BCTS
BC Timber Sales
Kamloops

SITE PLAN
KAMLOOPS
BC TIMBER SALES

Report Date 2019/08/20

ORIGINAL

TENURE IDENTIFICATION

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95257	-	JI8P9	BE8P9			Upper Windy Creek	51 37 51 / 120 32 05

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
71.9	3.0	0.0	12.3	0.0	0.0	56.7

ADDITIONAL COMMENTS

DEFINITIONS (ADD DEFINITIONS AS REQUIRED)

This Site Plan is prepared for block JI8P9 and roads MH JI8P9.01, MH JI8P9.02, MH JI8P9.03, MH JI8P9.04 and MH JI8P9.05, and is consistent with the BCTS Kamloops Business Area,100 Mile House TSA Forest Stewardship Plan approved March 31, 2007, extension approved March 31, 2012, subsequent amendments to April 1, 2014 and new term renewal from April 1, 2017 ending December 31, 2018.

This block is mapped within biogeoclimatic zone ESSFdc3. This Site Plan uses ESSFdc2 under the Silviculture Plan section to populate stocking standards for this block as no Stocking Standards exist within the FSP stated above for the ESSFdc3 biogeoclimatic zone.

This Site Plan is prepared for this block and its associated roads in accordance with FRPA Section 10 (1), (2) & (3).

SOIL DISTURBANCE

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

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
1	No critical site conditions that would affect timing of operations were noted during field development. There are no known timing constraints associated with this development.

RESULTS AND STRATEGIES

RESULT OR STRATEGY		HOW THE STRATEGY OR RESULT APPLIES TO THE SITE or RATIONALE (IF NOT APPLIED)
Cultural Heritage		Obj. 1.15 - This development has been referred to all potentially affected First Nations, as was determined through a search of the Consultative Area Database (CAD). If a previously unidentified affected cultural heritage resource is encountered during harvesting, road construction, or mechanical site preparation, operations are to cease to the extent necessary to protect the affected cultural heritage resource until a cultural heritage resource evaluation can be carried out.
Invasive Plants		Obj 1.16.2.1- A review of the known location of invasive plants on the Invasive Alien Plant Program (IAPP) database indicates that there are no incidents of invasive plants located within the vicinity of the opening. Preventative measures for controlling the introduction of invasive species will be implemented throughout development, as below: 1) Within one year of harvesting completion, contiguous areas of disturbed soil >/=0.25 ha, including areas occupied by ditch-lines, cut or fill slopes, and deactivated roads which are not reforested (except for active running surface) are revegetated with: a) Seed or forage mixture that meets or exceeds Canada Common #1 Forage Mixture as defined by the Canada Seeds Act & Regulation; or b) Native forbs or shrubs. 2) Report new invasive plant infestation sites to the Ministry of Forests and Range within one year of discovery. 3)Licensees and contractors are to be informed about methods for preventing the spread of invasive plants, such as inspecting and cleaning off machinery after use in high risk areas.
Landscape Level Biodiversity		This block lies within the Canim Lake FDU (E8 Canim ERDZ). Obj 1.11.1.1 - This block has a NAR of 56.7ha and is not adjacent to any non-greened up openings. This block is consistent with section 64 of the FPPR; section 65 does not apply. Obj 1.11.1.2- This opening is in the Canim Lake LU, NDT3_ESSFdc3_na which meets the Old and Mature objective based on the most recent assessment (2015). This assessment shows a surplus of 6,087ha for mature plus old, and a surplus of old seral of 3,682ha. This block consists of age classes 5 and 7 and therefore meets the seral stage distribution requirements of the CCLUP. This opening is not adjacent to any OGMA polygons. Obj 1.11.1.3 - addressed by obj 1.11.1.2. Obj 1.11.1.4 - addressed by objs 1.13.1 & 1.13.6.1 (Wildlife/Endangered Species). Obj 1.11.1.8 - addressed by obj 1.10.1.1 (Riparian Management).
Other Resources		Obj 1.18.1- Conventional harvesting methods are proposed for this block. The 'conventional' timber target for the Canim FDU is 69%. The Results and Strategies for Obj. 1.10.1, 1.11.2, 1.13, 1.14, and 1.17 will be applied to meet this objective.
Range		Obj. 1.16.1 - Harvesting this block will not remove or render ineffective any natural range barriers. Obj. 1.16.3.1 - Active range tenure holder John Greenall (RAN077571) Obj. 1.16.3.2 - There are no existing range fences within the block. Obj.1.16.3.3 - It is unknown if the current authorized level of AUMs of 3,055 in the Canim Lake FDU is being maintained.

Recreation		Obj 1.12.1.1 - An Undefined Recreation Trail (part of Perimeter Trail north of Tahoola) occurs south of the proposed block, with a small section of trail occuring through the block. This trail does not have any known established objectives. Trail sections that occur within the block have been ribboned with Machine Free Zone (MFZ), as per referral feedback. The MFZ should be stubbed, where stems exist, every 5-10m at 3-5m in height, to identify its location post-harvest. Any damage to the trail as a result of harvesting activities is to be repaired to its pre-harvest condition and debris removed/cleared from the trail surface as to not impede ATV access. Obj 1.12.1.2 - Addressed by obj 1.12.1.1, obj. 1.12.2.8, obj 1.13.3.1 (Ungulate Winter Range), and obj 1.17.1 (Wildcraft & Access Management). Obj 1.12.2.1 - No known issues with regards to timing of harvest from recreation users. Obj 1.12.2.8 - This opening is not located within the area of Big Timothy Mountain or adjacent to any key lakes.
Riparian Management		Obj 1.10.1.1, 1.10.1.3 - Listed below are the classified riparian features associated with this block, and the management strategies for each. See 'Riparian Assessments' under the Support Document for non-classified features. JI8P9-ALL-S6 - Various S6 classified stream channels occur throughout the proposed development. All streams have been managed with a minimum 5m buffer and encompassed within proposed WTRAs: JI8P9-1-S6 - WTRA 2 & 3 JI8P9-2-S6 - WTRA 6 & 9 JI8P9-3-S6 - WTRA 2 Where proposed in-block and FSR roads cross the S6 stream channels, a 600mm x 10m culvert has been prescribed. Any RMZ overlap is to be treated the same as the remainder of the SU/HU. Obj 1.10.1.2 - This opening does not overlap a lakeshore management zone. Obj 1.10.1.8 - Addressed by obj 1.10.1.1, 1.10.1.3, obj 1.11.1.2 (Stand Level Biodiversity), obj 1.13.1, 1.13.2.1, 1.13.2.2, 1.13.2.3, 1.13.4.1, 1.13.5.1, 1.13.6.1, and 1.13.8.1 (Fish and Wildlife). Obj 1.10.1.9, 1.10.1.10, 1.10.1.11, 1.10.1.12 - Addressed by obj 1.10.1.1. Obj 1.10.1.14 - Addressed by obj 1.9.2.1 (General Water Resources) and obj 1.10.1.1.
Soil Management		Obj 1.8.1 - There is a high compaction hazard within SU1, therefore the allowable soil disturbance level will be 10%. TAS is currently calculated at 1.9% of the NAR. Two permanent access structures are proposed for this development, extending from the FSR MH5289.26, accounting for 4.1% of the gross block area. The licensee is responsible for ensuring the maximum soil disturbance limit is not exceeded (10% of the NAR). Recommend using a random skidding pattern and avoid skidding across depressional areas when wet. This block is consistent with sections 35 & 36 of the FPPR.
Stand Level Biodiversity		Obj 1.11.2.1 - There are 10 wildlife tree retention areas (WTRA) associated with this block, accounting for 17.1% of the gross block area, thereby exceeding the FSP listed wildlife tree retention target of 7% for the ESSFdc3 in the Canim Lake LU. The 100 Mile House Forest District Retention Strategy's Best Management Practices have been considered in the development of the opening and were applied where opportunities were available at the stand level.
Visual Objectives		Obj 1.14.1- There are no scenic areas with visual quality objectives associated with this opening. Obj 1.14.9- The opening is not within or adjacent to a key lake. Obj 1.14.14 - Addressed by obj 1.14.1 & 1.14.9. Obj 1.14.16- This opening is not within a high elevation viewscape. Obj 1.14.17- This opening is not within or adjacent to a scenic corridor.
Watersheds/Hydro Assessments		Obj 1.9.2.1 - This block falls within the Windy Creek watershed, which is a sub-basin of the larger Mahood Lake watershed. Windy Creek is neither a community watershed, nor a key watershed, as listed in the 100 Mile House FSP. A formal ECA calculation or watershed assessment has not been undertaken; however, the Canim Lake Indian Band's FSRP provided an update to a 2008 Risk Rating Report, indicating an ECA of 33%. The Risk Rating Report considers this watershed to have an overall hydrological risk rating of Low.
Wildcraft and Access Management		Obj 1.17.1- There are currently no assessments available to confirm that the target of 80% for the Canim FDU for maintaining roaded access for wildcraft activities is being met.

Wildlife/Endangered Species		Obj 1.13.1 - addressed by obj 1.10.1.1, 1.10.1.2, 1.10.1.3, 1.10.1.4, 1.10.1.9, 1.10.1.10, 1.10.1.11, 1.10.1.12, 1.10.1.14 (Riparian Management), obj 1.11.1.1, 1.11.1.2, 1.11.1.3, 1.11.1.4, 1.11.1.7 (Landscape Level Biodiversity), obj 1.11.2.1 (Stand Level Biodiversity), obj 1.13.3.1, 1.13.3.2 1.13.4.1, 1.13.4.2, 1.13.4.3 (Ungulate Winter Range), obj 1.13.5.1 (Furbearers), obj 1.13.6.1 (SAR), and obj 1.13.8.1. (Grizzly Bear). Obj 1.13.1.7 - This development is not located within the vicinity of any of the listed lakes for this objective. Obj 1.13.1.8 - There are no fish bearing features adjacent to this development. Obj 1.13.2.1, 1..13.2.2, 1.13.2.3 - This opening is not within any established WHAs. Obj 1.13.3.1, 1.13.3.2 - This opening is not within or immediately adjacent to an Ungulate Winter Range. Obj 1.13.4.1, 1.13.4.2, 1.13.4.3 - addressed by obj 1.10.1.1 (Riparian Management), obj 1.11.1.2, 1.11.1.5 (Landscape Level Biodiversity). Obj 1.13.5.1 - addressed by obj 1.10.1.1 (Riparian Management), obj 1.11.1.2 (Landscape Level Biodiversity). Obj 1.13.6.1 - addressed by obj. 1.13.1 (see above). A search of BC Species and Ecosystems Explorer indicated 6 Red and Blue designated species within the applicable habitat types of the ESSF biogeoclimatic zone within the 100 Mile House Forest District. These species are: Western Toad, Wolverine, Barn Swallow, Caribou(southern mountain population), American Badger and Grizzly Bear. There were no signs of any of the species listed above noted during field development; however, their habitat requirements were considered during harvest boundary layout and WTRA placement. There is one known Ecologiocal Communities at Risk identified within the ESSFdc3 biogeoclimatic zone in the 100 Mile House Forest District. The scrub birch/water sedge community was not noted during field development. Refer to the Wildlife / Endangered Species Comments under Supporting Information for Migratory Bird management. Obj 1.13.8.1, 1.13.8.2, 1.13.8.3 - This opening is not located within an identified Grizzly Bear Habitat polygon (CCLUP).

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	56.7	1020901	BL - restricted to northerly aspects. BL - restricted to upper elevations of biogeoclimatic unit. MITD may be reduced to 1.6m where planting takes place on hydric, sub-hydric or mechanically site prepared sites. Max. density will be 25,000 stems per hectare where stands are greater than 80% pine by stem count, otherwise max. density will be 10,000 stems per hectare.

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2019 04 05	YES

RPF PRINTED NAME	RPF'S SIGNATURE and SEAL
MURRAY WARD	
DATE SIGNED	
2019/04/05	
I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to standards acceptable of a Registered Professional Forester.	

DISTRICT MANAGER NAME	DATE SIGNED	DISTRICT MANAGER SIGNATURE

Map attached forms an integral part of the site plan.

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
A95257	-	JI8P9	BE8P9			Upper Windy Creek	51 37 51 / 120 32 05

ASSESSMENTS

VISUAL IMPACT ASSESSMENT INFORMATION

The block is not within a visually sensitive area. A visual impact assessment is not required.
Refer to the Results and Strategies section.

PEST INCIDENCE SURVEY INFORMATION

Pest Specific Comments

IBM: An estimated 16.2% of the Pl is grey attack.
IDE: An estimated 20% of the mature Bl and 50-70% of the Bl regen shows signs of infection.

Forest Health Comments

Aside from the incidence of MPB (16.2% red/grey attack) in the stand, it was also noted that a large pecentage of the mature Balsam composition was dead. In addition, the regen layer in the understory was being killed, or starting to die from the leaders, down. It is suspected that Spruce budworm has infected a large majority of the regen stems within the area.

ARCHAEOLOGICAL IMPACT ASSESSMENT INFORMATION

Refer to the Results and Strategies section.

TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION

Terrain Stability Comments

Terrain within this block is fairly broken, with slopes up to45%.
Refer to the Harvest Plan Map for their locations.
No slope instability indicators were noted. A TSFA is not required.

Gully Comments

N/A

VEGETATION

No significant competition during regeneration establishment is anticipated.

RIPARIAN ASSESSMENTS

Management Strategies

Maintain natural drainage patterns.
Refer to the 'Riparian Management' comments in the Results and Strategies section.

MFZ = Machine Free Zone
MSZ = Machine Sensitive Zone
RMZ = Riparian Management Zone

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
JI8P9-ALL-S6 S6	MSZ	1	5.0		
	RMZ	1	20.0		Various S6 classified stream channels occur throughout the proposed development. All streams have been managed with a minimum 5m buffer and encompassed within proposed WTRAs: JI8P9-1-S6 - WTRA 2 & 3 JI8P9-2-S6 - WTRA 6 & 9 JI8P9-3-S6 - WTRA 2 Where proposed in-block and FSR roads cross the stream channels, a 600mm x 10m culvert has been prescribed. Any RMZ overlap is to be treated the same as the remainder of the SU/HU.
JI8P9-ALL-NCD NCD	MSZ		5.0		These non-classified drainages occur throughout the block and have all been managed with a minimum 5m buffer within a wildlife tree patch or machine free zone. JI8P9-1-NCD, JI8P9-2-NCD, JI8P9-3-NCD and JI8P9-4-NCD have been encompassed within proposed WTRAs 4 & 5, 6 & 7, 10, and 9, respectively. The WTRA boundary was hung a minimum 5m from the drainage on either side. JI8P9-5-NCD occurs within the southeastern portion of the block. This feature was managed using machine free zone ribbon. Stub the MFZ at 3-5m in height every 5-10m to identify its location post-harvest. Proposed road MH R22221.02 crosses through NCDs 1 & 2 and a 500mm x 10m culvert has been prescribed at each crossing. Proposed road MH JI8P9.02 crosses NCDs 2 & 5 and a 500mm x 10m culvert has been prescribed at each crossing.
JI8P9-1-NCW UC	MSZ		10.0		This non-classified wetland feature occurs south of road MH JI8P9.04 and south of the harvest boundary. JI8P9-1-S6 flows northwest from this feature. Boundary has been established a minimum 10m from the wetland edge. No additional management strategies are required.

SOIL ASSESSMENT

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

COMMENTS

Soils within this block are predominantly non-sensitive (silty-loam). The maximum soil disturbance limit is set at 10% of the NAR.
TAS is currently calculated at 1.8% of the NAR.
Permanent access structures are proposed for this development, extending from the FSR MH 5289.26, accounting for 4.1% of the gross block area.
All access structures will be managed to ensure natural drainage patterns are maintained and erosion measures are installed prior to spring freshet.
Recommend using a random skidding pattern and avoid skidding across depressional areas when wet.
This block is consistent with sections 35 and 36 of the FPPR.

RESERVE / RETENTION INFORMATION

WTRA / WTP (INSIDE OR ATTRIBUTED TO THE BLOCK)

I.D.#	Area	Description
WTRA	12.3	There are 10 WTRA's associated with this block. All proposed WTRAs have similar characteristics to the remainder of the block to provide structural diversity and wildlife habitat continuity. BlSe(PliFdi) 733-0/12; Bl(Se) 823-0/6; BlSe 522-0/12; SeBl 843-0/10; BlSe 522-0/12; SeBl 843-0/12; BlSe 734-0/10.

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	%
JI7NS	15.2	7.0	46.2	ESSF/dc/2	0.3	1.7
JI8P9	71.9	12.3	17.1	ESSF/dc/2	3.0	4.1
Total # of Blocks: 2	**87.1**	**19.3**	**22.1**		**3.2**	**3.7**

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS
Wildlife/Endangered Species Comments
The design of this harvest area considered Migratory Bird Habitat polygons and the Beneficial Management Practices as outlined in the BCTS Migratory Bird Strategy (2016). The majority of the block is mapped within Moderate and Moderately High Risk (Rank 3 and 4 respectively) polygons. The following BMPs have been applied to reduce/prevent incidental take: Riparian Protection (LO2; DoP2), Unmarked Retention (LO3; DoP2), Stub Retention (LO4; DoP1,2) and Planned Retention (PL2; DoP2). If a previously unidentified migratory bird nest is encountered during harvesting, road construction, or a silviculture activity associated with this Site Plan, the operations are required to cease to the extent necessary to protect the affected migratory bird nest until alternative BMPs can be implemented to minimize or prevent the risk of incidental take.
Range Comments
This development overlaps range tenure RAN077571 held by John Greenall.
Fisheries Comments
There are no fish bearing riparian features within or adjacent to the block. Please refer to Results and Strategies section.
Watersheds/Hydro Assessments Comments
This block is not located within any community watersheds. Refer to the Results and Strategies section.
Sensitive Areas Comments
There is one known red listed ecological area within the ESSF dc3 in the 100 Mile Forest District: scrub birch/water sedge. Refer to Results and Strategies section.
Recreation Comments
An undefined perimeter trail occurs south of the proposed block, with a small section of trail occuring through the block. Refer to the Results and Strategies section.
Cultural Heritage Comments
No additional management strategies apply to the development above the Results and Strategies contained in the Site Plan for this block.
Biodiversity Emphasis/L.U. Comments
Landscape Unit: Canim Lake; Biodiversity Emphasis Option: Low; WTRA target: 7% There are no OGMA polygons immediately adjacent to or within the vicinity of the proposed development. Refer to the Results and Strategies section.
Other Resources Comments
Trapper: This block overlaps an active trapline (TR0501T006). BC Timber Sales has referred this development to the trapline tenure holder. The requests and recommendations forwarded by the Trapper regarding the development have been addressed and applied in the field. No additional management is required. Guide Outfitter: Certificate #500940; Chris Condie. The guide had no specific comments regarding the development. Mineral: None

ADDITIONAL COMMENTS:

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2019 04 05	YES

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

HARVEST PLAN

ORIGINAL

LICENCE #	CP	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A95257	-	JI8P9	BE8P9			Upper Windy Creek	51 37 51 / 120 32 05

SILVICULTURE SYSTEMS

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

Current Stand Structure/Site Conditions	The current stand consists of 45% Sx, 34% Bl, 20% Pl,and 1% Fdi in the overstory. Net merchantable volume of the stand, prior to reductions, is 257m3/ha, with an average stand height of 22.2m. The majority of the Pl has been impacted by MPB (grey attack) and evidence of beetle attack is present in the dead stems of Sx and Bl. In addition, the Bl regen has been minorly impacted by a spruce budworm outbreak and are showing signs of mortality from the leader/terminal ends of the regen branches. Advanced regen consists almost entirely of Bl (100-400 sph) in the xeric to submesic areas of the block, and is predominantly Sx (50-100 sph) in the submesic areas. Blowdown is minor to moderate throughout the block.
Silviculture Systems SU Comments	SU-1: Clearcut with Reserves
Min. Characteristics of Leave Trees (Form, Health, Vigour)	For entire block: Aspen: 90% retention of all merch; there was no At recorded during the cruise. Douglas-fir: 90% retention of all merch; which equates to approx. approx. 3 sph, as per the cruise. Retain conifer regen, saplings and poles to the extent practicable where they occur in patches. Residual stems should be in moderate to good for and vigor, and free of defects and disease. The purpose of these stems is to provide wildlife habitat and structural diversity within the stand. Distribution of the leave trees should be uniform across the HU such that individual stems are <1.5 tree lengths apart if feasible. Stubbing: All common boundaries and MFZs are to be stubbed every 5-10m at 3-5m in height to identify their locations post harvest.

Additional Comments

Harvesting Constraints	SAFETY Overhead hazards - MPB has killed all the Pl within the block. Snags and trees with dead/broken tops exist throughout the block. In addition to tripping hazards, be aware of overhead hazards as trees may be hung up. ARCHAEOLOGICAL / CULTURAL HERITAGE If a previously unidentified affected Cultural Heritage Resource is encountered during harvesting, road construction or mechanical site preparation, operations are to cease to the extent necessary to protect the affected cultural heritage resource until a Cultural Heritage Resource Evaluation can be completed. FOREST HEALTH Lodgepole pine stems >50cm in height will be eradicated in an effort to reduce future mistletoe infestations. SLOPES Slopes generally range from 10-45%, with an average of 24%. MIGRATORY BIRDS If a previously unidentified migratory bird nest is encountered during harvesting, road construction, or a silviculture activity associated with this Site Plan, operations are to cease to the extent necessary to protect the affected migratory bird nest until alternative BMPs can be implemented to minimize or prevent the risk of incidental take. MINERAL CLAIMS This block is not located within any known Mineral Claims. However, if any claim posts, monuments, drill sites or core boxes encountered they are to be retained from harvesting. None of these features were identified during field work. HARVEST INFORMATION This block is appropriate for conventional roadside/landing harvest (i.e. rubber tired skidder, mechanical falling).

SOIL ASSESSMENT

	HAZARD RATINGS			SOIL DISTURBANCE				SOIL CHARACTERISTICS			
								Depth to Unfavorable Subsoil			
SU	Soil Comp.	Soil Erosion	Soil Disp.	Max Allow Soil Dist %	Max Allow Max Amount TAS may exceed MASD prior	Max Allow Perm Access Structures %	MASD for Roadside work areas %	Min (cm)	Max (cm)	Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)
1	H	M	M	10.0	5.0	7.0	25.0			None Noted	

SU	Critical site conditions that affect the timing of operations and how they affect the timing
1	No critical site conditions that would affect timing of operations were noted during field development. There are no known timing constraints associated with this development.

SU MANAGEMENT COMMENTS

SU	SU Description
1	The stand is comprised of predominantly of spruce with a moderate component of lodgepole pine and balsam, and very minor component of Douglas-fir. The understory regen is primarily balsam in poor to fair condition, approx 600-1000 sph. Terrain within the SU is fairly broken, with slopes ranging from 10 to 45%. CWD is moderate throughout.

SOIL MANAGEMENT COMMENTS

Soil Conservation

Soils within this block are predominantly non-sensitive (silty-loam). The maximum soil disturbance limit is set at 10% of the NAR.
TAS is currently calculated at 1.8% of the NAR.
Permanent access structures are proposed for this development, extending from the FSR MH5289.26, accounting for 4.1% of the gross block area.
All access structures will be managed to ensure natural drainage patterns are maintained and erosion measures are installed prior to spring freshet.
Recommend using a random skidding pattern and avoid skidding across depressional areas when wet.
This block is consistent with sections 35 and 36 of the FPPR.

Temporary Access

All temporary structures must be rehabilitated upon harvest completion, or at least prior to spring freshet.
Rehabilitation and decompaction efforts will be as follows: return displaced surface soils, retrievable side-cast and berm material to the extent practicable and necessary to establish and grow trees consistent with the stocking standards.
Erosion control measures are required to maintan natural drainage patterns.

Slope Instability

Terrain within this block is fairly broken, with slopes up to 45%.
Refer to the Harvest Plan Map for their locations.
No slope instability indicators were noted. A TSFA is not required.

RIPARIAN ASSESSMENTS

Management Strategies

Maintain natural drainage patterns.
Refer to the 'Riparian Management' comments in the Results and Strategies section.

MFZ = Machine Free Zone
MSZ = Machine Sensitive Zone
RMZ = Riparian Management Zone

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
JI8P9-ALL-S6 S6	MSZ	1	5.0		
	RMZ	1	20.0		Various S6 classified stream channels occur throughout the proposed development. All streams have been managed with a minimum 5m buffer and encompassed within proposed WTRAs: JI8P9-1-S6 - WTRA 2 & 3 JI8P9-2-S6 - WTRA 6 & 9 JI8P9-3-S6 - WTRA 2 Where proposed in-block and FSR roads cross the stream channels, a 600mm x 10m culvert has been prescribed. Any RMZ overlap is to be treated the same as the remainder of the SU/HU.
JI8P9-ALL-NCD NCD	MSZ		5.0		These non-classified drainages occur throughout the block and have all been managed with a minimum 5m buffer within a wildlife tree patch or machine free zone. JI8P9-1-NCD, JI8P9-2-NCD, JI8P9-3-NCD and JI8P9-4-NCD have been encompassed within proposed WTRAs 4 & 5, 6 & 7, 10, and 9, respectively. The WTRA boundary was hung a minimum 5m from the drainage on either side. JI8P9-5-NCD occurs within the southeastern portion of the block. This feature was managed using machine free zone ribbon. Stub the MFZ at 3-5m in height every 5-10m to identify its location post-harvest. Proposed road MH R22221.02 crosses through NCDs 1 & 2 and a 500mm x 10m culvert has been prescribed at each crossing. Proposed road MH JI8P9.02 crosses NCDs 2 & 5 and a 500mm x 10m culvert has been prescribed at each crossing.
JI8P9-1-NCW UC	MSZ		10.0		This non-classified wetland feature occurs south of road MH JI8P9.04 and south of the harvest boundary. JI8P9-1-S6 flows northwest from this feature. Boundary has been established a minimum 10m from the wetland edge. No additional management strategies are required.

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

Current coarse woody debris levels are high. Post harvest CWD target is 10m3/ha.
The licensee must retain a minimum of 4 full length logs per hectare, having a minimum dbh of 17.5cm.
Non-merchantable log grades (firmwood rejects and some dry grade 4) will be left on site. Reserved stams will contribute to future CWD. Any reserve trees that blow down will be left as CWD unless they become infested with insects that pose a forest health risk. All deciduous stems felled for safety, road construction or other operational purposes are to be left on site as CWD.
Efforts will be made to ensure these logs are not broken at time of harvesting. Logs may consist of a variety of species and shall be evenly distributed across the cutblock.
This cutblock is consistent with section 68 of the FPPR.

Performance Std. (%) :	100.0	Block Target (%):	100.0	Coarse Woody Debris (m3/ha):	10.0

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2019 04 05	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
MURRAY WARD	
DATE SIGNED	
2019/04/05	
I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to standards acceptable of a Registered Professional Forester.	

DISTRICT MANAGER NAME	DATE SIGNED	DISTRICT MANAGER SIGNATURE

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
A95257	-	JI8P9	BE8P9			Upper Windy Creek	51 37 51 / 120 32 05

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	56.7	ESSF	dc	2	05-100	1,535	24	V	Middle Slope	45	SiL

STOCKING REQUIREMENTS

ASSESSMENT DATES

Standard Unit	Standards ID	Regen Delay (yrs)	Freegrow Early (yrs)	Freegrow Late (yrs)
1	1020901	7	0	20

Min/Max Elevation Regime: 1470 / 1600

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		
Se Englemann Spruce	0.6		Bl Subalpine Fir	0.6		WELL SPACED TREES(sph)			
Pli Lodgepole Pine - Interior	1.2					Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
						1000	500	400	2.0
								Height Relative to Competition (%)	
								125	

OTHER REQUIRED STOCKING INFORMATION

ACTIVITIES

SILVICULTURE ACTIVITY COMMENTS

ACTIVITY	COMMENT

MANAGEMENT STRATEGY

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

Current coarse woody debris levels are high. Post harvest CWD target is 10m3/ha.
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Efforts will be made to ensure these logs are not broken at time of harvesting. Logs may consist of a variety of species and shall be evenly distributed across the cutblock.
This cutblock is consistent with section 68 of the FPPR.

Performance Std. (%): 100.0 Block Target (%): 100.0 Coarse Woody Debris (m3/ha): 10.0

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2019 04 05	YES

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