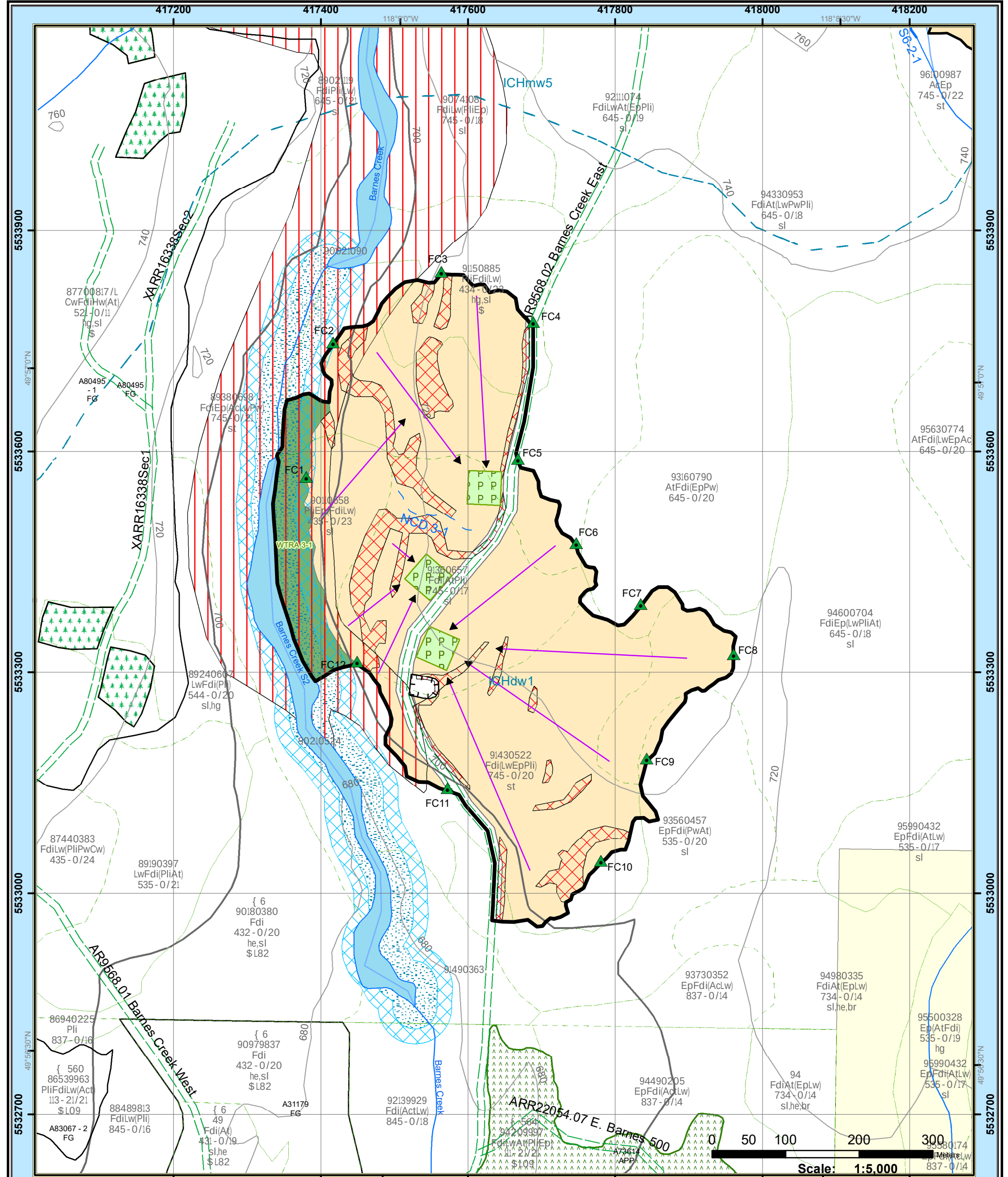




BC Timber Sales - Kootenay Business Area

HARVEST PLAN MAP

CABIN
RESOURCE MANAGEMENT

TSL: TA0713
BLOCK: 3
Generated On: 2021-03-18

Pre Number: SWL-062
UBI: BF6Z7
Generated By: CFLINDT

Location: Barnes Creek
Mapsheet: 082E.100
Latitude: 49° 56' 50.463" N
Longitude: 118° 8' 54.220" W
Maximum Elevation: 710
Minimum Elevation: 690

Projection: UTM
Datum: NAD 83

Blk_Contractor

Reserve

WTRA

Non Productive

NP Wet/ Water

Recreation Sites and Reserves

OGMA

Wetlands

Harvest Strategies

Special Management Area

Machine Free Zone

Riparian Reserve Zone

Riparian Management Zone

Proposed Temporary Landing

Existing Temporary Landing

Existing Permanent Landing

Proposed Permanent Landing

Proposed Permanent Roads

Proposed Temporary Roads

Existing Roads

Electrical Substation

Mines; Pit; Abandoned Pit or Mine

Campsite

Park or Field

Cemetery

Dump/Sewage;

Fence

Transmission Lines

Pipeline

Crown

Private

Harvest Method

GROUND

CABLE

Stream

Intermittent Stream

Contours

Existing Trails

Fence Line

Embankment, Cliff

Gully, Draw

Slope Break

Seepage

Potential Skid Direction, Fav

Potential Skid Direction, Ad

Existing Skid Trails

Proposed Skid Trails

Forwarding Trail

Yarding Direction

Falling Corner

Proposed Culvert

Existing Culvert

Common Junction

CRS

Designated Skid Crossing

Ecology Plot

Gravel Pit

Leave Tree

Mine Shaft

Survey Pin

Reach Break

Rock

Seepage

Slide

Cabin

Wildlife Feature

Terrain V

Terrain IV

Harvest Plan Area Summary (ha)			
Harvest Unit	Method	Area	Silviculture System
1	Ground	25.1	Clearcut with reserves
		25.1	Total Harvest Area
Road R/W		1.4	Excluded from Harvest Area
WTRA		1.9	Excluded from Harvest Area
Other Mine or Pit		0.1	
		28.5	Total Block Area

1.5 RIPARIAN ASSESSMENT						
Block	Riparian I.D. and Class	RMA	SU	Width (m)	SPH Retained	Comments (Indicate if in a Community Watershed)
1	Barnes Creek (S2)	RRZ RMZ	- 1	30 20	100% ~91%	Barnes Creek is not located in a Community Watershed. Barnes Creek is located adjacent to the western boundary of the block. The majority of the RMZ and the entire RRZ within the block gross area are included in WTRA-1. A small portion of the block harvest area overlaps into the RMZ near falling corners FC1 and FC2, the RMZ is not marked in the field. Trees must be felled and skidded away from the RMZ, where practicable. Do not skid adjacent to the RMZ.
1	NCD-1	-	1	N/A	N/A	NCD-1 is approximately 150m in length and is in the middle of the block harvest area west of the Barnes Creek East FSR. Where possible fall and skid away from the NCD, do not skid up and down adjacent to the NCD. Where cross stream skidding is required limit the number of crossings and utilize temporary skid crossings to prevent a potential diversion of flow. Any debris entering the NCDs because of harvesting, or addressing danger trees will be removed upon completion of harvesting activities unless its removal would cause further damage to the riparian feature. All machine crossings should be fully rehabilitated upon the completion of harvesting. Excess material that could cause redirection of natural drainage patterns should not be left at swale, or gully crossing locations.
Management Strategies: See non-merchantable Section below.						

Leave Tree Specifications:

Block	HU	Selection Priority	Species	Size	Stems per Hectare			Distribution ²			
					Target	Minimum	Maximum	S	G	I	R
1	1	<ul style="list-style-type: none"> Most Windfirm Variety of Size Classes 	<ul style="list-style-type: none"> Pw, Cw and Lw retention has been marked in the field with 2 painted orange bands Retain 50% of Deciduous where encountered Deciduous has not been included Target of 4 Stems/ha Aspen and Cottonwood should take priority over birch in deciduous retention. 	Pw > 50 cm dbh Cw > 25 cm dbh Lw > 50 cm dbh Deciduous > 17.5 cm dbh	4	3	10	√	√	√	

Notes: ¹ Refer to *Appendix I* for *Table of Reserve Timber Abbreviations and Definitions* ² Distribution Types: S: Single Trees, G: Groups of Trees, I: Irregularly Distributed, R: Regularly Distributed
Safety is a priority when conducting operations near reserved timber. Refer to TSL Schedule "A", Section 2.00 regarding Dangerous Trees.

Non-Merchantable						
Block	HU	Location(s)	Species	Size	Stems per Hectare	
					Target	Minimum
1	1	N/A	N/A	<12.5cm dbh	N/A	N/A

Block	HU	Species	Size	Stubbing Height	Stems per Hectare			Distribution ²			
					Target	Minimum	Maximum	S	G	I	R
1	1	All	>/=35cmdbh	3-5m	7	5	10	√	√	√	

Coarse Woody Debris	
1	0.0000
2	0.0000
3	0.0000
4	0.0000
5	0.0000
6	0.0000
7	0.0000
8	0.0000
9	0.0000
10	0.0000
11	0.0000
12	0.0000
13	0.0000
14	0.0000
15	0.0000
16	0.0000
17	0.0000
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96	0.0000
97	0.0000
98	0.0000
99	0.0000
100	0.0000

Block	HU	Species	Size	M ³ per Hectare		Distribution ²			
				Target	Minimum	S	G	I	R
1	1	All	Retain CWD and wildlife trees that are representative (spp, age and size) of pre-harvest levels/conditions.	15	10	√	√	√	

Note: Manage CWD levels to pre-harvest levels, except in areas where concentrations are too high for effective planting and/or successful regeneration. The licensee must retain a minimum of 4 full length logs per hectare. However, levels in some areas may be higher due to non-merchantable log grades (firmwood rejects and some dry grade 4), as well as timber that is unsalvageable due to forest health. 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. Safety is a priority when conducting operations near reserved timber. Refer to TSL Schedule "A", Section 2.00 regarding Dangerous Trees. * 1m3 represents approximately one large telephone pole.

Roads

- Appropriate drainage control measures should be implemented during road construction to ensure all natural drainage paths are maintained. Designated watercourse crossings should be established particularly where watercourses are poorly confined and susceptible to redirection. A post harvest field review by a qualified person of the block roads is required to ensure natural drainage patterns are maintained.
- Seasonal deactivation measures are recommended for all permanent roads associated with this development during periods of non-industrial use. Appropriate measures include backing up culverts with cross-ditches, and installing intermediate cross-ditches and waterbars as appropriate based on road drainage, grade, and material properties.
- All temporary access structures must be fully rehabilitated upon the completion of harvesting.

- The licensee is responsible for ensuring the maximum soil disturbance limits (10%) are not exceeded.
- There is no seasonal timing restriction on this block. However, timber harvesting should not be conducted under excessively wet site conditions, such as during spring snow melt or periods of heavy and prolonged rainfall to reduce the risk of post-harvest events. Ground skidding across natural drainage paths should be avoided to the extent practicable.
- A post-harvest inspection of the block should be completed to assess logging debris accumulations in the wetted perimeter of all watercourses and subtle drainage features to ensure an accumulation of coarse woody debris does not result in a drainage diversion.
- Areas within the block assigned to roadside work areas will not exceed 25% site disturbance.
- Bladed or Excavated trails may be required for safety in areas that may require adverse skidding and in areas with steep slopes. Trails should be deactivated as soon as practicable after harvest to reduce the risk of post harvest erosion events. No trails are planned on potentially unstable slopes, slopes >60%, or areas where there is a risk to one or more FRPA values or other high value elements. Where additional excavated or bladed trails, or roads are planned to be constructed on slopes exceeding 60%, or there is a risk to one or more FRPA values or other high value elements, a qualified professional is required to conduct an initial evaluation that determines if a site review, terrain stability assessment, or other related assessments are required prior to construction.
- If harvesting is to be conducted during winter months, temporary access structures must be seasonally deactivated prior to the freshet by out-sloping where practical and installing cross ditches or waterbars to maintain natural drainage patterns. Rehabilitation should occur as soon as soil conditions allow after snow melt, prior to the spring freshet.
- Maximize slash and utilize coarse woody debris for coverage of the soil to provide mulching and sediment trapping. Promptly reforest to insure restoration of root strength to the area.
- Two occurrences of invasive plants Meadow Knapweed were noted in IAA mapping (accessed 2021-02-08) located on the Barnes Creek East FSR within the block. Contractors need to be made aware of these invasive plant occurrences during pre-works, and inspect vehicles, mechanized equipment, culverts, bridges, and cattleguards prior to being transported to, or from the work site. If present plant and soil materials are to be removed to prevent spreading of the invasive species to the block during operational activities. Operations regarding Invasive Plants will follow the procedures set out in the BCTS Environmental Procedure "Invasive Plants EFP #09".

	Ribbon	Paint
Harvest Boundary	BCTS Block Boundary	
Falling Corners		FC#
WTRA Boundary	Reserve	
Reserve Boundary	Reserve	
Riparian Reserve Zone	Reserve	
Riparian Management Zone	Riparian Mgmt. Zone	
Management Zone	Management Zone	
Treatment Unit Boundary	Treatment Unit Boundary	
Reserve Trees		
Machine Free Zone	//// Machine Free Zone ///	
Cruising	Cruise Line	Plot Trees
Traverse Stations		
SP Plot Location		

	Ribbon	Paint
NCD & Stream Centers	Water Course	
Road P-Line		
Road Center Line	Road Centerline	
Landings	Landing	
Road Right of Way	R/W Boundary	
Road RP		
Culverts	Culvert	
Designated Crossing	Crossing	
Culvert RP Outside Right of Way		
Tail Holds / Guyline / Intermediate Supports		
Skid Trail / Back Spar Trail / Forwarding Trail	///// Trail /////	
Recce Ribbon / D-Line / Skyline Roads	////////////////	

Jack Toma, RPF

RPF PRINTED NAME

March 18, 2021

DATE SIGNED

A circular seal with a rope-like border. The text inside the seal reads: "REGISTERED PROFESSIONAL FORESTER" at the top, "PROVINCE OF" in the center, "JACK TOWN" below that, "BRITISH COLUMBIA" below that, and "NO. 5145" at the bottom.

