

SUPPORT DOCUMENT

LICENCE #	LOCATION	OPERATING PLAN #	BLOCK #	BLOCK PRE #	ROAD
TA0906	Lavington	21-2	TA0906-4	K10-1329	CRR23527 sec 1
			TA0906-5	J01-1338	CRR23527 sec 2
			TA0906-6	J01-1339	CRR23527 sec 3
			TA0906-7	K10-1330	CRR23527 sec 4
					CRR23527 sec 5
					CRR23527 sec 6
					CRR23527 sec 7
					CRR23527 sec 8
					CRR23527 sec 9
					CRR23527 sec 10
					CRR23527 sec 11
					CRR23527 sec 12
					CRR23527 sec 13
					CRR23527 sec 14
					CRR23527 sec 15
					CRR23527 sec 16
					CRR23527 sec 17
					CRR23527 sec 18

1. ASSESSMENT INFORMATION

1(a). VISUAL IMPACT ASSESSMENT
None of the blocks or road sections forming this TSL are subject to Visual Quality Objectives (VQO). No Visual Impact Assessment is required.

1(b). PEST INCIDENCE SURVEY
Pest Specific Comments:
No specific pest issues are known for this TSL.
Forest Health Comments:
Forest stands in this TSL have been damaged by wildfire. Much of the TSL has been subject to crown fire. The majority of trees are expected to either be dead or will succumb to mortality as most have bark scorching at the root collar and crowns consumed. Where fire intensity was low to moderate and confined to the surface, it is anticipated that thick barked western larch and Douglas fir will survive. In these stands, dispersed retention of live/dead individuals with >50% intact root systems and that are structurally sound will be prescribed. The trees will maintain some structural diversity onsite and live trees will provide a seed source for natural regeneration. Selection priority is to be given to live trees. <u>Armillaria Risk</u> Completion of the armillaria risk matrix indicates the following risk for each of the blocks within the TSL: TA0906-4: Low TA0906-5: Moderate TA0906-6: Low TA0906-7: Moderate

1(c). FIRST NATIONS STRENGTH OF CLAIM ASSESSMENT
The Rocky Mountain Forest District follows the Strategic Engagement Agreement.

1(d). CULTURAL HERITAGE ASSESSMENT

This TSL was referred to First Nations through operating plan # 21-2. All blocks and road sections are within Forest Development Units described in the BCTS Kootenay Business area 2017-2022 Forest Stewardship Plan. No new information regarding cultural heritage resources was received.

1(e). ARCHAEOLOGICAL OVERVIEW / IMPACT ASSESSMENT

TA0906-7 overlaps AOA polygons I12-37 and I12-34. An archeological impact assessment (AIA) has been completed by Pathways Archaeological Consulting Ltd during Spring 2021 under BC Heritage Inspection Permit 2021-0129.

Findings of the AIA identified one new archeological site (EaQa-21-T01). This site has been managed consistent with recommendations provided within the Letter of Notice to BCTS dated June 23, 2021. A copy of the letter is provided in the TA0906-4 site plan package.

1(f). TERRAIN STABILITY / AVALANCHE ASSESSMENT

A terrain stability assessment has been completed on select areas of TA0906-4, TA0906-6, and TA0906-7, and select road sections by Sitkum Consulting Ltd during Spring 2021.

Findings of the assessment resulted in no recommended changes to the proposed harvest boundaries or proposed road alignments.

Recommendations for additional drainage structures were provided and have been incorporated into the road site plan.

A copy of the preliminary findings and recommendations are provided in the TA0906-4 site plan package.

Avalanche Hazard

A short segment of the Whitebark FSR accessing TA0906-4 traverse through possible avalanche terrain. If forest operations occur during periods of snowpack, an avalanche hazard mitigation plan must be developed in compliance with WCB regulations.

1(g). RIPARIAN ASSESSMENT

The following reaches have been identified for this TSL:

TA0906-4

R1 (S6): This reach originates from out-of- the-ground on the west side of the block. There is a continuous channel with varying amounts of scour and alluvial disposition. Average channel width is 0.94m and average depth is 0.21m. The average channel gradient is <20%, however LIDAR slope information indicates a gradient barrier to fish passage downstream of the block where the watercourse flows into a steep gully. Gradient is approximately 50%. The stream channel also becomes poorly confined as it flows through A88447-2.

Management: The upper portion of this reach is managed through a ≥5m width machine-free-zone (MFZ). Further downstream, the reach has been placed in a WTRA with 100% retention. Minimum retention is prescribed within the riparian management zone (RMZ) of the upper portion of this stream as timber has been impacted by wildfire with high windthrow potential as result of fire damaged root systems. Where available, green Lw/Fd >30cm dbh and that are structurally intact and have >50% of the root system intact are to be left within 20m of the stream.

R2 (NCD): This reach originates from the ground and transitions between a poorly confined discontinuous channel to standing water/seepage. The reach connects into R1.

Management: As result of wide areas of excessive soil moisture and/or standing water, much of this reach has been placed within a reserve (WTRA) to mitigate soil disturbance by machinery.

R3 (S6): This reach consists of a high-volume flow perennial stream averaging 1.2-1.3 m wide. Depth averages 0.7m. The channel is continuous and well-defined. Immediately downslope of the Whitebark FSR, the stream flows down a slope whose average gradient >30% for >100m creating a barrier to upstream fish passage.

Management: A machine Free zone has been placed at least 5m off both sides of the stream. Although a 20m RMZ is required, as result of damage by wildfire, minimal retention is prescribed as trees are highly unstable due to root damage posing a hazard to workers. Where available, green Lw/Fd with >50% of the root system intact and structurally sound are to be left within 20m of the stream. Leave green understory to the extent practicable. CRR23527 sec3 also will cross this stream. A 1600mm culvert and 400mm overflow culvert is required at the stream crossing.

TA0906-5

No reaches were identified within or within close vicinity of this block.

TA0906-6

R5 (S6): This reach cuts through the Northwest corner of the TA0906-6, crossing the FSR. The stream is perennial with moderate flow at time of layout. Average channel width is 0.71m and average channel depth is 0.13m. Slope gradient is <20% on the measured segment, however LIDAR slope data indicates a gradient barrier below the Dunn FSR.

Management: Only a short segment of the stream passes through the block (<50m). The in-block segment is managed with a ≥5m machine-free-zone. Minimal retention is to be left within the RMZ as result of fire damage.

TA0906-7

No streams were identified within this TA0906-7. Several dry gullies are present, however there are no indications of seasonal flow.

Wetlands: Two wetlands are present adjacent to TA0906-7. Both are situated within the MSdw subzone. Area measurements using ortho imagery suggest a W3 and W5 classification are appropriate. The *Forest Planning and Practices Regulation* require a 30m RMZ on a W3 wetland and a 10m RRZ and 40m RMZ for a W5. The entire Riparian Management Area (RMA) of these wetlands has been damaged by wildfire (Crown Fire) with 95-100% mortality anticipated. Many trees have damaged root systems making them prone to windthrow and a hazard to workers and road-users. As the RMA's are adjacent to the Bear Main FSR, minimal retention is prescribed as trees will be removed to the extent possible to address the hazard to forestry workers and other road users. A variable width machine-free zone has been flagged in effort to mitigate soil disturbance adjacent to the wetland. As result of fire damage and mortality, retention within the RMZ will be below 10% of the pre-harvest stems as typically required by the FSP.

Designated Crossings

In all cases, the crossing of streams are to be only at designated locations as marked on the SP/HP map. Harvesting supervisors are to verify that mapped crossing locations remain suitable at time of harvest and if not, choose an alternative suitable location. The number of crossing locations is to be minimized with random crossing locations prohibited. Skid crossings acceptable to BCTS must be used at all designated crossing locations.

Drainage Structures

Culverts of the sizes indicated in the Road site plan are to be installed at specified locations to ensure maintenance of drainage patterns. Additional cross drains are to be installed where necessary following guidance provided in the FLNRO Engineering manual.

Culverts are to be removed upon deactivation/rehabilitation consistent with prepared plans.

Trail Management

All bladed skid trails are to be rehabilitated at completion of operations where soil conditions permit. To mitigate possible erosion, roughing of the soil surface and mixing of organic debris with soil is desirable to assist in water infiltration and faster reestablishment of natural vegetation. **All rehabbed trails must be grass seeded as per requirements described in the site plans in effort to mitigate erosion.**

Stream Clean-out

Slash and debris introduced to streams must be removed from all stream channels. The following requirements will be in place consistent with the 2017-2022 FSP:

- 1. Remove all introduced debris (tree stems, branches and other woody debris) greater than 1 meter in length from stream channels.
- 2. In addition to the above debris, remove all introduced segments of tree stems/logs or log ends of any length resulting from landing and timber processing activities from stream channels.
- 3. Conduct stream channel clean-out concurrent with logging. Complete cleanout prior to spring freshet or demobilization of equipment, whichever is earlier.
- 4. Place removed debris where it will not enter the stream as a result of downslope movement or stream peak flows.
- 5. Do not remove pre-harvest embedded or natural large woody debris.

Hand clean to remove fine debris and do not use heavy machinery where streambanks or natural large woody debris will be disturbed.

1(h). SOIL ASSESSMENT

HAZARD RATINGS					SOIL CHARACTERISTICS			
Block #	SU	Soil Comp.	Soil Erosion	Soil Disp.	Depth to Unfavourable Subsoil		Type of Unfavourable Subsoil	Sediment Delivery Risk (Community Watersheds)
					Min. (cm.)	Max. (cm.)		
4	1	M	H	L	NA	NA	None known	Not in a community watershed
4	2	M	H	L	NA	NA	None known	Not in a community watershed
5	1	H	H	L	NA	NA	None known	Not in a community watershed
6	1	H	H	VH	NA	NA	None known	Not in a community watershed

7	1	H	H	H	NA	NA	None known	Not in a community watershed
7	2	H	H	L	NA	NA	None known	Not in a community watershed
Comments:								
<p>As result of safety concerns, soils information was not gathered for blocks within this TSL, however inferences were made using information from adjacent blocks from previous timber sales and visual observations.</p> <p>As result of soil hazard determinations, all SU's have a maximum allowable soil disturbance limit of 10% of the net-area-to-be-reforested (NAR), other than SU 1 of TA906-6 that has a maximum allowable soil disturbance limit of 5% as result of a very high risk of soil displacement.</p> <p>Consistent with section 5.1, of the 2017-2022 BCTS Kootenay Business Area FSP, operational trails have been flagged in the field for TA0906-6 as slopes exceed 60%. This block is planned for winch-assist/tether harvest systems. A terrain stability assessment has been completed for this block with no changes to the harvest boundaries or trail location recommended.</p> <p>As soil erosion hazard is high, exposed soils of the following are to be grass seeded at completion of road construction and/or rehab/deactivation activities and no later than 12 months following soil exposure:</p> <ul style="list-style-type: none">• Cutbanks of newly constructed roads• Landings• Deactivated/ rehabilitated areas								

1(i). WINDTHROW ASSESSMENT
<p>This TSL has been impacted by wildfire of varying severity. In areas of greater fire severity, root systems have been burnt out resulting in highly unstable trees prone to windthrow. Windthrow has been observed within all blocks of this TSL as direct result of fire damage.</p> <p>Due to wildfire damage, windthrow risk is high for all blocks within this TSL.</p> <p>For SU's where dispersed retention is prescribed, retention is to select windfirm species (Lw and Fd) with minimal structural damage and ≥50% intact root systems.</p>

1(j). WATERSHED / HYDROLOGICAL ASSESSMENT
<p>This TSL is not situated within a community watershed or domestic watershed. No hydrological assessment has been completed.</p>

1(k). WILDLIFE ASSESSMENT
<p>WHAs: No blocks or road sections within this TSL overlap any established wildlife habitat areas (WHA).</p> <p>Wildlife Habitat Features (WHF): No wildlife habitat features designated under Ministerial Order M213 “Wildlife Habitat Features in the Kootenay Boundary Region” were observed within the TSL at time of layout. If a wildlife habitat feature is encountered during harvesting or road construction activities, the agreement holder or contractor are to do the following:</p> <div> <div>a) Stop all primary forest activities that could impact the WHF and report the WHF to the project supervisor and the BCTS representative.</div> <div>b) Determine a course of action, considering existing management strategies, best management practices, professional guidance documents, and/or recommendations from a qualified registered professional.</div> <div>c) Document the decisions made with rationale, implementing the elements from b as appropriate, through an updated or amended project plan before proceeding with any primary forest activities in accordance with the updated or amended plan.</div> </div> <p>Caribou: Blocks and road sections forming this TSL are within area designated as provincial Caribou “Matrix” habitat. The document “Interim Guidance for Operating in Southern Caribou Core and Matrix Habitat- BCTS Kootenay Business Area” provides guidance for when working in matrix habitat. Suggested practices include block aggregation, creating larger blocks, and increasing the frequency of larger patches. As this TSL is to salvage timber damaged by wildfire, larger blocks are planned creating large areas of early seral habitat with reduced cover for elk, moose, and deer consistent with these guidelines. No specific management practices in addition to what is stated in this site plan are required.</p> <p>Grizzly Bear: This TSL is outside of any WHA or specified area for grizzly bear. No specific measures apply. Despite this, for the entirety of the TSL, where possible hedging of green vegetation such as alder and advanced regeneration ≥ 1.3m tall is to be left along permanent road sections to provide visual screening into harvested areas. The exception is on landing locations. Roadside decking is to be avoided where such vegetation exists.</p> <p>Course woody debris: Consistent with FSP objectives for CWD retention within the MSdw, operators are to leave large diameter (>20cm dbh at one end and 2m min length) non-merchantable logs onsite (min 4 pieces/ha).</p> <p>Fish Species: Fish are present downstream of the TSL. Operations must be monitored for the presence/occurrence of sedimentation resulting from road construction and if necessary corrective actions taken to ensure that sediment is not transported downstream to fish bearing waters.</p> <p>Ungulate Winter Range: As this TSL is to salvage timber damaged by wildfire, general wildlife measures within UWR Order U-4-008 do not apply.</p>

1(l). Migratory Bird ASSESSMENT		
Block/Road	Rank Determination	BMP's applicable
TA0906-4	2-3 (Low to Moderate)	As per the Migratory Bird Management SOP (2017), stands impacted by wildfire are not ranked. The SOP however does provide the following BMP:
TA0906-5	4 (Moderately High)	
TA0906-6	3 (Moderate)	

TA0906-7	4 (Moderately High)	<p><i>Unburned patches of trees, partially burned patches, single live windfirm trees, and, where safe to do so, some patches of snags should be retained, including snags >30 cm dbh. >In large burns (>500 ha), some of the patches should be > 10 ha.</i></p> <p>For all blocks within this TSL, both WTRA and reserves of both live and dead timber have been retained. For each block, dispersed retention of both live and dead Fd/Lw >30cm dbh with >50% of the root system intact and that remain structurally sound has been prescribed.</p> <p>In addition, trees that do not meet utilization standards for sawlog or pulp due to large defect are to be retained onsite where safe to leave and not posing a safety hazard.</p>
CRR23527 sec1	4 (Moderately High)	
CRR23527 sec2	4 (Moderately High)	
CRR23527 sec3	3 (Moderate)	
CRR23527 sec4	2(Low)	
CRR23527 sec5	2 (Low)	
CRR23527 sec6	2 (Low)	
CRR23527 sec7	2 (Low)	
CRR23527 sec8	2(Low)	
CRR23527 sec9	2(Low)	
CRR23527 sec10	4(Moderately High)	
CRR23527 sec11	4(Moderately High)	
CRR23527 sec12	4 (Moderately High)	
CRR23527 sec13	2 (Low)	
CRR23527 sec14	2(Low)	
CRR23527 sec15	4(Moderately High)	
CRR23527 sec16	4(Moderately High)	
CRR23527 sec18	4(Moderately High)	
<p>Nest Encounters: If a nest is encountered during operations within the regional nesting period or the nest is active outside of the nesting period, operations must stop and a work around must occur (seek guidance from either BCTS staff or a professional biologist). Particular care must be given to raptor nests such as eagles, peregrine falcons, ospreys, and herons as they require protection under the <i>Wildlife Act</i>.</p> <p>Also, operators must be aware of nests covered under the Wildlife Habitat Features Order.</p>		

1(m). FISHERIES ASSESSMENT

No fisheries assessment was completed for this TSL. All streams have been assumed non fish bearing as result of slope gradients >20% that occur downstream of the blocks forming this TSL.

This TSL is not within a fisheries sensitive watershed as listed under Schedule 2 of the *Forest Planning and Practices Regulation*.

1(n). SPECIES AT RISK ASSESSMENT

No species at risk or their habitat are known to be present within this TSL. No species at risk were observed during layout.

Mapping by the BC Conservation Data Center does not indicate any overlap of the TSL with the habitat of provincial species at risk or of concern. There is no overlap with federally listed critical habitat.

No species of management concern nor their habitat were observed.

In the event that a known species of risk or of management concern is observed or encountered at time of operations, the following notification process is to be followed:

Notify BCTS Project Supervisor ASAP upon sighting or discovery of nest, den, or other wildlife habitat feature.

- For all observations note:
 - Provide location of the observation (GPS coordinates)
 - Date of observation
 - Species or detail on the feature observed
 - If specific animal, the number of individuals seen or heard
- If possible also provide:
 - Name and contact info of observer
 - Habitat (plant or special features of observation location)
 - Land status of observation (Crown, private)
 - Adjacent landscape (disturbance, roads)
 - Condition of habitat
 - Health of the species observed (live, dead, injured/sick). Take a picture if possible.
- Forward all info to BCTS supervisor.
- BCTS project supervisor and staff will recommend appropriate site level measures which will normally involve engaging a qualified professional to indicate appropriate course of action.

1(o). Invasive Plant ASSESSMENT

This TSL has been damaged by wildfire resulting in consumption of the forest floor and exposure of mineral soil. As result, this TSL is highly susceptible to colonization by invasive plant species.

Mapping by the Invasive Alien Plant Program (IAPP) indicates reported occurrences of invasive plant species along the Findlay FSR, Lavington FSR, and Bear Main. As such it is possible that invasive plant seed could be transported to areas of the TSL.

To mitigate the spread of invasive plant material into the TSL, the following measures will apply to primary forest activities:

- a) Vehicles, mechanized equipment, culverts, bridges, and cattleguards are to be inspected for the presence of soil or plant material, including documentation on inspection forms, prior to being transported to or from work sites and if present, plant and soil materials are to be removed;
- b) To reduce the seedbed available to invasive plants, grass seeding is required on the following areas:
 - Cut and fills slopes of all newly constructed permanent road sections.
 - On all newly constructed landings once forestry operations and slash disposal are complete.
 - On all rehabilitated temporary roads and bladed skid trails.
 - On all permanent road sections covered under this site plan once deactivated in accordance with deactivation plans prepared by a QRP.

Grass seeding is to be completed during the first available spring or fall after the completion of road construction and deactivation/rehabilitation activities, and no later than 12 months following mineral soil exposure. If utilizing a dry grass seeding method, seed shall be applied at a rate of 30-50 kilograms per hectare. Grass seeding is to use a high quality seed mix (a mix recommended by a MFLNRORD range specialist, if available, otherwise Canada Common #1 Forage mix or better grade) and obtain a certificate of analysis, providing a copy to the TSM upon request, to confirm that invasive plant seeds are not present in the seed mixes being utilized.

3. Personnel completing post-harvest surveys will be required to identify and report all new observed infestations.

1(p). OTHER ASSESSMENTS

TA0906-4 OGMA Replacement

Development of TA0906-4 will result in removal of 1.33ha of mapped OGMA. As per the 2017-2022 BCTS Kootenay Business Area FSP, harvest of OGMA damaged by wildfire is permissible, however replacement area is required.

The existing OGMA has the following attributes based on the VRI:

VRI Polygons 86308700, 86648783

SxBl(Pl)

Age Class 8

BEC: MSdw

LIDAR Canopy height data shows that trees within the OGMA average 25-30m tall, however much of the OGMA is open, consisting of immature trees less than 15m tall. LIDAR crown closure ranges from a high of 89% to a low of 41%. Timber within the OGMA has been subject to varying degrees of fire damage.

Replacement

Using LIDAR, 2.01 ha of replacement area has been identified. LIDAR canopy height data indicates that the replacement area is comprised of trees ranging between 30-35m tall. Canopy closure ranges from 80-90% on average.

VRI attributes are as follows:

VRI Polygons: 87608874, 88278966

PISx, PILw

Age Class 5

BEC: MSdw

These polygons are situated within a steep sided gully confining reach 3 (S6) and form the riparian area of this stream. Although the VRI indicates stands as age class 5, these polygons likely have better potential as OGMA as trees are larger and canopy closure is higher than the existing OGMA. Stocking of large trees is also better than the existing mapped OGMA.

Available fire mapping shows these polygons as being just outside of the fire perimeter, however this has not been verified. As the OGMA is adjacent to reach 3, it is anticipated that the stand is comprised of higher percentage of Sx and Bl than the VRI indicates.

2. RESERVE / RETENTION INFORMATION and PAS / TAS SUMMARY

2(a). WTRAs (Inside or attributed to the block)						
Block	I.D.#	Area	Inventory Label	RESULTS Reserve	RESULTS Objective	Description
TA0906-4	WTRA1	1.03ha	Sx5Bl4(PILwFd)	G	WTRA	Consists of a mix of partially burnt and unburnt timber adjacent to reach 2. Some trees especially Lw and Fd may survive. Some windthrow anticipated. Area was left as result of excessive soil moisture and NCD's.
TA0906-4	WTRA2	2.14ha	Sx5Bl3Pl1(LwFd)	G	WTRA	Consists of lightly to moderately fire-damaged timber adjacent to reach 1 (S6). Provides vertical structure and some cover along the stream. Left as difficult for machines to reach due to width of wetted area. Some trees anticipated to survive.
TA0906-4	WTRA3	1.22ha	FdLwPl(SxBl)	G	WTRA	Consists of a stand impacted by light intensity surface fire. Larger Fd and Lw expected to survive. Protects a steep slope surrounding a dry gully. Has large trees that will likely developed into future wildlife trees.
TA0906-5	WTRA 1	0.50ha	Fd8Lw2	G	WTRA	Added to the block via mapping exercise. WTRA edge follows block boundary in the field. Consists of unburnt timber representative of the pre-harvest stand.
TA0906-6	WTRA 1	1.34ha	Pl9Lw1	G	WTRA	Added to the block via mapping exercise. WTRA edge follows block boundary in the field. Consists of unburnt timber situated below the FSR and wetland located downslope. Stand is representative of pre-harvest conditions. Will provide ongoing live forest cover.
TA0906-7	WTRA1	4.67ha	Fd6Lw4(Pl)	G	WTRA	This WTRA consists of unburnt timber consisting of mature Fd and Lw that have attributes favorable to the future development of wildlife trees. Provides a visual buffer from the existing road.
TA0906-7	WTRA2	5.96ha	Fd6Lw4(Pl)	G	WTRA	Partially burnt stand consisting of burnt and green trees. Lw and Fd likely to survive in areas where fire limited to the surface. Provides ongoing tree cover and is representative of the pre-harvest stand.

2(b). Reserves (Inside or attributed to the block)						
Block	I.D.#	Area	Inventory Label	RESULTS Reserve	RESULTS Objective	Description
TA0906-4	RES1	0.45ha	Pl8Fd2(Lw)	G	Other	Nets out burnt timber situated on a steep slope (>60%) that is difficult to harvest due to excessive boulders.
TA0906-4	RES2	0.47ha	Pl10	G	Other	Protects a small patch of unburnt small diameter Pl that does not meet sawlog standards.
TA0906-6	RES1	0.17ha	Pl10(Lw)	G	Other	Consists of rock outcrops and lightly burnt timber adjacent to the existing road.
TA0906-6	RES2	0.23ha	PlLw(Fd)	G	Other	Consists of talus outcrop and lightly burnt timber adjacent to the existing road.
TA0906-7	RES1	10.1ha	Fd7Lw3(Pl)	G	Other	Burnt stand situated on steep slopes (>50%) with rock outcrops. Stand has undergone crown fire. High mortality anticipated. Trees are difficult for machinery to reach.

2(c). Group WTRA Calculations and PAS / TAS Summary (To be retained on the first block of the licence only)

(Double-click on Excel spreadsheet below to enter data)

Block #	Gross Area ¹ (TAUP)	Total Block Area ² (Ha.)	Total NAR Area ³ (Ha.)	Total WTRA Area (Ha.)	WTRA %	Total PAS Area (Ha.)	PAS %	Total TAS Area (Ha.)	TAS %
TA0906-4	99.7	99.7	90.6	4.4	4.4 %	3.5	3.5%	2.5	2.7%
TA0906-5	8.5	8.5	7.8	0.5	5.9%	0.2	2.4%	0.1	1.2%
TA0906-6	7.6	7.6	5.2	1.3	17.1%	0.7	9.2%	0.3	4.8%
TA0906-7	113.7	113.7	87.4	10.6	9.3 %	5.6	4.9%	0.7	0.8%
TOTAL: (all Blocks)	229.5	229.5	191.0	16.8	7.3%	10.0	4.4%	3.5	1.8%

Green Cells Auto-Calculate

Notes:

- 1. Gross Area (Total Area Under The Plan) = NAR+PAS+NP+WTRA+Reserves+Other
- 2. Total Block Area (Used for Calculating WTRA %):
 - a) Arrow & Boundary Field Teams: Total Block Area = NAR+PAS+NP+Reserves+Other (but not including WTRA area)
 - b) Kootenay Lake & East Kootenay Field Teams: Total Block Area is same as Gross Area (TAUP) = NAR+PAS+NP+WTRA+Reserves+Other (includes WTRA area)
- 3. Total NAR Area = Total Net Area to Reforest in the Block including areas of TAS that will be rehabilitated.

Comments: (e.g., How dispersed retention contributes to WTRA%, if applicable, etc.)

Planned WTRA retention is consistent with the cutblock level target of 3.5% and TSL level requirement of 7% mandated by the 2017-2022 BCTS Kootenay Business Area FSP.

PAS is consistent with the maximum allowable PAS of 7% of a cutblock other than in TA0906-6. PAS exceeds 7% as the block is bounded on two sides by existing permanent roads. The block itself is small in size, contributing to the excess. This is permissible as per sec 36(a) of the *Forest Planning and Practices Regulation*.

3. ACCESS SUMMARY

3(a). PERMANENT ACCESS STRUCTURES (Double-click on Excel spreadsheet below to enter data)

Permanent Access Calculations (Green Cells Auto-Calculate)														
		Roads				Trails				Landings			Totals	
Block #	Gross Block Area	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
4	99.7	Whitebark FSR	1481	10	148		0	0	0.00	0	0	0.00	148	15%
		CRR23527 sec4	245	10	0.25		0	0	0.00	0	0	0.00	0.25	0.2%
		landings	0	0	0.00		0	0	0.00	12	0.15	180	180	18%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
		TOTALS												
	8.5		0	0	0.00		0	0	0.00	1	0.2	0.20	0.20	2.4%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
		TOTALS												
	7.6	CR9699.01Dunn	356	10	0.36		0	0	0.00	0	0	0.00	0.36	4.7%
		CR9693.05 Whitebark	143	10	0.14		0	0	0.00	0	0	0.00	0.14	19%
		landings	0	0	0.00		0	0	0.00	1	0.2	0.20	0.20	2.6%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
		TOTALS												
	113.7	CR0108.05 Bear Main	1500	10	150		0	0	0.00	0	0	0.00	150	13%
		CRR08163	870	10	0.87		0	0	0.00	0	0	0.00	0.87	0.8%
		CRR13365 sec6	374	10	0.37		0	0	0.00	0	0	0.00	0.37	0.3%
		CRR23527 sec12	1051	10	105		0	0	0.00	0	0	0.00	105	0.0%
		landings	0	0	0.00		0	0	0.00	12	0.15	180	180	16%
		TOTALS												

Comments:

PAS is consistent with the requirement of 7% of the cutblock area in all blocks other than block 6. PAS is exceeded in this block as result of existing roads bordering two sides of the block and the small cutblock size. This is permissible as per sec 36(a) of the *Forest Planning and Practices Regulation*.

3. ACCESS SUMMARY (continued)

3(b). TEMPORARY ACCESS STRUCTURES (Double-click on Excel spreadsheet below to enter data)														
Temporary Access Calculations (Blue Cells Auto-Calculate)														
		Roads				Trails				Landings			Totals	
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
4/SU1	312	CRR23527 sec 4	977	10	0.98		0	0	0.00	0	0	0.00	0.98	3.1%
		CRR23527 sec 5	176	10	0.18		0	0	0.00	0	0	0.00	0.18	0.6%
		CRR23527 sec 6	351	10	0.35		0	0	0.00	0	0	0.00	0.35	1.1%
		CRR23527 sec 7	55	10	0.06		0	0	0.00	0	0	0.00	0.06	0.0%
			0	0	0.00	sec 17	76	4	0.03	0	0	0.00	0.03	0.1%
TOTALS													1.59	4.9%
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
4/SU2	59.4	CRR23527 sec 1	18	10	0.02		0	0	0.00	0	0	0.00	0.02	0.0%
		CRR23527 sec 2	9	10	0.01		0	0	0.00	0	0	0.00	0.01	0.0%
		CRR23527 sec 3	720	10	0.72		0	0	0.00	0	0	0.00	0.72	0.0%
		CRR23527 sec 8	36	10	0.04		0	0	0.00	0	0	0.00	0.04	0.0%
		CRR23527 sec9	82	10	0.08		0	0	0.00	0	0	0.00	0.08	0.1%
TOTALS													0.87	0.2%
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
5/SU1	7.8	CRR23527 sec10	86	10	0.09		0	0	0.00	0	0	0.00	0.09	1.1%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
TOTALS													0.09	1.1%
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
6/SU1	5.2		0	0	0.00	trails	627	4	0.25	0	0	0.00	0.25	4.8%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
TOTALS													0.25	4.8%
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
7/SU1	43.4	CRR23527 sec12seg2	310	10	0.31		0	0	0.00	0	0	0.00	0.31	0.7%
		CRR23527 sec15	23	10	0.02		0	0	0.00	0	0	0.00	0.02	0.1%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
TOTALS													0.33	0.8%
Block #	Total NAR Area (Ha.)	Rd. Name	Length (m.)	Width (m)	Area (Ha.)	Trail Name / #	Length (m.)	Width (m)	Area (Ha.)	# Landings	Size (Ha.)	Area (Ha.)	Total Area	% of Total Blk Area
7/SU2	44	CRR23527 sec13	26	10	0.03		0	0	0.00	0	0	0.00	0.03	0.1%
		CRR23527 sec14	39	10	0.04		0	0	0.00	0	0	0.00	0.04	0.1%
		CRR23527 sec11	319	10	0.32		0	0	0.00	0	0	0.00	0.32	0.7%
			0	0	0.00		0	0	0.00	0	0	0.00	0.00	0.0%
TOTALS													0.38	0.9%
Comments:														
Planned TAS is within allowable soil disturbance limits for all SU's. All temporary roads and operational trails are to be rehabilitated.														

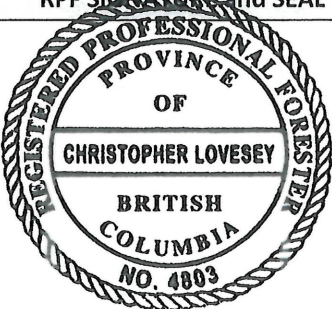
4. OTHER SUPPORTING INFORMATION

4(a). HLP / FSP CONSIDERATIONS
Range Comments: This TSL covers multiple active Range tenures. These include: RAN073763 RAN077979 RAN074601 No range infrastructure is present within this TSL. No known natural range barriers have been identified within this TSL.
Recreation Comments: This TSL does not overlap any legal recreation sites, trails, UREPS, or other values.
Guide Outfitters / Trappers Comments Guide Territory: 426G001 Guide Certificate: 400900 Trapline Area: TR0426T012
Other Resources Comments Coarse Woody Debris: To meet objectives for CWD for the MS BEC Zone as identified within the 2017-2022 BCTS Kootenay Business Area FSP, for all SU's within this TSL, operators are to leave a minimum of 1.24m3/ha of CWD consisting of a minimum of 4 logs/ha, each being a minimum of 2 meters in length (≥5m length if available) and with a minimum of 20cm in diameter at one end. To mitigate the potential for buildup of Douglas-Fir and spruce bark beetles, to the extent practicable: a) Select dead and dry material over green material; b) Retain material from species other than Douglas-fir and spruce; c) Leave Douglas-fir and spruce stump heights as low to the ground as possible.

4(b). ADDITIONAL COMMENTS

5. ADMINISTRATION

☒ ORIGINAL	☐ AMENDMENT#	
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RPF PRINTED NAME	RPF SIGNATURE and SEAL
Chris Lovesey	 <i>Chris Lovesey</i>
DATE SIGNED	
August 6, 2021 "I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work"	