BCTS
BC Timber Sales
Kamloops

SITE PLAN
KAMLOOPS
BC TIMBER SALES

Report Date 2023/03/01

ORIGINAL

TENURE IDENTIFICATION

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9AY	BE9AY	92P069-	Kamloops TSA FDU	Taweel Lake	51 37 20 / 120 18 09

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
12.9	0.6	0.0	1.0	0.0	0.0	11.3

ADDITIONAL COMMENTS

DEFINITIONS (ADD DEFINITIONS AS REQUIRED)
This Site Plan was prepared in accordance with FRPA S.10.(1), 10.(2), and 10.(3). The Site Plan is consistent with the BCTS Kamloops TSA Forest Stewardship Plan (FSP#671). For the purposes for FRPA S.10.(2), the "Site"(refer to the associated SP map) includes the block (Area Under the Plan) and the associated roads (KAR23582.02 and KAR23582.03).

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	25.0	25.0	7.0

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
1	NOTIFICATIONS, TIMING RESTRICTIONS, SITE RESTRICTIONS – This field/box is reproduced in the Harvest Plan The allowable disturbance for TW9AY is 10% as stated in section 35(3) of the FPPR and up to a maximum of 25% soil disturbance for roadside work areas.Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits are not exceeded and that natural drainage patterns are maintained. The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above. The allowable disturbance for TW9AY is 10% as stated in section 35(3) of the FPPR and up to a maximum of 25% soil disturbance for roadside work areas. Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits are not exceeded and that natural drainage patterns are maintained. The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above.

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 `Modify/Stop Work Procedure` has been included in the harvest plan in the event that previously unidentified CHR's are encountered during industrial activities on the Site .
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)	Block is consistent with the strategies outlined in Section 5.5.1 of the FSP.
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)	Block is consistent with Section 64 Cut Block Size and 65 Adjacency of the FPPR.

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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)	WTRA retention levels have been met on a block level. The harvest area does not include areas previously identified for WTRA.
Result or Strategy Description	5.5.3 Old Growth Management Areas
Applies:	
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	
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 `Modify/Stop Work Procedure` has been included in the harvest plan in the event that previously unidentified CHR's are encountered during industrial activities on the Site.
Lakes Management Objectives	
Result or Strategy Description	5.3.1 Lakeshore Management Zones
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is not within or adjacent to a lake management zone associated with the Kamloops Forest District Lakes Local Resource Use Plan – Lakeshore Management Guidelines dated December 20, 2001. This result/strategy does not apply to the Site.
Result or Strategy Description	5.3.2 Walk-in Lakes
Applies:	
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	
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)	As per section 6.2 of the BCTS Kamloops FSP, the Invasive Alien Plant Program (IAPP) database has been checked for the presence of invasive plants in the area proposed for development (April 2019). Sulphur Cinquefoil, Spotted Knapweed, Burdock, Hoary Alyssum, Yellow Hawkweed, Chicory and Oxeye Daisy appear along the main haul route No incidences of invasive plants were identified during development activities. Any new incidence of invasive plants identified during harvesting or silviculture activities are to be reported within one year as per 6.2 of the FSP. As per Section 6.2 of the FSP, disturbed areas such as ditch lines, cut slopes, and fill slopes 0.01 ha and larger, will be seeded using: (i)seed or forage mixture that meets or exceeds Canada Common Number 1 Forage mixture as defined by the Canada Seeds Act Regulation; or (ii)native forbs or shrubs.
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)	No natural range barriers were identified to be associated with the site.

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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 following range licence is active for the proposed harvest area: RAN077834 (KENT WALLACE) RAN077903 (STEVEN MACDOUGAL) No natural range barriers were identified during the development of this harvest area. The development is consistent with Sections 5.12 BCTS Kamloops FSP.
Recreation Objectives	
Result or Strategy Description	5.6.2 Recreation and Tourism Zones
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is within the KLRMP designated Taweel Special Resource Management Zone for recreation and tourism. The management category designated by the KLRMP is "Natural Environment" and no significant opportunities were identified. The Plan doesn¿t specify any significant priorities at this time but encourages communication with stakeholders. Concerns associated with this block are generally associated with Taweel Lake , and in particular, the fishing lodges and private land owners which exist on the lakeshore. The Nehalliston Fishing Lodge and landowners were consulted during the development process. While this development is not visible from the lake, nor is it within an area frequented by lake users, the main concern is regarding the noise created by harvesting and road building activities. Block is consistent with Section 5.6.2 and 5.8.2 of the FSP.
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)	The Site is not within or adjacent to a recreation site and/or trails. This result/strategy does not apply to the Site.
Riparian Management Objectives	
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)	There is a classified wetland associated with the Site and areas of RMA are located within the harvest area : 1) The Site was designed to be consistent with FPPR48(1), (2), (4), and (5). 2) The RMA widths (including RRZ and RMZ) were determined in accordance with FSP Table 4 and established consistent with FSP5.4.2(3), (4), and (5). Refer to the Site Plan map for locations and the Riparian Assessments table in the Harvest Plan for site specific management.
Result or Strategy Description	5.4.4 Restrictions in a Riparian Management Area
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site has been designed so no roads are within a riparian management area.
Result or Strategy Description	5.4.6 Restrictions in a Riparian Management Zone
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The percent retention in riparian management zones within the harvest area for the Site are designed to be consistent with Table 4 for wetlands, Refer to the Site Plan map for locations and the Riparian Assessments table in the Harvest Plan for site specific management. This Site Plan is not associated with a minor tenure so FPPR52(1)(b) does not apply. There are no small S6 stream within the harvest area that are directly tributary to a S1. S2 or S3 stream.

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Result or Strategy Description	5.4.7 Restricted Operation of Machinery
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Riparian Management Areas are within the harvest area consistent with FSP 5.4.7. The Harvest Plan contains a requirement to minimize disturbance to herbaceous vegetation, shrubs, and understorey trees. Refer to the Site Plan map for locations and the Riparian Assessments table in the Harvest Plan for site specific management.
Result or Strategy Description	5.4.1 Stream Riparian Classes
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	No classifiable stream in or influences this development. This result/strategy does not apply to the Site.
Result or Strategy Description	5.4.3 Lake Riparian Classes
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The site is not within or adjacent to a lake management zone associated with the Kamloops Forest District Lakes Local Resource Use Plan – Lakeshore Management Guidelines dated December 20, 2001. This result/strategy does not apply to the Site.
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 within the harvest area for the Site.
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)	Operational exceptions to restricted operations of machinery do not apply to the site.
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)	The Site is not within a Settlement Resource Management Zone. This result/strategy does not apply to the Site.
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)	The result of the soil hazard assessment was that sensitive soils (SiL) are on site. The Site has been designed so the area occupied by proposed temporary access structures and roadside work areas will not exceed the limits outlined in the Soil Disturbance table above. The Site has been designed so the area occupied by proposed permanent access structures will not exceed 7% of the cutblock
Visual Objectives	
Result or Strategy Description	5.8.2 Visuals "Kamloops Visual Zone"
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is within the Kamloops VSA and the the block lies within VQO polygon # 1767 (Partial Retention) and VQO polygon # 1753 (Retention). A VIA was completed that included the Site and other new/existing cutblocks associated with the Site. The result of the VIA was that the altered forest landscape, when considered alongside existing alterations, meets the Partial Retention and Retention when considered from all identified Significant Public Viewpoints. Block is consistent with Section 5.8.2 of the FSP.

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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)	The Site is not located within the Headwaters area.
Water Objectives	
Result or Strategy Description	5.2.3.1 Channel Stability & Riparian Function
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TW9AY does not have a stream that is tributary to a fish bearing stream. Refer to Site Plan Results and Strategies and Support Document Riparian Assessments for management objectives that are consistent with this order.
Result or Strategy Description	5.2.3.2 Minimizing Adverse Sediment Effects
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TW9AY does not have a stream that is tributary to a fish bearing stream. Refer to Site Plan Results and Strategies and Support Document Riparian Assessments for management objectives that are consistent with this order.
Result or Strategy Description	5.2.3.3 Quantity & Timing of Flows
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Land based reporting tool indicates that the Lemieux creek watershed is at 17.53% below the snowline and 27.77% above the snowline. The land based reporting tool also indicates that the Upper Lemieux Creek Basin is at 19.28% below the snowline, and 28.87% above the snowline. According to Table 2 of the order, the watersheds maximum ECA is stated as 'N/A' however primary forest activities are less than the stated 25% ECA and no further actions are required.
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)	The Site is not within a designated community watershed; this result/strategy does not apply to the Site.
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 active water licenses associated with streams within or adjacent to the block.
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)	The Site is not within a Special Resource Management Habitat/ Wildlife Management Area identified in the Kamloops HLP Ministerial Order. This result/strategy does not apply to the Site.
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)	The Site is not within Critical Deer Winter Range. This result/strategy does not apply to the Site.
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)	The Site is not within Moose Winter Range. This result/strategy does not apply to the Site.
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)	The Site is not within Mountain Goat Winter Range. This result/strategy does not apply to the Site.

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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)	The Site is not within a Flammulated Owl Known Locations area. This result/strategy does not apply to the Site.
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)	The Site is not within an Interior Lewis's Woodpecker Known Locations area. This result/strategy does not apply to the Site.
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)	The Site is not within a Spotted Bat Known Locations area. This result/strategy does not apply to the Site.

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	11.3	1005473	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	The current 2016 biogeoclimatic mapping (BEC) was used to identify the initial BEC for the block. Through the establishment of field SP plots, the block has been ecologically classified using Land Management Handbook 23: A Guide to Site Identification and Interpretation for the Kamloops Forest Region (1990 BEC). The crosswalk tables associated with the 2016 BEC mapping were used to correlate to the 1990 BEC for selecting stocking standards. Details of the stocking standards are contained in the associated Silviculture Plan. If site preparation is required to establish crop trees, or if stocking density targets are at risk from cattle congregation then the MITD can be reduced to 1.5m.		

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 02 28	YES

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RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
ROB CLARK	
DATE SIGNED	
2023/02/28	
I certify I personally completed the work described herein.	

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
A95205	-	TW9AY	BE9AY	92P069-	Kamloops TSA FDU	Taweel Lake	51 37 20 / 120 18 09

ASSESSMENTS

VISUAL IMPACT ASSESSMENT INFORMATION

VISUAL ASSESSMENT DESCRIPTION

VLI Polygon:1767
EVQO: PR
EVC: R

VLI Polygon:1753
EVQO: R
EVC: R

A VIA was completed because an established VQO of PR and R applies to the Site. It was determined through a view shed analysis that the block would be visible from Taweel Lake.

Six viewpoints were evaluated from Taweel Lake. The site is not visible from the Nehalliston Lake Fishing Lodge.
When comparing the FPPR section 1.1 definition of partial retention and retention to the perspective analysis, the viewpoint meets retention for both VLI polygons. The Site is expected to be consistent with the established VQO.

PEST INCIDENCE SURVEY INFORMATION

Pest Specific Comments

Cruise data (full volume) indicates that:

Bark beetle attack by species:
Spruce is 16% grey attack,
Douglas-Fir 7% red attack.
Lodgepole pine is 100% grey attack.

Forest Health Comments

No significant presence of root disease was identified during development activities.

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 CHR's are encountered during industrial activities on the Site

TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION

Terrain Stability Comments

The development is not adjacent to any mapped terrain stability inventory polygons and no indicators of instability were observed in the field. It was determined that a Terrain Stability Assessment was not required.

Gully Comments

N/A

VEGETATION

Brush competition is anticipated to be low to moderate throughout the block following harvest. Pinegrass competition could be a potential concern in a few areas within the block. If brushing is required, the timing and feasibility of future brushing treatments are to be determined during future stocking surveys.

RIPARIAN ASSESSMENTS

Management Strategies

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 understorey 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)
TW9AY-1-NCD UC	MFZ	1			NCD is not located in the harvest area and flows west from TW9AY-1-W3.
TW9AY-1-W3 W3	RRZ	1	10.0		A WTRA has been flagged a minimum of 10-meters from the wetland edge.
	RMZ	1	20.0		The RMZ of the wetland will be managed per SU1

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	M	L	M	8.0	31.0	SG	

COMMENTS

SOIL DISTURBANCE: The soil disturbance limits cannot exceed those detailed in the Site Plan. The timing and method of all primary forest activities are required to be conducted in a manner that does not cause soil damage or degradation (ie compaction, displacement, surface erosion).

NATURAL DRAINAGE: During construction of roads and trails (temporary or permanent), natural surface drainage must be maintained, including applying measures to maintain natural surface drainage during any freshet. After construction, roads and trails must be left in a state that will continue to maintain or be consistent with natural drainage patterns.

REHABILITATION: When rehabilitating soil on the Site, the licensee must:

1) remove or redistribute woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, to the extent necessary to limit the concentration of subsurface moisture on the area,

2) de compact compacted soils,

3) return displaced surface soils, retrievable side cast and berm materials, and

4) place woody debris on the exposed soils (to the extent the woody debris is available).

RESERVE / RETENTION INFORMATION

WTRA / WTP (INSIDE OR ATTRIBUTED TO THE BLOCK)

I.D.#	Area	Description
WTRA	1.0	WTRA#1: (0.11 ha) SxFdiBl 745-wet area comprised of saturated soils, slopes greater than 40%. WTRA#2: (0.20 ha) SxFdiBl 745 -Wet area along boundary with slopes >50% WTRA#3: (.68 ha) SxFdiBl 745- Retention area along a W3 wetland.

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	%
TW8F4	4.7	0.4	8.7	SBS/mm/	0.0	0.0
TW984	18.3	2.2	12.1	ICH/mk/2	0.4	2.2
TW9AW	42.1	3.0	7.2	SBS/mm/	0.3	0.7
TW9AY	12.9	1.0	7.7	SBS/mm/	0.6	4.9
TW9AZ	6.5	0.7	10.4	SBS/mm/	0.3	4.6
TW9B0	18.2	1.4	7.5	SBS/mm/	0.6	3.5
Total # of Blocks: 6	**102.7**	**8.7**	**8.4**		**2.3**	**2.2**

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SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS

Wildlife/Endangered Species Comments

MIGRATORY BIRD STRATEGY
Canada Nesting Zone: A2
BEC: SBSmm
Nest Density Matrix: [Age Class 7], [Height Range 28.5m+]
Nest Density Matrix Ranking: 4 Moderate/High and 5 High
Forest Health: N/A
Restricted Period: April 23- August 01
According to migratory bird mapping layers the proposed harvest area of the block contains predominately Rank 5 (High) and a minor Rank 4 (Moderately High). The Migratory Bird Strategy: Reducing Incidental Take for Migratory Birds Appendix A (Nest Density Matrix V1.3) states that in SBS BEC Zone where the stand is 'MixCon' within age class 7(141 250), and a height >28.4+ meters. Ranked polygons in that cutblock can be changed to Rank 5 (High). The cruise compilation for TW9AY is consistent with the above parameters and the block will be managed as Rank 5 (High).
According to the Migratory Bird Strategy: Reducing Incidental Take for Migratory Birds, it has been recommended that Forestry operations should be conducted outside of Restricted Period A2 R1 (April 23 to August 1) or two or more Beneficial Management Practices Summary (BMPs) with a Degree of Protection Level 2 (moderate) must be selected from Appendix D of the Migratory Bird Strategy.

The following BMPs apply to Block TW9AY:
PL2 (DoP:2) Planned Retention Biodiversity Anchors. WTRA contributes to planned biodiversity anchor/retention.
LO2 (DoP:2) Riparian Protection. WTRA esablished for a W3 wetland.
LO4 (DoP:1/2) Wildlife Tree, Snag and Stub Retention). Leave trees have been prescribed.

According to the Migratory Bird Strategy two or more BMPs with a DoP of 2 or greater have been applied and therefore primary forest operations 'can' proceed within the restricted period.
If a previously unidentified migratory bird species or its nest is encountered during harvesting, road construction, or a silviculture activity associated with this Site Plan, the Timber Sales Manager (TSM), will require that the operations cease to the extent necessary to protect the affected migratory bird species or nest until alternative BMP's can be implemented to minimize or prevent the risk of incidental take.
Implementation measures for these BMP's are described in the Harvest Plan.
A stop work procedure has been included in the Harvest Plan if an unidentified migratory nest is encountered during industrial activities.

SPECIES/ECOSYSTEMS AT RISK (SAR/EAR):A BC Species and Ecosystems Explorer blue and red list search was completed for this area (August 25,2021). The search result contained 91 species and 20 ecosystems as having potential to exist on the Site. During field development, no SAR/EAR were noted or identified on the Site.

FISHER HABITAT: The Site is located with Type II-Sub-Boreal Moist Fisher habitat. The harvest and retention areas have been designed to be consistent with the recommendations from the BC Fisher Habitat Working Group. Specific trees that exhibit habitat characteristics have been identified to be retained within the harvest area and are outlined in the harvest plan and harvest plan map.
CWD Resting Habitat
Debris piles shall be located between WTRA's and the block edge to maintain connectivity between standing timber, WTRA's, and any riparian areas. The piles shall also be located to maintain a maximum 50m dash distance between cover (standing timber, WTRA's, and debris piles). Actual locations may vary but should adhere to the above conditions to the extent practicable (refer to Harvest Plan).

Range Comments

No range developments are associated with the proposed harvest area.

Fisheries Comments

No fish bearing streams or water bodies are associated with the proposed harvest area.

Watersheds/Hydro Assessments Comments

TW9AY lies within Upper Lemieux Creek Basin (F 3 012 Unit #2), part of the Lemieux Creek watershed (F 3 012 Unit #1), both of which are listed as fisheries sensitive watersheds.

Objectives 1a and 1b:
TW9AY does not have a stream that is tributary to a fish bearing stream. Refer to Site Plan Results and Strategies and Support Document Riparian Assessments for management objectives that are consistent with this order.

Objective 1c:

The Land based reporting tool indicates that the Lemieux creek watershed is at 17.53 below the snowline and 27.77% above the snowline. The land based reporting tool also indicates that the Upper Lemieux Creek Basin is at 19.28% below the snowline, and 28.87% above the snowline. According to Table 2 of the order, the watersheds maximum ECA is stated as 'N/A' however primary forest activities are less than the stated 25% ECA and no further actions are required.

Block is consistent with the objectives outlined in Schedule B of the order.

Sensitive Areas Comments

N/A

Recreation Comments

The proposed development is not located within a recreation and tourism zone or back-country recreation area. No recreational features were identified during development and the block does not lie in the vicinity of a walk-in lake

No additional management applies to the development beyond the Results and Strategies contained in the Site Plan for this block.

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 "Modify/Stop Work Procedure" has been included in the harvest plan in the event that previously unidentified CHR's are encountered during industrial activities on the Site

Biodiversity Emphasis/L.U. Comments

The proposed block is located within the Nehalliston Landscape Unit (LU) area. According to the Kamloops LRMP (July, 1995), this Landscape Unit has a Biodiversity emphasis of Intermediate.

Other Resources Comments

One trapline is current for block:
TR0339T002

Referrals have been sent with response asking for a map showing his trapline boundary to determine his sets and no further work is necessary.

There is one active mineral claim associated with the proposed harvest area: 521899.

Referrals have been sent with no response and no further work is necessary.

There are no guide outfitters that operate within the proposed harvest area.

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ADDITIONAL COMMENTS:
Surveys
A windthrow assessment was conducted by IPAC during summer of 2019. Overall, the windthrow risk for the proposed block TW9AZ was assessed as moderate, with higher levels expected along retained edges and WTRA's. Cutblock design has been manipulated to mitigate potential windthrow in retained areas and along the cutblock edge, however some windthrow is still anticipated. Any windthrow occurring along retained edges or from prescribed leave trees will be left on-site to contribute to stand CWD recruitment.

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 02 28	YES

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HARVEST PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9AY	BE9AY	92P069-	Kamloops TSA FDU	Taweel Lake	51 37 20 / 120 18 09

SILVICULTURE SYSTEMS

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

Current Stand Structure/Site Conditions	The cruise compilation (full volume) indicates that the current stand composition is 42% Douglas-fir, 40% Spruce,8% Subalpine and 7% Lodgepole Pine comprising of a net merchantable coniferous volume of 3605m3/ha. Bark beetle attack by species: Spruce is 16% grey attack, Douglas-Fir 7% red attack. Lodgepole pine is 100% grey attack.
Silviculture Systems SU Comments	SU-1: SU 1: SU1: Clearcut with Reserves The majority of the leave stems will be dispersed throughout the block. The purpose of these stems is to provide biodiversity, nesting sites, burrows, shade, and future CWD and stand structure.
Min. Characteristics of Leave Trees (Form, Health, Vigour)	Target Leave Trees: Retain 95% of Deciduous greater than 17.4 cm dbh. Although none were tallied in the cruise, leave these trees if operationally feasible where encountered.. Retain 95% of Douglas- fir greater than 62.4cm dbh. Fisher Habitat: The cruise comp indicates that there are Sx stems >39cm DBH. Retain a minimum of 5 Sx stems with rust brooms. According to the cruise no At or Act that meet the minimum diameter requirements for fisher denning or resting. All deciduous stems are to be retained regardless of DBH. The cruise indicates there are Fd stems > 67.4cm DBH that have been reserved for denning. Target leave trees might be unevenly distributed across the block. STUBBING:Establish stub trees every 5-10m (where possible) at 3-5m in height to facilitate locating the following features during harvest and post harvest: Machine Free Zones Where operationally feasible, leave understorey trees (poles having >50% live crown, saplings, and regeneration). The preference is for understorey leave trees to be free from insects, disease and defects and be left in groups of 3 or more where possible.

Additional Comments

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. SAFETY TERRAIN HAZARD Slopes range from 8% to 40% (avg. 19%) and approx. 20% of the block contains slopes >25%. There are slopes >35% within the block. RANGE If cattle are in the vicinity during primary forestry activities or hauling, a forestry range conflict plan must be prepared that includes measures to mitigate the risks of injury to cattle and the risks of cattle escape; this plan must be communicated to BCTS within 24 hours of identifying the forestry range conflict

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	M	L	M	10.0	25.0	7.0	25.0	8.0	31.0	Sand and Gravel	

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SU	Critical site conditions that affect the timing of operations and how they affect the timing
1	NOTIFICATIONS, TIMING RESTRICTIONS, SITE RESTRICTIONS – This field/box is reproduced in the Harvest Plan The allowable disturbance for TW9AY is 10% as stated in section 35(3) of the FPPR and up to a maximum of 25% soil disturbance for roadside work areas.Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits are not exceeded and that natural drainage patterns are maintained. The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above. The allowable disturbance for TW9AY is 10% as stated in section 35(3) of the FPPR and up to a maximum of 25% soil disturbance for roadside work areas. Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits are not exceeded and that natural drainage patterns are maintained. The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above.

SU MANAGEMENT COMMENTS

SU	SU Description
1	REVEGETATION: Exposed soils associated with roads, trails, and block disturbance must be grass seeded to the extent necessary to prevent sediment from entering a stream, wetland, or lake. If a contiguous area of disturbed soil 0.01ha or greater is created by access structure construction, the area (including ditches, cut/fill slopes, external rehab roads) must be revegetated within a year and using a seed mix that meets or exceeds Canada Common No. 1 to prevent the spread of invasive plants. INVASIVE PLANTS Measures for preventing the introduction or spread of invasive plants: 1. Where machinery will be working in known invasive plant sites, advise the operator of the machinery to remove any observed plant material, or significant accumulations of soil which may contain plant material, from the machinery prior to that machinery being relocated outside of the cutblock or road. 2. During cutblock and road design, infested sites should be avoided as much as possible when determining staging, parking and log sorting areas. 3. Primary forest activities should occur in uninfested sites before moving to infested sites 4. Prior to carrying out or authorizing primary forest activities that will result in creating contiguous areas of disturbed soil >0.01 ha, ensure that, within one year of the completion of the activities, the portions of the area occupied by ditch lines, cut or fill slopes, and deactivated roads (which are not reforested and not including active road running surfaces) will be seeded using seed or forage mixture that meets or exceeds Canada Common Number 1 Forage Mixture as defined by the Canada Seeds Act and Regulation, native forbs or shrubs. 5. Where areas have been seeded, inspect the areas within 12 months of seeding to ensure successful establishment and repeat one additional seeding if not successfully established. 6. Within 30 days of discovery, BCTS will report new invasive plant infestation sites through the provincial Invasive Alien Plant Program Application.

SOIL MANAGEMENT COMMENTS

Soil Conservation

SOIL DISTURBANCE: The soil disturbance limits cannot exceed those detailed in the Site Plan. The timing and method of all primary forest activities are required to be conducted in a manner that does not cause soil damage or degradation (ie compaction, displacement, surface erosion).

NATURAL DRAINAGE: During construction of roads and trails (temporary or permanent), natural surface drainage must be maintained, including applying measures to maintain natural surface drainage during any freshet. After construction, roads and trails must be left in a state that will continue to maintain or be consistent with natural drainage patterns.

REHABILITATION: When rehabilitating soil on the Site, the licensee must:

1) remove or redistribute woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, to the extent necessary to limit the concentration of subsurface moisture on the area,

2) de compact compacted soils,

3) return displaced surface soils, retrievable side cast and berm materials, and

4) place woody debris on the exposed soils (to the extent the woody debris is available).

Temporary Access

No Temporary access structures have been prescribed.

Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits (10%) are not exceeded and that natural drainage patterns are maintained.

The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above.

Slope Instability

The development is not adjacent to any mapped terrain stability inventory polygons and no indicators of instability were observed in the field. It was determined that a Terrain Stability Assessment was not required.

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RIPARIAN ASSESSMENTS

Management Strategies

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 understorey 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)
TW9AY-1-NCD UC	MFZ	1			NCD is not located in the harvest area and flows west from TW9AY-1-W3.
TW9AY-1-W3 W3	RRZ	1	10.0		A WTRA has been flagged a minimum of 10-meters from the wetland edge.
	RMZ	1	20.0		The RMZ of the wetland will be managed per SU1

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

CWD Targets:

Total where feasible, aim to retain 10m3/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 4 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 (Fisher 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, 5 small mammal piles are required; create additional piles as needed to achieve WTRA and/or riparian feature connection.

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

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 02 28	YES

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

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RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
ROB CLARK	
DATE SIGNED	
2023/02/28	
I certify I personally completed the work described herein.	

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SILVICULTURE PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9AY	BE9AY	92P069-	Kamloops TSA FDU	Taweel Lake	51 37 20 / 120 18 09

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	A	11.25	SBS	mm		01-90 07-10	1,270		NW	Middle Slope	34	SL

STOCKING REQUIREMENTS

ASSESSMENT DATES

Standard Unit	Standards ID	Regen Delay (yrs)	Freegrow Early (yrs)	Freegrow Late (yrs)
1	1005473	4	0	20

Min/Max Elevation Regime: 1250 / 1290

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

The current 2016 biogeoclimatic mapping (BEC) was used to identify the initial BEC for the block. Through the establishment of field SP plots, the block has been ecologically classified using Land Management Handbook 23: A Guide to Site Identification and Interpretation for the Kamloops Forest Region (1990 BEC). The crosswalk tables associated with the 2016 BEC mapping were used to correlate to the 1990 BEC for selecting stocking standards. Details of the stocking standards are contained in the associated Silviculture Plan.

If site preparation is required to establish crop trees, or if stocking density targets are at risk from cattle congregation then the MITD can be reduced to 1.5m.

ACTIVITIES

SILVICULTURE ACTIVITY COMMENTS

ACTIVITY	COMMENT

MANAGEMENT STRATEGY

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

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ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 02 28	YES

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RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
ROB CLARK	
DATE SIGNED	
2023/02/28	
I certify I personally completed the work described herein.	

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