SITE PLAN
KAMLOOPS
BC TIMBER SALES

BCTS BC Timber Sales Kamloops

Report Date 2023/07/11

TENURE IDENTIFICATION

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA1444	-	MZA0C	BEA0C		Kamloops TSA FDU	MacKenzie	51 49 11 / 120 08 02

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
24.8	1.0	0.0	0.9	0.0	0.8	22.1

ADDITIONAL COMMENTS

DEFINITIONS (ADD DEFINITIONS AS REQUIRED)
Site plan consistent with approved BCTS Kamloops TSA Thompson Rivers District FSP , April 1, 2020. MZA0C is a declared block as per the effective date of the FSP . Site plan prepared in accordance with FRPA Sections 10 (1), (2) and (3). Road CL R24163.02 (0+000 to 0+343) is outside of the block and will be managed under all conditions of this site plan.

SOIL DISTURBANCE

SU	Max. Allowable Soil Disturbance (%)	Max. Amount TAS May Exceed MASD Prior To Rehab (%)	Max. Allowable Soil Disturbance For Roadside Work Areas (%)	Maximum Permanent Access Structures (%)
1	10.0	5.0	25.0	7.0

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
1	The majority of the block has soils with High Compaction Hazard. Soil Displacement Hazard is Low. Soil Erosion Hazard is High. Forest Floor Displacement Hazard is High. Mass Wasting Hazard is Moderate . The block has a wet area just NE of SP 2, there are a couple of rock walls in the southwest section of the block.

RESULTS AND STRATEGIES

FSP:	**FDU:**
BCTS Kamloops FSP 671	Kamloops TSA FDU
Archaeological Objectives	
Result or Strategy Description	5.10 Archaeological Assessments
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	BCTS has referred this development to all potentially affected First Nations , as was determined through a search of the Consultative Area Database (CAD). All referral communication and management decisions have been documented in a BCTS Due Diligence Report signed off for approval by the Timber Sale Manager . This Site Plan is consistent with the management decisions and measures approved by the TSM . A "Stop Work Procedure" has been included in the Harvest Plan in the event that a previously unidentified Affected Archaeological Resource is discovered during operations .
Biodiversity Objectives	
Result or Strategy Description	5.5.1 General Biodiversity
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is consistent with the strategies outlined in Section 5.5.1 of the FSP.

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Result or Strategy Description	5.5.2 Landscape Level Biodiversity
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block falls within the Clearwater SBSmm NDT 3a Landscape Unit. This block is 22.1ha NAR and is adjacent to a non-greened up opening A90519 DL7R6 with 13.0ha NAR. Total patch size is 35.1ha NAR and is less than 40ha. The structural characteristics of the cutblock after timber harvesting will resemble an opening that would result from a natural disturbance. The Landscape Level Biodiversity conforms to FPPR Sections 64 Maximum cutblock size and 65 Harvesting adjacent to another cutblock.
Result or Strategy Description	5.5.4 Stand Level Biodiversity
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block has 0.9ha or 3.7% of the gross area allocated in Wildlife Tree Retention Areas (WTRA). (See Harvest Plan for details on Leave Trees)
Result or Strategy Description	5.5.3 Old Growth Management Areas
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There is no OGMA within or adjacent to the block.
Cultural Heritage Objectives	
Result or Strategy Description	5.9 Cultural Heritage Resources
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	BCTS has referred this development to all potentially affected First Nations, as was determined through a search of the Consultative Area Database (CAD). All referral communication and management decisions have been documented in a BCTS Due Diligence Report signed off for approval by the Timber Sale Manager. This Site Plan is consistent with the management decisions and measures approved by the TSM. A "Stop Work Procedure" has been included in the Harvest Plan in the event that a previously unidentified CHR is discovered during operations.
Lakes Management Objectives	
Result or Strategy Description	5.3.1 Lakeshore Management Zones
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The block is within the Lakeshore Management Zone (LMZ) for Lake#1376 L1-B(C). This lake is a Class C lake as per Clearwater Forest District Lakes Local Resource Use Plan (LRUP) Lakeshore Management Guidelines, August 1, 2001. A portion of the block (7.9ha) is within the LMZ. The guidelines in the LRUP states Class C Lakes: Visual Quality Objective (VQO) is partial retention (PR), and existing resource values have to be maintained. A Visual Impact Assessment (VIA) was completed by RDI on July 21, 2020 and the LRUP guidelines have been met with the block and meets the VQO of PR. The portion of the block within the LMZ is Not Visually Sensitive (NVS).
Result or Strategy Description	5.3.2 Walk-in Lakes
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no walk-in lakes adjacent to this block.

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Measures	
Result or Strategy Description	6.2 Invasive Plants
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Invasive Alien Plant Program (IAPP) database was reviewed and there are known occurrences of invasive alien plants over 2km away of the vicinity of the block. The closest site is Site ID 262108, Oxeye daisy, Yellow hawkweed, and Spotted knapweed. There are known plants located along the haul route Road 1 FSR: Site 291388, Hoary alyssum Site 291856, Spotted knapweed and Yellow hawkweed Site 291854, Hoary alyssum Site 291853, Spotted knapweed and Yellow hawkweed Site 316971, Spotted knapweed Site 296510, Yellow hawkweed species, Sulphur cinquefoil, Spotted knapweed Site 124721, Yellow hawkweed species, Spotted knapweed Site 296508, Yellow hawkweed species, Spotted knapweed Site 296509, Yellow hawkweed, Spotted knapweed Site 296507, Yellow hawkweed, Spotted knapweed Site 296783, Yellow hawkweed species, Spotted knapweed If primary forest activities result in creating a contiguous area(s) of disturbed soil, not including active running surfaces, equal to or greater than 0.25ha, it will be revegetated using a seed or forage mixture that meets or exceeds Canada Common #1 Forage Mixture as defined by the Canada Seeds Act and Regulation , or by using native forbs or shrubs. Where areas have been seeded, inspect the areas within 12 months of seeding to ensure successful establishment (i.e. >90% cover), and repeat one additional seeding if there is <90% cover.
Result or Strategy Description	6.1 Natural Range Barriers
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no natural range barriers in or adjacent to the block.
Range Objectives	
Result or Strategy Description	5.12 Range
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The range licence RAN077142 is held by Mamit Lake Ventures Ltd. A referral was sent to the range holder with no response.
Recreation Objectives	
Result or Strategy Description	5.6.1 Recreation Sites and Trails
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no Recreation Sites or Trails within or adjacent to this block.
Result or Strategy Description	5.6.2 Recreation and Tourism Zones
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Recreation or Tourism Zone.
Riparian Management Objectives	
Result or Strategy Description	5.4.1 Stream Riparian Classes
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	All streams have been assessed and conform to FPPR Sections 47(1), (2), (3a), (5) and (6) and Table 3 in the FSP. Refer to the Support Document and the Harvest Plan for specific details on each stream associated with this block.
Result or Strategy Description	5.4.2 Wetland Riparian Classes
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	All wetlands have been assessed and conform to FPPR Sections 48(1), (2), (3), (4), and (5) and Table 4 in the FSP. Refer to the Support Document and the Harvest Plan for specific details on each stream associated with this block.

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Result or Strategy Description	5.4.3 Lake Riparian Classes
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	All lakes have been assessed and conform to FPPR Sections 49(1), (2), (4) and (5) and Table 5 in the FSP. Refer to the Support Document and the Harvest Plan for specific details on each stream associated with this block.
Result or Strategy Description	5.4.4 Restrictions in a Riparian Management Area
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no Riparian Management Area (RMA) restrictions within the harvest area.
Result or Strategy Description	5.4.5 Restrictions in a Riparian Reserve Zone
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no Riparian Reserve Zones (RRZ) restrictions within the harvest area.
Result or Strategy Description	5.4.6 Restrictions in a Riparian Management Zone
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no Riparian Management Zones (RMZ) restrictions within the harvest area.
Result or Strategy Description	5.4.7 Restricted Operation of Machinery
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Machine Free Zones (MFZ) are not required as per Section 5.4.7. However, there are no MFZ within the harvest area of the block.
Result or Strategy Description	5.4.8 Exceptions to Restricted Op of Machinery
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Machine Free Zones (MFZ) are not required as per Section 5.4.7.
Settlement Area Objectives	
Result or Strategy Description	5.11 Settlement Area Objectives
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Settlement Resource Management Zone.
Soil Management and Conservation Objective	
Result or Strategy Description	5.1 Soil Management and Conservation
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	PAS meets FPPR Section 36(1). TAS meets FPPR Section 35 (4)(b)(ii). See Harvest Plan for details.
Visual Objectives	
Result or Strategy Description	5.8.1 Visuals “Headwaters Visual Zone”
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not located in a Visually Sensitive Area. The block is Not Visually Sensitive (NVS). A Visual Impact Assessment is required as the block is within the LMZ for Lake #1376 L1-B(C). This lake is a Class C lake as per Clearwater Forest District Lakes Local Resource Use Plan (LRUP) Lakeshore Management Guidelines, August 1, 2001. The harvest area within the LMZ needs to meet Partial Retention (PR) from the lake. RDI completed a VIA on July 21, 2020 and the percent alteration calculations for PR have been met for the original MZA0C block layout.

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Result or Strategy Description	5.8.2 Visuals "Kamloops Visual Zone"
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within the Kamloops Visual Zone.
Water Objectives	
Result or Strategy Description	5.2.1 Community Watersheds
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Community Watershed.
Result or Strategy Description	5.2.2 Water Licensees
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no licensed water users within or downstream of the block.
Result or Strategy Description	5.2.3.1 Channel Stability & Riparian Function
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a designated Fisheries Sensitive Watershed.
Result or Strategy Description	5.2.3.2 Minimizing Adverse Sediment Effects
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a designated Fisheries Sensitive Watershed.
Result or Strategy Description	5.2.3.3 Quantity & Timing of Flows
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a designated Fisheries Sensitive Watershed.
Wildlife Objectives	
Result or Strategy Description	5.7.1 General Wildlife Objectives
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within an Identified Wildlife Habitat Area. See the Support Document and Harvest Plan for details on the Migratory Bird Strategy.
Result or Strategy Description	5.7.2 Mule Deer Winter Range
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within Critical Deer Winter Range.
Result or Strategy Description	5.7.3 Moose
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within Critical Moose Winter Range.
Result or Strategy Description	5.7.4 Mountain Goat
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block in not within Mountain Goat Winter Range.
Result or Strategy Description	5.7.5 Flammulated Owl
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Flammulated Owl Known Location Area. No evidence of this species was noted during field work.

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Result or Strategy Description	5.7.6 Lewis's Woodpecker
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Lewis's Woodpecker Known Location Area. No evidence of this species was noted during field work.
Result or Strategy Description	5.7.7 Spotted Bat
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is not within a Spotted Bat Known Location Area. No evidence of this species was noted during field work.

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	22.1	1065674	(Fdi9) Fdi-restricted to southerly aspects; (Fdi14) Fdi-restricted to lower elevations of biogeoclimatic unit; (Fdi32) Fdi-limited by growing-season frosts; (Bl10) Bl-restricted to northerly aspects; (Bl13) Bl-restricted to upper elevations of biogeoclimatic unit MITD may be reduced to 1.5m if the site plan has identified site specific criteria as listed in the FSP. Regen delay will be 4 years unless site plan identifies natural regeneration when it can be set up to a max. of 7 years.
COMMENTS	LRM BEC Mapping (Source: BCGW, Mapping BGC, v.12 (2021)) locates MZA0C in the SBSmm biogeoclimatic subzone and the stocking standards for SBSmm 01(60) 04(40) BEC site series will be used.		

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 07 06	YES

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RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
BRENT FUKUMOTO	
DATE SIGNED	
2023/07/06	
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 standards acceptable of a Registered Professional Forester.	

Map attached forms an integral part of the site plan.

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THE FOLLOWING INFORMATION IS ATTACHED FOR INFORMATION ONLY AND DOES NOT FORM PART OF THE SITE PLAN

SUPPORT DOCUMENT

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA1444	-	MZA0C	BEA0C		Kamloops TSA FDU	MacKenzie	51 49 11 / 120 08 02

ASSESSMENTS

VISUAL IMPACT ASSESSMENT INFORMATION

This block is not located in a Visually Sensitive Area. The block is Not Visually Sensitive (NVS).

A Visual Impact Assessment is required as the block is within the LMZ for Lake #1376 L1-B(C). This lake is a Class C lake as per Clearwater Forest District Lakes Local Resource Use Plan (LRUP) Lakeshore Management Guidelines, August 1, 2001. The harvest area within the LMZ needs to meet Partial Retention from the lake. RDI completed a VIA on July 21, 2020 and the percent alteration calculations for PR have been met for original MZA0C block layout.

PEST INCIDENCE SURVEY INFORMATION

Pest Specific Comments

Forest Health Comments

The block is comprised of two timber types. The first is in the north there is spruce, subalpine fir (balsam), Douglas-fir, lodgepole pine, and minor white pine and aspen types with some blowdown. Most all lodgepole pine has grey Mountain Pine Beetle (IBM) damage, and there is some balsam grey Western Balsam Bark Beetle (IBB) damage, and minor spruce green and grey Spruce Beetle (IBS) damage. The second type is in the southwest spruce, subalpine fir (balsam) with minor lodgepole pine and Douglas-fir type with some blowdown. Most all lodgepole pine has grey Mountain Pine Beetle (IBM) damage, and there is some balsam grey Western Balsam Bark Beetle (IBB) damage, and minor spruce grey Spruce Beetle (IBS) damage.

ARCHAEOLOGICAL IMPACT ASSESSMENT INFORMATION

BCTS has referred this development to all potentially affected First Nations, as was determined through a search of the Consultative Area Database (CAD). All referral communication and management decisions have been documented in a BCTS Due Diligence Report signed off for approval by the Timber Sale Manager. This Site Plan is consistent with the management decisions and measures approved by the TSM.
A “Modify/Stop Work Procedure” has been included in the harvest plan in the event that previously unidentified Affected Archaeological Resource is discovered during operations.

TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION

Terrain Stability Comments

There are no slopes over 60%. No TSFA is required.

Gully Comments

VEGETATION

RIPARIAN ASSESSMENTS

Management Strategies

RIPARIAN ASSESSMENT, RIPARIAN MANAGEMENT STRATEGY

Riparian areas and non-classified drainage features have been identified in the vicinity of and within the harvest area. Where they are within the cutblock, these features have been managed with a machine free zone.

Within machine free zone (MFZ) areas, minimize disturbance of herbaceous vegetation, shrubs and understory trees by directional falling and skidding away from the riparian areas. The best practice is to reach in with a feller buncher, cut individual trees, and place the cut tree outside the MFZ to minimize drag damage from skidding. When harvesting within machine free zones and/or riparian management areas, leave/retain trees that contribute to stream bank/channel stability. If these trees are at risk of windthrow, then stub them to minimize the windthrow risk.

On seasonally wet ground, measures must be taken to prevent sediment transport to a stream, wetland or lake consistent with BCTS’s Environmental Management System.

During industrial activities, impacts to the environment due to erosion & sediment must be considered within and external to the site where downslope/downstream areas may be affected by erosion & sediment caused by industrial activities.

EROSION & SEDIMENT RISK: The risk of sediment delivery to a stream, wetland, or lake must be assessed and managed on the Site. If there is a greater than low risk of sediment delivery, erosion and sediment control measures must be outlined in a plan that includes a list of materials that must be on Site in the event that erosion and sediment control measures are required to be deployed.

EROSION & SEDIMENT CONTROL: If sediment transportation occurs on the Site, appropriate erosion and sediment control measures must be undertaken to the extent necessary to:
1) prevent sediment from entering a stream, wetland, or lake;
2) mitigate against damage to the environment (including but not limited to protection requirements in the Water Sustainability Act for water quality and aquatic habitat); and
3) prevent a material adverse effect from occurring to an objective set by government (see Site Plan-Results and Strategies).

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Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
S6-1 S6	RMZ		20.0		This stream is a small S6 and is more than 35m outside the middle south harvest boundary.
Lake #1376 L1-B	SMZ		200.0		This lake is a Class 'C' lake as per the Clearwater Forest District LRUP Lakeshore Management Guidelines (August 1, 2001). The northeastern portion of the block is within the Lakeshore Management Zone (LMZ). Within the LMZ, reserve: • 95% of the live aspen stems in all diameter classes (10-12 stems/ha or 0.7-0.8m2/ha) • 25% of the live Douglas-fir stems 37.5cm dbh and greater (7-9 stems/ha or 1.8-2.0m2/ha) • 5% of the live balsam stems in all diameter classes (6-8 stems/ha) Reserve 3-5 cut stub trees per hectare. Stub tree height should be 1.5-3.0m. Preference is to stub dead trees where available.
	RRZ		10.0		This lake is over 40m from the harvest boundary.
W3-1 W3	RRZ		10.0		The wetland is more than 40-50m outside the middle south harvest boundary.
	RMZ		20.0		The RMZ is outside the harvest boundary. Labrador tea was found within the wetland.
NCW-1 UC	MSZ		5.0		The NCW is more than 30m from the harvest boundary.

SOIL ASSESSMENT

HAZARD RATINGS				SOIL CHARACTERISTICS			
SU	Soil Comp	Soil Erosion	Soil Disp	Depth To Unfavourable Subsoil		Type of Unfavourable Subsoil	Sediment Delivery Risk (Community Watersheds)
				Min(cm)	Max(cm)		
1	H	H	L				

COMMENTS

SU-1: PAS
Road CL R24163.02: 0.98ha

Total PAS: 0.98ha, rounded to 1.0 in LRM
Total PAS% = 1.0ha/24.8ha = 4.0%

SU-1 meets FPPR Section 36(1).

Harvesting should be conducted on a snowpack, frozen ground or during dry soil conditions to reduce the risk of soil compaction.

RESERVE / RETENTION INFORMATION

WTRA / WTP (INSIDE OR ATTRIBUTED TO THE BLOCK)

I.D.#	Area	Description
WTRA	0.9	Stand Composition in WTRA-1: WTRA-1: Reserve Type: Group Reserve Objective: RMA WTRA-1 is located northwest of L1-B(C) Lake #1376.

GROUP WTRA / WTP AND SITE DEG. CALCULATION (to be retained on the first block of the Permit only)

Block	Gross Cutblock Area	WTRA / WTP	%	BEC	Perm Access	%
MZ9L9	16.5	1.4	8.5	SBS/mm/	0.1	0.6
MZA02	13.0	0.5	3.8	SBS/mm/	0.2	1.9
MZA0C	24.8	0.9	3.7	SBS/mm/	1.0	3.9
MZA0E	11.9	0.5	4.1	ICH/mw/3	0.3	2.9
Total # of Blocks: 4	**66.3**	**3.3**	**5.0**		**1.7**	**2.5**

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SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS

Wildlife/Endangered Species Comments

MIGRATORY BIRD STRATEGY:
Canada Nesting Zone: A2. Mapped Rank: 4 (Moderately High)

BEC Zone: SBS
As per the Full Cruise this block has been designated as the following:
Nest Density Matrix: Mixed Coniferous stand of species composition Sx,Bl,Fd,Pl(PwAt), VRI Age Class 5 (81-100yrs) and 7 (121-140yrs), Cruise Height Range 19.5-28.4m.
Nest Density Matrix Ranking: 4

To reduce Incidental Take for Migratory Birds, the following Beneficial Management Practices (BMPs) are to be implemented:
PL2 (Planning): Patch/edge retention around biodiversity anchors. Refer to the Stand Level Biodiversity and Leave Tree Sections in the Site Plan for reserve trees in the block (DoP 2).
LO4 (Layout): Retention of WTRAs and Deciduous WTs for cavity nesting birds. Refer to the Stand Level Biodiversity and Leave Tree Sections in the Site Plan for reserve trees in the block (DoP 2).

A "Stop Work" procedure has been incorporated in the harvest plan.

FISHER REPORT:
This block is within Fisher Habitat Type II. Based on field and cruise data, the forest cover attributes required for Fisher Habitat Type II site conditions are not present in this block.

Range Comments

The range licence RAN077142 is held by Mamit Lake Ventures Ltd. A referral was sent to the range holder with no response.

Fisheries Comments

There are no fish streams in or adjacent to the block.

The spatial District of Headwaters LMZs info provided a memo "inlet and outlet important for fishery and wildlife value, MOE may stock if access is developed"

The Lake is not known to be fish bearing. In August 1993, Bob Westcott prepared the following report: A Reconnaissance survey of Lake #1376 (Ministry of Environment, Lands and Parks Recreational Fisheries Branch.)

In the report on page 6, it states "Lake 1376 is a barren, shallow lake with low productivity". The report also states the "lake is thought to be of low priority from a fisheries management standpoint". Improved access in the future may warrant establishment of a fish population.

Watersheds/Hydro Assessments Comments

This block is located in the Wylie Creek Watershed. This block is not within a Community Watershed.

Sensitive Areas Comments

The majority of the block has soils with High Compaction Hazard. Soil Displacement Hazard is Low. Soil Erosion Hazard is High. Forest Floor Displacement Hazard is High. Mass Wasting Hazard is Moderate.

Harvesting should be conducted on a snowpack, frozen ground or during dry soil conditions to reduce the risk of soil compaction.

The block has a wet area just NE of SP 2, there are a couple of rock walls in the southwest section of the block.

Recreation Comments

Clearwater Sno-Drifters Notification: The Sno-Drifters have a cabin located a few kilometers past the Mackenzie FSR turn- off on Road R14756.1. They have requested that the Licensee notifies the Clearwater Sno-Drifters: (Contact Kurt Dodd: 1-250-674-0249 or Cell 1-250-674-8556 or email: kurt@kdcforestry.com) three months or sooner prior to the commencement of operations (during the snowmobile season December to April).

Cultural Heritage Comments

BCTS has referred this development to all potentially affected First Nations, as was determined through a search of the Consultative Area Database (CAD). All referral communication and management decisions have been documented in a BCTS Due Diligence Report signed off for approval by the Timber Sale Manager. This Site Plan is consistent with the management decisions and measures approved by the TSM.
A "Stop Work Procedure" has been included in the Harvest Plan in the event that a previously unidentified CHR is discovered during operations.

Biodiversity Emphasis/L.U. Comments

This block meets the stand level biodiversity results and strategies in the FSP. For all areas of the block, the distance from a Wildlife Tree Retention Area (WTRA) or mature forest is <500 meters from another WTRA or mature forest. There is one WTRA and WTs that contributes to stand level biodiversity.

Other Resources Comments

This block has been referred to the Trapline Licence Holder (Trapper: TR0339T001).

There are no guides in the area.

ADDITIONAL COMMENTS:

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 07 06	YES

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HARVEST PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA1444	-	MZA0C	BEA0C		Kamloops TSA FDU	MacKenzie	51 49 11 / 120 08 02

SILVICULTURE SYSTEMS

SU	SYSTEM	VARIANT	PHASE	RESERVE	Min BA (m2/ha)	Min Residual Density (sph)
1	CCRES		REMOV	G		

Current Stand Structure/Site Conditions	SBSmm 01(60) 04(40) Forest Cover: Preharvest stand composition is SxFdiBl(Cw)744-16/0, SxBl736-12/0, FdiSx(PliBl)531-17/0, SxBl(FdiPli)531-17/0, and SxBl(PliFdi)535-16/0. This estimate is based on forest cover information and field work. SU - 1 comprises some Douglas-fir vets and mature spruce, Douglas-fir, dead lodgepole pine, balsam, and aspen. Diameters range from 14-78cm (average 26cm) and heights range from 14-34m (average 24m). Conifer understory layers are suppressed Bl and spruce with some cedars in layers 3 and 4. Topography is variable with slopes ranging from 12-38% (average 21%).
Silviculture Systems SU Comments	SU-1: Clearcut with reserves.
Min. Characteristics of Leave Trees (Form, Health, Vigour)	Dispersed Retention: HU 'A': Within the Northern Section (Cruise Type II) LMZ and HU A reserve: • 95% of aspen stems in all diameter classes (10-12 stems/ha or 0.7-0.8m2/ha) • 25% of the live Douglas-fir stems 37.5cm dbh and greater (7-9 stems/ha or 1.4-1.6m2/ha) • 5% of the live balsam stems in all diameter classes (6-8 stems/ha) HU 'B' Within the Southern Section (Cruise Type III) HU B reserve: • 95% of the live Douglas-fir stems in all diameter classes (3-4 stems/ha) • 10% of the live balsam stems in all diameter classes (10-11 stems/ha)

Additional Comments

Avalanche Assessments	MZA0C is mapped in the High Avalanche Activity Zone (along with all areas north of Barriere). Based on the terrain features (rolling and broken terrain) and moderate slopes within and immediately surrounding the block, the avalanche risk should be considered Low. WorkSafeBC regulations regarding an avalanche risk assessment may not be required .
Harvesting Constraints	STOP WORK PROCEDURE If a previously unidentified Affected Feature is encountered during harvesting , road construction, or mechanical site preparation that is authorized or carried out by the Timber Sales Manager (TSM), the TSM will require that the operations cease to the extent necessary to protect the Affected Feature until an evaluation can be carried out. Affected Features: Cultural Heritage Resource, Archaeological Resource, active migratory bird nests, stick nests, active wildlife den. There are locations within the block where there are short pitches up to 38%. Average slope is 21%. Approved safe work procedures must be followed on steep slopes. See Harvest Plan map for locations. This block has been designed for ground skid harvesting. The block has a wet area just NE of SP 2, there are a couple of small rock bluffs in the southwest section of the block.

SOIL ASSESSMENT

	HAZARD RATINGS			SOIL DISTURBANCE				SOIL CHARACTERISTICS			
								Depth to Unfavorable Subsoil			
SU	Soil Comp.	Soil Erosion	Soil Disp.	Max Allow Soil Dist %	Max Allow Max Amount TAS may exceed MASD prior	Max Allow Perm Access Structures %	MASD for Roadside work areas %	Min (cm)	Max (cm)	Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)
1	H	H	L	10.0	5.0	7.0	25.0				

SU	Critical site conditions that affect the timing of operations and how they affect the timing
1	The majority of the block has soils with High Compaction Hazard. Soil Displacement Hazard is Low. Soil Erosion Hazard is High. Forest Floor Displacement Hazard is High. Mass Wasting Hazard is Moderate. The block has a wet area just NE of SP 2, there are a couple of rock walls in the southwest section of the block.

SU MANAGEMENT COMMENTS

SU	SU Description
1	A Windthrow risk assessment was completed for this block and the windthrow risk was estimated to be low . SBSmm 01(60) 04(40) Forest Cover: Preharvest stand composition is SxFdiBl(Cw)744-16/0, SxBl736-12/0, FdiSx(PliBl)531-17/0, SxBl(FdiPli)531-17/0, and SxBl(PliFdi)535-16/0. This estimate is based on forest cover information and field work. SU - 1 comprises some Douglas-fir vets and mature spruce, Douglas-fir, dead lodgepole pine, balsam, and aspen. Diameters range from 14-78cm (average 26cm) and heights range from 14-34m (average 24m). Conifer understory layers are suppressed Bl and spruce with some cedars in layers 3 and 4. Topography is variable with slopes ranging from 12-38% (average 21%).

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SOIL MANAGEMENT COMMENTS

Soil Conservation

SU-1: PAS
Road CL R24163.02: 0.98ha

Total PAS: 0.98ha, rounded to 1.0 in LRM
Total PAS% = 1.0ha/24.8ha = 4.0%

SU-1 meets FPPR Section 36(1).

Harvesting should be conducted on a snowpack, frozen ground or during dry soil conditions to reduce the risk of soil compaction.

Temporary Access

SU-1: TAS
Landing: 1 landing x 0.2ha/landing = 0.2ha
Total TAS: 0.2ha
TAS% = 0.2ha/22.1ha = 0.9%

The Temporary Access Structure Calculations for SU - 1 is 0.9% satisfies FPPR Section 35 (4)(b)(i) and (ii).

All Temporary Access Structures will be rehabilitated immediately upon completion of harvesting operations .

Slope Instability

There are no slopes over 60%. No TSFA is required.

RIPARIAN ASSESSMENTS

Management Strategies

RIPARIAN ASSESSMENT, RIPARIAN MANAGEMENT STRATEGY

Riparian areas and non-classified drainage features have been identified in the vicinity of and within the harvest area. Where they are within the cutblock, these features have been managed with a machine free zone.

Within machine free zone (MFZ) areas, minimize disturbance of herbaceous vegetation, shrubs and understory trees by directional falling and skidding away from the riparian areas. The best practice is to reach in with a feller buncher, cut individual trees, and place the cut tree outside the MFZ to minimize drag damage from skidding. When harvesting within machine free zones and/or riparian management areas, leave/retain trees that contribute to stream bank/channel stability. If these trees are at risk of windthrow, then stub them to minimize the windthrow risk.

On seasonally wet ground, measures must be taken to prevent sediment transport to a stream, wetland or lake consistent with BCTS's Environmental Management System.

During industrial activities, impacts to the environment due to erosion & sediment must be considered within and external to the site where downslope/downstream areas may be affected by erosion & sediment caused by industrial activities.

EROSION & SEDIMENT RISK: The risk of sediment delivery to a stream, wetland, or lake must be assessed and managed on the Site. If there is a greater than low risk of sediment delivery, erosion and sediment control measures must be outlined in a plan that includes a list of materials that must be on Site in the event that erosion and sediment control measures are required to be deployed.

EROSION & SEDIMENT CONTROL: If sediment transportation occurs on the Site, appropriate erosion and sediment control measures must be undertaken to the extent necessary to:
1) prevent sediment from entering a stream, wetland, or lake;
2) mitigate against damage to the environment (including but not limited to protection requirements in the Water Sustainability Act for water quality and aquatic habitat); and
3) prevent a material adverse effect from occurring to an objective set by government (see Site Plan-Results and Strategies).

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
S6-1 S6	RMZ		20.0		This stream is a small S6 and is more than 35m outside the middle south harvest boundary.
Lake #1376 L1-B	SMZ		200.0		This lake is a Class 'C' lake as per the Clearwater Forest District LRUP Lakeshore Management Guidelines (August 1, 2001). The northeastern portion of the block is within the Lakeshore Management Zone (LMZ). Within the LMZ, reserve: • 95% of the live aspen stems in all diameter classes (10-12 stems/ha or 0.7-0.8m2/ha) • 25% of the live Douglas-fir stems 37.5cm dbh and greater (7-9 stems/ha or 1.8-2.0m2/ha) • 5% of the live balsam stems in all diameter classes (6-8 stems/ha) Reserve 3-5 cut stub trees per hectare. Stub tree height should be 1.5-3.0m. Preference is to stub dead trees where available.
	RRZ		10.0		This lake is over 40m from the harvest boundary.
W3-1 W3	RRZ		10.0		The wetland is more than 40-50m outside the middle south harvest boundary.
	RMZ		20.0		The RMZ is outside the harvest boundary. Labrador tea was found within the wetland.
NCW-1 UC	MSZ		5.0		The NCW is more than 30m from the harvest boundary.

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COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION
The Nicola Thompson Fraser Sustainable Forest Management Plan (2011) requires consideration of coarse woody debris (CWD) to be reserved on site post harvest. Current Coarse Woody Debris levels are estimated to be 10-50 m3/ha. CWD Targets: Total - where feasible, aim to retain 20m3/ha or less as CWD evenly distributed across the cutblock. Small CWD - at a minimum, retain 4 logs/ha each being no less than 2m in length and at least 7.5 cm in diameter at one end. Large CWD - at a minimum, retain 19 logs per hectare each being a minimum of 10m in length and at least 20cm in diameter at one end. CWD Strategies: Efforts will be made to ensure these logs are not broken at time of harvesting . CWD pieces may consist of any available species provided they are not expected to contribute to a forest health risk (ie bark beetle). The preference is for CWD to be sourced from non-merchantable log grades (firmwood rejects and some dry grade 4) where available. Target leave trees are expected to contribute to future CWD when they fall to the ground but may be removed if they contribute to a forest health risk (ie bark beetle). Small Mammal Habitat Small mammal piles will be created and will be at least 3m wide, at least 5m long, and mechanically piled at least 2m high using the largest woody debris available on the Site. Debris piles will be located more than 20m from standing timber, but within 200 meters of Riparian Management Areas and block edges and oriented to connect WTRA and/or riparian features with the block edge. At minimum, 7 small mammal piles are required; create additional piles as needed to achieve WTRA and/or riparian feature connection.

Performance Std. (%) :	100.0	Block Target (%):	80.0	Coarse Woody Debris (m3/ha):	20.0

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 07 06	YES

Print off the PAS/TAS table located as an attachment on the Block Details Screen and attach to this prescription.

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
BRENT FUKUMOTO	
DATE SIGNED	
2023/07/06	
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 standards acceptable of a Registered Professional Forester.	

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THE FOLLOWING INFORMATION IS ATTACHED FOR INFORMATION ONLY AND DOES NOT FORM PART OF THE SITE PLAN

SILVICULTURE PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
TA1444	-	MZA0C	BEA0C		Kamloops TSA FDU	MacKenzie	51 49 11 / 120 08 02

ECOLOGICAL INFORMATION

SU	Ecology Unit	Area	Zone	Subzone	Variant / Phase	Site Series (series - %)	Elevation Avg (m)	Slope Avg (%)	Aspect	Slope Position	Rooting Depth (cm)	Soil Texture
1	1	24.84	SBS	mm		01-60 04-40	1,288	21	SE	Middle Slope	40	SIL

STOCKING REQUIREMENTS

ASSESSMENT DATES

Standard Unit	Standards ID	Regen Delay (yrs)	Freegrow Early (yrs)	Freegrow Late (yrs)
1	1065674	4	0	20

Min/Max Elevation Regime: 1260 / 1315

SU : 1 REGENERATION LAYER

PREFERRED SPECIES			ACCEPTABLE SPECIES			POST SPACING DENSITY(sph)		MAX CONIFEROUS (sph)	
Species	Min Ht. (m)	Footnotes	Species	Min Ht. (m)	Footnotes	Min	Max		
						WELL SPACED TREES (sph)			
Fdi Douglas Fir - Interior	1.4		Bl Subalpine Fir	1.0		Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
Sx Hybrid Spruce (SE x SW)	1.0					1200	700	600	2.0
Pli Lodgepole Pine - Interior	2.0							Height Relative to Competition (%)	
								150	

OTHER REQUIRED STOCKING INFORMATION

LRM BEC Mapping (Source: BCGW, Mapping BGC, v.12 (2021)) locates MZA0C in the SBSmm biogeoclimatic subzone and the stocking standards for SBSmm 01(60) 04(40) BEC site series will be used.

ACTIVITIES

SILVICULTURE ACTIVITY COMMENTS

ACTIVITY	COMMENT

MANAGEMENT STRATEGY

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

The Nicola Thompson Fraser Sustainable Forest Management Plan (2011) requires consideration of coarse woody debris (CWD) to be reserved on site post harvest.

Current Coarse Woody Debris levels are estimated to be 10-50 m3/ha.

CWD Targets:
Total - where feasible, aim to retain 20m3/ha or less as CWD evenly distributed across the cutblock.
Small CWD - at a minimum, retain 4 logs/ha each being no less than 2m in length and at least 7.5 cm in diameter at one end.
Large CWD - at a minimum, retain 19 logs per hectare each being a minimum of 10m in length and at least 20cm in diameter at one end.

CWD Strategies:
Efforts will be made to ensure these logs are not broken at time of harvesting .
CWD pieces may consist of any available species provided they are not expected to contribute to a forest health risk (ie bark beetle).
The preference is for CWD to be sourced from non-merchantable log grades (firmwood rejects and some dry grade 4) where available.
Target leave trees are expected to contribute to future CWD when they fall to the ground but may be removed if they contribute to a forest health risk (ie bark beetle).

Small Mammal Habitat
Small mammal piles will be created and will be at least 3m wide, at least 5m long, and mechanically piled at least 2m high using the largest woody debris available on the Site. Debris piles will be located more than 20m from standing timber, but within 200 meters of Riparian Management Areas and block edges and oriented to connect WTRA and/or riparian features with the block edge. At minimum, 7 small mammal piles are required; create additional piles as needed to achieve WTRA and/or riparian feature connection.

Performance Std. (%): 100.0 Block Target (%): 80.0 Coarse Woody Debris (m3/ha): 20.0

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 07 06	YES

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RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
BRENT FUKUMOTO	
DATE SIGNED	
2023/07/06	
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 standards acceptable of a Registered Professional Forester.	

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