



**SITE PLAN
KAMLOOPS
BC TIMBER SALES**

Report Date 2023/03/01

TENURE IDENTIFICATION

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9B0	BE9B0	92P069-	Kamloops TSA FDU	Taweel Lake	51 36 47 / 120 18 02

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
18.2	0.6	0.0	1.4	0.0	0.0	16.2

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 (KA R23582.05 and KA TW9B0.01).

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	5.0	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 TW9B0 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.
Result or Strategy Description	5.5.3 Old Growth Management Areas
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is not within or adjacent to an Old Growth Management Area.

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.
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:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is 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:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Site is not within or adjacent to the management zone surrounding a walk in lake. This result/strategy does not apply to the Site.
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.
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)	<p>This block is within the KLRMP designated Taweel Special Resource Management Zone for recreation and tourism.</p> <p>The management category designated by the KLRMP is "Natural Environment" and no significant opportunities were identified.</p> <p>The Plan does not specify any significant priorities at this time but encourages communication with stakeholders.</p> <p>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.</p> <p>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.</p> <p>Block is consistent with Section 5.6.2 of the FSP</p>
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	5.4.1 Stream Riparian Classes
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>There are classified streams associated with the Site and areas of RMA are located within the harvest area :</p> <p>1) The Site was designed to be consistent with FPPR47(1), (2), (3)(a), (5), and (6).</p> <p>2) The RMA widths (including RRZ and RMZ) were determined in accordance with FSP Table 3 and established consistent with FSP5.4.1(3), (4), and (5).</p> <p>Refer to the Site Plan map for locations and the Riparian Assessments table in the Harvest Plan for site specific management.</p>
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)	The site is adjacent to a lake management zone associated with the Kamloops Forest District Lakes Local Resource Use Plan – Lakeshore Management Guidelines dated December 20, 2001. The block is not located within the lake management zone of Taweel Lake . The block is consistent with section 5.4.3 of FSP.
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)	Portions of the block boundary are within the RMZ of an S2 creek (Lemieux Creek). No roads have been prescribed within the RMZ and block is consistent with Section 5.4.4 of the FSP
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)	Portions of the block boundary are within the RMZ of an S2 creek (Lemieux Creek). Then block is a minimum of 40 meters from the S2 creek. Basal area retention targets for the S2 stream will be achieved. No small S6 streams have been identified in the block that are tributary to the S2 stream. Block is consistent with Section 5.4.6 of the FSP.
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)	<p>Portions of the block boundary are within the RMA of the S2 creek (Lemieux Creek). Then block is a minimum of 40 meters from the S2 creek. The block is at distance from the S2 creek where a MFZ is not applicable and the advanced regeneration/non-merchantable/commercial stems will be retained and not impacted by machinery.</p> <p>Block is consistent with Section 5.4.7 of the FSP.</p>

Result or Strategy Description	5.4.2 Wetland Riparian Classes
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	There are no wetlands associated with this site. 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)	This site does not overlap a riparian reserve zone. This result/strategy does not apply to 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)	<p>The result of the soil hazard assessment was that sensitive soils (SiL) are on site.</p> <p>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.</p> <p>The Site has been designed so the area occupied by proposed permanent access structures will not exceed 7% of the cutblock.</p>
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)	<p>TW9B0 lies partially within polygon #1753 (0.7 ha) with a VQO of Retention and the northern half of the block is within polygon #1767 with a VQO of Partial Retention.</p> <p>A Visual Impact Assessment was conducted by IPAC in September 2021 from viewpoints along Taweel Lake where the block had the highest probability of being visible.</p> <p>The following strategies from the 2001 Visual Impact Assessment Guidebook were incorporated during the design of this block:</p> <ul style="list-style-type: none">-Utilization of wildlife trees and shrubs, deciduous trees and non-merchantable stems to help meet both visual and biodiversity objectives- Irregularly shaped boundaries.- The road has been located, where practicable, on benches and lower gradient slopes to minimize sidecasting.-The Block has also been placed outside the LMZ of Taweel Lake. <p>The development is consistent with Section 5.8.2 of the BCTS Kamloops FSP.</p>
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	5.2.2 Water Licensees
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	<p>A query conducted on September 2021 indicated that there is an active point of diversion (Licence No. C102793; PD38734) at the junction of Taweel Lake and Lemieux Creek (S2 stream).</p> <p>The Block has been placed outside of the LMZ of Taweel Lake and it is not expected that the water licence holder will be impacted by the proposed cutblock or road construction associated with this development.</p> <p>This development is consistent with Section 5.3.2 of the BCTS Kamloops FSP.</p>
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)	<p>TW9B0 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.</p> <p>There are no classified streams within the block and no active fluvial units have been and no active fluvial unit assessment is required</p>
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)	<p>TW9B0 does not have a stream that is tributary to a fish bearing stream.</p> <p>Refer to Site Plan Results and Strategies and Support Document Riparian Assessments for management objectives that are consistent with this order.</p>
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)	<p>This block is located below the H55 snowline for the Lemieux Creek Watershed. 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.</p>
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.
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.

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	16.2	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 03 01	YES

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
ROB CLARK	
DATE SIGNED	
2023/03/01	
I certify I personally completed the work described herein.	

Map attached forms an integral part of the site plan.

SUPPORT DOCUMENT

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9B0	BE9B0	92P069-	Kamloops TSA FDU	Taweel Lake	51 36 47 / 120 18 02

ASSESSMENTS

VISUAL IMPACT ASSESSMENT INFORMATION
<p>VISUAL ASSESSMENT DESCRIPTION</p> <p>VLI Polygon:1767 EVQO: PR EVC: R</p> <p>VLI Polygon:1753 EVQO: R EVC: R</p> <p>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.</p> <p>Six viewpoints were evaluated from Taweel Lake. The site is not visible from the Nehalliston Lake Fishing Lodge.</p> <p>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.</p>
PEST INCIDENCE SURVEY INFORMATION
<p>Pest Specific Comments</p> <p>Cruise data (full volume) indicates that:</p> <p>Bark beetle attack by species: Spruce is 11% green attack and 4% grey attack and, Lodgepole pine is 100% grey attack.</p>
<p>Forest Health Comments</p> <p>No significant presence of root disease was identified during development activities.</p>
ARCHAEOLOGICAL IMPACT ASSESSMENT INFORMATION
<p>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</p>
TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION
<p>Terrain Stability Comments</p> <p>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 .</p>
<p>Gully Comments</p> <p>N/A</p>
VEGETATION
<p>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.</p>

RIPARIAN ASSESSMENTS							
Management Strategies							
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p>							
Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)		
TW9B0-1-L1 L1-B	RMZ		200.0		The block boundary is not located within the 200 meter LMZ of Taweel Lake.		
TW9B0-1-S2 S2	RRZ	1	30.0		Block is not located in the RRZ of Lemieux Creek.		
	RMZ	1	20.0		Portions of the block are within the RMZ of Lemieux Creek (~ min 40 meters) and will be managed as per SU1.		
TW9B0-1-NCW UC	MFZ	1	5.0		The NCW has been managed with a 5-meter Machine-Free-Zone.		
TW9B0-2-NCW UC	MFZ	1	5.0		The NCW has been managed with a 5-meter Machine-Free-Zone		
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	VH	M	L			NNTD	
COMMENTS							
<p>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).</p> <p>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.</p> <p>REHABILITATION: When rehabilitating soil on the Site, the licensee must:</p> <p>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,</p> <p>2) de compact compacted soils,</p> <p>3) return displaced surface soils, retrievable side cast and berm materials, and</p> <p>4) place woody debris on the exposed soils (to the extent the woody debris is available).</p>							

RESERVE / RETENTION INFORMATION

WTRA / WTP (INSIDE OR ATTRIBUTED TO THE BLOCK)						
I.D.#	Area	Description				
WTRA	1.4	WTRA #1: (0.41 ha) SxBl(pli) 845 - WTRA has been designated to contribute to biodiversity and protect sensitive soils / drainage areas.				
		WTRA #2: (0.55 ha) BISx(Pli) 735 -WTRA placed along steep slopes and has been designated to contribute to biodiversity.				

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

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS
Wildlife/Endangered Species Comments
<p>MIGRATORY BIRD STRATEGY</p> <p>Canada Nesting Zone: A2</p> <p>BEC: SBSmm</p> <p>Nest Density Matrix: [Age Class 7], [Height Range 28.5m+]</p> <p>Nest Density Matrix Ranking: 4 Moderate/High and 5 High</p> <p>Forest Health: N/A</p> <p>Restricted Period: April 23- August 01</p> <p>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).</p> <p>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.</p> <p>The following BMPs apply to Block TW9B0:</p> <p>PL2 (DoP:2) Planned Retention Biodiversity Anchors. WTRA contributes to planned biodiversity anchor/retention.</p> <p>LO2 (DoP:2) Riparian Protection. Blocks have been largely placed outside the riparian management zones of Lemieux Creek and Taweel Lake.</p> <p>LO4 (DoP:1/2) Wildlife Tree, Snag and Stub Retention). The machine free zones within the block will be stubbed and leave trees have been prescribed.</p> <p>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.</p> <p>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.</p> <p>Implementation measures for these BMP's are described in the Harvest Plan.</p> <p>A stop work procedure has been included in the Harvest Plan if an unidentified migratory nest is encountered during industrial activities.</p> <p>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.</p> <p>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.</p> <p>CWD Resting Habitat</p> <p>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).</p>
Range Comments
<p>No range developments are associated with the proposed harvest area.</p>
Fisheries Comments
<p>A fish bearing stream(TW9B0-1-S2- Lemieux Creek) is adjacent to the Site. Portions of the block are within the RMZ of Lemieux Creek (~ min 40 meters) and will be managed as per SU1.</p> <p>The riparian management measures outlined in the Harvest Plan are expected to prevent and/or mitigate any potential impacts to fish habitat downslope/downstream to the Site.</p>
Watersheds/Hydro Assessments Comments
<p>The site 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.</p> <p>Objectives 1a and 1b:</p> <p>TW9B0 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.</p> <p>Objective 1c:</p> <p>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.</p> <p>Block is consistent with the objectives outlined in Schedule B of the order.</p>
Sensitive Areas Comments
<p>N/A</p>
Recreation Comments
<p>No additional management applies to the development beyond the Results and Strategies contained in the Site Plan for this block.</p>
Cultural Heritage Comments
<p>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</p>
Biodiversity Emphasis/L.U. Comments
<p>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.</p>
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 are active mineral claims associated with the proposed harvest area: 521899, 508381 and 517197

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.

ADDITIONAL COMMENTS:

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 03 01	YES

HARVEST PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95205	-	TW9B0	BE9B0	92P069-	Kamloops TSA FDU	Taweel Lake	51 36 47 / 120 18 02

SILVICULTURE SYSTEMS

SU	SYSTEM	VARIANT	PHASE	RESERVE	Min BA (m2/ha)	Min Residual Density (sph)
1	CCRES		REMOV			
Current Stand Structure/Site Conditions			The cruise compilation (full volume) indicates that the current stand composition is 74% Spruce, 14% Lodgepole pine, 8% Subalpine fir and 4% Douglas-fir comprising of a net merchantable coniferous volume of 312m3/ha. Bark beetle attack by species: Spruce is 11% green attack and 4% grey attack and, Lodgepole pine is 100% grey attack.			
Silviculture Systems SU Comments			SU-1: Clearcut with reserves silviculture system. 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. SLOPES Slopes range from 6% to 38% (avg. 18%) and approx. 15% of the block contains slopes >25%. There are slopes >35% within the block.
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SOIL ASSESSMENT											
SU	HAZARD RATINGS			SOIL DISTURBANCE				SOIL CHARACTERISTICS			
	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 %	Depth to Unfavorable Subsoil		Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)
								Min (cm)	Max (cm)		
1	VH	M	L	5.0	25.0	7.0	25.0			None Noted	
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 TW9B0 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	<p>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.</p> <p>INVASIVE PLANTS Measures for preventing the introduction or spread of invasive plants:</p> <ol style="list-style-type: none"> 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. During cutblock and road design, infested sites should be avoided as much as possible when determining staging, parking and log sorting areas. Primary forest activities should occur in uninfested sites before moving to infested sites 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. 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. 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	
<p>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).</p> <p>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.</p> <p>REHABILITATION: When rehabilitating soil on the Site, the licensee must:</p> <ol style="list-style-type: none"> 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, de compact compacted soils, return displaced surface soils, retrievable side cast and berm materials, and place woody debris on the exposed soils (to the extent the woody debris is available). 	
Temporary Access	
<p>Temporary access accounts for 0.54ha or 3.34% of the NAR.</p> <p>KA TW9B0.01 is to be rehabilitated (with ATV access maintained) post harvest as follows: return displaced surface soils, retrievable side-cast and berm materials to the extent practicable and necessary to establish and grow trees consistent with the stocking standards.</p> <p>KA TW9B0.01 and all bladed trails are to be rehabilitated post harvest as follows: return displaced surface soils, retrievable side-cast and berm materials to the extent practicable and necessary to establish and grow trees consistent with the stocking standards.</p> <p>Harvesting is to be conducted in a manner that will ensure the maximum soil disturbance limits (5%) are not exceeded and that natural drainage patterns are maintained.</p> <p>The Licensee will monitor site conditions to ensure soil disturbance remains within the limits prescribed above.</p>	
Slope Instability	
<p>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.</p>	
RIPARIAN ASSESSMENTS	
Management Strategies	
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p>	

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
TW9B0-1-L1 L1-B	RMZ		200.0		The block boundary is not located within the 200 meter LMZ of Taweel Lake.
TW9B0-1-S2 S2	RRZ	1	30.0		Block is not located in the RRZ of Lemieux Creek.
	RMZ	1	20.0		Portions of the block are within the RMZ of Lemieux Creek (~ min 40 meters) and will be managed as per SU1.
TW9B0-1-NCW UC	MFZ	1	5.0		The NCW has been managed with a 5-meter Machine-Free-Zone.
TW9B0-2-NCW UC	MFZ	1	5.0		The NCW has been managed with a 5-meter Machine-Free-Zone

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

Current coarse woody debris (CWD) levels are estimated at 50m3/ha.

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, 7 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 03 01	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
ROB CLARK	
DATE SIGNED	
2023/03/01	
I certify I personally completed the work described herein.	

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
A95205	-	TW9B0	BE9B0	92P069-	Kamloops TSA FDU	Taweel Lake	51 36 47 / 120 18 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	A	16.16	SBS	mm		01-100	1,190	18	SE	Lower Slope	38	SiCL

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: 1160 / 1220				

SU : 1REGENERATION LAYER										
PREFERRED SPECIES			ACCEPTABLE SPECIES			POST SPACING DENSITY(sph)		MAX CONIFEROUS (sph)		
Species		Min Ht. (m)	Footnotes	Species		Min Ht. (m)	Footnotes	Min	Max	
Fdi Douglas Fir - Interior	Sx Hybrid Spruce (SE x SW)	Pli Lodgepole Pine - Interior		Bl Subalpine Fir	1.0		WELL SPACED TREES (sph)			
							Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
							1200	700	600	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		
Current coarse woody debris (CWD) levels are estimated at 50m3/ha.		
CWD Targets:		
<ul style="list-style-type: none">- 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:		
<ul style="list-style-type: none">-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, 7 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):

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2023 03 01	YES

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
ROB CLARK	
DATE SIGNED	
2023/03/01	
I certify I personally completed the work described herein.	