	Western Bumble Bee	arthropod	Blue	Threatened		possible	Observed at Snk'mip wetland (2018), near Bonanza bridge (June 2021); CDC occurrence in field near Alvarez road (2010).
Buckacrellis hispida	Bristly Grasshopper	arthropod	No Status			Possible	Montane species with global distribution apparently limited to the Selkirk Mtns. Assessed as Imperiled (S2) in BC by NatureServe Canada.
Libellula pulchella	Twelve-spotted Skimmer	arthropod	Blue			possible	Occurs in lower Slocan Valley and suitable habitat exists
Ophiogomphus occidentis	Sinuous Snaketail	arthropod	Blue			possible	Occurs in lower valley and suitable riparian habitats exist
Theridula emertoni	Emerton's Bitubercled Cobweaver	No Status				unknown	Assessed as Imperiled (S2) in BC (NatureServe Canada); 5 records in BC.

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Accipiter gentilis atricapillus	Northern Goshawk	bird	Blue	Not at Risk		confirmed	One record at Summit Lake, one record at Bonanza Marsh (Gary Davidson); occurs nearby
Aechmophorus occidentalis	Western Grebe	bird	Red	Special Concern	Special Concern	confirmed	Several records at Summit Lake and also at north end of Slocan Lake (Gary Davidson)
Ardea herodias herodias	Great Blue Heron	bird	Blue			confirmed	Quite a few records from the Summit Lake area and Bonanza Marsh (Gary Davidson)
Buteo platypterus	Broad-winged Hawk	bird	Blue			confirmed	Observed at Summit Lake Oct. 2021 (T. Ehlers)
Chordeiles minor	Common Nighthawk	bird	Yellow	Special Concern	Threatened	confirmed	Several records from Summit Lake, although not recently (Gary Davidson)
Coccothraustes vespertinus	Evening Grosbeak	bird	Yellow	Special Concern	Special Concern	Possible	
Contopus cooperi	Olive-sided Flycatcher	bird	Blue	Special Concern	Threatened	Possible	This species breeds regularly at elevation above this region. There are one or two records of fall migrants within the corridor (Gary Davidson)
Cygnus columbianus	Tundra Swan	bird	Blue			possible	
Cypseloides niger	Black Swift	bird	Blue	Endangered	Endangered	possible	Has been reported flying over Summit Lake (Gary Davidson)
Dolichonyx oryzivorus	Bobolink	bird	Blue	Threatened	Threatened	possible	

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Euphagus carolinus	Rusty Blackbird	bird	Blue	Special Concern	Special Concern	possible	Occurs nearby and suitable habitat exists
Hirundo rustica	Barn Swallow	bird	Blue	Special Concern	Threatened	confirmed	Feeds regularly over the marsh at Summit Lake and Bonanza Marsh. Nests annually on nearby buildings, (i.e. Summit Lake Ski Lodge) (Gary Davidson)
Larus californicus	California Gull	bird	Blue			possible	Reported nearby and suitable habitat exists
Megascops kennicottii	Western Screech-Owl	bird	No Status	Threatened	Threatened	possible	Occurs in Slocan and suitable habitat exists
Melanerpes lewis	Lewis's Woodpecker	bird	Blue	Threatened	Threatened	unlikely	Occurs near Slocan, but unlikely to occur in the more dense brushy areas of the Bonanza corridor (Gary Davidson)
Podiceps auritus	Horned Grebe	bird	Yellow	Special Concern	Special Concern	possible	
Progne subis	Purple Martin	bird	Blue			unlikely	One record of a single bird flying over Bonanza marsh (Gary Davidson)
Riparia riparia	Bank Swallow	bird	Yellow	Threatened	Threatened	unlikely	
Tringa flavipes	Lesser Yellowlegs	bird	Yellow	Threatened		possible	
Acipenser transmontanus pop. 2	White Sturgeon	fish	Red	Endangered	Endangered	Unlikely	Historic occurrence in Slocan Lake

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Cottus confusus	Shorthead Sculpin	fish	Blue	Special Concern	Special Concern	possible	Occurs in Slocan River, Little Slocan, and Springer Creek; shares habitat affinity and difficult to distinguish from *Cottus bairdii* which occurs in Bonanza Creek
Cottus hubbsi	Columbia Sculpin	fish	Blue	Special Concern	Special Concern	possible	Name changed from *Cottus bairdi hubbsi* in 2006; Bonanza Creek (as Mottled Sculpin); Little Slocan River
Lota lota pop. 1	Burbot	fish	Red			Unlikely	Historic occurrence in Slocan Lake near Evans Creek mouth
Oncorhynchus clarkii lewisi	Westslope Cutthroat Trout	fish	Blue	Special Concern	Special Concern	Unlikely	Not recorded in Summit Lake
Rhinichthys umatilla	Umatilla Dace	fish	Red	Threatened		Unlikely	Occurs nearby in Slocan River
Salvelinus confluentus	Bull Trout	fish	Blue	Special Concern		unlikely	In Slocan lake, could possible occur in lower reach of Bonanza Creek
Armillaria nabsnona		fungus	Blue			Possible	Field observations have morphological similarity to specimens found in Slocan that were identified from DNA
Arrhenia epichysium		fungus	Blue			Possible	
Arrhenia lobata		fungus	Blue			Possible	
Bjerkandera adusta		fungus	Blue			Possible	
Boletopsis grisea		fungus	Blue			Possible	
Cantharellus subalbidus	White Chanterelle	fungus	Blue			unlikely	

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Cheilymenia fimicola		fungus	Blue			Possible	ID not confirmed, but similar to specimens found in lower Slocan Valley
Deconica angustispora		fungus	Blue			Possible	
Geastrum saccatum	Rounded Earthstar	fungus	Blue			Possible	
Gomphus clavatus	Pig's Ears	fungus	Blue			Possible	
Neournula pouchetii		fungus	Blue			Possible	
Peziza varia		fungus	Blue			Possible	
Trichoglossum hirsutum	Hairy Earthtongue	fungus	Blue			Possible	
Tricholomopsis decora		fungus	Blue			Possible	
Turbinellus floccosus	Scaly Chanterelle	fungus	Blue			Possible	
Nephroma occultum	Cryptic Paw	lichen	Blue	Threatened	Special Concern	possible	Nearby occurrences at Gardner Creek (near Kuskanax Road), Duncan Lake; suitable habitat exists
Corynorhinus townsendii	Townsend's Big-eared Bat	mammal	Blue			Possible	Snk'mip marsh
Gulo gulo luscus	Wolverine	mammal	Blue	Special Concern	Special Concern	possible	Occurs in the Valhalla and Central Selkirk Ranges (Kortello and Hausleitner 2015); most likely occurs in study area but has not been documented during surveys, likely due

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
							to harvesting pressure in the 90's (Doris Hausleitner pers. comm. 2022).
Myotis ciliolabrum	Western Small-footed Myotis	mammal	Blue			possible	
Myotis lucifugus	Little Brown Bat	mammal	Yellow	Endangered	Endangered	possible	Snk'mip marsh
Myotis septentrionalis	Northern Myotis	mammal	Blue	Endangered	Endangered	possible	
Oreamnos americanus	Mountain Goat	mammal	Blue			unlikely	Observed signs on subpeak of Mt. Ferrie during field surveys; known for the Central Selkirks
Pekania pennanti pop. 5	Fisher	mammal	Red			possible	Historic furbearer trapping data throughout the Slocan Valley; suitable habitat exists
Ursus arctos	Grizzly Bear	mammal	Blue	Special Concern	Special Concern	confirmed	Well known to occur along rail trail
Anguispira kochi	Banded Tigersnail	mollusc	Blue	Not at Risk		possible	Single occurrence at lower Bonanza Creek
Cryptomastix mullani	Coeur d'Alene Oregonian	mollusc	Blue			Possible	Near Snk'mip; throughout watershed at low elevations in riparian settings
Hemphillia camelus	Pale Jumping-slug	mollusc	Blue			possible	Single occurrence, upper Summit FSR (2020)
Kootenaia burkei	Pygmy Slug	mollusc	Blue	Special Concern	Special Concern	possible	Found nearby (East Wilson FSR)

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Oreohelix subrudis	Subalpine Mountainsnail	mollusc	Blue			possible	Occurs in the West Kootenay and *Oreohelix* observed in BBC might be this species.
Sphaerium occidentale	Herrington fingernailclam	mollusc	Blue			confirmed	Single occurrence documented near Summit Lake in 2021
Zacoleus idahoensis	Sheathed Slug	mollusc	Blue	Special Concern	Special Concern	possible	Within the range of the species and suitable habitat exists.
Berula incisa	cut-leaved water-parsnip	plant	Blue			Possible	
Botrychium michiganense	Michigan moonwort	plant	Blue			unlikely	1 site in 2021 (ID Jamie Fenneman)
Botrychium montanum	mountain moonwort	plant	Blue			unlikely	3 sites
Epipactis gigantea	giant helleborine	plant	Yellow	Not at Risk		unlikely	Regionally rare species, only found within the BBC at Snk'mip marsh (SWAMP 2015); formerly blue listed
Pinus albicaulis	whitebark pine	plant	Blue	Endangered	Endangered	unlikely	Healthy stand near Mt. Ferrie observed 2020; BC CDC has mapped occurrences
Rubus nivalis	snow bramble	plant	Yellow				Regionally rare species occurs sporadically in the ICHmw2; formerly blue listed (currently S3S4 provincial rank)

Scientific Name	English Name	Taxa Group	BC List[1]	COSEWIC[2]	SARA[2]	Potential Occurrence at Summit Lake	Comment
Charina bottae	Northern Rubber Boa	reptile	Yellow	Special Concern	Special Concern	unlikely	Occurs in lower Slocan Valley (Lemon Ck., Winlaw) but no confirmed reports north of Slocan Lake; suitable habitat exists in warmest low elevation sites in SE corner of the BBC
Chrysemys picta pop. 2	Western Painted Turtle	reptile	Blue	Special Concern	Special Concern	Unlikely	Documented in newly created wetland at Snk'mip marsh (VFE 2021); occurs in Slocan River and Box Lake
Plestiodon skiltonianus	Western Skink	reptile	Blue	Special Concern	Special Concern	Unlikely	Occurs in lower Slocan Valley (Lemon Ck., Winlaw) but no confirmed reports north of Slocan Lake; suitable habitat exists in warmest low elevation sites in SE corner of the BBC

1 BC Conservation Status (CDC): Red = extirpated, endangered, or threatened. Blue = special concern. Yellow = secure. 2COSEWIC/SARA: Endangered (E) = Facing imminent extirpation or extinction. Threatened (T) = Likely to become endangered. Special concern (SC) = May become a threatened or an endangered. Species listed on Schedule 1, SARA are legally protected.

APPENDIX 6
ARCHAEOLOGICAL CHANCE FIND PROCEDURE

KTUNAXA NATION

Ktunaxa Nation Council
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www.ktunaxa.org

Chance Find Procedures for Archaeological Material

This document provides information on how a developer and/or their contractor(s) can manage for potential archaeological material discoveries while undertaking construction and/or maintenance activities. This document can provide assistance to in-field contractors in the identification of archaeological remains and the procedures to follow if a discovery is made. The discovery of human remains initiates a different course of action and is outlined separately.

Under the provincial *Heritage Conservation Act (HCA)*, archaeological sites that pre-date 1846 are automatically protected whether on public or private land. Protected sites may not be damaged, altered or moved in any way without a Section 12 or 14 Permit as issued through the *HCA*. It is illegal to collect or remove any heritage object from an archaeological site unless authorized to do so under permit.

1. Activities occurring outside of known Archaeological Sites:

When archaeological material is encountered outside of known archaeological site areas work in the vicinity must stop immediately no matter what type of material or feature has been identified. Alteration to an archaeological site can only occur under a Section 12 (Site Alteration Permit) or Section 14 (Heritage Inspection Permit) *Heritage Conservation Act* permit. Such permit applications should be prepared by a professional archaeologist.

If archaeological material is discovered during the course of construction activities:

1.1 **Stop Work:** Halt all work in the area of the discovery and safely secure the area. Contact the project manager or site foreman.

1.2 **Contact an Archaeologist:** An archaeologist should be contacted as soon as possible. For a list of qualified archaeologists in the area, the proponent is directed to the BC Association of Professional Consulting Archaeologists website: www.bcapa.ca. The proponent may also wish to contact the Ktunaxa Nation Council's Archaeology Technician Nathalie Allard for direction (1-250-426-9549; nallard@ktunaxa.org).

1.3 **Archaeologist provides guidance:** The archaeologist will direct the proponent on the next courses of action, which will include notifying the Archaeology

Branch and First Nations with interest in the area.

2. Activities Occurring within Known Archaeological Site Boundaries:
Land altering activity within a previously recorded archaeological site must be conducted under a Section 12 HCA Site Alteration Permit (SAP), in some cases with an onsite archaeological monitor. It is common for additional archaeological material and features to be encountered during activities occurring within previously recorded archaeological sites. Minor finds (lithic flakes, diffuse charcoal or fire altered rock) may not require work to stop, however significant finds require a level of assessment by a professional archaeologist, and it is up to the onsite project manager to determine the level of significance based on criteria presented below.

2.1 Significant Cultural Finds that Require a Professional Archaeologist (described in detail in Section 4)

- Intact archaeological features, which can include but are not limited to hearths, cultural depressions (e.g. cache pits, house depressions) and rock alignments or forms (e.g. tipi rings, cairns, blinds)
- Significant archaeological materials, which include but are not limited to, the presence of formed lithic tools (e.g. projectile point, microblade core, scraper), a dense concentration of lithic waste flakes, or artistic items
- Human Remains (described in detail in Section 3)

2.2 Archaeological Site Management Options

2.2.1 **Site Avoidance**: If the boundaries of a site have been delineated, redesign the proposed development to avoid impacting the site. Avoidance is normally the fastest and most cost effective option for managing archaeological sites. Site avoidance could also be achieved through minimizing ground disturbance by looking for alternative constructive methods.

2.2.2 **Mitigation**: If it is not feasible to avoid the site through project redesign, it is necessary to conduct systematic data collection and analysis within the site prior to its loss. This could include surface collection and/or excavation. This work can be time-consuming and therefore expensive to conduct.

2.2.3 **Protection**: It may be possible to protect all or portions of the site which will be impacted through installation of barriers during the development period and possibly for a longer period of time. Methods for barrier construction could include fencing around site boundaries or applying

geotextile to the ground surface and capping it with fill. The exact method used would be site-specific.

3. Chance Find Procedures for Identified Human Remains

Procedures in the event of the discovery of human remains during construction are covered in depth by an Archaeology Branch Policy Statement, found on their website at www.for.gov.bc.ca/archaeology, and are summarized below.

3.1 Stop all construction activities immediately in the area of found or suspected human remains and contact the RCMP and/or Office of the Coroner.

3.2 The coroner must determine whether the remains are of contemporary forensic concern or archaeological/aboriginal.

3.3 If the remains are found to be of aboriginal ancestry then the next step involves the relevant First Nations collaboratively determining the appropriate treatment of those remains.

The key to respectfully dealing with ancient aboriginal remains is to involve the appropriate First Nations as early as possible in the process. However this must be done in a manner that does not interfere with the coroner's office ability to conduct their business in the manner that they see fit.

4. Site Identification Guide

The following are characteristics typical to site types found within the Ktunaxa Traditional Territory.

4.1 Artifact Scatters

Lithic (stone) scatters from the production and maintenance of stone tools are the most common type of archaeological site found in the region. Other materials that may be represented in artifact scatters are Fire Broken Rock (FBR), bone, antler and tooth.

Lithics: What to look for

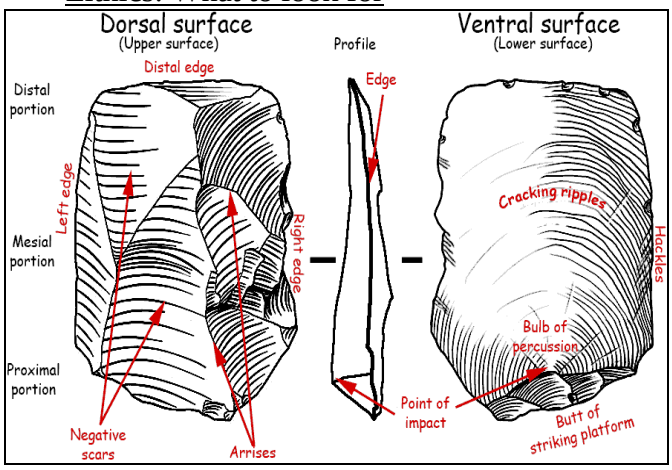


Image 1: Basic flake morphology



Image 2: Examples of lithic flakes

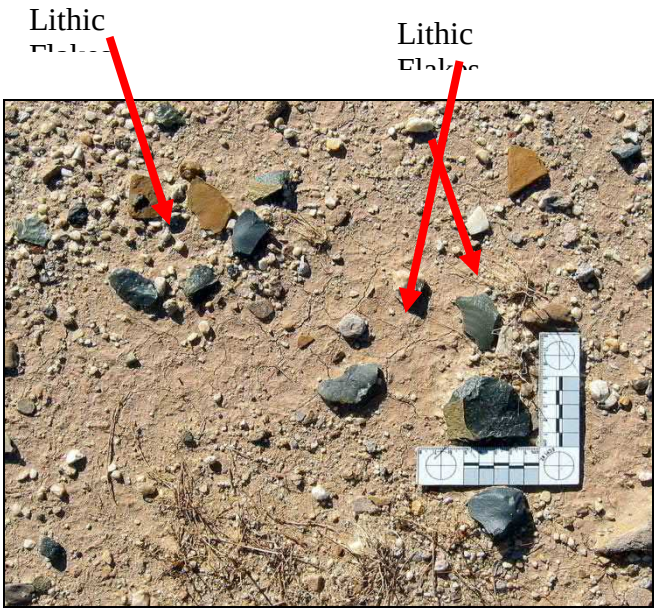


Image 3: Example of lithic scatter found on ground surface



Image 4: Example of formed lithic artifacts



Image 5: Ground stone artifacts

Bone, Tooth and Antler Artifacts: What to Look For

- Obvious shaping
- Incising
- Unnatural holes



Image 6: Bone and Antler artifacts

4.2 Fire Broken Rock and Hearths

Fire-broken rock (FBR) results from the use of fire during cooking, heating and processing activities. FBR is often associated with other features including hearths and cultural depressions, but can also be thinly scattered in concentrations away from the features with which they were first associated.

When looking for FBR, note concentrations of roughly fractured rock from rapid heating and cooling, rock showing signs of burning or oxidation and/or reddening or blackening of surrounding matrix.



Image 7: Example of FBR; note the zig/zag pattern of breakage common to FBR

A hearth feature is evidence of a fire pit or other fireplace feature of any period. Hearths were used for cooking, heating, and processing of some stone, wood, faunal, and floral resources and may be either lined with a wide range of materials like stone or left unlined. Occasionally site formation processes (e.g., farming or excavation) deform or disperse hearth features, making them difficult to identify without careful study.

Hearths: What to look for

- FBR
- reddening or blackening of the associated soil/sediment
- charcoal
- layering of FBR and charcoal, and
- depressions in the earth associated with FBR, reddened or blackened matrix and charcoal.



Image 8: Example of a hearth uncovered along the wall of an excavation unit

4.3 Cultural Depressions

Any depression seen on the ground surface that appears to have been excavated by man can be a cultural depression and have archaeological significance. These "pits" were dug for a variety of reasons such as for food storage, cooking or as a base for a dwelling. They can range in size from 1m across to 7-10m across, and are usually found associated with other artifacts such as FBR and lithic scatters.

To identify a cultural depression, look for:

- Subtle to deep scours on the ground surface that are circular to rectilinear in shape
- A raised rim along the edge of a depression
- Depressions associated with artifacts and FBR
- Depressions associated with fire reddening and blackening of the matrix



Image 9: Example of a large cultural depression in a natural setting

4.6 Rock Alignments

There are several types of rock alignments that occur within the culture area, which include tipi rings, medicine wheels, cairns and blinds. When attempting to identify rock alignments, look for a group of rocks that look purposefully placed as in a circle, pile or line; isolated groups of rock that do not seem to belong to that landscape; and/or rocks which form a pattern.



Image 10: Example of a Cairn or piling of rocks



Image 11: Example of a tipi ring in a natural setting

19.0 DEVELOPMENT PERMIT AREAS

Background

The OCP may designate Development Permit Areas under the authority of local government legislation. Unless otherwise specified, a development permit must be approved by the Regional Board prior to any development or subdivision of land within a designated Development Permit Area.

Development Permit Areas allow for implementation of special guidelines for the protection of the natural environment, protection from hazardous conditions, for revitalization of designated areas, or to guide the form and character of development within the Slocan Lake North Plan area.

Where land is subject to more than one Development Permit Area designation, a single development permit is required. The application will be subject to the requirements of all applicable Development Permit Areas, and any development permit issued will be in accordance with the guidelines of all such Areas.

Development Permit Area #1: Watercourse Development Permit (WDP) Area

Category

The WDP area is designated under Section 488(1) (a) of the *Local Government Act* and applicable provisions of the *Community Charter* for the protection of the natural environment, its ecosystems, and biological diversity.

Area

The WDP area is comprised of:

1. Riparian assessment areas (Figure 1) for fish and wildlife habitat and drinking water, which include all watercourses and adjacent land:
    a. within 30 metres of the high water mark of a watercourse;
    b. within 30 metres of the top of the ravine bank in the case of a ravine less than 60 metres wide; and
    c. within 10 metres of the top of the ravine bank in the case of a wider ravine that link aquatic to terrestrial ecosystems and includes both existing and potential riparian vegetation and existing and potential upland vegetation that exerts an influence on the watercourse.

"high water mark" means the visible high water mark of a watercourse where the presence and action of the water are so common and usual, and so long continued in all ordinary

years, as to mark on the soil of the bed of the watercourse a character distinct from that of its banks in vegetation as well as in the nature of the soil itself, and includes the active floodplain;

"top of ravine bank" means the first significant break in a ravine slope where the break occurs such that the grade beyond the break is latter than 3:1 for a minimum distance of 15 metres measured perpendicularly from the break and the break does not include a bench within the ravine that could be developed;

"watercourse" includes any of the following: a watercourse, intermittent or not; a pond, lake, river, creek or brook, and a ditch, spring or wetland that is connected by surface flow to a watercourse.

Justification

The primary objective of this Development Permit Area designation is to regulate development activities in watercourses and their riparian areas so as to protect aquatic habitat; and to conserve, enhance, and where necessary, restore watercourses and their riparian areas.

The impact of development on watercourses can be minimized by carefully examining the proposed development and taking appropriate measures in relation to the environmentally sensitive riparian areas land.

Determining whether development falls within the WDP Area

To confirm whether a proposed development is within land identified as a riparian assessment area in the WDP area for which a Development Permit application is required, the following applies:

Any area located within 30 metres of the high water mark of a watercourse; within 30 metres of the top of the ravine bank in the case of a ravine less than 60 metres wide; and within 10 metres of the top of the ravine bank in the case of a wider ravine that link aquatic to terrestrial ecosystems and includes both existing and potential riparian vegetation and existing and potential upland vegetation that exerts an influence on the watercourse;

Unless the proposed development or alteration of land is clearly outside the riparian assessment area the location of the development shall be determined accurately by survey in relation to the WDP Area to determine whether a development permit application is required.

Guidelines

A Development Permit is required, except where specified under the exemptions section, for development or land alteration on land identified as a riparian assessment area within the WDP Area. Where not exempt, development requiring a development permit includes any of the following associated with or resulting from residential, commercial or industrial

activities or ancillary activities to the extent that they are subject to local government powers under Local government legislation the:

a. removal, alteration, disruption or destruction of vegetation;
b. disturbance of soils;
c. construction or erection of buildings and structures;
d. creation of non-structural impervious or semi-impervious surfaces;
e. flood protection works;
f. construction of roads, trails, docks, wharves and bridges;
g. provision and maintenance of sewer and water services;
h. development of drainage systems;
i. development of utility corridors;
j. subdivision as defined in section 455 of the *Local Government Act*.

Development shall be in accordance with the following guidelines:

1. All development proposals subject to this permit will be assessed by a Qualified Environmental Practitioner (QEP) in accordance with the Riparian Areas Regulation established by the Provincial and/or Federal governments as used elsewhere in the Province;
2. A WDP shall not be issued prior to the RDCK ensuring that a QEP has submitted a report certifying that they are qualified to carry out the assessment, that the assessment methods have been followed, and provides in their professional opinion that a lesser setback will not negatively affect the functioning of a watercourse or riparian area and that the criteria listed in the Riparian Areas Regulation has been fulfilled, and;
3. The Riparian Areas Regulation implemented through the WDP does not supersede other Federal, Provincial and or local government requirements, including that of other development permit areas, building permits, flood covenants, Federal or Provincial authorization. Land subject to more than one development permit area designation must ensure consistency with the guidelines of each development permit area, to provide comprehensive stewardship of both fish and wildlife habitat.

Exemptions

The WDP area does not apply to the following:

1. existing construction, alteration, addition, repair, demolition and maintenance of farm buildings;

2. existing institutional development containing no residential, commercial or industrial aspect;
3. reconstruction, renovation or repair of a permanent structure if the structure remains on its existing foundation. Only if the existing foundation is moved or extended in to a riparian assessment area would a WDP be required; and
4. an area where the applicant can demonstrate that the conditions of the WDP Area have already been satisfied or a development permit for the same area has already been issued in the past and the conditions in the development permit have all been met, or the conditions addressed in the previous development permit will not b affected.

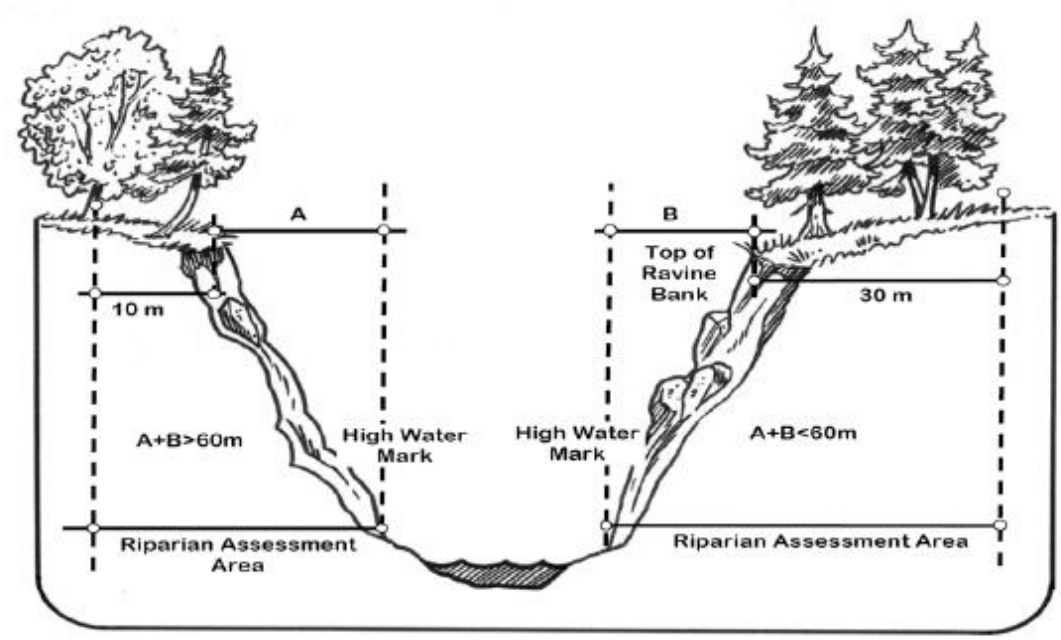


FIGURE 1: RIPARIAN ASSESSMENT AREA: means the area within 30 m of the high water mark of a watercourse; within 30 m of the top of the ravine bank in the case of a ravine less than 60 m wide; and within 10 m of the top of the ravine bank in the case of a wider ravine that link aquatic to terrestrial ecosystems and includes both existing and potential riparian vegetation and existing and potential upland vegetation that exerts an influence on the watercourse. Applies only to residential, commercial and industrial designations.

Source: British Columbia Ministry of Environment, *Riparian Areas Regulation Implementation Guidebook, March 2005*