

K079001 Site Plan

Kalesnikoff Lumber Co. Ltd.

File ID: K079001

Site Plan Completed:

Last Amendment:

Tenure Identification

Licence	Cutting Permit	Block	Timbermark(s)	Region	District	TSA	TSB	Mapsheets/Opening#
A30172	079	001	FE6079	SI	DSE	13	E	82F044.4

Gross (ha)	NAR	NP UNN	NP NAT	Reserves	UTM East	UTM North	UTM Zone
12.7	11.5	0.7	0	0.5	479732	5479851	11

Location	Road Name	Latitude	Longitude
Selous	North Selous	49.28.15	117.16.47

Tenure Statement

This site plan also applies to the portion of NS1812 beyond K088002.

Radio Frequency	Emergency Rendezvous	Steep Slopes	Weather Station
		Review HP Map for Steep Slopes	

FSP Identification

ID	Plan Name	Term Years	Commencement Date
FSP 597	Kalesnikoff Lumber Co. Ltd. FSP 597	5	2016-03-11

Applicable FDU(s)
ALL

Reserve Details

ID	Area	SU	Type	Objective	Age	Height	External
K079001_W	0.50			WTR	100	33.0	Yes

Standard Units - Stocking Requirements

SU - Layer	Standards ID	Preferred/Ht (cm)	Acceptable/Ht (cm)	Regen	FG Early/Late	TSS (wsph)	MSSpa(wsph)	MSSp(wsph)
A	1062309	LW/ PY/ FDI/ PW/ AT/ ACT/ EP/	CW/ HW/ BG/ BL/ SX/ PLI/		1/3			

SU - Layer	Regen Method	Max. Conif	Post Spacing Min-Max	Min. Horiz. (m)	Min. Pruning (m)	Height Rel. to Comp.
A						

Standard Units - Area

Max Perm Access Allowed: 7.0%

SU	Gross Area	NAR	Non Productive - Unnatural Area by SU							Non Productive - Natural Area by SU									
			Landings	Roads	Pits	Trails	Other	User Defined	UNN Total	Rock	Water	Swamp	Other	NC > 4ha	IMM	User Defined	Reserves	NAT Total	
A	12.2	11.5		0.7					0.7									0.0	0.0
Total	12.2	11.5	0.0	0.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Standard Units - Variation

SU	Variation Rationale

A	<p>"Fire Management Partial Cut Standard"</p> <p>Retain a minimum of 12 m²/ha of healthy mature trees. Acceptable leave trees must be dominant or co-dominant layer trees >17.5 cm dbh and:</p> <ol style="list-style-type: none"> 1. > 25% live crown with no indicators of decline; 2. Free of gouges and wounds > 1/3 of stem circumference; and 3. Free of wounds on a supporting root within 1m of the stem. <p>Preferred leave trees include fire resistant species that are likely to be windfirm. Other species are acceptable where no fire resistant species of suitable form and health are available. Broadleaf species are included as they are generally less flammable than other coniferous species and as a result may reduce fire behavior.</p> <p>Target canopy closure ranges from 20-40% with target 2-6m spacing between crowns.</p> <p>For this stocking standard a survey must be conducted between 1 and 3 years post-harvest to determine if sufficient acceptable leave trees are present to meet the standard.</p>
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Standard Units - Ecology

SU	BEC	Elevation (m) Low - High (avg)	Slope (%) Min - Max (avg)	Site Series Dominant - Related	Aspect	Site Type	Soil Dist. %
A		765-980(873)	0-90(45)		West		10.0

Standard Units - Notes

SU	Site Plan Notes
	SU A is an ICHdw1 101 site. It is on the lower receiving area of the Five Mile Face domestic watershed. Slopes range from 0 to 90%. Some gullies and slope breaks are present within the SU.
A	This SU is just south east of the city of Nelson. The main intent of harvesting this area is to reduce the wildfire risk to Nelson. A WUI Un-even aged standard is applied. This project has been a collaboration with many contributors including the RDCK and the BC Wildfire Service. SU A is expected to receive fuel reduction treatment post-harvest under the direction of the RDCK. See "Public Referral Document - North Selous Wildfire Risk Reduction.pdf" for more information.

Results-Strategies-Measures

Consumptive Use Streams			
To reduce the impacts of forest development on streams licensed for human consumption			
R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.1.6	Development Within a Domestic Watershed	Yes	<p>Development activity will be conducted in a manner which does not cause material that is harmful to human health to be deposited in, or transported to, water that is diverted for human consumption by a licensed waterworks.</p> <p>The signing forester will plan and implement primary forest activities only if the activity will not cause material that is harmful to human health to be deposited in or transported to water that is diverted for human consumption.</p> <p>Licensed water users will be notified of of proposed development activities as stand level developments are proposed.</p>
How is this SP Consistent with the Results, Strategies or Measures?		<p>Domestic Watershed The proposed development is within the Five Mile Face domestic watershed.</p> <p>Water Users There are no licensed PODs on Five Mile Face domestic watershed that would be considered elements at risk in relation to this opening. See "K079 and K088 Water Users" spreadsheet for more information.</p> <p>Comments Workers will be instructed to be conscientious of issues that may affect water quality. Best management practices for terrain stability should be followed including maintaining natural drainage patterns.</p>	

Soils

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.1	Soil Disturbance Limits FPPR Section 35	Yes	<p>On the net area to be reforested soil disturbance limits must not exceed: 5% if the standard unit is predominantly comprised of sensitive soils (Sensitive soils are defined as soils with a "very high hazard" of compaction, displacement or erosion). 10% if the SU is not predominantly comprised of sensitive soils. 25% of the area covered by a roadside work area.</p> <p>Soil disturbance limits may be exceeded if: a) infected stumps are being removed or salvaging windthrow and the additional disturbance is the minimum necessary, or b) is constructing a temporary access structure and both of the following apply: i) the limit is not exceeded by more than 5% of the area covered by the SU, excluding the area covered by a roadside work area. ii) before the regeneration date, a sufficient amount of the area within the SU is rehabilitated such that the limits are met.</p>
How is this SP Consistent with the Results, Strategies or Measures?		10% soil disturbance limit applied.	

Soils

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
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6.1.2.1	Limits for Permanent Access FPPR Section 36	Yes	Permanent access structures must not exceed 7% of the cutblock area unless: a) there is no other practicable option on that cutblock, having regard to i) the size, topography and engineering constraints of the cutblock, ii) in the case of a road, the safety of road users, or iii) the requirement in selection harvesting systems for excavated or bladed trails or other logging trails, or b) additional permanent access structures are necessary to provide access beyond the cutblock.
How is this SP Consistent with the Results, Strategies or Measures?		Permanent access structures (PAS) will not exceed 7% of the cutblock area. There is 0.7 ha of PAS within the 12.7 ha block. This means PAS account for (0.7 ha / 12.7 ha) 5.5% of the cutblock.	

Wildlife and Biodiversity

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.1.2	Old plus Mature Forest KBHLP Section 1 and 2	Yes	Direction for Old plus Mature forest cover requirements is derived from sections 1 and 2 of the the Kootenay Boundary Higher Level Plan Order (KBHLP), Oct. 26, 2002. Section 1 of the KBHLP defines Landscape Units and their associated Biodiversity Emphasis Objectives. Section 2 of the KBHLP provides Old plus Mature retention requirements by landscape unit, and BEC classification. Non-legal spatialized Old Growth Management Areas (OGMA) were established to fulfilling the KBHLP requirements, as such, the old forest requirements for the Landscape Unit will be considered to have been fulfilled by the existing OGMAs. It is the responsibility of the signing forester to determine seral stage distribution and levels of Old plus Mature forest for the Landscape Unit the site plan is located.
How is this SP Consistent with the Results, Strategies or Measures?		<p>Mature Plus Old Targets According to the KBHLP Higher Level Plan Monitoring Report "K09 - 2019 Biodiversity Report" there will continue to be surpluses of "Mature plus Old" within the ICHdw post harvest.</p> <p>Mature Targets K09 is not managed for mature targets in the ICHdw.</p> <p>OGMA The opening is not within an identified OGMA.</p> <p>Connectivity The proposed opening is within a connectivity corridor. "K09 - 2020 Biodiversity Report" indicates there is sufficient surplus available to harvest.</p> <p>BEC Targets are managed using old BEC (LMH 20) as standards have not been developed for new BEC (LMH 70).</p>	

Wildlife and Biodiversity

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.6	Maximum Cutblock Size FPPR Section 64(1)	Yes	<p>Pursuant to objective 4 of the Kootenay Boundary Higher Level Plan Order, when the licence holder plans and designs harvesting, the 3m minimum height will be changed to 2.5m in Forest Planning and Practices Regulation section 65(3)(a) and 65(3)(b)(ii) for areas adequately stocked.</p> <p>The NAR of an opening will not exceed 40 ha., unless timber harvesting is being carried out to: i) recover timber damaged by fire, insect infestations, or other similar events, or ii) be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance.</p> <p>All BEC zones: i) The NAR of an opening may exceed 40 ha. if the silviculture system being employed maintains a minimum of 40% of the pre-harvest volume that was present on the site prior to development. ii) The NAR of the opening may exceed 40 ha. where a "variable retention" silviculture system is employed, wherein no point within the cutblock is more than two tree lengths from either a timbered boundary, or a wildlife tree patch greater than 0.25 ha., or less than one tree length from a group of trees less than 0.25 ha. in size.</p> <p>ESSF alternate: Section 64(1) does not apply if groups of trees 0.25 ha, or greater, are reserved from harvest such that the total area of reserve that relates to the cutblock is a minimum of 13% of the cutblock area. Where applicable, reserves will be placed to maximize wind firmness and maintain buffers around areas of high natural biological diversity (deciduous clumps, wetlands and riparian zones) while mimicking natural disturbance.</p> <p>ICH alternate: Section 64(1) does not apply if no point within the net area to be reforested is: i) more than two tree lengths from the cutblock boundary or edge of a group of trees greater than or equal to 0.25 ha in size, or ii) more than one and a half tree lengths from a group of trees greater than three trees (10m-spacing) or less than 0.25ha in size, or iii) sufficient dominant or co-dominant wind firm trees are maintained such that the average spacing between individual leave trees is one tree length.</p>
How is this SP Consistent with the Results, Strategies or Measures?		When combined with other proposed or existing openings which aren't greened up the NAR will exceed 40 ha. Timber harvesting is to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance. The proposed opening has a very high level of dispersed retention and is meant to create a shaded fuel break. The proposed opening will be consistent with the FSP 597 variable retention strategy to mimic natural disturbance as applied within the Interior Cedar Hemlock biogeoclimatic zone. See "A30172 CP 79, 88, 91 Size Rationale", the Schedule B or HP map for more information. The intent of the opening is to help reduce the wildfire hazard to Nelson while simulating characteristics of a low intensity wildfire.	

Wildlife and Biodiversity

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.7	Wildlife Tree Retention FPPR Section 66	Yes	As per Section 66 of the FPPR, a minimum of 3.5% of each cutblock must be maintained as wildlife tree retention. Over the course of one years harvest (April - April), the level of wildlife tree retention, as it relates to a cutting permit must amount to 7% of the total harvested area. Individual Wildlife Trees: For purposes of measuring the contribution of individual wildlife trees, and where the site plan prescribes dispersed retention, the individual wildlife trees are to be included along with the aggregate patches in the total amount of wildlife tree retention. Areas of individual trees, clumps or patches which are less than 0.25 hectares in size are to contribute on the basis of the total basal area of the trees divided by the average basal area/ha of the original stand.
How is this SP Consistent with the Results, Strategies or Measures?		The cutblock has retained 0.5 ha of wildlife tree retention amounting to 3.9%. Over the course of one years harvest (April - April), the level of wildlife tree retention, as it relates to a cutting permit will amount to 7% of the total harvested area. See "K079 WTRA Calculation" for more information. The WTRA consists of species mix of Fd, Cw, and Hw.	

Wildlife and Biodiversity			
R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.7	Coarse Woody Debris FPPR Section 68	Yes	A minimum of 4 logs per hectare, each being a minimum of 2m in length and 7.5 cm in diameter at one end must be left on a block post harvest. Exemptions may be found if: i) the licence holders agreement or an enactment requires the holder to act in a manner contrary to the above, or ii) a controlled burn is carried out on a cutblock as authorized under an enactment. If a Fire Hazard and Risk Assessment that relate to a cutblock are rated less than high, small piles or windrows of woody debris may be retained to create habitat for small fur bearing mammals if the pile or windrows: a) are less than two meters in height, b) not contiguous over an area exceeding 0.05ha, c) and do not cover more than 1% of the net area to reforest.
How is this SP Consistent with the Results, Strategies or Measures?		A minimum of four logs per hectare, each being a minimum of 2m in length and 7.5 cm in diameter at one end will be left on the block post harvest.	

Government Action Regulations & General Wildlife Measures

GAR ID	Title	Applicable	How GAR or GWM Apply to the Site (Include Rationale if No)
6.2.1.3	Visual Quality Objectives	Yes	The Government Actions Regulations section 7 orders designate scenic areas within Arrow and Kootenay Lake Forest Development Units and provide context to meet the Visual Quality Objectives of the scenic area designations under the 'Arrow Boundary Forest District December 31, 2005' and 'Kootenay Lake Timber Supply Area March 7, 2014' orders.
How is this SP consistent with the GAR Order or GWMs?		<p>This opening lies within a visual quality objective (VQO) of "Retention". In this case the established VQO has already been exceeded because of previously completed CPs with VQO exemptions. Competing objectives of managing visuals and reducing fire hazard in this area make it impracticable to undertake appropriate action to reduce the wildfire threat while meeting the VQO. As such Kalesnikoff has proposed the following alternate Results and Strategy which have been approved by the District Manager and are intended to be applied specifically to CP79, CP 88 and CP 91 under Forest License A30172 within VLI polygon 158.</p> <p>Alternate Result: The post-harvest visual condition from each of the 3 selected viewpoints within the completed visual impact assessment will meet the definition of modification upon completion of combined road construction and harvesting operations associated with CP 79, 88 and 91 within VLI polygon 158.</p> <p>Alternate Strategy: Kalesnikoff will undertake to maintain visual quality within VLI polygon 158 to the extent practicable in order to achieve the specified Result by employing the following Strategy: 1. Implement the following principles of good visual design: a. Avoidance of rectilinear boundaries and geometric block shapes b. Use of in-block retention, to the extent practicable with respect to worker safety c. Use of edge treatments, to the extent practicable with respect to worker safety d. Strategic location of reserved timber to mitigate the visual impact of roads and harvesting activities 2. Utilize LIDAR data and 3D modelling software to accurately predict the visual impacts from harvesting and road building. These simulations will be used to improve problem areas and ensure the post-harvest condition is consistent with expectations. 3. Prompt grass seeding on new road cuts and fills. 4. Prompt reforestation of harvested areas, where appropriate according to WUI stocking standards.</p> <p>Conditions under FRPA section 112 have been applied by the district manager in relation to this CP and the approval of the alternate results and strategies to the existing VQO. These conditions include:</p> <ul style="list-style-type: none"> - Douglas-fir logs that have been felled/decked during the Douglas-fir bark beetle flight (April 1 – September 1st) must be removed from site prior to April 1st of the following year. If this can't be achieved, please contact my office for potential additional measures. - The results of post-harvest monitoring of windthrow must be reported on to my office annually for two years following harvesting, along with a plan to remove those trees at risk of further infestation. - If mature Douglas-fir trees are to be retained within the cutblock, ensure that only healthy trees are retained and that an appropriate MCH anti-aggregation pheromone system is implemented. MCH treatments should continue for two years post-harvest. Consult with the District Stewardship team or Regional Entomologist regarding appropriate treatment options. MCH treatment is not required on trees identified for the trap tree program. - To reduce the availability of host material, stump heights are to be kept as low as possible. Residual green Douglas-fir stumps higher than 0.8m should be treated with an appropriate MCH anti-aggregation pheromone system for one-year post-harvest. Green Douglas-fir harvest debris >20cm diameter should be treated with MCH, removed from the site, and/or incorporated into slash piles. - Debris in slash piles must be removed or burned as soon as possible following harvesting and no later than April 1st of the spring following the conclusion of harvest operations. 	

GAR ID	Title	Applicable	How GAR or GWM Apply to the Site (Include Rationale if No)
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6.2.1.4	Ungulate Winter Range	Yes	General Wildlife Measures and Wildlife Habitat Areas in relation to Ungulate Winter Range have been established for Mule Deer, Elk, and Moose through the Government Actions Regulation (GAR), Order: U-4-001.
How is this SP consistent with the GAR Order or GWMs?		Part of the proposed opening overlaps with UWR u-4-001 polygon 222-MD_377 for Mule Deer. CP 88 harvest area has a 1.3ha overlap with the UWR polygon and CP 79 has a 0.3ha overlap. The "K079_HLPO_UWR_Report_K09andK11" report shows 222-MD greatest restriction as being GWM#2 with 3 ha available to harvest. The total area available for harvest is greater than the total opening area within the UWR.	

Other Management Requirements Objectives

Interpretive and Recreation Sites

Rail Trail

The rail trail is located just below the block. Signage must be placed on the rail trail closing the trail when there is a hazard to trail users. See the K079 Rail Trail Traffic Management plan for more information. The trail will be cleared of any incidental logging debris and any damage to the trail surface, subgrade, or drainage structures will be repaired post-harvest.

The Vein Trail

Recreation Line REC69441 or "the Vein" mountain bike trail is crossed by the NS1812 road. The mapping of the rec line is not considered to accurately reflect the location of the mountain bike trail. See the site plan map for the location of the recreation feature. This project has been referred to the district recreation officer and a section 16 exemption has been granted. The trail is to be cleaned post harvest and be left in a useable condition.

Migratory Birds Strategy

This opening is within a rank 4 "moderately high" migratory bird hazard polygon. See "K079 Migratory Bird Hazard Map" for more information. Ideally the opening should be harvested outside of restricted period 2 for nesting zone A2 which is May 15 to July 20. The following partial avoidance best management practices are applied, permitting harvesting within the restricted period if it can not be avoided.

PL1 - Partial cut or high retention silviculture system. This opening is to have significant retention dispersed throughout. See the Schedule B or HP map for more information.

PL2 - Patch/edge retention designed around "biodiversity anchors". There is rank 4 or 5 habitat to the North and West of the opening.

Terrain Assessments

A DTSFA was completed by Apex Geoscience in 2020 in relation to this opening and associated roads. The DTSFA covers all of CP 79 and associated roads. See "TA19KL04 - Final" for the full report.

A site review was also completed on the machine trail which accesses the lower portion of the block from the NS1812. See "Site Review K079001 Machine Access Trail Site Review Letter Signed" for more information. As per the site review letter a note has been added to the HP Map indicating the trail is to be deactivated post harvest and to ensure the seep at site #3 is not diverted down the trail.

Water Management

Riparian

ID	Class	# Within	# Adjacent	Harvesting	RRZ Width (m)	RMZ Width (m)
NCDs	NCD	1	1	1	0	0

Strategy: Maintain natural drainage patterns. Ensure machine trail crossing of NCD-1-3 does not divert drainage. Deactivate machine trail crossing of NCD-1-3 post harvest.

Soil Conservation

HAZARD RATINGS (If logging methods other than cable or aerial are proposed)				SOIL CHARACTERISTICS (If temp access structures are proposed)		SITE DISTURBANCE LIMITS	
SU(s)	Soil Compaction	Soil Displacement	Soil Surface Erosion	Unfavourable Subsoil Depth to (cm-cm)	Unfavourable Subsoil Type	Max. Allowable within NAR %	Max. Exceed
A	Mod	High	High			10.0	5.0

Soils Conservation Objectives

Perm Access

The machine trail which accesses the bottom of the block and partially overlaps an old mine trail is to be deactivated post harvest and remain in place for use as a potential future fire guard.

Silviculture Systems

SU	System-Variant-Phase	Other Notes	Group Selection Opening Size Criteria			Residual Stand Structure (other than Single Tree Selection)		Natural Regen?
			Min (ha)	Max (ha)	Avg (ha)	BA (m2/ha)	Density Stems/ha	
A	SELEC-SIN-REMOV							No

SU	Stand Structure and Site Condition
A	Partial Cut - See the Schedule B or HP Map for more information.

General Objectives

Roads

NS1812

- Should be seasonally deactivated prior to the subsequent spring freshet post construction
- Should be deactivated to a 4x4 standard post harvest
- Should be fully deactivated and retired when all planting of K088 and K079 is complete unless there is another block planned to the North

Sign Off

Prepared By:

Troy Van Skiver

Name

Reviewed/Approved By:

Troy Van Skiver

Name

2021-05-25

Date

Approval Signature and Seal

Approval Statement

I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.

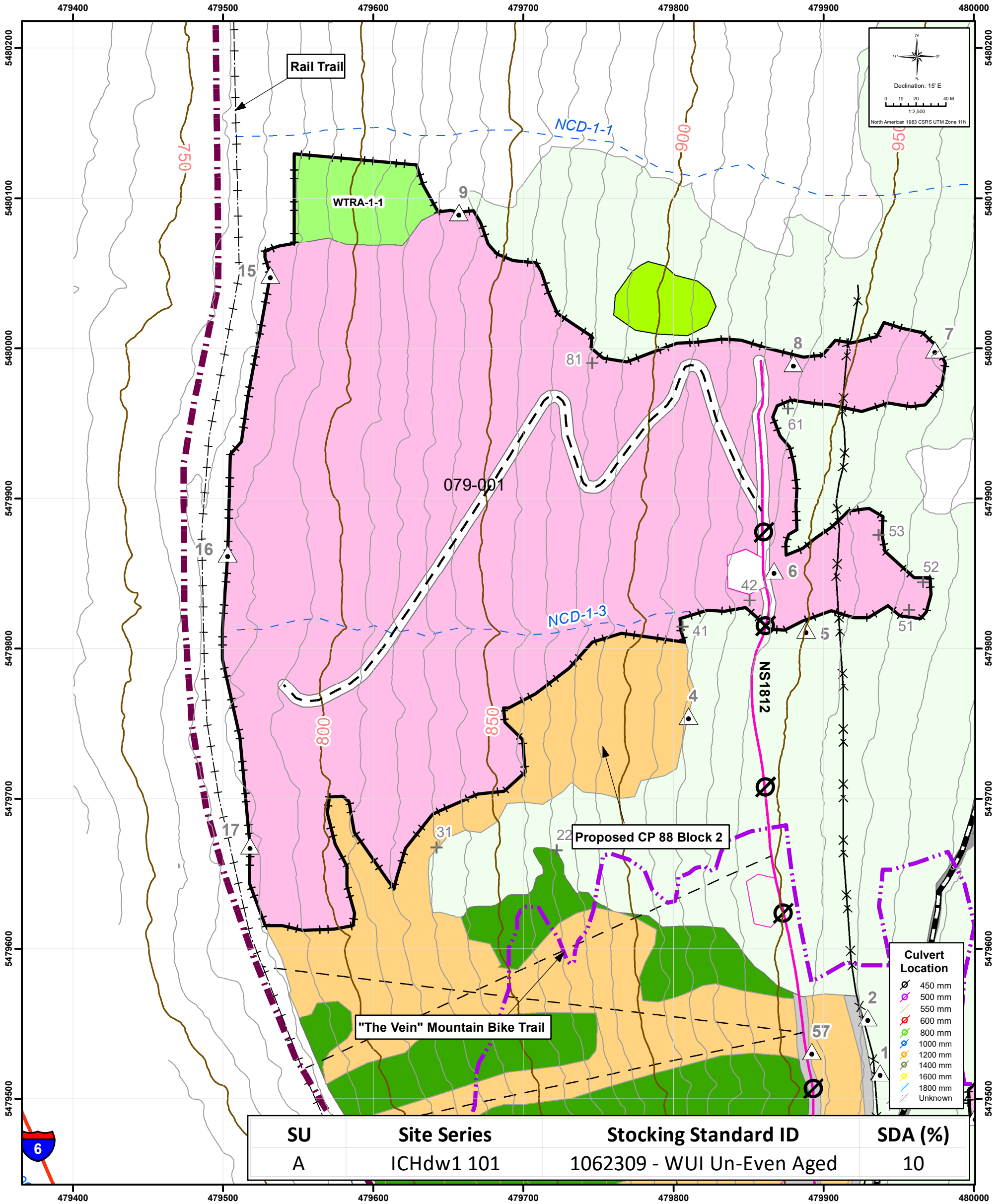
SITE PLAN MAP

CP: 79 Block: 1

Forest License: A30172

KAL=SNIKOFF
TIMBER INSPIRES

- Gross Area: 12.7 ha
- SU A: 11.5 ha
- WTRA: 0.5 ha
- PAS: 0.7 ha



Mapsheet: 082F 044	Elevation (min / max): 765 - 980 m	Lat/ Long Ref: 117°16'49.51"W 49°28'14.82"N
Chart Boundary	Private Land	Existing Trail
Adjacent Prop. Block	TFL23 Bndy	Exist/Prop. Road
Slope Break	Ridge	Bench
Wet Area	Lake	Wetland
Stream	NCD	Draw
Community Watershed	BEC	
Prop. Temp Road	Machine Free Zone (5m)	SP Plot
Prop. Skid Trail	Mature Yarding Corridor	Reach Break
Exist/Prop. Landing	Rec. Trail	GPS/FC Station
Highway	Bridge	FSR
		Rail Trail
		Tower Setting

K079004 Site Plan

Kalesnikoff Lumber Co. Ltd.

File ID: K079004

Site Plan Completed: 2021-05-21

Last Amendment:

Tenure Identification

Licence	Cutting Permit	Block	Timbermark(s)	Region	District	TSA	TSB	Mapsheets/Opening#
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Gross (ha)	NAR	NP UNN	NP NAT	Reserves	UTM East	UTM North	UTM Zone
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Location	Road Name	Latitude	Longitude
Selous	North Selous	49.28.13	117.16.13

Tenure Statement

This site plan also applies to NS1819, NS1819.07 and NS1819.12.

Radio Frequency	Emergency Rendezvous	Steep Slopes	Weather Station
		Review HP Map for Steep Slopes	

FSP Identification

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Applicable FDU(s)
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Standard Units - Area

Max Perm Access Allowed: 7.3%

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A	29.6	27.1	0.9	1.6					2.5									0.0	0.0
Total	29.6	27.1	0.9	1.6	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Standard Units - Variation

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A		990-1300(1145)	0-100(50)		West		5.0

Standard Units - Notes

SU	Site Plan Notes
A	<p>SU A is an ICHdw1 104 site. It is on the middle of the North Selous face. Slopes range from 0 to 100%. Generally the topography of the area includes steep pitches with gentle sloping benches between.</p> <p>This SU is within 2km of the City of Nelson. The main intent of harvesting this area is to reduce the wildfire risk to Nelson. A WUI Un-even aged standard is applied. This project has been a collaboration with many contributors including the RDCK and BC Wildfire Service. SU A is expected to receive fuel reduction treatment post-harvest under the direction of the RDCK. See "Public Referral Document - North Selous Wildfire Risk Reduction.pdf" for more information.</p>

Results-Strategies-Measures

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R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
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How is this SP Consistent with the Results, Strategies or Measures?		<p>Domestic Watershed The proposed development is within the Five Mile Face domestic watershed.</p> <p>Water Users Licensed water users have been notified of the proposed development activities. See "K079 and K088 Water Users" spreadsheet for more information.</p> <p>Comments Workers will be instructed to be conscientious of issues that may affect water quality. Best management practices for terrain stability should be followed including maintaining natural drainage patterns.</p>	

Soils

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.1	Soil Disturbance Limits FPPR Section 35	Yes	<p>On the net area to be reforested soil disturbance limits must not exceed: 5% if the standard unit is predominantly comprised of sensitive soils (Sensitive soils are defined as soils with a "very high hazard" of compaction, displacement or erosion). 10% if the SU is not predominantly comprised of sensitive soils. 25% of the area covered by a roadside work area.</p> <p>Soil disturbance limits may be exceeded if: a) infected stumps are being removed or salvaging windthrow and the additional disturbance is the minimum necessary, or b) is constructing a temporary access structure and both of the following apply: i) the limit is not exceeded by more than 5% of the area covered by the SU, excluding the area covered by a roadside work area. ii) before the regeneration date, a sufficient amount of the area within the SU is rehabilitated such that the limits are met.</p>
How is this SP Consistent with the Results, Strategies or Measures?		5% soil disturbance limit applied because of a very high hazard for soil displacement in steep areas.	

Soils

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
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6.1.2.1	Limits for Permanent Access FPPR Section 36	Yes	Permanent access structures must not exceed 7% of the cutblock area unless: a) there is no other practicable option on that cutblock, having regard to i) the size, topography and engineering constraints of the cutblock, ii) in the case of a road, the safety of road users, or iii) the requirement in selection harvesting systems for excavated or bladed trails or other logging trails, or b) additional permanent access structures are necessary to provide access beyond the cutblock.
How is this SP Consistent with the Results, Strategies or Measures?			Permanent access structures will exceed 7% of the cutblock area as additional permanent access structures are necessary to provide access beyond the cutblock. PAS Areas: Proposed Road and Landing - Accesses Block = 2.2 ha Pre-Existing Road - Accesses Beyond Block = 0.3 ha PAS of roads and landings which do not access beyond block are (2.2 ha / 32.8 ha Gross block area) = 6.7%. PAS of total roads and landing is ((2.2 ha + 0.3 ha) / 32.8 ha Gross) 7.6%.

Wildlife and Biodiversity			
R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.1.2	Old plus Mature Forest KBHLP Section 1 and 2	Yes	Direction for Old plus Mature forest cover requirements is derived from sections 1 and 2 of the the Kootenay Boundary Higher Level Plan Order (KBHLP), Oct. 26, 2002. Section 1 of the KBHLP defines Landscape Units and their associated Biodiversity Emphasis Objectives. Section 2 of the KBHLP provides Old plus Mature retention requirements by landscape unit, and BEC classification. Non-legal spatialized Old Growth Management Areas (OGMA) were established to fulfilling the KBHLP requirements, as such, the old forest requirements for the Landscape Unit will be considered to have been fulfilled by the existing OGMAs. It is the responsibility of the signing forester to determine seral stage distribution and levels of Old plus Mature forest for the Landscape Unit the site plan is located.
How is this SP Consistent with the Results, Strategies or Measures?			Mature Plus Old Targets According to the KBHLP Higher Level Plan Monitoring Report "K09 - 2019 Biodiversity Report" there will continue to be surpluses of "Mature plus Old" within the ICHdw post harvest. Mature Targets K09 is not managed for mature targets in the ICHdw. OGMA The opening is not within an identified OGMA. Connectivity The proposed opening is within a connectivity corridor. "K09 - 2020 Biodiversity Report" indicates there is sufficient surplus available to harvest. BEC Targets are managed using old BEC (LMH 20) as standards have not been developed for new BEC (LMH 70).

Wildlife and Biodiversity			
R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.6	Maximum Cutblock Size FPPR Section 64(1)	Yes	Pursuant to objective 4 of the Kootenay Boundary Higher Level Plan Order, when the licence holder plans and designs harvesting, the 3m minimum height will be changed to 2.5m in Forest Planning and Practices Regulation section 65(3)(a) and 65(3)(b)(ii) for areas adequately stocked. The NAR of an opening will not exceed 40 ha., unless timber harvesting is being carried out to: i) recover timber damaged by fire, insect infestations, or other similar events, or ii) be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance. All BEC zones: i) The NAR of an opening may exceed 40 ha. if the silviculture system being employed maintains a minimum of 40% of the pre-harvest volume that was present on the site prior to development. ii) The NAR of the opening may exceed 40 ha. where a "variable retention" silviculture system is employed, wherein no point within the cutblock is more than two tree lengths from either a timbered boundary, or a wildlife tree patch greater than 0.25 ha., or less than one tree length from a group of trees less than 0.25 ha. in size. ESSF alternate: Section 64(1) does not apply if groups of trees 0.25 ha, or greater, are reserved from harvest such that the total area of reserve that relates to the cutblock is a minimum of 13% of the cutblock area. Where applicable, reserves will be placed to maximize wind firmness and maintain buffers around areas of high natural biological diversity (deciduous clumps, wetlands and riparian zones) while mimicking natural disturbance. ICH alternate: Section 64(1) does not apply if no point within the net area to be reforested is: i) more than two tree lengths from the cutblock boundary or edge of a group of trees greater than or equal to 0.25 ha in size, or ii) more than one and a half tree lengths from a group of trees greater than three trees (10m-spacing) or less than 0.25ha in size, or iii) sufficient dominant or co-dominant wind firm trees are maintained such that the average spacing between individual leave trees is one tree length.

How is this SP Consistent with the Results, Strategies or Measures?	When combined with other proposed or existing openings which aren't greened up the NAR will exceed 40 ha. Timber harvesting is to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance. The proposed opening has a very high level of dispersed retention and is meant to create a shaded fuel break. The proposed opening will be consistent with the FSP 597 variable retention strategy to mimic natural disturbance as applied within the Interior Cedar Hemlock biogeoclimatic zone. See "A30172 CP 79, 88, 91 Size Rationale", the Schedule B or HP map for more information. The intent of the opening is to help reduce the wildfire hazard to Nelson while simulating characteristics of a low intensity wildfire.
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Wildlife and Biodiversity

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.7	Wildlife Tree Retention FPPR Section 66	Yes	As per Section 66 of the FPPR, a minimum of 3.5% of each cutblock must be maintained as wildlife tree retention. Over the course of one years harvest (April - April), the level of wildlife tree retention, as it relates to a cutting permit must amount to 7% of the total harvested area. Individual Wildlife Trees: For purposes of measuring the contribution of individual wildlife trees, and where the site plan prescribes dispersed retention, the individual wildlife trees are to be included along with the aggregate patches in the total amount of wildlife tree retention. Areas of individual trees, clumps or patches which are less than 0.25 hectares in size are to contribute on the basis of the total basal area of the trees divided by the average basal area/ha of the original stand.
How is this SP Consistent with the Results, Strategies or Measures?		The cutblock has retained 3.2 ha of wildlife tree retention amounting to 9.8%. Over the course of one years harvest (April - April), the level of wildlife tree retention, as it relates to a cutting permit will amount to 7% of the total harvested area. The WTRAs consists of species mix of mostly Fd with some Cw, Lw and Hw.	

Wildlife and Biodiversity

R/S/M ID	Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
6.1.2.7	Coarse Woody Debris FPPR Section 68	Yes	A minimum of 4 logs per hectare, each being a minimum of 2m in length and 7.5 cm in diameter at one end must be left on a block post harvest. Exemptions may be found if: i) the licence holders agreement or an enactment requires the holder to act in a manner contrary to the above, or ii) a controlled burn is carried out on a cutblock as authorized under an enactment. If a Fire Hazard and Risk Assessment that relate to a cutblock are rated less than high, small piles or windrows of woody debris may be retained to create habitat for small fur bearing mammals if the pile or windrows: a) are less than two meters in height, b) not contiguous over an area exceeding 0.05ha, c) and do not cover more than 1% of the net area to reforest.
How is this SP Consistent with the Results, Strategies or Measures?		A minimum of four logs per hectare, each being a minimum of 2m in length and 7.5 cm in diameter at one end will be left on the block post harvest.	

Government Action Regulations & General Wildlife Measures

GAR ID	Title	Applicable	How GAR or GWM Apply to the Site (Include Rationale if No)
6.2.1.3	Visual Quality Objectives	Yes	The Government Actions Regulations section 7 orders designate scenic areas within Arrow and Kootenay Lake Forest Development Units and provide context to meet the Visual Quality Objectives of the scenic area designations under the 'Arrow Boundary Forest District December 31, 2005' and 'Kootenay Lake Timber Supply Area March 7, 2014' orders.
How is this SP consistent with the GAR Order or GWMs?		<p>This opening lies within a visual quality objective (VQO) of "Retention". In this case the established VQO has already been exceeded because of previously completed CPs with VQO exemptions. Competing objectives of managing visuals and reducing fire hazard in this area make it impracticable to undertake appropriate action to reduce the wildfire threat while meeting the VQO. As such Kalesnikoff has proposed the following alternate Results and Strategy which have been approved by the district manager and are intended to be applied specifically to CP79, CP 88 and CP 91 under Forest License A30172 within VLI polygon 158.</p> <p>Alternate Result: The post-harvest visual condition from each of the 3 selected viewpoints within the completed visual impact assessment will meet the definition of modification upon completion of combined road construction and harvesting operations associated with CP 79, 88 and 91 within VLI polygon 158.</p> <p>Alternate Strategy: Kalesnikoff will undertake to maintain visual quality within VLI polygon 158 to the extent practicable in order to achieve the specified Result by employing the following Strategy: 1. Implement the following principles of good visual design: a. Avoidance of rectilinear boundaries and geometric block shapes b. Use of in-block retention, to the extent practicable with respect to worker safety c. Use of edge treatments, to the extent practicable with respect to worker safety d. Strategic location of reserved timber to mitigate the visual impact of roads and harvesting activities 2. Utilize LIDAR data and 3D modelling software to accurately predict the visual impacts from harvesting and road building. These simulations will be used to improve problem areas and ensure the post-harvest condition is consistent with expectations. 3. Prompt grass seeding on new road cuts and fills. 4. Prompt reforestation of harvested areas, where appropriate according to WUI stocking standards.</p>	

GAR ID	Title	Applicable	How GAR or GWM Apply to the Site (Include Rationale if No)
6.2.1.4	Ungulate Winter Range	Yes	General Wildlife Measures and Wildlife Habitat Areas in relation to Ungulate Winter Range have been established for Mule Deer, Elk, and Moose through the Government Actions Regulation (GAR), Order: U-4-001.
How is this SP consistent with the GAR Order or GWMs?		Part of the proposed opening overlaps with UWR u-4-001 polygon 222-MD_377 for Mule Deer. CP 88 harvest area has a 1.3ha overlap with the UWR polygon and CP 79 has a 0.3ha overlap. The "K079_HLPO_UWR_Report_K09andK11" report shows 222-MD greatest restriction as being GWM#2 with 3 ha available to harvest. The total area available for harvest is greater than the total opening area within the UWR.	

Other Management Requirements Objectives

Migratory Birds Strategy

This opening is mostly within a rank 4 "moderately high" migratory bird hazard polygons. See "K079 Migratory Bird Hazard Map" for more information. Ideally the opening should be harvested outside of restricted period 2 for nesting zone A2 which is May 15 to July 20. The following partial avoidance best management practices are applied, permitting harvesting within the restricted period if it can not be avoided.

PL1 - Partial cut or high retention silviculture system. This opening is going to have significant dispersed retention. See the Schedule B or HP map for more information.

PL2 - Patch/edge retention designed around "biodiversity anchors". There is rank 4 or 5 habitat to South of the opening.

Terrain Assessments

A DTSFA was completed by Apex Geoscience in 2020 in relation to this opening and associated roads. The DTSFA covers all of CP 79 and associated roads. See "TA19KL04 - Final" for the full report. The recommendations of the report must be followed. The north end of this block overlaps Area #5 from the report. Area #5 is far removed from elements considered for risk. The proposed development will not significantly increase the low likelihood of landslide initiation in this area.

Water Management

Riparian

ID	Class	# Within	# Adjacent	Harvesting	RRZ Width (m)	RMZ Width (m)
NCDs	NCD	2		1	0	0

Strategy: Maintain natural drainage patterns.

Soil Conservation

HAZARD RATINGS (If logging methods other than cable or aerial are proposed)				SOIL CHARACTERISTICS (If temp access structures are proposed)		SITE DISTURBANCE LIMITS	
SU(s)	Soil Compaction	Soil Displacement	Soil Surface Erosion	Unfavourable Subsoil Depth to (cm-cm)	Unfavourable Subsoil Type	Max. Allowable within NAR %	Max. Exceed
A	M	VH	H	>35	Sand	5.0	5.0

Silviculture Systems

SU	System-Variant-Phase	Other Notes	Group Selection Opening Size Criteria			Residual Stand Structure (other than Single Tree Selection)		Natural Regen?
			Min (ha)	Max (ha)	Avg (ha)	BA (m2/ha)	Density Stems/ha	
A	SELEC-SIN-REMOV							No

SU	Stand Structure and Site Condition
A	Partial Cut - See the Schedule B or HP Map for more information.

Strategies Objectives

Recreation

Vein Trail

This opening overlaps recreation line REC69441 or "the Vein" mountain bike trail. The mapping of the rec line is not considered to accurately reflect the location of the mountain bike trail. See the site plan map for the location of the recreation feature. This project has been referred to the district recreation officer and a section 16 exemption has been granted. The trail is to be cleaned post harvest and be left in a useable condition.

General Objectives

Roads

NS1812, NS1812.07 and NS1812.12

- Should be seasonally deactivated prior to the subsequent spring freshet post construction
- Should be deactivated and retired on completion of post-harvest fuel treatments. Deactivation should ideally permit 4wd access to allow for long-term monitoring, silviculture and potential wildfire suppression activities.

Sign Off

Prepared By:

Troy Van Skiver

Name

Reviewed/Approved By:

Troy Van Skiver

Name

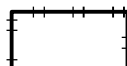




2021-05-10

Date

Approval Signature and Seal

Approval Statement

I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.

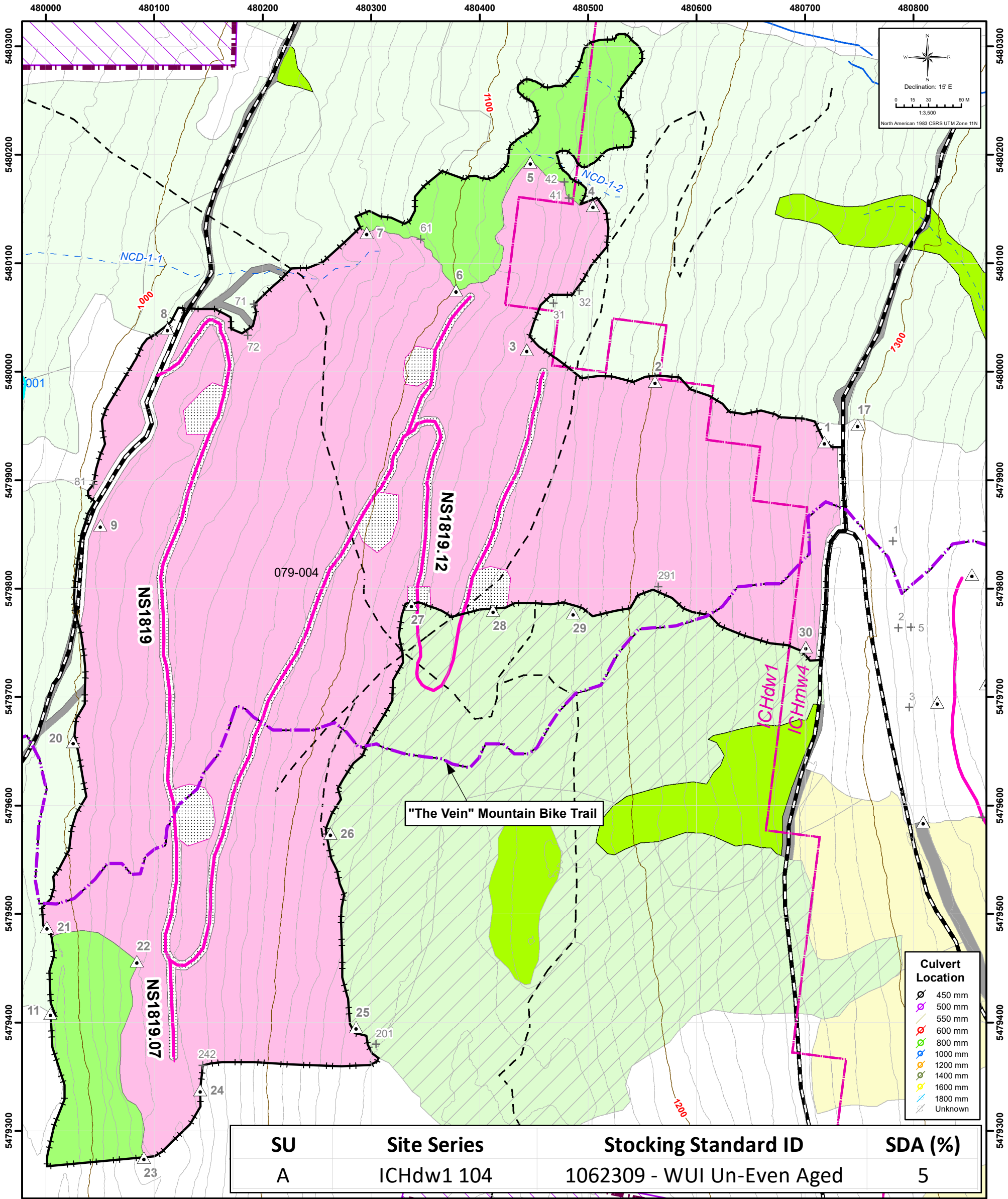
-  Gross Area: 32.8 ha
-  SU A: 27.1 ha
-  WTRA: 3.2 ha
-  PAS - Accesses Block: 2.2 ha
-  PAS - Accesses Beyond Block: 0.3 ha






























SITE PLAN MAP

CP: 79 Block: 4

Forest License: A30172

KAL=SNIKOFF
TIMBER INSPIRES



Mapsheet: 082F 044	Elevation (min / max): 990 - 1300 m	Lat/ Long Ref: 117°16'12.77"W 49°28'13.29"N
Chart Boundary  Private Land 	Existing Trail  Prop. Temp Road 	Machine Free Zone (5m)  SP Plot 
Adjacent Prop. Block  TFL23 Bndy 	Exist/Prop. Road  Prop. Skid Trail 	Mature Yarding Corridor  Reach Break 
Slope Break  Ridge  Bench 	Exist/Prop. Landing  Rec. Trail 	GPS/FC Station  Tower Setting 
Wet Area  Lake  Wetland 	Highway  Bridge  FSR 	
Stream  NCD  Draw 		
Community Watershed  BEC 